# NOUVELLE LIGNE LYON TURIN – NUOVA LINEA TORINO LIONE
## PARTIE COMMUNE FRANCO-ITALIENNE – PARTE COMUNE ITALO-FRANCESE

## PARTE IN TERRITORIO ITALIANO – PROGETTO IN VARIANTE
## (OTTEMPERANZA ALLA PRESCRIZIONE N. 235 DELLA DELIBERA CIPE 19/2015)

## CUP C11J05000030001 – PROGETTO DEFINITIVO

## GENIE CIVIL – OPERE CIVILI

## HYDROLOGIE ET HYDRAULIQUE – IDROLOGIA E IDRAULICA
## HYDRAULIQUE GENERALE – IDRAULICA GENERALE
## MODÈLE UNIDIMENSIONNEL EN RÉGIME PERMANENT DE LA DORA À SALBERTRAND–
## MODELLO UNIDIMENSIONALE IN MOTO PERMANENTE DELLA DORA A SALBERTRAND

# RAPPORT DESCRIPTIF (REGIME PERMANENT) –
# RELAZIONE TECNICO ILLUSTRATIVA (MOTO PERMANENTE)

| Indice | Date/ Data | Modifications / Modifiche | Etabli par / Concepito da | Vérifié par / Controllato da | Autorisé par / Autorizzato da |
|---|---|---|---|---|---|
| 0 | 16/12/2016 | Première diffusion / Prima emissione | M.ZAGARIA (TCC) | F. MAGNORFI.<br>C. OGNIBENE | L. CHANTRON<br>A. MORDASINI |
| A | 16/02/2017 | Révision suite aux commentaires TELT / Revisione in seguito ai commenti TELT | M.ZAGARIA (TCC) | F. MAGNORFI.<br>C. OGNIBENE | L. CHANTRON<br>A. MORDASINI |
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ORDINE INGEGNERI DELLA PROVINCIA DI TORINO
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| CODE DOC | P | R | V | C | 3 | A | T | S | 3 | 7 | 3 | 9 | 0 | A |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Phase / Fase | | | Sigle étude / Sigla | | | Émetteur / Emittente | | | Numero | | | | Indice |

| A | P | N | O | T |
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| Statut / Stato | | Type / Tipo | | |

| ADRESSE GED<br>INDIRIZZO GED | C3A | // | // | 22 | 02 | 75 | 10 | 01 |
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| ECHELLE / SCALA |
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Questo progetto è cofinanziato dall'Unione europea (TEN-T)

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## RESUME / RIASSUNTO

Le présent document a le but d'évaluer le risque éventuel d'inondation de l'aire industrielle de Salbertrand, où on emplacera un chantier de support pour la réalisation des ouvrages en souterrain et des ouvrages à ciel ouvert pour la fourniture des agrégats.

La zone se trouve à proximité de la rivière Dora Riparia.

Dès qu'il s'agit de zones où on a une occupation temporaire, le débit de référence pour les études hydrauliques est le débit correspondant à un temps de retour de 50 ans.

On a aussi calculé les hauteurs d'eau de la Dora pour un temps de retour de 200 ans.

Les études ont été déroulées en régime de permanent monodimensionnel.

La zone d'inondation définie pour un évènement avec temps de retour de 200 ans a aussi été comparée avec les bandes fluviales A et B définies par l'*Autorità di Bacino*.

Il presente rapporto si pone l'obiettivo di valutare l'eventuale rischio di inondazione dell'area industriale di Salbertrand, area a supporto dei cantieri per la costruzione delle opere in sotterraneo e delle opere a cielo aperto per la fornitura degli inerti.

L'area in oggetto è interessata da un tratto del fiume Dora Riparia.

Trattandosi di aree soggette ad una occupazione limitata nel tempo, la portata di riferimento è quella relativa ad un Tempo di Ritorno pari a 50 anni.

Sono anche stati determinati i livelli idrometrici della Dora per un Tempo di Ritorno pari a 200 anni.

Le elaborazioni sono state condotte in moto monodimensionale.

L'area di esondazione definita per un evento meteorico con TR200 è inoltre stata confrontata con le Fasce Fluviali A e B definite dall'Autorità di Bacino.

# 1. Introduzione

La presente relazione tecnica idraulica è relativa al tratto del fiume Dora Riparia nella zona di Salbertrand in corrispondenza della prevista area industriale soggetta ad occupazione temporanea. Nel seguito verranno esposte le elaborazioni in moto monodimensionale condotte al fine di valutare l'eventuale rischio di inondazione della suddetta area e gli interventi di protezione qualora si rendessero necessari. Trattandosi di aree soggette ad una occupazione limitata nel tempo, la portata di riferimento è quella relativa ad un Tempo di Ritorno pari a 50 anni. Le ipotesi e le assunzioni di calcolo sono in accordo con quanto riportato nel Progetto Definitivo approvato.

L'area industriale "Salbertrand" è a supporto dei cantieri per la costruzione delle opere in sotterraneo e delle opere a cielo aperto per la fornitura degli inerti.

Al suo interno sono presenti l'impianto di frantumazione e valorizzazione per la produzione degli aggregati, l'impianto per la prefabbricazione dei conci e l'area di carico per l'evacuazione del marino mediante treno.

Dall'analisi del cronoprogramma delle attività riportato in Tabella 1, si evidenzia come la cantierizzazione si possa suddividere in 2 differenti fasi:

| Periodo | Attività/Installazioni |
|---|---|
| To a To+23 | - Attività preliminari di installazione del cantiere<br>- Installazione dell'impianto di valorizzazione del materiale di scavo per la successiva fornitura di aggregati e materiali per rilevati<br>- Installazione impianto di betonaggio per la produzione di calcestruzzi<br>- Installazione dell'impianto di prefabbricazione dei conci<br>- Installazione dell'impianto di caricamento/smarino via treno<br>- Installazione dell'officina di ricovero e manutenzione treni |
| To+24 a Fine Lavori | - Attivazione dell'impianto di prefabbricazione dei conci<br>- Attivazione dell'impianto di valorizzazione del materiale di scavo<br>- Attivazione dell'impianto di caricamento/smarino via treno<br>- Stoccaggio e aree di carico dei materiali da costruzione<br>- Uffici e spogliatoi |

***Tabella 1** – Area Industriale "Salbertrand" – Fasi di cantierizzazione*

L'area, a partire da To+24 , diventerà un polo fondamentale per l'avanzamento delle attività di scavo dei tunnel a partire dal cantiere della Maddalena.

Le principali attività sviluppare su tale area saranno:

- Valorizzazione dello smarino in arrivo dal cantiere della Maddalena;
- Stoccaggio dell'inerte valorizzato in attesa del fabbisogno previsto sui vari cantieri;
- Prefabbricazione e stoccaggio provvisorio dei conci della TBM.
- Processo di caricamento su treno dello smarino da inviare presso i siti di deposito definiti.
- Caricamento su camion del materiale idoneo a essere riutilizzato per rilevati nella zona di Susa autoporto e di Bussoleno.

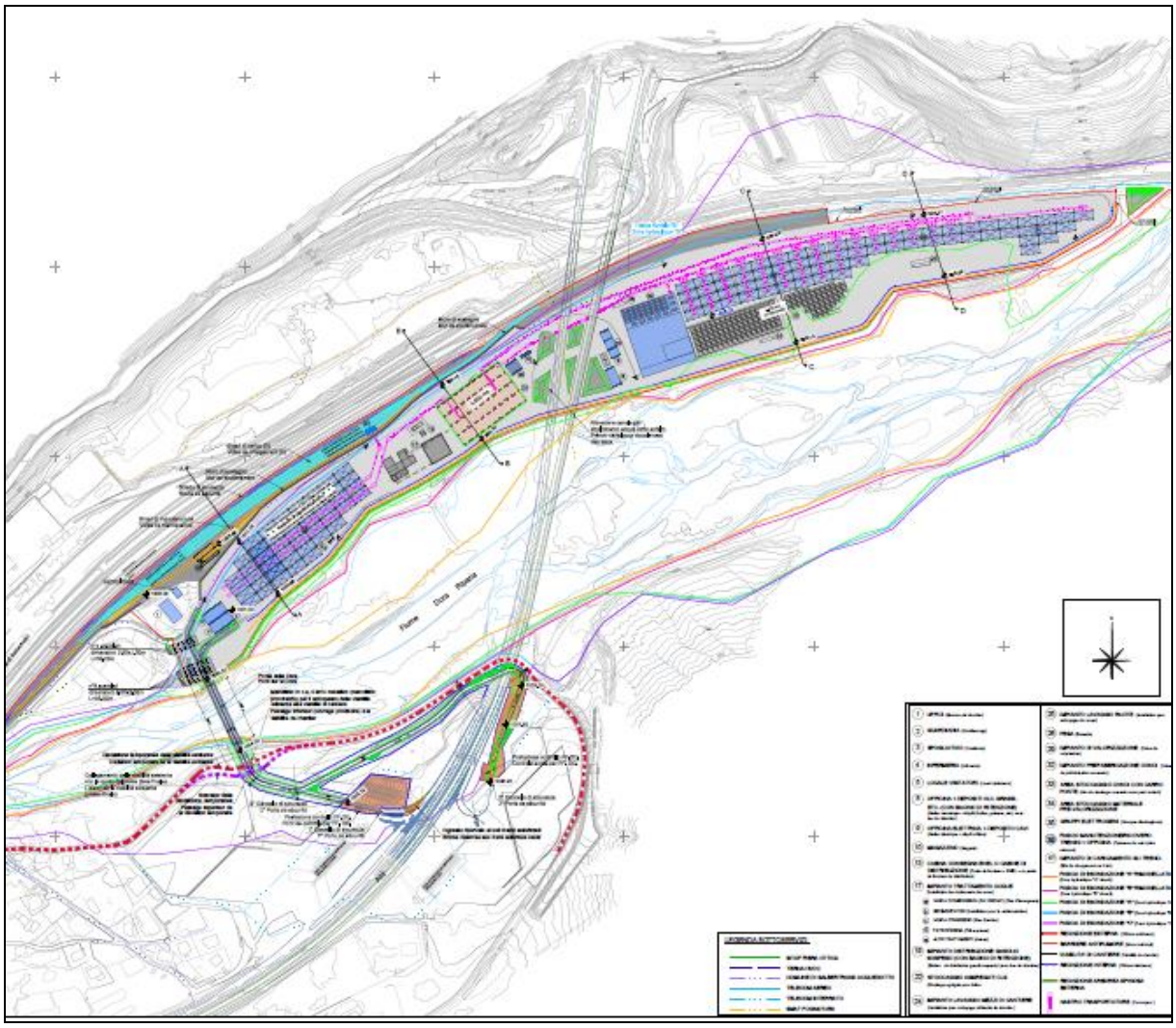


**Figura 1 : Layout dell'area di cantiere di Salbertrand**

L'area industriale "Salbertrand" si sviluppa nella fascia attualmente compresa tra l'autostrada A32 Torino-Bardonecchia e la ferrovia, in corrispondenza dell'attuale area di servizio di Gran Bosco.
L'area è suddivisa principalmente su due livelli:

- Piano area industriale di estensione circa 110'000 $^2$ posizionata all'attuale quota di piano campagna che varia da circa 1001 m a 996 m circa.
- Piano area caricamento su treno di estensione circa 14'000 m$^2$ posizionata ad una quota di circa 1005 m.

La continuità tra le due aree è garantita dal strada di collegamento posta sul lato Ovest del cantiere.
L'accesso al cantiere avverrà dallo svincolo autostradale di Salbertrand provenendo da Torino: si accederà all'attuale piazzale dell'area di servizio, adeguatamente configurato, per poi accedere all'area di lavoro attraversando un ponte sulla Dora, a via inferiore, con sistema misto acciaio-cls.
L'uscita dall'area avverrà percorrendo la medesima viabilità e immettendosi in autostrada in direzione Torino.

# 2. Documenti di riferimento

| | |
|---|---|
| PRV_C3A _7860_33-75-01 | Cantierizzazioni – Salbertrand<br>Area Industriale di Salbertrand - Relazione tecnico illustrativa |
| PRV_C3A_0045_22-01-02 | Idrologia e Idraulica – Idrologia Generale Lato Italia<br>Relazione Idrologica Generale |
| PRV_C3A_0046_22-01-02 | Idrologia e Idraulica – Idrologia Generale Lato Italia<br>Planimetria di individuazione dei bacini |
| PRV_C3A_0030_22-02-02 | Idrologia e Idraulica – Idrologia Generale Lato Italia<br>Corografia del Bacino della Dora Riparia |
| PRV_C3A_0050_22-02-02 | Idrologia e Idraulica – Idrologia Generale Lato Italia<br>Corografia del Bacino del Torrente Clarea |
| PRV_C3A_7391_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Planimetria Idraulica zone di esondazione : ante operam |
| PRV_C3A_7392_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Planimetria Idraulica zone di esondazione TR50: Condizioni transitorie di cantiere |
| PRV_C3A_7393_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Planimetria Idraulica zone di esondazione TR2000: Condizioni transitorie di cantiere |
| PRV_C3A_7394_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Sezioni idrauliche della Dora 1/5 |
| PRV_C3A_7395_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Sezioni idrauliche della Dora 2/5 |
| PRV_C3A_7396_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Sezioni idrauliche della Dora 3/5 |
| PRV_C3A_7397_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Sezioni idrauliche della Dora 4/5 |
| PRV_C3A_7398_22-02-75 | Idrologia e Idraulica – Modello unidimensionale in regime permanente della Dora a Salbertrand<br>Sezioni idrauliche della Dora 5/5 |

# 3. Normativa di riferimento

Il quadro normativo di riferimento del progetto è riportato integralmente nell'allegato 4.1 del Dossier Preliminare Sicurezza (DPS - PRF_C1_0003_00-00-00_10-03_DPS).

In particolare, per lo studio idraulico in oggetto, sono state prese in conto le seguenti Direttive dell'Autorità di Bacino per il Fiume Po:

- PAI – Interventi sulla rete idrografica e sui versanti – Norme di attuazione - Legge 18 maggio 1989, n. 183 art. 17, comma 6ter – Direttiva sulla piena di progetto da assumere per le progettazioni e le verifiche di compatibilità idraulica (adottata con deliberazione del Comitato Istituzionale n. 18 in data 26 aprile 2001)
- Direttiva 2007/60/CE art.7; D. Lgs. 3 aprile 2006 n. 152 e s.m.i., art. 63, comma 10; D.Lgs.23 febbraio 2010 n. 49 e s.m.i., art. 7, comma 8: Approvazione del "Piano di Gestione del Rischio di Alluvioni del Distretto Idrpografico Padano (PGRA)" (adottato con deliberazione del Comitato Istituzionale n. 2/2016 in data 03 marzo 2016).

# 4. Idrologia dell'area in esame

Nel seguito si riassumono le considerazioni già svolte nella relazione idrologica generale in merito alla definizione dei valori di portata per la Dora Riparia.
Le portate di massima piena, determinate dall'Autorità di Bacino, sono per l'area di Salbertrand le seguenti:

| **Tempo di ritorno (Anni)** | **Portata di massima Piena ($m^3/s$)** |
|---|---|
| 50 | 287 (**) |
| 200 | 450 (*) |

*(*)fonte: Relazione tecnica allegata alla deliberazione n°9/2007 del comitato istituzionale dell'Autorità di Bacino del Fiume Po*
*(**)fonte: Relazione idraulica di variante di revisione generale al P.R.G.C. del Comune di Oulx (Portate di riferimento secondo il Progetto di Variante del PAI).*

Nel seguito le verifiche idrauliche svolte terranno in conto sia del valore di massima piena di riferimento (TR 50 anni) posta a confronto con la fascia fluviale A, sia del valore di massima piena relativa a TR200, posta poi a confronto con la fascia fluviale B.

# 5. Definizione dei livelli idrometrici 1D

Il problema idraulico consiste nel calcolo del profilo liquido corrispondente alla assegnata portata di piena, al fine di determinare i parametri idraulici che permettano una valutazione delle aree di esondazione nel tratto in esame.
Lo schema di calcolo adottato è quello del moto permanente, che consente di considerare la variazione delle sezioni d'alveo e la presenza di manufatti, restringimenti, argini ed attraversamenti sotto le condizioni di moto unidimensionale a portata costante mediante la risoluzione delle equazioni di bilancio energetico.
La determinazione del profilo di moto permanente viene realizzata utilizzando il codice HEC-RAS "River Analysis System" - Versione 5.0 (U.S. Army Corps of Engineers - Hydrologic Engineering Center).

## 5.1 Calcolo del profilo di piena in moto permanente

### *5.1.1 Richiami sul moto permanente*

Il moto permanente di una corrente a pelo libero quasi cilindrica prende anche il nome di moto gradualmente variato, perché è caratterizzato da variazioni di forma ed eventualmente di direzione così lente da mantenere nelle singole sezioni le linee di corrente sensibilmente rettilinee e parallele tra loro.
In ogni sezione normale all'asse della corrente, la pressione varia seguendo la legge idrostatica. L'equazione di continuità della corrente data dalla

$$\frac{\partial(\rho \cdot Q)}{\partial x} + \frac{\partial(\rho \cdot \Omega)}{\partial t} = 0$$

dove:

$\rho$ = densità
Q = portata
$\Omega$ = area della sezione
X = asse
t = tempo

Assumendo che la densità sia costante e che il moto sia permanente si riduce nella forma

$$\frac{\partial(Q)}{\partial x} = 0$$

ovvero:

$$Q = \Omega\, U = \text{cost.} ;$$

con

U = velocità della corrente

La portata è quindi data dal prodotto della velocità, variabile lungo l'asse della corrente, per l'area della sezione, anch'essa variabile lungo l'asse stesso.
L'equazione del moto è la seguente:

$$\frac{\partial U}{\partial t} + U\frac{\partial U}{\partial x} = -g\frac{\partial h}{\partial x} - \frac{\tau}{\rho \cdot R}$$

dove:
g = accelerazione gravitazionale;
$\tau$ = tensione tangenziale;
R = raggio idraulico

Data la condizione di moto stazionario, in base alla quale

$$\frac{\partial(U)}{\partial t} = 0$$

si ottiene:

$$U\frac{\partial U}{\partial x} = -g\frac{\partial h}{\partial x} - \frac{\tau}{\rho \cdot R};$$

ovvero:

$$\frac{\partial}{\partial x}\left(\frac{U^2}{2g} + h\right) = -j \qquad (1)$$

L'equazione indica la perdita di carico effettivo, a meno del coefficiente correttivo della velocità.
Per quanto concerne la cadente j del carico effettivo, essa si valuta assumendo che gli sforzi tangenziali sul contorno dipendano solo dalle condizioni della parete, dalla forme e dalla sezione e dalla velocità media.
Per la valutazione di tali coefficienti è necessario tenere conto del fatto che essi variano da sezione a sezione, dal momento che cambiano l'area della sezione ed il valore del perimetro bagnato (e di conseguenza il raggio idraulico e la scabrezza relativa). Il numero di Reynolds varia anch'esso ma la sua influenza sulle leggi di resistenza delle correnti a pelo libero è di norma trascurabile.
Il tracciamento del profilo della superficie libera di un corso d'acqua naturale in moto permanente richiede per la risoluzione l'utilizzo di procedimenti di calcolo numerico; risulta quindi necessario eseguire dei rilievi dettagliati delle sezioni d'alveo d'interesse.

### *5.1.2 Determinazione della profondità critica*

Definite le seguenti grandezze:

carico specifico: $E = Y + \alpha\frac{Q^2}{2g\Omega^2}$

carico piezometrico: $h = z_f + Y$;

dove: $z_f$ è la quota del fondo,

posto $\frac{dz}{dx} = i_f$ ( pendenza del fondo )

è allora possibile riscrivere l'equazione (1) nella forma seguente:

$$\frac{dE}{dx} = i_f - j$$

che rappresenta l'equazione del moto stazionario.

La profondità critica è la quota per la quale il carico specifico è minimo e viene calcolata con procedura iterativa basata sull'equazione che definisce il carico specifico in una data sezione.

La profondità critica in una sezione trasversale viene determinata ogni volta che si verifica una delle seguenti condizioni:

- la corrente è veloce;
- il calcolo della profondità critica viene richiesto dall'utente;
- il programma non è riuscito a bilanciare l'equazione dell'energia entro i limiti della tolleranza prestabilita al raggiungimento del numero massimo di iterazioni.

L'equazione risolta con la condizione di portata costante fornisce infatti una funzione caratterizzata da almeno un valore di profondità a cui corrisponde un valore minimo, assoluto o relativo, di carico specifico; mentre l'equazione risolta con la condizione di carico specifico costante fornisce una funzione caratterizzata da almeno un valore di profondità a cui corrisponde un valore massimo, assoluto o relativo, di portata.
Queste profondità sono definite appunto profondità critiche $Y_c$, e la velocità corrispondente a questa profondità è la velocità critica.

Si possono distinguere due tipi di corrente:

a) corrente veloce (supercritica) per cui:

$$U>U_c \quad e \quad Y<Y_c$$

b) corrente lenta (subcritica) per cui:

$$U<U_c \quad e \quad Y>Y_c$$

La stessa distinzione si evidenzia ricorrendo al valore del numero di Froude:

$$Fr = \frac{U}{\sqrt{g \cdot Y}}$$, per cui si ha:

a) corrente veloce: $Fr>1$

b) corrente lenta: $Fr<1$

La verifica è condotta supponendo che possa esistere transizione della corrente attraverso la profondità critica, ovvero ammettendo la possibilità di passaggio della corrente da veloce a lenta e viceversa.

### *5.1.3 Procedimento di calcolo*

Il procedimento che si sviluppa durante i calcoli è il seguente:

- Calcolo del profilo di rigurgito in condizioni subcritiche a partire dalle condizioni al contorno di valle
- Calcolo di un profilo di rigurgito in condizioni supercritiche a partire dalle condizioni di monte.
- Confronto tra i valori di carico specifico calcolati ai punti 1. e 2. .
- Se nelle condizioni di corrente supercritica il carico specifico è maggiore rispetto al carico specifico calcolato con l'ipotesi subcritica, allora la condizione supercritica è assunta per il calcolo del profilo verso valle. Se la condizione subcritica ha carico specifico maggiore allora ricerca della sezione a valle in cui si ha transizione lungo la profondità critica. Determinata tale profondità inizia il calcolo del profilo di rigurgito.
- Il profilo di rigurgito in condizioni supercritiche è calcolato nella direzione da monte verso valle sino a che si incontra una sezione per la quale le condizioni sub e super critiche sono entrambe valide. Si calcolano e si confrontano i carichi specifici nelle diverse condizioni. Se il carico specifico supercritico è superiore allora il calcolo del profilo procede verso valle sempre come supercritico. Quando il calcolo fornisce un valore di carico specifico subcritico maggiore allora si localizza la sezione di transizione.

Introdotta la geometria delle sezioni principali che caratterizzano la geometria dell'alveo, è stata sempre adottata la regola di eseguire l'interpolazione fra due sezioni successive note, al fine di facilitare qualitativamente il calcolo di Hec Ras.

### *5.1.4 Punti singolari*

Le perdite di carico localizzate, ricondotte alle sole perdite di carico connesse con il deflusso sotto i ponti, vengono stimate, in assenza di pile in alveo, con la relazione (KING & BRATER; Handboock of Hydraulics)

$$\Delta = k_b \, U_n^2 / 2 \, g$$

con:

$U_n$, velocità della corrente ottenuta dal rapporto tra la portata di piena e la sezione libera sotto il ponte con riferimento al livello di piena a valle del ponte;

$k_b$, coefficiente il cui valore dipende dal rapporto (M) tra la portata che fluirebbe nella luce libera del ponte e la portata totale.

$$k_b = 1{,}87 \, (1 - M)$$

In presenza di pile in alveo (non applicabile nel caso in esame) generalmente si fa riferimento alla relazione di Yarnell, la quale fornisce direttamente il valore del rigurgito $\Delta Y$

$$\Delta Y = k \, (k - 0{,}6 + 5 \, Fr^2) \, (\alpha + 15 \, \alpha^4) \, Fr^2$$

con:

k, fattore di forma, assunto pari a 1,1

$\alpha$, funzione del rapporto di restringimento

Fr, numero di Froude caratteristico della corrente a valle del ponte

In presenza di ponti caratterizzati da quota limitata dell'intradosso e tale da causare *flusso sotto battente*, il livello idrico a monte dell'opera si valuta con la relazione

$$Q = 0{,}80\ \Omega\ \sqrt{[2\ g\ (h_m - h_v)]}$$

con:

$\Omega$, area della sezione della luce libera del ponte ortogonale all'asse della corrente;

$h_m$, livello idrico a monte del ponte;

$h_v$, livello idrico (noto) a valle del ponte.

Nelle condizioni di flusso parte *sotto battente* e parte *per sormonto*, il livello idrico a monte del ponte si stima con la relazione:

$$Q = 0{,}80\ \Omega\ \sqrt{[2\ g\ (h_m - h_v)]} + 0{,}385\ L\ (h_m - h_s)\ \sqrt{[2\ g\ (h_m - h_s)]}$$

con:

L, ampiezza del fronte di sormonto;

$h_s$, livello della soglia di sormonto.

### *5.1.5 Condizioni al contorno*

La quota del pelo libero nelle sezioni usate per definire le condizioni al contorno può essere specificata in uno dei seguenti quattro modi:

- come profondità critica; questo metodo è adatto a ubicazioni dove si riscontrino condizioni critiche o quasi per la sezione di calcolo
- come una elevazione nota ( ad esempio in corrispondenza di una foce)
- come profondità di moto uniforme con pendenza assegnata, ovvero come pendenza della linea dei carichi assegnata;
- da una scala di deflusso.

La portata viene specificata in una apposita variabile nella sezione di monte, ma può essere variata in una qualunque sezione e per tutte le sezioni di valle imponendo una seconda variabile.
Sia per la condizione di monte sia per quella di valle è stata impostata l'altezza di moto uniforme per una pendenza di fondo pari alla pendenza media del tratto in esame.

## 5.2 Assetto geometrico e descrizione scenario di calcolo modello 1D

La modellazione geometrica delle sezioni d'alveo è stata effettuata sulla base di un esteso rilievo topografico di dettaglio delle sezioni significative (comprensive delle aree soggette ad occupazione temporanea), completato mediante il rilievo dei manufatti esistenti.
Complessivamente per la modellazione è stato considerato un unico tratto d'alveo che termina a monte dell'opera di presa IREN (Presa di Serre La Voute).
Le sezioni trasversalmente giungono sino a quote certe al di fuori dei livelli di massima piena.
Nel tratto modellato la geometria definita presenta complessivamente 20 sezioni ed abbraccia un tratto d'alveo della lunghezza complessiva di 2500 m circa. La distanza media tra le sezioni risulta di circa 150 m. Al fine di completare l'elaborazione, il modello prevede l'aggiunta di sezioni interpolate. Lo schema planimetrico generato dal modello di calcolo utilizzato è rappresentato in fig. 2.
La numerazione delle sezioni cresce da valle verso monte e la corrispondenza tra gli allegati ed i calcoli è assicurata in base alla planimetria di ubicazione degli interventi ed ubicazione delle sezioni idrauliche (v. elaborato PRV_C3A_7391_22-02-75 ).
L'assetto geometrico si completa con la definizione dello scenario di simulazione adottato, per il quale si sono ricavati i livelli nelle diverse sezioni.
Lo scenario della simulazione corrisponde alle condizioni geometriche attuali, senza alcun intervento aggiuntivo.

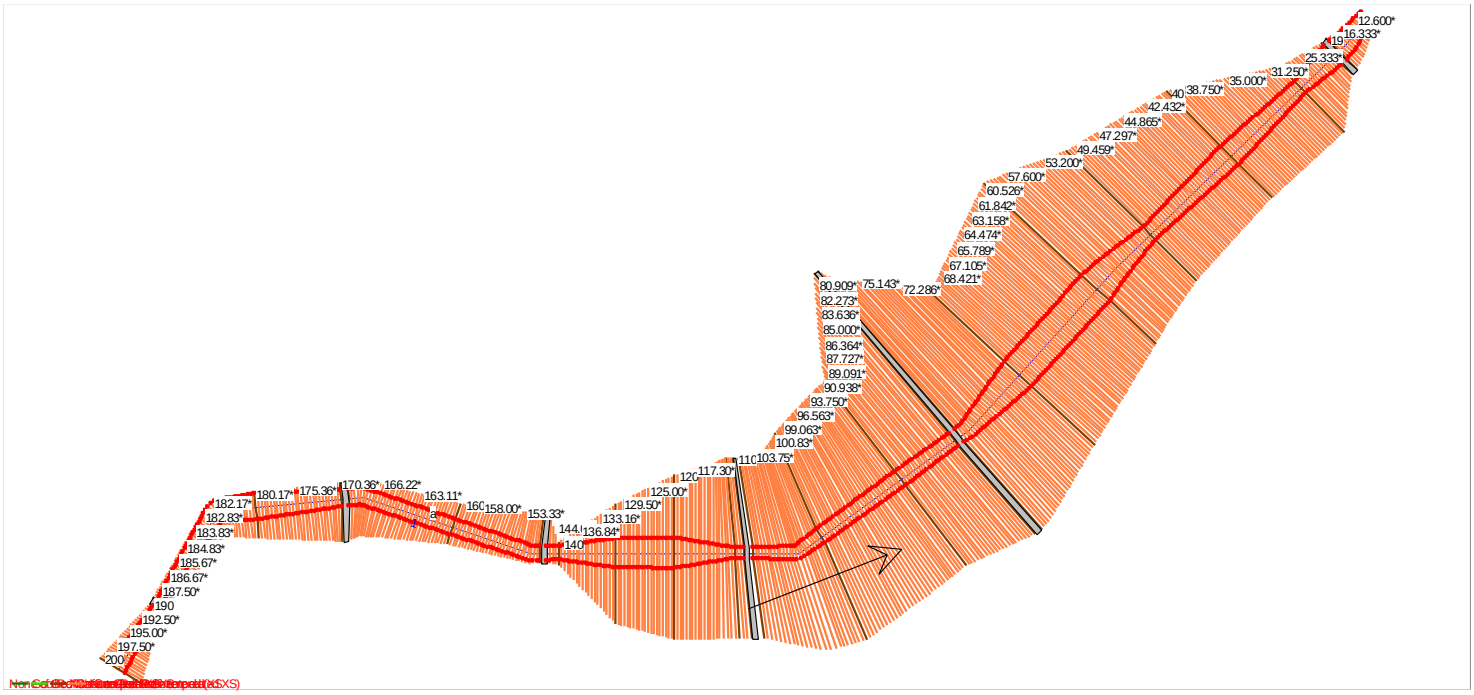



**Figure 2 : schema planimetrico del modello di calcolo HEC-RAS**

## 5.3 Le ipotesi di calcolo relative alle condizioni al contorno

La realizzazione di un modello di moto permanente ha comportato l'adozione delle seguenti condizioni al contorno:

- portata al colmo costante in tutto il tratto pari ai valori precedentemente calcolati relativi ai tempi di ritorno di 50 e 200 anni.
- altezza idrometrica di monte e di valle calcolata in condizioni di moto uniforme indisturbato con pendenza pari allo 1.3 % (corrispondente alle condizioni locali di pendenza riscontrabili nel tratto di monte e nel tratto di valle).

## 5.4 Coefficiente di scabrezza

La scabrezza è il coefficiente più influente sulla determinazione dei livelli nelle sezioni considerato che la geometria è fissata dal rilievo.
Nel seguito si riporta una tabella indicativa per i corsi d'acqua naturali sui valori di scabrezza da adottarsi proposta dall'Autorità di Bacino nell'ambito della Direttiva "Criteri per la valutazione della compatibilità idraulica delle infrastrutture pubbliche e di interesse pubblico all'interno delle fasce A e B".

valori del coefficiente di scabrezza per i corsi d'acqua naturali

| Tipologia del corso d'acqua | Strickler Ks = 1/n ($m^{1/3}$ $s^{-1}$) |
|---|---|
| CORSI D'ACQUA MINORI (Raggio idraulico ? 2 m; larghezza in piena < 30 m) | |
| Corsi d'acqua di pianura | |
| - alvei con fondo compatto, senza irregolarità | 45-40 |
| - alvei regolari con vegetazione erbacea | 30-35 |
| - alvei con ciottoli e irregolarità modeste | 25-30 |
| - alvei fortemente irregolari | 25-15 |
| Torrenti montani | |
| - fondo alveo con prevalenza di ghiaia e ciottoli, pochi grossi massi | 30-25 |
| - alveo in roccia regolare | 30-25 |
| - fondo alveo con ciottoli e molti grossi massi | 20-15 |
| - alveo in roccia irregolare | 20-15 |
| CORSI D'ACQUA MAGGIORI (Raggio idraulico ? 4 m; larghezza in piena > 30 m) | |
| - sezioni con fondo limoso, scarpate regolari a debole copertura erbosa | 45-40 |
| - sezioni in depositi alluvionali, fondo sabbioso, scarpate regolari a copertura erbosa | 35 |
| - sezioni in depositi alluvionali, fondo regolare, scarpate irregolari con vegetazione arbustiva e arborea | 25-30 |
| - in depositi alluvionali, fondo irregolare, scarpate irregolari con forte presenza di vegetazione arbustiva e arborea | 20-25 |
| AREE GOLENALI (Raggio idraulico ? 1 m) | |
| - a pascolo, senza vegetazione arbustiva | 40-20 |
| - coltivate | 50-20 |
| - con vegetazione arbustiva spontanea | 25-10 |
| - con vegetazione arborea coltivata | 30-20 |
| Alveo artificiale in terra | |
| - materiale compatto, liscio | 60 |
| - sabbia compatta, con argilla o pietrisco | 50 |
| - sabbia e ghiaia, scarpata lastricata | 50-45 |
| - ghiaietto 10-30 mm | 45 |
| - ghiaia media 20-60 mm | 40 |
| - ghiaia grossa 50-150 mm | 35 |
| - limo in zolle | 30 |
| - grosse pietre | 30-25 |
| - sabbia, limo o ghiaia, con forte rivestimento vegetale | 25-20 |
| Alveo artificiale in roccia | |
| - con lavorazione accurata | 30-25 |
| - con lavorazione media | 25-20 |
| - con lavorazione grossolana | 20-15 |
| Alveo artificiale in muratura | |
| - muratura in pietra da taglio | 80-70 |
| - muratura accurata in pietra da cava | 70 |
| - muratura normale in pietra da cava | 60 |
| - pietre grossolanamente squadrate | 50 |
| - scarpate lastricate, fondo in sabbia e ghiaia | 50-45 |
| Alveo artificiale in calcestruzzo | |
| - pavimentazione in cemento | 100 |
| - calcestruzzo con casseforme metalliche | 100-90 |
| - calcestruzzo con intonaco | 95-90 |
| - calcestruzzo lisciato | 90 |
| - intonaco di cemento intatto | 90-80 |
| - calcestruzzo con casseforme in legno, senza intonaco | 70-65 |
| - calcestruzzo costipato, superficie liscia | 65-60 |
| - calcestruzzo vecchio, superficie pulita | 60 |
| - rivestimento in calcestruzzo ruvido | 55 |
| - superfici irregolari in calcestruzzo | 50 |

**Figure 3 : tabella valori di scabrezza**

Trattandosi di un corso d'acqua maggiore in depositi alluvionali con fondo prevalentemente sabbioso e ghiaioso ed alveo regolare, si è prescelta una scabrezza di Manning media pari a 0.04 $m^{-1/3}$ s (25 $m^{1/3}$ $s^{-1}$ di Strickler) per l'alveo e pari a 0.05 $m^{-1/3}$ s (20 $m^{1/3}$ $s^{-1}$ di Strickler) per le aree golenali. Tale ipotesi, comunque cautelativa, è in accordo con quanto già indicato nel Progetto Definitivo approvato

# 6. Modalità di deflusso di piena

## 6.1 Definizione dei livelli idrometrici per le portate di riferimento TR50 e TR200

Sulla base delle precedenti ipotesi si sono calcolati i livelli idrometrici della Dora nel tratto in esame; nel seguito si riportano i profili di piena ottenuti con la modellazione monodimensionale ed i relativi output di calcolo.
In entrambi i profili il moto avviene prevalentemente in condizioni di corrente veloce, nel quale si passa in prossimità dell'attraversamento esistente ubicato in prossimità della sezione 190. Nel tratto di valle, pur restando in condizioni di corrente veloce, ci si trova in prossimità dello stato critico che sfocia in un risalto idraulico circa in corrispondenza della sezione n. 30
Al fine di valutare le aree di esondazione sono stati riportati i livelli idrometrici sulle sezioni (v. elaborati PRV_C3A_7394/7398_22-02-75) e conseguentemente stimate le aree coinvolte (riportate negli elaborati PRV_C3A_7392/7393_22-02-75).

Profilo di piena per tempo di ritorno di 50 anni:

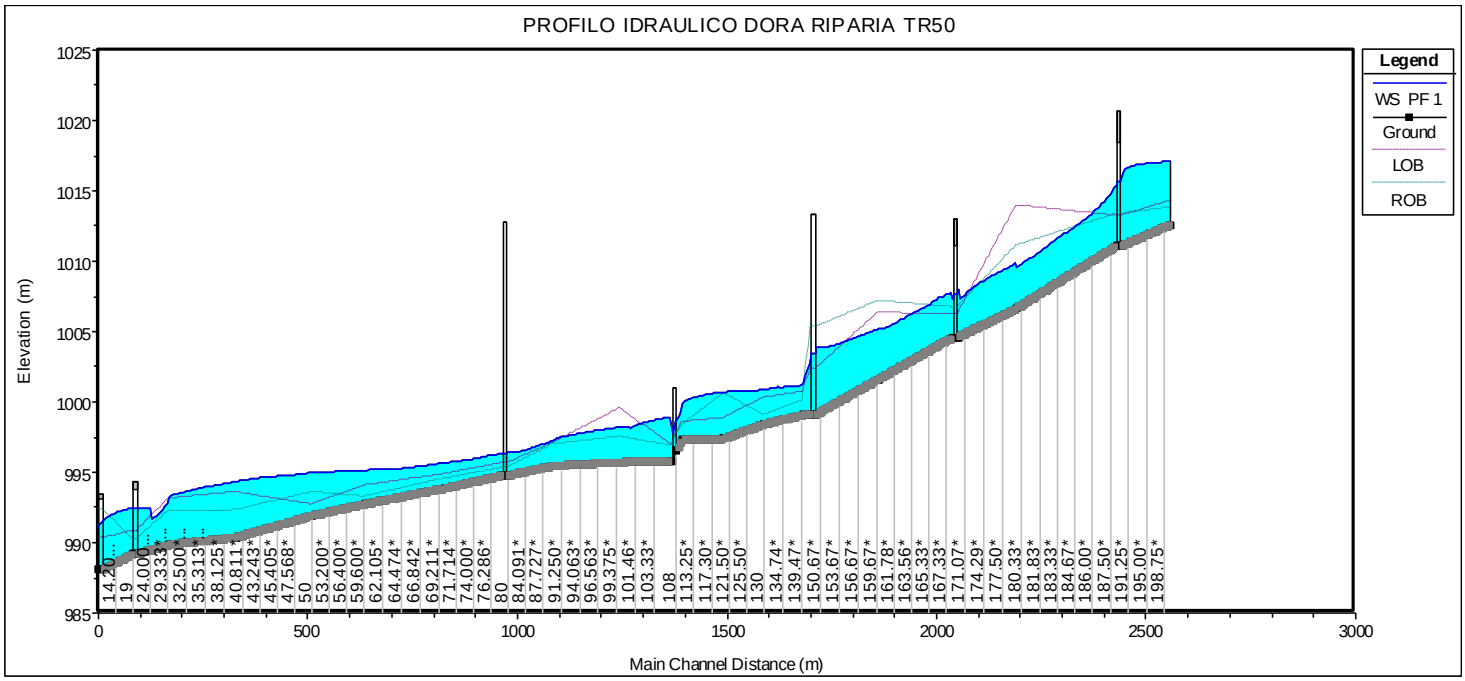



**Figure 4 : Profilo idraulico TR50 (PF1)**

PF1=Profilo idraulico TR50
WS= Livello tiranti idraulici
EG=livelli energia totale
CRIT- altezza di moto critica
LOB=sponda sinistra
ROB=sponda destra

| Riv Sta | Prof | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Fr Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| **200** | PF 1 | 287.00 | 1011.08 | 1015.43 | 1015.62 | 1016.97 | 0.012526 | 6.00 | 59.16 | 24.10 | 1.01 |
| **190** | PF 1 | 287.00 | 1006.64 | 1009.55 | 1009.92 | 1011.07 | 0.021917 | 5.47 | 52.46 | 28.17 | 1.28 |
| **189** | | Bridge | 1004.58 | 1007.97 | 1007.62 | 1008.52 | 0.005550 | 3.46 | 98.48 | 57.25 | 0.69 |
| **188** | PF 1 | 287.00 | | | | | | | | | |
| **180** | PF 1 | 287.00 | 1004.58 | 1007.36 | 1007.62 | 1008.49 | 0.015465 | 4.84 | 66.76 | 50.17 | 1.10 |
| **170** | PF 1 | 287.00 | 1001.61 | 1005.17 | 1005.03 | 1006.31 | 0.011016 | 4.73 | 60.71 | 23.15 | 0.93 |
| **169** | | Bridge | 999.08 | 1003.89 | 1003.42 | 1004.56 | 0.006804 | 3.74 | 83.65 | 35.40 | 0.69 |
| **168** | PF 1 | 287.00 | | | | | | | | | |
| **160** | PF 1 | 287.00 | 999.08 | 1003.21 | 1003.42 | 1004.49 | 0.017079 | 5.08 | 60.02 | 33.04 | 1.06 |
| **150** | PF 1 | 287.00 | 999.07 | 1001.33 | 1002.06 | 1003.83 | 0.036459 | 7.06 | 41.80 | 23.79 | 1.67 |
| **149** | | Bridge | 998.41 | 1000.86 | | 1001.39 | 0.010033 | 3.29 | 90.59 | 60.53 | 0.85 |
| **148** | PF 1 | 287.00 | 997.39 | 1000.72 | | 1000.91 | 0.002002 | 2.04 | 152.15 | 72.21 | 0.41 |
| **140** | PF 1 | 287.00 | 997.31 | 999.89 | 999.89 | 1000.52 | 0.009704 | 4.22 | 96.47 | 69.36 | 0.89 |
| **130** | PF 1 | 287.00 | 996.56 | 998.70 | 999.14 | 1000.14 | 0.027142 | 6.12 | 66.44 | 67.23 | 1.43 |
| **120** | PF 1 | 287.00 | | | | | | | | | |
| **111** | PF 1 | 287.00 | 995.81 | 998.92 | 998.39 | 999.23 | 0.003755 | 3.01 | 133.78 | 71.92 | 0.57 |
| **110** | PF 1 | 287.00 | 995.71 | 998.21 | | 998.37 | 0.004018 | 2.33 | 182.45 | 157.46 | 0.54 |
| **108** | | Bridge | 995.45 | 997.23 | 997.22 | 997.56 | 0.010781 | 3.31 | 135.99 | 171.66 | 0.87 |
| **105** | PF 1 | 287.00 | 994.76 | 996.39 | 995.96 | 996.45 | 0.002399 | 1.55 | 300.10 | 340.72 | 0.41 |
| **100** | PF 1 | 287.00 | | | | | | | | | |
| **90** | PF 1 | 287.00 | 994.76 | 996.34 | | 996.40 | 0.002901 | 1.66 | 282.64 | 340.24 | 0.45 |
| **80** | PF 1 | 287.00 | 993.86 | 995.67 | | 995.79 | 0.003557 | 1.81 | 199.42 | 180.79 | 0.50 |
| **79** | | Bridge | 992.74 | 995.16 | | 995.23 | 0.001168 | 1.34 | 283.14 | 223.33 | 0.30 |
| **78** | PF 1 | 287.00 | 991.92 | 995.00 | | 995.07 | 0.001039 | 1.57 | 289.89 | 189.70 | 0.30 |
| **70** | PF 1 | 287.00 | 990.36 | 994.35 | | 994.64 | 0.003979 | 2.60 | 139.03 | 111.02 | 0.56 |
| **60** | PF 1 | 287.00 | 989.86 | 993.23 | 993.23 | 993.89 | 0.006938 | 3.79 | 96.96 | 82.27 | 0.75 |
| **50** | PF 1 | 287.00 | 989.17 | 992.49 | 991.25 | 992.67 | 0.001576 | 1.99 | 161.66 | 66.60 | 0.38 |
| **40** | PF 1 | 287.00 | | | | | | | | | |
| **30** | PF 1 | 287.00 | 989.17 | 992.47 | | 992.65 | 0.001618 | 2.01 | 160.28 | 66.51 | 0.38 |
| **20** | PF 1 | 287.00 | 988.08 | 991.54 | 991.00 | 992.36 | 0.007301 | 4.01 | 71.60 | 24.25 | 0.74 |
| **19.5** | PF 1 | Bridge | | | | | | | | | |
| **19** | PF 1 | 287.00 | 988.08 | 991.05 | 991.00 | 992.22 | 0.013004 | 4.80 | 59.76 | 24.21 | 0.98 |
| **11** | PF 1 | 287.00 | 1011.08 | 1015.43 | 1015.62 | 1016.97 | 0.012526 | 6.00 | 59.16 | 24.10 | 1.01 |
| **10.5** | PF 1 | Bridge | 1006.64 | 1009.55 | 1009.92 | 1011.07 | 0.021917 | 5.47 | 52.46 | 28.17 | 1.28 |
| **10** | PF 1 | 287.00 | 1004.58 | 1007.97 | 1007.62 | 1008.52 | 0.005550 | 3.46 | 98.48 | 57.25 | 0.69 |

**Tableau 1 : Output di calcolo TR50**

Profilo di piena per tempo di ritorno di 200 anni:

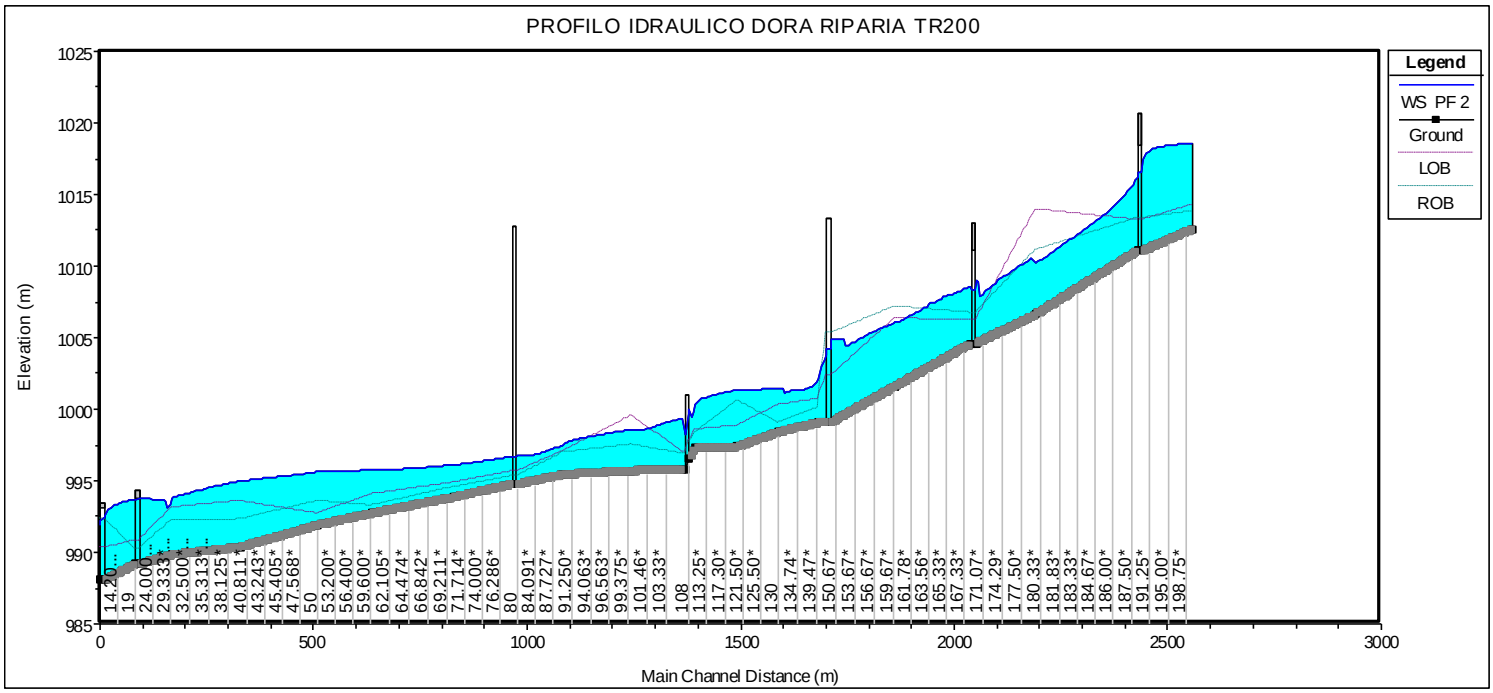



**Figure 5 : Profilo idraulico TR200 (PF2)**

PF2=Profilo idraulico TR200
WS= Livello tiranti idraulici
EG=livelli energia totale
CRIT- altezza di moto critica
LOB=sponda sinistra
ROB=sponda destra

| Riv Sta | Prof | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Fr Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| **200** | PF 2 | 450.00 | 1012.61 | 1018.55 | 1015.97 | 1018.80 | 0.001008 | 2.40 | 243.60 | 80.54 | 0.33 |
| **190** | PF 2 | 450.00 | 1011.08 | 1017.43 | 1016.66 | 1018.52 | 0.005402 | 5.29 | 111.11 | 26.59 | 0.71 |
| **189** | | Bridge | | | | | | | | | |
| **188** | PF 2 | 450.00 | 1011.08 | 1016.25 | 1016.66 | 1018.40 | 0.013951 | 7.25 | 79.68 | 26.59 | 1.10 |
| **180** | PF 2 | 450.00 | 1006.64 | 1010.19 | 1010.72 | 1012.20 | 0.022661 | 6.28 | 71.67 | 32.01 | 1.34 |
| **170** | PF 2 | 450.00 | 1004.58 | 1009.02 | 1008.26 | 1009.51 | 0.003499 | 3.44 | 176.08 | 88.28 | 0.58 |
| **169** | | Bridge | | | | | | | | | |
| **168** | PF 2 | 450.00 | 1004.58 | 1008.56 | 1008.26 | 1009.34 | 0.006242 | 4.21 | 137.17 | 77.36 | 0.75 |
| **160** | PF 2 | 450.00 | 1001.61 | 1006.06 | 1005.97 | 1007.59 | 0.011298 | 5.47 | 82.33 | 25.27 | 0.97 |
| **150** | PF 2 | 450.00 | 999.08 | 1004.86 | 1004.18 | 1005.67 | 0.006092 | 4.18 | 118.77 | 37.01 | 0.67 |
| **149** | | Bridge | | | | | | | | | |
| **148** | PF 2 | 450.00 | 999.08 | 1003.82 | 1004.18 | 1005.57 | 0.018318 | 6.05 | 81.02 | 35.27 | 1.13 |
| **140** | PF 2 | 450.00 | 999.07 | 1002.14 | 1003.04 | 1005.05 | 0.026203 | 7.64 | 61.24 | 24.36 | 1.50 |
| **130** | PF 2 | 450.00 | 998.41 | 1001.42 | 1001.16 | 1002.11 | 0.008889 | 3.81 | 126.69 | 67.71 | 0.84 |
| **120** | PF 2 | 450.00 | 997.39 | 1001.32 | | 1001.61 | 0.002249 | 2.50 | 204.05 | 97.69 | 0.45 |
| **111** | PF 2 | 450.00 | 997.31 | 1000.34 | 1000.34 | 1001.17 | 0.010481 | 4.94 | 128.13 | 71.54 | 0.95 |
| **110** | PF 2 | 450.00 | 996.56 | 1000.01 | 999.59 | 1000.53 | 0.005598 | 3.96 | 158.45 | 73.57 | 0.71 |
| **108** | PF 2 | Bridge | | | | | | | | | |
| **105** | PF 2 | 450.00 | 995.81 | 999.33 | | 999.82 | 0.005043 | 3.82 | 164.12 | 73.94 | 0.68 |
| **100** | PF 2 | 450.00 | 995.71 | 998.58 | | 998.79 | 0.004317 | 2.67 | 240.38 | 160.36 | 0.58 |
| **90** | PF 2 | 450.00 | 995.45 | 997.48 | 997.46 | 997.91 | 0.011670 | 3.82 | 179.60 | 174.32 | 0.93 |
| **80** | PF 2 | 450.00 | 994.76 | 996.73 | 996.14 | 996.79 | 0.002094 | 1.67 | 415.00 | 343.84 | 0.40 |
| **79** | PF 2 | Bridge | | | | | | | | | |
| **78** | PF 2 | 450.00 | 994.76 | 996.68 | | 996.75 | 0.002368 | 1.74 | 399.42 | 343.42 | 0.42 |
| **70** | PF 2 | 450.00 | 993.86 | 996.12 | | 996.27 | 0.002901 | 1.98 | 281.95 | 187.39 | 0.47 |
| **60** | PF 2 | 450.00 | 992.74 | 995.77 | | 995.84 | 0.000973 | 1.46 | 456.73 | 322.19 | 0.29 |
| **50** | PF 2 | 450.00 | 991.92 | 995.63 | | 995.71 | 0.000916 | 1.68 | 411.54 | 198.74 | 0.29 |
| **40** | PF 2 | 450.00 | 990.36 | 994.99 | | 995.29 | 0.003190 | 2.77 | 214.77 | 123.10 | 0.53 |
| **30** | PF 2 | 450.00 | 989.86 | 993.74 | 993.74 | 994.53 | 0.007262 | 4.37 | 139.32 | 85.85 | 0.80 |
| **20** | PF 2 | 450.00 | 989.17 | 993.73 | 991.74 | 993.93 | 0.001085 | 2.10 | 247.61 | 72.28 | 0.33 |
| **19.5** | PF 2 | Bridge | | | | | | | | | |
| **19** | PF 2 | 450.00 | 989.17 | 993.72 | | 993.91 | 0.001098 | 2.11 | 246.62 | 72.28 | 0.33 |
| **11** | PF 2 | 450.00 | 988.08 | 992.52 | 991.85 | 993.64 | 0.007160 | 4.71 | 97.39 | 31.80 | 0.76 |
| **10.5** | PF 2 | Bridge | | | | | | | | | |
| **10** | PF 2 | 450.00 | 988.08 | 991.85 | 991.85 | 993.50 | 0.013002 | 5.68 | 79.25 | 24.27 | 1.00 |

**Tableau 2 : Output di calcolo TR200**

## 6.2 Definizione dei livelli idrometrici per la portata di riferimento corrispondente a quella di determinazione della Fascia Fluviale "A"

Fissato in 200 anni il tempo di ritorno (TR) della piena di riferimento e determinato il livello idrico corrispondente, si assume come delimitazione convenzionale della fascia A la porzione ove defluisce almeno l'80% di tale portata. All'esterno di tale fascia la velocità della corrente deve essere minore o uguale a 0.4 m/s (criterio prevalente nei corsi d'acqua mono o pluricursali).
Al fine di confrontare i risultati con la valutazione della Fascia A fornita dall'Autorità di Bacino, è stata condotta una simulazione anche per la portata corrispondente all' 80% di quella duecentennale (pari a 360 $m^3/s$). Il corrispondente profilo di piena viene qui di seguito riportato:

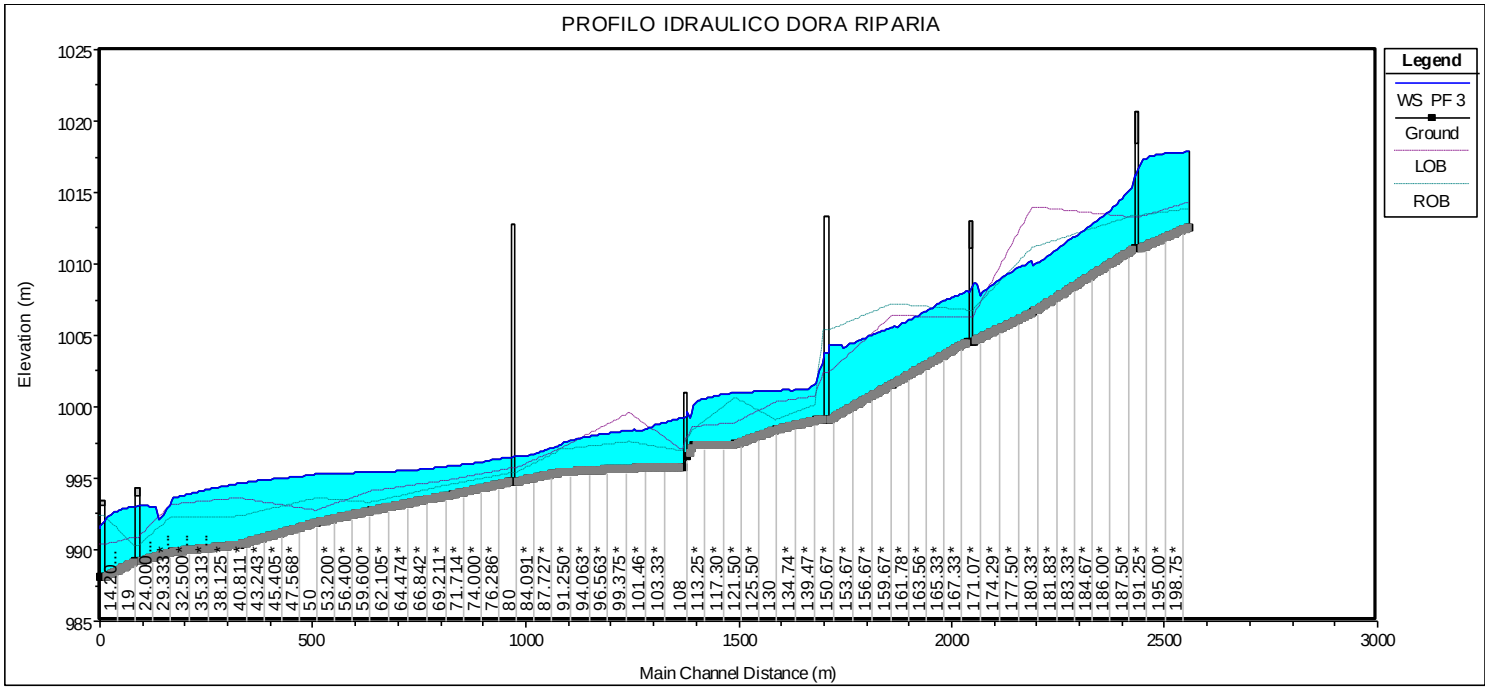



**Figure 6 : Profilo idraulico 80% di TR200 (PF3)**

PF3=Profilo idraulico Q=80% QTR200
WS= Livello tiranti idraulici
EG=livelli energia totale
CRIT- altezza di moto critica
LOB=sponda sinistra
ROB=sponda destra

I livelli idrometrici sono riportati sulle sezioni di rilievo al fine di procedere con la valutazione dell'area di esondazione, posta poi a confronto con la fascia fluviale fornita dall'Autorità di Bacino del Fiume Po (elaborati PRV_C3A_7392_22-02-75 e PRV_C3A_7393_22-02-75).

| Riv Sta | Prof | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Fr Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| **200** | PF 3 | 360.00 | 1012.61 | 1017.85 | 1015.59 | 1018.09 | 0.001115 | 2.30 | 193.04 | 67.38 | 0.34 |
| **190** | PF 3 | 360.00 | 1011.08 | 1016.90 | 1016.20 | 1017.82 | 0.005079 | 4.80 | 97.21 | 26.59 | 0.68 |
| **189** | | Bridge | | | | | | | | | |
| **188** | PF 3 | 360.00 | 1011.08 | 1016.20 | 1016.20 | 1017.62 | 0.009351 | 5.89 | 78.38 | 26.59 | 0.90 |
| **180** | PF 3 | 360.00 | 1006.64 | 1009.85 | 1010.30 | 1011.61 | 0.022290 | 5.87 | 61.36 | 30.01 | 1.31 |
| **170** | PF 3 | 360.00 | 1004.58 | 1008.65 | 1007.81 | 1009.11 | 0.003596 | 3.25 | 144.41 | 83.58 | 0.57 |
| **169** | | Bridge | | | | | | | | | |
| **168** | PF 3 | 360.00 | 1004.58 | 1008.15 | 1007.81 | 1008.88 | 0.006823 | 4.01 | 108.95 | 62.29 | 0.77 |
| **160** | PF 3 | 360.00 | 1001.61 | 1005.58 | 1005.47 | 1006.91 | 0.011321 | 5.12 | 70.37 | 24.12 | 0.96 |
| **150** | PF 3 | 360.00 | 999.08 | 1004.35 | 1003.79 | 1005.09 | 0.006384 | 3.94 | 100.18 | 36.16 | 0.68 |
| **149** | | Bridge | | | | | | | | | |
| **148** | PF 3 | 360.00 | 999.08 | 1003.51 | 1003.79 | 1005.00 | 0.017424 | 5.52 | 70.35 | 34.77 | 1.09 |
| **140** | PF 3 | 360.00 | 999.07 | 1001.69 | 1002.39 | 1004.41 | 0.031239 | 7.37 | 50.46 | 24.05 | 1.59 |
| **130** | PF 3 | 360.00 | 998.41 | 1001.12 | 1000.88 | 1001.73 | 0.009465 | 3.55 | 106.95 | 64.84 | 0.84 |
| **120** | PF 3 | 360.00 | 997.39 | 1001.00 | | 1001.25 | 0.002145 | 2.27 | 174.62 | 84.42 | 0.43 |
| **111** | PF 3 | 360.00 | 997.31 | 1000.10 | 1000.10 | 1000.83 | 0.010169 | 4.57 | 111.10 | 70.38 | 0.92 |
| **110** | PF 3 | 360.00 | 996.56 | 999.69 | 999.35 | 1000.16 | 0.005699 | 3.73 | 135.42 | 72.03 | 0.71 |
| **108** | | Bridge | | | | | | | | | |
| **105** | PF 3 | 360.00 | 995.81 | 999.20 | | 999.56 | 0.003884 | 3.26 | 154.19 | 73.29 | 0.59 |
| **100** | PF 3 | 360.00 | 995.71 | 998.39 | | 998.57 | 0.004165 | 2.49 | 209.87 | 158.84 | 0.56 |
| **90** | PF 3 | 360.00 | 995.45 | 997.35 | 997.34 | 997.73 | 0.011203 | 3.55 | 156.73 | 172.93 | 0.90 |
| **80** | PF 3 | 360.00 | 994.76 | 996.54 | 996.06 | 996.60 | 0.002270 | 1.61 | 352.06 | 342.13 | 0.41 |
| **79** | | Bridge | | | | | | | | | |
| **78** | PF 3 | 360.00 | 994.76 | 996.49 | | 996.56 | 0.002650 | 1.71 | 335.42 | 341.68 | 0.44 |
| **70** | PF 3 | 360.00 | 993.86 | 995.88 | | 996.01 | 0.003259 | 1.90 | 236.23 | 181.48 | 0.49 |
| **60** | PF 3 | 360.00 | 992.74 | 995.45 | | 995.52 | 0.001152 | 1.45 | 357.22 | 294.77 | 0.31 |
| **50*** | PF 3 | 360.00 | 991.92 | 995.30 | | 995.38 | 0.000973 | 1.62 | 347.32 | 195.83 | 0.30 |
| **40** | PF 3 | 360.00 | 990.36 | 994.65 | | 994.95 | 0.003542 | 2.68 | 174.51 | 119.56 | 0.54 |
| **30** | PF 3 | 360.00 | 989.86 | 993.48 | 993.48 | 994.20 | 0.007008 | 4.05 | 117.82 | 84.05 | 0.77 |
| **20** | PF 3 | 360.00 | 989.17 | 993.07 | 991.48 | 993.26 | 0.001278 | 2.03 | 200.78 | 68.15 | 0.35 |
| **19.5** | PF 3 | Bridge | | | | | | | | | |
| **19** | PF 3 | 360.00 | 989.17 | 993.05 | | 993.24 | 0.001300 | 2.04 | 199.67 | 68.12 | 0.35 |
| **11** | PF 3 | 360.00 | 988.08 | 991.98 | 991.40 | 992.96 | 0.007370 | 4.38 | 82.36 | 24.63 | 0.76 |
| **10.5** | PF 3 | Bridge | | | | | | | | | |
| **10** | PF 3 | 360.00 | 988.08 | 991.42 | 991.40 | 992.82 | 0.013003 | 5.23 | 68.87 | 24.24 | 0.99 |

**Tableau 3 : Output di calcolo 80% di TR200 (Fascia Fluviale A)**

# 7. Analisi dei risultati e conclusioni

L'area in esame risulta in totale sicurezza in caso di eventi meteorici con tempo di ritorno 50 anni, in quanto completamente al di fuori delle aree coinvolte dalla corrente; dalle simulazioni condotte, anche i livelli corrispondenti ad una portata TR200 (fra le sezioni 40 e 110) risultano inferiori al piano di quota di progetto dell'area di cantiere: ciò però non risulta congruente con le Fascia B fornita dall'Autorità di Bacino, che include invece tutta l'area destinata all'occupazione temporanea: pertanto si ritiene utile procedere ad un confronto fra i risultati ottenuti e lo **Studio di fattibilità della sistemazione idraulica del fiume Dora Riparia nel tratto da Oulx alla confluenza in Po** condotto dall'Autorità di Bacino del Po volto alla definizione della Fascia A e della Fascia B.
Si riporta innanzitutto uno stralcio planimetrico con l'indicazione del posizionamento delle sezioni utilizzate dall'AdB:

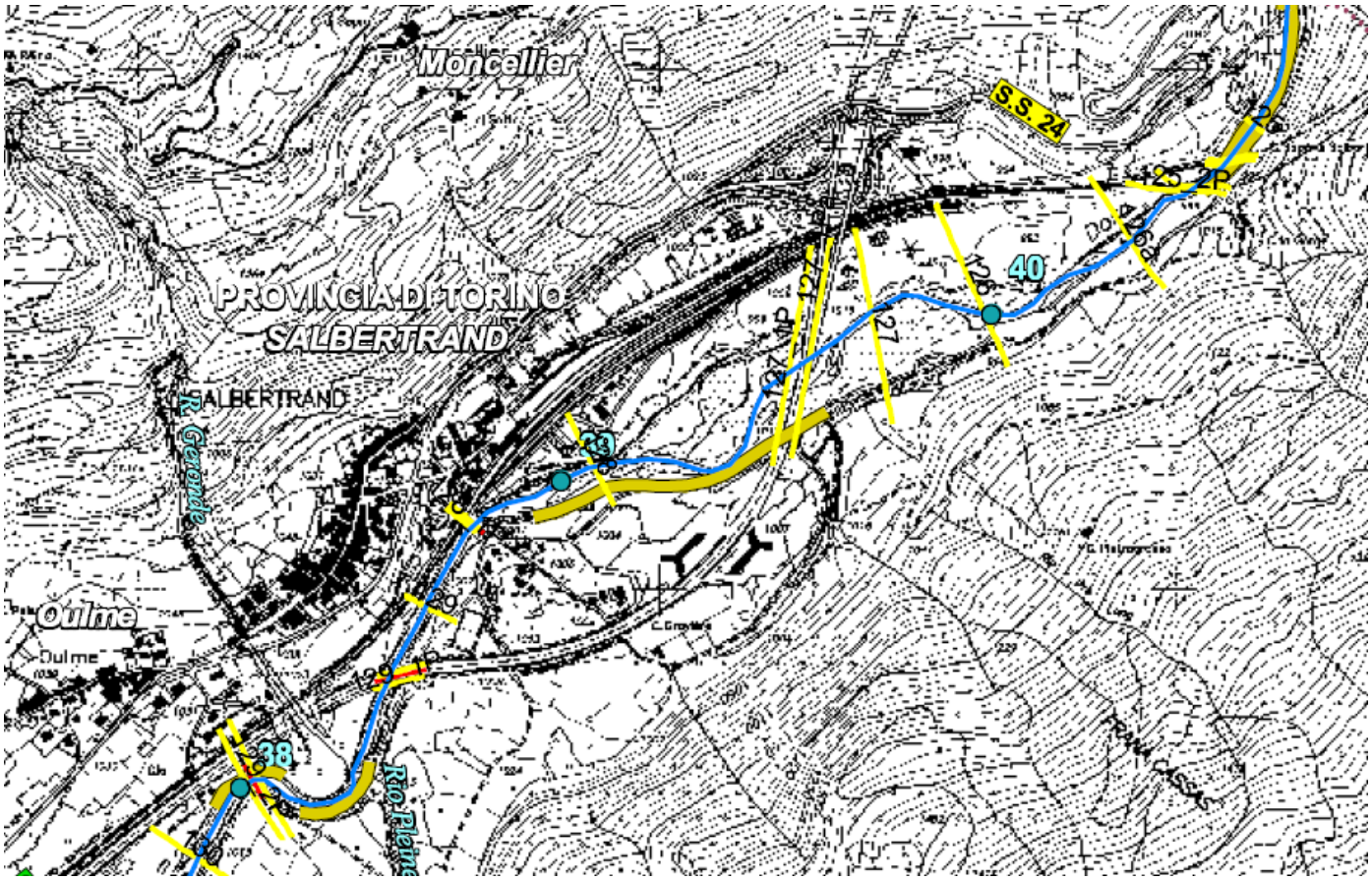



**Figure 7 : Localizzazione sezioni utilizzate nello Studio di fattibilità della sistemazione idraulica del fiume Dora Riparia nel tratto da Oulx alla confluenza in Po condotto dall'Autorità di Bacino**

Le sezioni utilizzate dall'AdB sono mediamente più distanziate se poste a confronto con quelle ad oggi applicate. La seguente tabella fornisce una corrispondenza fra le sezioni dei due studi, se pur con qualche approssimazione, riportando inoltre l'indicazione dei livelli idrici relativi ad una portata TR200, ossia riferiti alla Fascia B di esondazione:

| Sezioni | Livelli TR200 | Sezioni AdB | Livelli TR200 AdB | Delta |
|---|---|---|---|---|
| 190 | 1017.43 | 129_2P | 1016.899 | -0.531 |
| 180 | 1010.19 | | | |
| 170 | 1009.02 | 129_1P | 1009.118 | 0.098 |
| 160 | 1006.06 | 129 | 1006.75 | 0.690 |
| 150 | 1004.86 | | | |
| 140 | 1002.14 | 128_1P | 1004.111 | 1.971 |
| 130 | 1001.42 | 128 | 1000.121 | -1.3299 |
| 120 | 1001.32 | | | |
| 111 | 1000.34 | | | |
| 110 | 1000.01 | | | |
| 105 | 999.33 | | | |
| 100 | 998.58 | | | |
| 90 | 997.48 | | | |
| 80 | 996.73 | 127_2P/127_1P | 997.508 | 0.778 |
| 70 | 996.12 | 127 | 997.463 | 1.343 |
| 60 | 995.77 | 126 | 997.446 | 1.676 |
| 50 | 995.63 | | | |
| 40 | 994.99 | 126a | 997.413 | 2.423 |
| 30 | 993.74 | | | |
| 20 | 993.73 | 125_2P | 997.397 | 3.667 |
| 10 | 991.85 | 125 | 996.307 | 4.457 |

I livelli forniti dall'AdB risultano talvolta più elevati e talvolta più ridotti: in corrispondenza della sezione 130 il tirante ad oggi calcolato risulta lievemente superiore, ma nel tratto immediatamente successivo non è possibile effettuare un confronto in quanto fra le sezioni 120 e 90 non sono presenti sezioni di studio dell'Autorità di Bacino.

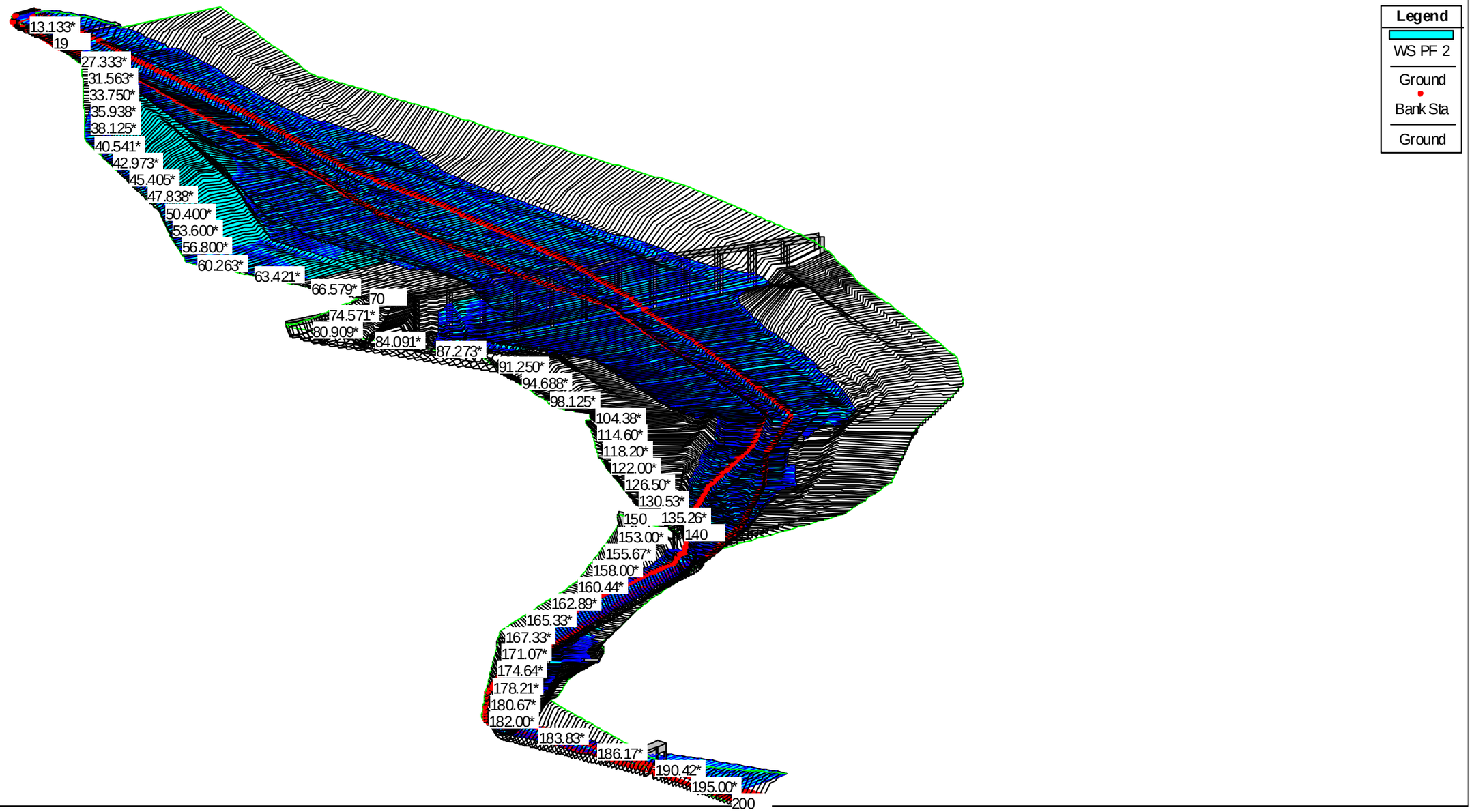
Analizzando il tratto compreso fra le sezioni 110 e 40, che rappresenta l'area di maggior interesse, pur non essendo possibile il confronto esplicito fra le sezioni 110 e 90, è evidente che i livelli fra le sezioni 80 e 40 indicati dall'AdB ed applicati per la definizione della Fascia B sono superiori, con un picco massimo di 997,50 mslm (a fronte di una quota di progetto del piano di cantiere compresa fra 996 e 997 mslm).

In caso di eventi eccezionali, l'area in esame potrebbe rappresentare dunque un'area di laminazione: pertanto, al fine di garantire la corretta progettazione del cantiere in sicurezza, tutti i principali impianti e le principali utenze presenti sul cantiere saranno tenute sopraelevate di 1 m rispetto alla quota prevista di esondazione. I muretti demandati a tale funzione saranno realizzati longitudinalmente rispetto alla direzione di deflusso del fiume per garantire la trasparenza all'eventuale passaggio dell'acqua.

I silos di stoccaggio dello smarino ed inerti saranno posizionati su strutture sopraelevate con piloni di fondazione di altezza superiore ai 3 m per permettere il caricamento dei camion.

In analogia al posizionamento degli impianti saranno rese trasparenti al passaggio dell'acqua anche le recinzioni esterne di cantiere poste a ridosso delle zone che potrebbero essere interessate da un'eventuale piena del fiume.

PROFILO IDRAULICO DORA RIPARIA

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# ALLEGATO 1 – OUTPUT DI CALCOLO

HEC-RAS Plan: Plan 02 River: 1 Reach: a

| 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) | |
| a | 200 | PF 1 | 287.00 | 1012.61 | 1017.12 | 1015.26 | 1017.36 | 0.001352 | 2.27 | 146.70 | 59.09 | 0.36 |
| a | 200 | PF 2 | 450.00 | 1012.61 | 1018.55 | 1015.97 | 1018.80 | 0.001008 | 2.40 | 243.60 | 80.54 | 0.33 |
| a | 200 | PF 3 | 360.00 | 1012.61 | 1017.85 | 1015.59 | 1018.09 | 0.001115 | 2.30 | 193.04 | 67.38 | 0.34 |
| | | | | | | | | | | | | |
| a | 199.58* | PF 1 | 287.00 | 1012.55 | 1017.11 | | 1017.36 | 0.001362 | 2.29 | 146.21 | 57.87 | 0.36 |
| a | 199.58* | PF 2 | 450.00 | 1012.55 | 1018.55 | | 1018.79 | 0.001003 | 2.40 | 243.87 | 78.29 | 0.33 |
| a | 199.58* | PF 3 | 360.00 | 1012.55 | 1017.84 | | 1018.08 | 0.001118 | 2.32 | 192.60 | 66.26 | 0.34 |
| | | | | | | | | | | | | |
| a | 199.17* | PF 1 | 287.00 | 1012.48 | 1017.10 | | 1017.35 | 0.001392 | 2.33 | 145.38 | 57.97 | 0.37 |
| a | 199.17* | PF 2 | 450.00 | 1012.48 | 1018.54 | | 1018.79 | 0.001000 | 2.41 | 243.73 | 76.04 | 0.33 |
| a | 199.17* | PF 3 | 360.00 | 1012.48 | 1017.84 | | 1018.08 | 0.001123 | 2.34 | 191.98 | 65.14 | 0.34 |
| | | | | | | | | | | | | |
| a | 198.75* | PF 1 | 287.00 | 1012.42 | 1017.08 | | 1017.34 | 0.001439 | 2.38 | 144.51 | 60.06 | 0.37 |
| a | 198.75* | PF 2 | 450.00 | 1012.42 | 1018.54 | | 1018.78 | 0.001000 | 2.43 | 243.10 | 73.80 | 0.33 |
| a | 198.75* | PF 3 | 360.00 | 1012.42 | 1017.82 | | 1018.07 | 0.001155 | 2.38 | 190.89 | 67.35 | 0.34 |
| | | | | | | | | | | | | |
| a | 198.33* | PF 1 | 287.00 | 1012.36 | 1017.07 | | 1017.33 | 0.001449 | 2.41 | 144.24 | 59.13 | 0.37 |
| a | 198.33* | PF 2 | 450.00 | 1012.36 | 1018.53 | | 1018.78 | 0.001004 | 2.44 | 242.02 | 71.55 | 0.33 |
| a | 198.33* | PF 3 | 360.00 | 1012.36 | 1017.81 | | 1018.07 | 0.001186 | 2.43 | 190.28 | 70.79 | 0.35 |
| | | | | | | | | | | | | |
| a | 197.92* | PF 1 | 287.00 | 1012.29 | 1017.06 | | 1017.33 | 0.001460 | 2.43 | 143.80 | 58.00 | 0.38 |
| a | 197.92* | PF 2 | 450.00 | 1012.29 | 1018.52 | | 1018.77 | 0.001010 | 2.46 | 240.50 | 69.30 | 0.33 |
| a | 197.92* | PF 3 | 360.00 | 1012.29 | 1017.80 | | 1018.06 | 0.001186 | 2.44 | 190.45 | 69.30 | 0.35 |
| | | | | | | | | | | | | |
| a | 197.50* | PF 1 | 287.00 | 1012.23 | 1017.04 | | 1017.32 | 0.001475 | 2.46 | 143.18 | 56.86 | 0.38 |
| a | 197.50* | PF 2 | 450.00 | 1012.23 | 1018.51 | | 1018.77 | 0.001020 | 2.49 | 238.51 | 67.05 | 0.33 |
| a | 197.50* | PF 3 | 360.00 | 1012.23 | 1017.79 | | 1018.05 | 0.001187 | 2.45 | 190.22 | 67.05 | 0.35 |
| | | | | | | | | | | | | |
| a | 197.08* | PF 1 | 287.00 | 1012.16 | 1017.03 | | 1017.31 | 0.001495 | 2.49 | 142.31 | 55.70 | 0.38 |
| a | 197.08* | PF 2 | 450.00 | 1012.16 | 1018.50 | | 1018.76 | 0.001035 | 2.52 | 236.02 | 64.80 | 0.33 |
| a | 197.08* | PF 3 | 360.00 | 1012.16 | 1017.79 | | 1018.05 | 0.001192 | 2.47 | 189.51 | 64.80 | 0.35 |
| | | | | | | | | | | | | |
| a | 196.67* | PF 1 | 287.00 | 1012.10 | 1017.01 | | 1017.30 | 0.001540 | 2.54 | 141.08 | 56.33 | 0.39 |
| a | 196.67* | PF 2 | 450.00 | 1012.10 | 1018.49 | | 1018.76 | 0.001054 | 2.55 | 233.08 | 62.56 | 0.34 |
| a | 196.67* | PF 3 | 360.00 | 1012.10 | 1017.78 | | 1018.04 | 0.001202 | 2.49 | 188.34 | 62.56 | 0.35 |
| | | | | | | | | | | | | |
| a | 196.25* | PF 1 | 287.00 | 1012.04 | 1016.99 | | 1017.29 | 0.001600 | 2.59 | 139.94 | 58.65 | 0.40 |
| a | 196.25* | PF 2 | 450.00 | 1012.04 | 1018.48 | | 1018.75 | 0.001079 | 2.59 | 229.69 | 60.31 | 0.34 |
| a | 196.25* | PF 3 | 360.00 | 1012.04 | 1017.77 | | 1018.04 | 0.001217 | 2.52 | 186.72 | 60.31 | 0.35 |
| | | | | | | | | | | | | |
| a | 195.83* | PF 1 | 287.00 | 1011.97 | 1016.98 | | 1017.29 | 0.001628 | 2.63 | 139.40 | 58.06 | 0.40 |
| a | 195.83* | PF 2 | 450.00 | 1011.97 | 1018.47 | | 1018.74 | 0.001109 | 2.63 | 225.82 | 58.06 | 0.35 |
| a | 195.83* | PF 3 | 360.00 | 1011.97 | 1017.76 | | 1018.03 | 0.001238 | 2.55 | 184.61 | 58.06 | 0.36 |
| | | | | | | | | | | | | |
| a | 195.42* | PF 1 | 287.00 | 1011.91 | 1016.97 | | 1017.28 | 0.001647 | 2.66 | 138.66 | 55.81 | 0.40 |
| a | 195.42* | PF 2 | 450.00 | 1011.91 | 1018.45 | | 1018.74 | 0.001147 | 2.69 | 221.46 | 55.81 | 0.35 |
| a | 195.42* | PF 3 | 360.00 | 1011.91 | 1017.75 | | 1018.02 | 0.001267 | 2.59 | 182.02 | 55.81 | 0.36 |
| | | | | | | | | | | | | |
| a | 195.00* | PF 1 | 287.00 | 1011.85 | 1016.95 | | 1017.27 | 0.001676 | 2.69 | 137.44 | 53.56 | 0.41 |
| a | 195.00* | PF 2 | 450.00 | 1011.85 | 1018.43 | | 1018.73 | 0.001193 | 2.74 | 216.64 | 53.56 | 0.36 |
| a | 195.00* | PF 3 | 360.00 | 1011.85 | 1017.73 | | 1018.02 | 0.001305 | 2.64 | 178.96 | 53.56 | 0.37 |
| | | | | | | | | | | | | |
| a | 194.58* | PF 1 | 287.00 | 1011.78 | 1016.94 | | 1017.26 | 0.001716 | 2.73 | 135.75 | 51.32 | 0.41 |
| a | 194.58* | PF 2 | 450.00 | 1011.78 | 1018.41 | | 1018.72 | 0.001248 | 2.81 | 211.35 | 51.32 | 0.37 |
| a | 194.58* | PF 3 | 360.00 | 1011.78 | 1017.71 | | 1018.01 | 0.001352 | 2.69 | 175.43 | 51.32 | 0.37 |
| | | | | | | | | | | | | |
| a | 194.17* | PF 1 | 287.00 | 1011.72 | 1016.92 | | 1017.25 | 0.001771 | 2.79 | 133.54 | 49.07 | 0.42 |
| a | 194.17* | PF 2 | 450.00 | 1011.72 | 1018.39 | | 1018.72 | 0.001316 | 2.89 | 205.54 | 49.07 | 0.38 |
| a | 194.17* | PF 3 | 360.00 | 1011.72 | 1017.69 | | 1018.00 | 0.001411 | 2.76 | 171.39 | 49.07 | 0.38 |
| | | | | | | | | | | | | |
| a | 193.75* | PF 1 | 287.00 | 1011.65 | 1016.90 | | 1017.24 | 0.001843 | 2.85 | 130.84 | 46.82 | 0.42 |
| a | 193.75* | PF 2 | 450.00 | 1011.65 | 1018.36 | | 1018.71 | 0.001399 | 2.98 | 199.25 | 46.82 | 0.39 |
| a | 193.75* | PF 3 | 360.00 | 1011.65 | 1017.67 | | 1017.99 | 0.001484 | 2.83 | 166.88 | 46.82 | 0.39 |
| | | | | | | | | | | | | |
| a | 193.33* | PF 1 | 287.00 | 1011.59 | 1016.87 | | 1017.23 | 0.001936 | 2.92 | 127.63 | 44.57 | 0.43 |
| a | 193.33* | PF 2 | 450.00 | 1011.59 | 1018.33 | | 1018.70 | 0.001500 | 3.09 | 192.44 | 44.57 | 0.40 |
| a | 193.33* | PF 3 | 360.00 | 1011.59 | 1017.64 | | 1017.98 | 0.001576 | 2.92 | 161.86 | 44.57 | 0.40 |
| | | | | | | | | | | | | |
| a | 192.92* | PF 1 | 287.00 | 1011.53 | 1016.84 | | 1017.22 | 0.002057 | 3.01 | 123.88 | 42.32 | 0.45 |
| a | 192.92* | PF 2 | 450.00 | 1011.53 | 1018.29 | | 1018.69 | 0.001626 | 3.21 | 185.09 | 42.32 | 0.41 |
| a | 192.92* | PF 3 | 360.00 | 1011.53 | 1017.61 | | 1017.97 | 0.001690 | 3.02 | 156.31 | 42.32 | 0.41 |
| | | | | | | | | | | | | |
| a | 192.50* | PF 1 | 287.00 | 1011.46 | 1016.80 | | 1017.20 | 0.002214 | 3.12 | 119.60 | 40.08 | 0.46 |
| a | 192.50* | PF 2 | 450.00 | 1011.46 | 1018.24 | | 1018.68 | 0.001783 | 3.35 | 177.18 | 40.08 | 0.43 |
| a | 192.50* | PF 3 | 360.00 | 1011.46 | 1017.57 | | 1017.96 | 0.001835 | 3.14 | 150.23 | 40.08 | 0.43 |
| | | | | | | | | | | | | |
| a | 192.08* | PF 1 | 287.00 | 1011.40 | 1016.76 | | 1017.19 | 0.002421 | 3.25 | 114.71 | 37.83 | 0.48 |
| a | 192.08* | PF 2 | 450.00 | 1011.40 | 1018.18 | | 1018.66 | 0.001985 | 3.51 | 168.66 | 37.83 | 0.45 |
| a | 192.08* | PF 3 | 360.00 | 1011.40 | 1017.52 | | 1017.95 | 0.002021 | 3.28 | 143.57 | 37.83 | 0.45 |
| | | | | | | | | | | | | |
| a | 191.67* | PF 1 | 287.00 | 1011.34 | 1016.70 | | 1017.17 | 0.002699 | 3.41 | 109.17 | 35.58 | 0.50 |
| a | 191.67* | PF 2 | 450.00 | 1011.34 | 1018.11 | | 1018.65 | 0.002248 | 3.71 | 159.48 | 35.58 | 0.48 |
| a | 191.67* | PF 3 | 360.00 | 1011.34 | 1017.46 | | 1017.93 | 0.002265 | 3.46 | 136.29 | 35.58 | 0.47 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 191.25* | PF 1 | 287.00 | 1011.27 | 1016.62 | | 1017.15 | 0.003089 | 3.61 | 102.86 | 33.33 | 0.54 |
| a | 191.25* | PF 2 | 450.00 | 1011.27 | 1018.02 | | 1018.63 | 0.002606 | 3.96 | 149.50 | 33.33 | 0.51 |
| a | 191.25* | PF 3 | 360.00 | 1011.27 | 1017.38 | | 1017.91 | 0.002596 | 3.67 | 128.28 | 33.33 | 0.50 |
| a | 190.83* | PF 1 | 287.00 | 1011.21 | 1016.51 | | 1017.13 | 0.003667 | 3.88 | 95.59 | 31.09 | 0.58 |
| a | 190.83* | PF 2 | 450.00 | 1011.21 | 1017.90 | | 1018.60 | 0.003117 | 4.27 | 138.56 | 31.09 | 0.56 |
| a | 190.83* | PF 3 | 360.00 | 1011.21 | 1017.28 | | 1017.89 | 0.003064 | 3.93 | 119.43 | 31.09 | 0.54 |
| a | 190.42* | PF 1 | 287.00 | 1011.14 | 1016.35 | | 1017.09 | 0.004642 | 4.26 | 86.76 | 28.84 | 0.64 |
| a | 190.42* | PF 2 | 450.00 | 1011.14 | 1017.72 | | 1018.57 | 0.003912 | 4.67 | 126.20 | 28.84 | 0.62 |
| a | 190.42* | PF 3 | 360.00 | 1011.14 | 1017.14 | | 1017.86 | 0.003783 | 4.28 | 109.38 | 28.84 | 0.60 |
| a | 190 | PF 1 | 287.00 | 1011.08 | 1015.98 | 1015.62 | 1017.04 | 0.007324 | 5.04 | 72.63 | 26.37 | 0.79 |
| a | 190 | PF 2 | 450.00 | 1011.08 | 1017.43 | 1016.66 | 1018.52 | 0.005402 | 5.29 | 111.11 | 26.59 | 0.71 |
| a | 190 | PF 3 | 360.00 | 1011.08 | 1016.90 | 1016.20 | 1017.82 | 0.005079 | 4.80 | 97.21 | 26.59 | 0.68 |
| a | 189 | | Bridge | | | | | | | | | |
| a | 188 | PF 1 | 287.00 | 1011.08 | 1015.43 | 1015.62 | 1016.97 | 0.012526 | 6.00 | 59.16 | 24.10 | 1.01 |
| a | 188 | PF 2 | 450.00 | 1011.08 | 1016.25 | 1016.66 | 1018.40 | 0.013951 | 7.25 | 79.68 | 26.59 | 1.10 |
| a | 188 | PF 3 | 360.00 | 1011.08 | 1016.20 | 1016.20 | 1017.62 | 0.009351 | 5.89 | 78.38 | 26.59 | 0.90 |
| a | 187.83* | PF 1 | 287.00 | 1010.99 | 1015.19 | 1015.54 | 1016.89 | 0.014247 | 6.22 | 56.30 | 25.07 | 1.08 |
| a | 187.83* | PF 2 | 450.00 | 1010.99 | 1015.99 | 1016.53 | 1018.31 | 0.015346 | 7.43 | 76.91 | 27.64 | 1.16 |
| a | 187.83* | PF 3 | 360.00 | 1010.99 | 1015.39 | 1015.71 | 1017.64 | 0.017717 | 7.21 | 61.37 | 25.18 | 1.21 |
| a | 187.67* | PF 1 | 287.00 | 1010.90 | 1015.00 | 1015.43 | 1016.80 | 0.015256 | 6.32 | 54.62 | 26.07 | 1.11 |
| a | 187.67* | PF 2 | 450.00 | 1010.90 | 1015.68 | 1016.41 | 1018.21 | 0.017483 | 7.67 | 72.38 | 26.44 | 1.23 |
| a | 187.67* | PF 3 | 360.00 | 1010.90 | 1015.23 | 1015.70 | 1017.54 | 0.018278 | 7.23 | 60.51 | 26.19 | 1.23 |
| a | 187.50* | PF 1 | 287.00 | 1010.80 | 1014.78 | 1015.33 | 1016.71 | 0.016913 | 6.47 | 51.96 | 24.62 | 1.17 |
| a | 187.50* | PF 2 | 450.00 | 1010.80 | 1015.51 | 1016.29 | 1018.11 | 0.018178 | 7.71 | 71.31 | 27.45 | 1.26 |
| a | 187.50* | PF 3 | 360.00 | 1010.80 | 1015.08 | 1015.65 | 1017.45 | 0.018694 | 7.23 | 59.76 | 27.21 | 1.25 |
| a | 187.33* | PF 1 | 287.00 | 1010.71 | 1014.60 | 1015.22 | 1016.61 | 0.018239 | 6.56 | 50.35 | 24.49 | 1.21 |
| a | 187.33* | PF 2 | 450.00 | 1010.71 | 1015.35 | 1016.18 | 1018.01 | 0.018680 | 7.72 | 70.46 | 28.47 | 1.27 |
| a | 187.33* | PF 3 | 360.00 | 1010.71 | 1014.89 | 1015.57 | 1017.34 | 0.019921 | 7.30 | 57.77 | 25.70 | 1.29 |
| a | 187.17* | PF 1 | 287.00 | 1010.62 | 1014.42 | 1014.99 | 1016.51 | 0.019486 | 6.63 | 49.03 | 24.48 | 1.25 |
| a | 187.17* | PF 2 | 450.00 | 1010.62 | 1015.20 | 1016.06 | 1017.91 | 0.019223 | 7.73 | 69.37 | 28.87 | 1.29 |
| a | 187.17* | PF 3 | 360.00 | 1010.62 | 1014.72 | 1015.51 | 1017.23 | 0.020870 | 7.34 | 56.64 | 25.68 | 1.31 |
| a | 187.00* | PF 1 | 287.00 | 1010.53 | 1014.25 | 1014.88 | 1016.41 | 0.020651 | 6.68 | 47.93 | 24.56 | 1.28 |
| a | 187.00* | PF 2 | 450.00 | 1010.53 | 1015.00 | 1015.96 | 1017.81 | 0.020553 | 7.80 | 67.20 | 27.41 | 1.33 |
| a | 187.00* | PF 3 | 360.00 | 1010.53 | 1014.56 | 1015.28 | 1017.12 | 0.021790 | 7.36 | 55.67 | 25.74 | 1.34 |
| a | 186.83* | PF 1 | 287.00 | 1010.43 | 1014.09 | 1014.74 | 1016.30 | 0.021804 | 6.72 | 46.95 | 24.54 | 1.31 |
| a | 186.83* | PF 2 | 450.00 | 1010.43 | 1014.83 | 1015.85 | 1017.70 | 0.021458 | 7.83 | 66.07 | 27.46 | 1.35 |
| a | 186.83* | PF 3 | 360.00 | 1010.43 | 1014.41 | 1015.17 | 1017.01 | 0.022683 | 7.38 | 54.83 | 25.88 | 1.36 |
| a | 186.67* | PF 1 | 287.00 | 1010.34 | 1013.94 | 1014.60 | 1016.18 | 0.022901 | 6.74 | 46.12 | 24.60 | 1.34 |
| a | 186.67* | PF 2 | 450.00 | 1010.34 | 1014.67 | 1015.38 | 1017.58 | 0.022341 | 7.85 | 65.09 | 27.57 | 1.38 |
| a | 186.67* | PF 3 | 360.00 | 1010.34 | 1014.26 | 1015.07 | 1016.89 | 0.023548 | 7.38 | 54.09 | 26.06 | 1.38 |
| a | 186.50* | PF 1 | 287.00 | 1010.25 | 1013.80 | 1014.46 | 1016.06 | 0.023887 | 6.75 | 45.46 | 24.86 | 1.36 |
| a | 186.50* | PF 2 | 450.00 | 1010.25 | 1014.51 | 1015.34 | 1017.47 | 0.023192 | 7.86 | 64.24 | 27.74 | 1.40 |
| a | 186.50* | PF 3 | 360.00 | 1010.25 | 1014.11 | 1014.91 | 1016.77 | 0.024406 | 7.38 | 53.41 | 26.18 | 1.40 |
| a | 186.33* | PF 1 | 287.00 | 1010.16 | 1013.66 | 1014.35 | 1015.94 | 0.024820 | 6.75 | 44.87 | 25.14 | 1.38 |
| a | 186.33* | PF 2 | 450.00 | 1010.16 | 1014.36 | 1015.24 | 1017.35 | 0.024011 | 7.87 | 63.49 | 27.94 | 1.42 |
| a | 186.33* | PF 3 | 360.00 | 1010.16 | 1013.96 | 1014.79 | 1016.64 | 0.025250 | 7.38 | 52.80 | 26.29 | 1.42 |
| a | 186.17* | PF 1 | 287.00 | 1010.06 | 1013.52 | 1014.22 | 1015.81 | 0.025737 | 6.75 | 44.33 | 25.39 | 1.40 |
| a | 186.17* | PF 2 | 450.00 | 1010.06 | 1014.21 | 1015.12 | 1017.22 | 0.024801 | 7.86 | 62.83 | 28.19 | 1.44 |
| a | 186.17* | PF 3 | 360.00 | 1010.06 | 1013.83 | 1014.65 | 1016.52 | 0.026012 | 7.36 | 52.33 | 26.60 | 1.44 |
| a | 186.00* | PF 1 | 287.00 | 1009.97 | 1013.39 | 1014.09 | 1015.68 | 0.026659 | 6.74 | 43.79 | 25.29 | 1.42 |
| a | 186.00* | PF 2 | 450.00 | 1009.97 | 1014.07 | 1015.00 | 1017.10 | 0.025566 | 7.85 | 62.24 | 28.38 | 1.46 |
| a | 186.00* | PF 3 | 360.00 | 1009.97 | 1013.70 | 1014.52 | 1016.39 | 0.026718 | 7.34 | 51.92 | 26.92 | 1.46 |
| a | 185.83* | PF 1 | 287.00 | 1009.88 | 1013.25 | 1013.96 | 1015.55 | 0.027246 | 6.73 | 43.54 | 22.53 | 1.44 |
| a | 185.83* | PF 2 | 450.00 | 1009.88 | 1013.93 | 1014.88 | 1016.97 | 0.026305 | 7.84 | 61.72 | 28.58 | 1.47 |
| a | 185.83* | PF 3 | 360.00 | 1009.88 | 1013.57 | 1014.39 | 1016.25 | 0.027331 | 7.31 | 51.59 | 27.25 | 1.47 |
| a | 185.67* | PF 1 | 287.00 | 1009.79 | 1013.12 | 1013.84 | 1015.41 | 0.027627 | 6.71 | 43.53 | 22.83 | 1.45 |
| a | 185.67* | PF 2 | 450.00 | 1009.79 | 1013.80 | 1014.74 | 1016.83 | 0.026976 | 7.82 | 61.31 | 28.92 | 1.49 |
| a | 185.67* | PF 3 | 360.00 | 1009.79 | 1013.44 | 1014.26 | 1016.11 | 0.027922 | 7.27 | 51.29 | 27.54 | 1.48 |
| a | 185.50* | PF 1 | 287.00 | 1009.69 | 1013.01 | 1013.71 | 1015.26 | 0.027756 | 6.66 | 43.66 | 23.18 | 1.45 |
| a | 185.50* | PF 2 | 450.00 | 1009.69 | 1013.67 | 1014.60 | 1016.69 | 0.027516 | 7.78 | 61.03 | 29.27 | 1.50 |
| a | 185.50* | PF 3 | 360.00 | 1009.69 | 1013.32 | 1014.13 | 1015.96 | 0.028177 | 7.23 | 51.17 | 24.61 | 1.48 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 185.33* | PF 1 | 287.00 | 1009.60 | 1012.89 | 1013.59 | 1015.12 | 0.027783 | 6.61 | 43.84 | 23.33 | 1.45 |
| a | 185.33* | PF 2 | 450.00 | 1009.60 | 1013.55 | 1014.47 | 1016.55 | 0.027959 | 7.74 | 60.85 | 29.61 | 1.50 |
| a | 185.33* | PF 3 | 360.00 | 1009.60 | 1013.20 | 1014.00 | 1015.81 | 0.028282 | 7.19 | 51.32 | 24.94 | 1.49 |
| | | | | | | | | | | | | |
| a | 185.17* | PF 1 | 287.00 | 1009.51 | 1012.78 | 1013.46 | 1014.97 | 0.027699 | 6.56 | 44.10 | 23.41 | 1.44 |
| a | 185.17* | PF 2 | 450.00 | 1009.51 | 1013.43 | 1014.34 | 1016.40 | 0.028257 | 7.69 | 60.71 | 28.99 | 1.51 |
| a | 185.17* | PF 3 | 360.00 | 1009.51 | 1013.08 | 1013.90 | 1015.66 | 0.028267 | 7.14 | 51.54 | 25.30 | 1.48 |
| | | | | | | | | | | | | |
| a | 185.00* | PF 1 | 287.00 | 1009.42 | 1012.67 | 1013.31 | 1014.82 | 0.027534 | 6.49 | 44.42 | 23.49 | 1.44 |
| a | 185.00* | PF 2 | 450.00 | 1009.42 | 1013.31 | 1014.21 | 1016.25 | 0.028337 | 7.65 | 60.79 | 27.21 | 1.51 |
| a | 185.00* | PF 3 | 360.00 | 1009.42 | 1012.97 | 1013.77 | 1015.51 | 0.028198 | 7.08 | 51.80 | 25.66 | 1.48 |
| | | | | | | | | | | | | |
| a | 184.83* | PF 1 | 287.00 | 1009.32 | 1012.57 | 1013.18 | 1014.67 | 0.027327 | 6.43 | 44.78 | 23.58 | 1.43 |
| a | 184.83* | PF 2 | 450.00 | 1009.32 | 1013.19 | 1014.08 | 1016.10 | 0.028354 | 7.60 | 61.00 | 27.55 | 1.51 |
| a | 184.83* | PF 3 | 360.00 | 1009.32 | 1012.86 | 1013.64 | 1015.36 | 0.028039 | 7.02 | 52.12 | 26.05 | 1.48 |
| | | | | | | | | | | | | |
| a | 184.67* | PF 1 | 287.00 | 1009.23 | 1012.46 | 1013.06 | 1014.52 | 0.027035 | 6.36 | 45.20 | 23.64 | 1.42 |
| a | 184.67* | PF 2 | 450.00 | 1009.23 | 1013.08 | 1013.97 | 1015.95 | 0.028311 | 7.54 | 61.27 | 27.91 | 1.51 |
| a | 184.67* | PF 3 | 360.00 | 1009.23 | 1012.75 | 1013.52 | 1015.21 | 0.027793 | 6.95 | 52.49 | 26.45 | 1.47 |
| | | | | | | | | | | | | |
| a | 184.50* | PF 1 | 287.00 | 1009.14 | 1012.36 | 1012.95 | 1014.38 | 0.026715 | 6.29 | 45.67 | 23.03 | 1.41 |
| a | 184.50* | PF 2 | 450.00 | 1009.14 | 1012.97 | 1013.86 | 1015.80 | 0.028188 | 7.48 | 61.59 | 28.28 | 1.50 |
| a | 184.50* | PF 3 | 360.00 | 1009.14 | 1012.65 | 1013.39 | 1015.06 | 0.027559 | 6.88 | 52.85 | 26.56 | 1.46 |
| | | | | | | | | | | | | |
| a | 184.33* | PF 1 | 287.00 | 1009.05 | 1012.26 | 1012.83 | 1014.23 | 0.026222 | 6.22 | 46.17 | 23.02 | 1.40 |
| a | 184.33* | PF 2 | 450.00 | 1009.05 | 1012.86 | 1013.73 | 1015.65 | 0.028006 | 7.42 | 61.96 | 28.67 | 1.50 |
| a | 184.33* | PF 3 | 360.00 | 1009.05 | 1012.54 | 1013.26 | 1014.91 | 0.027320 | 6.81 | 53.23 | 26.65 | 1.45 |
| | | | | | | | | | | | | |
| a | 184.17* | PF 1 | 287.00 | 1008.95 | 1012.16 | 1012.72 | 1014.09 | 0.025796 | 6.16 | 46.60 | 23.30 | 1.39 |
| a | 184.17* | PF 2 | 450.00 | 1008.95 | 1012.75 | 1013.61 | 1015.50 | 0.027808 | 7.36 | 62.34 | 29.06 | 1.49 |
| a | 184.17* | PF 3 | 360.00 | 1008.95 | 1012.44 | 1013.13 | 1014.76 | 0.027069 | 6.75 | 53.64 | 26.74 | 1.45 |
| | | | | | | | | | | | | |
| a | 184.00* | PF 1 | 287.00 | 1008.86 | 1012.06 | 1012.60 | 1013.96 | 0.025384 | 6.10 | 47.01 | 23.56 | 1.38 |
| a | 184.00* | PF 2 | 450.00 | 1008.86 | 1012.65 | 1013.48 | 1015.35 | 0.027569 | 7.29 | 62.76 | 29.47 | 1.48 |
| a | 184.00* | PF 3 | 360.00 | 1008.86 | 1012.34 | 1013.01 | 1014.61 | 0.026802 | 6.68 | 54.07 | 26.82 | 1.44 |
| | | | | | | | | | | | | |
| a | 183.83* | PF 1 | 287.00 | 1008.77 | 1011.95 | 1012.47 | 1013.82 | 0.025004 | 6.05 | 47.41 | 23.82 | 1.37 |
| a | 183.83* | PF 2 | 450.00 | 1008.77 | 1012.54 | 1013.35 | 1015.20 | 0.027299 | 7.22 | 63.19 | 29.88 | 1.48 |
| a | 183.83* | PF 3 | 360.00 | 1008.77 | 1012.24 | 1012.89 | 1014.47 | 0.026536 | 6.61 | 54.51 | 26.91 | 1.43 |
| | | | | | | | | | | | | |
| a | 183.67* | PF 1 | 287.00 | 1008.68 | 1011.85 | 1012.36 | 1013.69 | 0.024669 | 6.01 | 47.79 | 24.07 | 1.36 |
| a | 183.67* | PF 2 | 450.00 | 1008.68 | 1012.44 | 1013.23 | 1015.05 | 0.027048 | 7.16 | 63.61 | 30.12 | 1.47 |
| a | 183.67* | PF 3 | 360.00 | 1008.68 | 1012.14 | 1012.78 | 1014.32 | 0.026226 | 6.55 | 55.01 | 26.39 | 1.42 |
| | | | | | | | | | | | | |
| a | 183.50* | PF 1 | 287.00 | 1008.58 | 1011.74 | 1012.24 | 1013.56 | 0.024439 | 5.97 | 48.09 | 24.31 | 1.36 |
| a | 183.50* | PF 2 | 450.00 | 1008.58 | 1012.34 | 1013.11 | 1014.90 | 0.026821 | 7.09 | 64.02 | 30.20 | 1.46 |
| a | 183.50* | PF 3 | 360.00 | 1008.58 | 1012.04 | 1012.67 | 1014.18 | 0.025844 | 6.48 | 55.55 | 25.83 | 1.41 |
| | | | | | | | | | | | | |
| a | 183.33* | PF 1 | 287.00 | 1008.49 | 1011.64 | 1012.13 | 1013.43 | 0.024231 | 5.93 | 48.37 | 24.53 | 1.35 |
| a | 183.33* | PF 2 | 450.00 | 1008.49 | 1012.24 | 1013.00 | 1014.76 | 0.026580 | 7.03 | 64.45 | 30.27 | 1.45 |
| a | 183.33* | PF 3 | 360.00 | 1008.49 | 1011.94 | 1012.56 | 1014.04 | 0.025392 | 6.42 | 56.06 | 26.10 | 1.40 |
| | | | | | | | | | | | | |
| a | 183.17* | PF 1 | 287.00 | 1008.40 | 1011.53 | 1012.00 | 1013.31 | 0.023999 | 5.90 | 48.67 | 24.76 | 1.34 |
| a | 183.17* | PF 2 | 450.00 | 1008.40 | 1012.14 | 1012.88 | 1014.61 | 0.026327 | 6.97 | 64.92 | 30.34 | 1.45 |
| a | 183.17* | PF 3 | 360.00 | 1008.40 | 1011.84 | 1012.43 | 1013.91 | 0.025021 | 6.37 | 56.51 | 26.36 | 1.39 |
| | | | | | | | | | | | | |
| a | 183.00* | PF 1 | 287.00 | 1008.31 | 1011.43 | 1011.89 | 1013.18 | 0.023802 | 5.86 | 48.95 | 24.98 | 1.34 |
| a | 183.00* | PF 2 | 450.00 | 1008.31 | 1012.04 | 1012.76 | 1014.47 | 0.026086 | 6.90 | 65.38 | 30.41 | 1.44 |
| a | 183.00* | PF 3 | 360.00 | 1008.31 | 1011.74 | 1012.32 | 1013.78 | 0.024765 | 6.33 | 56.87 | 26.59 | 1.38 |
| | | | | | | | | | | | | |
| a | 182.83* | PF 1 | 287.00 | 1008.21 | 1011.32 | 1011.78 | 1013.06 | 0.023702 | 5.84 | 49.15 | 25.18 | 1.33 |
| a | 182.83* | PF 2 | 450.00 | 1008.21 | 1011.94 | 1012.64 | 1014.33 | 0.025875 | 6.84 | 65.84 | 30.46 | 1.43 |
| a | 182.83* | PF 3 | 360.00 | 1008.21 | 1011.63 | 1012.20 | 1013.65 | 0.024493 | 6.29 | 57.24 | 26.83 | 1.37 |
| | | | | | | | | | | | | |
| a | 182.67* | PF 1 | 287.00 | 1008.12 | 1011.22 | 1011.66 | 1012.94 | 0.023521 | 5.81 | 49.41 | 25.39 | 1.33 |
| a | 182.67* | PF 2 | 450.00 | 1008.12 | 1011.84 | 1012.53 | 1014.19 | 0.025671 | 6.79 | 66.31 | 29.29 | 1.43 |
| a | 182.67* | PF 3 | 360.00 | 1008.12 | 1011.53 | 1012.08 | 1013.52 | 0.024213 | 6.25 | 57.62 | 27.06 | 1.37 |
| | | | | | | | | | | | | |
| a | 182.50* | PF 1 | 287.00 | 1008.03 | 1011.11 | 1011.56 | 1012.82 | 0.023421 | 5.78 | 49.62 | 25.58 | 1.33 |
| a | 182.50* | PF 2 | 450.00 | 1008.03 | 1011.74 | 1012.42 | 1014.05 | 0.025282 | 6.73 | 66.88 | 29.00 | 1.41 |
| a | 182.50* | PF 3 | 360.00 | 1008.03 | 1011.42 | 1011.97 | 1013.39 | 0.024017 | 6.21 | 57.93 | 27.28 | 1.36 |
| | | | | | | | | | | | | |
| a | 182.33* | PF 1 | 287.00 | 1007.94 | 1011.00 | 1011.44 | 1012.70 | 0.023347 | 5.76 | 49.79 | 25.77 | 1.32 |
| a | 182.33* | PF 2 | 450.00 | 1007.94 | 1011.64 | 1012.30 | 1013.92 | 0.024919 | 6.68 | 67.38 | 29.25 | 1.41 |
| a | 182.33* | PF 3 | 360.00 | 1007.94 | 1011.32 | 1011.85 | 1013.27 | 0.023862 | 6.19 | 58.20 | 27.49 | 1.36 |
| | | | | | | | | | | | | |
| a | 182.17* | PF 1 | 287.00 | 1007.84 | 1010.90 | 1011.33 | 1012.57 | 0.023101 | 5.73 | 50.11 | 25.98 | 1.32 |
| a | 182.17* | PF 2 | 450.00 | 1007.84 | 1011.54 | 1012.19 | 1013.78 | 0.024596 | 6.63 | 67.86 | 29.50 | 1.40 |
| a | 182.17* | PF 3 | 360.00 | 1007.84 | 1011.21 | 1011.74 | 1013.14 | 0.023697 | 6.16 | 58.49 | 27.70 | 1.35 |
| | | | | | | | | | | | | |
| a | 182.00* | PF 1 | 287.00 | 1007.75 | 1010.79 | 1011.22 | 1012.46 | 0.023038 | 5.71 | 50.27 | 26.16 | 1.32 |
| a | 182.00* | PF 2 | 450.00 | 1007.75 | 1011.44 | 1012.08 | 1013.66 | 0.024385 | 6.60 | 68.22 | 29.72 | 1.39 |
| a | 182.00* | PF 3 | 360.00 | 1007.75 | 1011.11 | 1011.62 | 1013.02 | 0.023532 | 6.13 | 58.76 | 27.90 | 1.35 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 181.83* | PF 1 | 287.00 | 1007.66 | 1010.69 | 1011.11 | 1012.34 | 0.022849 | 5.68 | 50.54 | 26.36 | 1.31 |
| a | 181.83* | PF 2 | 450.00 | 1007.66 | 1011.33 | 1011.97 | 1013.53 | 0.024165 | 6.56 | 68.59 | 29.94 | 1.38 |
| a | 181.83* | PF 3 | 360.00 | 1007.66 | 1011.00 | 1011.51 | 1012.90 | 0.023354 | 6.10 | 59.06 | 28.10 | 1.34 |
| a | 181.67* | PF 1 | 287.00 | 1007.57 | 1010.59 | 1011.00 | 1012.22 | 0.022803 | 5.66 | 50.69 | 26.53 | 1.31 |
| a | 181.67* | PF 2 | 450.00 | 1007.57 | 1011.23 | 1011.85 | 1013.40 | 0.023975 | 6.53 | 68.93 | 30.15 | 1.38 |
| a | 181.67* | PF 3 | 360.00 | 1007.57 | 1010.90 | 1011.40 | 1012.78 | 0.023214 | 6.07 | 59.31 | 28.30 | 1.34 |
| a | 181.50* | PF 1 | 287.00 | 1007.47 | 1010.48 | 1010.89 | 1012.10 | 0.022632 | 5.63 | 50.94 | 26.72 | 1.30 |
| a | 181.50* | PF 2 | 450.00 | 1007.47 | 1011.13 | 1011.73 | 1013.28 | 0.023768 | 6.49 | 69.29 | 30.36 | 1.37 |
| a | 181.50* | PF 3 | 360.00 | 1007.47 | 1010.80 | 1011.29 | 1012.66 | 0.023057 | 6.04 | 59.59 | 28.49 | 1.33 |
| a | 181.33* | PF 1 | 287.00 | 1007.38 | 1010.38 | 1010.78 | 1011.99 | 0.022591 | 5.62 | 51.08 | 26.88 | 1.30 |
| a | 181.33* | PF 2 | 450.00 | 1007.38 | 1011.02 | 1011.62 | 1013.15 | 0.023634 | 6.47 | 69.57 | 30.56 | 1.37 |
| a | 181.33* | PF 3 | 360.00 | 1007.38 | 1010.69 | 1011.18 | 1012.54 | 0.023007 | 6.02 | 59.76 | 28.67 | 1.33 |
| a | 181.17* | PF 1 | 287.00 | 1007.29 | 1010.28 | 1010.67 | 1011.87 | 0.022431 | 5.59 | 51.32 | 27.07 | 1.30 |
| a | 181.17* | PF 2 | 450.00 | 1007.29 | 1010.92 | 1011.50 | 1013.03 | 0.023488 | 6.44 | 69.86 | 30.75 | 1.36 |
| a | 181.17* | PF 3 | 360.00 | 1007.29 | 1010.58 | 1011.07 | 1012.42 | 0.022942 | 6.01 | 59.94 | 28.84 | 1.33 |
| a | 181.00* | PF 1 | 287.00 | 1007.20 | 1010.17 | 1010.56 | 1011.76 | 0.022391 | 5.58 | 51.46 | 27.23 | 1.30 |
| a | 181.00* | PF 2 | 450.00 | 1007.20 | 1010.81 | 1011.39 | 1012.91 | 0.023363 | 6.42 | 70.13 | 30.94 | 1.36 |
| a | 181.00* | PF 3 | 360.00 | 1007.20 | 1010.48 | 1010.95 | 1012.31 | 0.022881 | 5.99 | 60.12 | 29.01 | 1.33 |
| a | 180.83* | PF 1 | 287.00 | 1007.10 | 1010.06 | 1010.46 | 1011.64 | 0.022346 | 5.56 | 51.60 | 27.39 | 1.29 |
| a | 180.83* | PF 2 | 450.00 | 1007.10 | 1010.71 | 1011.27 | 1012.79 | 0.023262 | 6.39 | 70.38 | 31.12 | 1.36 |
| a | 180.83* | PF 3 | 360.00 | 1007.10 | 1010.37 | 1010.84 | 1012.19 | 0.022816 | 5.97 | 60.30 | 29.18 | 1.33 |
| a | 180.67* | PF 1 | 287.00 | 1007.01 | 1009.96 | 1010.34 | 1011.53 | 0.022217 | 5.54 | 51.81 | 27.55 | 1.29 |
| a | 180.67* | PF 2 | 450.00 | 1007.01 | 1010.60 | 1011.17 | 1012.67 | 0.023063 | 6.36 | 70.72 | 31.32 | 1.35 |
| a | 180.67* | PF 3 | 360.00 | 1007.01 | 1010.27 | 1010.74 | 1012.07 | 0.022626 | 5.94 | 60.59 | 29.36 | 1.32 |
| a | 180.50* | PF 1 | 287.00 | 1006.92 | 1009.86 | 1010.24 | 1011.41 | 0.022176 | 5.53 | 51.94 | 27.71 | 1.29 |
| a | 180.50* | PF 2 | 450.00 | 1006.92 | 1010.50 | 1011.05 | 1012.55 | 0.022954 | 6.34 | 70.97 | 31.50 | 1.35 |
| a | 180.50* | PF 3 | 360.00 | 1006.92 | 1010.17 | 1010.63 | 1011.96 | 0.022573 | 5.93 | 60.76 | 29.52 | 1.32 |
| a | 180.33* | PF 1 | 287.00 | 1006.83 | 1009.76 | 1010.14 | 1011.30 | 0.022059 | 5.50 | 52.14 | 27.87 | 1.29 |
| a | 180.33* | PF 2 | 450.00 | 1006.83 | 1010.40 | 1010.95 | 1012.43 | 0.022841 | 6.32 | 71.23 | 31.67 | 1.35 |
| a | 180.33* | PF 3 | 360.00 | 1006.83 | 1010.06 | 1010.52 | 1011.84 | 0.022524 | 5.91 | 60.92 | 29.68 | 1.32 |
| a | 180.17* | PF 1 | 287.00 | 1006.73 | 1009.65 | 1010.02 | 1011.19 | 0.022046 | 5.49 | 52.25 | 28.01 | 1.28 |
| a | 180.17* | PF 2 | 450.00 | 1006.73 | 1010.29 | 1010.83 | 1012.31 | 0.022780 | 6.30 | 71.42 | 31.84 | 1.34 |
| a | 180.17* | PF 3 | 360.00 | 1006.73 | 1009.95 | 1010.41 | 1011.73 | 0.022474 | 5.89 | 61.07 | 29.83 | 1.32 |
| a | 180 | PF 1 | 287.00 | 1006.64 | 1009.55 | 1009.92 | 1011.07 | 0.021917 | 5.47 | 52.46 | 28.17 | 1.28 |
| a | 180 | PF 2 | 450.00 | 1006.64 | 1010.19 | 1010.72 | 1012.20 | 0.022661 | 6.28 | 71.67 | 32.01 | 1.34 |
| a | 180 | PF 3 | 360.00 | 1006.64 | 1009.85 | 1010.30 | 1011.61 | 0.022290 | 5.87 | 61.36 | 30.01 | 1.31 |
| a | 179.64* | PF 1 | 287.00 | 1006.57 | 1009.84 | 1009.84 | 1010.89 | 0.013057 | 4.54 | 63.18 | 30.38 | 1.01 |
| a | 179.64* | PF 2 | 450.00 | 1006.57 | 1010.33 | 1010.65 | 1012.00 | 0.017469 | 5.71 | 78.75 | 33.31 | 1.19 |
| a | 179.64* | PF 3 | 360.00 | 1006.57 | 1010.22 | 1010.23 | 1011.39 | 0.012691 | 4.79 | 75.21 | 32.67 | 1.01 |
| a | 179.29* | PF 1 | 287.00 | 1006.49 | 1009.72 | 1009.77 | 1010.82 | 0.013894 | 4.65 | 61.77 | 30.10 | 1.04 |
| a | 179.29* | PF 2 | 450.00 | 1006.49 | 1010.58 | 1010.58 | 1011.86 | 0.012163 | 5.01 | 89.81 | 35.24 | 1.00 |
| a | 179.29* | PF 3 | 360.00 | 1006.49 | 1010.10 | 1010.16 | 1011.32 | 0.013500 | 4.90 | 73.52 | 32.35 | 1.04 |
| a | 178.93* | PF 1 | 287.00 | 1006.42 | 1009.66 | 1009.69 | 1010.75 | 0.013595 | 4.61 | 62.24 | 30.19 | 1.03 |
| a | 178.93* | PF 2 | 450.00 | 1006.42 | 1010.43 | 1010.51 | 1011.79 | 0.013190 | 5.16 | 87.17 | 34.79 | 1.04 |
| a | 178.93* | PF 3 | 360.00 | 1006.42 | 1010.05 | 1010.09 | 1011.25 | 0.013093 | 4.84 | 74.32 | 32.50 | 1.02 |
| a | 178.57* | PF 1 | 287.00 | 1006.35 | 1009.61 | 1009.62 | 1010.67 | 0.013212 | 4.57 | 62.86 | 30.31 | 1.01 |
| a | 178.57* | PF 2 | 450.00 | 1006.35 | 1010.33 | 1010.43 | 1011.72 | 0.013627 | 5.23 | 86.12 | 34.61 | 1.06 |
| a | 178.57* | PF 3 | 360.00 | 1006.35 | 1009.94 | 1010.01 | 1011.17 | 0.013686 | 4.92 | 73.11 | 32.28 | 1.04 |
| a | 178.21* | PF 1 | 287.00 | 1006.27 | 1009.49 | 1009.55 | 1010.60 | 0.013963 | 4.66 | 61.60 | 30.06 | 1.04 |
| a | 178.21* | PF 2 | 450.00 | 1006.27 | 1010.23 | 1010.36 | 1011.65 | 0.013945 | 5.27 | 85.38 | 34.49 | 1.07 |
| a | 178.21* | PF 3 | 360.00 | 1006.27 | 1009.89 | 1009.93 | 1011.10 | 0.013282 | 4.87 | 73.89 | 32.42 | 1.03 |
| a | 177.86* | PF 1 | 287.00 | 1006.20 | 1009.44 | 1009.47 | 1010.53 | 0.013659 | 4.62 | 62.07 | 30.15 | 1.03 |
| a | 177.86* | PF 2 | 450.00 | 1006.20 | 1010.15 | 1010.29 | 1011.58 | 0.014116 | 5.30 | 84.98 | 34.71 | 1.08 |
| a | 177.86* | PF 3 | 360.00 | 1006.20 | 1009.78 | 1009.86 | 1011.03 | 0.013810 | 4.94 | 72.84 | 32.23 | 1.05 |
| a | 177.50* | PF 1 | 287.00 | 1006.13 | 1009.38 | 1009.40 | 1010.45 | 0.013239 | 4.57 | 62.76 | 30.29 | 1.01 |
| a | 177.50* | PF 2 | 450.00 | 1006.13 | 1010.06 | 1010.23 | 1011.50 | 0.014205 | 5.33 | 84.70 | 38.19 | 1.08 |
| a | 177.50* | PF 3 | 360.00 | 1006.13 | 1009.73 | 1009.79 | 1010.95 | 0.013441 | 4.89 | 73.55 | 32.38 | 1.04 |
| a | 177.14* | PF 1 | 287.00 | 1006.05 | 1009.27 | 1009.32 | 1010.38 | 0.014008 | 4.67 | 61.49 | 30.04 | 1.04 |
| a | 177.14* | PF 2 | 450.00 | 1006.05 | 1009.97 | 1010.17 | 1011.43 | 0.014341 | 5.36 | 84.42 | 38.95 | 1.09 |
| a | 177.14* | PF 3 | 360.00 | 1006.05 | 1009.62 | 1009.71 | 1010.88 | 0.013953 | 4.96 | 72.57 | 32.22 | 1.06 |
| a | 176.79* | PF 1 | 287.00 | 1005.98 | 1009.21 | 1009.25 | 1010.30 | 0.013660 | 4.63 | 62.05 | 30.17 | 1.03 |
| a | 176.79* | PF 2 | 450.00 | 1005.98 | 1009.88 | 1010.11 | 1011.36 | 0.014480 | 5.39 | 84.23 | 39.84 | 1.09 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 176.79* | PF 3 | 360.00 | 1005.98 | 1009.53 | 1009.63 | 1010.81 | 0.014266 | 5.00 | 72.00 | 32.14 | 1.07 |
| | | | | | | | | | | | | |
| a | 176.43* | PF 1 | 287.00 | 1005.90 | 1009.11 | 1009.17 | 1010.23 | 0.014210 | 4.69 | 61.18 | 30.02 | 1.05 |
| a | 176.43* | PF 2 | 450.00 | 1005.90 | 1009.78 | 1010.04 | 1011.28 | 0.014669 | 5.43 | 84.04 | 40.79 | 1.10 |
| a | 176.43* | PF 3 | 360.00 | 1005.90 | 1009.47 | 1009.57 | 1010.73 | 0.013947 | 4.96 | 72.62 | 32.30 | 1.06 |
| | | | | | | | | | | | | |
| a | 176.07* | PF 1 | 287.00 | 1005.83 | 1009.05 | 1009.10 | 1010.15 | 0.013886 | 4.65 | 61.72 | 30.17 | 1.04 |
| a | 176.07* | PF 2 | 450.00 | 1005.83 | 1009.69 | 1009.96 | 1011.21 | 0.014887 | 5.46 | 83.90 | 41.87 | 1.11 |
| a | 176.07* | PF 3 | 360.00 | 1005.83 | 1009.38 | 1009.50 | 1010.65 | 0.014316 | 5.00 | 71.94 | 33.59 | 1.07 |
| | | | | | | | | | | | | |
| a | 175.71* | PF 1 | 287.00 | 1005.76 | 1008.95 | 1009.03 | 1010.08 | 0.014403 | 4.71 | 60.94 | 30.06 | 1.06 |
| a | 175.71* | PF 2 | 450.00 | 1005.76 | 1009.59 | 1009.89 | 1011.13 | 0.015187 | 5.51 | 83.67 | 42.42 | 1.12 |
| a | 175.71* | PF 3 | 360.00 | 1005.76 | 1009.28 | 1009.45 | 1010.58 | 0.014561 | 5.05 | 71.55 | 36.27 | 1.08 |
| | | | | | | | | | | | | |
| a | 175.36* | PF 1 | 287.00 | 1005.68 | 1008.89 | 1008.95 | 1010.00 | 0.014067 | 4.66 | 61.53 | 30.27 | 1.04 |
| a | 175.36* | PF 2 | 450.00 | 1005.68 | 1009.49 | 1009.82 | 1011.05 | 0.015532 | 5.55 | 83.45 | 42.87 | 1.13 |
| a | 175.36* | PF 3 | 360.00 | 1005.68 | 1009.19 | 1009.39 | 1010.50 | 0.014816 | 5.08 | 71.26 | 37.28 | 1.09 |
| | | | | | | | | | | | | |
| a | 175.00* | PF 1 | 287.00 | 1005.61 | 1008.79 | 1008.87 | 1009.93 | 0.014615 | 4.72 | 60.77 | 30.21 | 1.06 |
| a | 175.00* | PF 2 | 450.00 | 1005.61 | 1009.39 | 1009.75 | 1010.97 | 0.015932 | 5.60 | 83.22 | 43.41 | 1.15 |
| a | 175.00* | PF 3 | 360.00 | 1005.61 | 1009.09 | 1009.32 | 1010.43 | 0.015120 | 5.12 | 71.02 | 38.42 | 1.10 |
| | | | | | | | | | | | | |
| a | 174.64* | PF 1 | 287.00 | 1005.54 | 1008.70 | 1008.81 | 1009.85 | 0.015016 | 4.76 | 60.30 | 30.25 | 1.08 |
| a | 174.64* | PF 2 | 450.00 | 1005.54 | 1009.28 | 1009.67 | 1010.89 | 0.016388 | 5.64 | 83.00 | 44.06 | 1.16 |
| a | 174.64* | PF 3 | 360.00 | 1005.54 | 1008.99 | 1009.26 | 1010.35 | 0.015472 | 5.16 | 70.83 | 39.69 | 1.11 |
| | | | | | | | | | | | | |
| a | 174.29* | PF 1 | 287.00 | 1005.46 | 1008.60 | 1008.75 | 1009.77 | 0.015339 | 4.79 | 59.96 | 31.65 | 1.09 |
| a | 174.29* | PF 2 | 450.00 | 1005.46 | 1009.17 | 1009.57 | 1010.80 | 0.016914 | 5.69 | 82.79 | 44.84 | 1.18 |
| a | 174.29* | PF 3 | 360.00 | 1005.46 | 1008.89 | 1009.18 | 1010.27 | 0.015899 | 5.21 | 70.66 | 41.08 | 1.13 |
| | | | | | | | | | | | | |
| a | 173.93* | PF 1 | 287.00 | 1005.39 | 1008.51 | 1008.70 | 1009.69 | 0.015654 | 4.82 | 59.75 | 34.74 | 1.10 |
| a | 173.93* | PF 2 | 450.00 | 1005.39 | 1009.06 | 1009.48 | 1010.71 | 0.017530 | 5.73 | 82.57 | 45.77 | 1.20 |
| a | 173.93* | PF 3 | 360.00 | 1005.39 | 1008.79 | 1009.11 | 1010.19 | 0.016437 | 5.25 | 70.44 | 42.09 | 1.14 |
| | | | | | | | | | | | | |
| a | 173.57* | PF 1 | 287.00 | 1005.32 | 1008.41 | 1008.64 | 1009.61 | 0.016088 | 4.85 | 59.57 | 36.22 | 1.11 |
| a | 173.57* | PF 2 | 450.00 | 1005.32 | 1008.95 | 1009.38 | 1010.62 | 0.018256 | 5.78 | 82.35 | 46.86 | 1.22 |
| a | 173.57* | PF 3 | 360.00 | 1005.32 | 1008.68 | 1009.03 | 1010.10 | 0.017076 | 5.30 | 70.21 | 42.92 | 1.16 |
| | | | | | | | | | | | | |
| a | 173.21* | PF 1 | 287.00 | 1005.24 | 1008.31 | 1008.58 | 1009.53 | 0.016672 | 4.89 | 59.37 | 37.80 | 1.13 |
| a | 173.21* | PF 2 | 450.00 | 1005.24 | 1008.83 | 1009.28 | 1010.52 | 0.018512 | 5.83 | 82.20 | 48.31 | 1.23 |
| a | 173.21* | PF 3 | 360.00 | 1005.24 | 1008.56 | 1008.93 | 1010.01 | 0.017873 | 5.35 | 69.92 | 43.91 | 1.19 |
| | | | | | | | | | | | | |
| a | 172.86* | PF 1 | 287.00 | 1005.17 | 1008.20 | 1008.49 | 1009.44 | 0.017394 | 4.94 | 59.19 | 39.53 | 1.15 |
| a | 172.86* | PF 2 | 450.00 | 1005.17 | 1008.71 | 1009.18 | 1010.43 | 0.018811 | 5.89 | 82.08 | 49.31 | 1.24 |
| a | 172.86* | PF 3 | 360.00 | 1005.17 | 1008.45 | 1008.83 | 1009.92 | 0.018589 | 5.40 | 69.68 | 45.19 | 1.21 |
| | | | | | | | | | | | | |
| a | 172.50* | PF 1 | 287.00 | 1005.10 | 1008.09 | 1008.40 | 1009.35 | 0.018356 | 4.98 | 58.94 | 41.35 | 1.18 |
| a | 172.50* | PF 2 | 450.00 | 1005.10 | 1008.58 | 1009.05 | 1010.33 | 0.019173 | 5.95 | 81.99 | 50.18 | 1.25 |
| a | 172.50* | PF 3 | 360.00 | 1005.10 | 1008.33 | 1008.73 | 1009.82 | 0.018813 | 5.45 | 69.60 | 46.69 | 1.21 |
| | | | | | | | | | | | | |
| a | 172.14* | PF 1 | 287.00 | 1005.02 | 1007.97 | 1008.31 | 1009.26 | 0.018816 | 5.03 | 58.73 | 43.20 | 1.19 |
| a | 172.14* | PF 2 | 450.00 | 1005.02 | 1008.46 | 1008.93 | 1010.23 | 0.019605 | 6.01 | 81.88 | 50.81 | 1.26 |
| a | 172.14* | PF 3 | 360.00 | 1005.02 | 1008.21 | 1008.62 | 1009.72 | 0.019108 | 5.51 | 69.60 | 48.21 | 1.23 |
| | | | | | | | | | | | | |
| a | 171.79* | PF 1 | 287.00 | 1004.95 | 1007.85 | 1008.21 | 1009.16 | 0.019104 | 5.09 | 58.63 | 44.48 | 1.20 |
| a | 171.79* | PF 2 | 450.00 | 1004.95 | 1008.32 | 1008.81 | 1010.13 | 0.020107 | 6.08 | 81.69 | 50.83 | 1.28 |
| a | 171.79* | PF 3 | 360.00 | 1004.95 | 1008.08 | 1008.51 | 1009.63 | 0.019500 | 5.57 | 69.59 | 49.46 | 1.24 |
| | | | | | | | | | | | | |
| a | 171.43* | PF 1 | 287.00 | 1004.87 | 1007.73 | 1008.11 | 1009.06 | 0.019461 | 5.14 | 58.59 | 45.79 | 1.21 |
| a | 171.43* | PF 2 | 450.00 | 1004.87 | 1008.19 | 1008.68 | 1010.02 | 0.020647 | 6.15 | 81.47 | 50.84 | 1.30 |
| a | 171.43* | PF 3 | 360.00 | 1004.87 | 1007.95 | 1008.39 | 1009.52 | 0.020013 | 5.63 | 69.49 | 50.15 | 1.25 |
| | | | | | | | | | | | | |
| a | 171.07* | PF 1 | 287.00 | 1004.80 | 1007.60 | 1007.99 | 1008.96 | 0.019912 | 5.21 | 58.56 | 47.20 | 1.23 |
| a | 171.07* | PF 2 | 450.00 | 1004.80 | 1008.05 | 1008.55 | 1009.92 | 0.021225 | 6.23 | 81.22 | 50.85 | 1.31 |
| a | 171.07* | PF 3 | 360.00 | 1004.80 | 1007.82 | 1008.27 | 1009.42 | 0.020625 | 5.71 | 69.31 | 50.27 | 1.27 |
| | | | | | | | | | | | | |
| a | 170.71* | PF 1 | 287.00 | 1004.73 | 1007.47 | 1007.87 | 1008.85 | 0.020452 | 5.27 | 58.53 | 48.75 | 1.24 |
| a | 170.71* | PF 2 | 450.00 | 1004.73 | 1007.91 | 1008.45 | 1009.81 | 0.021822 | 6.30 | 80.97 | 50.84 | 1.33 |
| a | 170.71* | PF 3 | 360.00 | 1004.73 | 1008.59 | 1008.11 | 1009.20 | 0.005237 | 3.67 | 117.31 | 59.60 | 0.68 |
| | | | | | | | | | | | | |
| a | 170.36* | PF 1 | 287.00 | 1004.65 | 1007.33 | 1007.74 | 1008.75 | 0.021131 | 5.34 | 58.42 | 49.76 | 1.26 |
| a | 170.36* | PF 2 | 450.00 | 1004.65 | 1008.94 | 1008.34 | 1009.57 | 0.004624 | 3.81 | 151.60 | 76.88 | 0.66 |
| a | 170.36* | PF 3 | 360.00 | 1004.65 | 1008.62 | | 1009.15 | 0.004283 | 3.44 | 129.35 | 66.67 | 0.62 |
| | | | | | | | | | | | | |
| a | 170 | PF 1 | 287.00 | 1004.58 | 1007.97 | 1007.62 | 1008.52 | 0.005550 | 3.46 | 98.48 | 57.25 | 0.69 |
| a | 170 | PF 2 | 450.00 | 1004.58 | 1009.02 | 1008.26 | 1009.51 | 0.003499 | 3.44 | 176.08 | 88.28 | 0.58 |
| a | 170 | PF 3 | 360.00 | 1004.58 | 1008.65 | 1007.81 | 1009.11 | 0.003596 | 3.25 | 144.41 | 83.58 | 0.57 |
| | | | | | | | | | | | | |
| a | 169 | | Bridge | | | | | | | | | |
| | | | | | | | | | | | | |
| a | 168 | PF 1 | 287.00 | 1004.58 | 1007.36 | 1007.62 | 1008.49 | 0.015465 | 4.84 | 66.76 | 50.17 | 1.10 |
| a | 168 | PF 2 | 450.00 | 1004.58 | 1008.56 | 1008.26 | 1009.34 | 0.006242 | 4.21 | 137.17 | 77.36 | 0.75 |
| a | 168 | PF 3 | 360.00 | 1004.58 | 1008.15 | 1007.81 | 1008.88 | 0.006823 | 4.01 | 108.95 | 62.29 | 0.77 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 167.78* | PF 1 | 287.00 | 1004.50 | 1007.75 | 1007.58 | 1008.41 | 0.007158 | 3.77 | 87.89 | 50.89 | 0.77 |
| a | 167.78* | PF 2 | 450.00 | 1004.50 | 1008.50 | 1008.24 | 1009.30 | 0.006336 | 4.25 | 135.00 | 76.34 | 0.76 |
| a | 167.78* | PF 3 | 360.00 | 1004.50 | 1008.08 | 1007.75 | 1008.84 | 0.007029 | 4.07 | 106.47 | 60.99 | 0.78 |
| a | 167.56* | PF 1 | 287.00 | 1004.42 | 1007.69 | 1007.54 | 1008.37 | 0.007318 | 3.82 | 86.30 | 50.52 | 0.78 |
| a | 167.56* | PF 2 | 450.00 | 1004.42 | 1008.45 | 1008.20 | 1009.27 | 0.006421 | 4.28 | 132.96 | 75.39 | 0.76 |
| a | 167.56* | PF 3 | 360.00 | 1004.42 | 1008.01 | 1007.74 | 1008.80 | 0.007242 | 4.13 | 104.00 | 59.53 | 0.79 |
| a | 167.33* | PF 1 | 287.00 | 1004.33 | 1007.63 | 1007.48 | 1008.33 | 0.007486 | 3.86 | 84.69 | 50.13 | 0.79 |
| a | 167.33* | PF 2 | 450.00 | 1004.33 | 1008.39 | 1008.17 | 1009.23 | 0.006521 | 4.32 | 130.77 | 74.27 | 0.77 |
| a | 167.33* | PF 3 | 360.00 | 1004.33 | 1007.94 | 1007.73 | 1008.76 | 0.007493 | 4.19 | 101.37 | 57.75 | 0.80 |
| a | 167.11* | PF 1 | 287.00 | 1004.25 | 1007.56 | 1007.43 | 1008.29 | 0.007653 | 3.90 | 83.09 | 49.74 | 0.80 |
| a | 167.11* | PF 2 | 450.00 | 1004.25 | 1008.34 | 1008.11 | 1009.20 | 0.006626 | 4.36 | 128.59 | 73.13 | 0.77 |
| a | 167.11* | PF 3 | 360.00 | 1004.25 | 1007.87 | 1007.69 | 1008.72 | 0.007736 | 4.25 | 98.87 | 55.72 | 0.82 |
| a | 166.89* | PF 1 | 287.00 | 1004.17 | 1007.49 | 1007.37 | 1008.25 | 0.007896 | 3.96 | 81.20 | 49.33 | 0.81 |
| a | 166.89* | PF 2 | 450.00 | 1004.17 | 1008.28 | 1008.07 | 1009.16 | 0.006737 | 4.40 | 126.36 | 71.83 | 0.78 |
| a | 166.89* | PF 3 | 360.00 | 1004.17 | 1007.81 | 1007.63 | 1008.68 | 0.007906 | 4.29 | 96.82 | 53.61 | 0.82 |
| a | 166.67* | PF 1 | 287.00 | 1004.09 | 1007.43 | 1007.32 | 1008.21 | 0.008040 | 4.00 | 79.71 | 48.94 | 0.81 |
| a | 166.67* | PF 2 | 450.00 | 1004.09 | 1008.22 | 1008.04 | 1009.13 | 0.006823 | 4.43 | 124.40 | 70.75 | 0.79 |
| a | 166.67* | PF 3 | 360.00 | 1004.09 | 1007.76 | 1007.60 | 1008.64 | 0.007899 | 4.30 | 95.72 | 51.83 | 0.82 |
| a | 166.44* | PF 1 | 287.00 | 1004.00 | 1007.39 | 1007.25 | 1008.17 | 0.007880 | 3.98 | 79.42 | 48.60 | 0.81 |
| a | 166.44* | PF 2 | 450.00 | 1004.00 | 1008.17 | 1007.97 | 1009.09 | 0.006901 | 4.46 | 122.52 | 69.67 | 0.79 |
| a | 166.44* | PF 3 | 360.00 | 1004.00 | 1007.72 | 1007.57 | 1008.60 | 0.007744 | 4.28 | 95.38 | 50.32 | 0.82 |
| a | 166.22* | PF 1 | 287.00 | 1003.92 | 1007.22 | 1007.18 | 1008.12 | 0.009559 | 4.25 | 72.46 | 47.73 | 0.88 |
| a | 166.22* | PF 2 | 450.00 | 1003.92 | 1008.11 | 1007.93 | 1009.05 | 0.006995 | 4.50 | 120.53 | 68.48 | 0.79 |
| a | 166.22* | PF 3 | 360.00 | 1003.92 | 1007.68 | 1007.54 | 1008.56 | 0.007591 | 4.27 | 95.12 | 49.17 | 0.81 |
| a | 166.00* | PF 1 | 287.00 | 1003.84 | 1007.17 | 1007.08 | 1008.07 | 0.009397 | 4.23 | 72.03 | 45.61 | 0.87 |
| a | 166.00* | PF 2 | 450.00 | 1003.84 | 1008.05 | 1007.88 | 1009.02 | 0.007069 | 4.52 | 118.74 | 67.38 | 0.80 |
| a | 166.00* | PF 3 | 360.00 | 1003.84 | 1007.61 | 1007.51 | 1008.52 | 0.007837 | 4.32 | 93.09 | 48.74 | 0.82 |
| a | 165.78* | PF 1 | 287.00 | 1003.76 | 1007.13 | 1006.99 | 1008.02 | 0.009132 | 4.20 | 72.03 | 43.80 | 0.86 |
| a | 165.78* | PF 2 | 450.00 | 1003.76 | 1008.00 | 1007.72 | 1008.98 | 0.007089 | 4.54 | 117.39 | 66.66 | 0.80 |
| a | 165.78* | PF 3 | 360.00 | 1003.76 | 1007.55 | 1007.45 | 1008.47 | 0.007972 | 4.36 | 91.59 | 48.34 | 0.83 |
| a | 165.56* | PF 1 | 287.00 | 1003.67 | 1006.92 | 1006.90 | 1007.95 | 0.011441 | 4.51 | 65.42 | 35.98 | 0.95 |
| a | 165.56* | PF 2 | 450.00 | 1003.67 | 1007.95 | 1007.62 | 1008.94 | 0.007103 | 4.55 | 116.13 | 66.12 | 0.80 |
| a | 165.56* | PF 3 | 360.00 | 1003.67 | 1007.47 | 1007.39 | 1008.43 | 0.008231 | 4.42 | 89.57 | 47.89 | 0.84 |
| a | 165.33* | PF 1 | 287.00 | 1003.59 | 1006.87 | 1006.82 | 1007.90 | 0.011267 | 4.49 | 65.46 | 33.74 | 0.95 |
| a | 165.33* | PF 2 | 450.00 | 1003.59 | 1007.92 | 1007.59 | 1008.91 | 0.007003 | 4.54 | 115.77 | 66.54 | 0.79 |
| a | 165.33* | PF 3 | 360.00 | 1003.59 | 1007.39 | 1007.33 | 1008.38 | 0.008556 | 4.48 | 87.30 | 47.40 | 0.85 |
| a | 165.11* | PF 1 | 287.00 | 1003.51 | 1006.79 | 1006.77 | 1007.84 | 0.011564 | 4.54 | 64.56 | 32.83 | 0.96 |
| a | 165.11* | PF 2 | 450.00 | 1003.51 | 1007.89 | 1007.57 | 1008.87 | 0.006873 | 4.53 | 115.72 | 67.36 | 0.79 |
| a | 165.11* | PF 3 | 360.00 | 1003.51 | 1007.31 | 1007.23 | 1008.34 | 0.008889 | 4.54 | 85.07 | 46.92 | 0.87 |
| a | 164.89* | PF 1 | 287.00 | 1003.43 | 1006.71 | 1006.70 | 1007.78 | 0.011888 | 4.59 | 63.62 | 32.32 | 0.97 |
| a | 164.89* | PF 2 | 450.00 | 1003.43 | 1007.64 | 1007.54 | 1008.81 | 0.008626 | 4.89 | 102.72 | 57.85 | 0.87 |
| a | 164.89* | PF 3 | 360.00 | 1003.43 | 1007.27 | 1007.13 | 1008.29 | 0.008698 | 4.52 | 84.94 | 46.14 | 0.86 |
| a | 164.67* | PF 1 | 287.00 | 1003.34 | 1006.65 | 1006.63 | 1007.72 | 0.011723 | 4.57 | 63.62 | 32.01 | 0.96 |
| a | 164.67* | PF 2 | 450.00 | 1003.34 | 1007.63 | 1007.51 | 1008.76 | 0.008136 | 4.79 | 103.99 | 58.30 | 0.85 |
| a | 164.67* | PF 3 | 360.00 | 1003.34 | 1007.24 | 1007.06 | 1008.24 | 0.008444 | 4.48 | 85.14 | 44.65 | 0.85 |
| a | 164.44* | PF 1 | 287.00 | 1003.26 | 1006.57 | 1006.55 | 1007.66 | 0.012022 | 4.62 | 62.75 | 31.50 | 0.97 |
| a | 164.44* | PF 2 | 450.00 | 1003.26 | 1007.56 | 1007.46 | 1008.71 | 0.008358 | 4.85 | 101.79 | 51.57 | 0.86 |
| a | 164.44* | PF 3 | 360.00 | 1003.26 | 1006.98 | 1006.97 | 1008.18 | 0.011029 | 4.88 | 76.17 | 36.35 | 0.95 |
| a | 164.22* | PF 1 | 287.00 | 1003.18 | 1006.49 | 1006.48 | 1007.59 | 0.012315 | 4.66 | 61.91 | 30.99 | 0.98 |
| a | 164.22* | PF 2 | 450.00 | 1003.18 | 1007.48 | 1007.41 | 1008.67 | 0.008676 | 4.91 | 99.38 | 46.52 | 0.87 |
| a | 164.22* | PF 3 | 360.00 | 1003.18 | 1006.93 | 1006.89 | 1008.12 | 0.010888 | 4.86 | 76.22 | 34.37 | 0.95 |
| a | 164.00* | PF 1 | 287.00 | 1003.10 | 1006.41 | 1006.39 | 1007.53 | 0.012595 | 4.70 | 61.15 | 28.06 | 0.99 |
| a | 164.00* | PF 2 | 450.00 | 1003.10 | 1007.44 | 1007.36 | 1008.63 | 0.008555 | 4.90 | 99.14 | 46.14 | 0.87 |
| a | 164.00* | PF 3 | 360.00 | 1003.10 | 1006.84 | 1006.83 | 1008.06 | 0.011149 | 4.90 | 75.22 | 33.77 | 0.96 |
| a | 163.78* | PF 1 | 287.00 | 1003.01 | 1006.32 | 1006.31 | 1007.47 | 0.012878 | 4.74 | 60.60 | 27.12 | 1.00 |
| a | 163.78* | PF 2 | 450.00 | 1003.01 | 1007.40 | 1007.27 | 1008.58 | 0.008398 | 4.87 | 99.09 | 46.08 | 0.86 |
| a | 163.78* | PF 3 | 360.00 | 1003.01 | 1006.76 | 1006.76 | 1008.01 | 0.011421 | 4.95 | 74.20 | 33.26 | 0.97 |
| a | 163.56* | PF 1 | 287.00 | 1002.93 | 1006.26 | 1006.24 | 1007.40 | 0.012743 | 4.73 | 60.72 | 26.54 | 1.00 |
| a | 163.56* | PF 2 | 450.00 | 1002.93 | 1007.37 | 1007.19 | 1008.54 | 0.008200 | 4.84 | 99.29 | 46.36 | 0.85 |
| a | 163.56* | PF 3 | 360.00 | 1002.93 | 1006.71 | 1006.69 | 1007.95 | 0.011246 | 4.93 | 74.27 | 32.99 | 0.96 |
| a | 163.33* | PF 1 | 287.00 | 1002.85 | 1006.18 | 1006.17 | 1007.34 | 0.012841 | 4.76 | 60.26 | 26.15 | 1.00 |
| a | 163.33* | PF 2 | 450.00 | 1002.85 | 1007.12 | 1007.11 | 1008.47 | 0.010252 | 5.20 | 90.22 | 38.75 | 0.94 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 163.33* | PF 3 | 360.00 | 1002.85 | 1006.63 | 1006.61 | 1007.89 | 0.011501 | 4.98 | 73.32 | 32.48 | 0.97 |
| | | | | | | | | | | | | |
| a | 163.11* | PF 1 | 287.00 | 1002.77 | 1006.10 | 1006.10 | 1007.27 | 0.012922 | 4.79 | 59.86 | 25.81 | 1.01 |
| a | 163.11* | PF 2 | 450.00 | 1002.77 | 1007.07 | 1007.03 | 1008.42 | 0.010109 | 5.17 | 90.30 | 37.35 | 0.93 |
| a | 163.11* | PF 3 | 360.00 | 1002.77 | 1006.55 | 1006.54 | 1007.83 | 0.011745 | 5.02 | 72.41 | 31.98 | 0.98 |
| | | | | | | | | | | | | |
| a | 162.89* | PF 1 | 287.00 | 1002.68 | 1006.01 | 1006.02 | 1007.20 | 0.013126 | 4.84 | 59.28 | 25.45 | 1.01 |
| a | 162.89* | PF 2 | 450.00 | 1002.68 | 1006.99 | 1006.96 | 1008.37 | 0.010403 | 5.22 | 89.08 | 35.32 | 0.94 |
| a | 162.89* | PF 3 | 360.00 | 1002.68 | 1006.46 | 1006.46 | 1007.77 | 0.011998 | 5.06 | 71.50 | 31.45 | 0.99 |
| | | | | | | | | | | | | |
| a | 162.67* | PF 1 | 287.00 | 1002.60 | 1005.92 | 1005.95 | 1007.14 | 0.013252 | 4.88 | 58.85 | 25.14 | 1.02 |
| a | 162.67* | PF 2 | 450.00 | 1002.60 | 1006.91 | 1006.89 | 1008.31 | 0.010630 | 5.27 | 87.97 | 34.94 | 0.95 |
| a | 162.67* | PF 3 | 360.00 | 1002.60 | 1006.37 | 1006.37 | 1007.70 | 0.012389 | 5.11 | 70.45 | 27.22 | 1.00 |
| | | | | | | | | | | | | |
| a | 162.44* | PF 1 | 287.00 | 1002.52 | 1005.87 | 1005.87 | 1007.07 | 0.012983 | 4.86 | 59.06 | 24.93 | 1.01 |
| a | 162.44* | PF 2 | 450.00 | 1002.52 | 1006.83 | 1006.83 | 1008.26 | 0.010857 | 5.31 | 86.88 | 34.44 | 0.96 |
| a | 162.44* | PF 3 | 360.00 | 1002.52 | 1006.29 | 1006.29 | 1007.64 | 0.012686 | 5.16 | 69.83 | 26.38 | 1.01 |
| | | | | | | | | | | | | |
| a | 162.22* | PF 1 | 287.00 | 1002.44 | 1005.77 | 1005.79 | 1007.00 | 0.013296 | 4.92 | 58.37 | 24.61 | 1.02 |
| a | 162.22* | PF 2 | 450.00 | 1002.44 | 1006.77 | 1006.75 | 1008.20 | 0.010773 | 5.30 | 86.75 | 34.14 | 0.95 |
| a | 162.22* | PF 3 | 360.00 | 1002.44 | 1006.21 | 1006.22 | 1007.58 | 0.012736 | 5.18 | 69.48 | 26.05 | 1.01 |
| | | | | | | | | | | | | |
| a | 162.00* | PF 1 | 287.00 | 1002.35 | 1005.71 | 1005.72 | 1006.93 | 0.012993 | 4.89 | 58.65 | 24.44 | 1.01 |
| a | 162.00* | PF 2 | 450.00 | 1002.35 | 1006.69 | 1006.68 | 1008.14 | 0.011001 | 5.35 | 85.67 | 33.62 | 0.96 |
| a | 162.00* | PF 3 | 360.00 | 1002.35 | 1006.15 | 1006.15 | 1007.51 | 0.012523 | 5.17 | 69.64 | 25.82 | 1.01 |
| | | | | | | | | | | | | |
| a | 161.78* | PF 1 | 287.00 | 1002.27 | 1005.61 | 1005.64 | 1006.86 | 0.013380 | 4.96 | 57.88 | 24.14 | 1.02 |
| a | 161.78* | PF 2 | 450.00 | 1002.27 | 1006.61 | 1006.60 | 1008.08 | 0.011217 | 5.39 | 84.66 | 33.11 | 0.97 |
| a | 161.78* | PF 3 | 360.00 | 1002.27 | 1006.06 | 1006.08 | 1007.45 | 0.012753 | 5.22 | 68.96 | 25.50 | 1.01 |
| | | | | | | | | | | | | |
| a | 161.56* | PF 1 | 287.00 | 1002.19 | 1005.55 | 1005.56 | 1006.79 | 0.013078 | 4.93 | 58.17 | 23.99 | 1.01 |
| a | 161.56* | PF 2 | 450.00 | 1002.19 | 1006.53 | 1006.53 | 1008.03 | 0.011432 | 5.43 | 83.67 | 32.60 | 0.98 |
| a | 161.56* | PF 3 | 360.00 | 1002.19 | 1006.00 | 1006.01 | 1007.38 | 0.012516 | 5.20 | 69.20 | 25.31 | 1.00 |
| | | | | | | | | | | | | |
| a | 161.33* | PF 1 | 287.00 | 1002.11 | 1005.45 | 1005.49 | 1006.73 | 0.013558 | 5.01 | 57.29 | 23.71 | 1.03 |
| a | 161.33* | PF 2 | 450.00 | 1002.11 | 1006.44 | 1006.44 | 1007.96 | 0.011690 | 5.47 | 82.59 | 31.36 | 0.99 |
| a | 161.33* | PF 3 | 360.00 | 1002.11 | 1005.90 | 1005.92 | 1007.31 | 0.012852 | 5.27 | 68.35 | 25.00 | 1.02 |
| | | | | | | | | | | | | |
| a | 161.11* | PF 1 | 287.00 | 1002.02 | 1005.39 | 1005.41 | 1006.65 | 0.013266 | 4.98 | 57.58 | 23.57 | 1.02 |
| a | 161.11* | PF 2 | 450.00 | 1002.02 | 1006.34 | 1006.34 | 1007.90 | 0.012095 | 5.53 | 81.36 | 27.56 | 1.00 |
| a | 161.11* | PF 3 | 360.00 | 1002.02 | 1005.84 | 1005.85 | 1007.25 | 0.012597 | 5.24 | 68.64 | 24.83 | 1.01 |
| | | | | | | | | | | | | |
| a | 160.89* | PF 1 | 287.00 | 1001.94 | 1005.29 | 1005.33 | 1006.59 | 0.013626 | 5.04 | 56.91 | 23.33 | 1.03 |
| a | 160.89* | PF 2 | 450.00 | 1001.94 | 1006.26 | 1006.26 | 1007.84 | 0.012270 | 5.57 | 80.80 | 25.92 | 1.01 |
| a | 160.89* | PF 3 | 360.00 | 1001.94 | 1005.74 | 1005.77 | 1007.18 | 0.012925 | 5.31 | 67.84 | 24.55 | 1.02 |
| | | | | | | | | | | | | |
| a | 160.67* | PF 1 | 287.00 | 1001.86 | 1005.23 | 1005.26 | 1006.51 | 0.013316 | 5.02 | 57.23 | 23.22 | 1.02 |
| a | 160.67* | PF 2 | 450.00 | 1001.86 | 1006.17 | 1006.20 | 1007.78 | 0.012453 | 5.61 | 80.16 | 25.65 | 1.01 |
| a | 160.67* | PF 3 | 360.00 | 1001.86 | 1005.69 | 1005.70 | 1007.11 | 0.012657 | 5.28 | 68.17 | 24.41 | 1.01 |
| | | | | | | | | | | | | |
| a | 160.44* | PF 1 | 287.00 | 1001.78 | 1005.24 | 1005.18 | 1006.44 | 0.012123 | 4.87 | 58.98 | 23.26 | 0.98 |
| a | 160.44* | PF 2 | 450.00 | 1001.78 | 1006.15 | 1006.12 | 1007.71 | 0.011898 | 5.54 | 81.24 | 25.55 | 0.99 |
| a | 160.44* | PF 3 | 360.00 | 1001.78 | 1005.59 | 1005.62 | 1007.05 | 0.013026 | 5.35 | 67.32 | 24.14 | 1.02 |
| | | | | | | | | | | | | |
| a | 160.22* | PF 1 | 287.00 | 1001.69 | 1005.20 | 1005.11 | 1006.37 | 0.011582 | 4.80 | 59.79 | 23.20 | 0.95 |
| a | 160.22* | PF 2 | 450.00 | 1001.69 | 1006.10 | 1006.05 | 1007.65 | 0.011610 | 5.51 | 81.74 | 25.40 | 0.98 |
| a | 160.22* | PF 3 | 360.00 | 1001.69 | 1005.61 | 1005.55 | 1006.98 | 0.011755 | 5.17 | 69.61 | 24.21 | 0.97 |
| | | | | | | | | | | | | |
| a | 160 | PF 1 | 287.00 | 1001.61 | 1005.17 | 1005.03 | 1006.31 | 0.011016 | 4.73 | 60.71 | 23.15 | 0.93 |
| a | 160 | PF 2 | 450.00 | 1001.61 | 1006.06 | 1005.97 | 1007.59 | 0.011298 | 5.47 | 82.33 | 25.27 | 0.97 |
| a | 160 | PF 3 | 360.00 | 1001.61 | 1005.58 | 1005.47 | 1006.91 | 0.011321 | 5.12 | 70.37 | 24.12 | 0.96 |
| | | | | | | | | | | | | |
| a | 159.67* | PF 1 | 287.00 | 1001.53 | 1005.11 | 1004.97 | 1006.25 | 0.011046 | 4.73 | 60.69 | 23.22 | 0.93 |
| a | 159.67* | PF 2 | 450.00 | 1001.53 | 1005.98 | 1005.92 | 1007.53 | 0.011564 | 5.51 | 81.71 | 25.31 | 0.98 |
| a | 159.67* | PF 3 | 360.00 | 1001.53 | 1005.52 | 1005.42 | 1006.86 | 0.011303 | 5.11 | 70.45 | 24.22 | 0.96 |
| | | | | | | | | | | | | |
| a | 159.33* | PF 1 | 287.00 | 1001.44 | 1005.06 | 1004.92 | 1006.20 | 0.011043 | 4.72 | 60.75 | 23.32 | 0.93 |
| a | 159.33* | PF 2 | 450.00 | 1001.44 | 1005.92 | 1005.86 | 1007.47 | 0.011547 | 5.50 | 81.81 | 25.41 | 0.98 |
| a | 159.33* | PF 3 | 360.00 | 1001.44 | 1005.47 | 1005.37 | 1006.80 | 0.011299 | 5.10 | 70.53 | 24.32 | 0.96 |
| | | | | | | | | | | | | |
| a | 159.00* | PF 1 | 287.00 | 1001.36 | 1005.00 | 1004.87 | 1006.14 | 0.011066 | 4.72 | 60.78 | 23.41 | 0.94 |
| a | 159.00* | PF 2 | 450.00 | 1001.36 | 1005.87 | 1005.81 | 1007.41 | 0.011506 | 5.49 | 81.99 | 25.50 | 0.98 |
| a | 159.00* | PF 3 | 360.00 | 1001.36 | 1005.40 | 1005.31 | 1006.74 | 0.011436 | 5.12 | 70.32 | 24.40 | 0.96 |
| | | | | | | | | | | | | |
| a | 158.67* | PF 1 | 287.00 | 1001.27 | 1004.95 | 1004.82 | 1006.08 | 0.011080 | 4.72 | 60.85 | 23.51 | 0.94 |
| a | 158.67* | PF 2 | 450.00 | 1001.27 | 1005.82 | 1005.74 | 1007.35 | 0.011431 | 5.48 | 82.19 | 25.87 | 0.97 |
| a | 158.67* | PF 3 | 360.00 | 1001.27 | 1005.35 | 1005.27 | 1006.68 | 0.011441 | 5.11 | 70.43 | 24.52 | 0.96 |
| | | | | | | | | | | | | |
| a | 158.33* | PF 1 | 287.00 | 1001.19 | 1004.90 | 1004.76 | 1006.03 | 0.011112 | 4.71 | 60.90 | 23.63 | 0.94 |
| a | 158.33* | PF 2 | 450.00 | 1001.19 | 1005.73 | 1005.68 | 1007.29 | 0.011678 | 5.52 | 81.59 | 26.32 | 0.98 |
| a | 158.33* | PF 3 | 360.00 | 1001.19 | 1005.30 | 1005.20 | 1006.62 | 0.011453 | 5.10 | 70.54 | 24.65 | 0.96 |
| | | | | | | | | | | | | |
| a | 158.00* | PF 1 | 287.00 | 1001.10 | 1004.84 | 1004.71 | 1005.97 | 0.011143 | 4.71 | 60.98 | 23.75 | 0.94 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 158.00* | PF 2 | 450.00 | 1001.10 | 1005.68 | 1005.65 | 1007.23 | 0.011583 | 5.51 | 81.87 | 29.82 | 0.98 |
| a | 158.00* | PF 3 | 360.00 | 1001.10 | 1005.24 | 1005.16 | 1006.56 | 0.011463 | 5.10 | 70.64 | 24.73 | 0.96 |
| | | | | | | | | | | | | |
| a | 157.67* | PF 1 | 287.00 | 1001.02 | 1004.79 | 1004.66 | 1005.92 | 0.011210 | 4.70 | 61.01 | 23.87 | 0.94 |
| a | 157.67* | PF 2 | 450.00 | 1001.02 | 1005.63 | 1005.63 | 1007.17 | 0.011478 | 5.49 | 82.49 | 32.14 | 0.98 |
| a | 157.67* | PF 3 | 360.00 | 1001.02 | 1005.19 | 1005.10 | 1006.51 | 0.011473 | 5.09 | 70.74 | 24.81 | 0.96 |
| | | | | | | | | | | | | |
| a | 157.33* | PF 1 | 287.00 | 1000.94 | 1004.73 | 1004.61 | 1005.86 | 0.011238 | 4.70 | 61.13 | 24.01 | 0.94 |
| a | 157.33* | PF 2 | 450.00 | 1000.94 | 1005.58 | 1005.58 | 1007.10 | 0.011281 | 5.46 | 83.40 | 32.42 | 0.97 |
| a | 157.33* | PF 3 | 360.00 | 1000.94 | 1005.13 | 1005.05 | 1006.45 | 0.011466 | 5.08 | 70.90 | 24.89 | 0.96 |
| | | | | | | | | | | | | |
| a | 157.00* | PF 1 | 287.00 | 1000.85 | 1004.68 | 1004.56 | 1005.80 | 0.011305 | 4.69 | 61.18 | 24.14 | 0.94 |
| a | 157.00* | PF 2 | 450.00 | 1000.85 | 1005.48 | 1005.54 | 1007.04 | 0.011818 | 5.55 | 82.29 | 32.48 | 0.99 |
| a | 157.00* | PF 3 | 360.00 | 1000.85 | 1005.08 | 1004.99 | 1006.39 | 0.011488 | 5.07 | 71.00 | 24.96 | 0.96 |
| | | | | | | | | | | | | |
| a | 156.67* | PF 1 | 287.00 | 1000.77 | 1004.62 | 1004.51 | 1005.74 | 0.011335 | 4.68 | 61.27 | 24.21 | 0.94 |
| a | 156.67* | PF 2 | 450.00 | 1000.77 | 1005.43 | 1005.49 | 1006.98 | 0.011643 | 5.52 | 83.18 | 32.72 | 0.98 |
| a | 156.67* | PF 3 | 360.00 | 1000.77 | 1005.02 | 1004.92 | 1006.33 | 0.011474 | 5.06 | 71.10 | 25.46 | 0.96 |
| | | | | | | | | | | | | |
| a | 156.33* | PF 1 | 287.00 | 1000.68 | 1004.57 | 1004.45 | 1005.69 | 0.011361 | 4.68 | 61.38 | 24.29 | 0.94 |
| a | 156.33* | PF 2 | 450.00 | 1000.68 | 1005.33 | 1005.43 | 1006.91 | 0.012081 | 5.58 | 82.43 | 32.81 | 1.00 |
| a | 156.33* | PF 3 | 360.00 | 1000.68 | 1004.95 | 1004.86 | 1006.27 | 0.011718 | 5.10 | 70.69 | 26.05 | 0.97 |
| | | | | | | | | | | | | |
| a | 156.00* | PF 1 | 287.00 | 1000.60 | 1004.52 | 1004.40 | 1005.63 | 0.011397 | 4.67 | 61.48 | 24.36 | 0.94 |
| a | 156.00* | PF 2 | 450.00 | 1000.60 | 1005.29 | 1005.39 | 1006.85 | 0.011875 | 5.54 | 83.43 | 33.03 | 0.99 |
| a | 156.00* | PF 3 | 360.00 | 1000.60 | 1004.89 | 1004.81 | 1006.21 | 0.011698 | 5.09 | 70.86 | 26.91 | 0.96 |
| | | | | | | | | | | | | |
| a | 155.67* | PF 1 | 287.00 | 1000.51 | 1004.46 | 1004.34 | 1005.57 | 0.011437 | 4.66 | 61.58 | 24.42 | 0.94 |
| a | 155.67* | PF 2 | 450.00 | 1000.51 | 1005.19 | 1005.32 | 1006.78 | 0.012299 | 5.60 | 82.79 | 33.13 | 1.00 |
| a | 155.67* | PF 3 | 360.00 | 1000.51 | 1004.83 | 1004.76 | 1006.15 | 0.011673 | 5.09 | 71.21 | 30.08 | 0.96 |
| | | | | | | | | | | | | |
| a | 155.33* | PF 1 | 287.00 | 1000.43 | 1004.40 | 1004.29 | 1005.51 | 0.011508 | 4.66 | 61.63 | 24.48 | 0.94 |
| a | 155.33* | PF 2 | 450.00 | 1000.43 | 1005.11 | 1005.26 | 1006.72 | 0.012637 | 5.64 | 82.43 | 33.25 | 1.01 |
| a | 155.33* | PF 3 | 360.00 | 1000.43 | 1004.75 | 1004.73 | 1006.09 | 0.012029 | 5.13 | 70.82 | 30.49 | 0.97 |
| | | | | | | | | | | | | |
| a | 155.00* | PF 1 | 287.00 | 1000.35 | 1004.34 | 1004.22 | 1005.45 | 0.011594 | 4.66 | 61.59 | 24.94 | 0.94 |
| a | 155.00* | PF 2 | 450.00 | 1000.35 | 1005.03 | 1005.20 | 1006.65 | 0.012892 | 5.67 | 82.32 | 33.39 | 1.02 |
| a | 155.00* | PF 3 | 360.00 | 1000.35 | 1004.70 | 1004.69 | 1006.03 | 0.011954 | 5.12 | 71.43 | 31.18 | 0.97 |
| | | | | | | | | | | | | |
| a | 154.67* | PF 1 | 287.00 | 1000.26 | 1004.29 | 1004.16 | 1005.39 | 0.011601 | 4.66 | 61.70 | 25.83 | 0.94 |
| a | 154.67* | PF 2 | 450.00 | 1000.26 | 1004.95 | 1005.14 | 1006.58 | 0.013156 | 5.70 | 82.21 | 33.52 | 1.02 |
| a | 154.67* | PF 3 | 360.00 | 1000.26 | 1004.65 | 1004.65 | 1005.96 | 0.011817 | 5.09 | 72.22 | 31.83 | 0.96 |
| | | | | | | | | | | | | |
| a | 154.33* | PF 1 | 287.00 | 1000.18 | 1004.23 | 1004.11 | 1005.33 | 0.011617 | 4.65 | 61.86 | 26.75 | 0.93 |
| a | 154.33* | PF 2 | 450.00 | 1000.18 | 1004.87 | 1005.08 | 1006.52 | 0.013430 | 5.72 | 82.13 | 33.65 | 1.03 |
| a | 154.33* | PF 3 | 360.00 | 1000.18 | 1004.60 | 1004.60 | 1005.90 | 0.011636 | 5.06 | 73.17 | 32.45 | 0.95 |
| | | | | | | | | | | | | |
| a | 154.00* | PF 1 | 287.00 | 1000.09 | 1004.17 | 1004.06 | 1005.28 | 0.011617 | 4.65 | 62.17 | 28.71 | 0.93 |
| a | 154.00* | PF 2 | 450.00 | 1000.09 | 1004.80 | 1005.02 | 1006.45 | 0.013669 | 5.75 | 82.15 | 33.79 | 1.04 |
| a | 154.00* | PF 3 | 360.00 | 1000.09 | 1004.49 | 1004.56 | 1005.83 | 0.012396 | 5.15 | 71.96 | 32.43 | 0.98 |
| | | | | | | | | | | | | |
| a | 153.67* | PF 1 | 287.00 | 1000.01 | 1004.12 | 1004.01 | 1005.22 | 0.011560 | 4.64 | 62.72 | 30.30 | 0.93 |
| a | 153.67* | PF 2 | 450.00 | 1000.01 | 1004.72 | 1004.96 | 1006.38 | 0.013911 | 5.76 | 82.18 | 33.92 | 1.04 |
| a | 153.67* | PF 3 | 360.00 | 1000.01 | 1004.44 | 1004.51 | 1005.77 | 0.012284 | 5.13 | 72.77 | 32.94 | 0.97 |
| | | | | | | | | | | | | |
| a | 153.33* | PF 1 | 287.00 | 999.92 | 1004.08 | 1003.98 | 1005.15 | 0.011398 | 4.61 | 63.54 | 30.91 | 0.92 |
| a | 153.33* | PF 2 | 450.00 | 999.92 | 1004.64 | 1004.90 | 1006.31 | 0.014157 | 5.78 | 82.23 | 34.06 | 1.05 |
| a | 153.33* | PF 3 | 360.00 | 999.92 | 1004.40 | 1004.45 | 1005.70 | 0.012061 | 5.08 | 73.86 | 33.46 | 0.96 |
| | | | | | | | | | | | | |
| a | 153.00* | PF 1 | 287.00 | 999.84 | 1004.03 | 1003.94 | 1005.09 | 0.011192 | 4.57 | 64.51 | 31.50 | 0.91 |
| a | 153.00* | PF 2 | 450.00 | 999.84 | 1004.58 | 1004.83 | 1006.23 | 0.014261 | 5.78 | 82.61 | 34.21 | 1.05 |
| a | 153.00* | PF 3 | 360.00 | 999.84 | 1004.29 | 1004.40 | 1005.63 | 0.012764 | 5.16 | 72.87 | 33.48 | 0.98 |
| | | | | | | | | | | | | |
| a | 152.67* | PF 1 | 287.00 | 999.75 | 1004.00 | 1003.89 | 1005.03 | 0.010893 | 4.52 | 65.72 | 32.10 | 0.89 |
| a | 152.67* | PF 2 | 450.00 | 999.75 | 1004.50 | 1004.76 | 1006.16 | 0.014531 | 5.80 | 82.65 | 34.34 | 1.05 |
| a | 152.67* | PF 3 | 360.00 | 999.75 | 1004.20 | 1004.34 | 1005.56 | 0.013240 | 5.21 | 72.47 | 33.62 | 0.99 |
| | | | | | | | | | | | | |
| a | 152.33* | PF 1 | 287.00 | 999.67 | 1003.97 | 1003.83 | 1004.96 | 0.010496 | 4.45 | 67.23 | 32.73 | 0.87 |
| a | 152.33* | PF 2 | 450.00 | 999.67 | 1004.42 | 1004.70 | 1006.09 | 0.014806 | 5.81 | 82.71 | 34.48 | 1.06 |
| a | 152.33* | PF 3 | 360.00 | 999.67 | 1004.12 | 1004.27 | 1005.49 | 0.013647 | 5.25 | 72.26 | 33.81 | 1.00 |
| | | | | | | | | | | | | |
| a | 152.00* | PF 1 | 287.00 | 999.59 | 1003.94 | 1003.77 | 1004.90 | 0.010055 | 4.38 | 68.94 | 33.35 | 0.85 |
| a | 152.00* | PF 2 | 450.00 | 999.59 | 1004.85 | 1004.62 | 1005.99 | 0.008794 | 4.86 | 100.47 | 35.52 | 0.82 |
| a | 152.00* | PF 3 | 360.00 | 999.59 | 1004.36 | 1004.21 | 1005.42 | 0.009468 | 4.63 | 83.37 | 34.64 | 0.84 |
| | | | | | | | | | | | | |
| a | 151.67* | PF 1 | 287.00 | 999.50 | 1003.92 | 1003.72 | 1004.84 | 0.009539 | 4.29 | 70.96 | 33.98 | 0.83 |
| a | 151.67* | PF 2 | 450.00 | 999.50 | 1004.85 | | 1005.93 | 0.008249 | 4.74 | 103.46 | 35.78 | 0.80 |
| a | 151.67* | PF 3 | 360.00 | 999.50 | 1004.36 | 1004.14 | 1005.35 | 0.008878 | 4.52 | 85.98 | 34.90 | 0.81 |
| | | | | | | | | | | | | |
| a | 151.33* | PF 1 | 287.00 | 999.42 | 1003.91 | 1003.67 | 1004.78 | 0.008976 | 4.18 | 73.23 | 34.37 | 0.80 |
| a | 151.33* | PF 2 | 450.00 | 999.42 | 1004.86 | | 1005.87 | 0.007745 | 4.62 | 106.48 | 36.03 | 0.77 |
| a | 151.33* | PF 3 | 360.00 | 999.42 | 1004.36 | | 1005.29 | 0.008314 | 4.40 | 88.69 | 35.16 | 0.78 |
| | | | | | | | | | | | | |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 151.00* | PF 1 | 287.00 | 999.33 | 1003.90 | | 1004.72 | 0.008400 | 4.08 | 75.68 | 34.63 | 0.77 |
| a | 151.00* | PF 2 | 450.00 | 999.33 | 1004.86 | | 1005.82 | 0.007287 | 4.51 | 109.49 | 36.28 | 0.74 |
| a | 151.00* | PF 3 | 360.00 | 999.33 | 1004.36 | | 1005.24 | 0.007776 | 4.28 | 91.49 | 35.41 | 0.76 |
| | | | | | | | | | | | | |
| a | 150.67* | PF 1 | 287.00 | 999.25 | 1003.90 | | 1004.66 | 0.007843 | 3.97 | 78.24 | 34.89 | 0.75 |
| a | 150.67* | PF 2 | 450.00 | 999.25 | 1004.86 | | 1005.77 | 0.006861 | 4.39 | 112.54 | 36.53 | 0.72 |
| a | 150.67* | PF 3 | 360.00 | 999.25 | 1004.36 | | 1005.18 | 0.007278 | 4.17 | 94.34 | 35.67 | 0.73 |
| | | | | | | | | | | | | |
| a | 150.33* | PF 1 | 287.00 | 999.16 | 1003.89 | | 1004.61 | 0.007307 | 3.85 | 80.91 | 35.14 | 0.72 |
| a | 150.33* | PF 2 | 450.00 | 999.16 | 1004.86 | | 1005.72 | 0.006463 | 4.28 | 115.64 | 36.77 | 0.70 |
| a | 150.33* | PF 3 | 360.00 | 999.16 | 1004.35 | | 1005.13 | 0.006812 | 4.05 | 97.25 | 35.92 | 0.70 |
| | | | | | | | | | | | | |
| a | 150 | PF 1 | 287.00 | 999.08 | 1003.89 | 1003.42 | 1004.56 | 0.006804 | 3.74 | 83.65 | 35.40 | 0.69 |
| a | 150 | PF 2 | 450.00 | 999.08 | 1004.86 | 1004.18 | 1005.67 | 0.006092 | 4.18 | 118.77 | 37.01 | 0.67 |
| a | 150 | PF 3 | 360.00 | 999.08 | 1004.35 | 1003.79 | 1005.09 | 0.006384 | 3.94 | 100.18 | 36.16 | 0.68 |
| | | | | | | | | | | | | |
| a | 149 | | Bridge | | | | | | | | | |
| | | | | | | | | | | | | |
| a | 148 | PF 1 | 287.00 | 999.08 | 1003.21 | 1003.42 | 1004.49 | 0.017079 | 5.08 | 60.02 | 33.04 | 1.06 |
| a | 148 | PF 2 | 450.00 | 999.08 | 1003.82 | 1004.18 | 1005.57 | 0.018318 | 6.05 | 81.02 | 35.27 | 1.13 |
| a | 148 | PF 3 | 360.00 | 999.08 | 1003.51 | 1003.79 | 1005.00 | 0.017424 | 5.52 | 70.35 | 34.77 | 1.09 |
| | | | | | | | | | | | | |
| a | 146.00* | PF 1 | 287.00 | 999.08 | 1002.62 | 1003.06 | 1004.34 | 0.024126 | 5.84 | 50.18 | 26.98 | 1.28 |
| a | 146.00* | PF 2 | 450.00 | 999.08 | 1003.45 | 1003.92 | 1005.46 | 0.019289 | 6.38 | 74.80 | 31.62 | 1.19 |
| a | 146.00* | PF 3 | 360.00 | 999.08 | 1003.02 | 1003.47 | 1004.87 | 0.021193 | 6.08 | 61.64 | 29.64 | 1.23 |
| | | | | | | | | | | | | |
| a | 144.00* | PF 1 | 287.00 | 999.08 | 1002.14 | 1002.71 | 1004.19 | 0.029543 | 6.35 | 45.63 | 24.33 | 1.44 |
| a | 144.00* | PF 2 | 450.00 | 999.08 | 1003.02 | 1003.63 | 1005.33 | 0.021290 | 6.78 | 68.73 | 28.60 | 1.28 |
| a | 144.00* | PF 3 | 360.00 | 999.08 | 1002.55 | 1003.14 | 1004.73 | 0.025231 | 6.57 | 55.79 | 25.55 | 1.36 |
| | | | | | | | | | | | | |
| a | 142.00* | PF 1 | 287.00 | 999.07 | 1001.73 | 1002.39 | 1004.01 | 0.032886 | 6.70 | 43.32 | 24.39 | 1.55 |
| a | 142.00* | PF 2 | 450.00 | 999.07 | 1002.57 | 1003.21 | 1005.19 | 0.023524 | 7.22 | 64.29 | 25.79 | 1.39 |
| a | 142.00* | PF 3 | 360.00 | 999.07 | 1002.11 | 1002.80 | 1004.58 | 0.028047 | 6.98 | 52.66 | 24.98 | 1.47 |
| | | | | | | | | | | | | |
| a | 140 | PF 1 | 287.00 | 999.07 | 1001.33 | 1002.06 | 1003.83 | 0.036459 | 7.06 | 41.80 | 23.79 | 1.67 |
| a | 140 | PF 2 | 450.00 | 999.07 | 1002.14 | 1003.04 | 1005.05 | 0.026203 | 7.64 | 61.24 | 24.36 | 1.50 |
| a | 140 | PF 3 | 360.00 | 999.07 | 1001.69 | 1002.39 | 1004.41 | 0.031239 | 7.37 | 50.46 | 24.05 | 1.59 |
| | | | | | | | | | | | | |
| a | 139.47* | PF 1 | 287.00 | 999.04 | 1001.22 | 1001.92 | 1003.61 | 0.037510 | 6.93 | 42.82 | 26.03 | 1.68 |
| a | 139.47* | PF 2 | 450.00 | 999.04 | 1001.88 | 1002.53 | 1004.90 | 0.030991 | 7.80 | 60.22 | 26.74 | 1.61 |
| a | 139.47* | PF 3 | 360.00 | 999.04 | 1001.51 | 1002.33 | 1004.25 | 0.035025 | 7.42 | 50.39 | 26.34 | 1.66 |
| | | | | | | | | | | | | |
| a | 138.95* | PF 1 | 287.00 | 999.00 | 1001.16 | 1001.81 | 1003.38 | 0.036408 | 6.70 | 44.49 | 28.21 | 1.65 |
| a | 138.95* | PF 2 | 450.00 | 999.00 | 1001.71 | 1002.48 | 1004.74 | 0.034379 | 7.85 | 60.12 | 29.01 | 1.68 |
| a | 138.95* | PF 3 | 360.00 | 999.00 | 1001.40 | 1002.18 | 1004.05 | 0.036389 | 7.32 | 51.30 | 28.56 | 1.68 |
| | | | | | | | | | | | | |
| a | 138.42* | PF 1 | 287.00 | 998.97 | 1001.12 | 1001.71 | 1003.15 | 0.034101 | 6.41 | 46.62 | 30.32 | 1.59 |
| a | 138.42* | PF 2 | 450.00 | 998.97 | 1001.59 | 1002.49 | 1004.54 | 0.035889 | 7.76 | 60.96 | 31.20 | 1.70 |
| a | 138.42* | PF 3 | 360.00 | 998.97 | 1001.33 | 1002.06 | 1003.82 | 0.035935 | 7.12 | 52.90 | 30.71 | 1.67 |
| | | | | | | | | | | | | |
| a | 137.89* | PF 1 | 287.00 | 998.93 | 1001.10 | 1001.62 | 1002.94 | 0.031156 | 6.11 | 49.12 | 32.39 | 1.52 |
| a | 137.89* | PF 2 | 450.00 | 998.93 | 1001.51 | 1002.37 | 1004.33 | 0.035917 | 7.59 | 62.47 | 33.33 | 1.69 |
| a | 137.89* | PF 3 | 360.00 | 998.93 | 1001.28 | 1001.96 | 1003.60 | 0.034443 | 6.88 | 54.93 | 32.79 | 1.62 |
| | | | | | | | | | | | | |
| a | 137.37* | PF 1 | 287.00 | 998.90 | 1001.09 | 1001.54 | 1002.74 | 0.027897 | 5.78 | 52.01 | 34.40 | 1.44 |
| a | 137.37* | PF 2 | 450.00 | 998.90 | 1001.45 | 1002.24 | 1004.10 | 0.034975 | 7.38 | 64.44 | 35.37 | 1.66 |
| a | 137.37* | PF 3 | 360.00 | 998.90 | 1001.25 | 1001.86 | 1003.38 | 0.032247 | 6.60 | 57.36 | 34.82 | 1.57 |
| | | | | | | | | | | | | |
| a | 136.84* | PF 1 | 287.00 | 998.86 | 1001.09 | 1001.46 | 1002.55 | 0.024563 | 5.45 | 55.27 | 36.37 | 1.35 |
| a | 136.84* | PF 2 | 450.00 | 998.86 | 1001.41 | 1002.15 | 1003.88 | 0.033412 | 7.13 | 66.77 | 37.36 | 1.62 |
| a | 136.84* | PF 3 | 360.00 | 998.86 | 1001.22 | 1001.77 | 1003.17 | 0.029735 | 6.31 | 60.09 | 36.79 | 1.51 |
| | | | | | | | | | | | | |
| a | 136.32* | PF 1 | 287.00 | 998.83 | 1001.07 | 1001.39 | 1002.40 | 0.022519 | 5.20 | 57.81 | 37.54 | 1.29 |
| a | 136.32* | PF 2 | 450.00 | 998.83 | 1001.37 | 1002.05 | 1003.67 | 0.031477 | 6.87 | 69.39 | 39.28 | 1.57 |
| a | 136.32* | PF 3 | 360.00 | 998.83 | 1001.21 | 1001.69 | 1002.98 | 0.027065 | 6.02 | 63.13 | 38.69 | 1.44 |
| | | | | | | | | | | | | |
| a | 135.79* | PF 1 | 287.00 | 998.79 | 1001.12 | 1001.27 | 1002.23 | 0.018308 | 4.79 | 62.92 | 39.54 | 1.17 |
| a | 135.79* | PF 2 | 450.00 | 998.79 | 1001.35 | 1001.95 | 1003.47 | 0.029397 | 6.61 | 72.23 | 41.11 | 1.51 |
| a | 135.79* | PF 3 | 360.00 | 998.79 | 1001.18 | 1001.61 | 1002.81 | 0.025563 | 5.79 | 65.34 | 39.76 | 1.39 |
| | | | | | | | | | | | | |
| a | 135.26* | PF 1 | 287.00 | 998.76 | 1001.08 | 1001.23 | 1002.13 | 0.017582 | 4.64 | 64.93 | 41.27 | 1.14 |
| a | 135.26* | PF 2 | 450.00 | 998.76 | 1001.30 | 1001.87 | 1003.29 | 0.028300 | 6.40 | 74.24 | 42.13 | 1.48 |
| a | 135.26* | PF 3 | 360.00 | 998.76 | 1001.18 | 1001.48 | 1002.64 | 0.022927 | 5.50 | 68.89 | 41.64 | 1.32 |
| | | | | | | | | | | | | |
| a | 134.74* | PF 1 | 287.00 | 998.72 | 1001.02 | 1001.16 | 1002.03 | 0.017803 | 4.57 | 65.85 | 42.92 | 1.14 |
| a | 134.74* | PF 2 | 450.00 | 998.72 | 1001.29 | 1001.79 | 1003.10 | 0.026138 | 6.13 | 77.50 | 44.01 | 1.42 |
| a | 134.74* | PF 3 | 360.00 | 998.72 | 1001.19 | 1001.45 | 1002.49 | 0.019985 | 5.18 | 73.25 | 43.61 | 1.23 |
| | | | | | | | | | | | | |
| a | 134.21* | PF 1 | 287.00 | 998.69 | 1000.95 | 1001.10 | 1001.95 | 0.018612 | 4.55 | 66.09 | 44.52 | 1.16 |
| a | 134.21* | PF 2 | 450.00 | 998.69 | 1001.28 | 1001.65 | 1002.93 | 0.023793 | 5.85 | 81.23 | 45.95 | 1.36 |
| a | 134.21* | PF 3 | 360.00 | 998.69 | 1001.15 | 1001.37 | 1002.38 | 0.019415 | 5.04 | 75.21 | 45.39 | 1.21 |
| | | | | | | | | | | | | |
| a | 133.68* | PF 1 | 287.00 | 998.65 | 1001.08 | 1001.03 | 1001.85 | 0.012873 | 4.00 | 75.48 | 47.02 | 0.98 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 133.68* | PF 2 | 450.00 | 998.65 | 1001.29 | 1001.62 | 1002.78 | 0.021370 | 5.57 | 85.46 | 48.01 | 1.29 |
| a | 133.68* | PF 3 | 360.00 | 998.65 | 1001.11 | 1001.30 | 1002.27 | 0.018781 | 4.90 | 77.30 | 47.19 | 1.19 |
| | | | | | | | | | | | | |
| a | 133.16* | PF 1 | 287.00 | 998.62 | 1001.05 | 1000.97 | 1001.77 | 0.012256 | 3.87 | 77.91 | 48.87 | 0.95 |
| a | 133.16* | PF 2 | 450.00 | 998.62 | 1001.30 | 1001.54 | 1002.63 | 0.018977 | 5.28 | 90.20 | 50.21 | 1.21 |
| a | 133.16* | PF 3 | 360.00 | 998.62 | 1001.24 | 1001.24 | 1002.15 | 0.013366 | 4.35 | 87.49 | 49.88 | 1.01 |
| | | | | | | | | | | | | |
| a | 132.63* | PF 1 | 287.00 | 998.58 | 1001.02 | 1000.91 | 1001.70 | 0.011745 | 3.75 | 80.22 | 50.74 | 0.93 |
| a | 132.63* | PF 2 | 450.00 | 998.58 | 1001.26 | 1001.47 | 1002.53 | 0.018447 | 5.14 | 92.46 | 52.19 | 1.19 |
| a | 132.63* | PF 3 | 360.00 | 998.58 | 1001.22 | 1001.17 | 1002.07 | 0.012528 | 4.19 | 90.73 | 51.96 | 0.98 |
| | | | | | | | | | | | | |
| a | 132.11* | PF 1 | 287.00 | 998.55 | 1000.99 | 1000.86 | 1001.63 | 0.011296 | 3.65 | 82.46 | 52.62 | 0.91 |
| a | 132.11* | PF 2 | 450.00 | 998.55 | 1001.22 | 1001.40 | 1002.43 | 0.018071 | 5.03 | 94.51 | 54.20 | 1.18 |
| a | 132.11* | PF 3 | 360.00 | 998.55 | 1001.21 | 1001.11 | 1001.99 | 0.011784 | 4.04 | 93.94 | 54.12 | 0.95 |
| | | | | | | | | | | | | |
| a | 131.58* | PF 1 | 287.00 | 998.51 | 1000.96 | 1000.80 | 1001.57 | 0.010911 | 3.55 | 84.61 | 54.52 | 0.89 |
| a | 131.58* | PF 2 | 450.00 | 998.51 | 1001.15 | 1001.34 | 1002.34 | 0.018467 | 4.98 | 95.26 | 56.09 | 1.18 |
| a | 131.58* | PF 3 | 360.00 | 998.51 | 1001.18 | 1001.05 | 1001.92 | 0.011131 | 3.91 | 97.12 | 56.45 | 0.92 |
| | | | | | | | | | | | | |
| a | 131.05* | PF 1 | 287.00 | 998.48 | 1000.93 | 1000.75 | 1001.50 | 0.010565 | 3.46 | 86.71 | 56.43 | 0.88 |
| a | 131.05* | PF 2 | 450.00 | 998.48 | 1001.42 | 1001.27 | 1002.24 | 0.010542 | 4.14 | 116.15 | 62.36 | 0.91 |
| a | 131.05* | PF 3 | 360.00 | 998.48 | 1001.16 | 1000.99 | 1001.85 | 0.010531 | 3.78 | 100.33 | 59.02 | 0.89 |
| | | | | | | | | | | | | |
| a | 130.53* | PF 1 | 287.00 | 998.44 | 1000.90 | | 1001.44 | 0.010270 | 3.37 | 88.71 | 58.37 | 0.86 |
| a | 130.53* | PF 2 | 450.00 | 998.44 | 1001.42 | 1001.21 | 1002.17 | 0.009690 | 3.97 | 121.30 | 65.42 | 0.88 |
| a | 130.53* | PF 3 | 360.00 | 998.44 | 1001.14 | 1000.93 | 1001.79 | 0.009983 | 3.66 | 103.59 | 61.79 | 0.87 |
| | | | | | | | | | | | | |
| a | 130 | PF 1 | 287.00 | 998.41 | 1000.86 | | 1001.39 | 0.010033 | 3.29 | 90.59 | 60.53 | 0.85 |
| a | 130 | PF 2 | 450.00 | 998.41 | 1001.42 | 1001.16 | 1002.11 | 0.008889 | 3.81 | 126.69 | 67.71 | 0.84 |
| a | 130 | PF 3 | 360.00 | 998.41 | 1001.12 | 1000.88 | 1001.73 | 0.009465 | 3.55 | 106.95 | 64.84 | 0.84 |
| | | | | | | | | | | | | |
| a | 129.50* | PF 1 | 287.00 | 998.36 | 1000.85 | | 1001.33 | 0.008543 | 3.17 | 95.07 | 62.03 | 0.79 |
| a | 129.50* | PF 2 | 450.00 | 998.36 | 1001.42 | | 1002.05 | 0.007662 | 3.66 | 132.79 | 68.44 | 0.79 |
| a | 129.50* | PF 3 | 360.00 | 998.36 | 1001.12 | | 1001.67 | 0.008115 | 3.41 | 112.27 | 66.54 | 0.79 |
| | | | | | | | | | | | | |
| a | 129.00* | PF 1 | 287.00 | 998.31 | 1000.84 | | 1001.28 | 0.007354 | 3.05 | 99.49 | 63.71 | 0.74 |
| a | 129.00* | PF 2 | 450.00 | 998.31 | 1001.42 | | 1002.00 | 0.006693 | 3.53 | 138.60 | 69.18 | 0.74 |
| a | 129.00* | PF 3 | 360.00 | 998.31 | 1001.11 | | 1001.62 | 0.007026 | 3.29 | 117.52 | 67.66 | 0.74 |
| | | | | | | | | | | | | |
| a | 128.50* | PF 1 | 287.00 | 998.26 | 1000.82 | | 1001.24 | 0.006389 | 2.94 | 103.89 | 65.45 | 0.70 |
| a | 128.50* | PF 2 | 450.00 | 998.26 | 1001.41 | | 1001.96 | 0.005913 | 3.41 | 144.17 | 69.92 | 0.70 |
| a | 128.50* | PF 3 | 360.00 | 998.26 | 1001.10 | | 1001.58 | 0.006147 | 3.17 | 122.61 | 68.59 | 0.70 |
| | | | | | | | | | | | | |
| a | 128.00* | PF 1 | 287.00 | 998.21 | 1000.81 | | 1001.20 | 0.005609 | 2.84 | 108.21 | 67.27 | 0.66 |
| a | 128.00* | PF 2 | 450.00 | 998.21 | 1001.41 | | 1001.92 | 0.005281 | 3.30 | 149.47 | 70.67 | 0.67 |
| a | 128.00* | PF 3 | 360.00 | 998.21 | 1001.10 | | 1001.54 | 0.005438 | 3.07 | 127.48 | 69.43 | 0.66 |
| | | | | | | | | | | | | |
| a | 127.50* | PF 1 | 287.00 | 998.16 | 1000.81 | | 1001.17 | 0.004963 | 2.75 | 112.48 | 68.33 | 0.62 |
| a | 127.50* | PF 2 | 450.00 | 998.16 | 1001.41 | | 1001.89 | 0.004763 | 3.21 | 154.50 | 71.43 | 0.64 |
| a | 127.50* | PF 3 | 360.00 | 998.16 | 1001.09 | | 1001.51 | 0.004858 | 2.97 | 132.16 | 70.21 | 0.63 |
| | | | | | | | | | | | | |
| a | 127.00* | PF 1 | 287.00 | 998.10 | 1000.80 | | 1001.14 | 0.004434 | 2.66 | 116.58 | 69.15 | 0.59 |
| a | 127.00* | PF 2 | 450.00 | 998.10 | 1001.40 | | 1001.86 | 0.004333 | 3.12 | 159.30 | 72.21 | 0.61 |
| a | 127.00* | PF 3 | 360.00 | 998.10 | 1001.08 | | 1001.48 | 0.004381 | 2.88 | 136.60 | 70.91 | 0.60 |
| | | | | | | | | | | | | |
| a | 126.50* | PF 1 | 287.00 | 998.05 | 1000.79 | | 1001.11 | 0.003996 | 2.58 | 120.50 | 69.91 | 0.56 |
| a | 126.50* | PF 2 | 450.00 | 998.05 | 1001.40 | | 1001.83 | 0.003973 | 3.04 | 163.86 | 72.99 | 0.59 |
| a | 126.50* | PF 3 | 360.00 | 998.05 | 1001.08 | | 1001.45 | 0.003984 | 2.81 | 140.83 | 71.60 | 0.58 |
| | | | | | | | | | | | | |
| a | 126.00* | PF 1 | 287.00 | 998.00 | 1000.79 | | 1001.09 | 0.003634 | 2.51 | 124.22 | 70.64 | 0.54 |
| a | 126.00* | PF 2 | 450.00 | 998.00 | 1001.39 | | 1001.81 | 0.003671 | 2.97 | 168.18 | 73.80 | 0.57 |
| a | 126.00* | PF 3 | 360.00 | 998.00 | 1001.07 | | 1001.43 | 0.003653 | 2.73 | 144.84 | 72.31 | 0.55 |
| | | | | | | | | | | | | |
| a | 125.50* | PF 1 | 287.00 | 997.95 | 1000.78 | | 1001.07 | 0.003332 | 2.45 | 127.74 | 71.34 | 0.52 |
| a | 125.50* | PF 2 | 450.00 | 997.95 | 1001.39 | | 1001.79 | 0.003416 | 2.91 | 172.26 | 74.62 | 0.55 |
| a | 125.50* | PF 3 | 360.00 | 997.95 | 1001.07 | | 1001.41 | 0.003376 | 2.67 | 148.61 | 73.02 | 0.53 |
| | | | | | | | | | | | | |
| a | 125.00* | PF 1 | 287.00 | 997.90 | 1000.77 | | 1001.05 | 0.003079 | 2.39 | 131.04 | 72.01 | 0.50 |
| a | 125.00* | PF 2 | 450.00 | 997.90 | 1001.38 | | 1001.77 | 0.003201 | 2.85 | 176.08 | 75.47 | 0.53 |
| a | 125.00* | PF 3 | 360.00 | 997.90 | 1001.06 | | 1001.39 | 0.003143 | 2.61 | 152.14 | 73.73 | 0.52 |
| | | | | | | | | | | | | |
| a | 124.50* | PF 1 | 287.00 | 997.85 | 1000.77 | | 1001.03 | 0.002867 | 2.34 | 134.13 | 72.65 | 0.49 |
| a | 124.50* | PF 2 | 450.00 | 997.85 | 1001.38 | | 1001.75 | 0.003017 | 2.80 | 179.68 | 76.35 | 0.52 |
| a | 124.50* | PF 3 | 360.00 | 997.85 | 1001.06 | | 1001.37 | 0.002946 | 2.56 | 155.45 | 74.46 | 0.50 |
| | | | | | | | | | | | | |
| a | 124.00* | PF 1 | 287.00 | 997.80 | 1000.76 | | 1001.02 | 0.002689 | 2.29 | 136.99 | 73.27 | 0.47 |
| a | 124.00* | PF 2 | 450.00 | 997.80 | 1001.37 | | 1001.73 | 0.002861 | 2.75 | 183.05 | 77.28 | 0.51 |
| a | 124.00* | PF 3 | 360.00 | 997.80 | 1001.05 | | 1001.35 | 0.002779 | 2.51 | 158.53 | 75.20 | 0.49 |
| | | | | | | | | | | | | |
| a | 123.50* | PF 1 | 287.00 | 997.75 | 1000.76 | | 1001.00 | 0.002539 | 2.25 | 139.62 | 73.86 | 0.46 |
| a | 123.50* | PF 2 | 450.00 | 997.75 | 1001.37 | | 1001.71 | 0.002729 | 2.71 | 186.18 | 78.26 | 0.49 |
| a | 123.50* | PF 3 | 360.00 | 997.75 | 1001.05 | | 1001.34 | 0.002639 | 2.47 | 161.35 | 75.96 | 0.48 |
| | | | | | | | | | | | | |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 123.00* | PF 1 | 287.00 | 997.70 | 1000.75 | | 1000.99 | 0.002413 | 2.21 | 142.03 | 74.40 | 0.45 |
| a | 123.00* | PF 2 | 450.00 | 997.70 | 1001.36 | | 1001.70 | 0.002616 | 2.67 | 189.08 | 79.32 | 0.49 |
| a | 123.00* | PF 3 | 360.00 | 997.70 | 1001.04 | | 1001.32 | 0.002520 | 2.43 | 163.95 | 76.74 | 0.47 |
| | | | | | | | | | | | | |
| a | 122.50* | PF 1 | 287.00 | 997.65 | 1000.74 | | 1000.97 | 0.002306 | 2.17 | 144.22 | 74.89 | 0.44 |
| a | 122.50* | PF 2 | 450.00 | 997.65 | 1001.36 | | 1001.68 | 0.002521 | 2.63 | 191.77 | 80.49 | 0.48 |
| a | 122.50* | PF 3 | 360.00 | 997.65 | 1001.03 | | 1001.31 | 0.002420 | 2.40 | 166.31 | 77.54 | 0.46 |
| | | | | | | | | | | | | |
| a | 122.00* | PF 1 | 287.00 | 997.59 | 1000.74 | | 1000.96 | 0.002218 | 2.14 | 146.18 | 75.28 | 0.43 |
| a | 122.00* | PF 2 | 450.00 | 997.59 | 1001.35 | | 1001.67 | 0.002442 | 2.60 | 194.24 | 81.84 | 0.47 |
| a | 122.00* | PF 3 | 360.00 | 997.59 | 1001.03 | | 1001.29 | 0.002337 | 2.37 | 168.44 | 78.39 | 0.45 |
| | | | | | | | | | | | | |
| a | 121.50* | PF 1 | 287.00 | 997.54 | 1000.73 | | 1000.95 | 0.002144 | 2.11 | 147.94 | 75.56 | 0.42 |
| a | 121.50* | PF 2 | 450.00 | 997.54 | 1001.34 | | 1001.65 | 0.002381 | 2.57 | 196.54 | 84.46 | 0.46 |
| a | 121.50* | PF 3 | 360.00 | 997.54 | 1001.02 | | 1001.28 | 0.002269 | 2.34 | 170.33 | 79.32 | 0.44 |
| | | | | | | | | | | | | |
| a | 121.00* | PF 1 | 287.00 | 997.49 | 1000.73 | | 1000.94 | 0.002085 | 2.09 | 149.46 | 75.57 | 0.42 |
| a | 121.00* | PF 2 | 450.00 | 997.49 | 1001.34 | | 1001.64 | 0.002330 | 2.55 | 198.84 | 88.30 | 0.46 |
| a | 121.00* | PF 3 | 360.00 | 997.49 | 1001.02 | | 1001.27 | 0.002215 | 2.31 | 171.96 | 80.40 | 0.44 |
| | | | | | | | | | | | | |
| a | 120.50* | PF 1 | 287.00 | 997.44 | 1000.72 | | 1000.92 | 0.002038 | 2.06 | 150.82 | 74.95 | 0.41 |
| a | 120.50* | PF 2 | 450.00 | 997.44 | 1001.33 | | 1001.63 | 0.002287 | 2.52 | 201.32 | 93.17 | 0.45 |
| a | 120.50* | PF 3 | 360.00 | 997.44 | 1001.01 | | 1001.26 | 0.002174 | 2.29 | 173.38 | 81.81 | 0.43 |
| | | | | | | | | | | | | |
| a | 120 | PF 1 | 287.00 | 997.39 | 1000.72 | | 1000.91 | 0.002002 | 2.04 | 152.15 | 72.21 | 0.41 |
| a | 120 | PF 2 | 450.00 | 997.39 | 1001.32 | | 1001.61 | 0.002249 | 2.50 | 204.05 | 97.69 | 0.45 |
| a | 120 | PF 3 | 360.00 | 997.39 | 1001.00 | | 1001.25 | 0.002145 | 2.27 | 174.62 | 84.42 | 0.43 |
| | | | | | | | | | | | | |
| a | 119.55* | PF 1 | 287.00 | 997.39 | 1000.70 | | 1000.90 | 0.002066 | 2.08 | 150.20 | 74.65 | 0.42 |
| a | 119.55* | PF 2 | 450.00 | 997.39 | 1001.30 | | 1001.60 | 0.002325 | 2.55 | 201.69 | 95.80 | 0.46 |
| a | 119.55* | PF 3 | 360.00 | 997.39 | 1000.98 | | 1001.23 | 0.002211 | 2.31 | 172.98 | 83.47 | 0.44 |
| | | | | | | | | | | | | |
| a | 119.10* | PF 1 | 287.00 | 997.38 | 1000.68 | | 1000.89 | 0.002135 | 2.13 | 148.46 | 76.91 | 0.42 |
| a | 119.10* | PF 2 | 450.00 | 997.38 | 1001.28 | | 1001.59 | 0.002408 | 2.60 | 199.28 | 94.02 | 0.47 |
| a | 119.10* | PF 3 | 360.00 | 997.38 | 1000.96 | | 1001.22 | 0.002283 | 2.36 | 171.26 | 82.53 | 0.45 |
| | | | | | | | | | | | | |
| a | 118.65* | PF 1 | 287.00 | 997.38 | 1000.66 | | 1000.88 | 0.002211 | 2.17 | 146.87 | 78.14 | 0.43 |
| a | 118.65* | PF 2 | 450.00 | 997.38 | 1001.26 | | 1001.58 | 0.002501 | 2.66 | 196.75 | 92.53 | 0.48 |
| a | 118.65* | PF 3 | 360.00 | 997.38 | 1000.94 | | 1001.21 | 0.002362 | 2.41 | 169.46 | 81.61 | 0.45 |
| | | | | | | | | | | | | |
| a | 118.20* | PF 1 | 287.00 | 997.37 | 1000.64 | | 1000.87 | 0.002292 | 2.22 | 145.30 | 77.76 | 0.44 |
| a | 118.20* | PF 2 | 450.00 | 997.37 | 1001.23 | | 1001.56 | 0.002607 | 2.72 | 194.09 | 91.25 | 0.49 |
| a | 118.20* | PF 3 | 360.00 | 997.37 | 1000.92 | | 1001.20 | 0.002449 | 2.46 | 167.56 | 80.71 | 0.46 |
| | | | | | | | | | | | | |
| a | 117.75* | PF 1 | 287.00 | 997.37 | 1000.62 | | 1000.86 | 0.002382 | 2.27 | 143.65 | 77.21 | 0.45 |
| a | 117.75* | PF 2 | 450.00 | 997.37 | 1001.20 | | 1001.55 | 0.002727 | 2.78 | 191.27 | 90.07 | 0.50 |
| a | 117.75* | PF 3 | 360.00 | 997.37 | 1000.90 | | 1001.18 | 0.002547 | 2.52 | 165.56 | 79.84 | 0.47 |
| | | | | | | | | | | | | |
| a | 117.30* | PF 1 | 287.00 | 997.37 | 1000.59 | | 1000.84 | 0.002482 | 2.33 | 141.93 | 76.59 | 0.46 |
| a | 117.30* | PF 2 | 450.00 | 997.37 | 1001.17 | | 1001.53 | 0.002864 | 2.86 | 188.29 | 89.01 | 0.51 |
| a | 117.30* | PF 3 | 360.00 | 997.37 | 1000.87 | | 1001.17 | 0.002655 | 2.58 | 163.45 | 79.01 | 0.48 |
| | | | | | | | | | | | | |
| a | 116.85* | PF 1 | 287.00 | 997.36 | 1000.57 | | 1000.83 | 0.002593 | 2.39 | 140.12 | 75.94 | 0.47 |
| a | 116.85* | PF 2 | 450.00 | 997.36 | 1001.14 | | 1001.52 | 0.003022 | 2.94 | 185.14 | 88.04 | 0.52 |
| a | 116.85* | PF 3 | 360.00 | 997.36 | 1000.85 | | 1001.16 | 0.002778 | 2.64 | 161.23 | 78.22 | 0.49 |
| | | | | | | | | | | | | |
| a | 116.40* | PF 1 | 287.00 | 997.36 | 1000.55 | | 1000.82 | 0.002720 | 2.45 | 138.20 | 75.30 | 0.48 |
| a | 116.40* | PF 2 | 450.00 | 997.36 | 1001.10 | | 1001.50 | 0.003206 | 3.02 | 181.77 | 87.15 | 0.54 |
| a | 116.40* | PF 3 | 360.00 | 997.36 | 1000.82 | | 1001.14 | 0.002918 | 2.71 | 158.89 | 77.50 | 0.51 |
| | | | | | | | | | | | | |
| a | 115.95* | PF 1 | 287.00 | 997.35 | 1000.52 | | 1000.80 | 0.002864 | 2.52 | 136.16 | 74.68 | 0.49 |
| a | 115.95* | PF 2 | 450.00 | 997.35 | 1001.06 | | 1001.48 | 0.003424 | 3.12 | 178.16 | 86.35 | 0.56 |
| a | 115.95* | PF 3 | 360.00 | 997.35 | 1000.79 | | 1001.12 | 0.003076 | 2.78 | 156.43 | 76.84 | 0.52 |
| | | | | | | | | | | | | |
| a | 115.50* | PF 1 | 287.00 | 997.35 | 1000.49 | | 1000.78 | 0.003028 | 2.59 | 134.02 | 74.10 | 0.51 |
| a | 115.50* | PF 2 | 450.00 | 997.35 | 1001.04 | | 1001.46 | 0.003552 | 3.18 | 175.96 | 84.43 | 0.57 |
| a | 115.50* | PF 3 | 360.00 | 997.35 | 1000.75 | | 1001.11 | 0.003258 | 2.87 | 153.86 | 76.27 | 0.54 |
| | | | | | | | | | | | | |
| a | 115.05* | PF 1 | 287.00 | 997.35 | 1000.46 | | 1000.77 | 0.003219 | 2.68 | 131.73 | 73.61 | 0.52 |
| a | 115.05* | PF 2 | 450.00 | 997.35 | 1001.00 | | 1001.44 | 0.003762 | 3.27 | 173.14 | 79.50 | 0.59 |
| a | 115.05* | PF 3 | 360.00 | 997.35 | 1000.72 | | 1001.09 | 0.003470 | 2.96 | 151.15 | 75.81 | 0.55 |
| | | | | | | | | | | | | |
| a | 114.60* | PF 1 | 287.00 | 997.34 | 1000.43 | | 1000.75 | 0.003445 | 2.77 | 129.30 | 73.23 | 0.54 |
| a | 114.60* | PF 2 | 450.00 | 997.34 | 1000.96 | | 1001.42 | 0.003993 | 3.37 | 170.32 | 78.88 | 0.60 |
| a | 114.60* | PF 3 | 360.00 | 997.34 | 1000.67 | | 1001.07 | 0.003798 | 3.08 | 147.82 | 76.84 | 0.58 |
| | | | | | | | | | | | | |
| a | 114.15* | PF 1 | 287.00 | 997.34 | 1000.39 | | 1000.73 | 0.003716 | 2.87 | 126.69 | 73.01 | 0.56 |
| a | 114.15* | PF 2 | 450.00 | 997.34 | 1000.92 | | 1001.40 | 0.004249 | 3.47 | 167.45 | 78.20 | 0.62 |
| a | 114.15* | PF 3 | 360.00 | 997.34 | 1000.63 | | 1001.05 | 0.004050 | 3.18 | 145.32 | 76.30 | 0.60 |
| | | | | | | | | | | | | |
| a | 113.70* | PF 1 | 287.00 | 997.33 | 1000.34 | | 1000.71 | 0.004108 | 3.00 | 123.65 | 74.11 | 0.59 |
| a | 113.70* | PF 2 | 450.00 | 997.33 | 1000.88 | | 1001.38 | 0.004537 | 3.57 | 164.47 | 77.49 | 0.64 |
| a | 113.70* | PF 3 | 360.00 | 997.33 | 1000.59 | | 1001.02 | 0.004333 | 3.28 | 142.76 | 75.71 | 0.62 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 113.25* | PF 1 | 287.00 | 997.33 | 1000.30 | | 1000.69 | 0.004427 | 3.11 | 121.31 | 73.56 | 0.61 |
| a | 113.25* | PF 2 | 450.00 | 997.33 | 1000.83 | | 1001.35 | 0.004863 | 3.69 | 161.36 | 76.71 | 0.66 |
| a | 113.25* | PF 3 | 360.00 | 997.33 | 1000.55 | | 1001.00 | 0.004657 | 3.39 | 140.05 | 75.07 | 0.64 |
| a | 112.80* | PF 1 | 287.00 | 997.33 | 1000.26 | | 1000.66 | 0.004785 | 3.22 | 118.94 | 72.96 | 0.64 |
| a | 112.80* | PF 2 | 450.00 | 997.33 | 1000.79 | | 1001.33 | 0.005213 | 3.80 | 158.28 | 75.74 | 0.69 |
| a | 112.80* | PF 3 | 360.00 | 997.33 | 1000.51 | | 1000.98 | 0.005024 | 3.50 | 137.28 | 74.38 | 0.66 |
| a | 112.35* | PF 1 | 287.00 | 997.32 | 1000.21 | | 1000.64 | 0.005217 | 3.34 | 116.34 | 72.31 | 0.67 |
| a | 112.35* | PF 2 | 450.00 | 997.32 | 1000.73 | | 1001.30 | 0.005639 | 3.93 | 154.87 | 74.81 | 0.71 |
| a | 112.35* | PF 3 | 360.00 | 997.32 | 1000.46 | | 1000.95 | 0.005460 | 3.63 | 134.29 | 73.66 | 0.69 |
| a | 111.90* | PF 1 | 287.00 | 997.32 | 1000.16 | | 1000.61 | 0.005753 | 3.48 | 113.40 | 71.61 | 0.70 |
| a | 111.90* | PF 2 | 450.00 | 997.32 | 1000.67 | | 1001.27 | 0.006175 | 4.08 | 151.00 | 73.91 | 0.75 |
| a | 111.90* | PF 3 | 360.00 | 997.32 | 1000.40 | | 1000.92 | 0.006003 | 3.77 | 130.91 | 72.88 | 0.72 |
| a | 111.45* | PF 1 | 287.00 | 997.31 | 1000.10 | | 1000.58 | 0.006444 | 3.64 | 110.04 | 70.85 | 0.74 |
| a | 111.45* | PF 2 | 450.00 | 997.31 | 1000.60 | 1000.36 | 1001.23 | 0.006906 | 4.26 | 146.38 | 73.13 | 0.79 |
| a | 111.45* | PF 3 | 360.00 | 997.31 | 1000.34 | 1000.12 | 1000.88 | 0.006689 | 3.94 | 127.09 | 71.99 | 0.76 |
| a | 111 | PF 1 | 287.00 | 997.31 | 999.89 | 999.89 | 1000.52 | 0.009704 | 4.22 | 96.47 | 69.36 | 0.89 |
| a | 111 | PF 2 | 450.00 | 997.31 | 1000.34 | 1000.34 | 1001.17 | 0.010481 | 4.94 | 128.13 | 71.54 | 0.95 |
| a | 111 | PF 3 | 360.00 | 997.31 | 1000.10 | 1000.10 | 1000.83 | 0.010169 | 4.57 | 111.10 | 70.38 | 0.92 |
| a | 110.67* | PF 1 | 287.00 | 997.06 | 999.34 | 999.64 | 1000.41 | 0.018804 | 5.35 | 76.15 | 67.92 | 1.21 |
| a | 110.67* | PF 2 | 450.00 | 997.06 | 999.76 | 1000.09 | 1001.05 | 0.018925 | 6.08 | 104.58 | 69.93 | 1.25 |
| a | 110.67* | PF 3 | 360.00 | 997.06 | 999.54 | 999.85 | 1000.71 | 0.018912 | 5.71 | 89.46 | 68.87 | 1.23 |
| a | 110.33* | PF 1 | 287.00 | 996.81 | 999.01 | 999.39 | 1000.29 | 0.023486 | 5.80 | 70.15 | 67.49 | 1.34 |
| a | 110.33* | PF 2 | 450.00 | 996.81 | 999.40 | 999.84 | 1000.93 | 0.023352 | 6.56 | 97.19 | 69.41 | 1.38 |
| a | 110.33* | PF 3 | 360.00 | 996.81 | 999.19 | 999.60 | 1000.59 | 0.023478 | 6.17 | 82.81 | 68.40 | 1.36 |
| a | 110 | PF 1 | 287.00 | 996.56 | 998.70 | 999.14 | 1000.14 | 0.027142 | 6.12 | 66.44 | 67.23 | 1.43 |
| a | 110 | PF 2 | 450.00 | 996.56 | 1000.01 | 999.59 | 1000.53 | 0.005598 | 3.96 | 158.45 | 73.57 | 0.71 |
| a | 110 | PF 3 | 360.00 | 996.56 | 999.69 | 999.35 | 1000.16 | 0.005699 | 3.73 | 135.42 | 72.03 | 0.71 |
| a | 108 | | Bridge | | | | | | | | | |
| a | 105 | PF 1 | 287.00 | 995.81 | 998.92 | 998.39 | 999.23 | 0.003755 | 3.01 | 133.78 | 71.92 | 0.57 |
| a | 105 | PF 2 | 450.00 | 995.81 | 999.33 | | 999.82 | 0.005043 | 3.82 | 164.12 | 73.94 | 0.68 |
| a | 105 | PF 3 | 360.00 | 995.81 | 999.20 | | 999.56 | 0.003884 | 3.26 | 154.19 | 73.29 | 0.59 |
| a | 104.79* | PF 1 | 287.00 | 995.81 | 998.90 | 998.39 | 999.21 | 0.003835 | 3.01 | 133.60 | 73.01 | 0.58 |
| a | 104.79* | PF 2 | 450.00 | 995.81 | 999.31 | | 999.80 | 0.005160 | 3.83 | 163.89 | 76.89 | 0.68 |
| a | 104.79* | PF 3 | 360.00 | 995.81 | 999.18 | | 999.54 | 0.003939 | 3.26 | 154.39 | 74.45 | 0.59 |
| a | 104.58* | PF 1 | 287.00 | 995.80 | 998.88 | | 999.19 | 0.003930 | 3.02 | 133.28 | 74.11 | 0.58 |
| a | 104.58* | PF 2 | 450.00 | 995.80 | 999.28 | | 999.77 | 0.005292 | 3.84 | 163.71 | 81.31 | 0.69 |
| a | 104.58* | PF 3 | 360.00 | 995.80 | 999.16 | | 999.52 | 0.004003 | 3.25 | 154.50 | 75.64 | 0.60 |
| a | 104.38* | PF 1 | 287.00 | 995.80 | 998.86 | | 999.17 | 0.004035 | 3.03 | 132.90 | 75.25 | 0.59 |
| a | 104.38* | PF 2 | 450.00 | 995.80 | 999.25 | | 999.74 | 0.005437 | 3.85 | 163.71 | 86.36 | 0.70 |
| a | 104.38* | PF 3 | 360.00 | 995.80 | 999.14 | | 999.50 | 0.004070 | 3.25 | 154.68 | 79.88 | 0.60 |
| a | 104.17* | PF 1 | 287.00 | 995.79 | 998.83 | | 999.15 | 0.004158 | 3.04 | 132.38 | 76.41 | 0.60 |
| a | 104.17* | PF 2 | 450.00 | 995.79 | 999.21 | | 999.74 | 0.006052 | 4.01 | 163.14 | 88.15 | 0.73 |
| a | 104.17* | PF 3 | 360.00 | 995.79 | 999.12 | | 999.47 | 0.004140 | 3.25 | 155.17 | 85.65 | 0.60 |
| a | 103.96* | PF 1 | 287.00 | 995.79 | 998.81 | | 999.13 | 0.004302 | 3.05 | 131.70 | 77.60 | 0.60 |
| a | 103.96* | PF 2 | 450.00 | 995.79 | 999.18 | | 999.71 | 0.006226 | 4.01 | 163.04 | 89.92 | 0.74 |
| a | 103.96* | PF 3 | 360.00 | 995.79 | 999.05 | | 999.45 | 0.004938 | 3.47 | 151.02 | 88.32 | 0.66 |
| a | 103.75* | PF 1 | 287.00 | 995.79 | 998.78 | | 999.10 | 0.004470 | 3.07 | 130.85 | 78.83 | 0.61 |
| a | 103.75* | PF 2 | 450.00 | 995.79 | 999.15 | | 999.68 | 0.006431 | 4.03 | 162.75 | 91.75 | 0.75 |
| a | 103.75* | PF 3 | 360.00 | 995.79 | 998.95 | | 999.39 | 0.005635 | 3.60 | 145.45 | 89.34 | 0.70 |
| a | 103.54* | PF 1 | 287.00 | 995.78 | 998.75 | | 999.08 | 0.004667 | 3.09 | 129.87 | 82.74 | 0.62 |
| a | 103.54* | PF 2 | 450.00 | 995.78 | 999.11 | | 999.65 | 0.006686 | 4.05 | 162.16 | 94.92 | 0.76 |
| a | 103.54* | PF 3 | 360.00 | 995.78 | 998.92 | | 999.36 | 0.005836 | 3.62 | 145.08 | 91.17 | 0.71 |
| a | 103.33* | PF 1 | 287.00 | 995.78 | 998.72 | | 999.06 | 0.004891 | 3.12 | 129.05 | 90.28 | 0.64 |
| a | 103.33* | PF 2 | 450.00 | 995.78 | 999.07 | | 999.61 | 0.006937 | 4.06 | 162.43 | 103.71 | 0.77 |
| a | 103.33* | PF 3 | 360.00 | 995.78 | 998.89 | | 999.33 | 0.006101 | 3.64 | 144.28 | 93.05 | 0.72 |
| a | 103.13* | PF 1 | 287.00 | 995.77 | 998.68 | | 999.05 | 0.005623 | 3.29 | 127.48 | 92.43 | 0.68 |
| a | 103.13* | PF 2 | 450.00 | 995.77 | 999.03 | | 999.58 | 0.007174 | 4.07 | 163.34 | 109.82 | 0.78 |
| a | 103.13* | PF 3 | 360.00 | 995.77 | 998.85 | | 999.30 | 0.006397 | 3.67 | 143.75 | 101.23 | 0.73 |
| a | 102.92* | PF 1 | 287.00 | 995.77 | 998.64 | | 999.02 | 0.005944 | 3.32 | 126.53 | 99.54 | 0.69 |
| a | 102.92* | PF 2 | 450.00 | 995.77 | 998.99 | 998.84 | 999.54 | 0.007579 | 4.12 | 163.66 | 116.78 | 0.80 |
| a | 102.92* | PF 3 | 360.00 | 995.77 | 998.81 | | 999.27 | 0.006651 | 3.69 | 144.28 | 106.35 | 0.74 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 102.71* | PF 1 | 287.00 | 995.76 | 998.61 | | 998.99 | 0.006266 | 3.36 | 126.36 | 104.67 | 0.71 |
| a | 102.71* | PF 2 | 450.00 | 995.76 | 998.89 | 998.75 | 999.52 | 0.009084 | 4.37 | 158.44 | 118.83 | 0.87 |
| a | 102.71* | PF 3 | 360.00 | 995.76 | 998.78 | | 999.23 | 0.006909 | 3.70 | 145.12 | 112.30 | 0.75 |
| | | | | | | | | | | | | |
| a | 102.50* | PF 1 | 287.00 | 995.76 | 998.57 | | 998.96 | 0.006559 | 3.37 | 126.75 | 108.98 | 0.72 |
| a | 102.50* | PF 2 | 450.00 | 995.76 | 998.87 | 998.87 | 999.47 | 0.008942 | 4.29 | 161.76 | 121.10 | 0.86 |
| a | 102.50* | PF 3 | 360.00 | 995.76 | 998.74 | 998.61 | 999.20 | 0.007255 | 3.73 | 145.90 | 118.85 | 0.77 |
| | | | | | | | | | | | | |
| a | 102.29* | PF 1 | 287.00 | 995.76 | 998.54 | | 998.93 | 0.006867 | 3.39 | 127.41 | 115.19 | 0.73 |
| a | 102.29* | PF 2 | 450.00 | 995.76 | 998.78 | 998.84 | 999.41 | 0.010206 | 4.44 | 156.50 | 122.72 | 0.91 |
| a | 102.29* | PF 3 | 360.00 | 995.76 | 998.64 | 998.54 | 999.17 | 0.009039 | 4.01 | 139.08 | 121.25 | 0.85 |
| | | | | | | | | | | | | |
| a | 102.08* | PF 1 | 287.00 | 995.75 | 998.50 | 998.39 | 998.89 | 0.007290 | 3.43 | 127.90 | 121.80 | 0.75 |
| a | 102.08* | PF 2 | 450.00 | 995.75 | 998.75 | 998.79 | 999.35 | 0.010053 | 4.34 | 159.69 | 128.52 | 0.90 |
| a | 102.08* | PF 3 | 360.00 | 995.75 | 998.61 | 998.61 | 999.12 | 0.008942 | 3.93 | 141.85 | 123.57 | 0.84 |
| | | | | | | | | | | | | |
| a | 101.88* | PF 1 | 287.00 | 995.75 | 998.40 | 998.34 | 998.86 | 0.008810 | 3.67 | 121.96 | 122.97 | 0.82 |
| a | 101.88* | PF 2 | 450.00 | 995.75 | 998.67 | 998.73 | 999.30 | 0.011213 | 4.45 | 156.25 | 134.15 | 0.94 |
| a | 101.88* | PF 3 | 360.00 | 995.75 | 998.53 | 998.57 | 999.06 | 0.010113 | 4.06 | 137.47 | 125.04 | 0.89 |
| | | | | | | | | | | | | |
| a | 101.67* | PF 1 | 287.00 | 995.74 | 998.38 | 998.38 | 998.80 | 0.008534 | 3.58 | 124.93 | 125.60 | 0.81 |
| a | 101.67* | PF 2 | 450.00 | 995.74 | 998.65 | 998.69 | 999.23 | 0.010747 | 4.31 | 161.70 | 140.92 | 0.92 |
| a | 101.67* | PF 3 | 360.00 | 995.74 | 998.50 | 998.53 | 999.01 | 0.009825 | 3.97 | 140.97 | 134.32 | 0.87 |
| | | | | | | | | | | | | |
| a | 101.46* | PF 1 | 287.00 | 995.74 | 998.28 | 998.33 | 998.75 | 0.009905 | 3.76 | 119.67 | 132.05 | 0.86 |
| a | 101.46* | PF 2 | 450.00 | 995.74 | 998.62 | 998.60 | 999.16 | 0.010284 | 4.18 | 167.38 | 148.19 | 0.90 |
| a | 101.46* | PF 3 | 360.00 | 995.74 | 998.42 | 998.48 | 998.95 | 0.010855 | 4.08 | 137.94 | 138.45 | 0.91 |
| | | | | | | | | | | | | |
| a | 101.25* | PF 1 | 287.00 | 995.73 | 998.28 | 998.28 | 998.69 | 0.008947 | 3.56 | 126.91 | 140.39 | 0.82 |
| a | 101.25* | PF 2 | 450.00 | 995.73 | 998.61 | 998.61 | 999.10 | 0.009613 | 4.03 | 175.54 | 151.57 | 0.87 |
| a | 101.25* | PF 3 | 360.00 | 995.73 | 998.34 | 998.40 | 998.90 | 0.011745 | 4.16 | 136.32 | 143.85 | 0.94 |
| | | | | | | | | | | | | |
| a | 101.04* | PF 1 | 287.00 | 995.73 | 998.16 | 998.21 | 998.63 | 0.010892 | 3.80 | 119.77 | 144.47 | 0.90 |
| a | 101.04* | PF 2 | 450.00 | 995.73 | 998.57 | 998.53 | 999.02 | 0.009065 | 3.87 | 180.78 | 152.80 | 0.84 |
| a | 101.04* | PF 3 | 360.00 | 995.73 | 998.34 | 998.38 | 998.82 | 0.010571 | 3.93 | 145.53 | 150.65 | 0.89 |
| | | | | | | | | | | | | |
| a | 100.83* | PF 1 | 287.00 | 995.73 | 998.19 | 998.18 | 998.55 | 0.008729 | 3.42 | 133.49 | 150.93 | 0.80 |
| a | 100.83* | PF 2 | 450.00 | 995.73 | 998.58 | | 998.95 | 0.007617 | 3.55 | 193.63 | 154.44 | 0.77 |
| a | 100.83* | PF 3 | 360.00 | 995.73 | 998.38 | 998.30 | 998.74 | 0.008004 | 3.46 | 162.68 | 152.65 | 0.78 |
| | | | | | | | | | | | | |
| a | 100.63* | PF 1 | 287.00 | 995.72 | 998.21 | | 998.49 | 0.006869 | 3.05 | 147.46 | 152.73 | 0.71 |
| a | 100.63* | PF 2 | 450.00 | 995.72 | 998.58 | | 998.90 | 0.006529 | 3.29 | 205.59 | 155.99 | 0.71 |
| a | 100.63* | PF 3 | 360.00 | 995.72 | 998.39 | | 998.68 | 0.006657 | 3.16 | 175.14 | 154.29 | 0.71 |
| | | | | | | | | | | | | |
| a | 100.42* | PF 1 | 287.00 | 995.72 | 998.21 | | 998.44 | 0.005663 | 2.77 | 159.51 | 154.37 | 0.65 |
| a | 100.42* | PF 2 | 450.00 | 995.72 | 998.58 | | 998.86 | 0.005658 | 3.06 | 217.21 | 157.48 | 0.66 |
| a | 100.42* | PF 3 | 360.00 | 995.72 | 998.39 | | 998.64 | 0.005644 | 2.91 | 186.88 | 155.85 | 0.65 |
| | | | | | | | | | | | | |
| a | 100.21* | PF 1 | 287.00 | 995.71 | 998.21 | | 998.41 | 0.004747 | 2.53 | 171.04 | 155.94 | 0.59 |
| a | 100.21* | PF 2 | 450.00 | 995.71 | 998.58 | | 998.82 | 0.004931 | 2.85 | 228.78 | 158.93 | 0.62 |
| a | 100.21* | PF 3 | 360.00 | 995.71 | 998.39 | | 998.60 | 0.004832 | 2.69 | 198.39 | 157.36 | 0.60 |
| | | | | | | | | | | | | |
| a | 100 | PF 1 | 287.00 | 995.71 | 998.21 | | 998.37 | 0.004018 | 2.33 | 182.45 | 157.46 | 0.54 |
| a | 100 | PF 2 | 450.00 | 995.71 | 998.58 | | 998.79 | 0.004317 | 2.67 | 240.38 | 160.36 | 0.58 |
| a | 100 | PF 3 | 360.00 | 995.71 | 998.39 | | 998.57 | 0.004165 | 2.49 | 209.87 | 158.84 | 0.56 |
| | | | | | | | | | | | | |
| a | 99.688* | PF 1 | 287.00 | 995.70 | 998.19 | | 998.35 | 0.004048 | 2.33 | 182.27 | 157.87 | 0.55 |
| a | 99.688* | PF 2 | 450.00 | 995.70 | 998.56 | | 998.77 | 0.004350 | 2.67 | 240.08 | 160.80 | 0.58 |
| a | 99.688* | PF 3 | 360.00 | 995.70 | 998.37 | | 998.55 | 0.004197 | 2.50 | 209.62 | 159.26 | 0.56 |
| | | | | | | | | | | | | |
| a | 99.375* | PF 1 | 287.00 | 995.69 | 998.17 | | 998.33 | 0.004076 | 2.34 | 182.13 | 158.28 | 0.55 |
| a | 99.375* | PF 2 | 450.00 | 995.69 | 998.53 | | 998.75 | 0.004382 | 2.68 | 239.83 | 161.26 | 0.58 |
| a | 99.375* | PF 3 | 360.00 | 995.69 | 998.34 | | 998.53 | 0.004227 | 2.50 | 209.41 | 159.70 | 0.56 |
| | | | | | | | | | | | | |
| a | 99.063* | PF 1 | 287.00 | 995.69 | 998.15 | | 998.31 | 0.004108 | 2.34 | 181.92 | 158.70 | 0.55 |
| a | 99.063* | PF 2 | 450.00 | 995.69 | 998.51 | | 998.73 | 0.004417 | 2.68 | 239.50 | 161.72 | 0.58 |
| a | 99.063* | PF 3 | 360.00 | 995.69 | 998.32 | | 998.51 | 0.004262 | 2.51 | 209.13 | 160.13 | 0.57 |
| | | | | | | | | | | | | |
| a | 98.750* | PF 1 | 287.00 | 995.68 | 998.13 | | 998.29 | 0.004141 | 2.35 | 181.72 | 159.13 | 0.55 |
| a | 98.750* | PF 2 | 450.00 | 995.68 | 998.49 | | 998.70 | 0.004452 | 2.69 | 239.18 | 162.19 | 0.59 |
| a | 98.750* | PF 3 | 360.00 | 995.68 | 998.30 | | 998.49 | 0.004296 | 2.51 | 208.87 | 160.58 | 0.57 |
| | | | | | | | | | | | | |
| a | 98.438* | PF 1 | 287.00 | 995.67 | 998.11 | | 998.27 | 0.004179 | 2.35 | 181.43 | 159.56 | 0.56 |
| a | 98.438* | PF 2 | 450.00 | 995.67 | 998.46 | | 998.68 | 0.004494 | 2.70 | 238.76 | 162.68 | 0.59 |
| a | 98.438* | PF 3 | 360.00 | 995.67 | 998.28 | | 998.47 | 0.004336 | 2.52 | 208.50 | 161.04 | 0.57 |
| | | | | | | | | | | | | |
| a | 98.125* | PF 1 | 287.00 | 995.66 | 998.09 | | 998.25 | 0.004214 | 2.36 | 181.18 | 160.01 | 0.56 |
| a | 98.125* | PF 2 | 450.00 | 995.66 | 998.44 | | 998.66 | 0.004533 | 2.70 | 238.39 | 163.18 | 0.59 |
| a | 98.125* | PF 3 | 360.00 | 995.66 | 998.26 | | 998.44 | 0.004375 | 2.52 | 208.18 | 161.51 | 0.57 |
| | | | | | | | | | | | | |
| a | 97.813* | PF 1 | 287.00 | 995.65 | 998.07 | | 998.23 | 0.004251 | 2.36 | 180.90 | 160.46 | 0.56 |
| a | 97.813* | PF 2 | 450.00 | 995.65 | 998.42 | | 998.64 | 0.004574 | 2.71 | 238.00 | 163.69 | 0.60 |
| a | 97.813* | PF 3 | 360.00 | 995.65 | 998.23 | | 998.42 | 0.004414 | 2.53 | 207.84 | 161.99 | 0.58 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 97.500* | PF 1 | 287.00 | 995.65 | 998.04 | | 998.21 | 0.004292 | 2.37 | 180.59 | 160.93 | 0.56 |
| a | 97.500* | PF 2 | 450.00 | 995.65 | 998.39 | | 998.61 | 0.004619 | 2.72 | 237.56 | 164.22 | 0.60 |
| a | 97.500* | PF 3 | 360.00 | 995.65 | 998.21 | | 998.40 | 0.004457 | 2.54 | 207.46 | 162.49 | 0.58 |
| a | 97.188* | PF 1 | 287.00 | 995.64 | 998.02 | | 998.19 | 0.004333 | 2.38 | 180.27 | 161.41 | 0.57 |
| a | 97.188* | PF 2 | 450.00 | 995.64 | 998.37 | | 998.59 | 0.004664 | 2.72 | 237.13 | 164.77 | 0.60 |
| a | 97.188* | PF 3 | 360.00 | 995.64 | 998.19 | | 998.38 | 0.004500 | 2.54 | 207.08 | 163.00 | 0.58 |
| a | 96.875* | PF 1 | 287.00 | 995.63 | 998.00 | | 998.17 | 0.004380 | 2.38 | 179.89 | 161.90 | 0.57 |
| a | 96.875* | PF 2 | 450.00 | 995.63 | 998.35 | | 998.57 | 0.004714 | 2.73 | 236.63 | 165.34 | 0.60 |
| a | 96.875* | PF 3 | 360.00 | 995.63 | 998.16 | | 998.35 | 0.004550 | 2.55 | 206.62 | 163.53 | 0.59 |
| a | 96.563* | PF 1 | 287.00 | 995.62 | 997.98 | | 998.14 | 0.004426 | 2.39 | 179.51 | 162.42 | 0.57 |
| a | 96.563* | PF 2 | 450.00 | 995.62 | 998.32 | | 998.54 | 0.004767 | 2.74 | 236.10 | 165.94 | 0.61 |
| a | 96.563* | PF 3 | 360.00 | 995.62 | 998.14 | | 998.33 | 0.004599 | 2.56 | 206.18 | 164.09 | 0.59 |
| a | 96.250* | PF 1 | 287.00 | 995.61 | 997.95 | | 998.12 | 0.004476 | 2.40 | 179.10 | 162.96 | 0.57 |
| a | 96.250* | PF 2 | 450.00 | 995.61 | 998.29 | | 998.52 | 0.005016 | 2.80 | 234.70 | 170.38 | 0.62 |
| a | 96.250* | PF 3 | 360.00 | 995.61 | 998.11 | | 998.31 | 0.004651 | 2.57 | 205.71 | 164.67 | 0.59 |
| a | 95.938* | PF 1 | 287.00 | 995.60 | 997.93 | | 998.10 | 0.004530 | 2.41 | 178.65 | 163.52 | 0.58 |
| a | 95.938* | PF 2 | 450.00 | 995.60 | 998.26 | | 998.49 | 0.005073 | 2.81 | 234.17 | 171.04 | 0.63 |
| a | 95.938* | PF 3 | 360.00 | 995.60 | 998.09 | | 998.29 | 0.004708 | 2.58 | 205.20 | 165.28 | 0.60 |
| a | 95.625* | PF 1 | 287.00 | 995.60 | 997.90 | | 998.08 | 0.004581 | 2.42 | 178.24 | 164.10 | 0.58 |
| a | 95.625* | PF 2 | 450.00 | 995.60 | 998.24 | | 998.47 | 0.005114 | 2.82 | 233.88 | 171.68 | 0.63 |
| a | 95.625* | PF 3 | 360.00 | 995.60 | 998.07 | | 998.26 | 0.004764 | 2.59 | 204.75 | 168.42 | 0.60 |
| a | 95.313* | PF 1 | 287.00 | 995.59 | 997.88 | | 998.05 | 0.004650 | 2.43 | 177.61 | 164.71 | 0.59 |
| a | 95.313* | PF 2 | 450.00 | 995.59 | 998.21 | | 998.44 | 0.005165 | 2.82 | 233.42 | 172.28 | 0.63 |
| a | 95.313* | PF 3 | 360.00 | 995.59 | 998.03 | | 998.24 | 0.005002 | 2.64 | 203.52 | 170.31 | 0.61 |
| a | 95.000* | PF 1 | 287.00 | 995.58 | 997.85 | | 998.03 | 0.004718 | 2.44 | 177.06 | 167.54 | 0.59 |
| a | 95.000* | PF 2 | 450.00 | 995.58 | 998.18 | | 998.42 | 0.005213 | 2.83 | 233.00 | 172.85 | 0.63 |
| a | 95.000* | PF 3 | 360.00 | 995.58 | 998.01 | | 998.21 | 0.005051 | 2.65 | 203.14 | 170.92 | 0.62 |
| a | 94.688* | PF 1 | 287.00 | 995.57 | 997.82 | | 998.01 | 0.004959 | 2.49 | 175.83 | 169.65 | 0.60 |
| a | 94.688* | PF 2 | 450.00 | 995.57 | 998.15 | | 998.39 | 0.005266 | 2.84 | 232.51 | 173.43 | 0.64 |
| a | 94.688* | PF 3 | 360.00 | 995.57 | 997.98 | | 998.19 | 0.005103 | 2.66 | 202.71 | 171.51 | 0.62 |
| a | 94.375* | PF 1 | 287.00 | 995.56 | 997.80 | | 997.98 | 0.005008 | 2.50 | 175.47 | 170.20 | 0.61 |
| a | 94.375* | PF 2 | 450.00 | 995.56 | 998.13 | | 998.36 | 0.005317 | 2.85 | 232.03 | 173.97 | 0.64 |
| a | 94.375* | PF 3 | 360.00 | 995.56 | 997.96 | | 998.16 | 0.005153 | 2.66 | 202.31 | 172.10 | 0.62 |
| a | 94.063* | PF 1 | 287.00 | 995.56 | 997.77 | | 997.96 | 0.005059 | 2.50 | 175.08 | 170.72 | 0.61 |
| a | 94.063* | PF 2 | 450.00 | 995.56 | 998.10 | | 998.34 | 0.005367 | 2.86 | 231.37 | 174.23 | 0.64 |
| a | 94.063* | PF 3 | 360.00 | 995.56 | 997.93 | | 998.14 | 0.005207 | 2.67 | 201.85 | 172.67 | 0.63 |
| a | 93.750* | PF 1 | 287.00 | 995.55 | 997.75 | | 997.93 | 0.005117 | 2.51 | 174.61 | 171.25 | 0.61 |
| a | 93.750* | PF 2 | 450.00 | 995.55 | 998.07 | | 998.31 | 0.005424 | 2.87 | 230.64 | 174.48 | 0.65 |
| a | 93.750* | PF 3 | 360.00 | 995.55 | 997.90 | | 998.11 | 0.005273 | 2.68 | 201.26 | 173.25 | 0.63 |
| a | 93.438* | PF 1 | 287.00 | 995.54 | 997.72 | | 997.91 | 0.005177 | 2.52 | 174.12 | 171.76 | 0.62 |
| a | 93.438* | PF 2 | 450.00 | 995.54 | 998.04 | | 998.28 | 0.005487 | 2.89 | 229.83 | 174.72 | 0.65 |
| a | 93.438* | PF 3 | 360.00 | 995.54 | 997.87 | | 998.08 | 0.005343 | 2.69 | 200.64 | 173.86 | 0.63 |
| a | 93.125* | PF 1 | 287.00 | 995.53 | 997.69 | | 997.88 | 0.005242 | 2.53 | 173.59 | 172.29 | 0.62 |
| a | 93.125* | PF 2 | 450.00 | 995.53 | 998.01 | | 998.26 | 0.005555 | 2.90 | 228.97 | 174.95 | 0.65 |
| a | 93.125* | PF 3 | 360.00 | 995.53 | 997.84 | | 998.06 | 0.005411 | 2.70 | 199.91 | 174.21 | 0.64 |
| a | 92.813* | PF 1 | 287.00 | 995.52 | 997.66 | | 997.85 | 0.005326 | 2.54 | 172.87 | 172.82 | 0.62 |
| a | 92.813* | PF 2 | 450.00 | 995.52 | 997.98 | | 998.23 | 0.005644 | 2.92 | 227.85 | 175.17 | 0.66 |
| a | 92.813* | PF 3 | 360.00 | 995.52 | 997.81 | | 998.03 | 0.005494 | 2.72 | 198.94 | 174.42 | 0.64 |
| a | 92.500* | PF 1 | 287.00 | 995.51 | 997.63 | | 997.83 | 0.005417 | 2.55 | 172.10 | 173.38 | 0.63 |
| a | 92.500* | PF 2 | 450.00 | 995.51 | 997.95 | | 998.20 | 0.005741 | 2.94 | 226.64 | 175.38 | 0.67 |
| a | 92.500* | PF 3 | 360.00 | 995.51 | 997.78 | | 998.00 | 0.005584 | 2.74 | 197.90 | 174.59 | 0.65 |
| a | 92.188* | PF 1 | 287.00 | 995.51 | 997.60 | | 997.80 | 0.005513 | 2.57 | 171.17 | 173.67 | 0.63 |
| a | 92.188* | PF 2 | 450.00 | 995.51 | 997.91 | | 998.17 | 0.005853 | 2.96 | 225.27 | 175.58 | 0.67 |
| a | 92.188* | PF 3 | 360.00 | 995.51 | 997.75 | | 997.97 | 0.005686 | 2.76 | 196.75 | 174.73 | 0.65 |
| a | 91.875* | PF 1 | 287.00 | 995.50 | 997.57 | | 997.77 | 0.005623 | 2.59 | 170.03 | 173.75 | 0.64 |
| a | 91.875* | PF 2 | 450.00 | 995.50 | 997.88 | | 998.14 | 0.005993 | 2.99 | 223.60 | 175.76 | 0.68 |
| a | 91.875* | PF 3 | 360.00 | 995.50 | 997.72 | | 997.95 | 0.005809 | 2.78 | 195.37 | 174.84 | 0.66 |
| a | 91.563* | PF 1 | 287.00 | 995.49 | 997.54 | | 997.74 | 0.005760 | 2.61 | 168.63 | 173.79 | 0.65 |
| a | 91.563* | PF 2 | 450.00 | 995.49 | 997.84 | | 998.11 | 0.006171 | 3.02 | 221.53 | 175.94 | 0.69 |
| a | 91.563* | PF 3 | 360.00 | 995.49 | 997.68 | | 997.92 | 0.005972 | 2.81 | 193.60 | 174.90 | 0.67 |
| a | 91.250* | PF 1 | 287.00 | 995.48 | 997.51 | | 997.71 | 0.005939 | 2.65 | 166.89 | 173.77 | 0.66 |
| a | 91.250* | PF 2 | 450.00 | 995.48 | 997.80 | | 998.08 | 0.006404 | 3.07 | 218.93 | 176.09 | 0.70 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 91.250* | PF 3 | 360.00 | 995.48 | 997.65 | | 997.89 | 0.006172 | 2.85 | 191.50 | 174.92 | 0.68 |
| | | | | | | | | | | | | |
| a | 90.938* | PF 1 | 287.00 | 995.47 | 997.47 | | 997.68 | 0.006156 | 2.68 | 164.85 | 173.69 | 0.67 |
| a | 90.938* | PF 2 | 450.00 | 995.47 | 997.76 | | 998.04 | 0.006693 | 3.12 | 215.85 | 176.20 | 0.72 |
| a | 90.938* | PF 3 | 360.00 | 995.47 | 997.61 | | 997.85 | 0.006429 | 2.89 | 188.92 | 174.88 | 0.69 |
| | | | | | | | | | | | | |
| a | 90.625* | PF 1 | 287.00 | 995.47 | 997.43 | | 997.65 | 0.006467 | 2.73 | 162.06 | 173.46 | 0.68 |
| a | 90.625* | PF 2 | 450.00 | 995.47 | 997.71 | | 998.01 | 0.007104 | 3.19 | 211.69 | 176.11 | 0.74 |
| a | 90.625* | PF 3 | 360.00 | 995.47 | 997.56 | | 997.82 | 0.006803 | 2.95 | 185.38 | 174.74 | 0.71 |
| | | | | | | | | | | | | |
| a | 90.313* | PF 1 | 287.00 | 995.46 | 997.38 | | 997.62 | 0.006919 | 2.80 | 158.33 | 173.11 | 0.71 |
| a | 90.313* | PF 2 | 450.00 | 995.46 | 997.65 | | 997.97 | 0.007722 | 3.29 | 205.95 | 175.87 | 0.76 |
| a | 90.313* | PF 3 | 360.00 | 995.46 | 997.51 | | 997.78 | 0.007347 | 3.04 | 180.65 | 174.46 | 0.74 |
| | | | | | | | | | | | | |
| a | 90 | PF 1 | 287.00 | 995.45 | 997.23 | 997.22 | 997.56 | 0.010781 | 3.31 | 135.99 | 171.66 | 0.87 |
| a | 90 | PF 2 | 450.00 | 995.45 | 997.48 | 997.46 | 997.91 | 0.011670 | 3.82 | 179.60 | 174.32 | 0.93 |
| a | 90 | PF 3 | 360.00 | 995.45 | 997.35 | 997.34 | 997.73 | 0.011203 | 3.55 | 156.73 | 172.93 | 0.90 |
| | | | | | | | | | | | | |
| a | 89.545* | PF 1 | 287.00 | 995.42 | 997.18 | 997.17 | 997.51 | 0.010889 | 3.27 | 137.53 | 175.10 | 0.87 |
| a | 89.545* | PF 2 | 450.00 | 995.42 | 997.43 | 997.41 | 997.85 | 0.011749 | 3.78 | 181.47 | 177.93 | 0.93 |
| a | 89.545* | PF 3 | 360.00 | 995.42 | 997.30 | 997.28 | 997.67 | 0.011290 | 3.52 | 158.45 | 176.45 | 0.90 |
| | | | | | | | | | | | | |
| a | 89.091* | PF 1 | 287.00 | 995.39 | 997.14 | 997.12 | 997.45 | 0.010955 | 3.24 | 139.21 | 178.60 | 0.87 |
| a | 89.091* | PF 2 | 450.00 | 995.39 | 997.38 | 997.35 | 997.79 | 0.011788 | 3.74 | 183.51 | 181.61 | 0.93 |
| a | 89.091* | PF 3 | 360.00 | 995.39 | 997.25 | 997.22 | 997.61 | 0.011341 | 3.47 | 160.30 | 180.05 | 0.90 |
| | | | | | | | | | | | | |
| a | 88.636* | PF 1 | 287.00 | 995.36 | 997.09 | 997.07 | 997.39 | 0.011033 | 3.20 | 140.80 | 182.15 | 0.87 |
| a | 88.636* | PF 2 | 450.00 | 995.36 | 997.33 | 997.29 | 997.72 | 0.011839 | 3.69 | 185.44 | 185.29 | 0.93 |
| a | 88.636* | PF 3 | 360.00 | 995.36 | 997.21 | 997.17 | 997.55 | 0.011422 | 3.43 | 161.96 | 183.70 | 0.90 |
| | | | | | | | | | | | | |
| a | 88.182* | PF 1 | 287.00 | 995.33 | 997.04 | 997.01 | 997.33 | 0.011095 | 3.16 | 142.39 | 185.77 | 0.87 |
| a | 88.182* | PF 2 | 450.00 | 995.33 | 997.28 | 997.24 | 997.66 | 0.011874 | 3.65 | 187.40 | 188.99 | 0.93 |
| a | 88.182* | PF 3 | 360.00 | 995.33 | 997.16 | 997.12 | 997.49 | 0.011478 | 3.39 | 163.70 | 187.42 | 0.90 |
| | | | | | | | | | | | | |
| a | 87.727* | PF 1 | 287.00 | 995.29 | 997.00 | 996.96 | 997.27 | 0.011190 | 3.13 | 143.78 | 189.45 | 0.87 |
| a | 87.727* | PF 2 | 450.00 | 995.29 | 997.23 | 997.18 | 997.60 | 0.011923 | 3.61 | 189.22 | 192.71 | 0.93 |
| a | 87.727* | PF 3 | 360.00 | 995.29 | 997.11 | 997.06 | 997.43 | 0.011554 | 3.36 | 165.28 | 191.15 | 0.90 |
| | | | | | | | | | | | | |
| a | 87.273* | PF 1 | 287.00 | 995.26 | 996.95 | | 997.22 | 0.011221 | 3.09 | 145.41 | 193.23 | 0.87 |
| a | 87.273* | PF 2 | 450.00 | 995.26 | 997.18 | 997.12 | 997.54 | 0.011910 | 3.56 | 191.32 | 196.48 | 0.92 |
| a | 87.273* | PF 3 | 360.00 | 995.26 | 997.06 | | 997.37 | 0.011561 | 3.32 | 167.12 | 194.88 | 0.90 |
| | | | | | | | | | | | | |
| a | 86.818* | PF 1 | 287.00 | 995.23 | 996.90 | | 997.16 | 0.011315 | 3.06 | 146.73 | 197.10 | 0.87 |
| a | 86.818* | PF 2 | 450.00 | 995.23 | 997.13 | | 997.47 | 0.011879 | 3.52 | 193.39 | 200.04 | 0.92 |
| a | 86.818* | PF 3 | 360.00 | 995.23 | 997.01 | | 997.31 | 0.011611 | 3.28 | 168.70 | 198.61 | 0.90 |
| | | | | | | | | | | | | |
| a | 86.364* | PF 1 | 287.00 | 995.20 | 996.85 | | 997.10 | 0.011376 | 3.03 | 148.10 | 200.85 | 0.87 |
| a | 86.364* | PF 2 | 450.00 | 995.20 | 997.08 | | 997.41 | 0.011803 | 3.47 | 195.63 | 203.59 | 0.92 |
| a | 86.364* | PF 3 | 360.00 | 995.20 | 996.96 | | 997.25 | 0.011635 | 3.24 | 170.35 | 202.38 | 0.90 |
| | | | | | | | | | | | | |
| a | 85.909* | PF 1 | 287.00 | 995.17 | 996.80 | | 997.04 | 0.011427 | 3.00 | 149.44 | 204.59 | 0.87 |
| a | 85.909* | PF 2 | 450.00 | 995.17 | 997.03 | | 997.35 | 0.011678 | 3.41 | 198.10 | 207.19 | 0.91 |
| a | 85.909* | PF 3 | 360.00 | 995.17 | 996.91 | | 997.19 | 0.011641 | 3.21 | 172.03 | 206.17 | 0.89 |
| | | | | | | | | | | | | |
| a | 85.455* | PF 1 | 287.00 | 995.14 | 996.75 | | 996.98 | 0.011394 | 2.96 | 151.09 | 208.38 | 0.87 |
| a | 85.455* | PF 2 | 450.00 | 995.14 | 996.98 | | 997.29 | 0.011434 | 3.35 | 201.21 | 210.86 | 0.90 |
| a | 85.455* | PF 3 | 360.00 | 995.14 | 996.86 | | 997.13 | 0.011536 | 3.16 | 174.15 | 209.82 | 0.89 |
| | | | | | | | | | | | | |
| a | 85.000* | PF 1 | 287.00 | 995.11 | 996.69 | | 996.92 | 0.011390 | 2.93 | 152.56 | 212.19 | 0.87 |
| a | 85.000* | PF 2 | 450.00 | 995.11 | 996.94 | | 997.23 | 0.011154 | 3.29 | 204.53 | 214.59 | 0.89 |
| a | 85.000* | PF 3 | 360.00 | 995.11 | 996.81 | | 997.07 | 0.011401 | 3.12 | 176.34 | 213.44 | 0.88 |
| | | | | | | | | | | | | |
| a | 84.545* | PF 1 | 287.00 | 995.07 | 996.64 | | 996.87 | 0.011296 | 2.90 | 154.37 | 216.06 | 0.86 |
| a | 84.545* | PF 2 | 450.00 | 995.07 | 996.89 | | 997.17 | 0.010756 | 3.22 | 208.63 | 219.56 | 0.87 |
| a | 84.545* | PF 3 | 360.00 | 995.07 | 996.76 | | 997.01 | 0.011166 | 3.07 | 179.02 | 217.15 | 0.87 |
| | | | | | | | | | | | | |
| a | 84.091* | PF 1 | 287.00 | 995.04 | 996.59 | | 996.81 | 0.011101 | 2.85 | 156.53 | 219.73 | 0.86 |
| a | 84.091* | PF 2 | 450.00 | 995.04 | 996.85 | | 997.12 | 0.010162 | 3.13 | 214.71 | 228.60 | 0.85 |
| a | 84.091* | PF 3 | 360.00 | 995.04 | 996.71 | | 996.95 | 0.010805 | 3.01 | 182.47 | 223.21 | 0.86 |
| | | | | | | | | | | | | |
| a | 83.636* | PF 1 | 287.00 | 995.01 | 996.55 | | 996.75 | 0.010761 | 2.80 | 159.59 | 227.23 | 0.84 |
| a | 83.636* | PF 2 | 450.00 | 995.01 | 996.82 | | 997.06 | 0.009351 | 3.02 | 223.33 | 237.53 | 0.81 |
| a | 83.636* | PF 3 | 360.00 | 995.01 | 996.67 | | 996.89 | 0.010223 | 2.93 | 187.84 | 231.85 | 0.83 |
| | | | | | | | | | | | | |
| a | 83.182* | PF 1 | 287.00 | 994.98 | 996.50 | | 996.70 | 0.010090 | 2.72 | 164.96 | 235.61 | 0.82 |
| a | 83.182* | PF 2 | 450.00 | 994.98 | 996.79 | | 997.01 | 0.008374 | 2.88 | 234.53 | 246.10 | 0.77 |
| a | 83.182* | PF 3 | 360.00 | 994.98 | 996.63 | | 996.84 | 0.009367 | 2.82 | 195.78 | 240.48 | 0.80 |
| | | | | | | | | | | | | |
| a | 82.727* | PF 1 | 287.00 | 994.95 | 996.47 | | 996.64 | 0.009081 | 2.60 | 173.04 | 244.09 | 0.78 |
| a | 82.727* | PF 2 | 450.00 | 994.95 | 996.77 | | 996.97 | 0.007310 | 2.73 | 248.51 | 256.50 | 0.72 |
| a | 82.727* | PF 3 | 360.00 | 994.95 | 996.61 | | 996.79 | 0.008275 | 2.68 | 206.53 | 248.85 | 0.75 |
| | | | | | | | | | | | | |
| a | 82.273* | PF 1 | 287.00 | 994.92 | 996.44 | | 996.60 | 0.007840 | 2.46 | 183.91 | 252.54 | 0.72 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 82.273* | PF 2 | 450.00 | 994.92 | 996.76 | | 996.93 | 0.006264 | 2.57 | 265.21 | 267.42 | 0.67 |
| a | 82.273* | PF 3 | 360.00 | 994.92 | 996.58 | | 996.75 | 0.007103 | 2.52 | 220.04 | 259.16 | 0.70 |
| | | | | | | | | | | | | |
| a | 81.818* | PF 1 | 287.00 | 994.88 | 996.42 | | 996.55 | 0.006534 | 2.29 | 197.81 | 262.95 | 0.66 |
| a | 81.818* | PF 2 | 450.00 | 994.88 | 996.74 | | 996.89 | 0.005331 | 2.42 | 284.44 | 278.09 | 0.62 |
| a | 81.818* | PF 3 | 360.00 | 994.88 | 996.57 | | 996.71 | 0.005957 | 2.36 | 236.42 | 270.21 | 0.65 |
| | | | | | | | | | | | | |
| a | 81.364* | PF 1 | 287.00 | 994.85 | 996.41 | | 996.52 | 0.005313 | 2.11 | 214.73 | 274.62 | 0.60 |
| a | 81.364* | PF 2 | 450.00 | 994.85 | 996.73 | | 996.86 | 0.004555 | 2.28 | 306.47 | 293.00 | 0.58 |
| a | 81.364* | PF 3 | 360.00 | 994.85 | 996.56 | | 996.67 | 0.004947 | 2.20 | 255.65 | 281.63 | 0.59 |
| | | | | | | | | | | | | |
| a | 80.909* | PF 1 | 287.00 | 994.82 | 996.40 | | 996.49 | 0.004293 | 1.95 | 234.60 | 287.71 | 0.55 |
| a | 80.909* | PF 2 | 450.00 | 994.82 | 996.73 | | 996.83 | 0.003684 | 2.10 | 332.68 | 305.83 | 0.52 |
| a | 80.909* | PF 3 | 360.00 | 994.82 | 996.55 | | 996.65 | 0.004124 | 2.05 | 277.99 | 299.89 | 0.54 |
| | | | | | | | | | | | | |
| a | 80.455* | PF 1 | 287.00 | 994.79 | 996.39 | | 996.47 | 0.003448 | 1.80 | 259.27 | 312.66 | 0.49 |
| a | 80.455* | PF 2 | 450.00 | 994.79 | 996.72 | | 996.81 | 0.002978 | 1.93 | 367.28 | 336.76 | 0.47 |
| a | 80.455* | PF 3 | 360.00 | 994.79 | 996.54 | | 996.62 | 0.003237 | 1.87 | 306.92 | 320.46 | 0.49 |
| | | | | | | | | | | | | |
| a | 80 | PF 1 | 287.00 | 994.76 | 996.39 | 995.96 | 996.45 | 0.002399 | 1.55 | 300.10 | 340.72 | 0.41 |
| a | 80 | PF 2 | 450.00 | 994.76 | 996.73 | 996.14 | 996.79 | 0.002094 | 1.67 | 415.00 | 343.84 | 0.40 |
| a | 80 | PF 3 | 360.00 | 994.76 | 996.54 | 996.06 | 996.60 | 0.002270 | 1.61 | 352.06 | 342.13 | 0.41 |
| | | | | | | | | | | | | |
| a | 79 | | Bridge | | | | | | | | | |
| | | | | | | | | | | | | |
| a | 78 | PF 1 | 287.00 | 994.76 | 996.34 | | 996.40 | 0.002901 | 1.66 | 282.64 | 340.24 | 0.45 |
| a | 78 | PF 2 | 450.00 | 994.76 | 996.68 | | 996.75 | 0.002368 | 1.74 | 399.42 | 343.42 | 0.42 |
| a | 78 | PF 3 | 360.00 | 994.76 | 996.49 | | 996.56 | 0.002650 | 1.71 | 335.42 | 341.68 | 0.44 |
| | | | | | | | | | | | | |
| a | 77.714* | PF 1 | 287.00 | 994.73 | 996.32 | | 996.39 | 0.003181 | 1.73 | 272.62 | 335.88 | 0.47 |
| a | 77.714* | PF 2 | 450.00 | 994.73 | 996.66 | | 996.74 | 0.002516 | 1.79 | 389.43 | 339.16 | 0.44 |
| a | 77.714* | PF 3 | 360.00 | 994.73 | 996.47 | | 996.55 | 0.002856 | 1.77 | 325.47 | 337.37 | 0.46 |
| | | | | | | | | | | | | |
| a | 77.429* | PF 1 | 287.00 | 994.70 | 996.30 | | 996.37 | 0.003384 | 1.78 | 263.71 | 324.08 | 0.49 |
| a | 77.429* | PF 2 | 450.00 | 994.70 | 996.65 | | 996.73 | 0.002678 | 1.84 | 379.41 | 334.87 | 0.45 |
| a | 77.429* | PF 3 | 360.00 | 994.70 | 996.45 | | 996.53 | 0.003083 | 1.83 | 315.37 | 332.46 | 0.47 |
| | | | | | | | | | | | | |
| a | 77.143* | PF 1 | 287.00 | 994.66 | 996.27 | | 996.35 | 0.003592 | 1.82 | 255.87 | 315.51 | 0.50 |
| a | 77.143* | PF 2 | 450.00 | 994.66 | 996.63 | | 996.71 | 0.002828 | 1.89 | 369.43 | 327.75 | 0.46 |
| a | 77.143* | PF 3 | 360.00 | 994.66 | 996.43 | | 996.52 | 0.003222 | 1.86 | 306.79 | 321.06 | 0.48 |
| | | | | | | | | | | | | |
| a | 76.857* | PF 1 | 287.00 | 994.63 | 996.25 | | 996.34 | 0.003692 | 1.84 | 249.17 | 303.00 | 0.51 |
| a | 76.857* | PF 2 | 450.00 | 994.63 | 996.61 | | 996.70 | 0.002938 | 1.92 | 360.98 | 319.34 | 0.47 |
| a | 76.857* | PF 3 | 360.00 | 994.63 | 996.41 | | 996.50 | 0.003380 | 1.90 | 299.06 | 313.75 | 0.50 |
| | | | | | | | | | | | | |
| a | 76.571* | PF 1 | 287.00 | 994.60 | 996.23 | | 996.32 | 0.003880 | 1.88 | 242.48 | 296.36 | 0.52 |
| a | 76.571* | PF 2 | 450.00 | 994.60 | 996.59 | | 996.68 | 0.003052 | 1.96 | 353.23 | 312.68 | 0.48 |
| a | 76.571* | PF 3 | 360.00 | 994.60 | 996.39 | | 996.48 | 0.003555 | 1.94 | 291.52 | 307.75 | 0.51 |
| | | | | | | | | | | | | |
| a | 76.286* | PF 1 | 287.00 | 994.57 | 996.20 | | 996.30 | 0.004097 | 1.92 | 235.66 | 290.53 | 0.53 |
| a | 76.286* | PF 2 | 450.00 | 994.57 | 996.57 | | 996.67 | 0.003171 | 1.99 | 345.76 | 306.94 | 0.49 |
| a | 76.286* | PF 3 | 360.00 | 994.57 | 996.36 | | 996.46 | 0.003750 | 1.99 | 283.97 | 302.46 | 0.52 |
| | | | | | | | | | | | | |
| a | 76.000* | PF 1 | 287.00 | 994.54 | 996.17 | | 996.27 | 0.004296 | 1.96 | 228.90 | 284.07 | 0.55 |
| a | 76.000* | PF 2 | 450.00 | 994.54 | 996.54 | | 996.65 | 0.003298 | 2.03 | 338.45 | 301.78 | 0.50 |
| a | 76.000* | PF 3 | 360.00 | 994.54 | 996.34 | | 996.45 | 0.003855 | 2.01 | 277.01 | 294.07 | 0.53 |
| | | | | | | | | | | | | |
| a | 75.714* | PF 1 | 287.00 | 994.50 | 996.14 | | 996.25 | 0.004544 | 2.00 | 222.05 | 277.26 | 0.56 |
| a | 75.714* | PF 2 | 450.00 | 994.50 | 996.52 | | 996.64 | 0.003430 | 2.06 | 331.24 | 296.96 | 0.51 |
| a | 75.714* | PF 3 | 360.00 | 994.50 | 996.31 | | 996.43 | 0.003981 | 2.04 | 270.36 | 286.29 | 0.54 |
| | | | | | | | | | | | | |
| a | 75.429* | PF 1 | 287.00 | 994.47 | 996.11 | | 996.23 | 0.004827 | 2.05 | 215.02 | 270.29 | 0.58 |
| a | 75.429* | PF 2 | 450.00 | 994.47 | 996.50 | | 996.62 | 0.003577 | 2.10 | 323.91 | 292.38 | 0.52 |
| a | 75.429* | PF 3 | 360.00 | 994.47 | 996.29 | | 996.40 | 0.004162 | 2.08 | 263.40 | 280.82 | 0.55 |
| | | | | | | | | | | | | |
| a | 75.143* | PF 1 | 287.00 | 994.44 | 996.08 | | 996.20 | 0.005128 | 2.10 | 208.15 | 263.15 | 0.59 |
| a | 75.143* | PF 2 | 450.00 | 994.44 | 996.47 | | 996.60 | 0.003730 | 2.15 | 316.64 | 287.95 | 0.53 |
| a | 75.143* | PF 3 | 360.00 | 994.44 | 996.26 | | 996.38 | 0.004318 | 2.11 | 256.82 | 274.24 | 0.56 |
| | | | | | | | | | | | | |
| a | 74.857* | PF 1 | 287.00 | 994.41 | 996.04 | | 996.18 | 0.005487 | 2.16 | 200.98 | 255.63 | 0.61 |
| a | 74.857* | PF 2 | 450.00 | 994.41 | 996.45 | | 996.58 | 0.003778 | 2.16 | 310.16 | 282.44 | 0.53 |
| a | 74.857* | PF 3 | 360.00 | 994.41 | 996.23 | | 996.36 | 0.004508 | 2.15 | 250.09 | 267.31 | 0.57 |
| | | | | | | | | | | | | |
| a | 74.571* | PF 1 | 287.00 | 994.37 | 996.02 | | 996.15 | 0.005111 | 2.08 | 198.33 | 230.91 | 0.59 |
| a | 74.571* | PF 2 | 450.00 | 994.37 | 996.42 | | 996.56 | 0.003816 | 2.17 | 304.20 | 273.44 | 0.54 |
| a | 74.571* | PF 3 | 360.00 | 994.37 | 996.20 | | 996.34 | 0.004702 | 2.18 | 243.58 | 260.11 | 0.58 |
| | | | | | | | | | | | | |
| a | 74.286* | PF 1 | 287.00 | 994.34 | 995.99 | | 996.12 | 0.004913 | 2.04 | 196.65 | 224.42 | 0.58 |
| a | 74.286* | PF 2 | 450.00 | 994.34 | 996.40 | | 996.54 | 0.003901 | 2.19 | 298.25 | 267.87 | 0.54 |
| a | 74.286* | PF 3 | 360.00 | 994.34 | 996.17 | | 996.31 | 0.004891 | 2.22 | 237.47 | 252.68 | 0.59 |
| | | | | | | | | | | | | |
| a | 74.000* | PF 1 | 287.00 | 994.31 | 995.97 | | 996.10 | 0.004915 | 2.04 | 194.75 | 218.74 | 0.58 |
| a | 74.000* | PF 2 | 450.00 | 994.31 | 996.37 | | 996.52 | 0.003988 | 2.21 | 292.50 | 260.98 | 0.55 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 74.000* | PF 3 | 360.00 | 994.31 | 996.14 | | 996.29 | 0.004799 | 2.20 | 233.64 | 237.49 | 0.59 |
| | | | | | | | | | | | | |
| a | 73.714* | PF 1 | 287.00 | 994.28 | 995.94 | | 996.07 | 0.004892 | 2.03 | 193.44 | 208.39 | 0.58 |
| a | 73.714* | PF 2 | 450.00 | 994.28 | 996.35 | | 996.50 | 0.004061 | 2.23 | 287.20 | 253.78 | 0.55 |
| a | 73.714* | PF 3 | 360.00 | 994.28 | 996.12 | | 996.26 | 0.004532 | 2.14 | 232.23 | 222.07 | 0.57 |
| | | | | | | | | | | | | |
| a | 73.429* | PF 1 | 287.00 | 994.25 | 995.92 | | 996.05 | 0.004845 | 2.02 | 192.76 | 203.23 | 0.58 |
| a | 73.429* | PF 2 | 450.00 | 994.25 | 996.32 | | 996.48 | 0.004115 | 2.25 | 282.52 | 246.26 | 0.56 |
| a | 73.429* | PF 3 | 360.00 | 994.25 | 996.10 | | 996.24 | 0.004519 | 2.13 | 230.51 | 216.93 | 0.57 |
| | | | | | | | | | | | | |
| a | 73.143* | PF 1 | 287.00 | 994.21 | 995.89 | | 996.03 | 0.004790 | 2.01 | 192.41 | 200.46 | 0.57 |
| a | 73.143* | PF 2 | 450.00 | 994.21 | 996.30 | | 996.46 | 0.004098 | 2.24 | 278.87 | 236.94 | 0.56 |
| a | 73.143* | PF 3 | 360.00 | 994.21 | 996.08 | | 996.22 | 0.004324 | 2.09 | 229.89 | 211.75 | 0.56 |
| | | | | | | | | | | | | |
| a | 72.857* | PF 1 | 287.00 | 994.18 | 995.87 | | 996.00 | 0.004716 | 2.00 | 192.33 | 198.53 | 0.57 |
| a | 72.857* | PF 2 | 450.00 | 994.18 | 996.28 | | 996.44 | 0.003753 | 2.16 | 278.30 | 216.30 | 0.53 |
| a | 72.857* | PF 3 | 360.00 | 994.18 | 996.05 | | 996.20 | 0.004252 | 2.08 | 229.55 | 205.81 | 0.55 |
| | | | | | | | | | | | | |
| a | 72.571* | PF 1 | 287.00 | 994.15 | 995.85 | | 995.98 | 0.004633 | 1.99 | 192.38 | 196.65 | 0.56 |
| a | 72.571* | PF 2 | 450.00 | 994.15 | 996.27 | | 996.42 | 0.003699 | 2.15 | 277.44 | 210.93 | 0.53 |
| a | 72.571* | PF 3 | 360.00 | 994.15 | 996.03 | | 996.18 | 0.004173 | 2.07 | 229.53 | 203.33 | 0.55 |
| | | | | | | | | | | | | |
| a | 72.286* | PF 1 | 287.00 | 994.12 | 995.82 | | 995.96 | 0.004540 | 1.97 | 192.59 | 194.79 | 0.56 |
| a | 72.286* | PF 2 | 450.00 | 994.12 | 996.25 | | 996.40 | 0.003634 | 2.14 | 277.17 | 205.14 | 0.52 |
| a | 72.286* | PF 3 | 360.00 | 994.12 | 996.01 | | 996.16 | 0.004087 | 2.05 | 229.67 | 200.97 | 0.54 |
| | | | | | | | | | | | | |
| a | 72.000* | PF 1 | 287.00 | 994.09 | 995.80 | | 995.93 | 0.004440 | 1.95 | 192.91 | 192.97 | 0.55 |
| a | 72.000* | PF 2 | 450.00 | 994.09 | 996.23 | | 996.38 | 0.003564 | 2.12 | 277.29 | 201.74 | 0.52 |
| a | 72.000* | PF 3 | 360.00 | 994.09 | 995.99 | | 996.14 | 0.003998 | 2.03 | 229.92 | 198.71 | 0.54 |
| | | | | | | | | | | | | |
| a | 71.714* | PF 1 | 287.00 | 994.05 | 995.78 | | 995.91 | 0.004332 | 1.94 | 193.38 | 191.17 | 0.55 |
| a | 71.714* | PF 2 | 450.00 | 994.05 | 996.21 | | 996.37 | 0.003493 | 2.11 | 277.51 | 199.70 | 0.51 |
| a | 71.714* | PF 3 | 360.00 | 994.05 | 995.97 | | 996.12 | 0.003902 | 2.02 | 230.41 | 192.13 | 0.53 |
| | | | | | | | | | | | | |
| a | 71.429* | PF 1 | 287.00 | 994.02 | 995.76 | | 995.89 | 0.004212 | 1.92 | 194.06 | 189.40 | 0.54 |
| a | 71.429* | PF 2 | 450.00 | 994.02 | 996.20 | | 996.35 | 0.003416 | 2.09 | 277.92 | 197.69 | 0.51 |
| a | 71.429* | PF 3 | 360.00 | 994.02 | 995.96 | | 996.10 | 0.003799 | 2.00 | 231.12 | 190.31 | 0.52 |
| | | | | | | | | | | | | |
| a | 71.143* | PF 1 | 287.00 | 993.99 | 995.74 | | 995.87 | 0.004092 | 1.90 | 194.81 | 187.65 | 0.53 |
| a | 71.143* | PF 2 | 450.00 | 993.99 | 996.18 | | 996.33 | 0.003340 | 2.08 | 278.35 | 195.71 | 0.50 |
| a | 71.143* | PF 3 | 360.00 | 993.99 | 995.94 | | 996.08 | 0.003696 | 1.98 | 231.89 | 188.51 | 0.52 |
| | | | | | | | | | | | | |
| a | 70.857* | PF 1 | 287.00 | 993.96 | 995.72 | | 995.85 | 0.003961 | 1.88 | 195.78 | 185.91 | 0.52 |
| a | 70.857* | PF 2 | 450.00 | 993.96 | 996.17 | | 996.31 | 0.003153 | 2.03 | 279.33 | 193.65 | 0.49 |
| a | 70.857* | PF 3 | 360.00 | 993.96 | 995.92 | | 996.06 | 0.003587 | 1.96 | 232.83 | 186.72 | 0.51 |
| | | | | | | | | | | | | |
| a | 70.571* | PF 1 | 287.00 | 993.92 | 995.71 | | 995.83 | 0.003830 | 1.85 | 196.84 | 184.19 | 0.52 |
| a | 70.571* | PF 2 | 450.00 | 993.92 | 996.15 | | 996.30 | 0.003070 | 2.02 | 280.08 | 191.51 | 0.48 |
| a | 70.571* | PF 3 | 360.00 | 993.92 | 995.91 | | 996.04 | 0.003480 | 1.94 | 233.82 | 184.96 | 0.50 |
| | | | | | | | | | | | | |
| a | 70.286* | PF 1 | 287.00 | 993.89 | 995.69 | | 995.81 | 0.003694 | 1.83 | 198.06 | 182.49 | 0.51 |
| a | 70.286* | PF 2 | 450.00 | 993.89 | 996.14 | | 996.28 | 0.002985 | 2.00 | 280.96 | 189.43 | 0.48 |
| a | 70.286* | PF 3 | 360.00 | 993.89 | 995.89 | | 996.03 | 0.003370 | 1.92 | 234.96 | 183.21 | 0.50 |
| | | | | | | | | | | | | |
| a | 70 | PF 1 | 287.00 | 993.86 | 995.67 | | 995.79 | 0.003557 | 1.81 | 199.42 | 180.79 | 0.50 |
| a | 70 | PF 2 | 450.00 | 993.86 | 996.12 | | 996.27 | 0.002901 | 1.98 | 281.95 | 187.39 | 0.47 |
| a | 70 | PF 3 | 360.00 | 993.86 | 995.88 | | 996.01 | 0.003259 | 1.90 | 236.23 | 181.48 | 0.49 |
| | | | | | | | | | | | | |
| a | 69.737* | PF 1 | 287.00 | 993.83 | 995.65 | | 995.77 | 0.003569 | 1.83 | 198.70 | 180.79 | 0.50 |
| a | 69.737* | PF 2 | 450.00 | 993.83 | 996.11 | | 996.25 | 0.002882 | 1.99 | 281.79 | 187.00 | 0.47 |
| a | 69.737* | PF 3 | 360.00 | 993.83 | 995.86 | | 995.99 | 0.003251 | 1.91 | 235.92 | 181.50 | 0.49 |
| | | | | | | | | | | | | |
| a | 69.474* | PF 1 | 287.00 | 993.80 | 995.63 | | 995.76 | 0.003580 | 1.84 | 198.03 | 180.78 | 0.50 |
| a | 69.474* | PF 2 | 450.00 | 993.80 | 996.09 | | 996.24 | 0.002860 | 2.00 | 281.79 | 183.40 | 0.47 |
| a | 69.474* | PF 3 | 360.00 | 993.80 | 995.84 | | 995.98 | 0.003240 | 1.93 | 235.70 | 181.52 | 0.49 |
| | | | | | | | | | | | | |
| a | 69.211* | PF 1 | 287.00 | 993.77 | 995.61 | | 995.74 | 0.003592 | 1.86 | 197.32 | 180.77 | 0.50 |
| a | 69.211* | PF 2 | 450.00 | 993.77 | 996.08 | | 996.23 | 0.002837 | 2.01 | 282.05 | 182.47 | 0.47 |
| a | 69.211* | PF 3 | 360.00 | 993.77 | 995.82 | | 995.96 | 0.003230 | 1.94 | 235.46 | 181.54 | 0.49 |
| | | | | | | | | | | | | |
| a | 68.947* | PF 1 | 287.00 | 993.74 | 995.59 | | 995.72 | 0.003597 | 1.88 | 196.70 | 180.77 | 0.51 |
| a | 68.947* | PF 2 | 450.00 | 993.74 | 996.06 | | 996.21 | 0.002809 | 2.01 | 282.47 | 182.54 | 0.47 |
| a | 68.947* | PF 3 | 360.00 | 993.74 | 995.80 | | 995.94 | 0.003213 | 1.95 | 235.36 | 181.57 | 0.49 |
| | | | | | | | | | | | | |
| a | 68.684* | PF 1 | 287.00 | 993.71 | 995.57 | | 995.70 | 0.003602 | 1.89 | 196.08 | 180.77 | 0.51 |
| a | 68.684* | PF 2 | 450.00 | 993.71 | 996.05 | | 996.20 | 0.002780 | 2.01 | 282.93 | 182.60 | 0.47 |
| a | 68.684* | PF 3 | 360.00 | 993.71 | 995.79 | | 995.93 | 0.003195 | 1.96 | 235.27 | 181.60 | 0.49 |
| | | | | | | | | | | | | |
| a | 68.421* | PF 1 | 287.00 | 993.68 | 995.55 | | 995.68 | 0.003605 | 1.90 | 195.44 | 180.77 | 0.51 |
| a | 68.421* | PF 2 | 450.00 | 993.68 | 996.03 | | 996.18 | 0.002750 | 2.02 | 283.42 | 182.68 | 0.47 |
| a | 68.421* | PF 3 | 360.00 | 993.68 | 995.77 | | 995.91 | 0.003174 | 1.96 | 235.24 | 181.63 | 0.49 |
| | | | | | | | | | | | | |
| a | 68.158* | PF 1 | 287.00 | 993.65 | 995.53 | | 995.67 | 0.003603 | 1.92 | 194.90 | 180.77 | 0.51 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 68.158* | PF 2 | 450.00 | 993.65 | 996.02 | | 996.17 | 0.002717 | 2.02 | 284.02 | 182.76 | 0.46 |
| a | 68.158* | PF 3 | 360.00 | 993.65 | 995.75 | | 995.90 | 0.003149 | 1.97 | 235.29 | 181.68 | 0.49 |
| | | | | | | | | | | | | |
| a | 67.895* | PF 1 | 287.00 | 993.62 | 995.51 | | 995.65 | 0.003596 | 1.93 | 194.41 | 180.78 | 0.51 |
| a | 67.895* | PF 2 | 450.00 | 993.62 | 996.01 | | 996.16 | 0.002681 | 2.02 | 284.73 | 182.86 | 0.46 |
| a | 67.895* | PF 3 | 360.00 | 993.62 | 995.74 | | 995.88 | 0.003121 | 1.97 | 235.42 | 181.73 | 0.49 |
| | | | | | | | | | | | | |
| a | 67.632* | PF 1 | 287.00 | 993.60 | 995.49 | | 995.63 | 0.003588 | 1.94 | 193.92 | 180.79 | 0.51 |
| a | 67.632* | PF 2 | 450.00 | 993.60 | 995.99 | | 996.14 | 0.002644 | 2.02 | 285.48 | 182.97 | 0.46 |
| a | 67.632* | PF 3 | 360.00 | 993.60 | 995.72 | | 995.86 | 0.003090 | 1.98 | 235.61 | 181.79 | 0.48 |
| | | | | | | | | | | | | |
| a | 67.368* | PF 1 | 287.00 | 993.57 | 995.47 | | 995.61 | 0.003574 | 1.94 | 193.51 | 180.81 | 0.51 |
| a | 67.368* | PF 2 | 450.00 | 993.57 | 995.98 | | 996.13 | 0.002639 | 2.03 | 286.07 | 185.14 | 0.46 |
| a | 67.368* | PF 3 | 360.00 | 993.57 | 995.70 | | 995.85 | 0.003055 | 1.98 | 235.90 | 181.85 | 0.48 |
| | | | | | | | | | | | | |
| a | 67.105* | PF 1 | 287.00 | 993.54 | 995.45 | | 995.59 | 0.003555 | 1.95 | 193.19 | 180.84 | 0.51 |
| a | 67.105* | PF 2 | 450.00 | 993.54 | 995.96 | | 996.12 | 0.002696 | 2.06 | 286.46 | 192.03 | 0.46 |
| a | 67.105* | PF 3 | 360.00 | 993.54 | 995.69 | | 995.83 | 0.003015 | 1.98 | 236.30 | 181.93 | 0.48 |
| | | | | | | | | | | | | |
| a | 66.842* | PF 1 | 287.00 | 993.51 | 995.43 | | 995.58 | 0.003528 | 1.95 | 193.00 | 180.87 | 0.51 |
| a | 66.842* | PF 2 | 450.00 | 993.51 | 995.95 | | 996.10 | 0.002692 | 2.07 | 287.81 | 196.25 | 0.46 |
| a | 66.842* | PF 3 | 360.00 | 993.51 | 995.67 | | 995.82 | 0.002972 | 1.98 | 236.83 | 182.02 | 0.48 |
| | | | | | | | | | | | | |
| a | 66.579* | PF 1 | 287.00 | 993.48 | 995.41 | | 995.56 | 0.003498 | 1.96 | 192.84 | 180.91 | 0.51 |
| a | 66.579* | PF 2 | 450.00 | 993.48 | 995.93 | | 996.09 | 0.002630 | 2.06 | 289.76 | 196.63 | 0.46 |
| a | 66.579* | PF 3 | 360.00 | 993.48 | 995.66 | | 995.80 | 0.002926 | 1.98 | 237.41 | 182.12 | 0.47 |
| | | | | | | | | | | | | |
| a | 66.316* | PF 1 | 287.00 | 993.45 | 995.39 | | 995.54 | 0.003460 | 1.96 | 192.84 | 180.95 | 0.50 |
| a | 66.316* | PF 2 | 450.00 | 993.45 | 995.92 | | 996.08 | 0.002564 | 2.05 | 291.89 | 196.96 | 0.46 |
| a | 66.316* | PF 3 | 360.00 | 993.45 | 995.64 | | 995.79 | 0.002881 | 1.97 | 238.11 | 182.42 | 0.47 |
| | | | | | | | | | | | | |
| a | 66.053* | PF 1 | 287.00 | 993.42 | 995.38 | | 995.52 | 0.003413 | 1.96 | 193.02 | 181.01 | 0.50 |
| a | 66.053* | PF 2 | 450.00 | 993.42 | 995.91 | | 996.06 | 0.002496 | 2.04 | 294.21 | 197.26 | 0.45 |
| a | 66.053* | PF 3 | 360.00 | 993.42 | 995.63 | | 995.77 | 0.002930 | 2.00 | 238.35 | 188.29 | 0.48 |
| | | | | | | | | | | | | |
| a | 65.789* | PF 1 | 287.00 | 993.39 | 995.36 | | 995.51 | 0.003361 | 1.95 | 193.29 | 181.09 | 0.50 |
| a | 65.789* | PF 2 | 450.00 | 993.39 | 995.90 | | 996.05 | 0.002427 | 2.02 | 296.63 | 197.54 | 0.44 |
| a | 65.789* | PF 3 | 360.00 | 993.39 | 995.61 | | 995.76 | 0.002951 | 2.02 | 239.10 | 193.87 | 0.48 |
| | | | | | | | | | | | | |
| a | 65.526* | PF 1 | 287.00 | 993.36 | 995.34 | | 995.49 | 0.003302 | 1.95 | 193.72 | 181.18 | 0.49 |
| a | 65.526* | PF 2 | 450.00 | 993.36 | 995.89 | | 996.04 | 0.002356 | 2.01 | 299.18 | 197.78 | 0.44 |
| a | 65.526* | PF 3 | 360.00 | 993.36 | 995.59 | | 995.74 | 0.002893 | 2.01 | 240.85 | 195.84 | 0.47 |
| | | | | | | | | | | | | |
| a | 65.263* | PF 1 | 287.00 | 993.33 | 995.33 | | 995.47 | 0.003249 | 1.94 | 194.24 | 181.74 | 0.49 |
| a | 65.263* | PF 2 | 450.00 | 993.33 | 995.88 | | 996.02 | 0.002284 | 1.99 | 301.90 | 198.44 | 0.43 |
| a | 65.263* | PF 3 | 360.00 | 993.33 | 995.58 | | 995.73 | 0.002805 | 1.99 | 242.98 | 196.09 | 0.47 |
| | | | | | | | | | | | | |
| a | 65.000* | PF 1 | 287.00 | 993.30 | 995.31 | | 995.46 | 0.003282 | 1.96 | 194.38 | 186.70 | 0.49 |
| a | 65.000* | PF 2 | 450.00 | 993.30 | 995.87 | | 996.01 | 0.002212 | 1.97 | 304.99 | 205.21 | 0.43 |
| a | 65.000* | PF 3 | 360.00 | 993.30 | 995.57 | | 995.72 | 0.002714 | 1.97 | 245.29 | 196.32 | 0.46 |
| | | | | | | | | | | | | |
| a | 64.737* | PF 1 | 287.00 | 993.27 | 995.29 | | 995.44 | 0.003285 | 1.97 | 195.03 | 191.50 | 0.49 |
| a | 64.737* | PF 2 | 450.00 | 993.27 | 995.86 | | 996.00 | 0.002138 | 1.95 | 308.58 | 211.55 | 0.42 |
| a | 64.737* | PF 3 | 360.00 | 993.27 | 995.56 | | 995.70 | 0.002622 | 1.95 | 247.72 | 196.52 | 0.45 |
| | | | | | | | | | | | | |
| a | 64.474* | PF 1 | 287.00 | 993.24 | 995.27 | | 995.42 | 0.003222 | 1.97 | 196.65 | 194.36 | 0.49 |
| a | 64.474* | PF 2 | 450.00 | 993.24 | 995.85 | | 995.99 | 0.002064 | 1.93 | 312.67 | 217.35 | 0.41 |
| a | 64.474* | PF 3 | 360.00 | 993.24 | 995.55 | | 995.69 | 0.002528 | 1.93 | 250.37 | 196.71 | 0.45 |
| | | | | | | | | | | | | |
| a | 64.211* | PF 1 | 287.00 | 993.21 | 995.27 | | 995.40 | 0.002917 | 1.89 | 200.15 | 193.77 | 0.47 |
| a | 64.211* | PF 2 | 450.00 | 993.21 | 995.85 | | 995.98 | 0.001988 | 1.90 | 317.21 | 222.76 | 0.41 |
| a | 64.211* | PF 3 | 360.00 | 993.21 | 995.54 | | 995.67 | 0.002433 | 1.91 | 253.19 | 196.87 | 0.44 |
| | | | | | | | | | | | | |
| a | 63.947* | PF 1 | 287.00 | 993.18 | 995.26 | | 995.39 | 0.002778 | 1.85 | 202.98 | 191.43 | 0.46 |
| a | 63.947* | PF 2 | 450.00 | 993.18 | 995.84 | | 995.97 | 0.001912 | 1.88 | 322.24 | 228.97 | 0.40 |
| a | 63.947* | PF 3 | 360.00 | 993.18 | 995.53 | | 995.66 | 0.002338 | 1.88 | 256.18 | 197.01 | 0.43 |
| | | | | | | | | | | | | |
| a | 63.684* | PF 1 | 287.00 | 993.15 | 995.25 | | 995.37 | 0.002644 | 1.82 | 206.01 | 189.52 | 0.45 |
| a | 63.684* | PF 2 | 450.00 | 993.15 | 995.83 | | 995.96 | 0.001836 | 1.85 | 327.78 | 241.88 | 0.39 |
| a | 63.684* | PF 3 | 360.00 | 993.15 | 995.52 | | 995.65 | 0.002244 | 1.86 | 259.43 | 202.20 | 0.42 |
| | | | | | | | | | | | | |
| a | 63.421* | PF 1 | 287.00 | 993.12 | 995.24 | | 995.36 | 0.002510 | 1.79 | 209.36 | 188.01 | 0.44 |
| a | 63.421* | PF 2 | 450.00 | 993.12 | 995.83 | | 995.95 | 0.001759 | 1.82 | 334.16 | 256.18 | 0.38 |
| a | 63.421* | PF 3 | 360.00 | 993.12 | 995.51 | | 995.64 | 0.002146 | 1.83 | 263.30 | 207.01 | 0.41 |
| | | | | | | | | | | | | |
| a | 63.158* | PF 1 | 287.00 | 993.09 | 995.23 | | 995.35 | 0.002380 | 1.75 | 212.92 | 186.32 | 0.43 |
| a | 63.158* | PF 2 | 450.00 | 993.09 | 995.82 | | 995.94 | 0.001681 | 1.80 | 341.34 | 268.97 | 0.38 |
| a | 63.158* | PF 3 | 360.00 | 993.09 | 995.50 | | 995.62 | 0.002049 | 1.80 | 267.68 | 211.69 | 0.41 |
| | | | | | | | | | | | | |
| a | 62.895* | PF 1 | 287.00 | 993.06 | 995.22 | | 995.33 | 0.002254 | 1.72 | 216.68 | 183.84 | 0.42 |
| a | 62.895* | PF 2 | 450.00 | 993.06 | 995.82 | | 995.93 | 0.001604 | 1.76 | 349.06 | 279.30 | 0.37 |
| a | 62.895* | PF 3 | 360.00 | 993.06 | 995.50 | | 995.61 | 0.001953 | 1.77 | 272.49 | 216.08 | 0.40 |
| | | | | | | | | | | | | |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 62.632* | PF 1 | 287.00 | 993.04 | 995.21 | | 995.32 | 0.002134 | 1.69 | 220.71 | 183.56 | 0.40 |
| a | 62.632* | PF 2 | 450.00 | 993.04 | 995.80 | | 995.92 | 0.001743 | 1.84 | 353.67 | 283.88 | 0.38 |
| a | 62.632* | PF 3 | 360.00 | 993.04 | 995.49 | | 995.60 | 0.001858 | 1.73 | 277.77 | 220.41 | 0.39 |
| | | | | | | | | | | | | |
| a | 62.368* | PF 1 | 287.00 | 993.00 | 995.20 | | 995.31 | 0.002017 | 1.65 | 225.20 | 186.01 | 0.39 |
| a | 62.368* | PF 2 | 450.00 | 993.00 | 995.79 | | 995.91 | 0.001650 | 1.81 | 362.21 | 287.52 | 0.37 |
| a | 62.368* | PF 3 | 360.00 | 993.00 | 995.48 | | 995.59 | 0.001766 | 1.70 | 283.45 | 224.48 | 0.38 |
| | | | | | | | | | | | | |
| a | 62.105* | PF 1 | 287.00 | 992.98 | 995.20 | | 995.30 | 0.001905 | 1.62 | 230.13 | 188.26 | 0.38 |
| a | 62.105* | PF 2 | 450.00 | 992.98 | 995.79 | | 995.90 | 0.001560 | 1.77 | 371.10 | 291.15 | 0.36 |
| a | 62.105* | PF 3 | 360.00 | 992.98 | 995.48 | | 995.58 | 0.001676 | 1.67 | 289.51 | 229.03 | 0.37 |
| | | | | | | | | | | | | |
| a | 61.842* | PF 1 | 287.00 | 992.95 | 995.19 | | 995.29 | 0.001798 | 1.58 | 235.50 | 191.44 | 0.37 |
| a | 61.842* | PF 2 | 450.00 | 992.95 | 995.79 | | 995.89 | 0.001475 | 1.73 | 380.37 | 294.88 | 0.35 |
| a | 61.842* | PF 3 | 360.00 | 992.95 | 995.48 | | 995.57 | 0.001534 | 1.61 | 296.59 | 234.05 | 0.35 |
| | | | | | | | | | | | | |
| a | 61.579* | PF 1 | 287.00 | 992.92 | 995.19 | | 995.28 | 0.001694 | 1.55 | 241.29 | 194.85 | 0.36 |
| a | 61.579* | PF 2 | 450.00 | 992.92 | 995.78 | | 995.88 | 0.001392 | 1.69 | 390.04 | 298.73 | 0.34 |
| a | 61.579* | PF 3 | 360.00 | 992.92 | 995.47 | | 995.56 | 0.001451 | 1.58 | 303.74 | 244.70 | 0.34 |
| | | | | | | | | | | | | |
| a | 61.316* | PF 1 | 287.00 | 992.89 | 995.18 | | 995.27 | 0.001595 | 1.51 | 247.43 | 199.19 | 0.35 |
| a | 61.316* | PF 2 | 450.00 | 992.89 | 995.78 | | 995.87 | 0.001313 | 1.65 | 400.07 | 302.73 | 0.34 |
| a | 61.316* | PF 3 | 360.00 | 992.89 | 995.47 | | 995.55 | 0.001371 | 1.54 | 311.53 | 254.05 | 0.34 |
| | | | | | | | | | | | | |
| a | 61.053* | PF 1 | 287.00 | 992.86 | 995.18 | | 995.26 | 0.001501 | 1.48 | 253.93 | 203.58 | 0.34 |
| a | 61.053* | PF 2 | 450.00 | 992.86 | 995.78 | | 995.86 | 0.001238 | 1.61 | 410.52 | 307.00 | 0.33 |
| a | 61.053* | PF 3 | 360.00 | 992.86 | 995.46 | | 995.55 | 0.001293 | 1.51 | 319.92 | 262.77 | 0.33 |
| | | | | | | | | | | | | |
| a | 60.789* | PF 1 | 287.00 | 992.83 | 995.17 | | 995.25 | 0.001411 | 1.44 | 260.75 | 207.77 | 0.33 |
| a | 60.789* | PF 2 | 450.00 | 992.83 | 995.77 | | 995.86 | 0.001167 | 1.57 | 421.38 | 312.43 | 0.32 |
| a | 60.789* | PF 3 | 360.00 | 992.83 | 995.46 | | 995.54 | 0.001219 | 1.47 | 328.88 | 271.53 | 0.32 |
| | | | | | | | | | | | | |
| a | 60.526* | PF 1 | 287.00 | 992.80 | 995.17 | | 995.24 | 0.001325 | 1.41 | 267.88 | 212.00 | 0.32 |
| a | 60.526* | PF 2 | 450.00 | 992.80 | 995.77 | | 995.85 | 0.001099 | 1.53 | 432.85 | 317.30 | 0.31 |
| a | 60.526* | PF 3 | 360.00 | 992.80 | 995.46 | | 995.53 | 0.001148 | 1.44 | 338.40 | 280.31 | 0.31 |
| | | | | | | | | | | | | |
| a | 60.263* | PF 1 | 287.00 | 992.77 | 995.17 | | 995.23 | 0.001245 | 1.37 | 275.34 | 217.03 | 0.31 |
| a | 60.263* | PF 2 | 450.00 | 992.77 | 995.77 | | 995.84 | 0.001032 | 1.49 | 444.69 | 319.94 | 0.30 |
| a | 60.263* | PF 3 | 360.00 | 992.77 | 995.46 | | 995.52 | 0.001082 | 1.40 | 348.50 | 289.52 | 0.30 |
| | | | | | | | | | | | | |
| a | 60 | PF 1 | 287.00 | 992.74 | 995.16 | | 995.23 | 0.001168 | 1.34 | 283.14 | 223.33 | 0.30 |
| a | 60 | PF 2 | 450.00 | 992.74 | 995.77 | | 995.84 | 0.000973 | 1.46 | 456.73 | 322.19 | 0.29 |
| a | 60 | PF 3 | 360.00 | 992.74 | 995.45 | | 995.52 | 0.001152 | 1.45 | 357.22 | 294.77 | 0.31 |
| | | | | | | | | | | | | |
| a | 59.600* | PF 1 | 287.00 | 992.71 | 995.15 | | 995.22 | 0.001198 | 1.37 | 273.73 | 210.05 | 0.31 |
| a | 59.600* | PF 2 | 450.00 | 992.71 | 995.76 | | 995.83 | 0.001021 | 1.50 | 436.31 | 302.35 | 0.30 |
| a | 59.600* | PF 3 | 360.00 | 992.71 | 995.44 | | 995.51 | 0.001196 | 1.49 | 343.18 | 275.74 | 0.31 |
| | | | | | | | | | | | | |
| a | 59.200* | PF 1 | 287.00 | 992.67 | 995.14 | | 995.21 | 0.001207 | 1.38 | 267.35 | 193.50 | 0.31 |
| a | 59.200* | PF 2 | 450.00 | 992.67 | 995.75 | | 995.83 | 0.001051 | 1.54 | 422.17 | 280.85 | 0.30 |
| a | 59.200* | PF 3 | 360.00 | 992.67 | 995.43 | | 995.51 | 0.001206 | 1.51 | 334.78 | 262.72 | 0.32 |
| | | | | | | | | | | | | |
| a | 58.800* | PF 1 | 287.00 | 992.64 | 995.14 | | 995.21 | 0.001204 | 1.39 | 265.51 | 181.08 | 0.31 |
| a | 58.800* | PF 2 | 450.00 | 992.64 | 995.74 | | 995.82 | 0.001071 | 1.56 | 413.00 | 269.28 | 0.31 |
| a | 58.800* | PF 3 | 360.00 | 992.64 | 995.42 | | 995.50 | 0.001202 | 1.52 | 329.30 | 252.92 | 0.32 |
| | | | | | | | | | | | | |
| a | 58.400* | PF 1 | 287.00 | 992.61 | 995.13 | | 995.20 | 0.001199 | 1.41 | 265.57 | 200.29 | 0.31 |
| a | 58.400* | PF 2 | 450.00 | 992.61 | 995.73 | | 995.81 | 0.001077 | 1.58 | 406.39 | 259.40 | 0.31 |
| a | 58.400* | PF 3 | 360.00 | 992.61 | 995.41 | | 995.49 | 0.001230 | 1.55 | 326.51 | 233.74 | 0.32 |
| | | | | | | | | | | | | |
| a | 58.000* | PF 1 | 287.00 | 992.58 | 995.12 | | 995.20 | 0.001279 | 1.46 | 265.27 | 203.23 | 0.32 |
| a | 58.000* | PF 2 | 450.00 | 992.58 | 995.72 | | 995.81 | 0.001071 | 1.58 | 401.92 | 239.84 | 0.31 |
| a | 58.000* | PF 3 | 360.00 | 992.58 | 995.40 | | 995.49 | 0.001215 | 1.55 | 326.72 | 229.12 | 0.32 |
| | | | | | | | | | | | | |
| a | 57.600* | PF 1 | 287.00 | 992.54 | 995.11 | | 995.19 | 0.001267 | 1.47 | 265.93 | 202.94 | 0.32 |
| a | 57.600* | PF 2 | 450.00 | 992.54 | 995.72 | | 995.80 | 0.001062 | 1.59 | 401.01 | 234.79 | 0.31 |
| a | 57.600* | PF 3 | 360.00 | 992.54 | 995.40 | | 995.48 | 0.001202 | 1.56 | 327.03 | 225.80 | 0.32 |
| | | | | | | | | | | | | |
| a | 57.200* | PF 1 | 287.00 | 992.51 | 995.10 | | 995.18 | 0.001253 | 1.48 | 266.67 | 202.49 | 0.32 |
| a | 57.200* | PF 2 | 450.00 | 992.51 | 995.71 | | 995.80 | 0.001054 | 1.60 | 400.49 | 230.95 | 0.31 |
| a | 57.200* | PF 3 | 360.00 | 992.51 | 995.39 | | 995.48 | 0.001189 | 1.56 | 327.43 | 223.13 | 0.32 |
| | | | | | | | | | | | | |
| a | 56.800* | PF 1 | 287.00 | 992.48 | 995.10 | | 995.18 | 0.001239 | 1.48 | 267.39 | 202.01 | 0.32 |
| a | 56.800* | PF 2 | 450.00 | 992.48 | 995.71 | | 995.79 | 0.001047 | 1.60 | 400.12 | 227.82 | 0.31 |
| a | 56.800* | PF 3 | 360.00 | 992.48 | 995.39 | | 995.47 | 0.001153 | 1.55 | 328.10 | 216.64 | 0.31 |
| | | | | | | | | | | | | |
| a | 56.400* | PF 1 | 287.00 | 992.44 | 995.09 | | 995.17 | 0.001229 | 1.49 | 268.06 | 201.93 | 0.32 |
| a | 56.400* | PF 2 | 450.00 | 992.44 | 995.70 | | 995.79 | 0.001041 | 1.61 | 399.83 | 225.17 | 0.31 |
| a | 56.400* | PF 3 | 360.00 | 992.44 | 995.38 | | 995.46 | 0.001141 | 1.56 | 328.64 | 214.45 | 0.31 |
| | | | | | | | | | | | | |
| a | 56.000* | PF 1 | 287.00 | 992.41 | 995.09 | | 995.16 | 0.001220 | 1.50 | 268.79 | 202.26 | 0.32 |
| a | 56.000* | PF 2 | 450.00 | 992.41 | 995.70 | | 995.78 | 0.001035 | 1.62 | 399.65 | 222.83 | 0.30 |
| a | 56.000* | PF 3 | 360.00 | 992.41 | 995.37 | | 995.46 | 0.001129 | 1.56 | 329.21 | 212.47 | 0.31 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 55.600* | PF 1 | 287.00 | 992.38 | 995.08 | | 995.16 | 0.001210 | 1.51 | 269.64 | 202.34 | 0.32 |
| a | 55.600* | PF 2 | 450.00 | 992.38 | 995.69 | | 995.78 | 0.001029 | 1.63 | 399.58 | 220.59 | 0.30 |
| a | 55.600* | PF 3 | 360.00 | 992.38 | 995.37 | | 995.45 | 0.001118 | 1.57 | 329.83 | 210.69 | 0.31 |
| a | 55.200* | PF 1 | 287.00 | 992.35 | 995.07 | | 995.15 | 0.001198 | 1.51 | 270.55 | 202.05 | 0.32 |
| a | 55.200* | PF 2 | 450.00 | 992.35 | 995.69 | | 995.77 | 0.001023 | 1.63 | 399.55 | 218.53 | 0.30 |
| a | 55.200* | PF 3 | 360.00 | 992.35 | 995.36 | | 995.45 | 0.001108 | 1.57 | 330.46 | 209.10 | 0.31 |
| a | 54.800* | PF 1 | 287.00 | 992.31 | 995.06 | | 995.15 | 0.001221 | 1.54 | 271.02 | 201.33 | 0.32 |
| a | 54.800* | PF 2 | 450.00 | 992.31 | 995.68 | | 995.77 | 0.001018 | 1.64 | 399.62 | 216.61 | 0.30 |
| a | 54.800* | PF 3 | 360.00 | 992.31 | 995.36 | | 995.44 | 0.001097 | 1.58 | 331.19 | 207.40 | 0.31 |
| a | 54.400* | PF 1 | 287.00 | 992.28 | 995.06 | | 995.14 | 0.001207 | 1.54 | 272.04 | 200.32 | 0.32 |
| a | 54.400* | PF 2 | 450.00 | 992.28 | 995.68 | | 995.76 | 0.001012 | 1.65 | 399.74 | 214.81 | 0.30 |
| a | 54.400* | PF 3 | 360.00 | 992.28 | 995.35 | | 995.44 | 0.001086 | 1.58 | 331.92 | 205.77 | 0.31 |
| a | 54.000* | PF 1 | 287.00 | 992.25 | 995.05 | | 995.13 | 0.001193 | 1.55 | 273.16 | 199.12 | 0.32 |
| a | 54.000* | PF 2 | 450.00 | 992.25 | 995.67 | | 995.76 | 0.001007 | 1.66 | 399.96 | 213.13 | 0.30 |
| a | 54.000* | PF 3 | 360.00 | 992.25 | 995.35 | | 995.43 | 0.001076 | 1.59 | 332.72 | 204.23 | 0.31 |
| a | 53.600* | PF 1 | 287.00 | 992.22 | 995.05 | | 995.13 | 0.001179 | 1.55 | 274.28 | 197.87 | 0.32 |
| a | 53.600* | PF 2 | 450.00 | 992.22 | 995.67 | | 995.75 | 0.001002 | 1.66 | 400.21 | 211.56 | 0.30 |
| a | 53.600* | PF 3 | 360.00 | 992.22 | 995.34 | | 995.42 | 0.001066 | 1.59 | 333.55 | 202.77 | 0.31 |
| a | 53.200* | PF 1 | 287.00 | 992.18 | 995.04 | | 995.12 | 0.001164 | 1.56 | 275.52 | 196.67 | 0.32 |
| a | 53.200* | PF 2 | 450.00 | 992.18 | 995.66 | | 995.75 | 0.000997 | 1.67 | 400.63 | 210.10 | 0.30 |
| a | 53.200* | PF 3 | 360.00 | 992.18 | 995.34 | | 995.42 | 0.001056 | 1.60 | 334.50 | 201.39 | 0.31 |
| a | 52.800* | PF 1 | 287.00 | 992.15 | 995.04 | | 995.12 | 0.001150 | 1.56 | 276.84 | 195.48 | 0.31 |
| a | 52.800* | PF 2 | 450.00 | 992.15 | 995.66 | | 995.74 | 0.000992 | 1.68 | 401.15 | 208.74 | 0.30 |
| a | 52.800* | PF 3 | 360.00 | 992.15 | 995.33 | | 995.41 | 0.001046 | 1.60 | 335.52 | 200.12 | 0.30 |
| a | 52.400* | PF 1 | 287.00 | 992.12 | 995.03 | | 995.11 | 0.001136 | 1.56 | 278.20 | 194.36 | 0.31 |
| a | 52.400* | PF 2 | 450.00 | 992.12 | 995.65 | | 995.74 | 0.000987 | 1.68 | 401.77 | 207.49 | 0.30 |
| a | 52.400* | PF 3 | 360.00 | 992.12 | 995.33 | | 995.41 | 0.001036 | 1.61 | 336.61 | 198.92 | 0.30 |
| a | 52.000* | PF 1 | 287.00 | 992.08 | 995.03 | | 995.10 | 0.001121 | 1.57 | 279.71 | 193.31 | 0.31 |
| a | 52.000* | PF 2 | 450.00 | 992.08 | 995.65 | | 995.73 | 0.000977 | 1.69 | 402.64 | 205.68 | 0.30 |
| a | 52.000* | PF 3 | 360.00 | 992.08 | 995.32 | | 995.40 | 0.001026 | 1.61 | 337.88 | 197.83 | 0.30 |
| a | 51.600* | PF 1 | 287.00 | 992.05 | 995.02 | | 995.10 | 0.001106 | 1.57 | 281.36 | 192.37 | 0.31 |
| a | 51.600* | PF 2 | 450.00 | 992.05 | 995.64 | | 995.73 | 0.000963 | 1.69 | 403.81 | 203.32 | 0.30 |
| a | 51.600* | PF 3 | 360.00 | 992.05 | 995.32 | | 995.40 | 0.001016 | 1.61 | 339.30 | 196.86 | 0.30 |
| a | 51.200* | PF 1 | 287.00 | 992.02 | 995.02 | | 995.09 | 0.001090 | 1.57 | 283.20 | 191.51 | 0.31 |
| a | 51.200* | PF 2 | 450.00 | 992.02 | 995.64 | | 995.72 | 0.000949 | 1.69 | 405.23 | 201.28 | 0.30 |
| a | 51.200* | PF 3 | 360.00 | 992.02 | 995.31 | | 995.39 | 0.001004 | 1.62 | 340.92 | 195.99 | 0.30 |
| a | 50.800* | PF 1 | 287.00 | 991.99 | 995.01 | | 995.09 | 0.001074 | 1.57 | 285.16 | 190.78 | 0.31 |
| a | 50.800* | PF 2 | 450.00 | 991.99 | 995.63 | | 995.72 | 0.000941 | 1.69 | 406.85 | 200.69 | 0.30 |
| a | 50.800* | PF 3 | 360.00 | 991.99 | 995.31 | | 995.39 | 0.000993 | 1.62 | 342.72 | 195.25 | 0.30 |
| a | 50.400* | PF 1 | 287.00 | 991.95 | 995.01 | | 995.08 | 0.001057 | 1.57 | 287.41 | 190.16 | 0.30 |
| a | 50.400* | PF 2 | 450.00 | 991.95 | 995.63 | | 995.71 | 0.000934 | 1.69 | 409.06 | 200.80 | 0.29 |
| a | 50.400* | PF 3 | 360.00 | 991.95 | 995.31 | | 995.38 | 0.000981 | 1.62 | 344.83 | 194.66 | 0.30 |
| a | 50 | PF 1 | 287.00 | 991.92 | 995.00 | | 995.07 | 0.001039 | 1.57 | 289.89 | 189.70 | 0.30 |
| a | 50 | PF 2 | 450.00 | 991.92 | 995.63 | | 995.71 | 0.000916 | 1.68 | 411.54 | 198.74 | 0.29 |
| a | 50 | PF 3 | 360.00 | 991.92 | 995.30 | | 995.38 | 0.000973 | 1.62 | 347.32 | 195.83 | 0.30 |
| a | 49.730* | PF 1 | 287.00 | 991.88 | 994.99 | | 995.07 | 0.001160 | 1.66 | 275.57 | 186.80 | 0.32 |
| a | 49.730* | PF 2 | 450.00 | 991.88 | 995.61 | | 995.70 | 0.001004 | 1.77 | 396.03 | 196.90 | 0.31 |
| a | 49.730* | PF 3 | 360.00 | 991.88 | 995.29 | | 995.37 | 0.001070 | 1.71 | 332.39 | 192.17 | 0.31 |
| a | 49.459* | PF 1 | 287.00 | 991.84 | 994.97 | | 995.06 | 0.001295 | 1.76 | 261.36 | 183.73 | 0.34 |
| a | 49.459* | PF 2 | 450.00 | 991.84 | 995.59 | | 995.69 | 0.001101 | 1.86 | 380.55 | 194.98 | 0.32 |
| a | 49.459* | PF 3 | 360.00 | 991.84 | 995.27 | | 995.36 | 0.001176 | 1.80 | 317.77 | 188.59 | 0.33 |
| a | 49.189* | PF 1 | 287.00 | 991.79 | 994.94 | | 995.05 | 0.001449 | 1.86 | 247.19 | 180.48 | 0.36 |
| a | 49.189* | PF 2 | 450.00 | 991.79 | 995.58 | | 995.69 | 0.001208 | 1.95 | 365.12 | 192.58 | 0.34 |
| a | 49.189* | PF 3 | 360.00 | 991.79 | 995.25 | | 995.36 | 0.001297 | 1.89 | 303.25 | 185.52 | 0.34 |
| a | 48.919* | PF 1 | 287.00 | 991.75 | 994.92 | | 995.04 | 0.001598 | 1.96 | 233.60 | 174.46 | 0.37 |
| a | 48.919* | PF 2 | 450.00 | 991.75 | 995.56 | | 995.68 | 0.001314 | 2.04 | 350.12 | 188.43 | 0.35 |
| a | 48.919* | PF 3 | 360.00 | 991.75 | 995.22 | | 995.35 | 0.001432 | 1.99 | 288.87 | 182.24 | 0.36 |
| a | 48.649* | PF 1 | 287.00 | 991.71 | 994.90 | | 995.03 | 0.001664 | 2.00 | 224.01 | 163.72 | 0.38 |
| a | 48.649* | PF 2 | 450.00 | 991.71 | 995.53 | | 995.67 | 0.001432 | 2.13 | 335.37 | 184.63 | 0.37 |
| a | 48.649* | PF 3 | 360.00 | 991.71 | 995.20 | | 995.34 | 0.001548 | 2.07 | 275.50 | 175.43 | 0.37 |
| a | 48.378* | PF 1 | 287.00 | 991.67 | 994.88 | | 995.03 | 0.001720 | 2.04 | 216.69 | 156.49 | 0.39 |
| a | 48.378* | PF 2 | 450.00 | 991.67 | 995.51 | | 995.66 | 0.001532 | 2.20 | 321.80 | 178.10 | 0.38 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 48.378* | PF 3 | 360.00 | 991.67 | 995.18 | | 995.33 | 0.001609 | 2.11 | 265.61 | 166.44 | 0.38 |
| | | | | | | | | | | | | |
| a | 48.108* | PF 1 | 287.00 | 991.63 | 994.86 | | 995.02 | 0.001769 | 2.07 | 210.57 | 150.73 | 0.39 |
| a | 48.108* | PF 2 | 450.00 | 991.63 | 995.49 | | 995.65 | 0.001590 | 2.24 | 311.26 | 169.78 | 0.39 |
| a | 48.108* | PF 3 | 360.00 | 991.63 | 995.17 | | 995.32 | 0.001666 | 2.15 | 257.58 | 159.92 | 0.39 |
| | | | | | | | | | | | | |
| a | 47.838* | PF 1 | 287.00 | 991.58 | 994.85 | | 995.01 | 0.001815 | 2.10 | 205.32 | 146.01 | 0.40 |
| a | 47.838* | PF 2 | 450.00 | 991.58 | 995.48 | | 995.65 | 0.001643 | 2.28 | 302.55 | 163.38 | 0.39 |
| a | 47.838* | PF 3 | 360.00 | 991.58 | 995.15 | | 995.31 | 0.001720 | 2.18 | 250.70 | 154.89 | 0.40 |
| | | | | | | | | | | | | |
| a | 47.568* | PF 1 | 287.00 | 991.54 | 994.83 | | 995.00 | 0.001857 | 2.12 | 200.68 | 141.95 | 0.40 |
| a | 47.568* | PF 2 | 450.00 | 991.54 | 995.46 | | 995.64 | 0.001697 | 2.32 | 294.91 | 158.59 | 0.40 |
| a | 47.568* | PF 3 | 360.00 | 991.54 | 995.13 | | 995.30 | 0.001771 | 2.22 | 244.61 | 150.62 | 0.40 |
| | | | | | | | | | | | | |
| a | 47.297* | PF 1 | 287.00 | 991.50 | 994.82 | | 994.99 | 0.001898 | 2.14 | 196.46 | 138.40 | 0.41 |
| a | 47.297* | PF 2 | 450.00 | 991.50 | 995.44 | | 995.63 | 0.001751 | 2.35 | 288.01 | 154.61 | 0.41 |
| a | 47.297* | PF 3 | 360.00 | 991.50 | 995.12 | | 995.29 | 0.001818 | 2.24 | 239.14 | 146.57 | 0.41 |
| | | | | | | | | | | | | |
| a | 47.027* | PF 1 | 287.00 | 991.46 | 994.80 | | 994.98 | 0.001942 | 2.17 | 192.58 | 135.59 | 0.41 |
| a | 47.027* | PF 2 | 450.00 | 991.46 | 995.42 | | 995.62 | 0.001806 | 2.39 | 281.68 | 151.24 | 0.41 |
| a | 47.027* | PF 3 | 360.00 | 991.46 | 995.10 | | 995.28 | 0.001861 | 2.27 | 234.25 | 142.93 | 0.41 |
| | | | | | | | | | | | | |
| a | 46.757* | PF 1 | 287.00 | 991.41 | 994.78 | | 994.97 | 0.001985 | 2.19 | 188.98 | 132.94 | 0.42 |
| a | 46.757* | PF 2 | 450.00 | 991.41 | 995.40 | | 995.61 | 0.001857 | 2.42 | 275.88 | 147.87 | 0.42 |
| a | 46.757* | PF 3 | 360.00 | 991.41 | 995.08 | | 995.27 | 0.001902 | 2.29 | 229.80 | 139.53 | 0.42 |
| | | | | | | | | | | | | |
| a | 46.486* | PF 1 | 287.00 | 991.37 | 994.77 | | 994.96 | 0.002023 | 2.20 | 185.71 | 130.00 | 0.42 |
| a | 46.486* | PF 2 | 450.00 | 991.37 | 995.39 | | 995.60 | 0.001904 | 2.44 | 270.56 | 144.47 | 0.42 |
| a | 46.486* | PF 3 | 360.00 | 991.37 | 995.07 | | 995.26 | 0.001948 | 2.31 | 225.60 | 136.88 | 0.42 |
| | | | | | | | | | | | | |
| a | 46.216* | PF 1 | 287.00 | 991.33 | 994.75 | | 994.95 | 0.002060 | 2.22 | 182.73 | 127.39 | 0.43 |
| a | 46.216* | PF 2 | 450.00 | 991.33 | 995.37 | | 995.59 | 0.001948 | 2.47 | 265.71 | 141.25 | 0.43 |
| a | 46.216* | PF 3 | 360.00 | 991.33 | 995.05 | | 995.25 | 0.001996 | 2.34 | 221.64 | 134.54 | 0.43 |
| | | | | | | | | | | | | |
| a | 45.946* | PF 1 | 287.00 | 991.29 | 994.74 | | 994.93 | 0.002026 | 2.20 | 181.10 | 119.95 | 0.42 |
| a | 45.946* | PF 2 | 450.00 | 991.29 | 995.35 | | 995.58 | 0.001992 | 2.49 | 261.24 | 138.45 | 0.43 |
| a | 45.946* | PF 3 | 360.00 | 991.29 | 995.03 | | 995.24 | 0.002038 | 2.36 | 218.02 | 131.95 | 0.43 |
| | | | | | | | | | | | | |
| a | 45.676* | PF 1 | 287.00 | 991.24 | 994.73 | | 994.92 | 0.002017 | 2.19 | 179.65 | 116.21 | 0.42 |
| a | 45.676* | PF 2 | 450.00 | 991.24 | 995.34 | | 995.57 | 0.002042 | 2.51 | 256.96 | 136.26 | 0.44 |
| a | 45.676* | PF 3 | 360.00 | 991.24 | 995.02 | | 995.23 | 0.002079 | 2.37 | 214.68 | 129.53 | 0.43 |
| | | | | | | | | | | | | |
| a | 45.405* | PF 1 | 287.00 | 991.20 | 994.72 | | 994.91 | 0.002021 | 2.19 | 178.17 | 113.86 | 0.42 |
| a | 45.405* | PF 2 | 450.00 | 991.20 | 995.32 | | 995.56 | 0.002092 | 2.54 | 252.88 | 134.12 | 0.44 |
| a | 45.405* | PF 3 | 360.00 | 991.20 | 995.00 | | 995.22 | 0.002109 | 2.38 | 211.74 | 126.46 | 0.44 |
| | | | | | | | | | | | | |
| a | 45.135* | PF 1 | 287.00 | 991.16 | 994.71 | | 994.90 | 0.002036 | 2.19 | 176.63 | 112.15 | 0.42 |
| a | 45.135* | PF 2 | 450.00 | 991.16 | 995.30 | | 995.54 | 0.002138 | 2.56 | 249.09 | 131.86 | 0.45 |
| a | 45.135* | PF 3 | 360.00 | 991.16 | 994.99 | | 995.21 | 0.002121 | 2.38 | 209.40 | 122.84 | 0.44 |
| | | | | | | | | | | | | |
| a | 44.865* | PF 1 | 287.00 | 991.12 | 994.70 | | 994.89 | 0.002058 | 2.20 | 175.07 | 110.82 | 0.42 |
| a | 44.865* | PF 2 | 450.00 | 991.12 | 995.28 | | 995.53 | 0.002186 | 2.57 | 245.55 | 129.83 | 0.45 |
| a | 44.865* | PF 3 | 360.00 | 991.12 | 994.98 | | 995.20 | 0.002140 | 2.39 | 207.22 | 120.20 | 0.44 |
| | | | | | | | | | | | | |
| a | 44.595* | PF 1 | 287.00 | 991.08 | 994.69 | | 994.88 | 0.002086 | 2.20 | 173.45 | 109.74 | 0.43 |
| a | 44.595* | PF 2 | 450.00 | 991.08 | 995.27 | | 995.52 | 0.002223 | 2.59 | 242.38 | 127.32 | 0.45 |
| a | 44.595* | PF 3 | 360.00 | 991.08 | 994.96 | | 995.19 | 0.002165 | 2.39 | 205.11 | 118.17 | 0.44 |
| | | | | | | | | | | | | |
| a | 44.324* | PF 1 | 287.00 | 991.04 | 994.67 | | 994.87 | 0.002119 | 2.21 | 171.78 | 108.83 | 0.43 |
| a | 44.324* | PF 2 | 450.00 | 991.04 | 995.25 | | 995.51 | 0.002256 | 2.60 | 239.55 | 124.88 | 0.46 |
| a | 44.324* | PF 3 | 360.00 | 991.04 | 994.95 | | 995.18 | 0.002196 | 2.40 | 203.04 | 116.55 | 0.44 |
| | | | | | | | | | | | | |
| a | 44.054* | PF 1 | 287.00 | 990.99 | 994.66 | | 994.86 | 0.002159 | 2.22 | 170.01 | 108.04 | 0.43 |
| a | 44.054* | PF 2 | 450.00 | 990.99 | 995.24 | | 995.50 | 0.002293 | 2.61 | 236.82 | 122.94 | 0.46 |
| a | 44.054* | PF 3 | 360.00 | 990.99 | 994.94 | | 995.17 | 0.002233 | 2.41 | 200.92 | 115.23 | 0.45 |
| | | | | | | | | | | | | |
| a | 43.784* | PF 1 | 287.00 | 990.95 | 994.65 | | 994.85 | 0.002206 | 2.23 | 168.18 | 107.35 | 0.44 |
| a | 43.784* | PF 2 | 450.00 | 990.95 | 995.22 | | 995.49 | 0.002336 | 2.62 | 234.18 | 121.38 | 0.46 |
| a | 43.784* | PF 3 | 360.00 | 990.95 | 994.92 | | 995.16 | 0.002276 | 2.42 | 198.78 | 114.15 | 0.45 |
| | | | | | | | | | | | | |
| a | 43.514* | PF 1 | 287.00 | 990.91 | 994.63 | | 994.84 | 0.002258 | 2.25 | 166.29 | 106.74 | 0.44 |
| a | 43.514* | PF 2 | 450.00 | 990.91 | 995.21 | | 995.47 | 0.002383 | 2.63 | 231.62 | 120.13 | 0.47 |
| a | 43.514* | PF 3 | 360.00 | 990.91 | 994.91 | | 995.14 | 0.002324 | 2.44 | 196.63 | 113.26 | 0.46 |
| | | | | | | | | | | | | |
| a | 43.243* | PF 1 | 287.00 | 990.87 | 994.61 | | 994.83 | 0.002316 | 2.26 | 164.35 | 106.19 | 0.45 |
| a | 43.243* | PF 2 | 450.00 | 990.87 | 995.19 | | 995.46 | 0.002434 | 2.65 | 229.12 | 119.15 | 0.47 |
| a | 43.243* | PF 3 | 360.00 | 990.87 | 994.89 | | 995.13 | 0.002379 | 2.45 | 194.45 | 112.53 | 0.46 |
| | | | | | | | | | | | | |
| a | 42.973* | PF 1 | 287.00 | 990.82 | 994.60 | | 994.82 | 0.002384 | 2.28 | 162.25 | 105.72 | 0.45 |
| a | 42.973* | PF 2 | 450.00 | 990.82 | 995.17 | | 995.45 | 0.002492 | 2.66 | 226.61 | 118.43 | 0.48 |
| a | 42.973* | PF 3 | 360.00 | 990.82 | 994.87 | | 995.12 | 0.002442 | 2.47 | 192.17 | 111.97 | 0.47 |
| | | | | | | | | | | | | |
| a | 42.703* | PF 1 | 287.00 | 990.78 | 994.58 | | 994.80 | 0.002462 | 2.30 | 160.07 | 105.31 | 0.46 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 42.703* | PF 2 | 450.00 | 990.78 | 995.15 | | 995.44 | 0.002556 | 2.68 | 224.13 | 117.99 | 0.48 |
| a | 42.703* | PF 3 | 360.00 | 990.78 | 994.85 | | 995.11 | 0.002512 | 2.48 | 189.85 | 111.58 | 0.47 |
| | | | | | | | | | | | | |
| a | 42.432* | PF 1 | 287.00 | 990.74 | 994.56 | | 994.79 | 0.002552 | 2.32 | 157.74 | 105.04 | 0.47 |
| a | 42.432* | PF 2 | 450.00 | 990.74 | 995.13 | | 995.42 | 0.002651 | 2.71 | 221.39 | 122.85 | 0.49 |
| a | 42.432* | PF 3 | 360.00 | 990.74 | 994.84 | | 995.09 | 0.002592 | 2.51 | 187.45 | 111.40 | 0.48 |
| | | | | | | | | | | | | |
| a | 42.162* | PF 1 | 287.00 | 990.70 | 994.54 | | 994.78 | 0.002654 | 2.35 | 155.28 | 104.85 | 0.47 |
| a | 42.162* | PF 2 | 450.00 | 990.70 | 995.11 | | 995.41 | 0.002708 | 2.72 | 220.06 | 122.83 | 0.50 |
| a | 42.162* | PF 3 | 360.00 | 990.70 | 994.82 | | 995.08 | 0.002681 | 2.53 | 184.99 | 111.49 | 0.48 |
| | | | | | | | | | | | | |
| a | 41.892* | PF 1 | 287.00 | 990.66 | 994.52 | | 994.76 | 0.002769 | 2.37 | 152.74 | 104.81 | 0.48 |
| a | 41.892* | PF 2 | 450.00 | 990.66 | 995.10 | | 995.40 | 0.002766 | 2.73 | 218.93 | 122.87 | 0.50 |
| a | 41.892* | PF 3 | 360.00 | 990.66 | 994.80 | | 995.06 | 0.002780 | 2.55 | 182.62 | 115.65 | 0.49 |
| | | | | | | | | | | | | |
| a | 41.622* | PF 1 | 287.00 | 990.61 | 994.50 | | 994.75 | 0.002905 | 2.41 | 150.00 | 105.05 | 0.49 |
| a | 41.622* | PF 2 | 450.00 | 990.61 | 995.08 | | 995.38 | 0.002829 | 2.74 | 217.87 | 122.96 | 0.50 |
| a | 41.622* | PF 3 | 360.00 | 990.61 | 994.77 | | 995.05 | 0.002888 | 2.58 | 180.99 | 117.74 | 0.50 |
| | | | | | | | | | | | | |
| a | 41.351* | PF 1 | 287.00 | 990.57 | 994.47 | | 994.73 | 0.003059 | 2.44 | 147.35 | 109.97 | 0.50 |
| a | 41.351* | PF 2 | 450.00 | 990.57 | 995.06 | | 995.37 | 0.002891 | 2.75 | 217.00 | 123.12 | 0.51 |
| a | 41.351* | PF 3 | 360.00 | 990.57 | 994.76 | | 995.04 | 0.002982 | 2.60 | 179.73 | 118.04 | 0.51 |
| | | | | | | | | | | | | |
| a | 41.081* | PF 1 | 287.00 | 990.53 | 994.45 | | 994.72 | 0.003220 | 2.47 | 145.51 | 112.59 | 0.52 |
| a | 41.081* | PF 2 | 450.00 | 990.53 | 995.05 | | 995.35 | 0.002955 | 2.76 | 216.25 | 123.31 | 0.51 |
| a | 41.081* | PF 3 | 360.00 | 990.53 | 994.74 | | 995.02 | 0.003086 | 2.61 | 178.48 | 118.34 | 0.51 |
| | | | | | | | | | | | | |
| a | 40.811* | PF 1 | 287.00 | 990.49 | 994.43 | | 994.70 | 0.003391 | 2.51 | 143.76 | 112.28 | 0.53 |
| a | 40.811* | PF 2 | 450.00 | 990.49 | 995.03 | | 995.34 | 0.003018 | 2.76 | 215.66 | 123.53 | 0.52 |
| a | 40.811* | PF 3 | 360.00 | 990.49 | 994.71 | | 995.00 | 0.003194 | 2.63 | 177.32 | 118.67 | 0.52 |
| | | | | | | | | | | | | |
| a | 40.541* | PF 1 | 287.00 | 990.44 | 994.40 | | 994.68 | 0.003574 | 2.54 | 142.13 | 111.73 | 0.54 |
| a | 40.541* | PF 2 | 450.00 | 990.44 | 995.02 | | 995.32 | 0.003077 | 2.77 | 215.31 | 123.69 | 0.52 |
| a | 40.541* | PF 3 | 360.00 | 990.44 | 994.69 | | 994.99 | 0.003305 | 2.65 | 176.31 | 119.02 | 0.53 |
| | | | | | | | | | | | | |
| a | 40.270* | PF 1 | 287.00 | 990.40 | 994.37 | | 994.66 | 0.003773 | 2.57 | 140.52 | 111.30 | 0.55 |
| a | 40.270* | PF 2 | 450.00 | 990.40 | 995.00 | | 995.31 | 0.003134 | 2.77 | 215.00 | 123.39 | 0.52 |
| a | 40.270* | PF 3 | 360.00 | 990.40 | 994.67 | | 994.97 | 0.003425 | 2.67 | 175.31 | 119.36 | 0.54 |
| | | | | | | | | | | | | |
| a | 40 | PF 1 | 287.00 | 990.36 | 994.35 | | 994.64 | 0.003979 | 2.60 | 139.03 | 111.02 | 0.56 |
| a | 40 | PF 2 | 450.00 | 990.36 | 994.99 | | 995.29 | 0.003190 | 2.77 | 214.77 | 123.10 | 0.53 |
| a | 40 | PF 3 | 360.00 | 990.36 | 994.65 | | 994.95 | 0.003542 | 2.68 | 174.51 | 119.56 | 0.54 |
| | | | | | | | | | | | | |
| a | 39.688* | PF 1 | 287.00 | 990.34 | 994.32 | | 994.62 | 0.004012 | 2.63 | 136.90 | 108.47 | 0.57 |
| a | 39.688* | PF 2 | 450.00 | 990.34 | 994.96 | | 995.27 | 0.003248 | 2.81 | 211.53 | 121.77 | 0.53 |
| a | 39.688* | PF 3 | 360.00 | 990.34 | 994.63 | | 994.93 | 0.003598 | 2.72 | 171.60 | 117.79 | 0.55 |
| | | | | | | | | | | | | |
| a | 39.375* | PF 1 | 287.00 | 990.33 | 994.29 | | 994.60 | 0.004038 | 2.66 | 134.91 | 105.92 | 0.57 |
| a | 39.375* | PF 2 | 450.00 | 990.33 | 994.93 | | 995.26 | 0.003310 | 2.85 | 208.27 | 120.45 | 0.54 |
| a | 39.375* | PF 3 | 360.00 | 990.33 | 994.60 | | 994.92 | 0.003645 | 2.75 | 168.84 | 115.38 | 0.55 |
| | | | | | | | | | | | | |
| a | 39.063* | PF 1 | 287.00 | 990.31 | 994.26 | | 994.58 | 0.004056 | 2.68 | 133.10 | 103.39 | 0.57 |
| a | 39.063* | PF 2 | 450.00 | 990.31 | 994.90 | | 995.24 | 0.003373 | 2.89 | 205.02 | 119.14 | 0.54 |
| a | 39.063* | PF 3 | 360.00 | 990.31 | 994.57 | | 994.90 | 0.003690 | 2.78 | 166.20 | 112.94 | 0.56 |
| | | | | | | | | | | | | |
| a | 38.750* | PF 1 | 287.00 | 990.30 | 994.24 | | 994.56 | 0.004072 | 2.70 | 131.40 | 100.88 | 0.57 |
| a | 38.750* | PF 2 | 450.00 | 990.30 | 994.87 | | 995.22 | 0.003443 | 2.93 | 201.69 | 117.85 | 0.55 |
| a | 38.750* | PF 3 | 360.00 | 990.30 | 994.54 | | 994.88 | 0.003736 | 2.82 | 163.64 | 110.53 | 0.56 |
| | | | | | | | | | | | | |
| a | 38.438* | PF 1 | 287.00 | 990.28 | 994.21 | | 994.54 | 0.004082 | 2.72 | 129.88 | 98.40 | 0.58 |
| a | 38.438* | PF 2 | 450.00 | 990.28 | 994.84 | | 995.20 | 0.003514 | 2.97 | 198.38 | 116.58 | 0.56 |
| a | 38.438* | PF 3 | 360.00 | 990.28 | 994.51 | | 994.86 | 0.003779 | 2.85 | 161.22 | 108.12 | 0.57 |
| | | | | | | | | | | | | |
| a | 38.125* | PF 1 | 287.00 | 990.27 | 994.18 | | 994.52 | 0.004087 | 2.74 | 128.51 | 95.94 | 0.58 |
| a | 38.125* | PF 2 | 450.00 | 990.27 | 994.81 | | 995.18 | 0.003590 | 3.02 | 195.07 | 115.34 | 0.56 |
| a | 38.125* | PF 3 | 360.00 | 990.27 | 994.48 | | 994.84 | 0.003820 | 2.88 | 158.93 | 105.73 | 0.57 |
| | | | | | | | | | | | | |
| a | 37.813* | PF 1 | 287.00 | 990.25 | 994.16 | | 994.50 | 0.004084 | 2.76 | 127.33 | 93.50 | 0.58 |
| a | 37.813* | PF 2 | 450.00 | 990.25 | 994.78 | | 995.17 | 0.003663 | 3.06 | 191.82 | 113.69 | 0.57 |
| a | 37.813* | PF 3 | 360.00 | 990.25 | 994.46 | | 994.82 | 0.003859 | 2.91 | 156.75 | 103.36 | 0.57 |
| | | | | | | | | | | | | |
| a | 37.500* | PF 1 | 287.00 | 990.23 | 994.13 | | 994.48 | 0.004082 | 2.78 | 126.26 | 91.09 | 0.58 |
| a | 37.500* | PF 2 | 450.00 | 990.23 | 994.75 | | 995.15 | 0.003737 | 3.10 | 188.66 | 111.58 | 0.58 |
| a | 37.500* | PF 3 | 360.00 | 990.23 | 994.43 | | 994.80 | 0.003900 | 2.94 | 154.67 | 101.01 | 0.58 |
| | | | | | | | | | | | | |
| a | 37.188* | PF 1 | 287.00 | 990.22 | 994.11 | | 994.46 | 0.004078 | 2.79 | 125.32 | 88.69 | 0.58 |
| a | 37.188* | PF 2 | 450.00 | 990.22 | 994.71 | | 995.13 | 0.003813 | 3.14 | 185.58 | 109.47 | 0.58 |
| a | 37.188* | PF 3 | 360.00 | 990.22 | 994.40 | | 994.78 | 0.003941 | 2.97 | 152.69 | 98.67 | 0.58 |
| | | | | | | | | | | | | |
| a | 36.875* | PF 1 | 287.00 | 990.20 | 994.08 | | 994.44 | 0.004077 | 2.81 | 124.49 | 86.32 | 0.58 |
| a | 36.875* | PF 2 | 450.00 | 990.20 | 994.68 | | 995.11 | 0.003894 | 3.19 | 182.59 | 107.20 | 0.59 |
| a | 36.875* | PF 3 | 360.00 | 990.20 | 994.37 | | 994.76 | 0.003983 | 3.00 | 150.84 | 96.35 | 0.58 |
| | | | | | | | | | | | | |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 36.563* | PF 1 | 287.00 | 990.19 | 994.05 | | 994.42 | 0.004075 | 2.83 | 123.79 | 83.97 | 0.58 |
| a | 36.563* | PF 2 | 450.00 | 990.19 | 994.65 | | 995.09 | 0.003976 | 3.23 | 179.73 | 105.00 | 0.59 |
| a | 36.563* | PF 3 | 360.00 | 990.19 | 994.34 | | 994.74 | 0.004024 | 3.03 | 149.14 | 94.08 | 0.59 |
| | | | | | | | | | | | | |
| a | 36.250* | PF 1 | 287.00 | 990.17 | 994.03 | | 994.39 | 0.004076 | 2.85 | 123.16 | 83.26 | 0.58 |
| a | 36.250* | PF 2 | 450.00 | 990.17 | 994.61 | | 995.06 | 0.004062 | 3.28 | 176.96 | 102.79 | 0.60 |
| a | 36.250* | PF 3 | 360.00 | 990.17 | 994.31 | | 994.72 | 0.004065 | 3.06 | 147.59 | 91.83 | 0.59 |
| | | | | | | | | | | | | |
| a | 35.938* | PF 1 | 287.00 | 990.16 | 994.00 | | 994.37 | 0.004090 | 2.87 | 122.40 | 82.78 | 0.58 |
| a | 35.938* | PF 2 | 450.00 | 990.16 | 994.58 | | 995.04 | 0.004157 | 3.32 | 174.27 | 100.62 | 0.61 |
| a | 35.938* | PF 3 | 360.00 | 990.16 | 994.28 | | 994.70 | 0.004111 | 3.09 | 146.13 | 89.61 | 0.59 |
| | | | | | | | | | | | | |
| a | 35.625* | PF 1 | 287.00 | 990.14 | 993.98 | | 994.35 | 0.004109 | 2.89 | 121.61 | 82.35 | 0.58 |
| a | 35.625* | PF 2 | 450.00 | 990.14 | 994.54 | | 995.02 | 0.004257 | 3.37 | 171.71 | 98.47 | 0.62 |
| a | 35.625* | PF 3 | 360.00 | 990.14 | 994.25 | | 994.68 | 0.004164 | 3.12 | 144.77 | 87.39 | 0.60 |
| | | | | | | | | | | | | |
| a | 35.313* | PF 1 | 287.00 | 990.13 | 993.95 | | 994.33 | 0.004135 | 2.91 | 120.77 | 81.99 | 0.59 |
| a | 35.313* | PF 2 | 450.00 | 990.13 | 994.50 | | 995.00 | 0.004361 | 3.42 | 169.32 | 96.39 | 0.62 |
| a | 35.313* | PF 3 | 360.00 | 990.13 | 994.22 | | 994.65 | 0.004220 | 3.15 | 143.54 | 86.12 | 0.60 |
| | | | | | | | | | | | | |
| a | 35.000* | PF 1 | 287.00 | 990.11 | 993.92 | | 994.31 | 0.004174 | 2.94 | 119.82 | 81.71 | 0.59 |
| a | 35.000* | PF 2 | 450.00 | 990.11 | 994.46 | | 994.97 | 0.004479 | 3.47 | 166.99 | 94.34 | 0.63 |
| a | 35.000* | PF 3 | 360.00 | 990.11 | 994.19 | | 994.63 | 0.004292 | 3.19 | 142.21 | 86.05 | 0.61 |
| | | | | | | | | | | | | |
| a | 34.688* | PF 1 | 287.00 | 990.09 | 993.89 | | 994.29 | 0.004220 | 2.97 | 118.82 | 81.51 | 0.59 |
| a | 34.688* | PF 2 | 450.00 | 990.09 | 994.42 | | 994.95 | 0.004606 | 3.52 | 164.84 | 92.32 | 0.64 |
| a | 34.688* | PF 3 | 360.00 | 990.09 | 994.15 | | 994.61 | 0.004377 | 3.23 | 140.80 | 86.07 | 0.62 |
| | | | | | | | | | | | | |
| a | 34.375* | PF 1 | 287.00 | 990.08 | 993.86 | | 994.27 | 0.004285 | 3.00 | 117.67 | 81.41 | 0.60 |
| a | 34.375* | PF 2 | 450.00 | 990.08 | 994.38 | | 994.93 | 0.004711 | 3.57 | 163.20 | 90.79 | 0.65 |
| a | 34.375* | PF 3 | 360.00 | 990.08 | 994.11 | | 994.59 | 0.004480 | 3.27 | 139.26 | 86.24 | 0.62 |
| | | | | | | | | | | | | |
| a | 34.063* | PF 1 | 287.00 | 990.06 | 993.82 | | 994.25 | 0.004359 | 3.04 | 116.50 | 81.46 | 0.60 |
| a | 34.063* | PF 2 | 450.00 | 990.06 | 994.35 | | 994.90 | 0.004778 | 3.60 | 162.05 | 90.38 | 0.65 |
| a | 34.063* | PF 3 | 360.00 | 990.06 | 994.08 | | 994.56 | 0.004601 | 3.32 | 137.63 | 86.55 | 0.63 |
| | | | | | | | | | | | | |
| a | 33.750* | PF 1 | 287.00 | 990.05 | 993.79 | | 994.22 | 0.004457 | 3.08 | 115.15 | 81.65 | 0.61 |
| a | 33.750* | PF 2 | 450.00 | 990.05 | 994.32 | | 994.88 | 0.004859 | 3.64 | 160.79 | 89.99 | 0.66 |
| a | 33.750* | PF 3 | 360.00 | 990.05 | 994.03 | | 994.54 | 0.004753 | 3.38 | 135.78 | 87.06 | 0.64 |
| | | | | | | | | | | | | |
| a | 33.438* | PF 1 | 287.00 | 990.03 | 993.75 | | 994.20 | 0.004573 | 3.13 | 113.70 | 82.03 | 0.62 |
| a | 33.438* | PF 2 | 450.00 | 990.03 | 994.28 | | 994.85 | 0.004953 | 3.68 | 159.45 | 89.64 | 0.67 |
| a | 33.438* | PF 3 | 360.00 | 990.03 | 993.99 | | 994.51 | 0.004909 | 3.43 | 134.00 | 87.49 | 0.65 |
| | | | | | | | | | | | | |
| a | 33.125* | PF 1 | 287.00 | 990.02 | 993.71 | | 994.18 | 0.004723 | 3.18 | 112.05 | 82.67 | 0.63 |
| a | 33.125* | PF 2 | 450.00 | 990.02 | 994.24 | | 994.83 | 0.005061 | 3.72 | 158.02 | 89.35 | 0.67 |
| a | 33.125* | PF 3 | 360.00 | 990.02 | 993.95 | | 994.49 | 0.005001 | 3.47 | 132.86 | 87.14 | 0.66 |
| | | | | | | | | | | | | |
| a | 32.813* | PF 1 | 287.00 | 990.00 | 993.67 | | 994.15 | 0.004915 | 3.24 | 110.17 | 83.60 | 0.64 |
| a | 32.813* | PF 2 | 450.00 | 990.00 | 994.20 | | 994.80 | 0.005174 | 3.77 | 156.63 | 89.04 | 0.68 |
| a | 32.813* | PF 3 | 360.00 | 990.00 | 993.92 | | 994.46 | 0.005108 | 3.51 | 131.67 | 86.86 | 0.66 |
| | | | | | | | | | | | | |
| a | 32.500* | PF 1 | 287.00 | 989.98 | 993.62 | | 994.12 | 0.005113 | 3.30 | 108.38 | 84.49 | 0.65 |
| a | 32.500* | PF 2 | 450.00 | 989.98 | 994.16 | | 994.77 | 0.005267 | 3.81 | 155.50 | 88.57 | 0.69 |
| a | 32.500* | PF 3 | 360.00 | 989.98 | 993.88 | | 994.43 | 0.005229 | 3.56 | 130.42 | 86.69 | 0.67 |
| | | | | | | | | | | | | |
| a | 32.188* | PF 1 | 287.00 | 989.97 | 993.58 | 993.33 | 994.10 | 0.005231 | 3.35 | 107.36 | 84.35 | 0.66 |
| a | 32.188* | PF 2 | 450.00 | 989.97 | 994.12 | | 994.75 | 0.005373 | 3.85 | 154.32 | 88.12 | 0.69 |
| a | 32.188* | PF 3 | 360.00 | 989.97 | 993.84 | | 994.41 | 0.005339 | 3.60 | 129.38 | 86.36 | 0.68 |
| | | | | | | | | | | | | |
| a | 31.875* | PF 1 | 287.00 | 989.95 | 993.54 | 993.37 | 994.07 | 0.005362 | 3.39 | 106.34 | 84.32 | 0.67 |
| a | 31.875* | PF 2 | 450.00 | 989.95 | 994.08 | | 994.72 | 0.005488 | 3.89 | 153.11 | 87.68 | 0.70 |
| a | 31.875* | PF 3 | 360.00 | 989.95 | 993.80 | | 994.38 | 0.005440 | 3.64 | 128.48 | 85.93 | 0.69 |
| | | | | | | | | | | | | |
| a | 31.563* | PF 1 | 287.00 | 989.94 | 993.51 | 993.35 | 994.04 | 0.005437 | 3.42 | 105.89 | 83.92 | 0.67 |
| a | 31.563* | PF 2 | 450.00 | 989.94 | 994.04 | | 994.69 | 0.005602 | 3.93 | 152.04 | 87.29 | 0.71 |
| a | 31.563* | PF 3 | 360.00 | 989.94 | 993.76 | | 994.35 | 0.005545 | 3.67 | 127.63 | 85.52 | 0.69 |
| | | | | | | | | | | | | |
| a | 31.250* | PF 1 | 287.00 | 989.92 | 993.47 | 993.33 | 994.02 | 0.005515 | 3.45 | 105.50 | 83.56 | 0.68 |
| a | 31.250* | PF 2 | 450.00 | 989.92 | 994.00 | 993.85 | 994.66 | 0.005729 | 3.97 | 150.92 | 86.94 | 0.71 |
| a | 31.250* | PF 3 | 360.00 | 989.92 | 993.72 | | 994.32 | 0.005666 | 3.71 | 126.73 | 85.15 | 0.70 |
| | | | | | | | | | | | | |
| a | 30.938* | PF 1 | 287.00 | 989.91 | 993.44 | 993.31 | 993.99 | 0.005569 | 3.47 | 105.40 | 83.27 | 0.68 |
| a | 30.938* | PF 2 | 450.00 | 989.91 | 993.95 | | 994.63 | 0.005928 | 4.03 | 149.21 | 86.60 | 0.72 |
| a | 30.938* | PF 3 | 360.00 | 989.91 | 993.68 | 993.56 | 994.30 | 0.005769 | 3.75 | 126.10 | 84.86 | 0.70 |
| | | | | | | | | | | | | |
| a | 30.625* | PF 1 | 287.00 | 989.89 | 993.41 | 993.29 | 993.96 | 0.005582 | 3.49 | 105.71 | 83.08 | 0.68 |
| a | 30.625* | PF 2 | 450.00 | 989.89 | 993.92 | | 994.60 | 0.006030 | 4.07 | 148.61 | 86.42 | 0.73 |
| a | 30.625* | PF 3 | 360.00 | 989.89 | 993.66 | 993.54 | 994.27 | 0.005797 | 3.77 | 126.25 | 84.70 | 0.71 |
| | | | | | | | | | | | | |
| a | 30.313* | PF 1 | 287.00 | 989.88 | 993.38 | 993.26 | 993.93 | 0.005586 | 3.50 | 106.22 | 83.02 | 0.68 |
| a | 30.313* | PF 2 | 450.00 | 989.88 | 993.88 | 993.76 | 994.57 | 0.006090 | 4.09 | 148.65 | 86.70 | 0.73 |
| a | 30.313* | PF 3 | 360.00 | 989.88 | 993.62 | 993.51 | 994.24 | 0.005823 | 3.78 | 126.54 | 84.67 | 0.71 |

HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 30 | PF 1 | 287.00 | 989.86 | 993.23 | 993.23 | 993.89 | 0.006938 | 3.79 | 96.96 | 82.27 | 0.75 |
| a | 30 | PF 2 | 450.00 | 989.86 | 993.74 | 993.74 | 994.53 | 0.007262 | 4.37 | 139.32 | 85.85 | 0.80 |
| a | 30 | PF 3 | 360.00 | 989.86 | 993.48 | 993.48 | 994.20 | 0.007008 | 4.05 | 117.82 | 84.05 | 0.77 |
| a | 29.333* | PF 1 | 287.00 | 989.81 | 992.81 | 993.09 | 993.81 | 0.011807 | 4.54 | 74.15 | 74.92 | 0.97 |
| a | 29.333* | PF 2 | 450.00 | 989.81 | 993.33 | 993.58 | 994.45 | 0.011280 | 5.06 | 116.10 | 82.28 | 0.98 |
| a | 29.333* | PF 3 | 360.00 | 989.81 | 993.08 | 993.33 | 994.12 | 0.011364 | 4.76 | 95.39 | 80.47 | 0.96 |
| a | 28.667* | PF 1 | 287.00 | 989.77 | 992.55 | 992.93 | 993.73 | 0.014939 | 4.86 | 65.96 | 67.35 | 1.08 |
| a | 28.667* | PF 2 | 450.00 | 989.77 | 993.09 | 993.43 | 994.37 | 0.013686 | 5.36 | 107.02 | 79.87 | 1.07 |
| a | 28.667* | PF 3 | 360.00 | 989.77 | 992.83 | 993.17 | 994.04 | 0.014024 | 5.06 | 87.00 | 78.06 | 1.06 |
| a | 28.000* | PF 1 | 287.00 | 989.72 | 992.35 | 992.78 | 993.64 | 0.017592 | 5.07 | 61.57 | 64.40 | 1.16 |
| a | 28.000* | PF 2 | 450.00 | 989.72 | 993.61 | 993.28 | 994.17 | 0.004917 | 3.70 | 159.23 | 82.89 | 0.67 |
| a | 28.000* | PF 3 | 360.00 | 989.72 | 992.63 | 993.02 | 993.95 | 0.016330 | 5.26 | 81.59 | 75.58 | 1.14 |
| a | 27.333* | PF 1 | 287.00 | 989.68 | 992.17 | 992.63 | 993.53 | 0.019887 | 5.20 | 59.08 | 62.32 | 1.23 |
| a | 27.333* | PF 2 | 450.00 | 989.68 | 993.65 | | 994.12 | 0.003917 | 3.39 | 172.12 | 82.54 | 0.60 |
| a | 27.333* | PF 3 | 360.00 | 989.68 | 992.44 | 992.88 | 993.86 | 0.018415 | 5.41 | 77.84 | 73.09 | 1.20 |
| a | 26.667* | PF 1 | 287.00 | 989.63 | 992.02 | 992.49 | 993.42 | 0.021891 | 5.29 | 57.74 | 61.03 | 1.28 |
| a | 26.667* | PF 2 | 450.00 | 989.63 | 993.67 | | 994.08 | 0.003243 | 3.15 | 183.14 | 82.09 | 0.55 |
| a | 26.667* | PF 3 | 360.00 | 989.63 | 992.27 | 992.74 | 993.75 | 0.020358 | 5.52 | 75.21 | 70.95 | 1.26 |
| a | 26.000* | PF 1 | 287.00 | 989.58 | 991.87 | 992.35 | 993.31 | 0.023584 | 5.33 | 57.24 | 62.18 | 1.32 |
| a | 26.000* | PF 2 | 450.00 | 989.58 | 993.69 | | 994.05 | 0.002772 | 2.97 | 192.87 | 82.74 | 0.51 |
| a | 26.000* | PF 3 | 360.00 | 989.58 | 992.12 | 992.59 | 993.64 | 0.022131 | 5.60 | 73.40 | 69.13 | 1.30 |
| a | 25.333* | PF 1 | 287.00 | 989.54 | 991.74 | 992.22 | 993.19 | 0.025209 | 5.36 | 56.99 | 61.07 | 1.36 |
| a | 25.333* | PF 2 | 450.00 | 989.54 | 993.70 | | 994.03 | 0.002402 | 2.81 | 201.98 | 83.13 | 0.48 |
| a | 25.333* | PF 3 | 360.00 | 989.54 | 993.01 | 992.45 | 993.40 | 0.003705 | 3.02 | 147.19 | 76.13 | 0.57 |
| a | 24.667* | PF 1 | 287.00 | 989.49 | 991.62 | 992.09 | 993.05 | 0.026170 | 5.34 | 57.58 | 60.55 | 1.38 |
| a | 24.667* | PF 2 | 450.00 | 989.49 | 993.71 | | 994.01 | 0.002106 | 2.67 | 210.49 | 83.24 | 0.45 |
| a | 24.667* | PF 3 | 360.00 | 989.49 | 993.03 | | 993.37 | 0.003087 | 2.81 | 156.36 | 75.74 | 0.53 |
| a | 24.000* | PF 1 | 287.00 | 989.45 | 992.44 | 991.95 | 992.80 | 0.004022 | 2.82 | 120.71 | 70.93 | 0.58 |
| a | 24.000* | PF 2 | 450.00 | 989.45 | 993.72 | | 993.99 | 0.001866 | 2.55 | 218.44 | 83.19 | 0.43 |
| a | 24.000* | PF 3 | 360.00 | 989.45 | 993.04 | | 993.35 | 0.002639 | 2.65 | 164.59 | 75.90 | 0.49 |
| a | 23.333* | PF 1 | 287.00 | 989.40 | 992.46 | | 992.77 | 0.003308 | 2.62 | 129.03 | 70.68 | 0.53 |
| a | 23.333* | PF 2 | 450.00 | 989.40 | 993.72 | | 993.98 | 0.001666 | 2.45 | 226.10 | 82.78 | 0.40 |
| a | 23.333* | PF 3 | 360.00 | 989.40 | 993.05 | | 993.32 | 0.002289 | 2.51 | 172.33 | 76.17 | 0.46 |
| a | 22.667* | PF 1 | 287.00 | 989.35 | 992.47 | | 992.74 | 0.002788 | 2.46 | 136.60 | 70.67 | 0.49 |
| a | 22.667* | PF 2 | 450.00 | 989.35 | 993.73 | | 993.96 | 0.001486 | 2.34 | 233.19 | 80.86 | 0.38 |
| a | 22.667* | PF 3 | 360.00 | 989.35 | 993.06 | | 993.31 | 0.002010 | 2.40 | 179.82 | 76.65 | 0.43 |
| a | 22.000* | PF 1 | 287.00 | 989.31 | 992.48 | | 992.72 | 0.002391 | 2.33 | 143.96 | 71.40 | 0.46 |
| a | 22.000* | PF 2 | 450.00 | 989.31 | 993.73 | | 993.95 | 0.001337 | 2.25 | 239.11 | 78.54 | 0.36 |
| a | 22.000* | PF 3 | 360.00 | 989.31 | 993.06 | | 993.29 | 0.001760 | 2.28 | 187.08 | 75.79 | 0.40 |
| a | 21.333* | PF 1 | 287.00 | 989.26 | 992.48 | | 992.70 | 0.002044 | 2.19 | 151.11 | 70.49 | 0.42 |
| a | 21.333* | PF 2 | 450.00 | 989.26 | 993.74 | | 993.94 | 0.001220 | 2.18 | 243.48 | 75.81 | 0.35 |
| a | 21.333* | PF 3 | 360.00 | 989.26 | 993.07 | | 993.28 | 0.001558 | 2.18 | 193.30 | 74.22 | 0.38 |
| a | 20.667* | PF 1 | 287.00 | 989.22 | 992.49 | | 992.68 | 0.001777 | 2.08 | 157.15 | 68.87 | 0.40 |
| a | 20.667* | PF 2 | 450.00 | 989.22 | 993.74 | | 993.93 | 0.001129 | 2.12 | 245.99 | 72.70 | 0.34 |
| a | 20.667* | PF 3 | 360.00 | 989.22 | 993.07 | | 993.26 | 0.001397 | 2.09 | 198.02 | 71.42 | 0.36 |
| a | 20 | PF 1 | 287.00 | 989.17 | 992.49 | 991.25 | 992.67 | 0.001576 | 1.99 | 161.66 | 66.60 | 0.38 |
| a | 20 | PF 2 | 450.00 | 989.17 | 993.73 | 991.74 | 993.93 | 0.001085 | 2.10 | 247.61 | 72.28 | 0.33 |
| a | 20 | PF 3 | 360.00 | 989.17 | 993.07 | 991.48 | 993.26 | 0.001278 | 2.03 | 200.78 | 68.15 | 0.35 |
| a | 19.5 | | Bridge | | | | | | | | | |
| a | 19 | PF 1 | 287.00 | 989.17 | 992.47 | | 992.65 | 0.001618 | 2.01 | 160.28 | 66.51 | 0.38 |
| a | 19 | PF 2 | 450.00 | 989.17 | 993.72 | | 993.91 | 0.001098 | 2.11 | 246.62 | 72.28 | 0.33 |
| a | 19 | PF 3 | 360.00 | 989.17 | 993.05 | | 993.24 | 0.001300 | 2.04 | 199.67 | 68.12 | 0.35 |
| a | 18.467* | PF 1 | 287.00 | 989.10 | 992.44 | | 992.64 | 0.001727 | 2.09 | 153.81 | 64.04 | 0.39 |
| a | 18.467* | PF 2 | 450.00 | 989.10 | 993.69 | | 993.91 | 0.001172 | 2.19 | 237.41 | 69.70 | 0.34 |
| a | 18.467* | PF 3 | 360.00 | 989.10 | 993.03 | | 993.23 | 0.001390 | 2.12 | 191.92 | 65.76 | 0.36 |
| a | 17.933* | PF 1 | 287.00 | 989.03 | 992.41 | | 992.63 | 0.001850 | 2.17 | 147.36 | 61.57 | 0.41 |
| a | 17.933* | PF 2 | 450.00 | 989.03 | 993.67 | | 993.90 | 0.001256 | 2.27 | 228.18 | 67.12 | 0.35 |
| a | 17.933* | PF 3 | 360.00 | 989.03 | 993.00 | | 993.22 | 0.001493 | 2.20 | 184.16 | 63.39 | 0.38 |
| a | 17.400* | PF 1 | 287.00 | 988.95 | 992.38 | | 992.62 | 0.001986 | 2.26 | 140.98 | 59.07 | 0.42 |
| a | 17.400* | PF 2 | 450.00 | 988.95 | 993.64 | | 993.89 | 0.001351 | 2.36 | 218.96 | 64.54 | 0.37 |
| a | 17.400* | PF 3 | 360.00 | 988.95 | 992.97 | | 993.21 | 0.001608 | 2.29 | 176.44 | 61.02 | 0.39 |

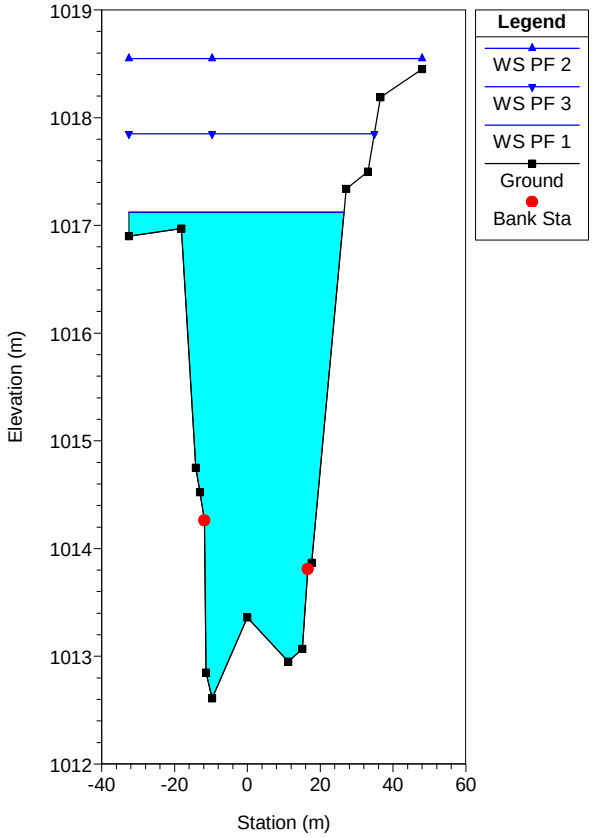
HEC-RAS Plan: Plan 02 River: 1 Reach: a (Continued)

| Reach | River Sta | Profile | Q Total | Min Ch El | W.S. Elev | Crit W.S. | E.G. Elev | E.G. Slope | Vel Chnl | Flow Area | Top Width | Froude # Chl |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (m3/s) | (m) | (m) | (m) | (m) | (m/m) | (m/s) | (m2) | (m) | |
| a | 16.867* | PF 1 | 287.00 | 988.88 | 992.35 | | 992.61 | 0.002139 | 2.35 | 134.65 | 56.54 | 0.43 |
| a | 16.867* | PF 2 | 450.00 | 988.88 | 993.61 | | 993.88 | 0.001460 | 2.45 | 209.74 | 61.96 | 0.38 |
| a | 16.867* | PF 3 | 360.00 | 988.88 | 992.94 | | 993.20 | 0.001738 | 2.39 | 168.75 | 58.65 | 0.40 |
| | | | | | | | | | | | | |
| a | 16.333* | PF 1 | 287.00 | 988.81 | 992.31 | | 992.60 | 0.002313 | 2.45 | 128.37 | 53.99 | 0.45 |
| a | 16.333* | PF 2 | 450.00 | 988.81 | 993.57 | | 993.87 | 0.001585 | 2.55 | 200.49 | 59.38 | 0.39 |
| a | 16.333* | PF 3 | 360.00 | 988.81 | 992.90 | | 993.19 | 0.001888 | 2.49 | 161.07 | 56.27 | 0.42 |
| | | | | | | | | | | | | |
| a | 15.800* | PF 1 | 287.00 | 988.73 | 992.27 | | 992.58 | 0.002511 | 2.55 | 122.12 | 51.39 | 0.47 |
| a | 15.800* | PF 2 | 450.00 | 988.73 | 993.53 | | 993.86 | 0.001731 | 2.66 | 191.20 | 56.80 | 0.41 |
| a | 15.800* | PF 3 | 360.00 | 988.73 | 992.86 | | 993.18 | 0.002061 | 2.60 | 153.37 | 53.88 | 0.43 |
| | | | | | | | | | | | | |
| a | 15.267* | PF 1 | 287.00 | 988.66 | 992.22 | | 992.57 | 0.002736 | 2.65 | 115.97 | 48.75 | 0.48 |
| a | 15.267* | PF 2 | 450.00 | 988.66 | 993.48 | | 993.85 | 0.001901 | 2.78 | 181.88 | 54.23 | 0.43 |
| a | 15.267* | PF 3 | 360.00 | 988.66 | 992.81 | | 993.17 | 0.002261 | 2.71 | 145.68 | 51.49 | 0.45 |
| | | | | | | | | | | | | |
| a | 14.733* | PF 1 | 287.00 | 988.59 | 992.17 | | 992.55 | 0.002996 | 2.77 | 109.89 | 46.03 | 0.50 |
| a | 14.733* | PF 2 | 450.00 | 988.59 | 993.43 | | 993.84 | 0.002103 | 2.92 | 172.49 | 51.65 | 0.45 |
| a | 14.733* | PF 3 | 360.00 | 988.59 | 992.76 | | 993.15 | 0.002498 | 2.84 | 137.98 | 49.08 | 0.47 |
| | | | | | | | | | | | | |
| a | 14.200* | PF 1 | 287.00 | 988.52 | 992.11 | | 992.53 | 0.003300 | 2.89 | 103.90 | 43.21 | 0.52 |
| a | 14.200* | PF 2 | 450.00 | 988.52 | 993.37 | | 993.82 | 0.002347 | 3.06 | 163.00 | 49.07 | 0.47 |
| a | 14.200* | PF 3 | 360.00 | 988.52 | 992.70 | | 993.14 | 0.002782 | 2.98 | 130.23 | 46.66 | 0.50 |
| | | | | | | | | | | | | |
| a | 13.667* | PF 1 | 287.00 | 988.44 | 992.05 | | 992.51 | 0.003656 | 3.03 | 98.05 | 40.23 | 0.55 |
| a | 13.667* | PF 2 | 450.00 | 988.44 | 993.30 | | 993.80 | 0.002648 | 3.23 | 153.38 | 46.49 | 0.49 |
| a | 13.667* | PF 3 | 360.00 | 988.44 | 992.63 | | 993.12 | 0.003127 | 3.14 | 122.43 | 44.00 | 0.52 |
| | | | | | | | | | | | | |
| a | 13.133* | PF 1 | 287.00 | 988.37 | 991.98 | | 992.49 | 0.004079 | 3.17 | 92.48 | 36.91 | 0.57 |
| a | 13.133* | PF 2 | 450.00 | 988.37 | 993.21 | | 993.78 | 0.003027 | 3.41 | 143.58 | 43.91 | 0.52 |
| a | 13.133* | PF 3 | 360.00 | 988.37 | 992.55 | | 993.09 | 0.003554 | 3.31 | 114.59 | 41.14 | 0.55 |
| | | | | | | | | | | | | |
| a | 12.600* | PF 1 | 287.00 | 988.30 | 991.90 | | 992.46 | 0.004581 | 3.32 | 87.03 | 32.50 | 0.60 |
| a | 12.600* | PF 2 | 450.00 | 988.30 | 993.11 | | 993.76 | 0.003524 | 3.63 | 133.45 | 41.33 | 0.56 |
| a | 12.600* | PF 3 | 360.00 | 988.30 | 992.45 | | 993.07 | 0.004105 | 3.51 | 106.63 | 37.96 | 0.59 |
| | | | | | | | | | | | | |
| a | 12.067* | PF 1 | 287.00 | 988.23 | 991.81 | | 992.43 | 0.005158 | 3.50 | 82.24 | 28.03 | 0.64 |
| a | 12.067* | PF 2 | 450.00 | 988.23 | 992.98 | | 993.73 | 0.004210 | 3.89 | 122.81 | 38.75 | 0.60 |
| a | 12.067* | PF 3 | 360.00 | 988.23 | 992.33 | | 993.04 | 0.004833 | 3.73 | 98.68 | 33.92 | 0.63 |
| | | | | | | | | | | | | |
| a | 11.533* | PF 1 | 287.00 | 988.15 | 991.70 | | 992.40 | 0.005970 | 3.71 | 77.39 | 25.51 | 0.68 |
| a | 11.533* | PF 2 | 450.00 | 988.15 | 992.80 | | 993.70 | 0.005248 | 4.22 | 111.19 | 36.17 | 0.66 |
| a | 11.533* | PF 3 | 360.00 | 988.15 | 992.18 | | 993.00 | 0.005850 | 4.01 | 90.57 | 29.85 | 0.68 |
| | | | | | | | | | | | | |
| a | 11 | PF 1 | 287.00 | 988.08 | 991.54 | 991.00 | 992.36 | 0.007301 | 4.01 | 71.60 | 24.25 | 0.74 |
| a | 11 | PF 2 | 450.00 | 988.08 | 992.52 | 991.85 | 993.64 | 0.007160 | 4.71 | 97.39 | 31.80 | 0.76 |
| a | 11 | PF 3 | 360.00 | 988.08 | 991.98 | 991.40 | 992.96 | 0.007370 | 4.38 | 82.36 | 24.63 | 0.76 |
| | | | | | | | | | | | | |
| a | 10.5 | | Bridge | | | | | | | | | |
| | | | | | | | | | | | | |
| a | 10 | PF 1 | 287.00 | 988.08 | 991.05 | 991.00 | 992.22 | 0.013004 | 4.80 | 59.76 | 24.21 | 0.98 |
| a | 10 | PF 2 | 450.00 | 988.08 | 991.85 | 991.85 | 993.50 | 0.013002 | 5.68 | 79.25 | 24.27 | 1.00 |
| a | 10 | PF 3 | 360.00 | 988.08 | 991.42 | 991.40 | 992.82 | 0.013003 | 5.23 | 68.87 | 24.24 | 0.99 |

# ALLEGATO 2 – SEZIONI DI CALCOLO

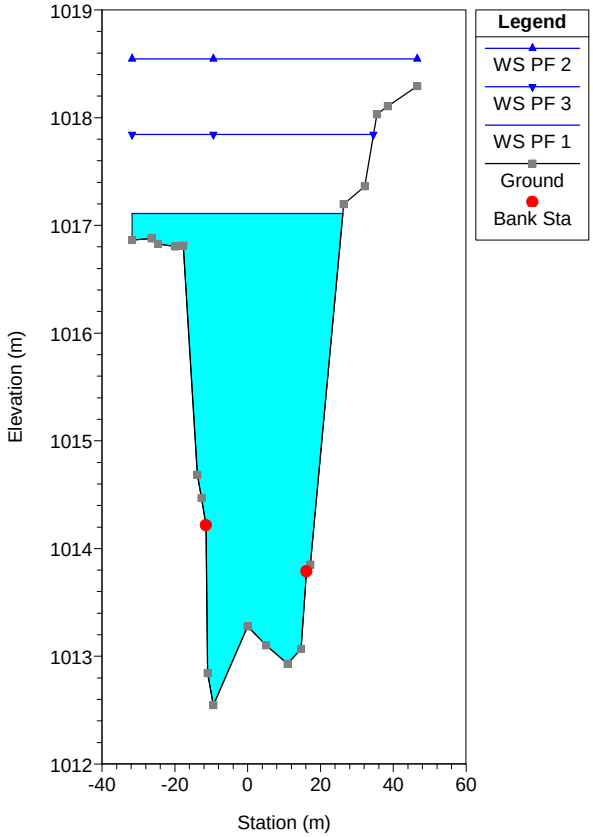
River = 1 Reach = a RS = 200

PROFILO IDRAULICO DORA RIPARIA



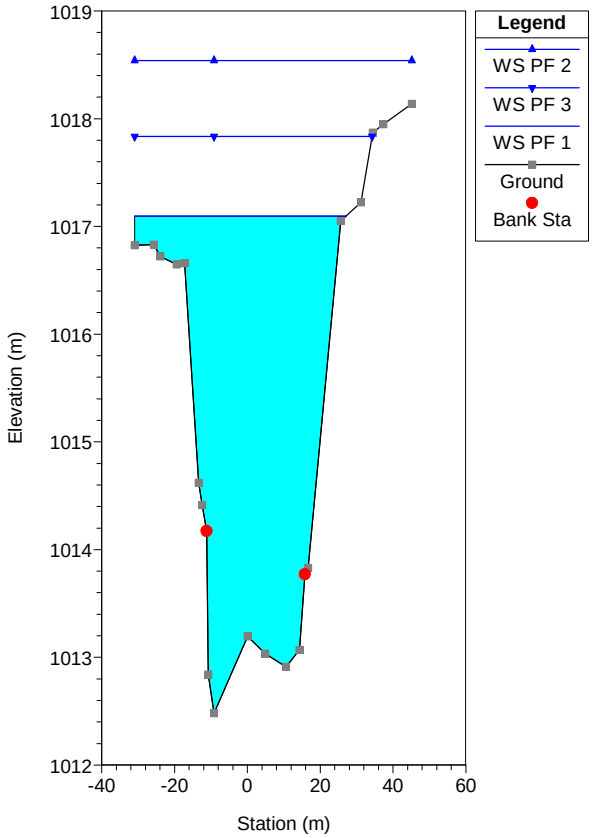

River = 1 Reach = a RS = 199.58*

PROFILO IDRAULICO DORA RIPARIA



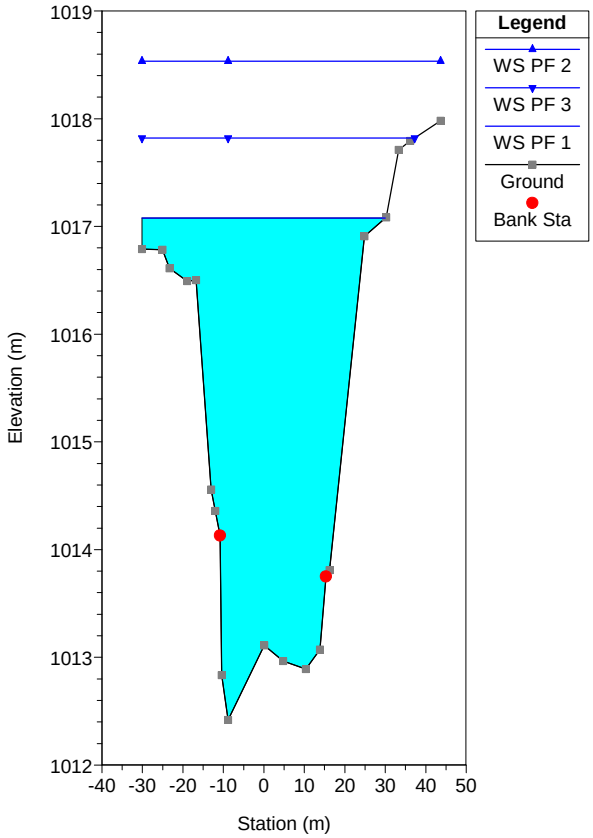

River = 1 Reach = a RS = 199.17*

PROFILO IDRAULICO DORA RIPARIA



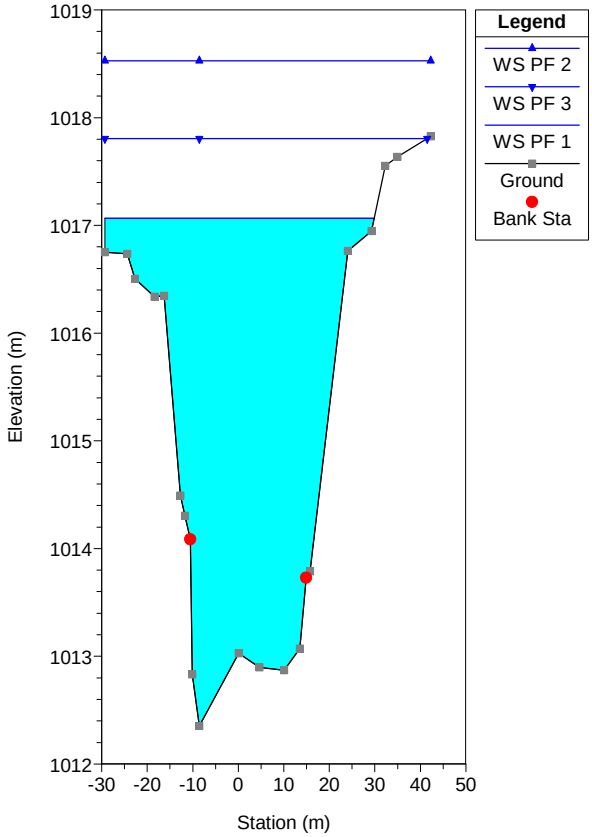

River = 1 Reach = a RS = 198.75*

PROFILO IDRAULICO DORA RIPARIA



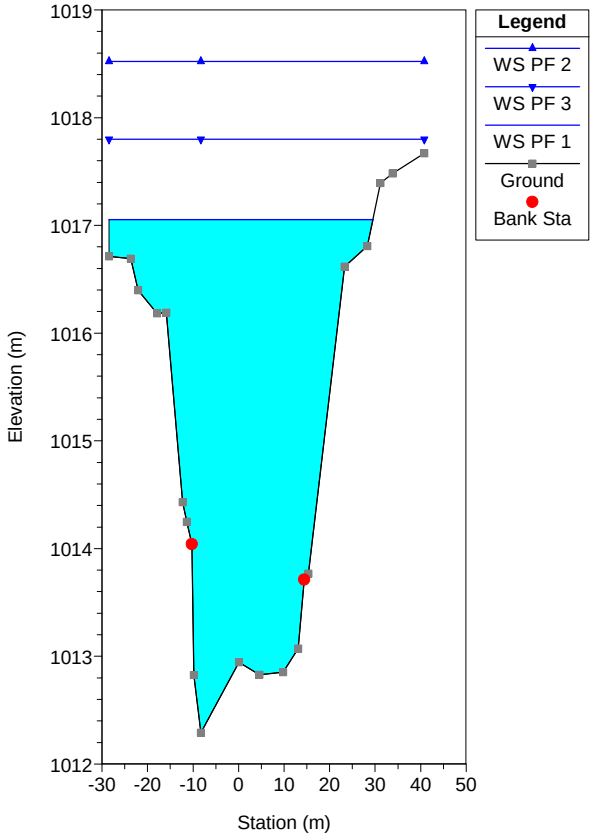
River = 1 Reach = a RS = 198.33*

PROFILO IDRAULICO DORA RIPARIA



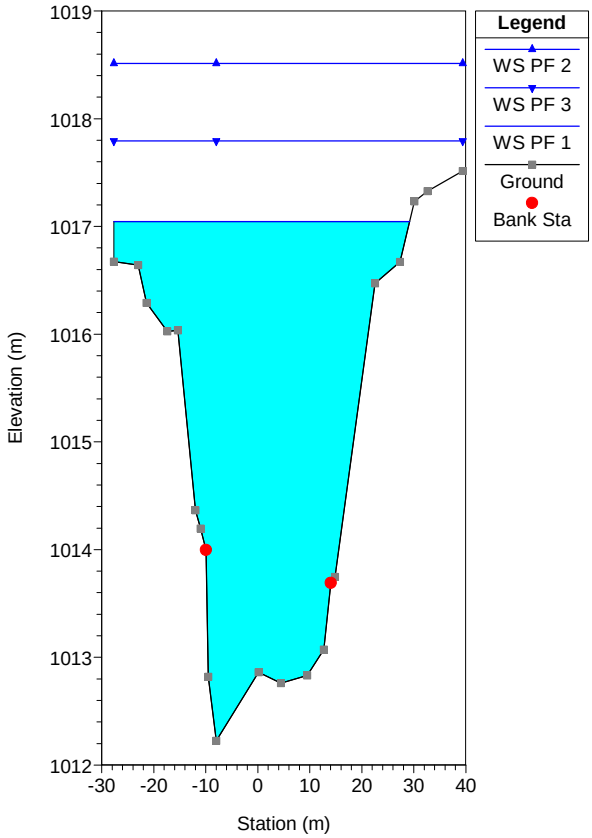

River = 1 Reach = a RS = 197.92*

PROFILO IDRAULICO DORA RIPARIA



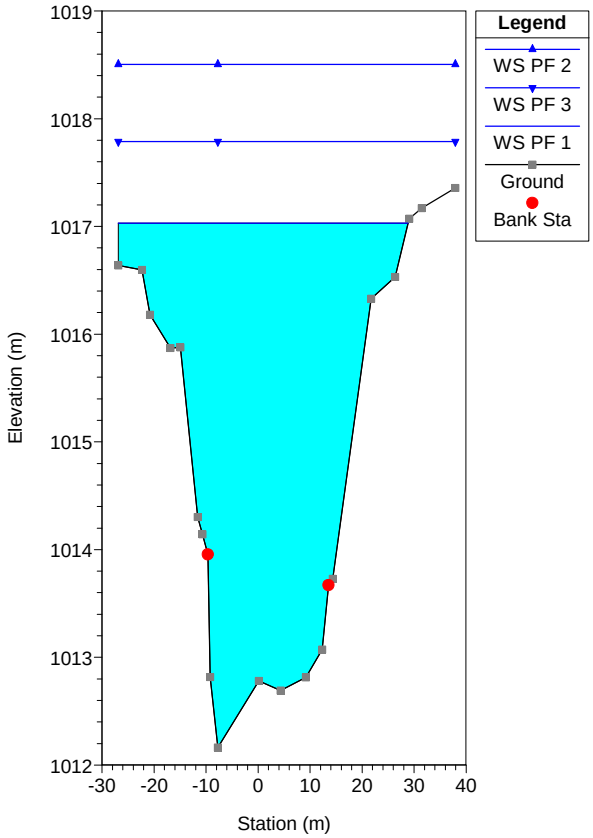

River = 1 Reach = a RS = 197.50*

PROFILO IDRAULICO DORA RIPARIA



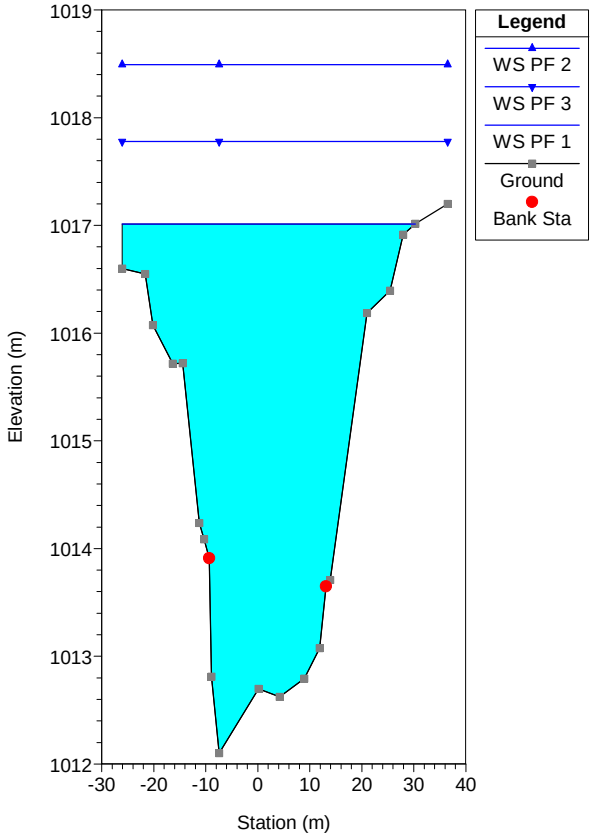

River = 1 Reach = a RS = 197.08*

PROFILO IDRAULICO DORA RIPARIA



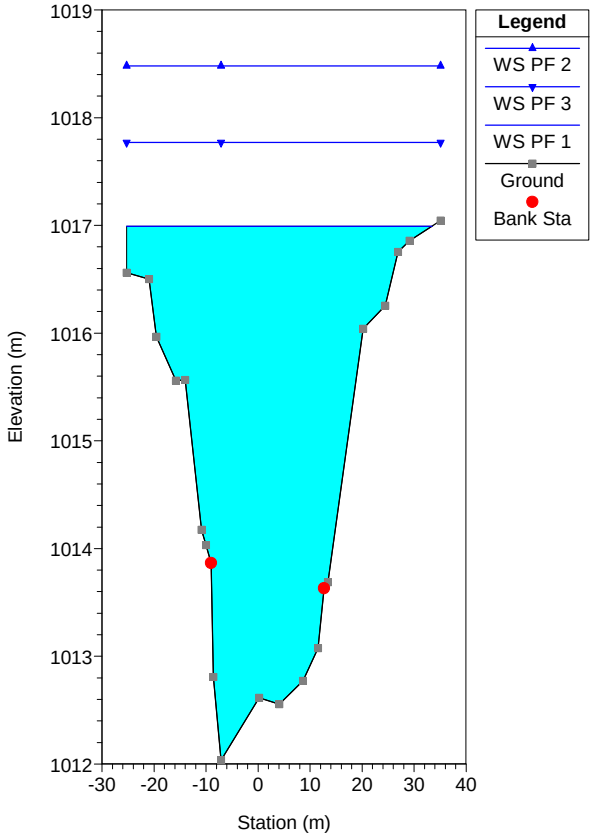
River = 1 Reach = a RS = 196.67*

PROFILO IDRAULICO DORA RIPARIA



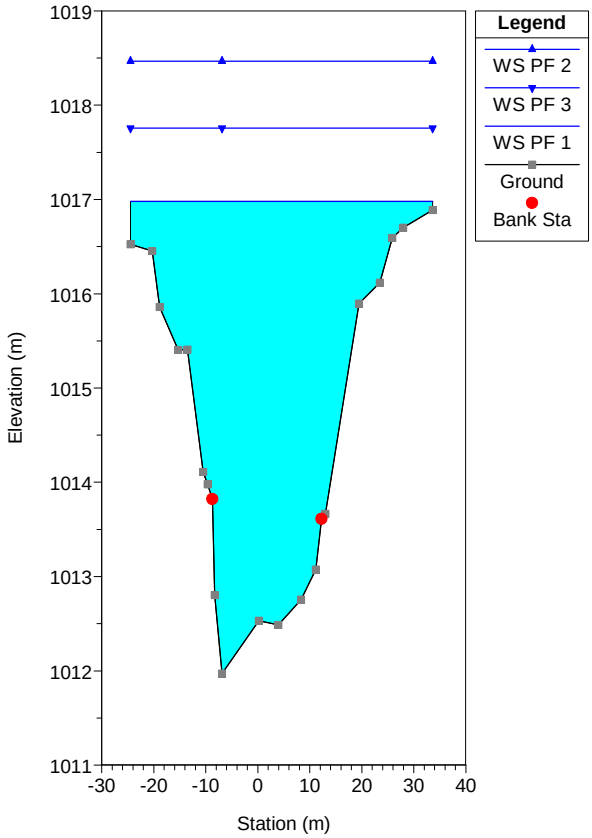

River = 1 Reach = a RS = 196.25*

PROFILO IDRAULICO DORA RIPARIA



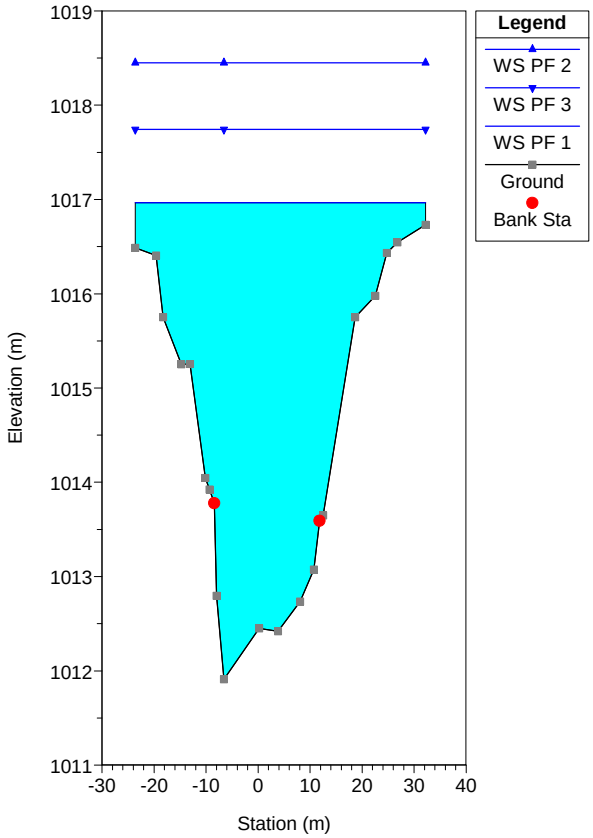

River = 1 Reach = a RS = 195.83*

PROFILO IDRAULICO DORA RIPARIA



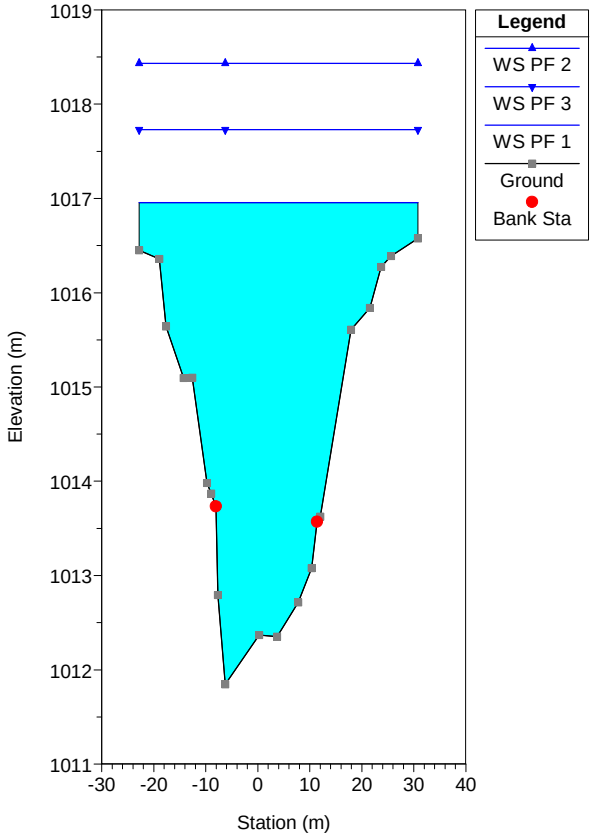

River = 1 Reach = a RS = 195.42*

PROFILO IDRAULICO DORA RIPARIA



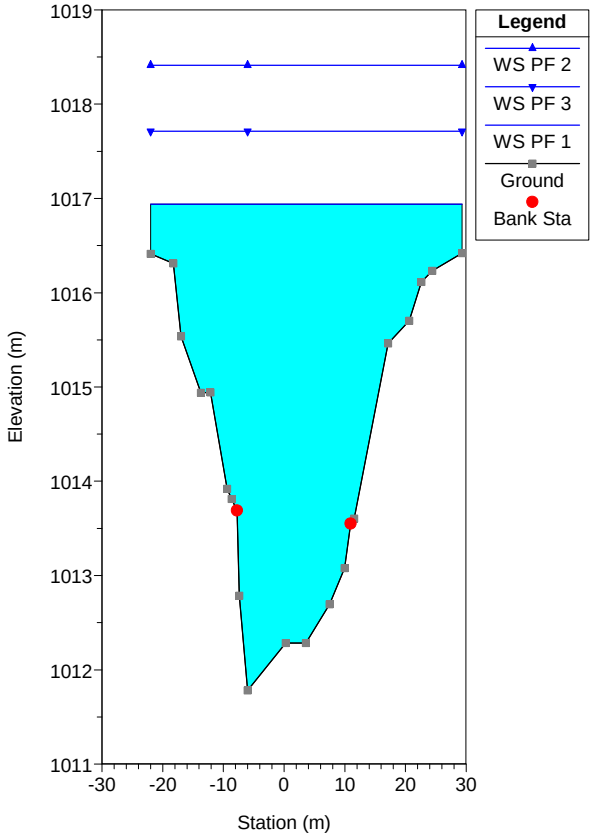
River = 1 Reach = a RS = 195.00*

PROFILO IDRAULICO DORA RIPARIA



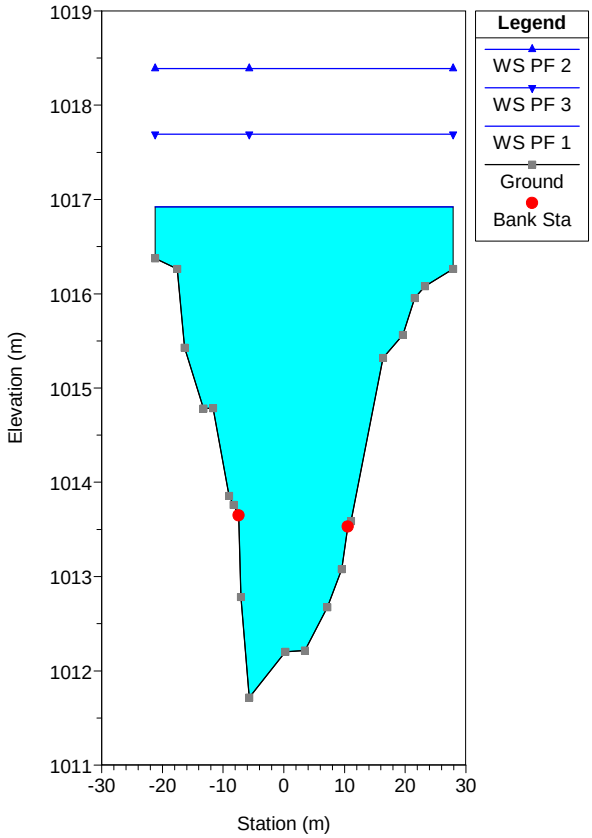

River = 1 Reach = a RS = 194.58*

PROFILO IDRAULICO DORA RIPARIA



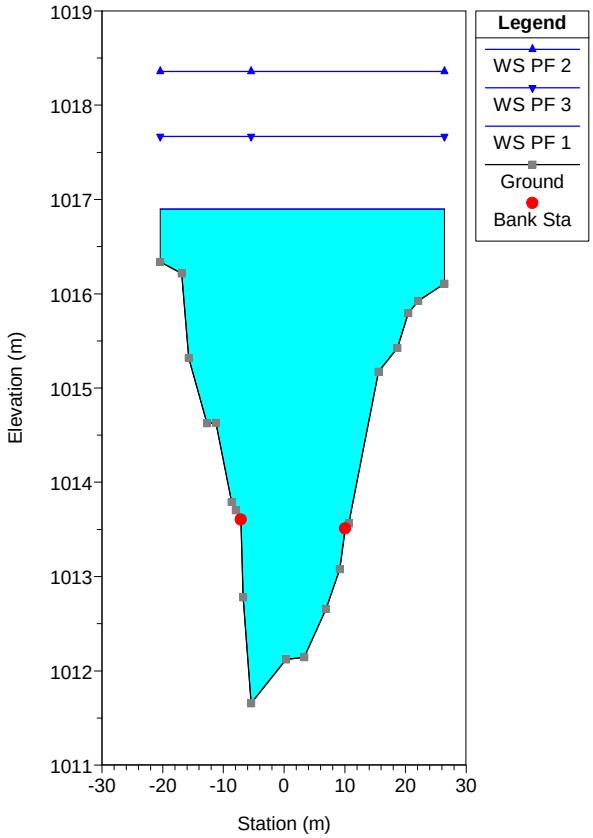

River = 1 Reach = a RS = 194.17*

PROFILO IDRAULICO DORA RIPARIA



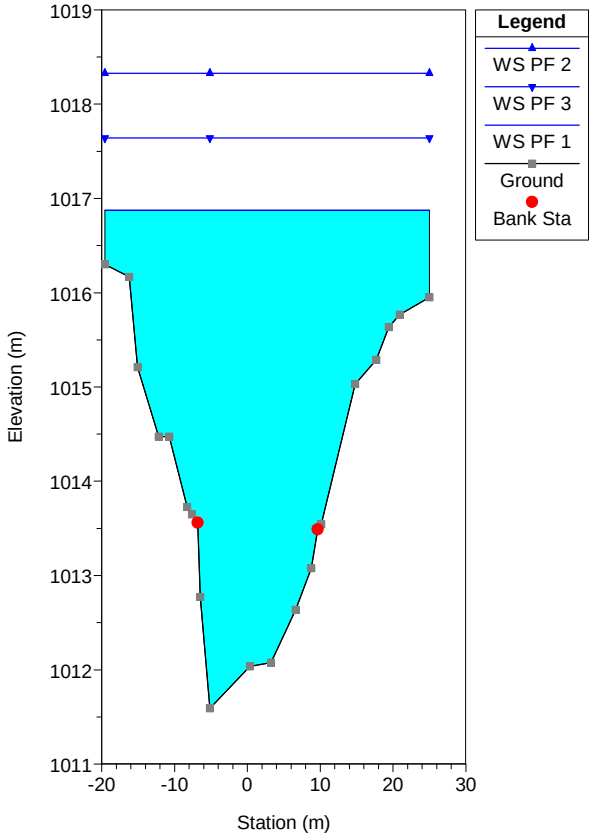

River = 1 Reach = a RS = 193.75*

PROFILO IDRAULICO DORA RIPARIA



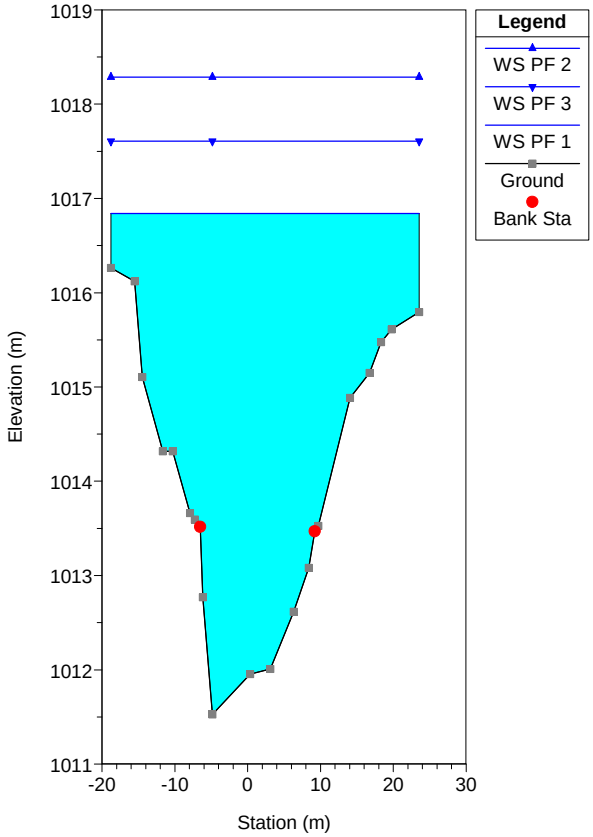
River = 1 Reach = a RS = 193.33*

PROFILO IDRAULICO DORA RIPARIA



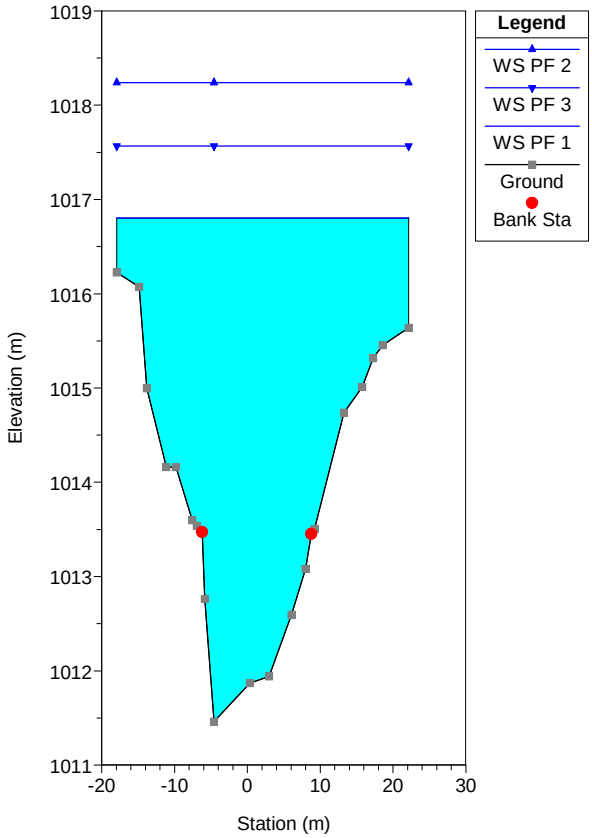

River = 1 Reach = a RS = 192.92*

PROFILO IDRAULICO DORA RIPARIA



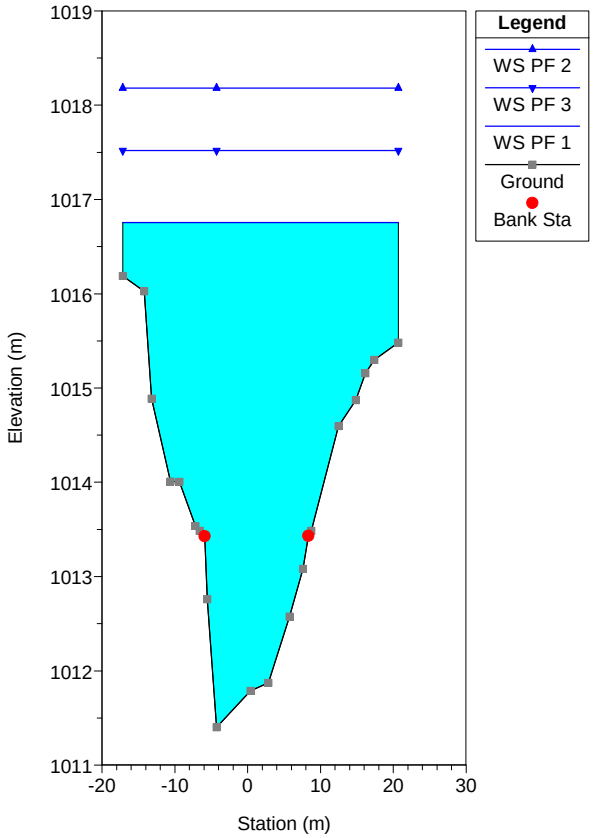

River = 1 Reach = a RS = 192.50*

PROFILO IDRAULICO DORA RIPARIA



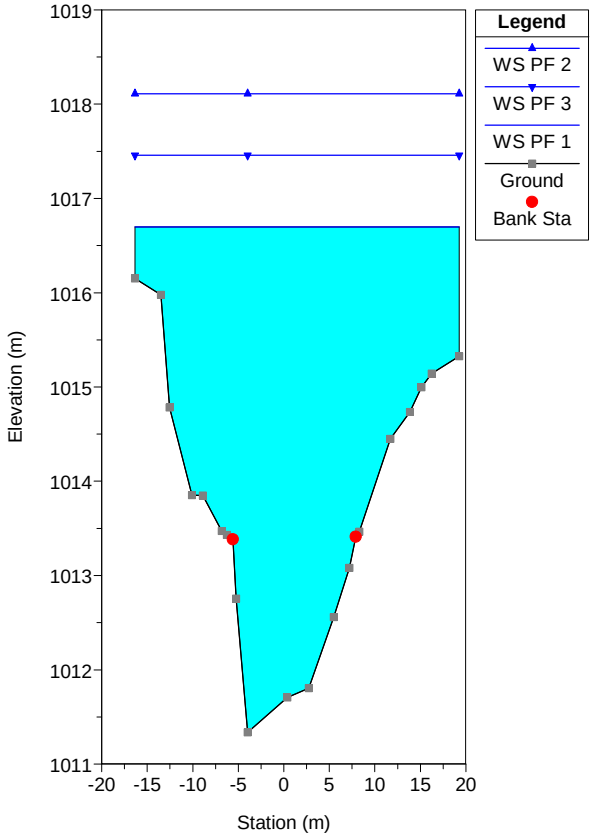

River = 1 Reach = a RS = 192.08*

PROFILO IDRAULICO DORA RIPARIA



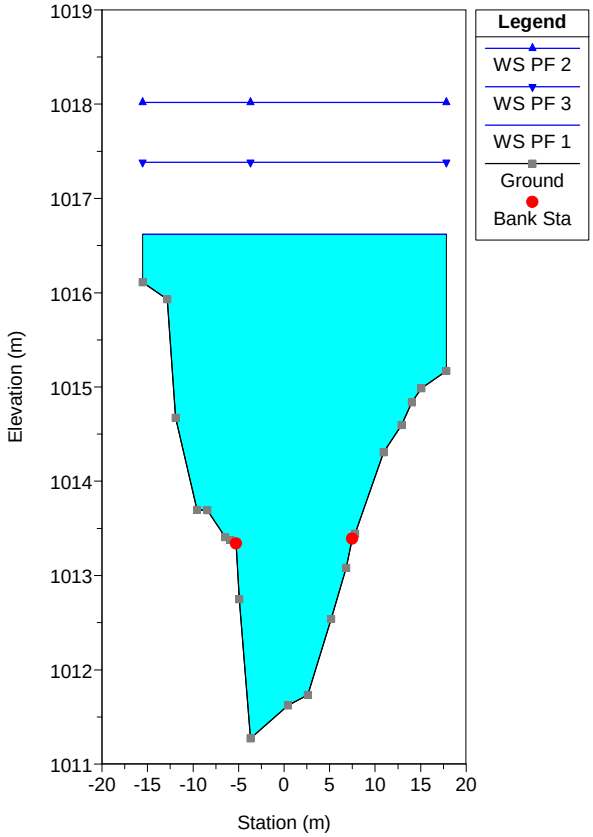
River = 1 Reach = a RS = 191.67*

PROFILO IDRAULICO DORA RIPARIA



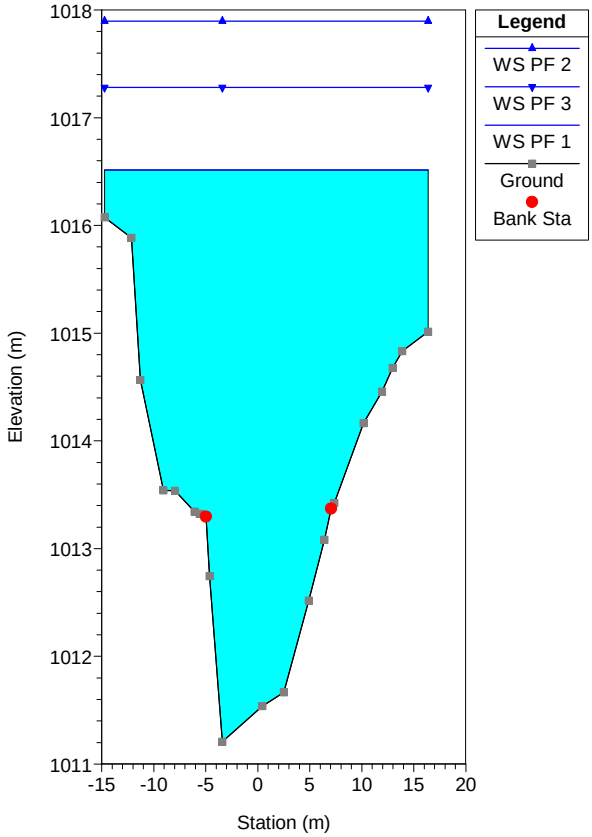

River = 1 Reach = a RS = 191.25*

PROFILO IDRAULICO DORA RIPARIA



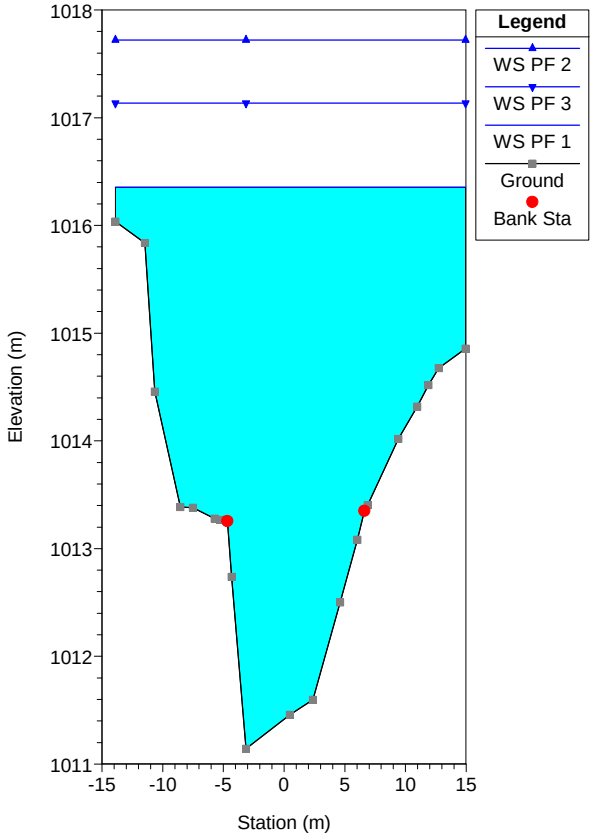

River = 1 Reach = a RS = 190.83*

PROFILO IDRAULICO DORA RIPARIA



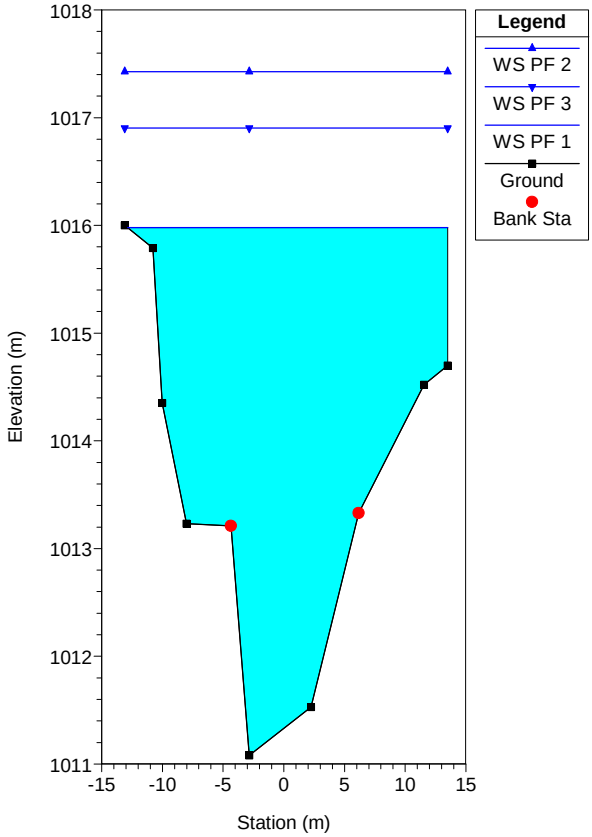

River = 1 Reach = a RS = 190.42*

PROFILO IDRAULICO DORA RIPARIA



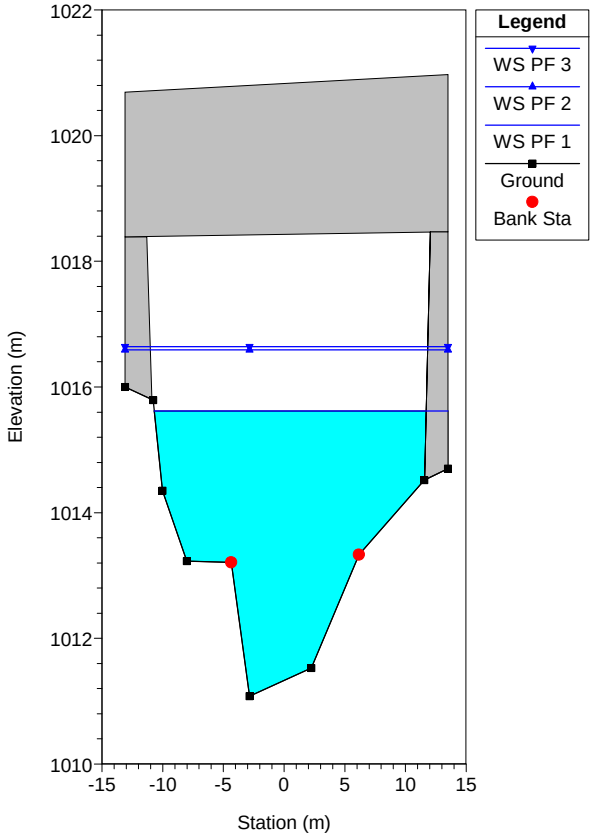
River = 1 Reach = a RS = 190

PROFILO IDRAULICO DORA RIPARIA



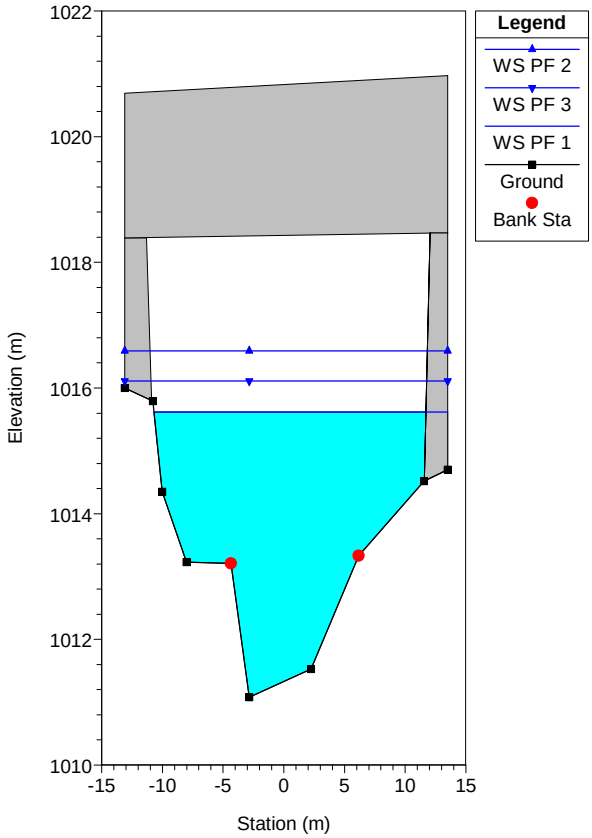

River = 1 Reach = a RS = 189 BR

PROFILO IDRAULICO DORA RIPARIA



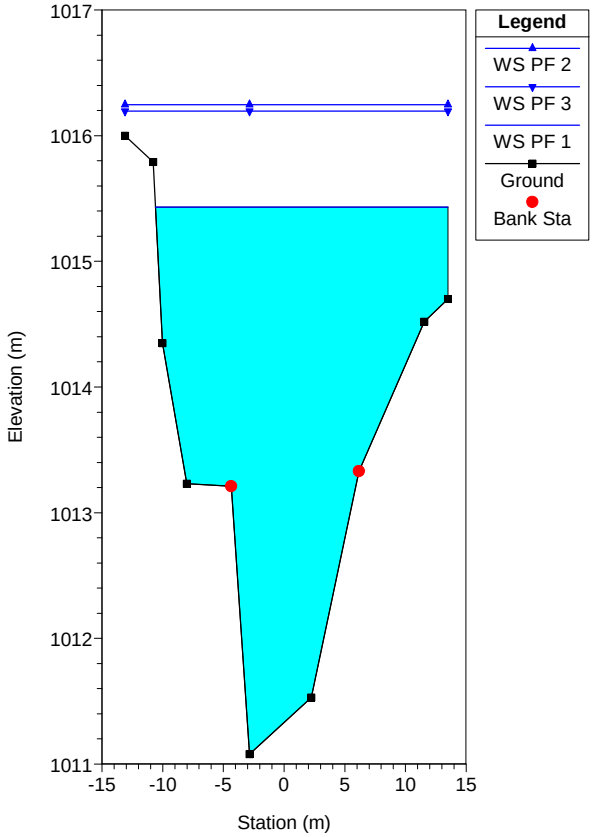

River = 1 Reach = a RS = 189 BR

PROFILO IDRAULICO DORA RIPARIA



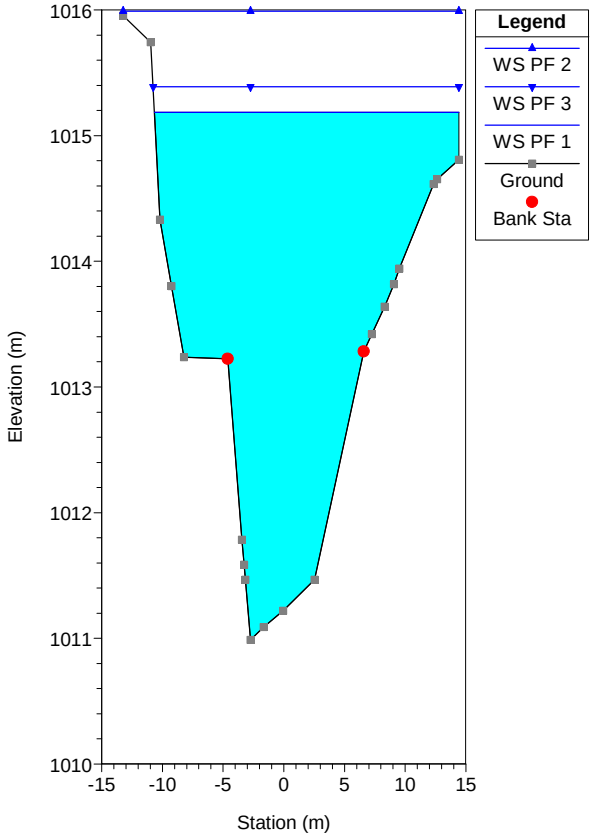

River = 1 Reach = a RS = 188

PROFILO IDRAULICO DORA RIPARIA



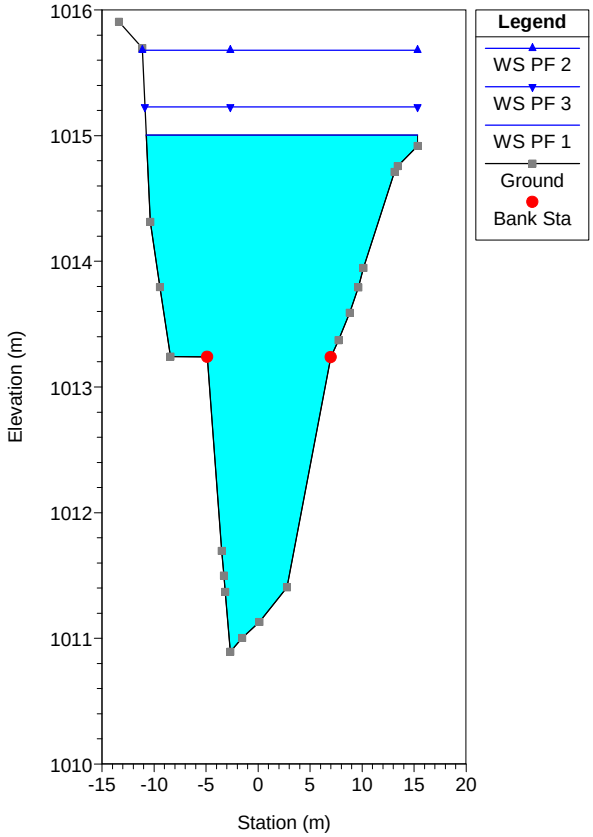
River = 1 Reach = a RS = 187.83*

PROFILO IDRAULICO DORA RIPARIA



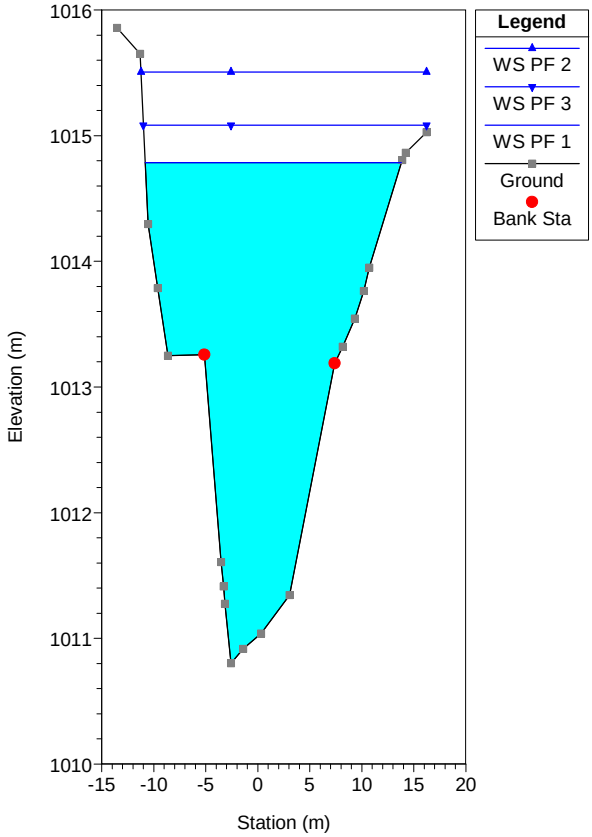

River = 1 Reach = a RS = 187.67*

PROFILO IDRAULICO DORA RIPARIA



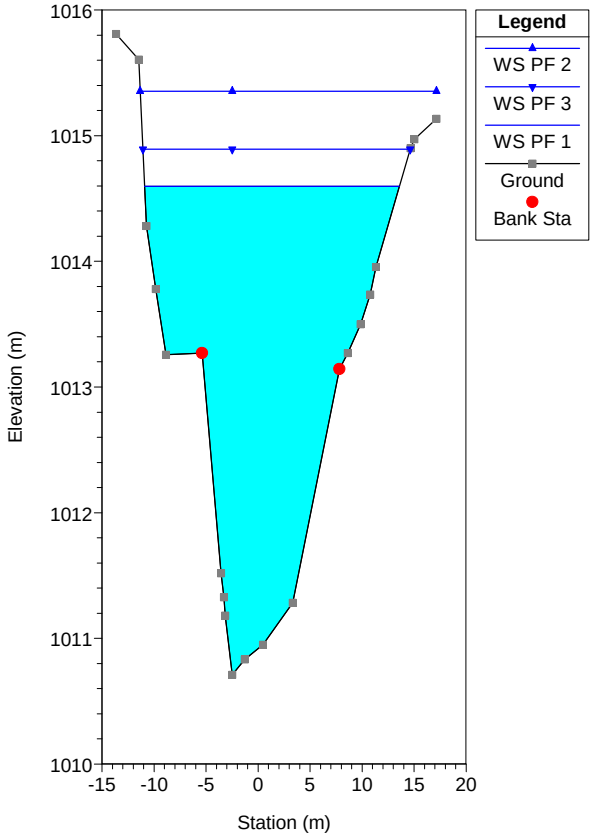

River = 1 Reach = a RS = 187.50*

PROFILO IDRAULICO DORA RIPARIA



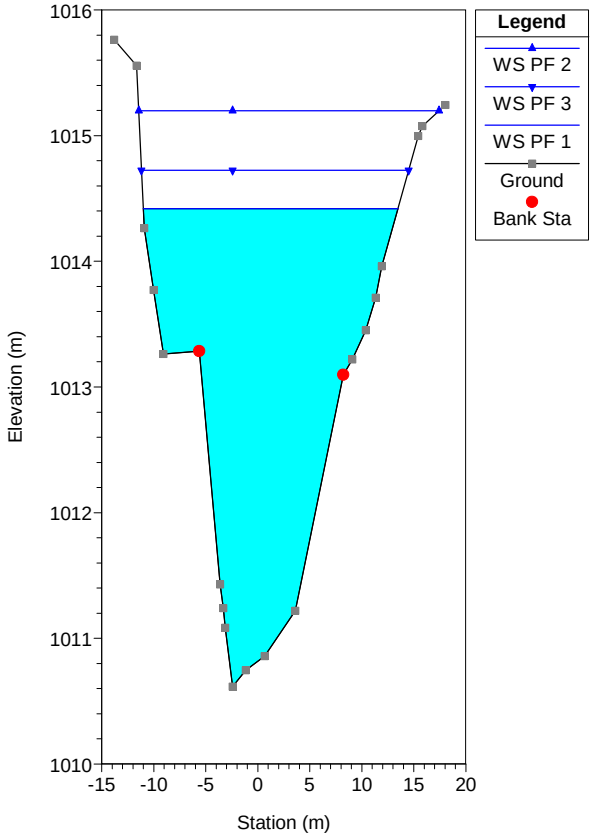

River = 1 Reach = a RS = 187.33*

PROFILO IDRAULICO DORA RIPARIA



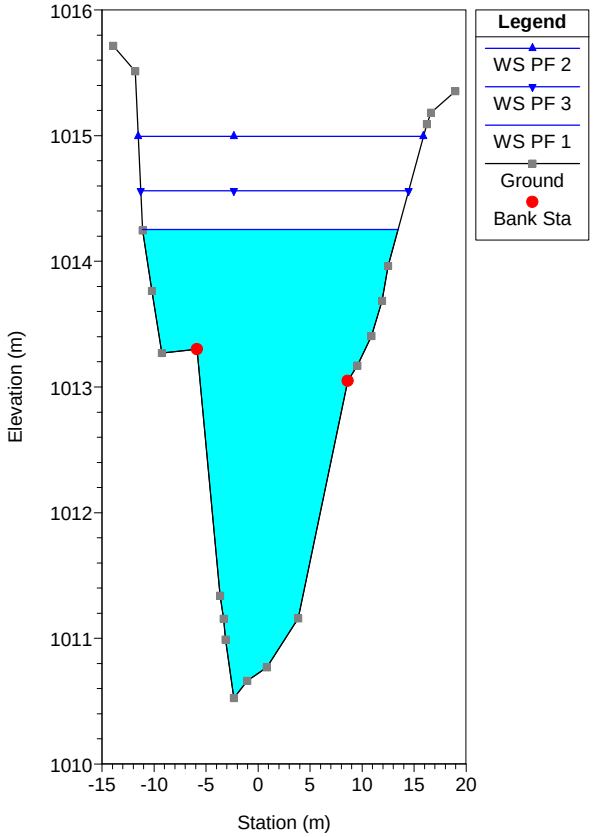
River = 1 Reach = a RS = 187.17*

PROFILO IDRAULICO DORA RIPARIA



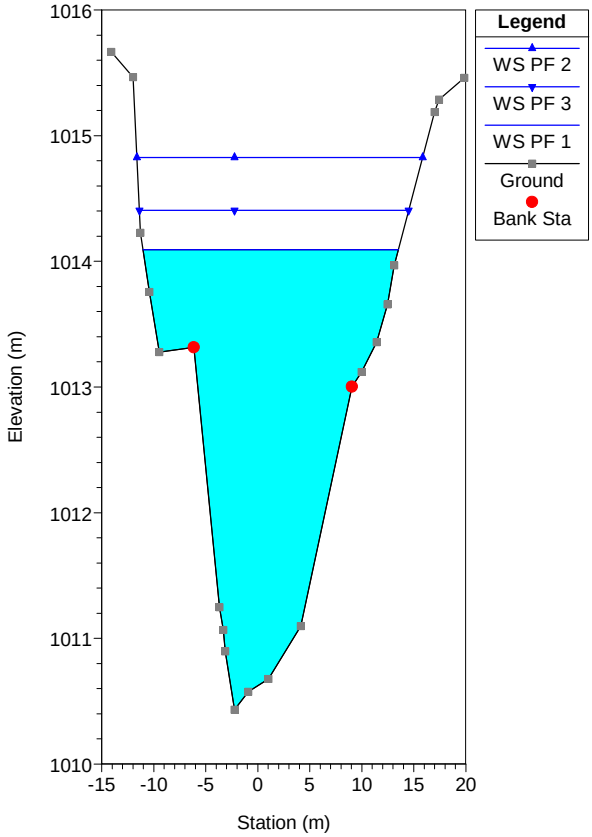

River = 1 Reach = a RS = 187.00*

PROFILO IDRAULICO DORA RIPARIA



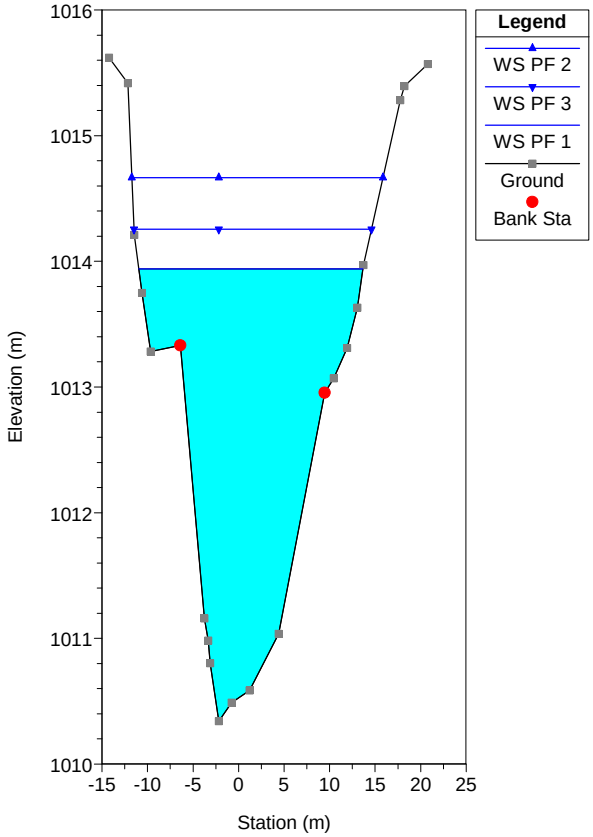

River = 1 Reach = a RS = 186.83*

PROFILO IDRAULICO DORA RIPARIA



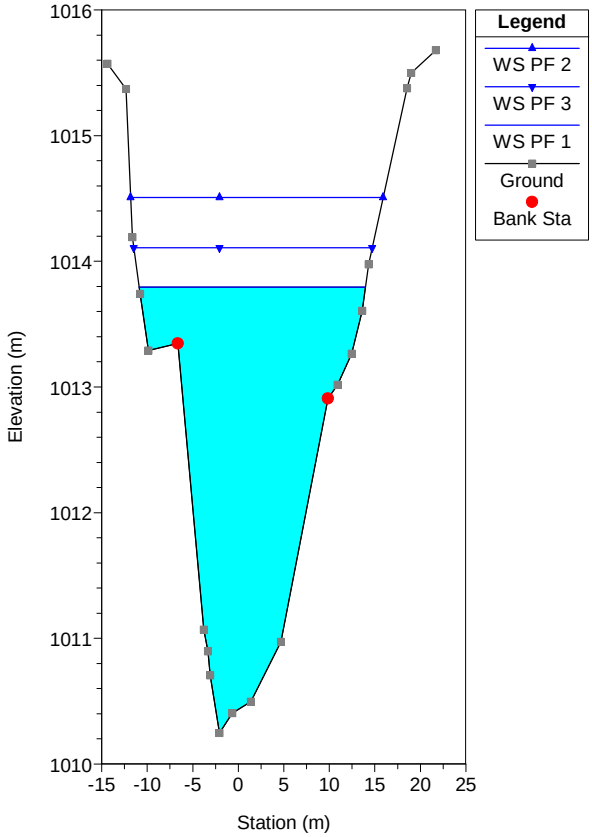

River = 1 Reach = a RS = 186.67*

PROFILO IDRAULICO DORA RIPARIA



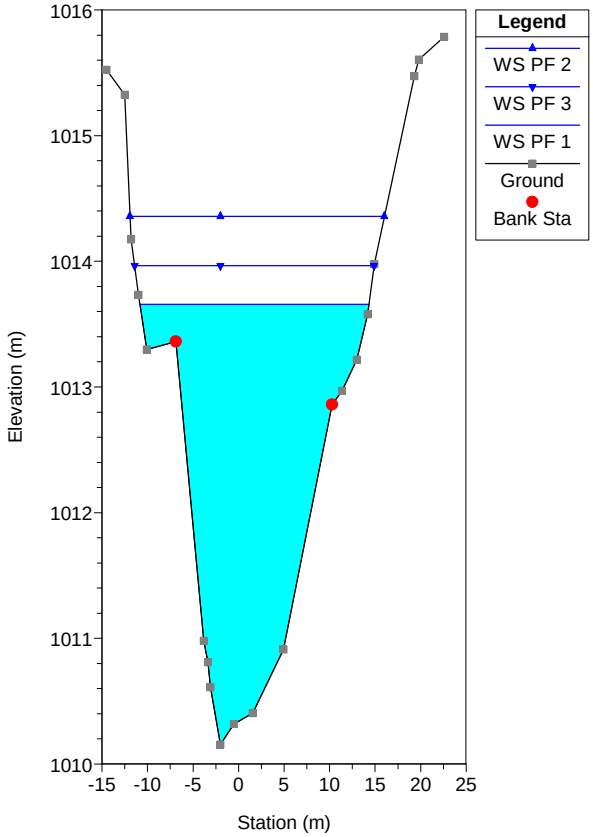
River = 1 Reach = a RS = 186.50*

PROFILO IDRAULICO DORA RIPARIA



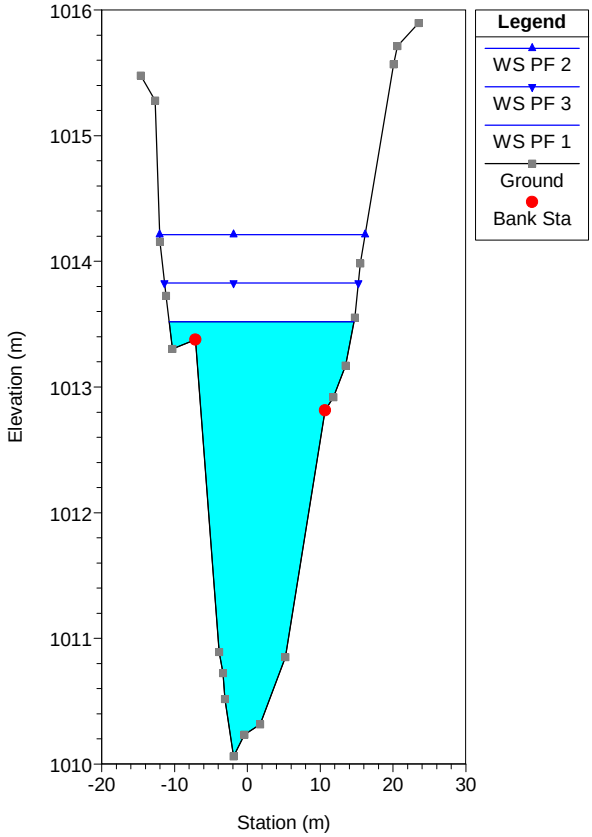

River = 1 Reach = a RS = 186.33*

PROFILO IDRAULICO DORA RIPARIA



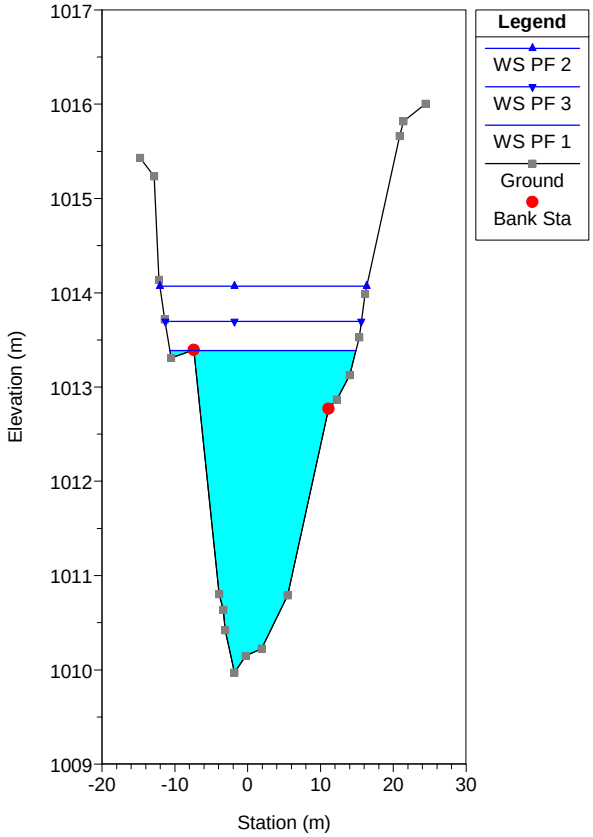

River = 1 Reach = a RS = 186.17*

PROFILO IDRAULICO DORA RIPARIA



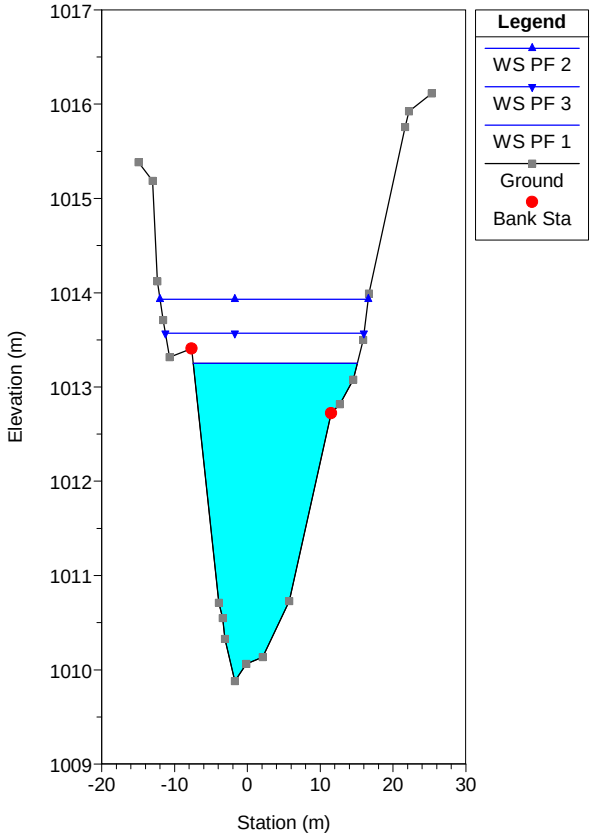

River = 1 Reach = a RS = 186.00*

PROFILO IDRAULICO DORA RIPARIA



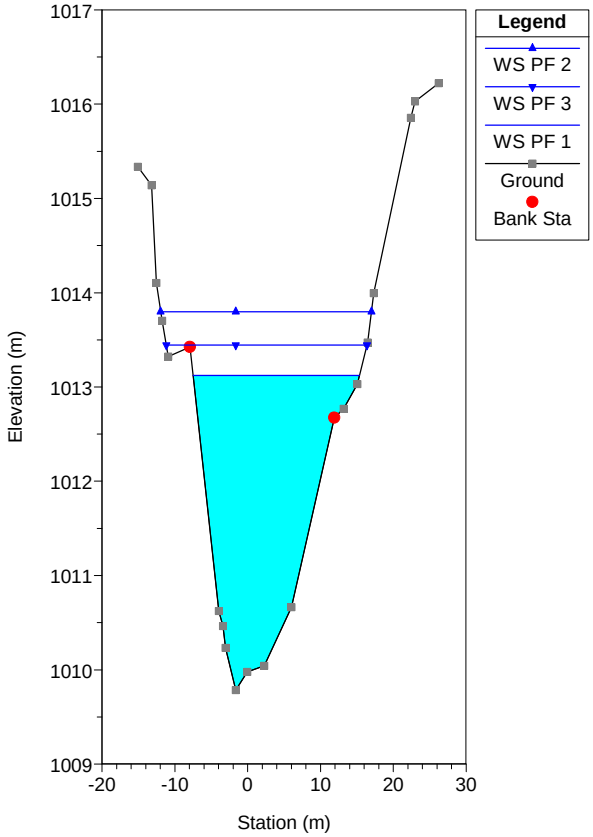
River = 1 Reach = a RS = 185.83*

PROFILO IDRAULICO DORA RIPARIA



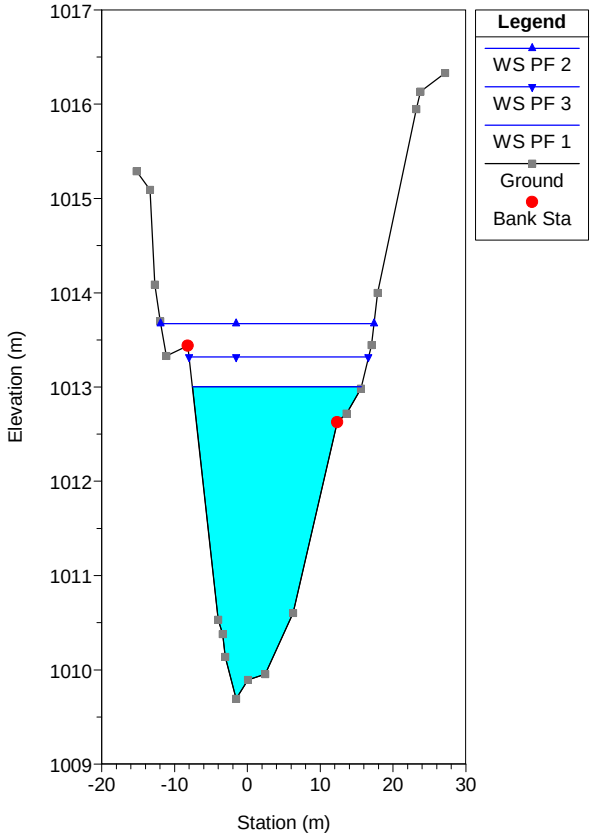

River = 1 Reach = a RS = 185.67*

PROFILO IDRAULICO DORA RIPARIA



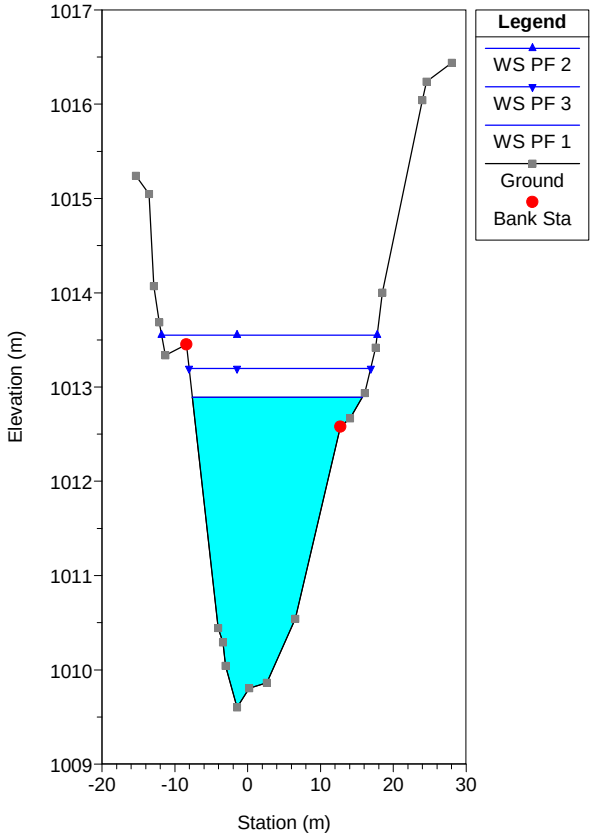

River = 1 Reach = a RS = 185.50*

PROFILO IDRAULICO DORA RIPARIA



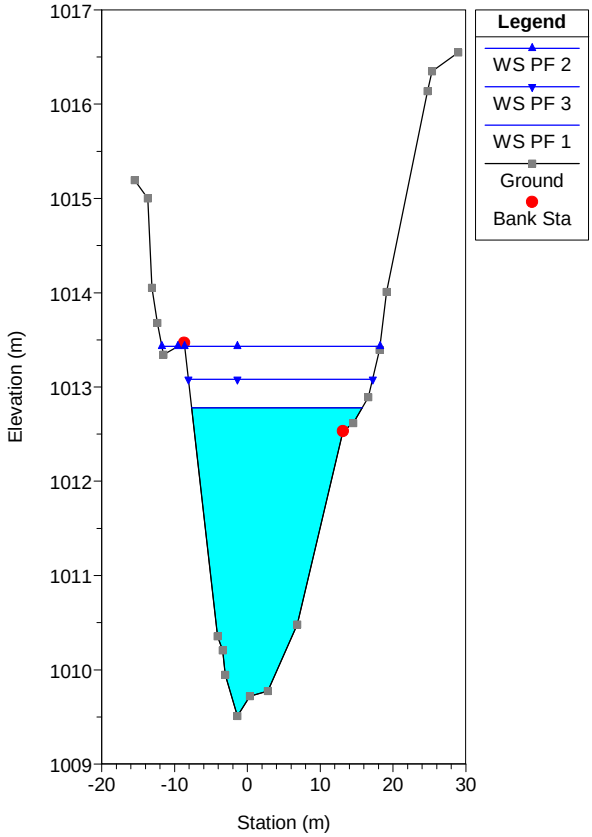

River = 1 Reach = a RS = 185.33*

PROFILO IDRAULICO DORA RIPARIA



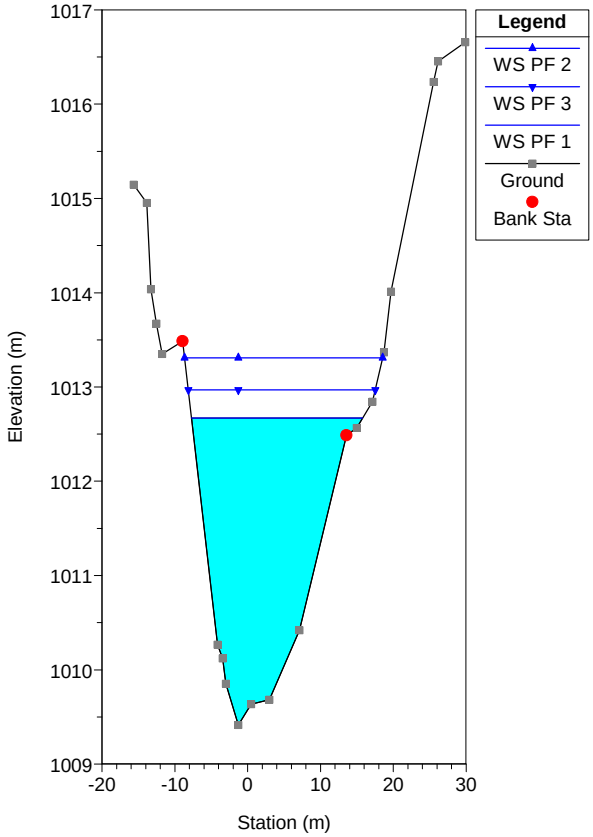
River = 1 Reach = a RS = 185.17*

PROFILO IDRAULICO DORA RIPARIA



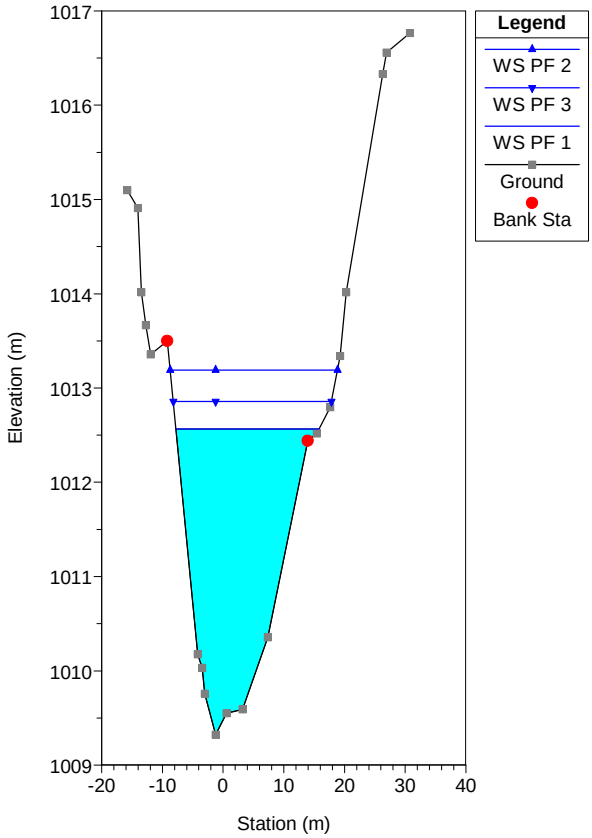

River = 1 Reach = a RS = 185.00*

PROFILO IDRAULICO DORA RIPARIA



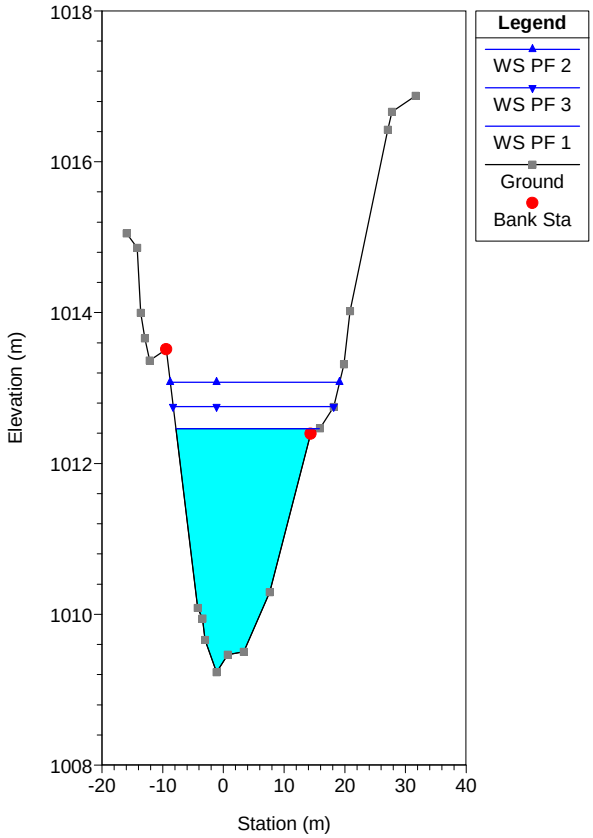

River = 1 Reach = a RS = 184.83*

PROFILO IDRAULICO DORA RIPARIA



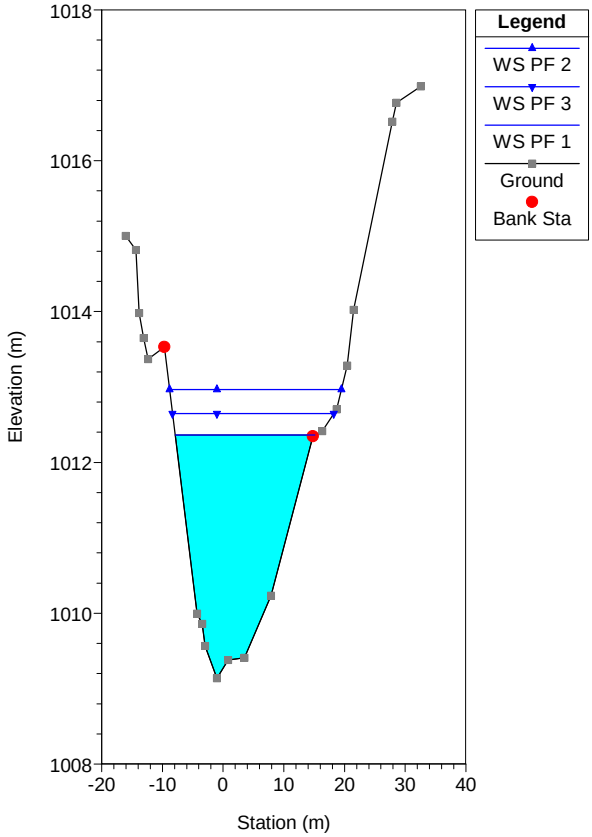

River = 1 Reach = a RS = 184.67*

PROFILO IDRAULICO DORA RIPARIA



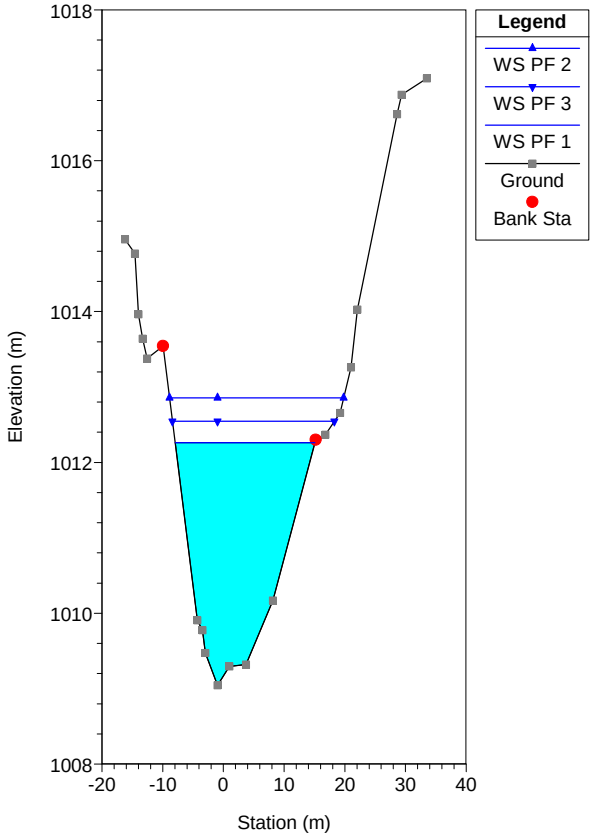
River = 1 Reach = a RS = 184.50*

PROFILO IDRAULICO DORA RIPARIA



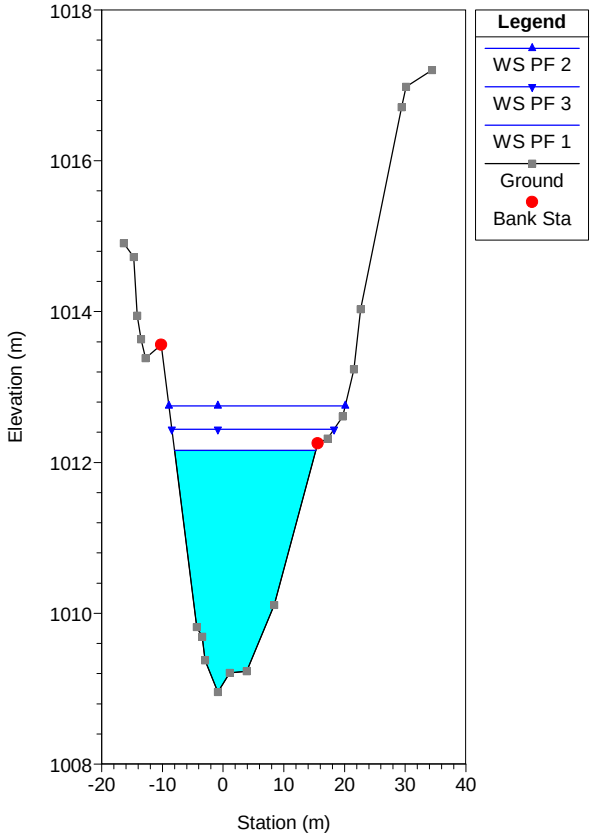

River = 1 Reach = a RS = 184.33*

PROFILO IDRAULICO DORA RIPARIA



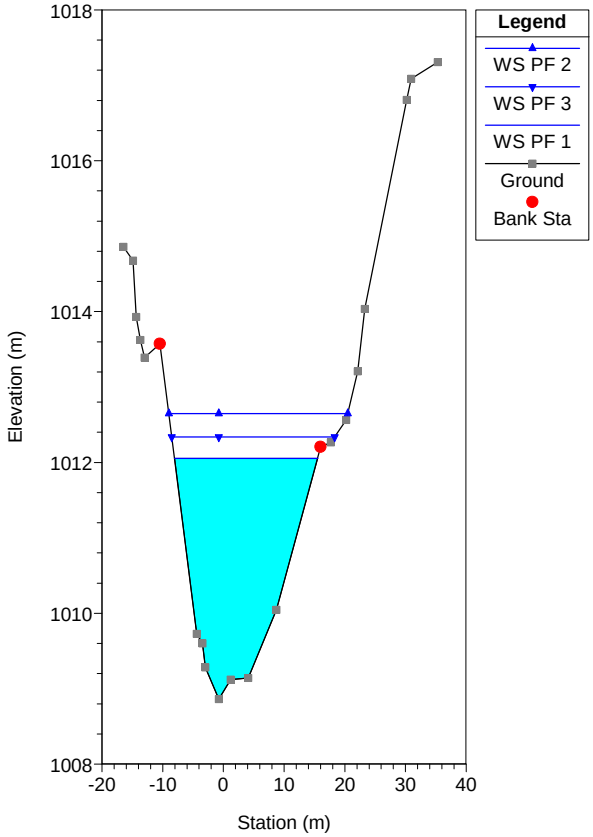

River = 1 Reach = a RS = 184.17*

PROFILO IDRAULICO DORA RIPARIA



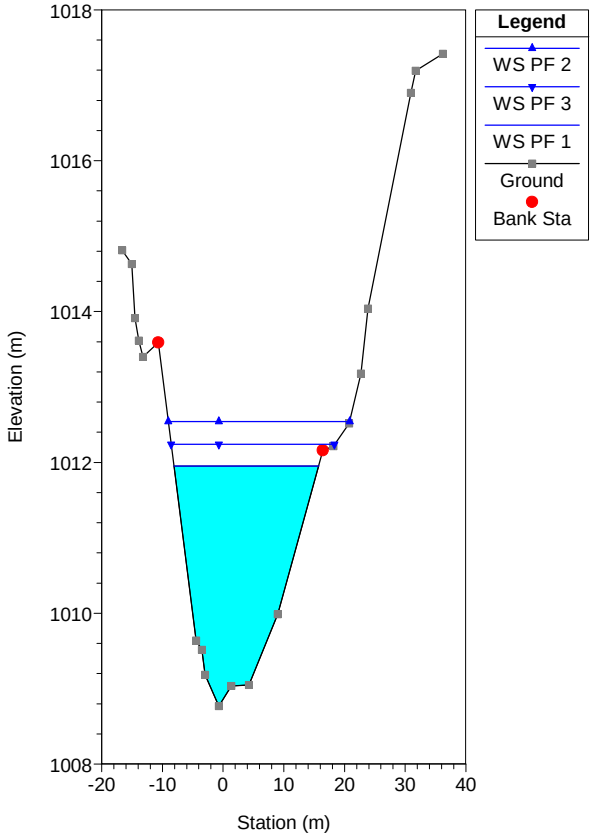

River = 1 Reach = a RS = 184.00*

PROFILO IDRAULICO DORA RIPARIA



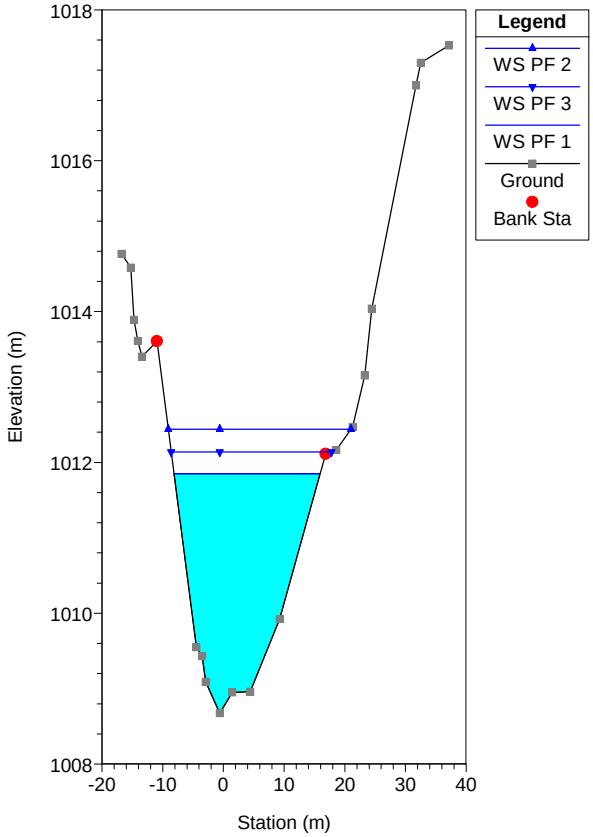
River = 1 Reach = a RS = 183.83*

PROFILO IDRAULICO DORA RIPARIA



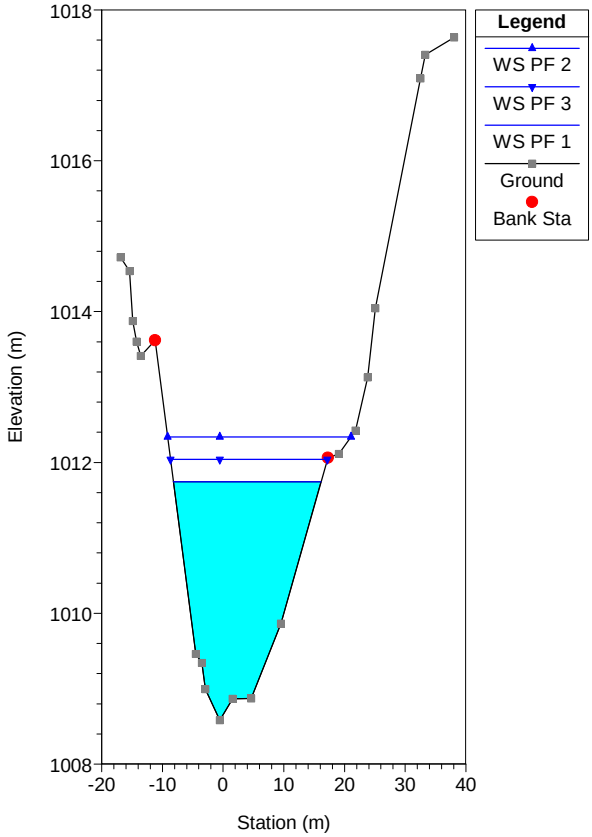

River = 1 Reach = a RS = 183.67*

PROFILO IDRAULICO DORA RIPARIA



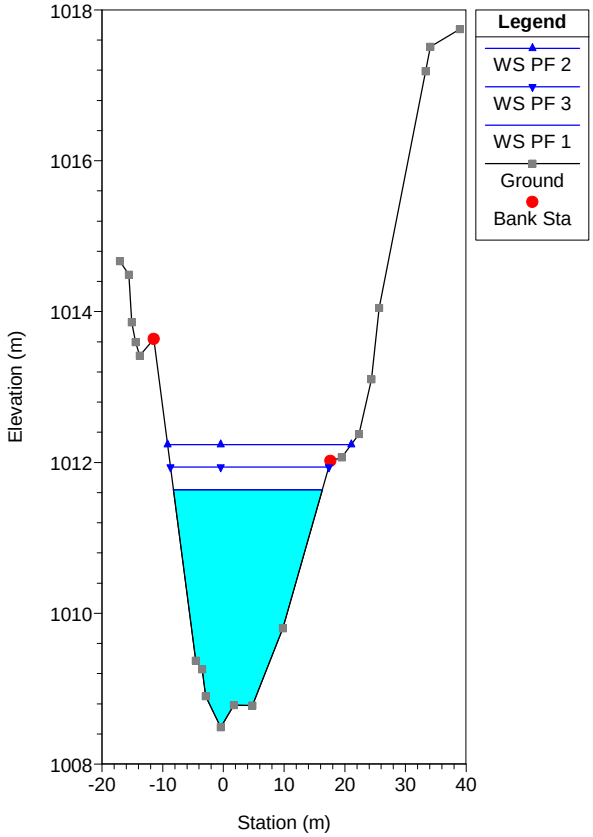

River = 1 Reach = a RS = 183.50*

PROFILO IDRAULICO DORA RIPARIA



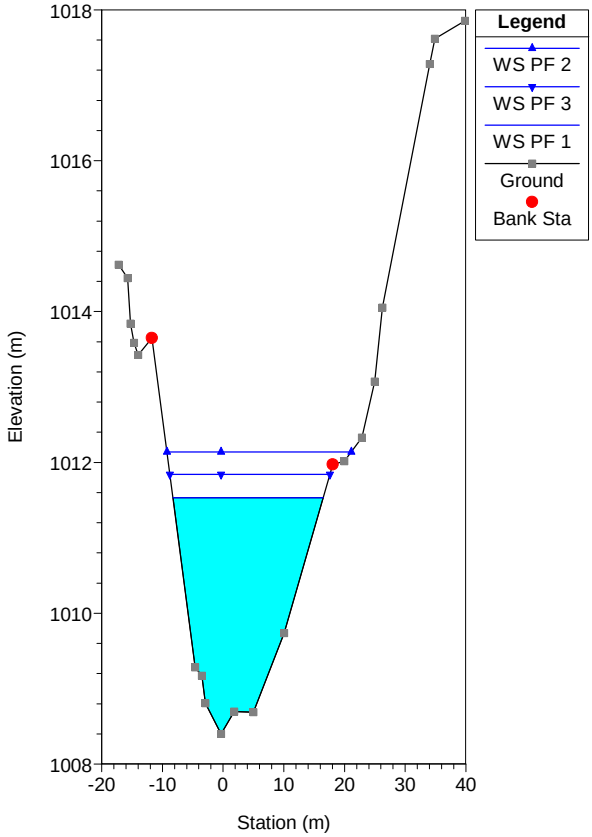

River = 1 Reach = a RS = 183.33*

PROFILO IDRAULICO DORA RIPARIA



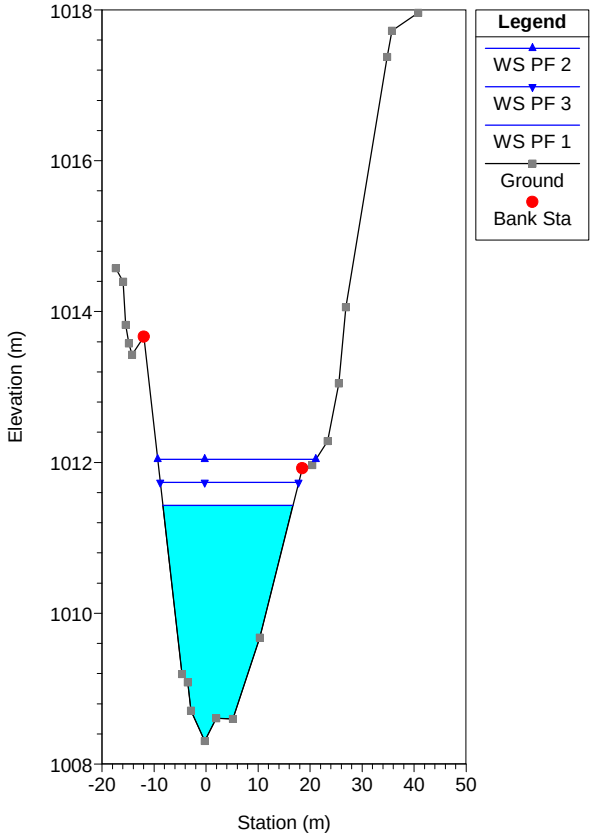
River = 1 Reach = a RS = 183.17*

PROFILO IDRAULICO DORA RIPARIA



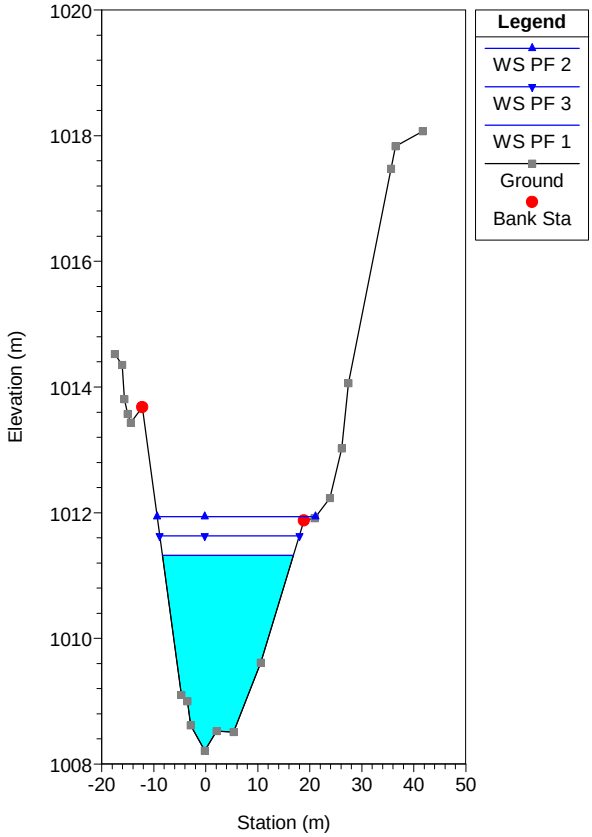

River = 1 Reach = a RS = 183.00*

PROFILO IDRAULICO DORA RIPARIA



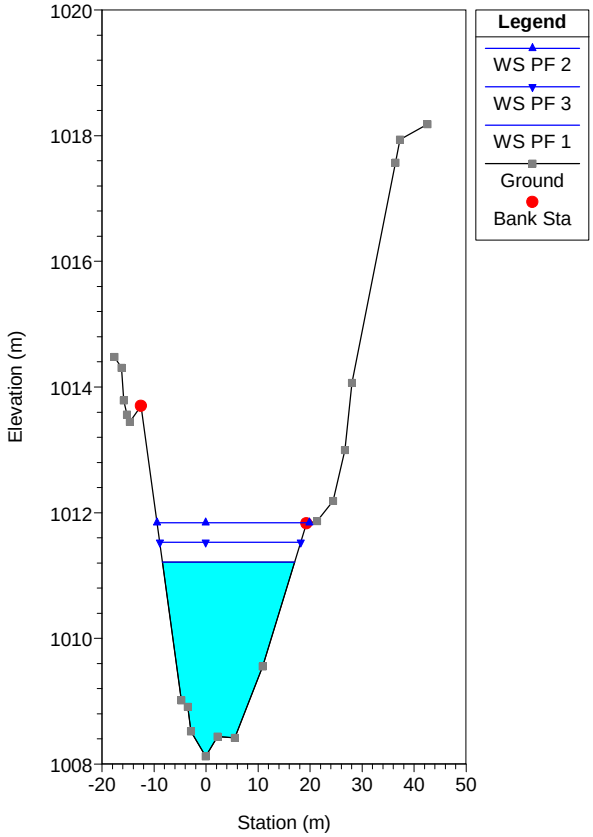

River = 1 Reach = a RS = 182.83*

PROFILO IDRAULICO DORA RIPARIA



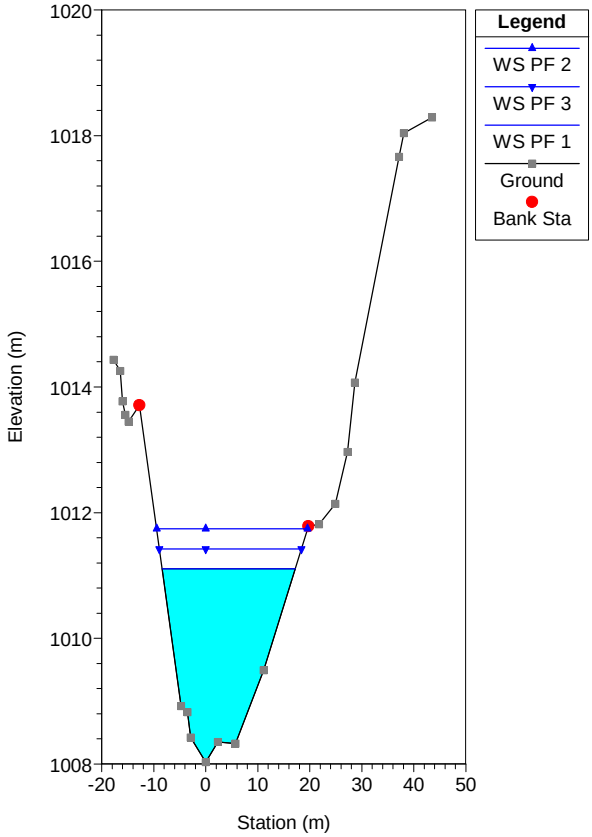

River = 1 Reach = a RS = 182.67*

PROFILO IDRAULICO DORA RIPARIA



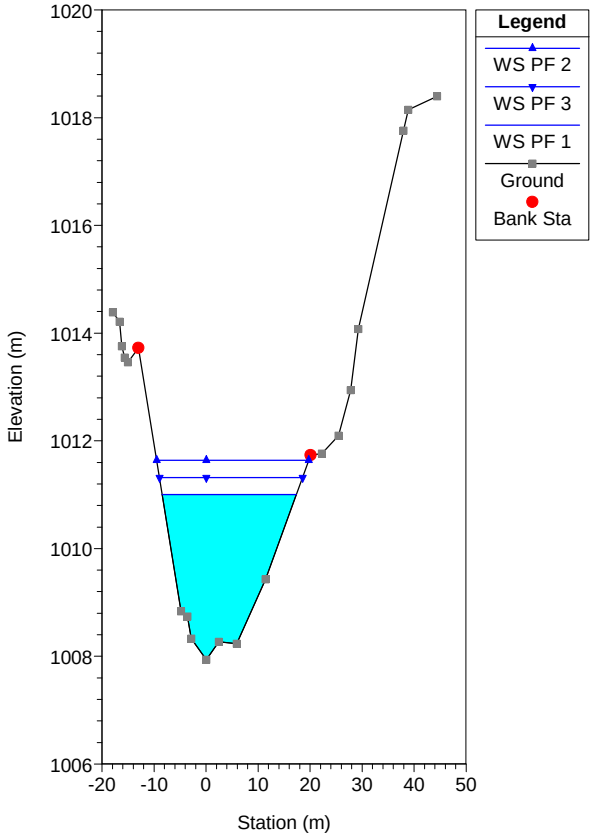
River = 1 Reach = a RS = 182.50*

PROFILO IDRAULICO DORA RIPARIA



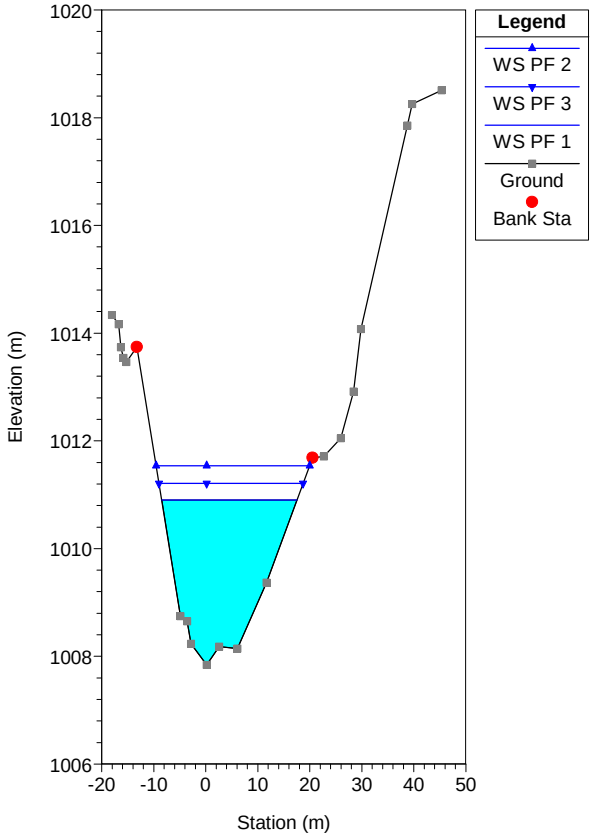

River = 1 Reach = a RS = 182.33*

PROFILO IDRAULICO DORA RIPARIA



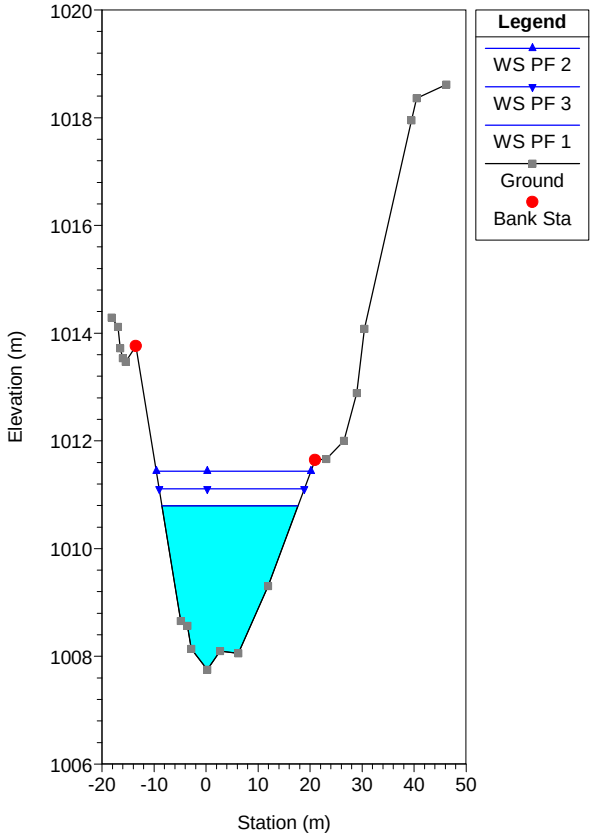

River = 1 Reach = a RS = 182.17*

PROFILO IDRAULICO DORA RIPARIA



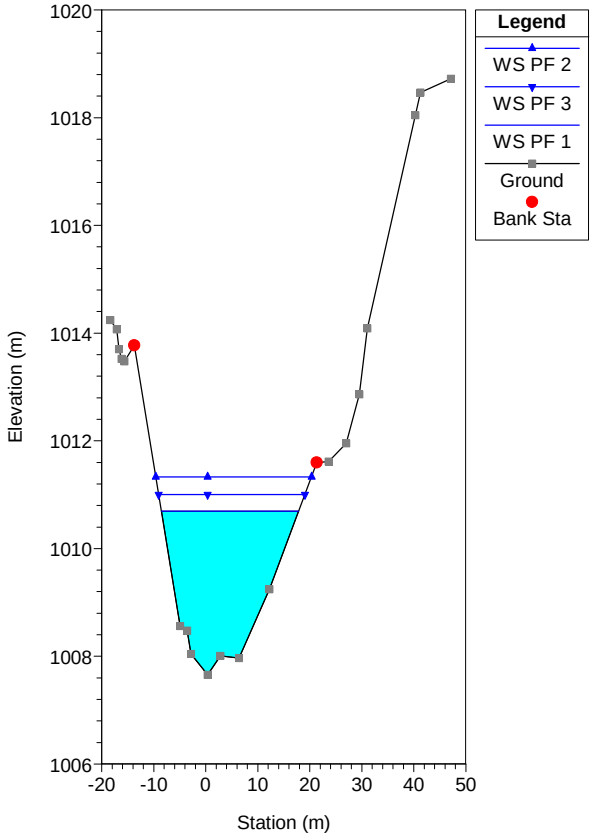

River = 1 Reach = a RS = 182.00*

PROFILO IDRAULICO DORA RIPARIA



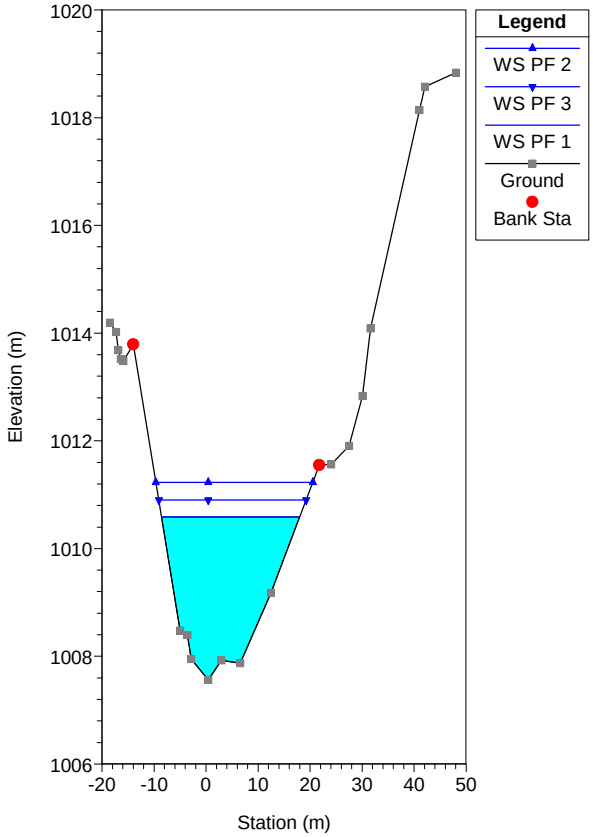
River = 1 Reach = a RS = 181.83*

PROFILO IDRAULICO DORA RIPARIA



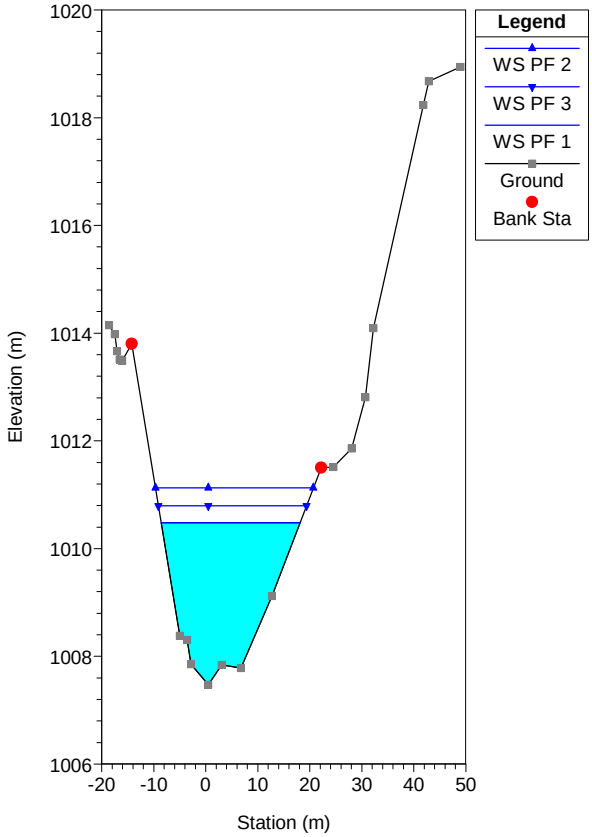

River = 1 Reach = a RS = 181.67*

PROFILO IDRAULICO DORA RIPARIA



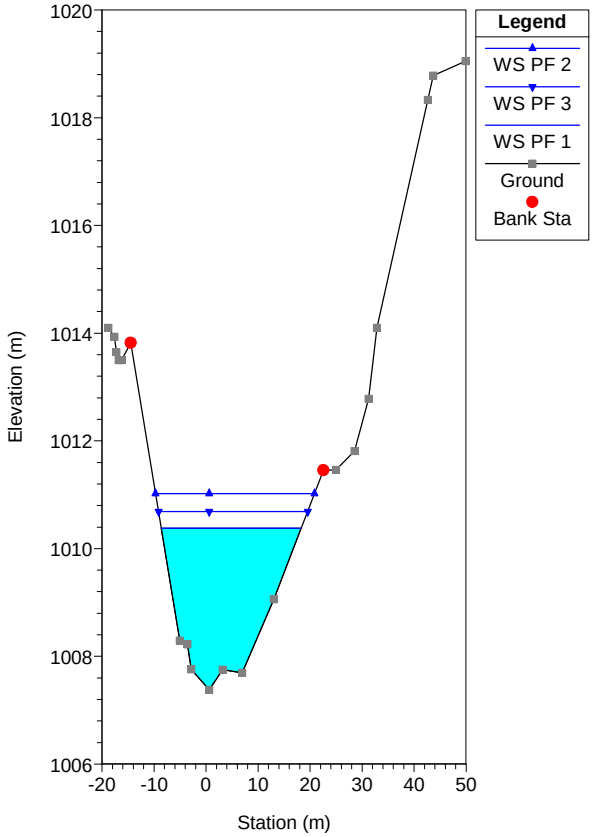

River = 1 Reach = a RS = 181.50*

PROFILO IDRAULICO DORA RIPARIA



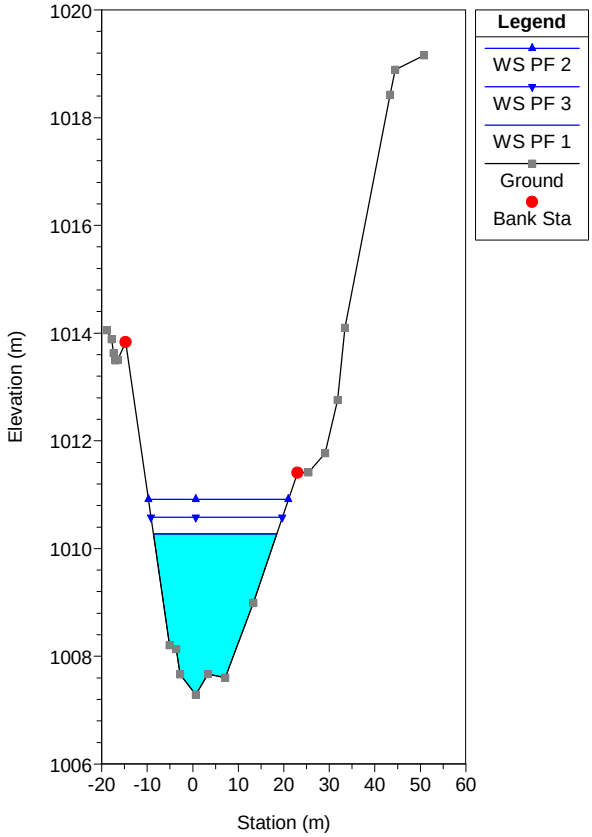

River = 1 Reach = a RS = 181.33*

PROFILO IDRAULICO DORA RIPARIA



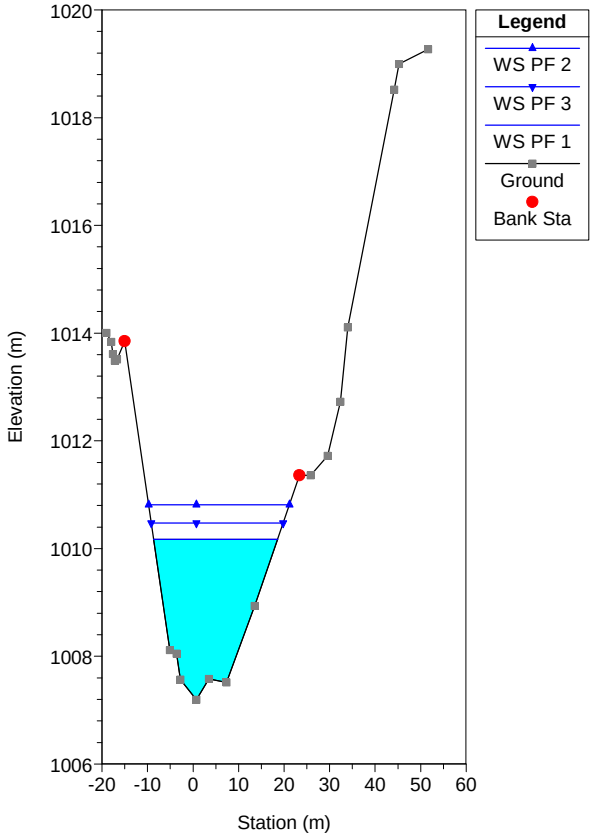
River = 1 Reach = a RS = 181.17*

PROFILO IDRAULICO DORA RIPARIA



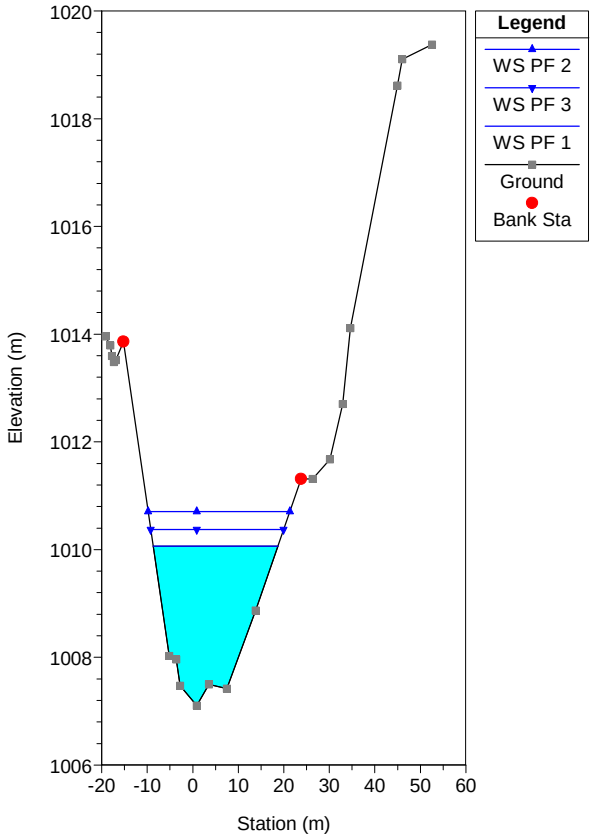

River = 1 Reach = a RS = 181.00*

PROFILO IDRAULICO DORA RIPARIA



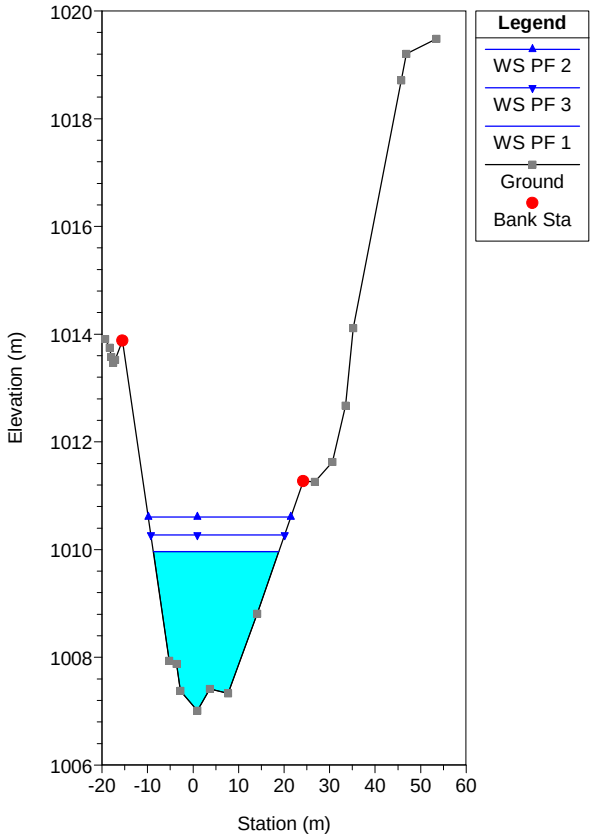

River = 1 Reach = a RS = 180.83*

PROFILO IDRAULICO DORA RIPARIA



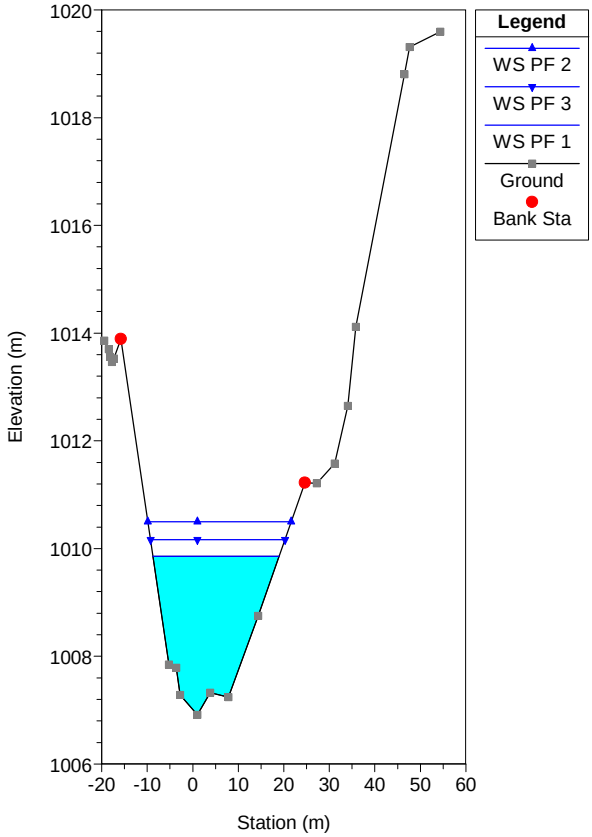

River = 1 Reach = a RS = 180.67*

PROFILO IDRAULICO DORA RIPARIA



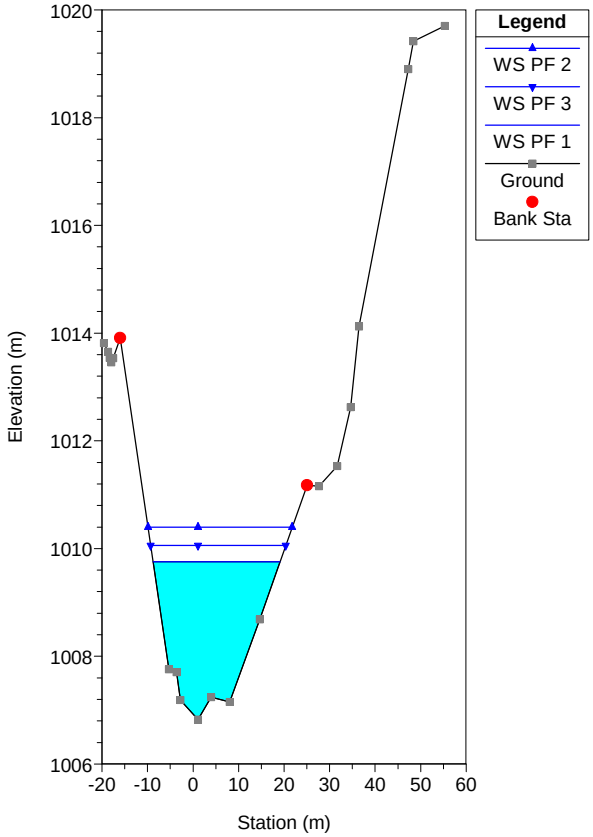
River = 1 Reach = a RS = 180.50*

PROFILO IDRAULICO DORA RIPARIA



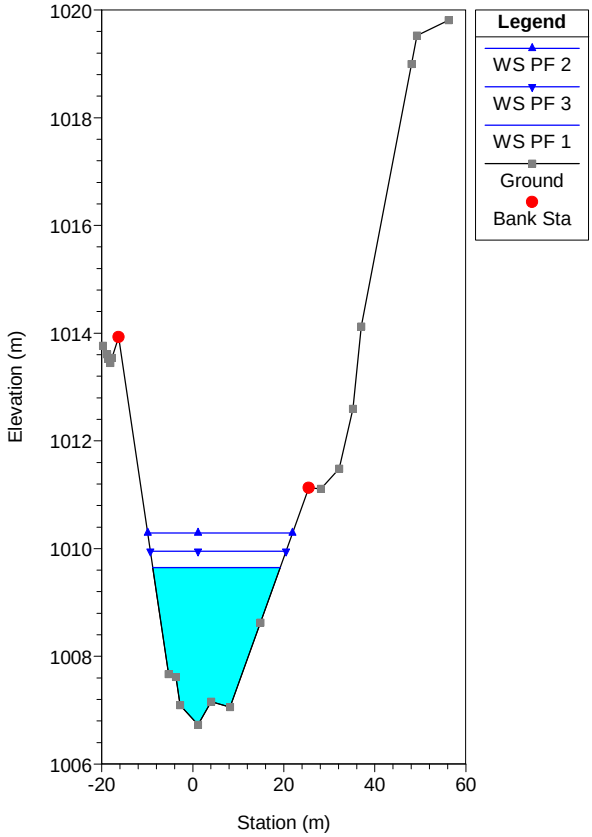

River = 1 Reach = a RS = 180.33*

PROFILO IDRAULICO DORA RIPARIA



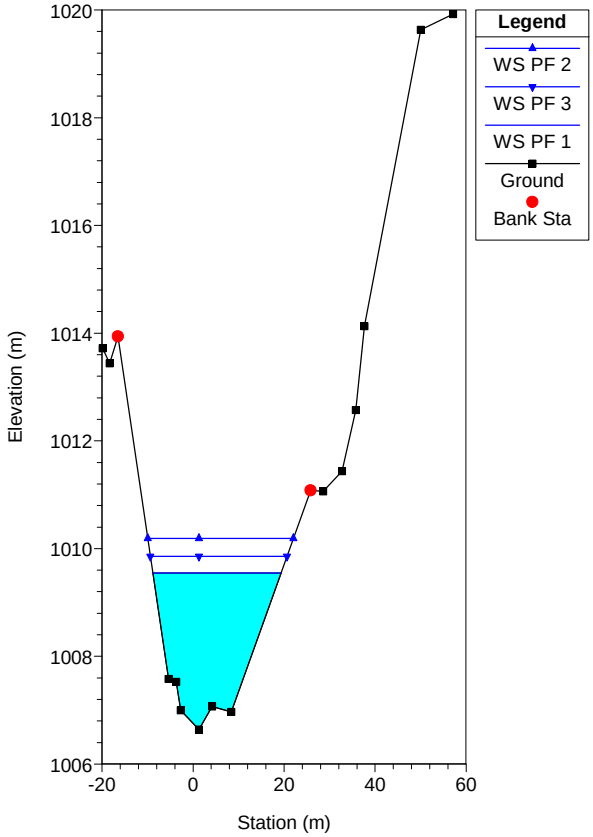

River = 1 Reach = a RS = 180.17*

PROFILO IDRAULICO DORA RIPARIA



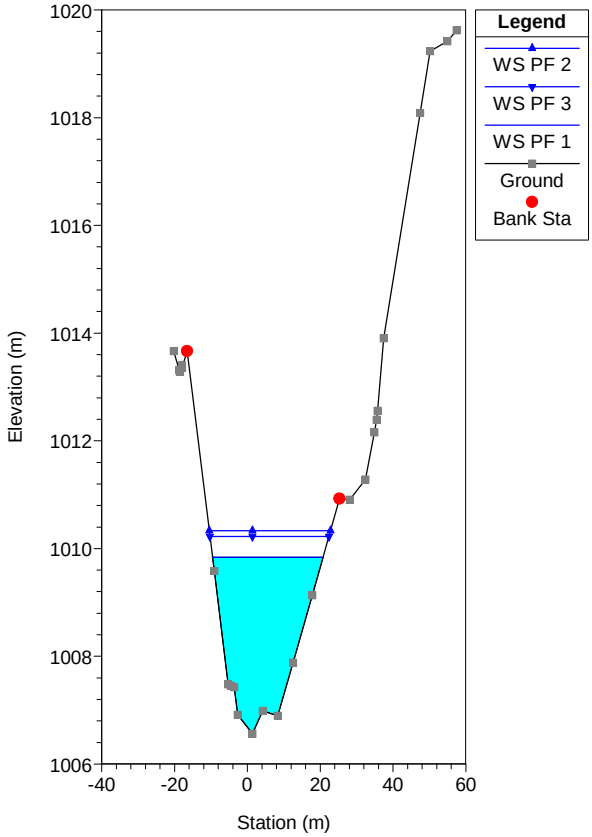

River = 1 Reach = a RS = 180

PROFILO IDRAULICO DORA RIPARIA



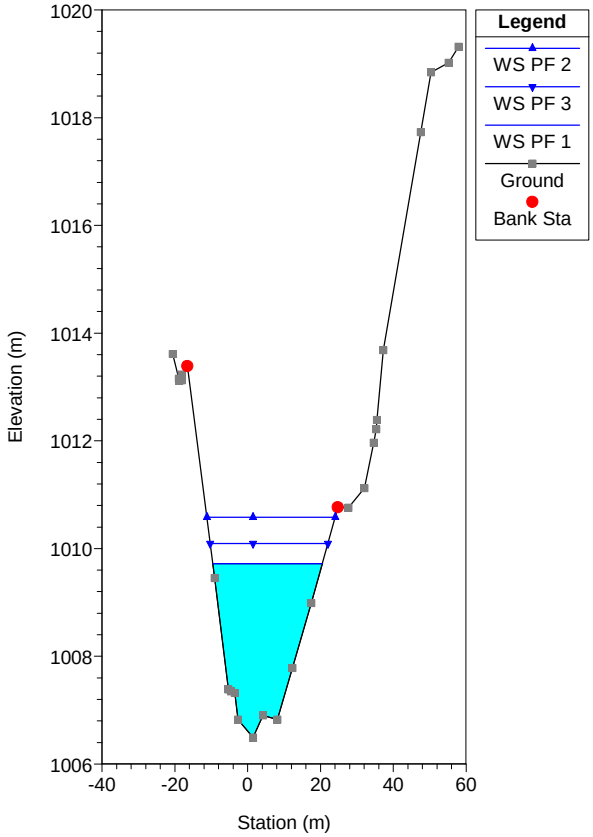
River = 1 Reach = a RS = 179.64*

PROFILO IDRAULICO DORA RIPARIA



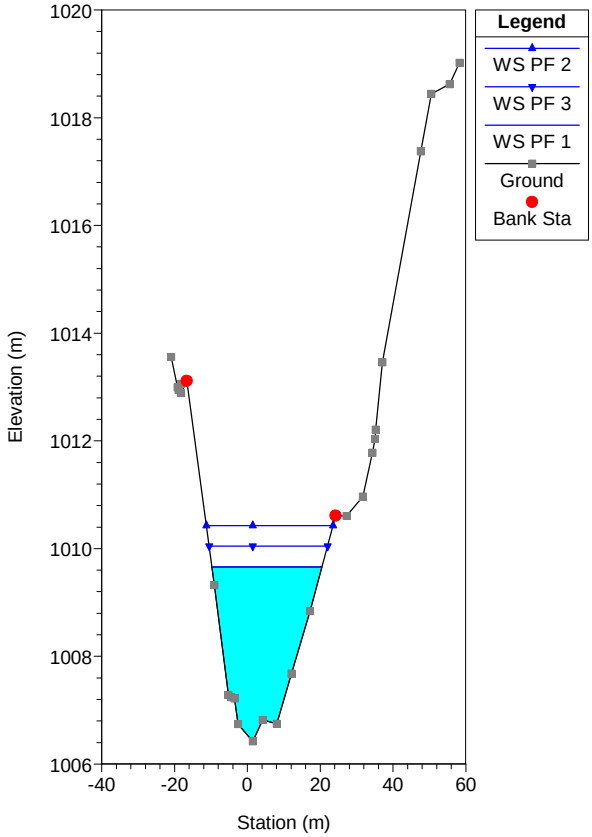

River = 1 Reach = a RS = 179.29*

PROFILO IDRAULICO DORA RIPARIA



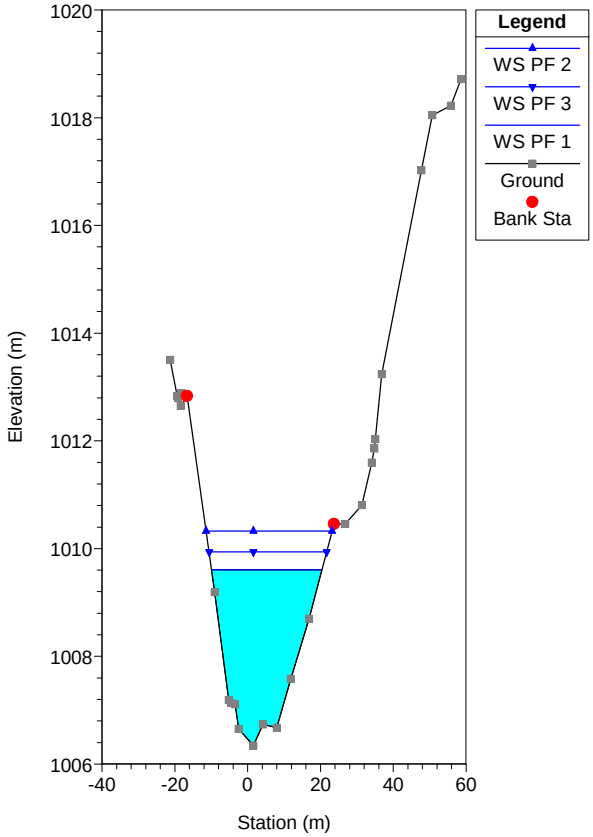

River = 1 Reach = a RS = 178.93*

PROFILO IDRAULICO DORA RIPARIA



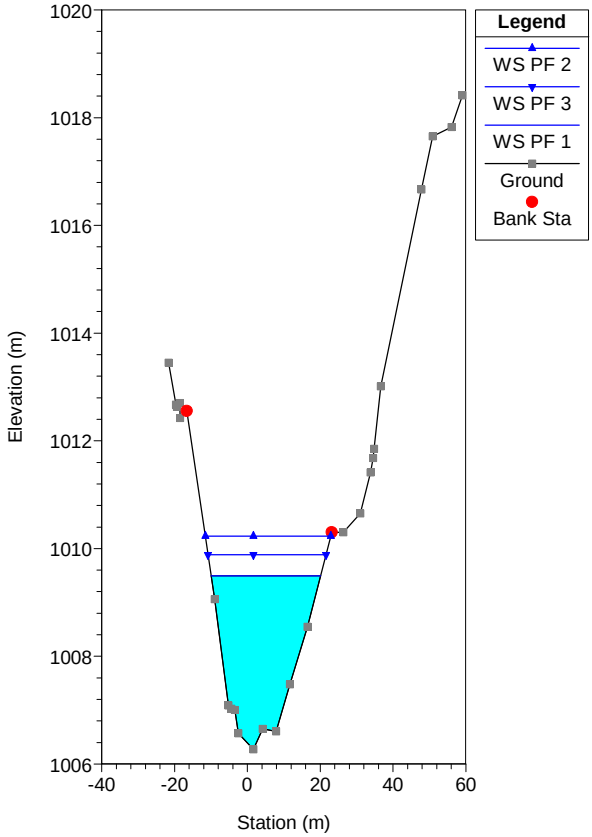

River = 1 Reach = a RS = 178.57*

PROFILO IDRAULICO DORA RIPARIA



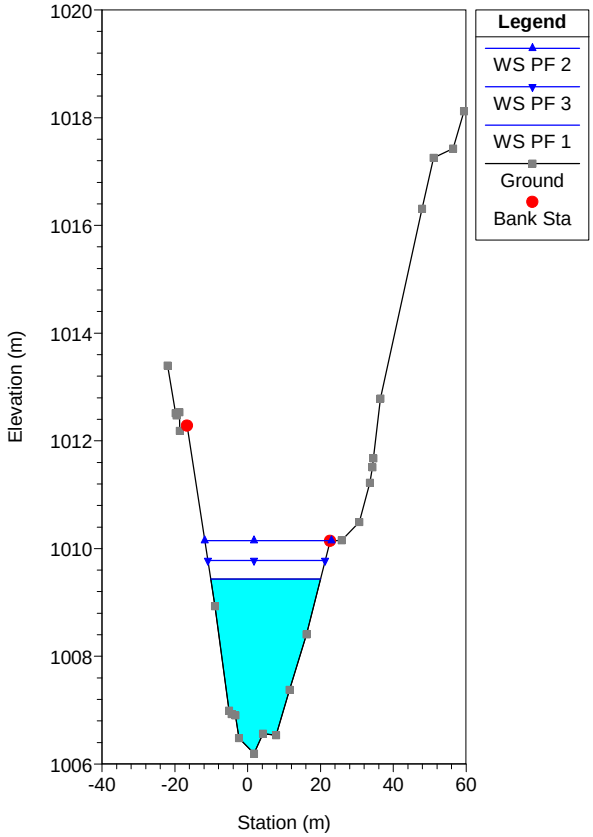
River = 1 Reach = a RS = 178.21*

PROFILO IDRAULICO DORA RIPARIA



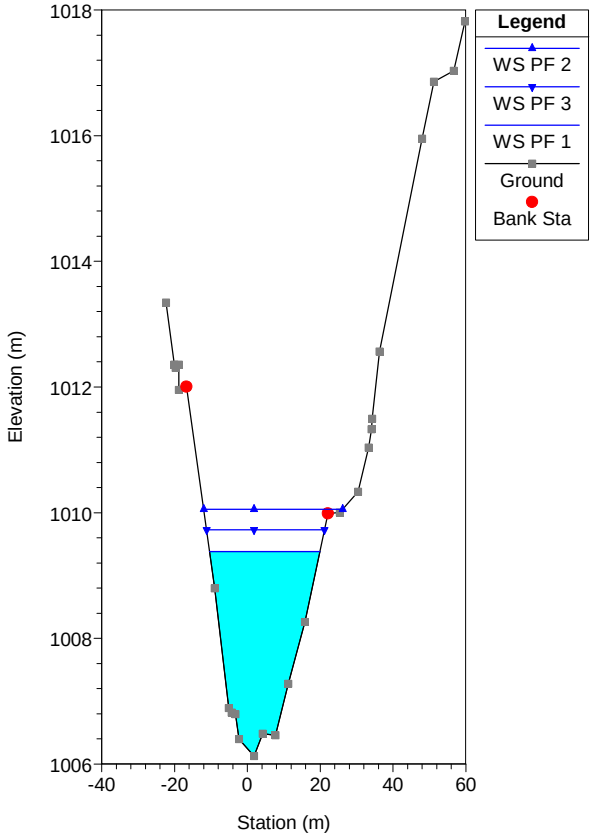

River = 1 Reach = a RS = 177.86*

PROFILO IDRAULICO DORA RIPARIA



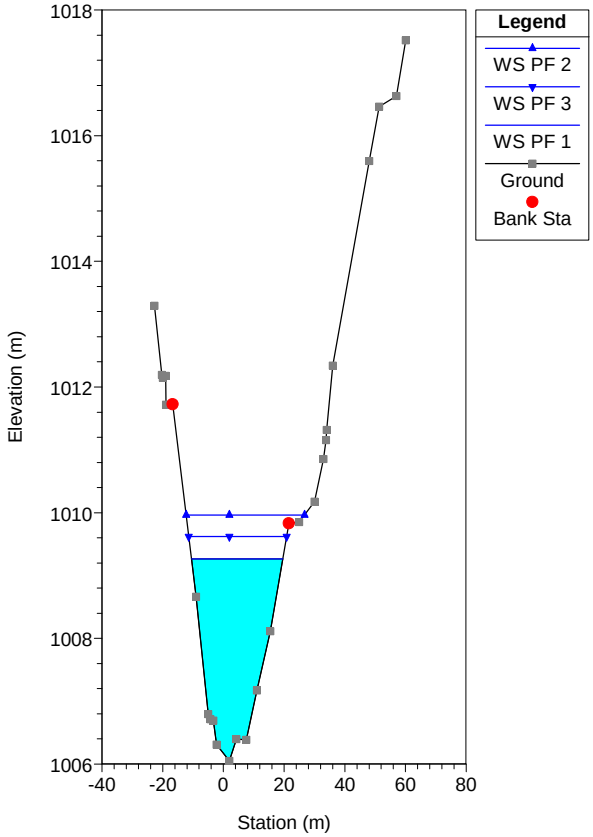

River = 1 Reach = a RS = 177.50*

PROFILO IDRAULICO DORA RIPARIA



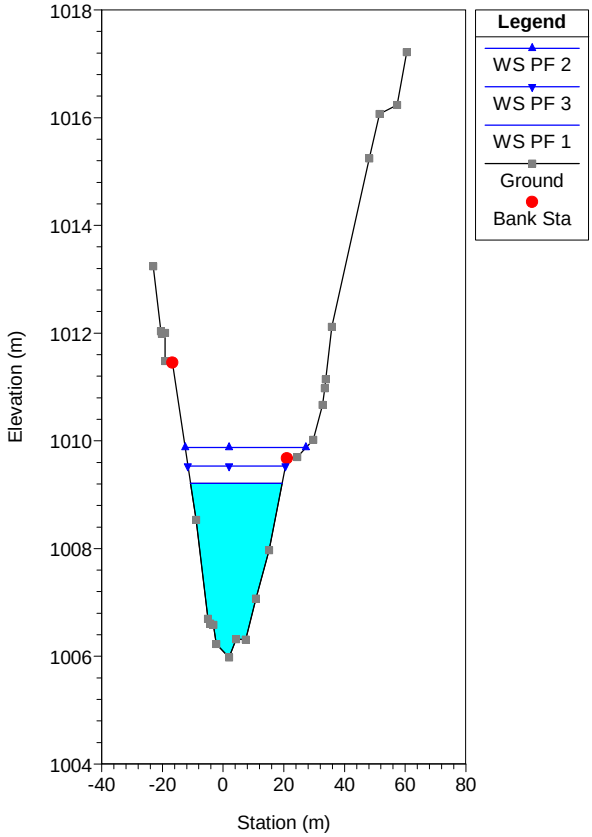

River = 1 Reach = a RS = 177.14*

PROFILO IDRAULICO DORA RIPARIA



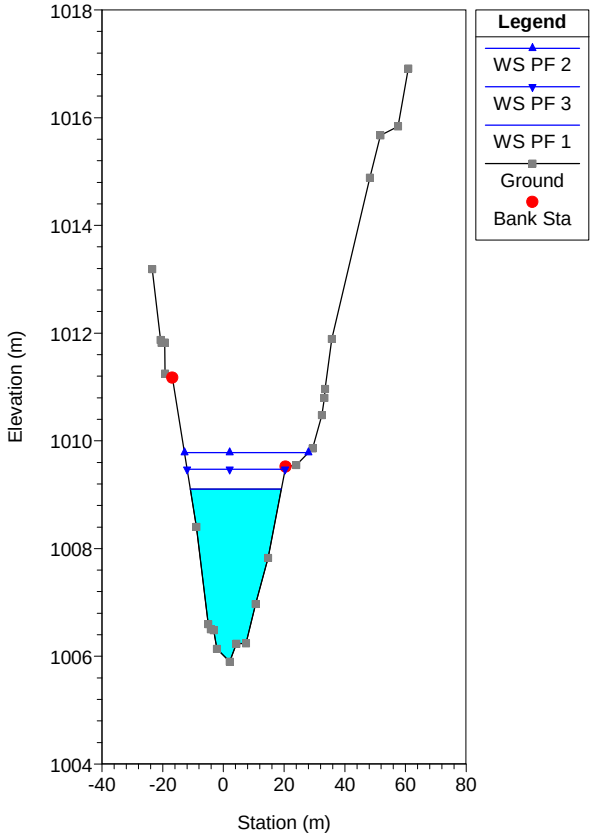
River = 1 Reach = a RS = 176.79*

PROFILO IDRAULICO DORA RIPARIA



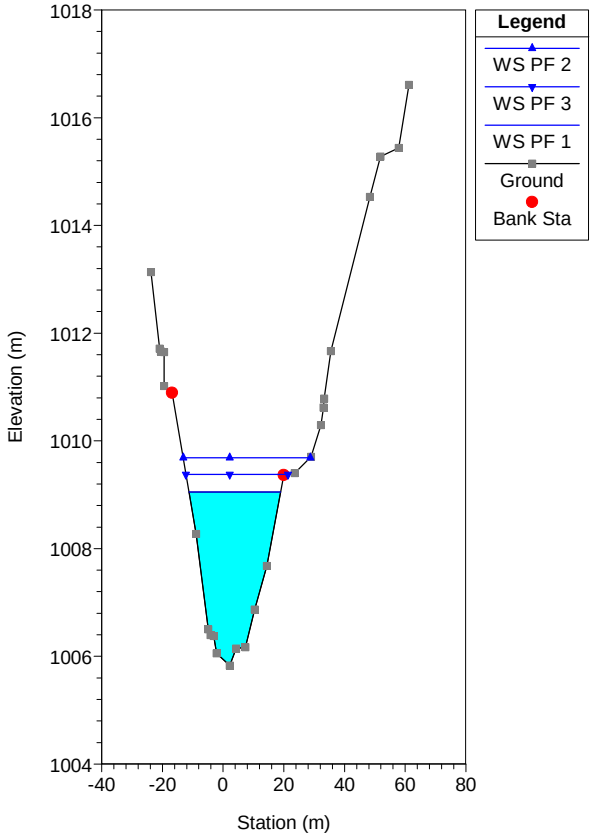

River = 1 Reach = a RS = 176.43*

PROFILO IDRAULICO DORA RIPARIA



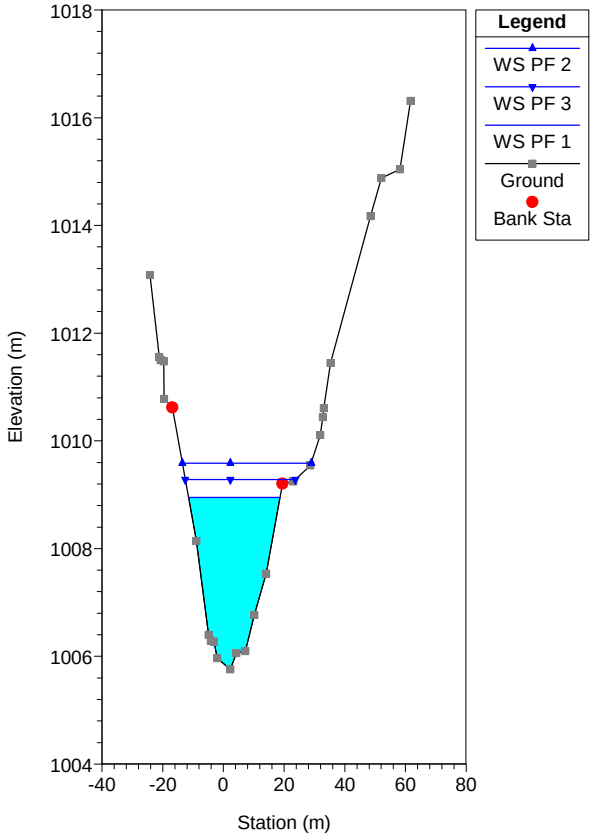

River = 1 Reach = a RS = 176.07*

PROFILO IDRAULICO DORA RIPARIA



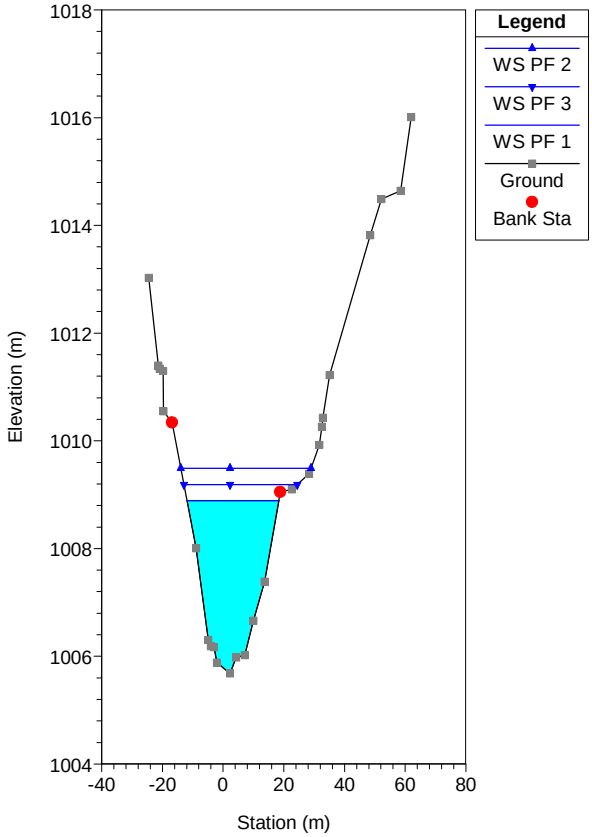

River = 1 Reach = a RS = 175.71*

PROFILO IDRAULICO DORA RIPARIA



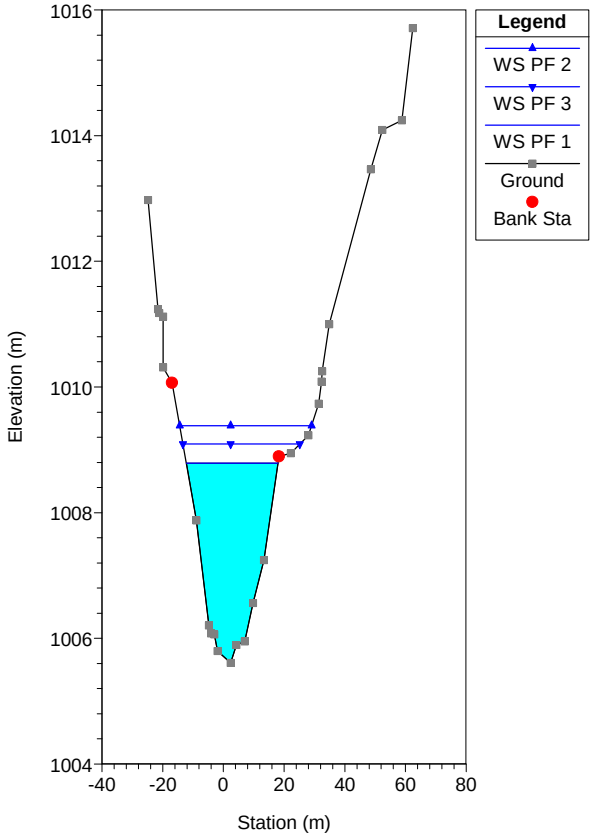
River = 1 Reach = a RS = 175.36*

PROFILO IDRAULICO DORA RIPARIA



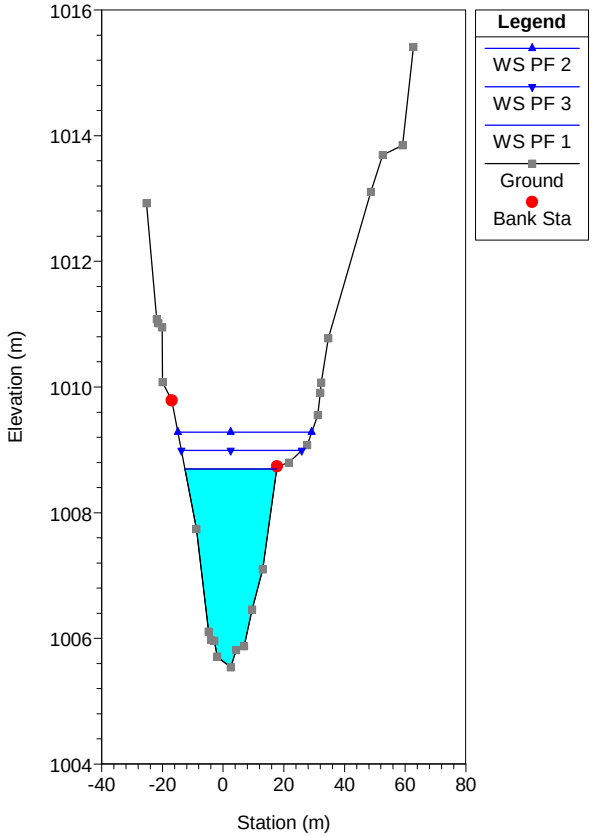

River = 1 Reach = a RS = 175.00*

PROFILO IDRAULICO DORA RIPARIA



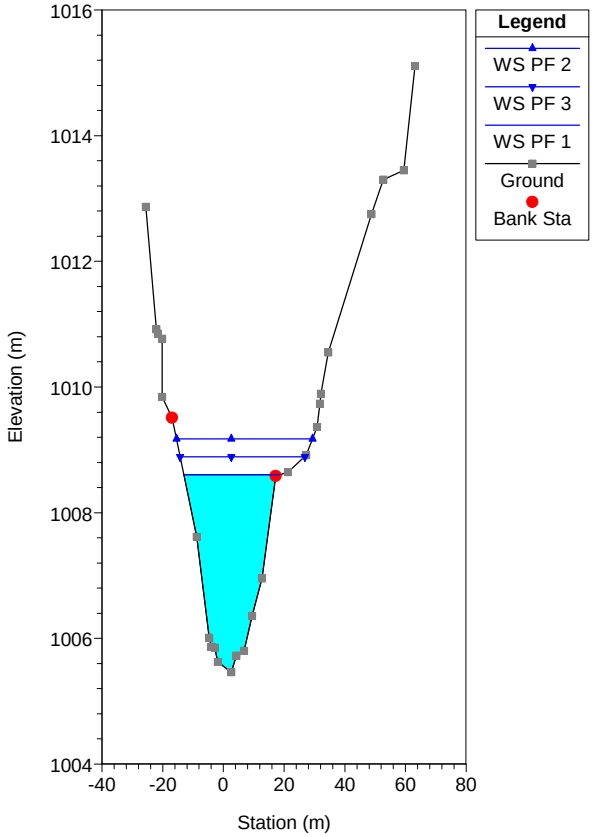

River = 1 Reach = a RS = 174.64*

PROFILO IDRAULICO DORA RIPARIA



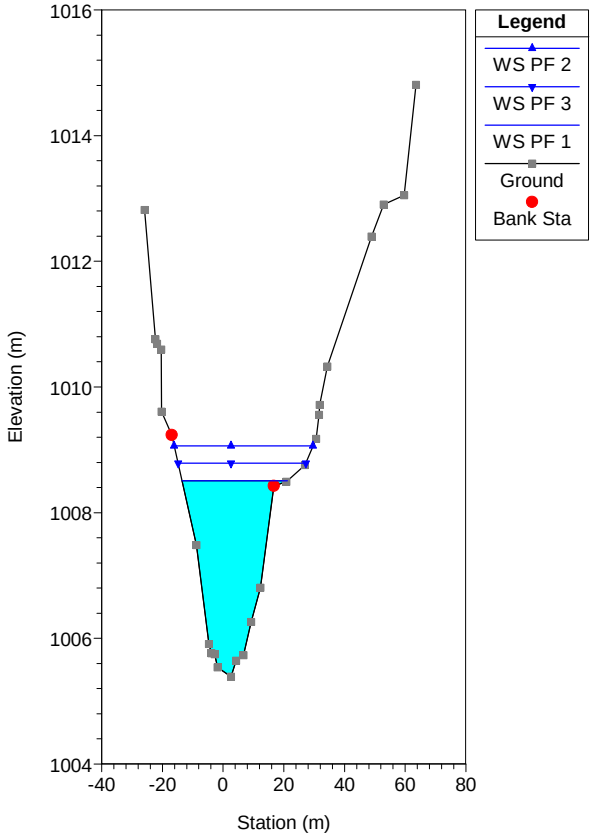

River = 1 Reach = a RS = 174.29*

PROFILO IDRAULICO DORA RIPARIA



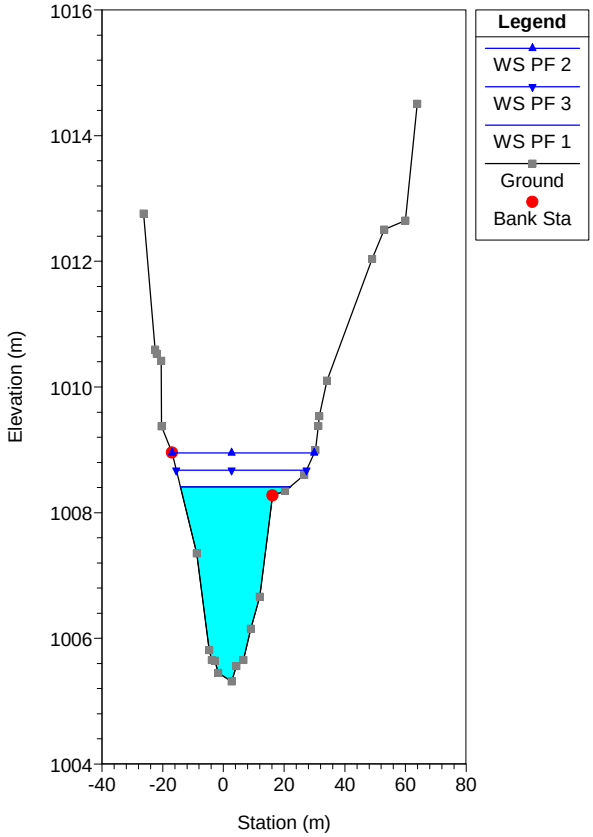
River = 1 Reach = a RS = 173.93*

PROFILO IDRAULICO DORA RIPARIA



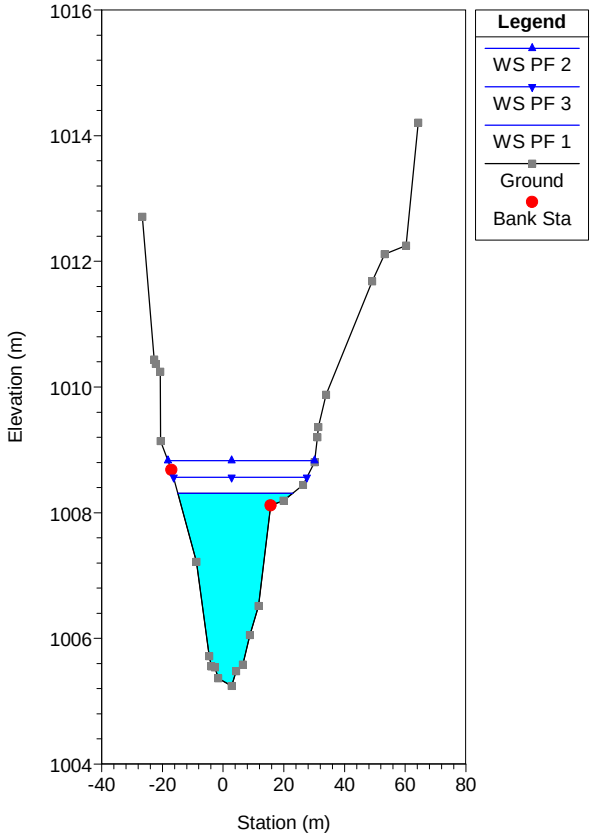

River = 1 Reach = a RS = 173.57*

PROFILO IDRAULICO DORA RIPARIA



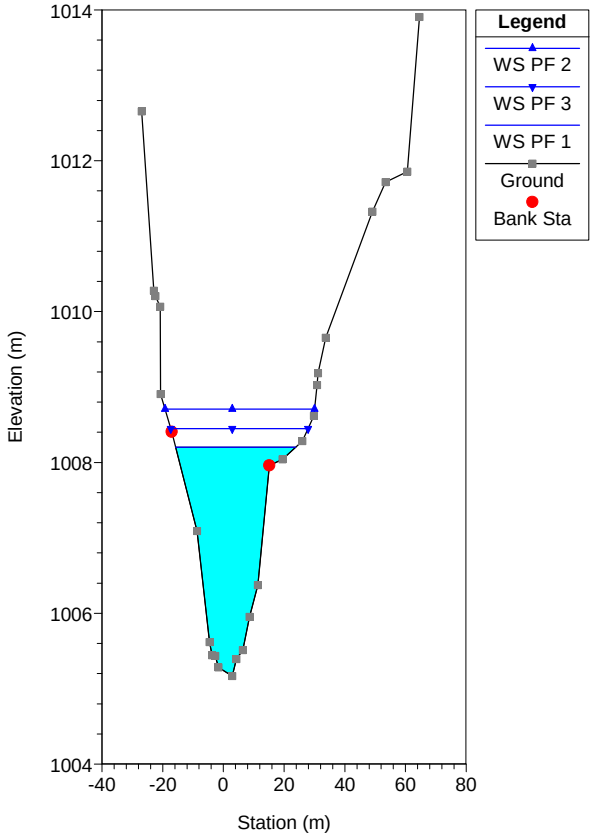

River = 1 Reach = a RS = 173.21*

PROFILO IDRAULICO DORA RIPARIA



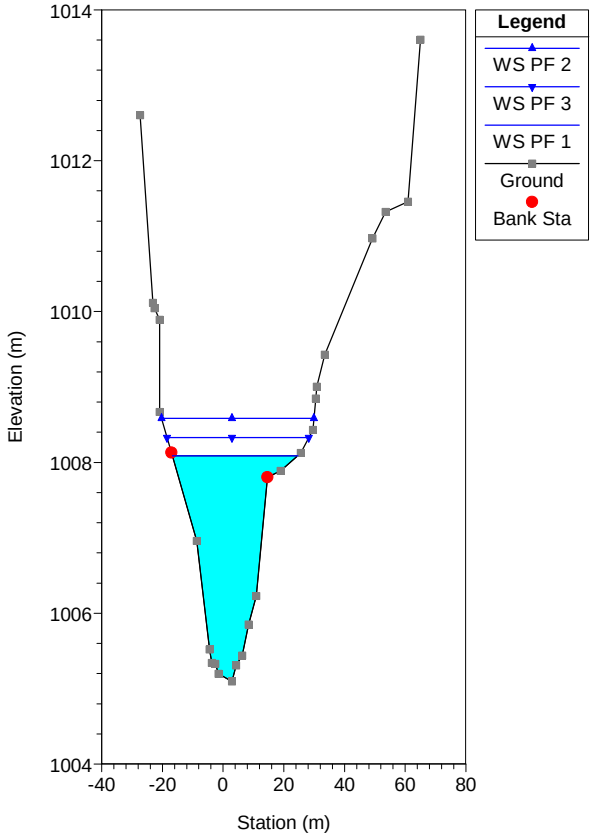

River = 1 Reach = a RS = 172.86*

PROFILO IDRAULICO DORA RIPARIA



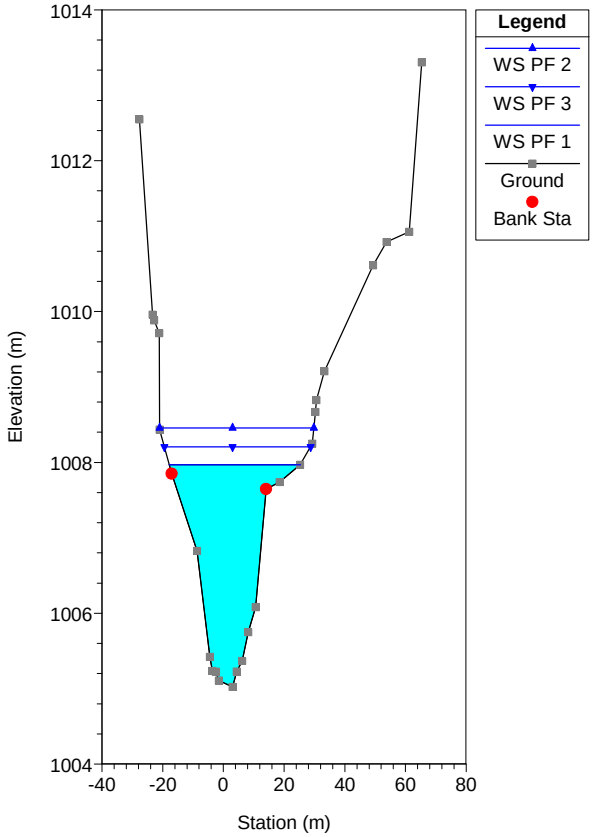
River = 1 Reach = a RS = 172.50*

PROFILO IDRAULICO DORA RIPARIA



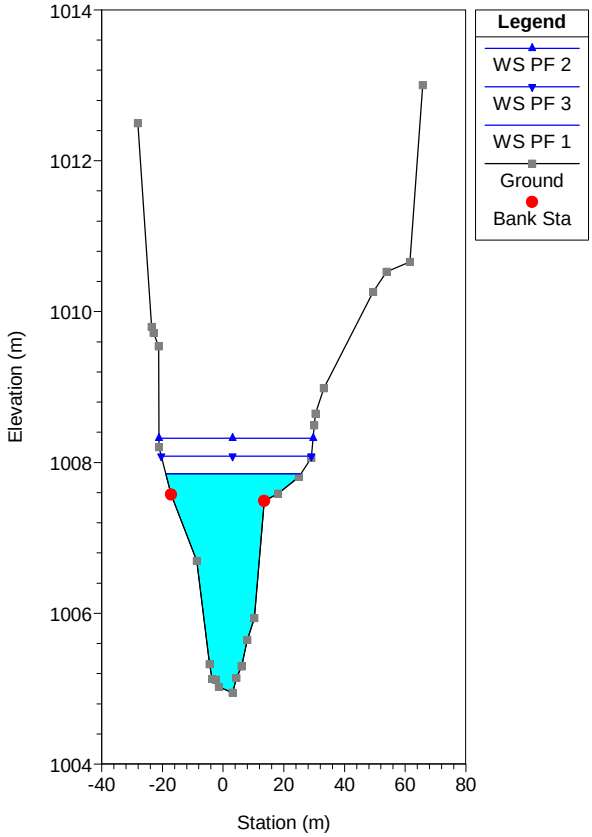

River = 1 Reach = a RS = 172.14*

PROFILO IDRAULICO DORA RIPARIA



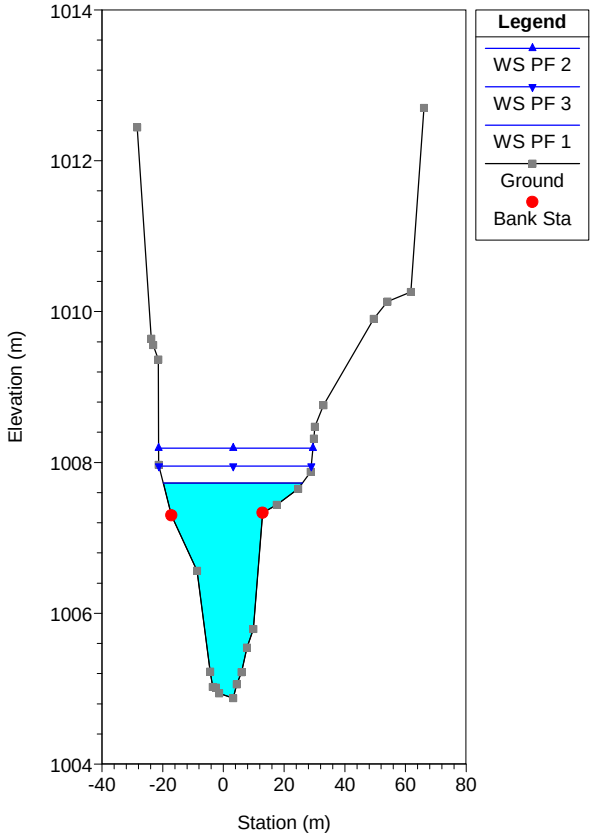

River = 1 Reach = a RS = 171.79*

PROFILO IDRAULICO DORA RIPARIA



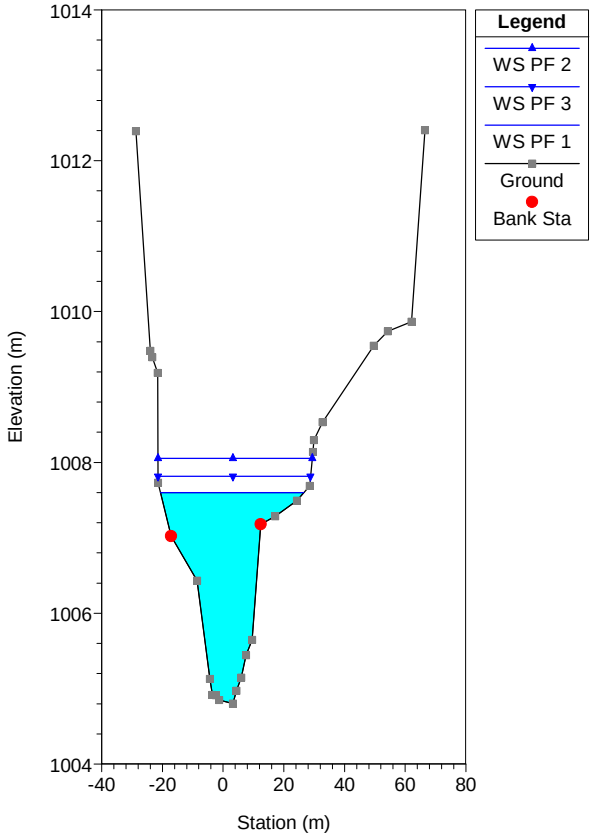

River = 1 Reach = a RS = 171.43*

PROFILO IDRAULICO DORA RIPARIA



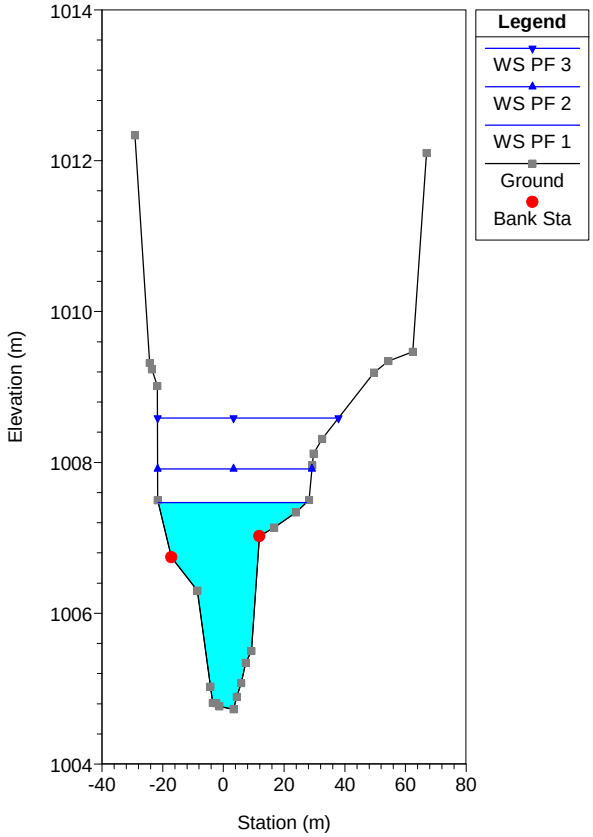
River = 1 Reach = a RS = 171.07*

PROFILO IDRAULICO DORA RIPARIA



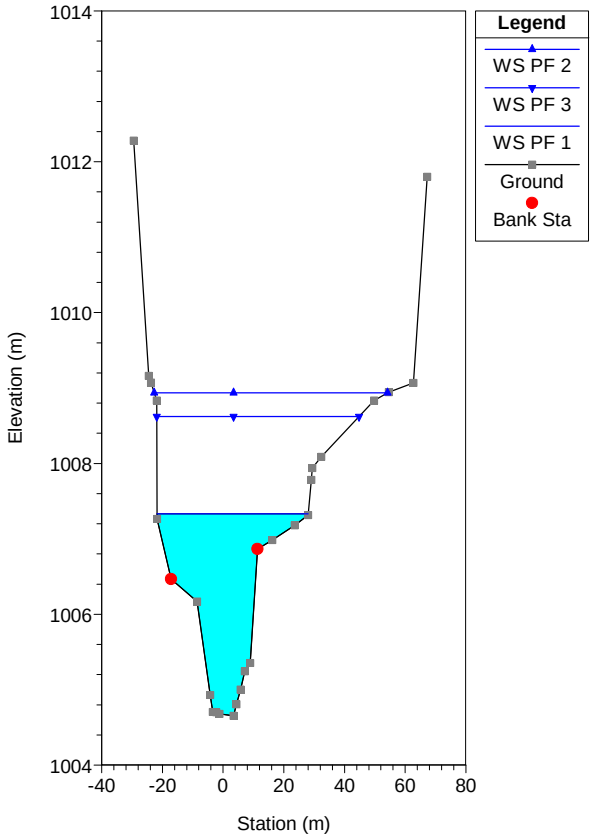

River = 1 Reach = a RS = 170.71*

PROFILO IDRAULICO DORA RIPARIA



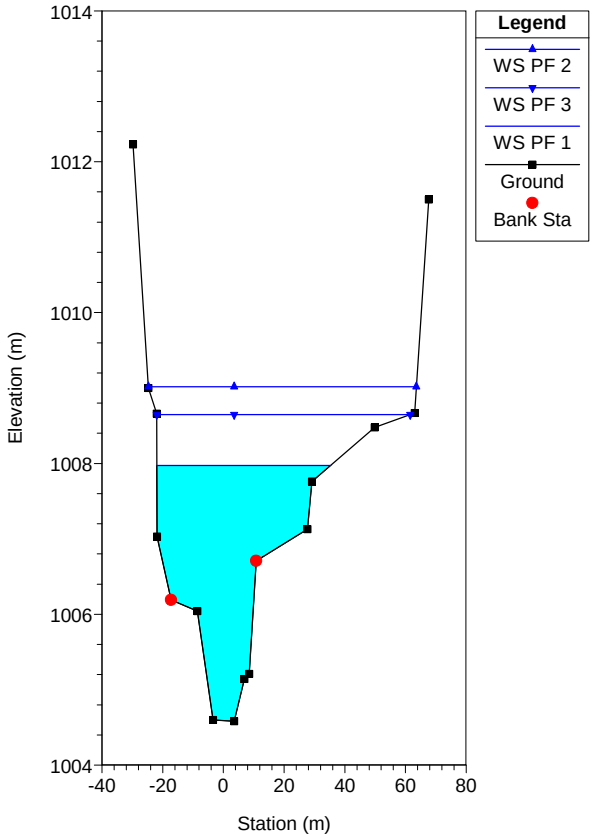

River = 1 Reach = a RS = 170.36*

PROFILO IDRAULICO DORA RIPARIA



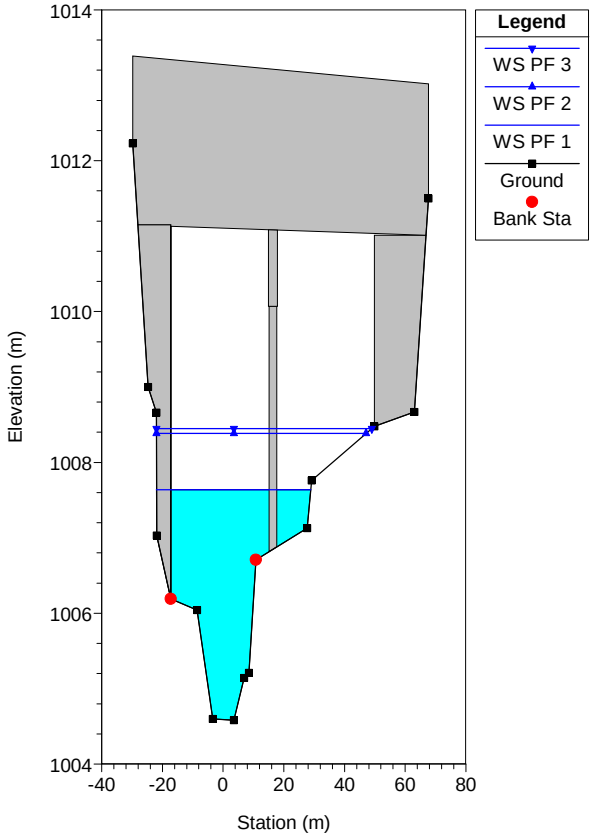

River = 1 Reach = a RS = 170

PROFILO IDRAULICO DORA RIPARIA



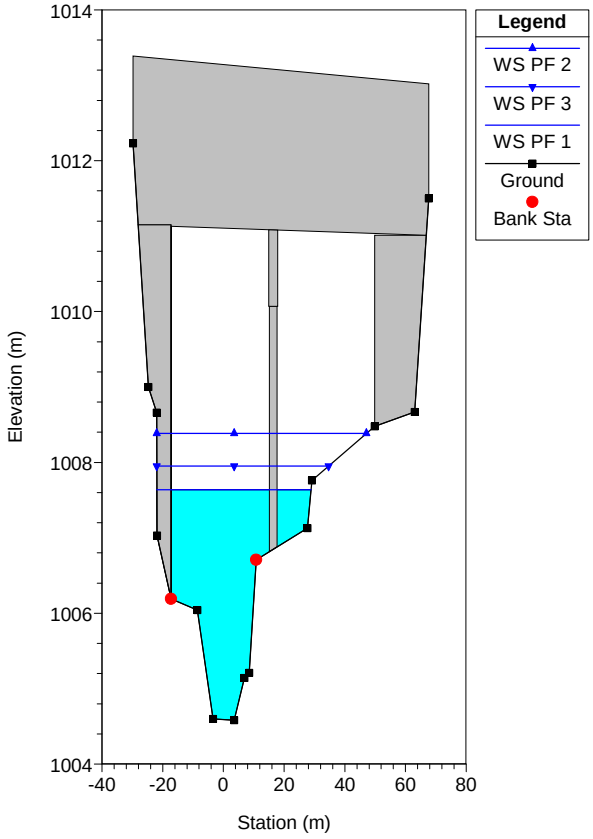
River = 1 Reach = a RS = 169 BR

PROFILO IDRAULICO DORA RIPARIA



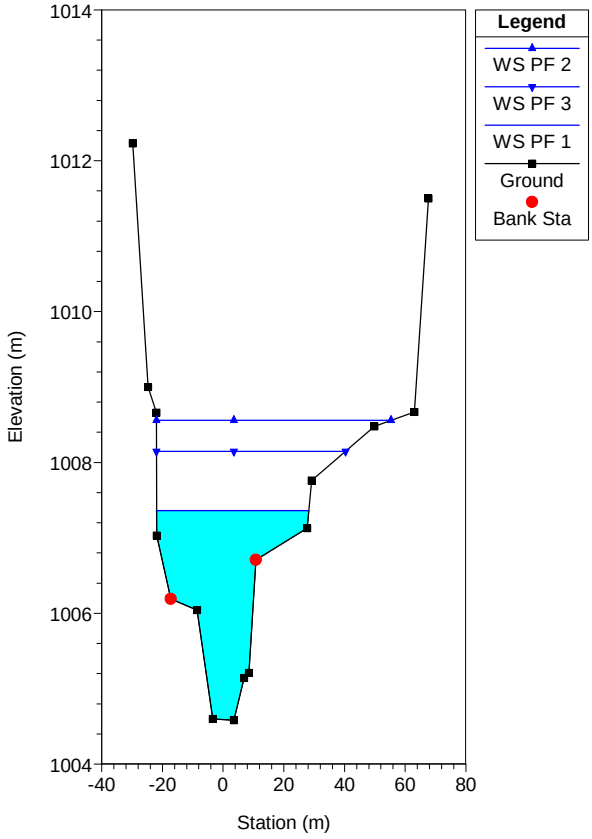

River = 1 Reach = a RS = 169 BR

PROFILO IDRAULICO DORA RIPARIA



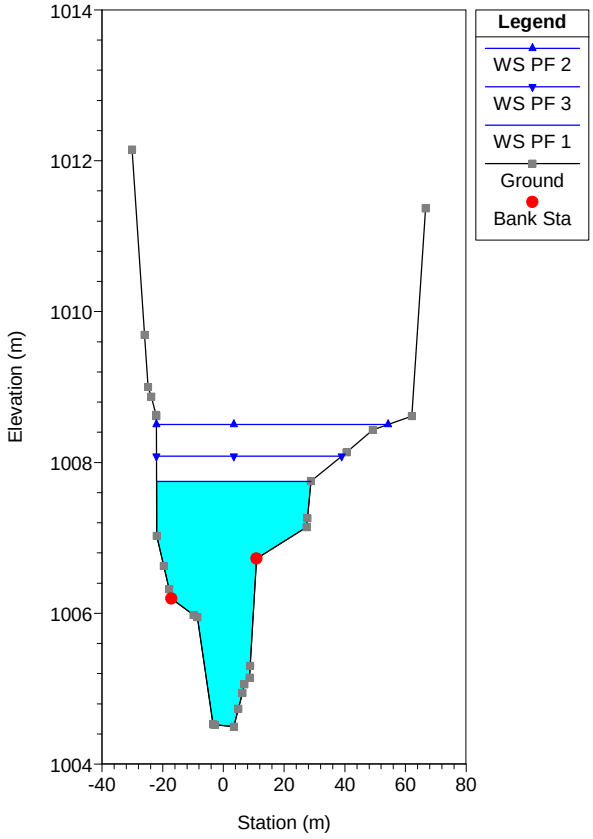

River = 1 Reach = a RS = 168

PROFILO IDRAULICO DORA RIPARIA



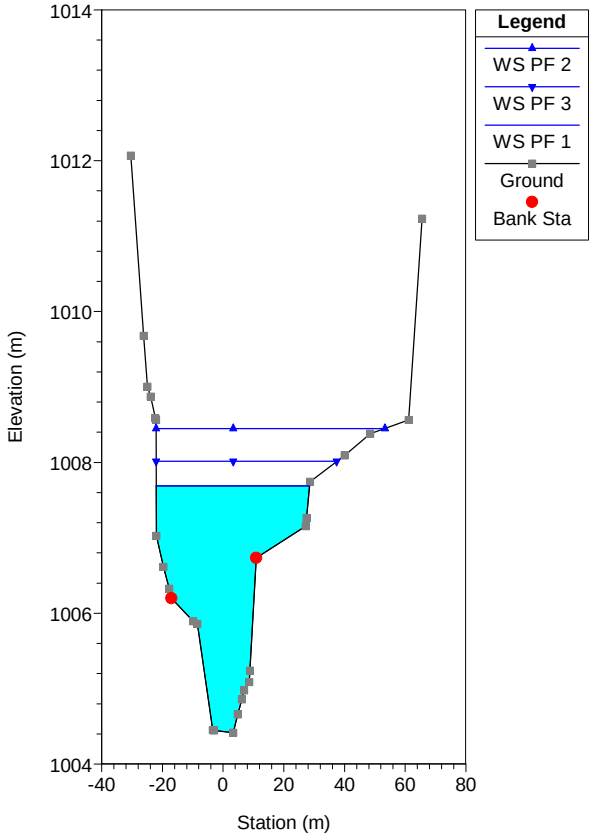

River = 1 Reach = a RS = 167.78*

PROFILO IDRAULICO DORA RIPARIA



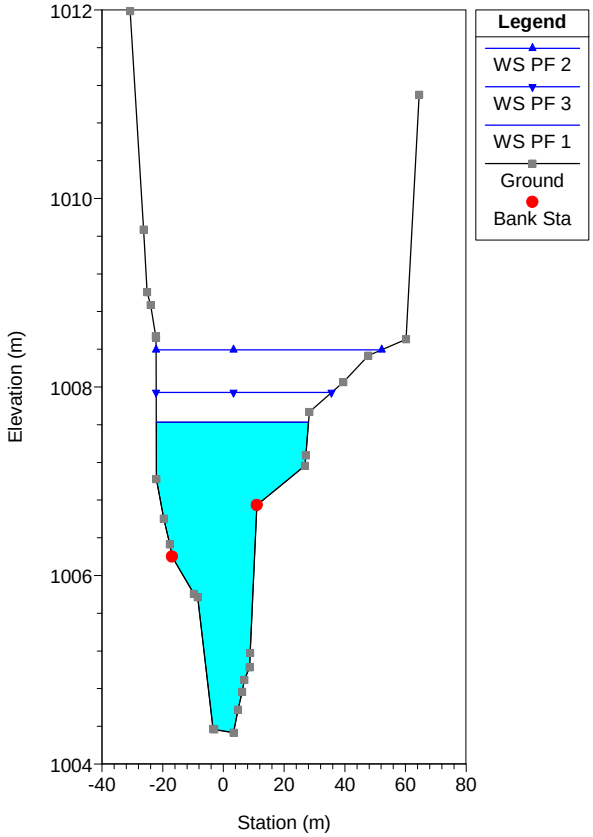
River = 1 Reach = a RS = 167.56*

PROFILO IDRAULICO DORA RIPARIA



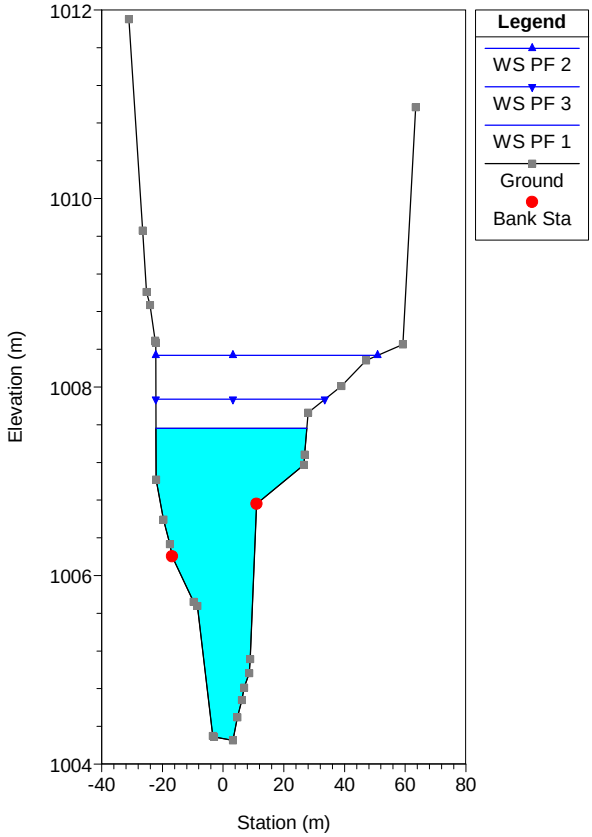

River = 1 Reach = a RS = 167.33*

PROFILO IDRAULICO DORA RIPARIA



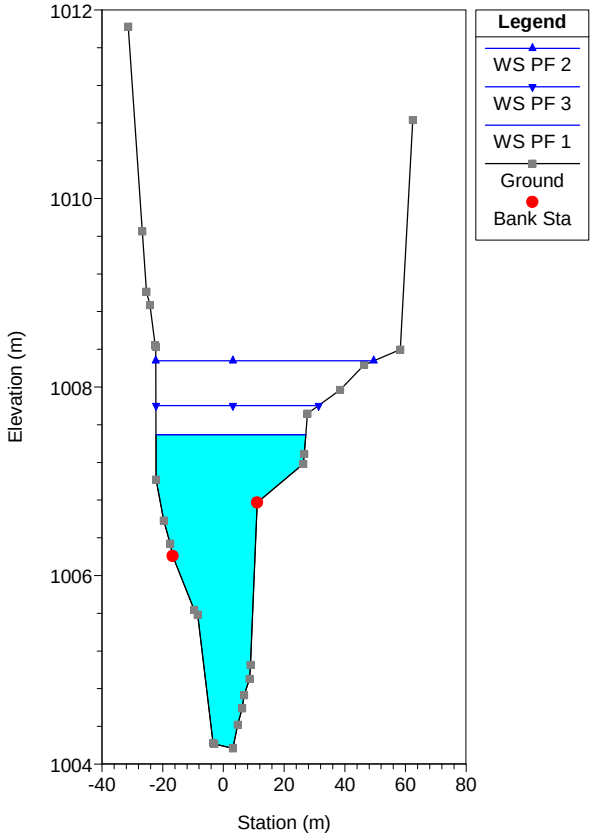

River = 1 Reach = a RS = 167.11*

PROFILO IDRAULICO DORA RIPARIA



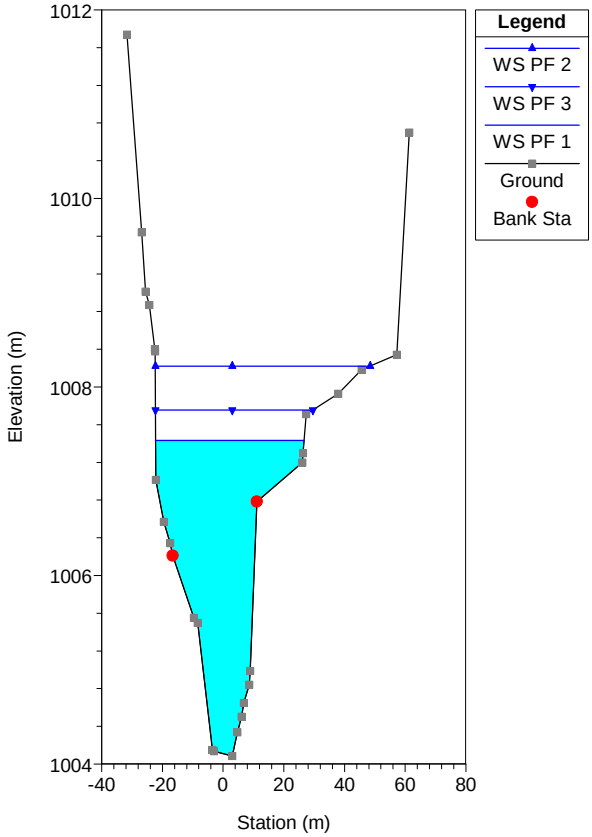

River = 1 Reach = a RS = 166.89*

PROFILO IDRAULICO DORA RIPARIA



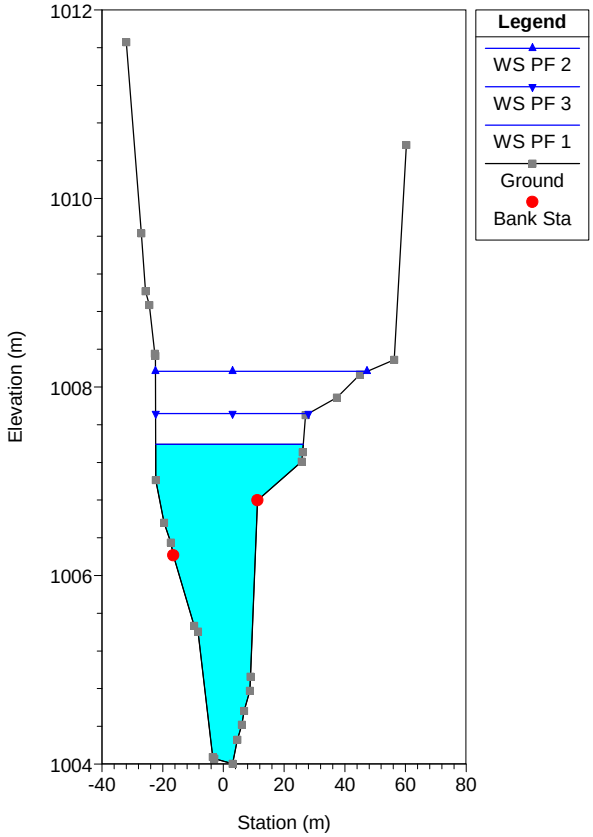
River = 1 Reach = a RS = 166.67*

PROFILO IDRAULICO DORA RIPARIA



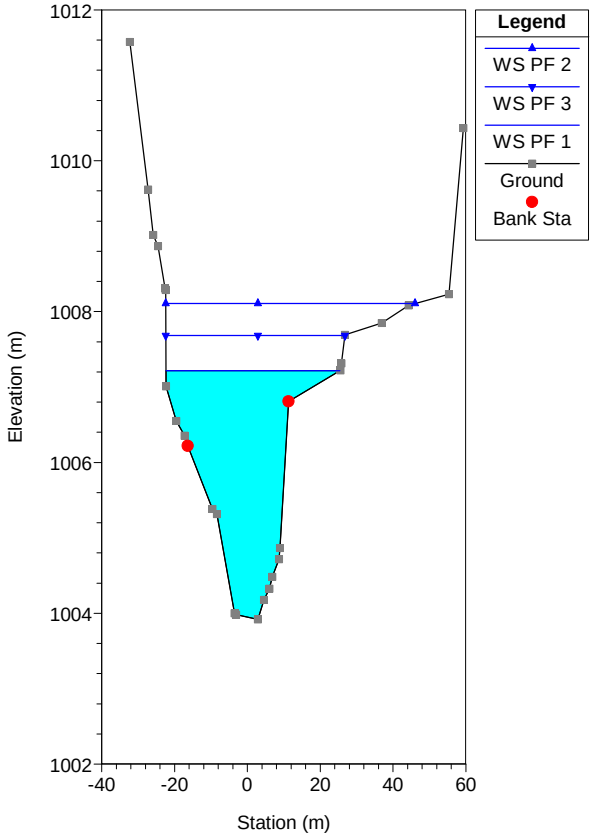

River = 1 Reach = a RS = 166.44*

PROFILO IDRAULICO DORA RIPARIA



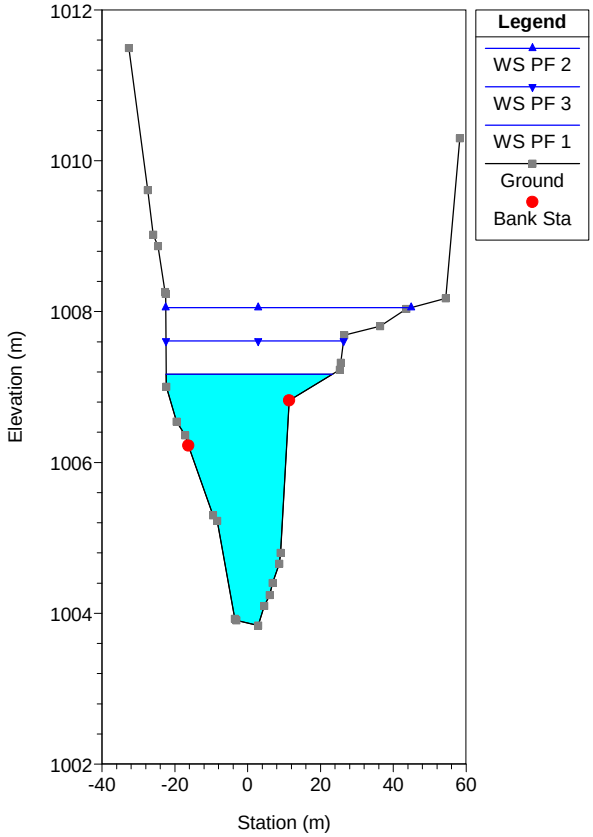

River = 1 Reach = a RS = 166.22*

PROFILO IDRAULICO DORA RIPARIA



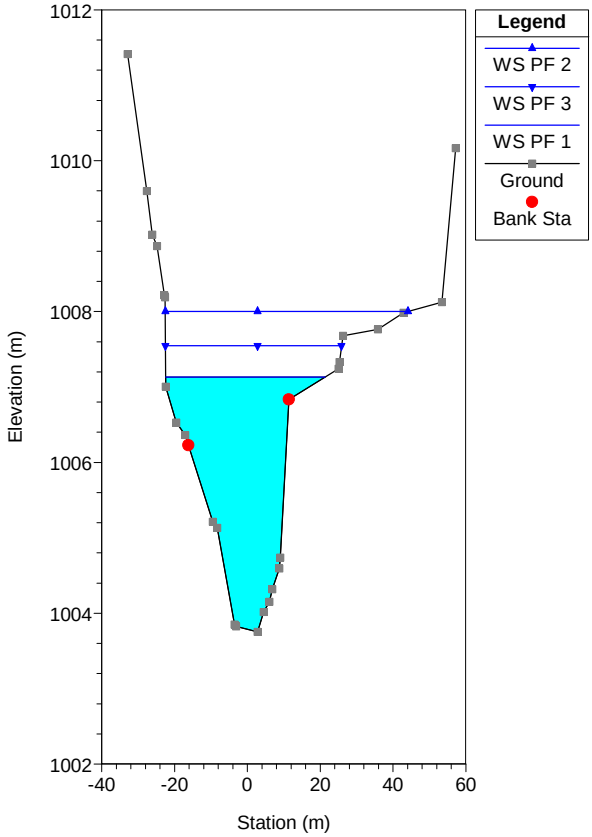

River = 1 Reach = a RS = 166.00*

PROFILO IDRAULICO DORA RIPARIA



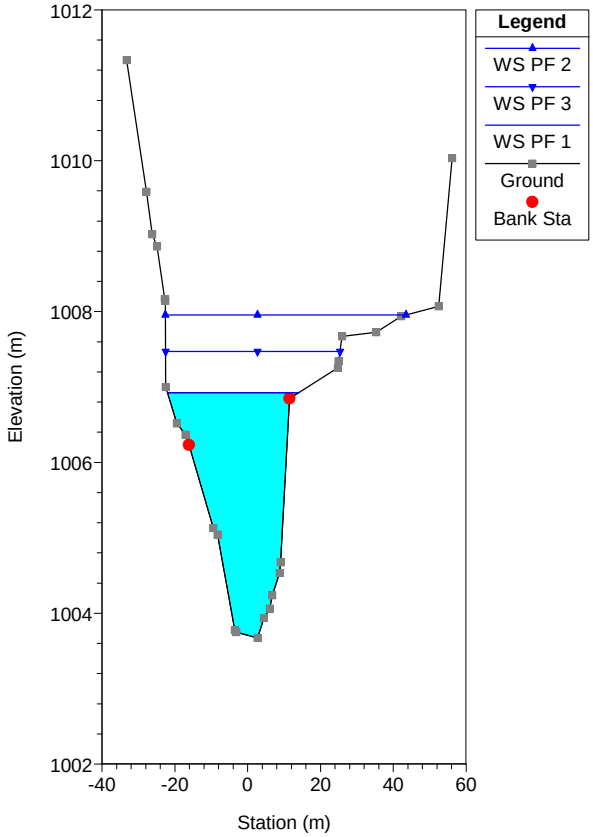
River = 1 Reach = a RS = 165.78*

PROFILO IDRAULICO DORA RIPARIA



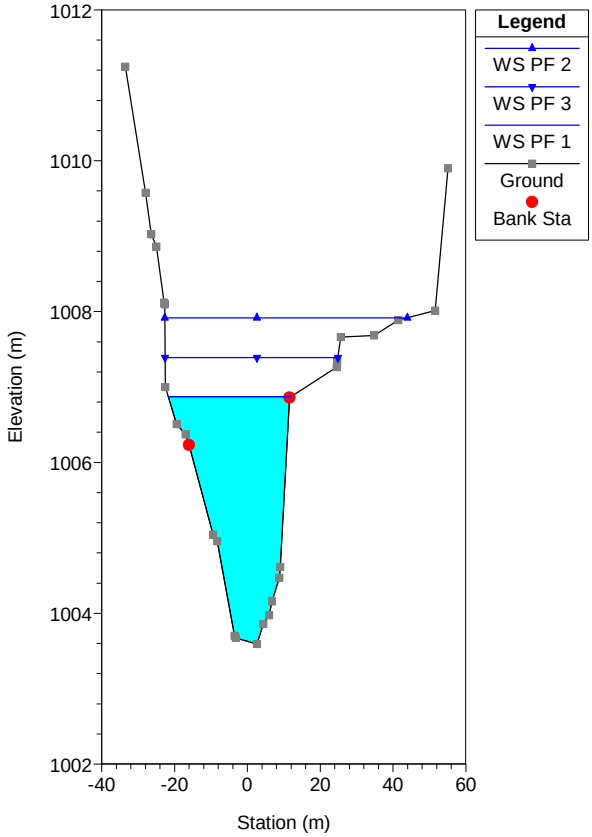

River = 1 Reach = a RS = 165.56*

PROFILO IDRAULICO DORA RIPARIA



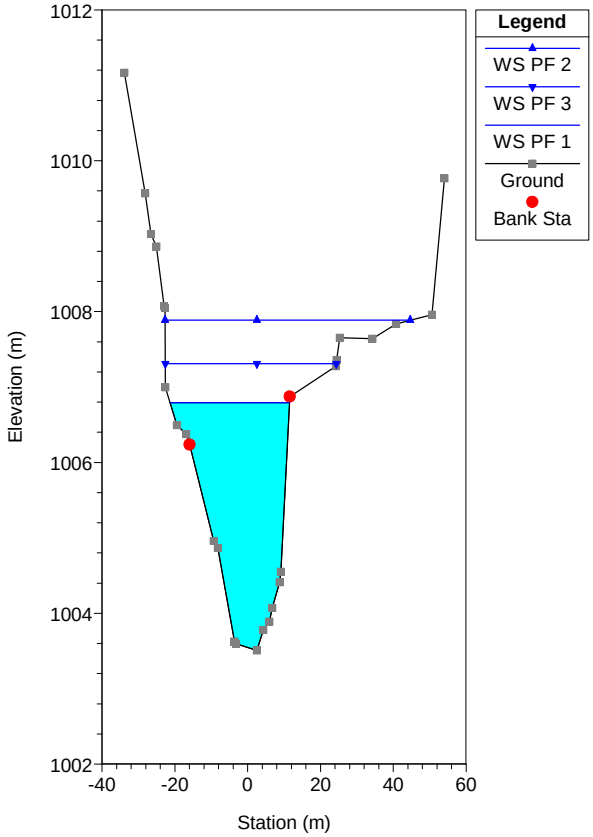

River = 1 Reach = a RS = 165.33*

PROFILO IDRAULICO DORA RIPARIA



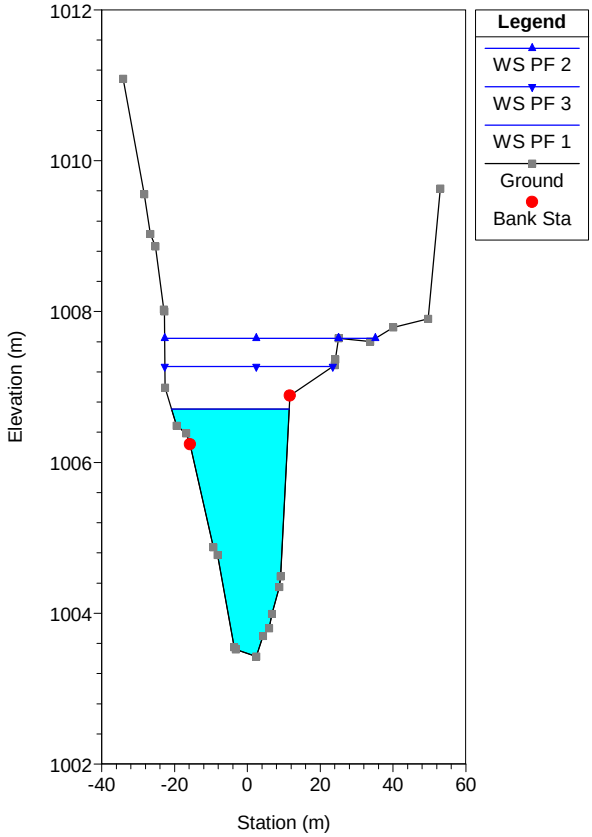

River = 1 Reach = a RS = 165.11*

PROFILO IDRAULICO DORA RIPARIA



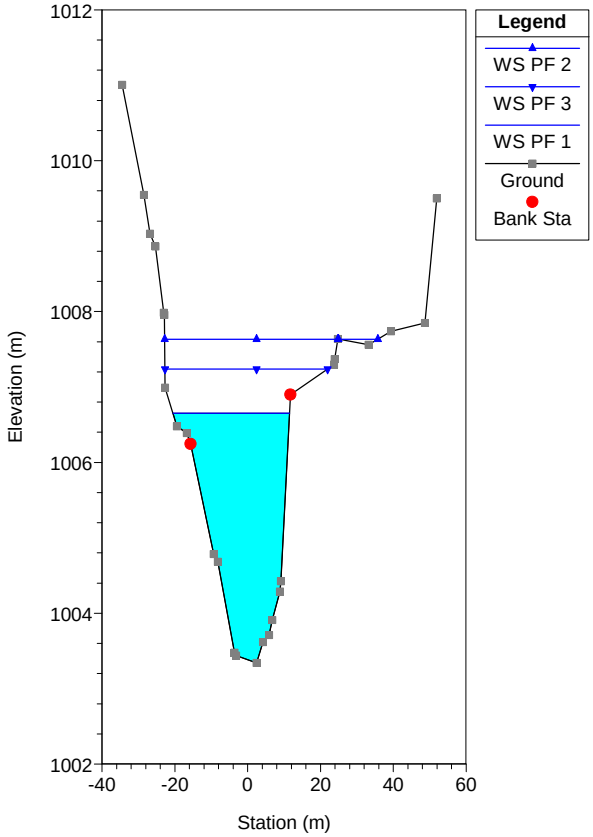
River = 1 Reach = a RS = 164.89*

PROFILO IDRAULICO DORA RIPARIA



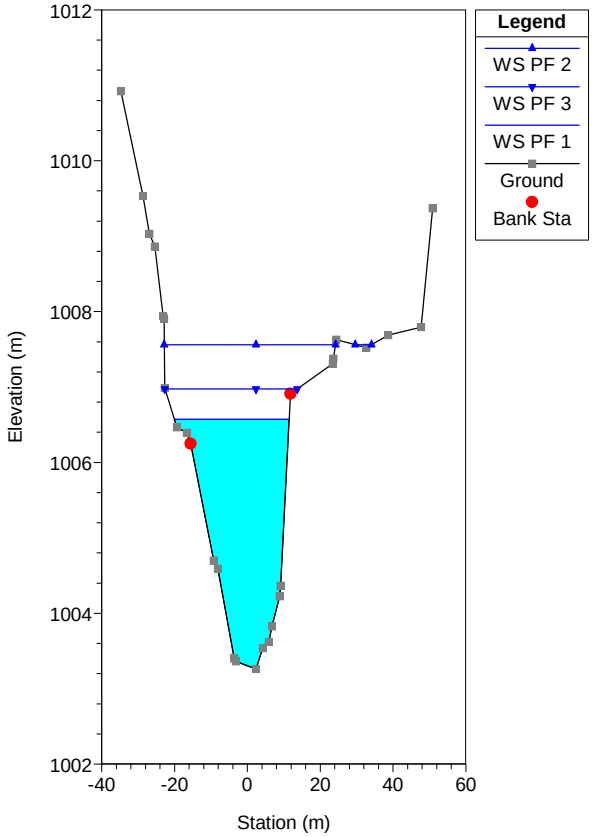

River = 1 Reach = a RS = 164.67*

PROFILO IDRAULICO DORA RIPARIA



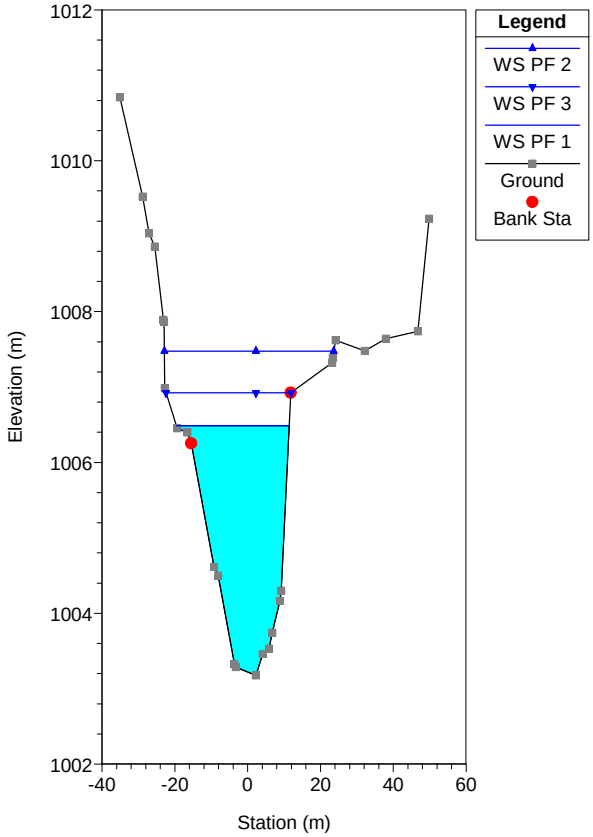

River = 1 Reach = a RS = 164.44*

PROFILO IDRAULICO DORA RIPARIA



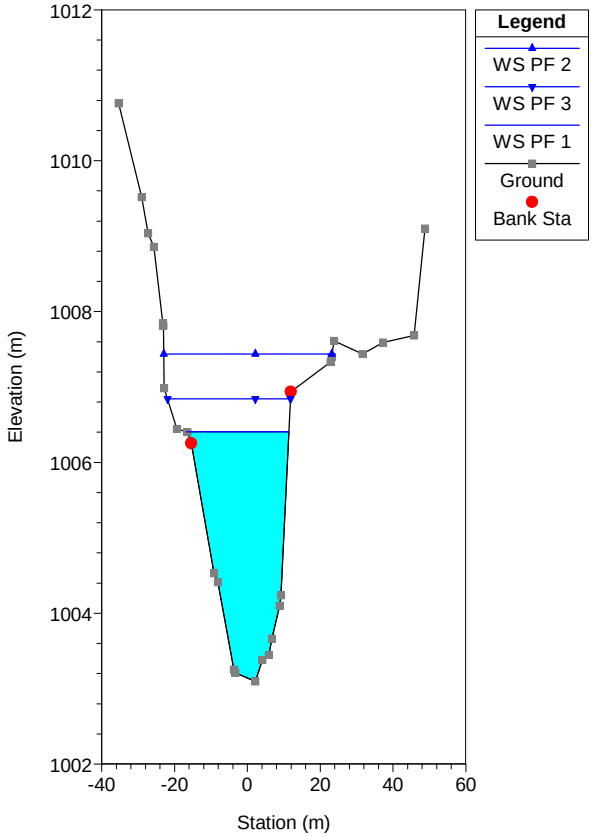

River = 1 Reach = a RS = 164.22*

PROFILO IDRAULICO DORA RIPARIA



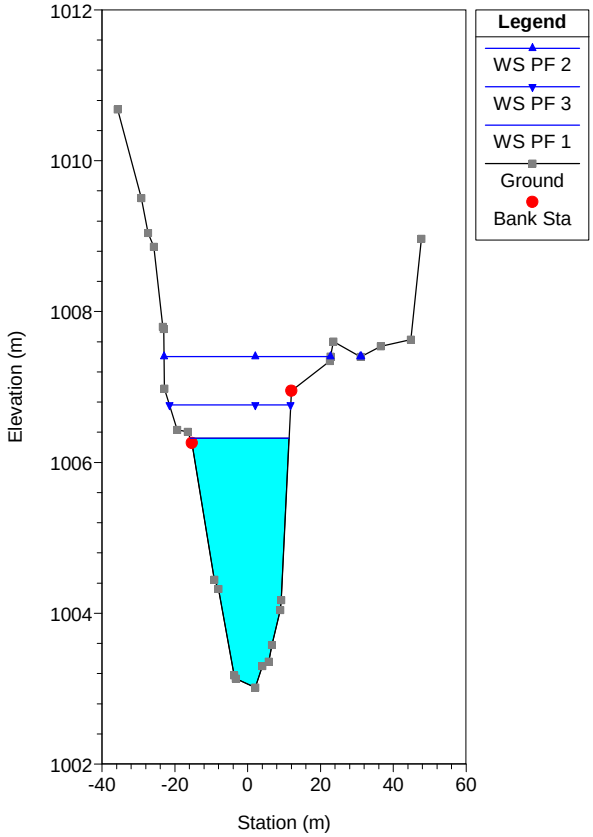
River = 1 Reach = a RS = 164.00*

PROFILO IDRAULICO DORA RIPARIA



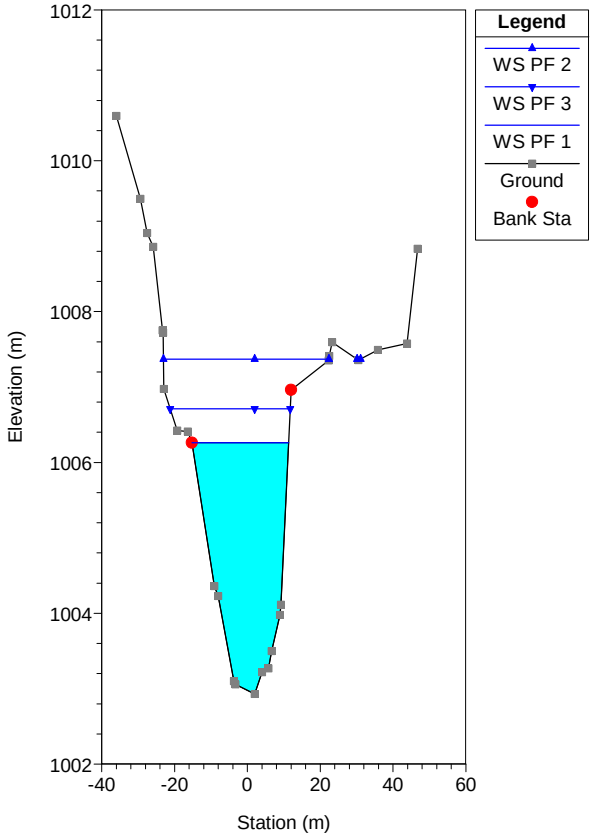

River = 1 Reach = a RS = 163.78*

PROFILO IDRAULICO DORA RIPARIA



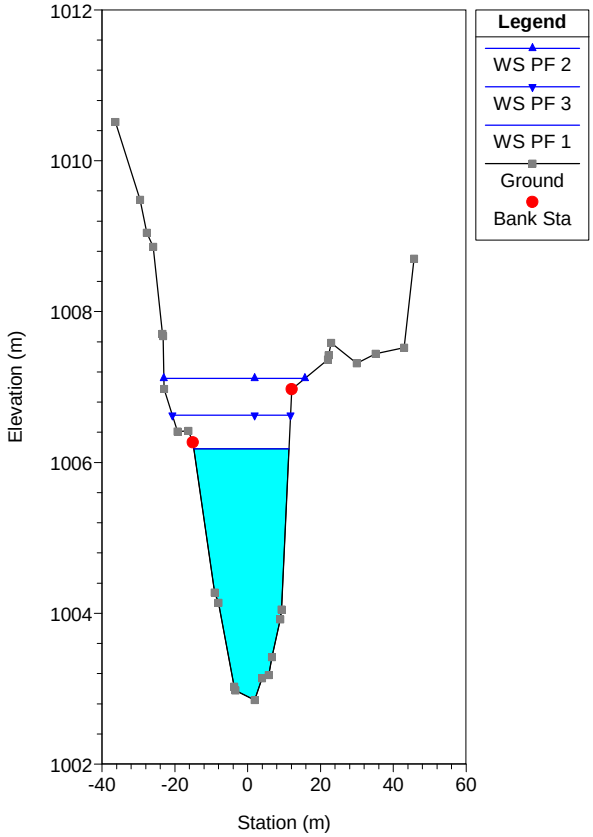

River = 1 Reach = a RS = 163.56*

PROFILO IDRAULICO DORA RIPARIA



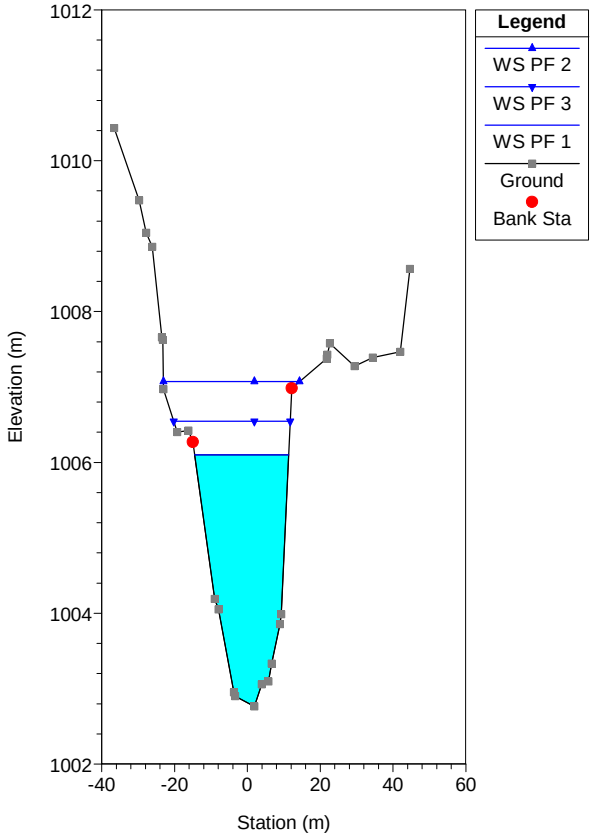

River = 1 Reach = a RS = 163.33*

PROFILO IDRAULICO DORA RIPARIA



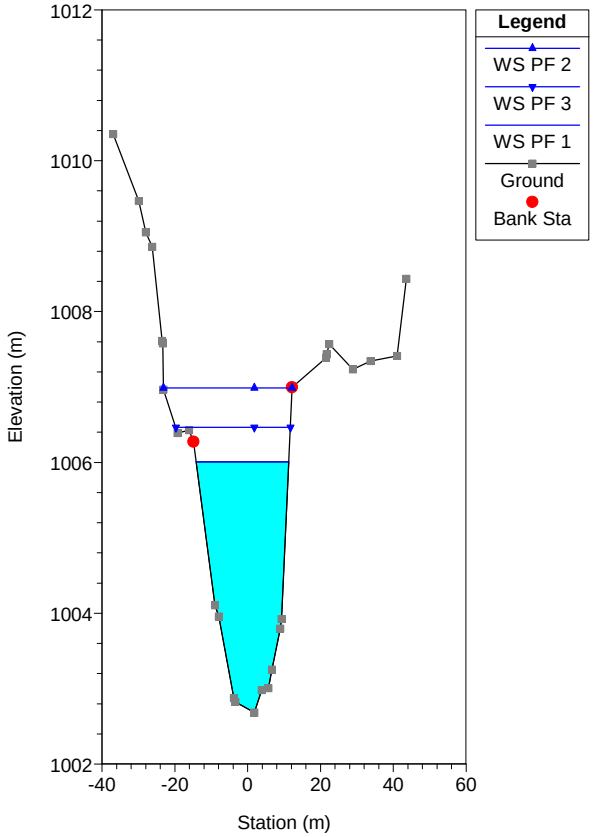
River = 1 Reach = a RS = 163.11*

PROFILO IDRAULICO DORA RIPARIA



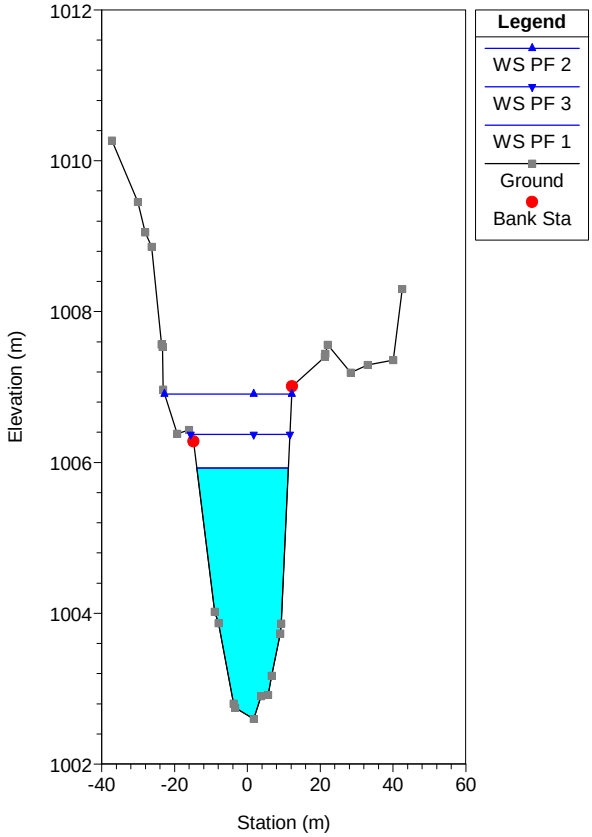

River = 1 Reach = a RS = 162.89*

PROFILO IDRAULICO DORA RIPARIA



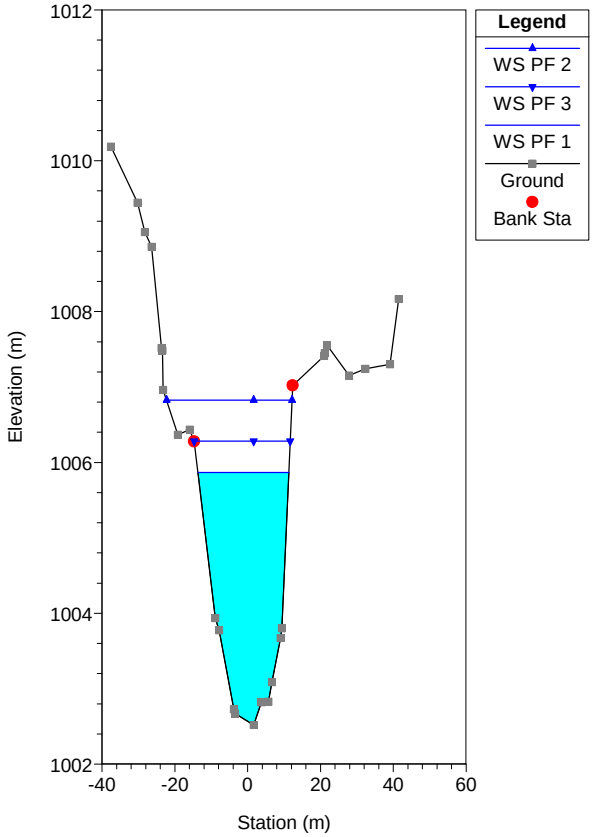

River = 1 Reach = a RS = 162.67*

PROFILO IDRAULICO DORA RIPARIA



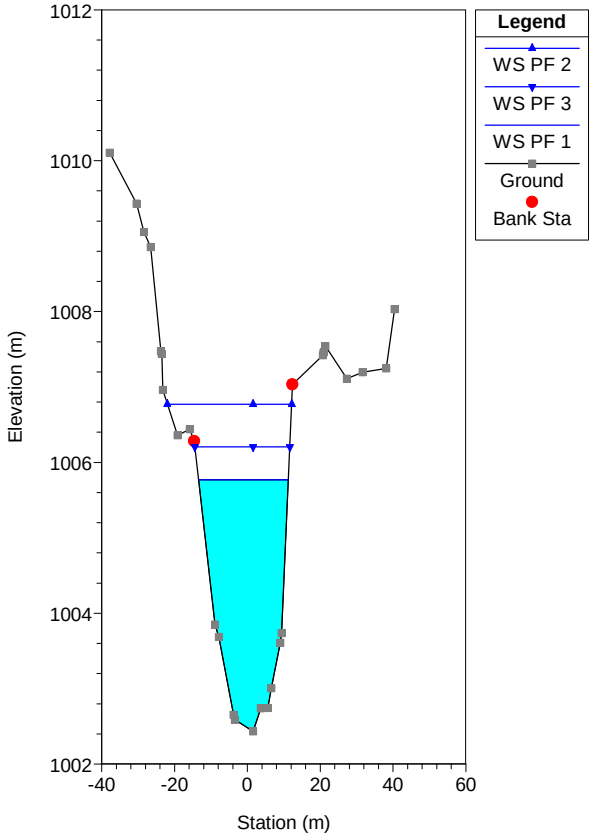

River = 1 Reach = a RS = 162.44*

PROFILO IDRAULICO DORA RIPARIA



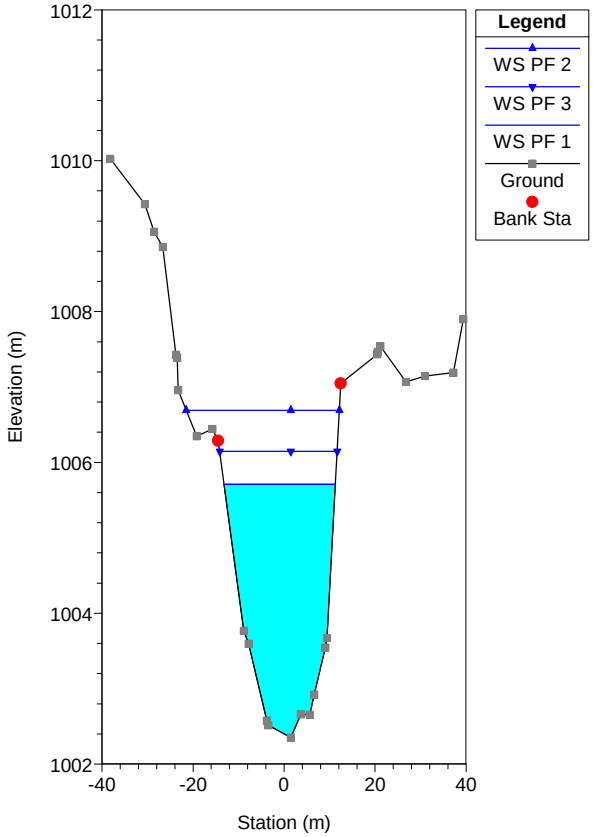
River = 1 Reach = a RS = 162.22*

PROFILO IDRAULICO DORA RIPARIA



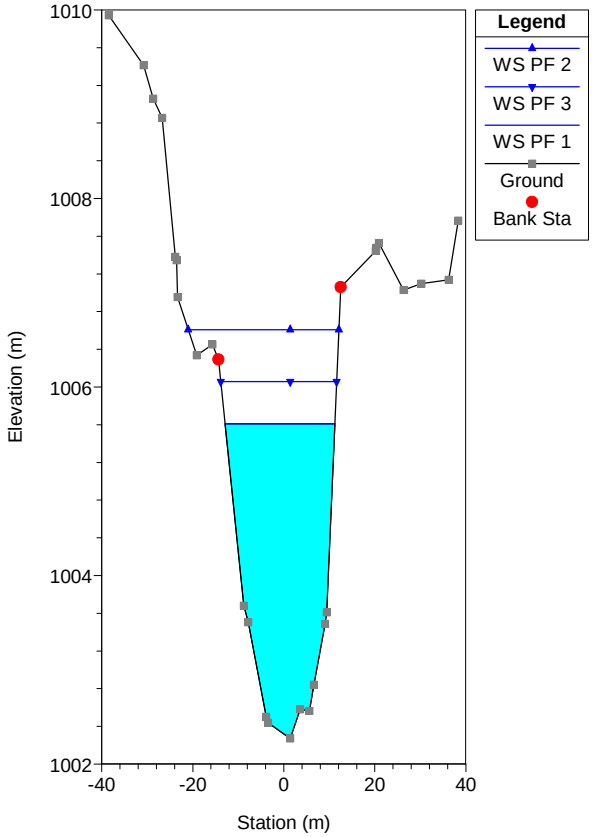

River = 1 Reach = a RS = 162.00*

PROFILO IDRAULICO DORA RIPARIA



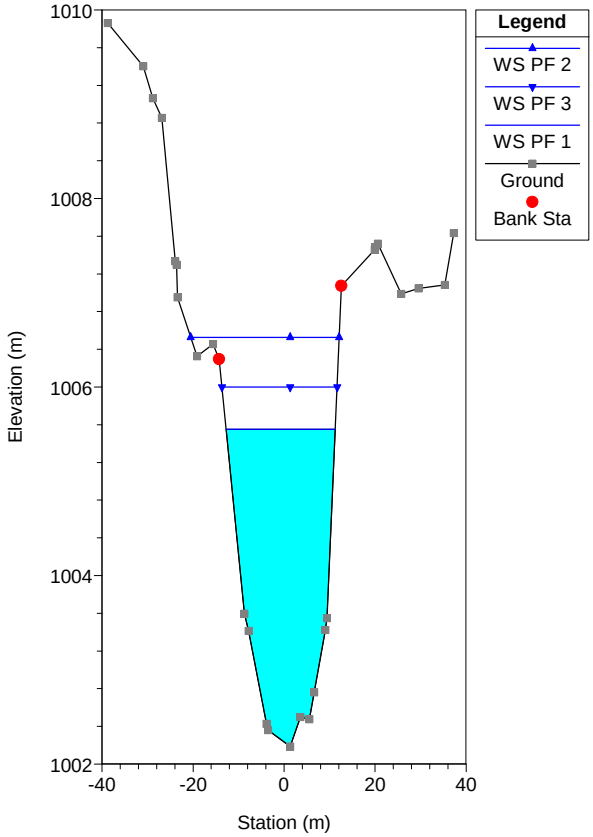

River = 1 Reach = a RS = 161.78*

PROFILO IDRAULICO DORA RIPARIA



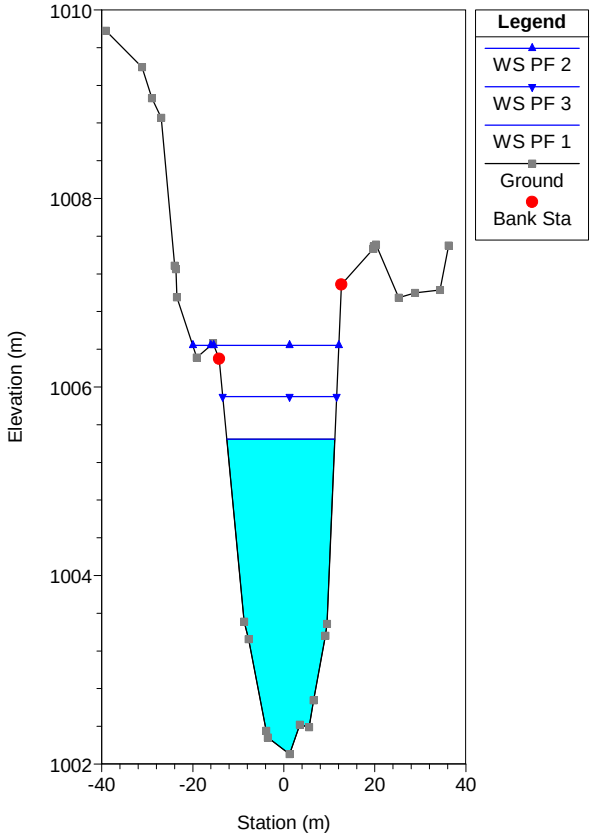

River = 1 Reach = a RS = 161.56*

PROFILO IDRAULICO DORA RIPARIA



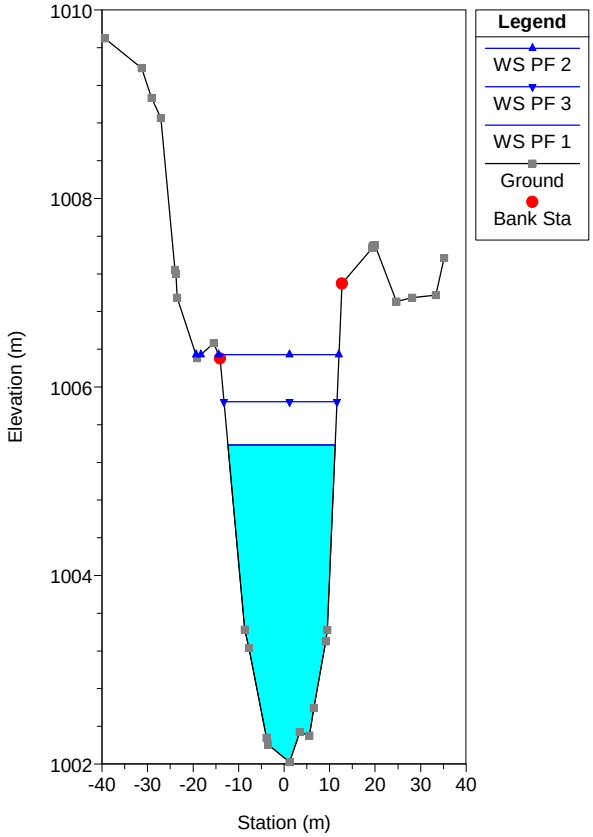
River = 1 Reach = a RS = 161.33*

PROFILO IDRAULICO DORA RIPARIA



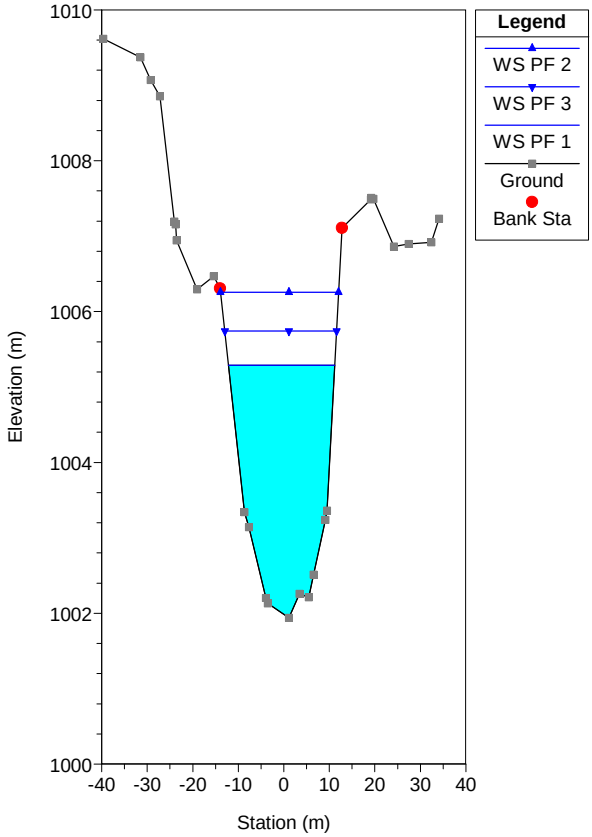

River = 1 Reach = a RS = 161.11*

PROFILO IDRAULICO DORA RIPARIA



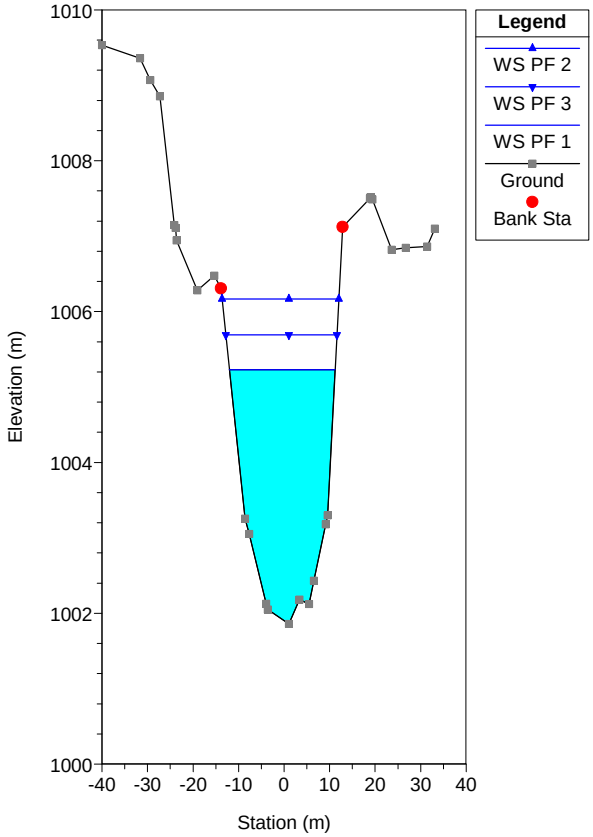

River = 1 Reach = a RS = 160.89*

PROFILO IDRAULICO DORA RIPARIA



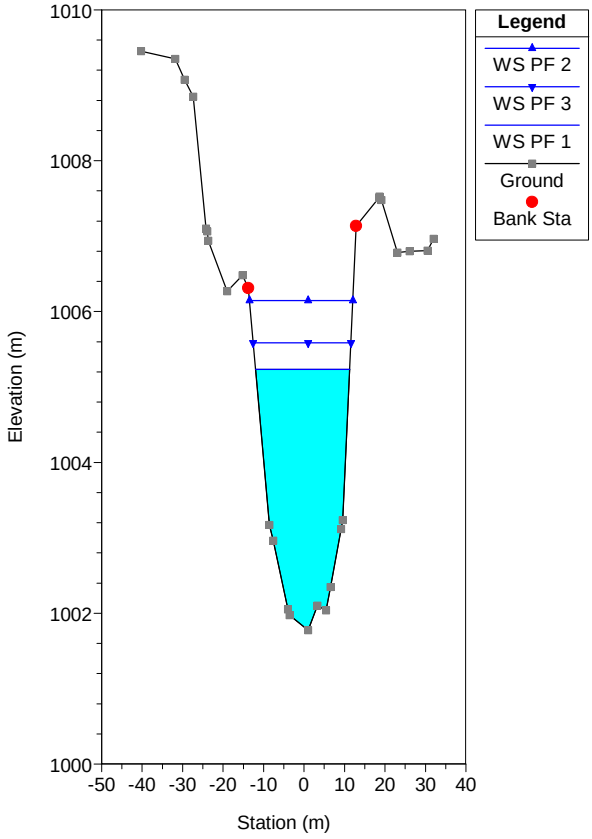

River = 1 Reach = a RS = 160.67*

PROFILO IDRAULICO DORA RIPARIA



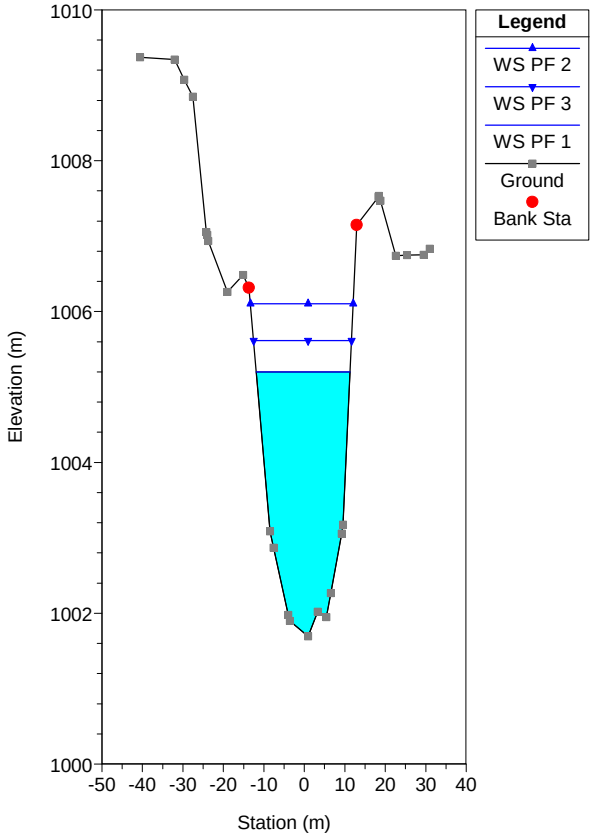
River = 1 Reach = a RS = 160.44*

PROFILO IDRAULICO DORA RIPARIA



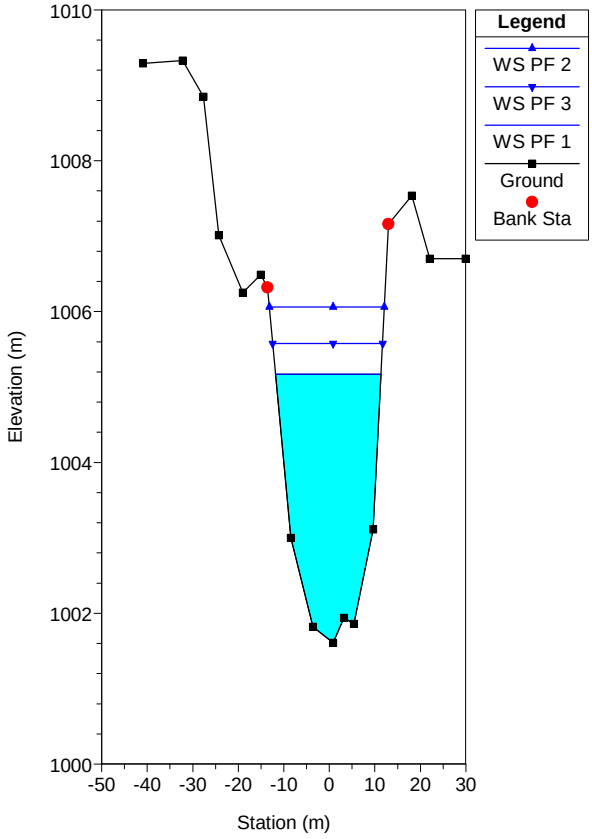

River = 1 Reach = a RS = 160.22*

PROFILO IDRAULICO DORA RIPARIA



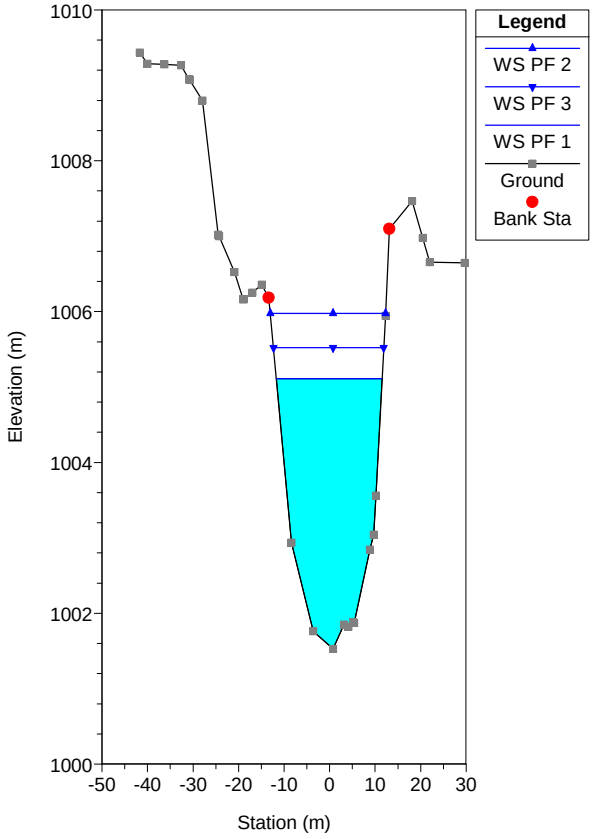

River = 1 Reach = a RS = 160

PROFILO IDRAULICO DORA RIPARIA



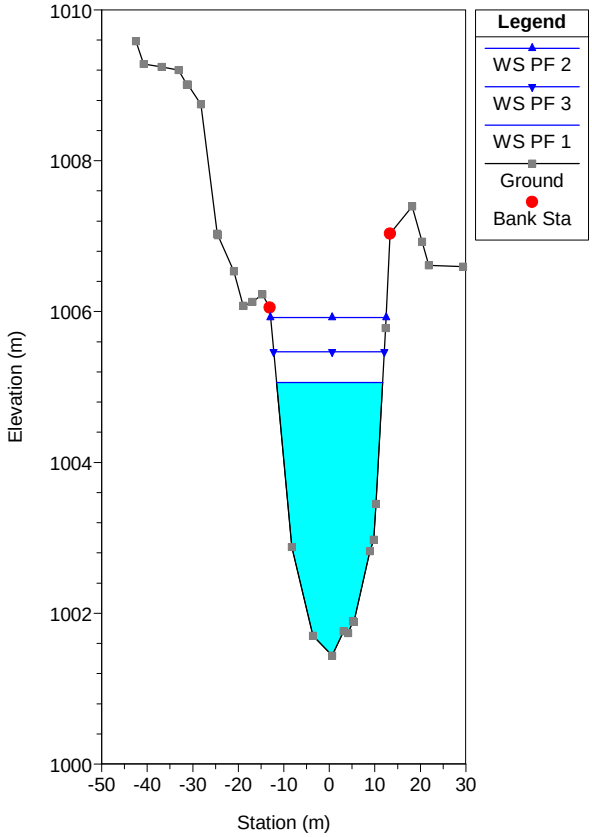

River = 1 Reach = a RS = 159.67*

PROFILO IDRAULICO DORA RIPARIA



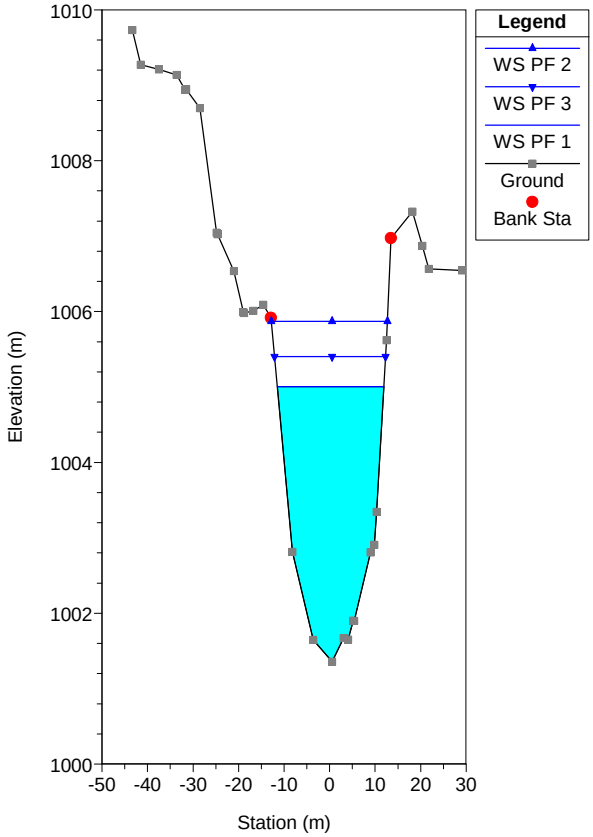
River = 1 Reach = a RS = 159.33*

PROFILO IDRAULICO DORA RIPARIA



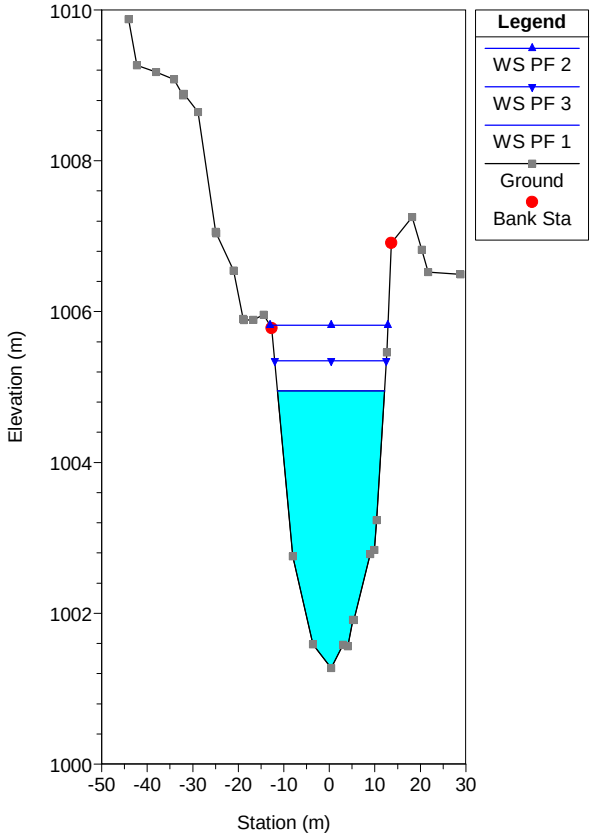

River = 1 Reach = a RS = 159.00*

PROFILO IDRAULICO DORA RIPARIA



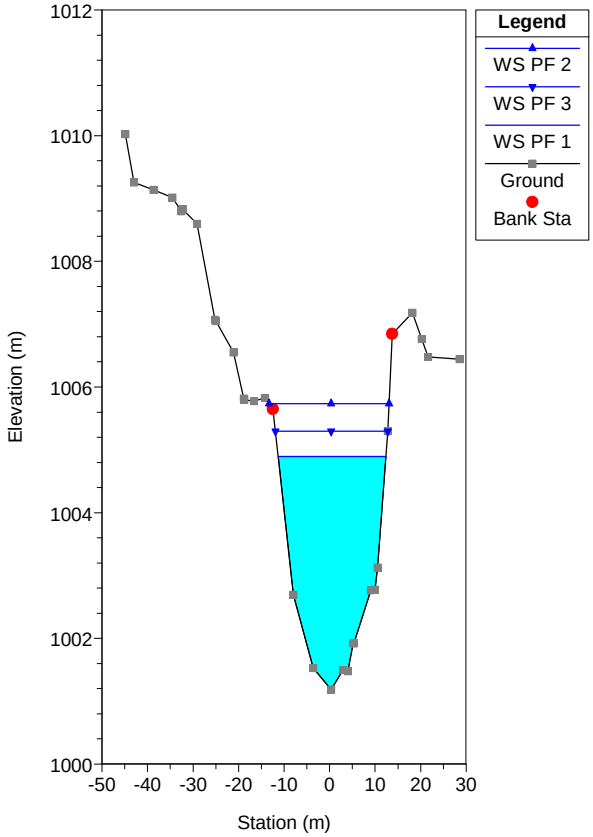

River = 1 Reach = a RS = 158.67*

PROFILO IDRAULICO DORA RIPARIA



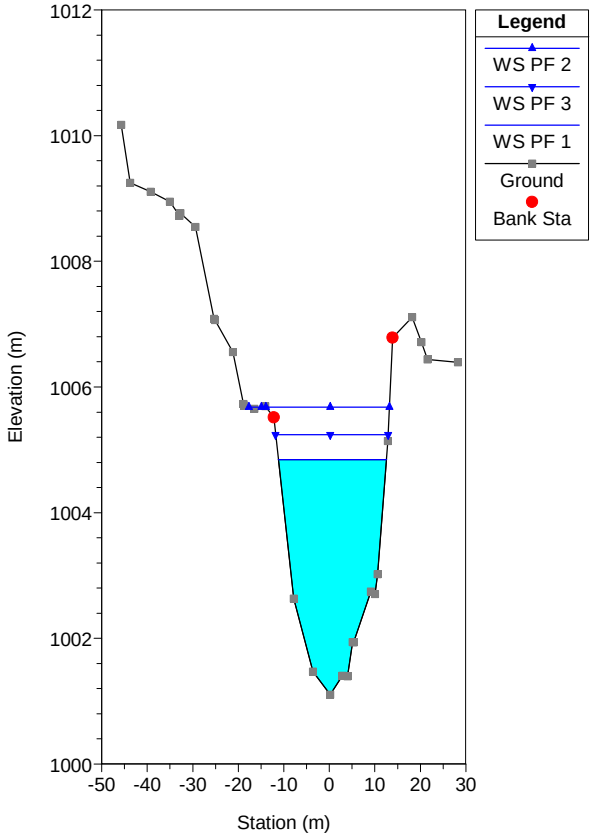

River = 1 Reach = a RS = 158.33*

PROFILO IDRAULICO DORA RIPARIA



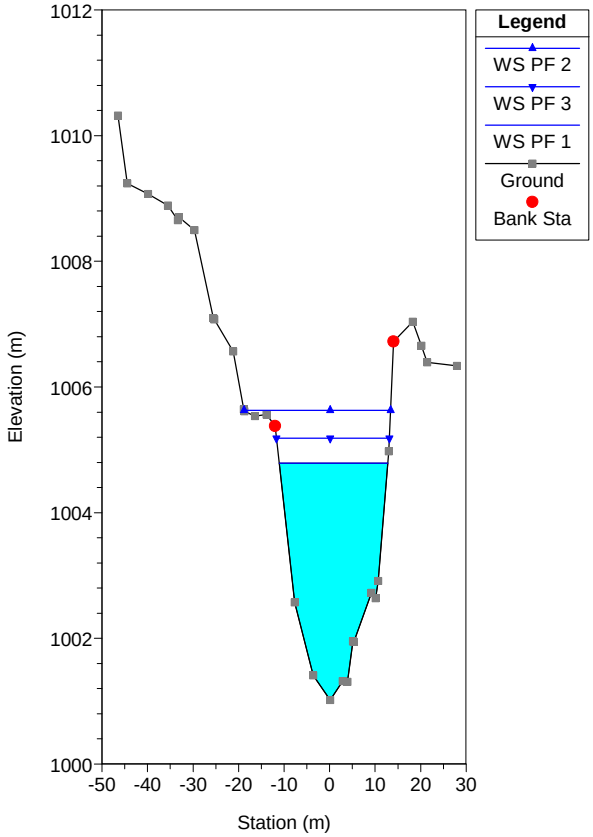
River = 1 Reach = a RS = 158.00*

PROFILO IDRAULICO DORA RIPARIA



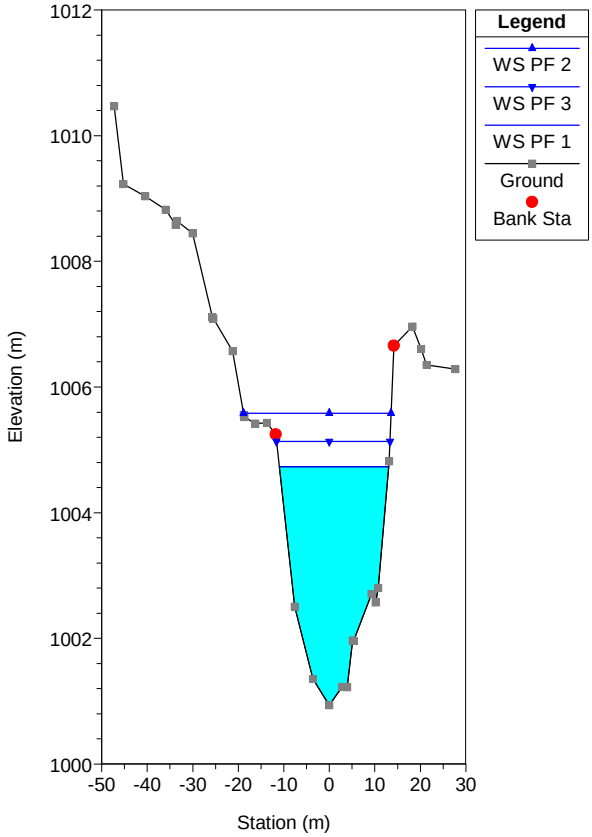

River = 1 Reach = a RS = 157.67*

PROFILO IDRAULICO DORA RIPARIA



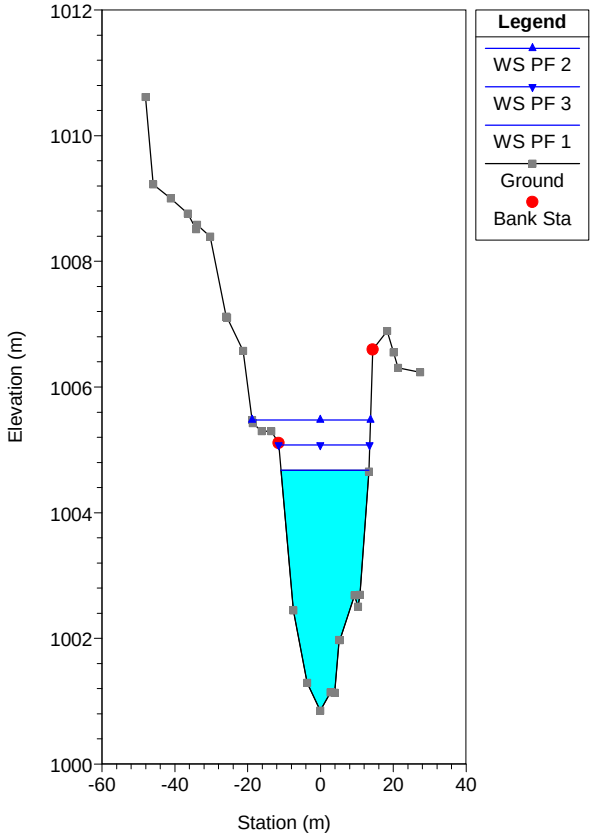

River = 1 Reach = a RS = 157.33*

PROFILO IDRAULICO DORA RIPARIA



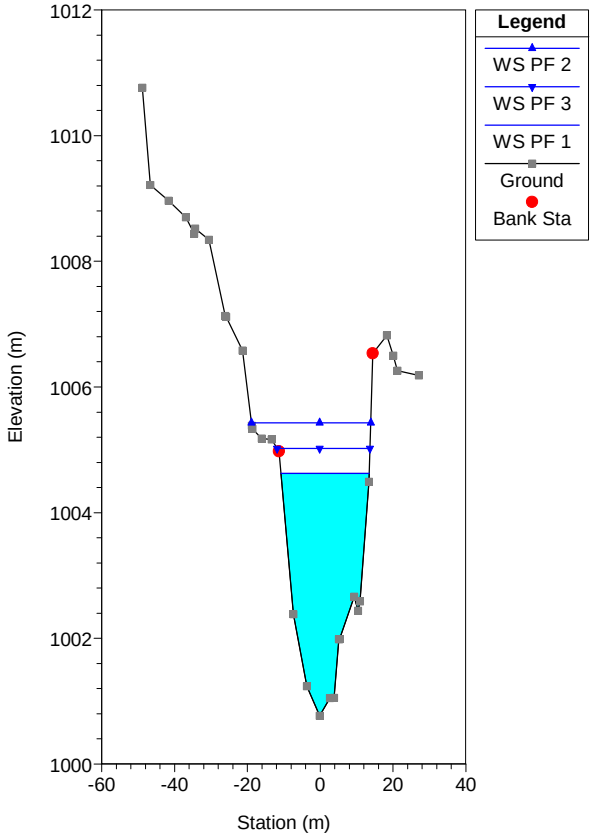

River = 1 Reach = a RS = 157.00*

PROFILO IDRAULICO DORA RIPARIA



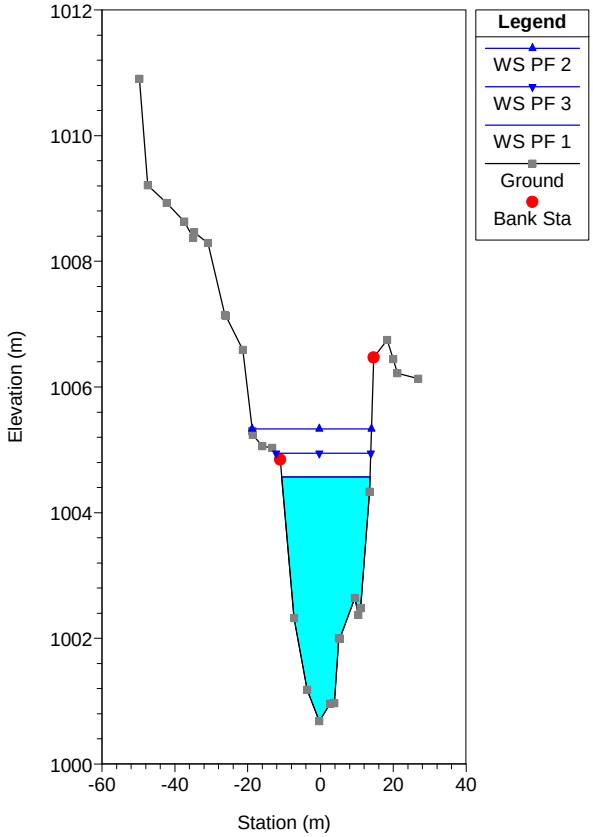
River = 1 Reach = a RS = 156.67*

PROFILO IDRAULICO DORA RIPARIA



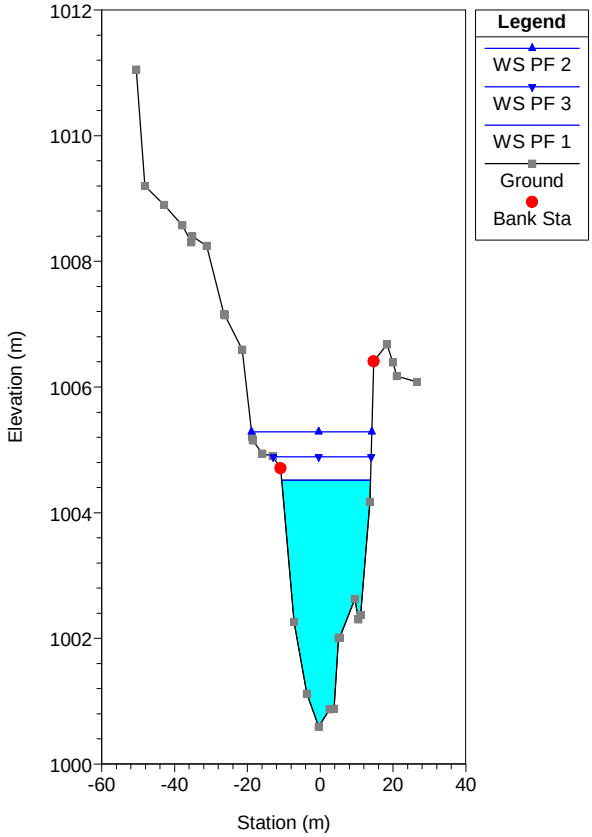

River = 1 Reach = a RS = 156.33*

PROFILO IDRAULICO DORA RIPARIA



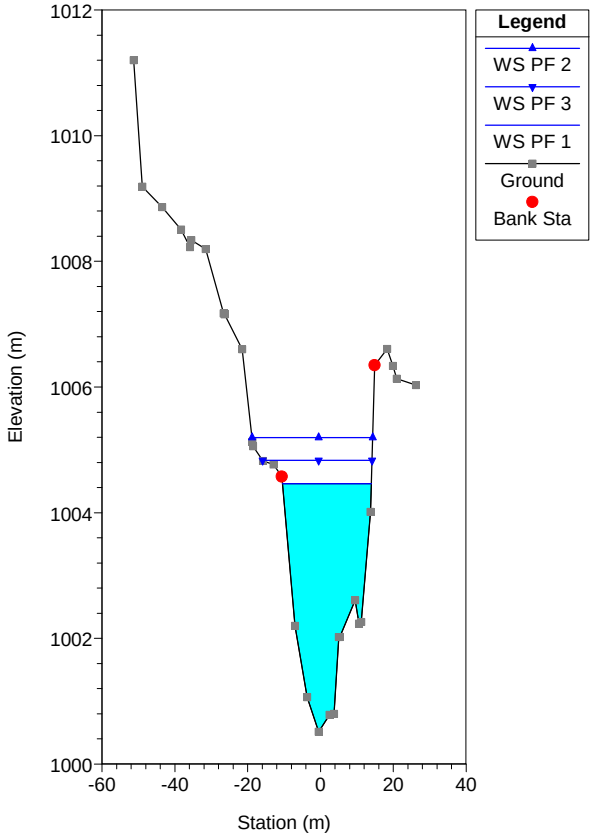

River = 1 Reach = a RS = 156.00*

PROFILO IDRAULICO DORA RIPARIA



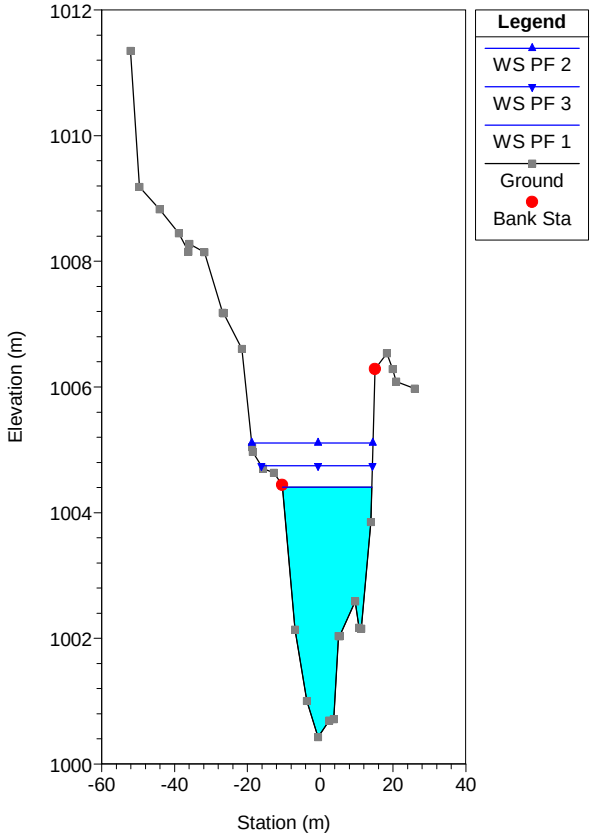

River = 1 Reach = a RS = 155.67*

PROFILO IDRAULICO DORA RIPARIA



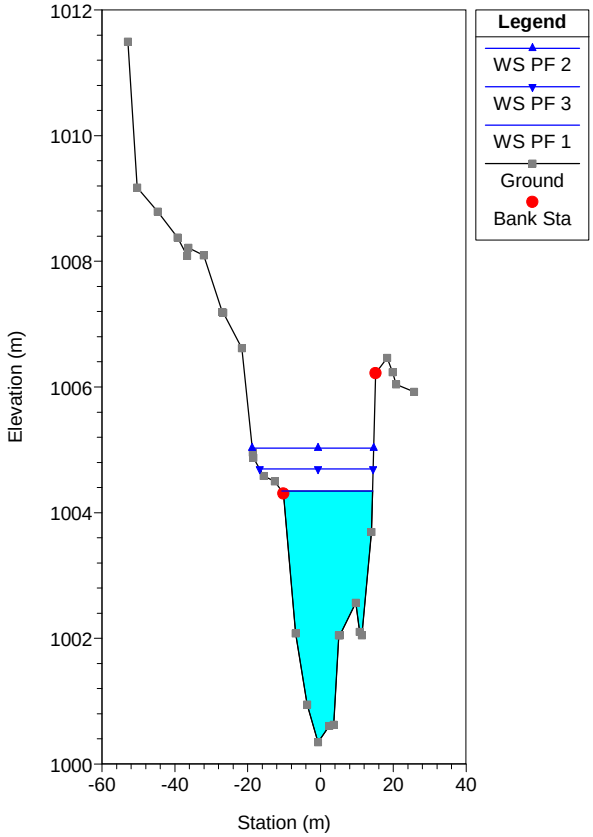
River = 1 Reach = a RS = 155.33*

PROFILO IDRAULICO DORA RIPARIA



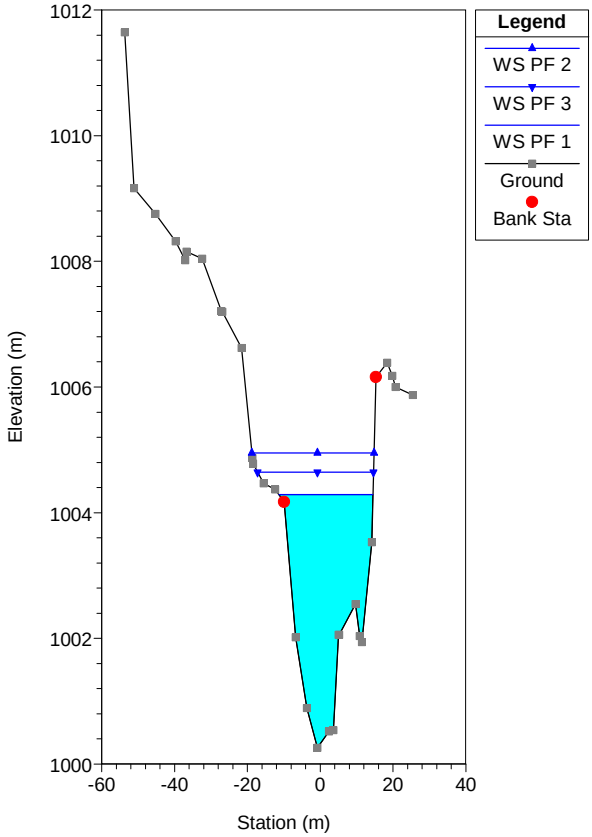

River = 1 Reach = a RS = 155.00*

PROFILO IDRAULICO DORA RIPARIA



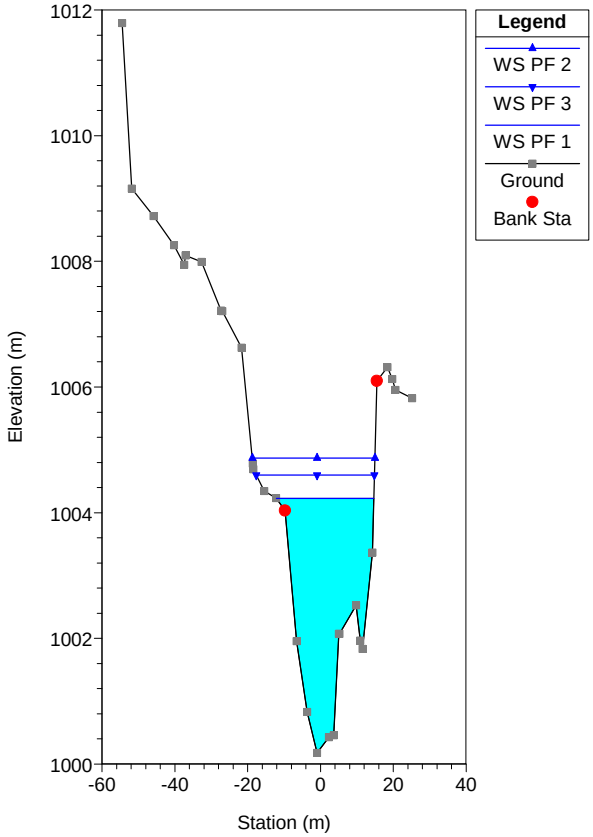

River = 1 Reach = a RS = 154.67*

PROFILO IDRAULICO DORA RIPARIA



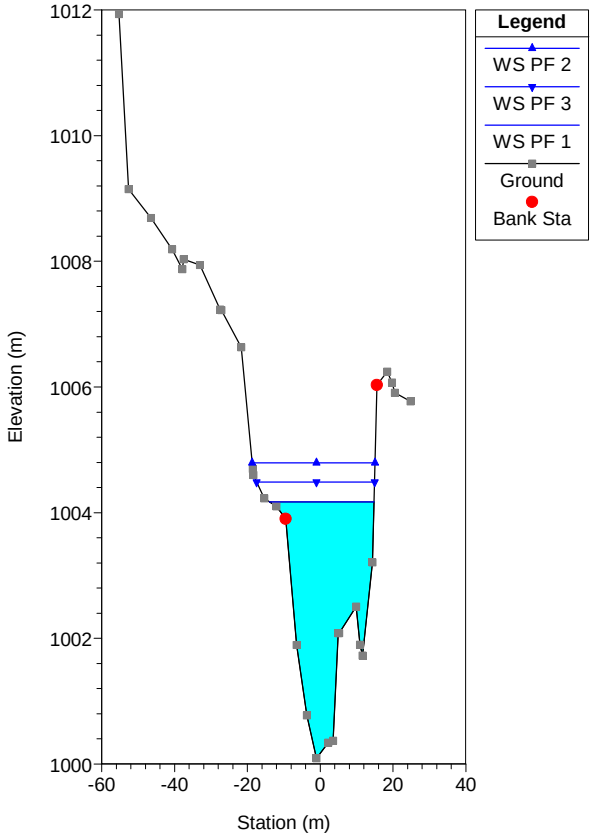

River = 1 Reach = a RS = 154.33*

PROFILO IDRAULICO DORA RIPARIA



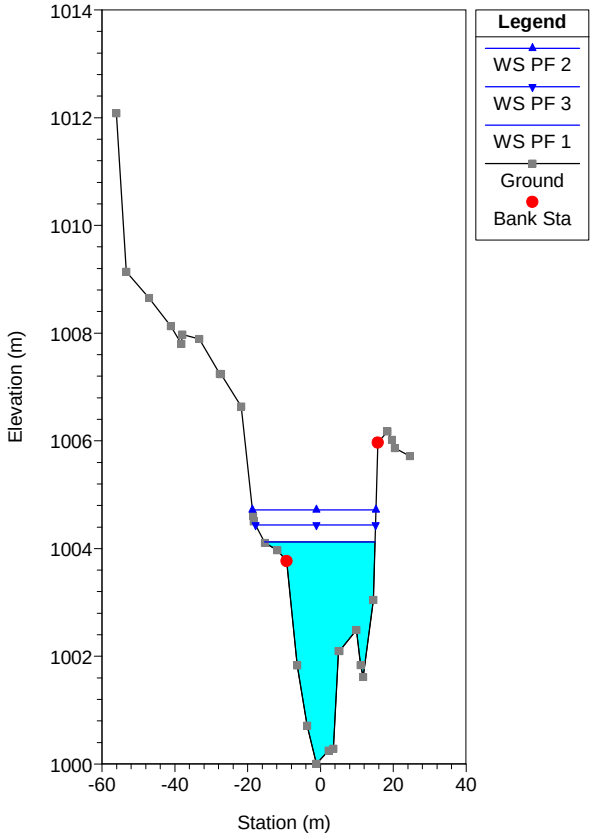
River = 1 Reach = a RS = 154.00*

PROFILO IDRAULICO DORA RIPARIA



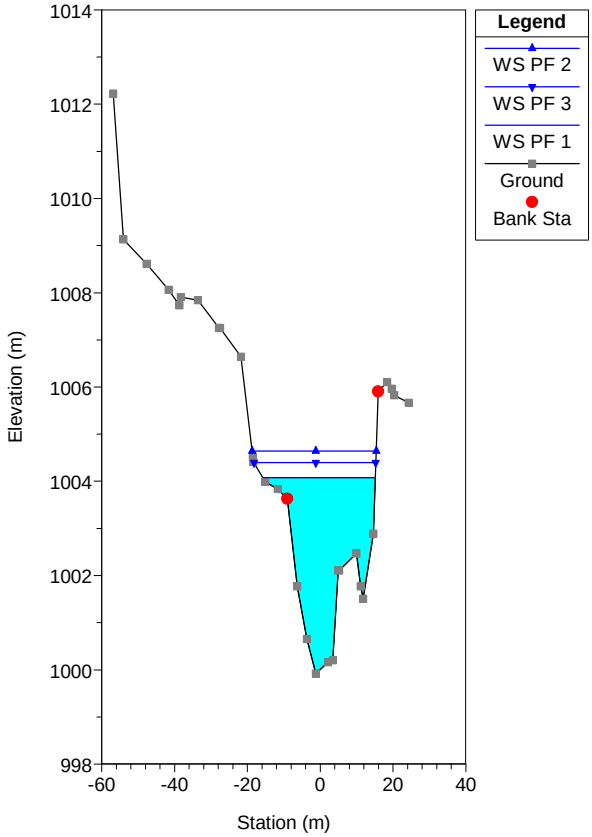

River = 1 Reach = a RS = 153.67*

PROFILO IDRAULICO DORA RIPARIA



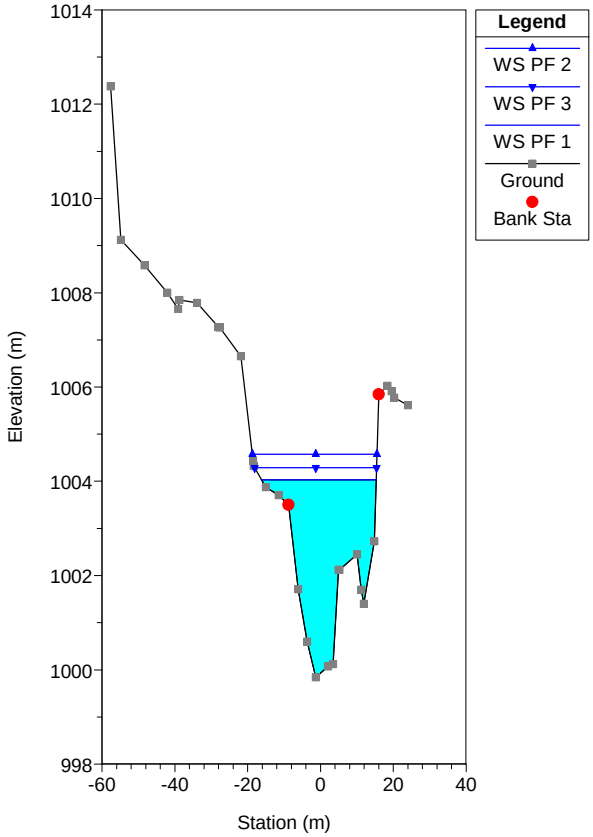

River = 1 Reach = a RS = 153.33*

PROFILO IDRAULICO DORA RIPARIA



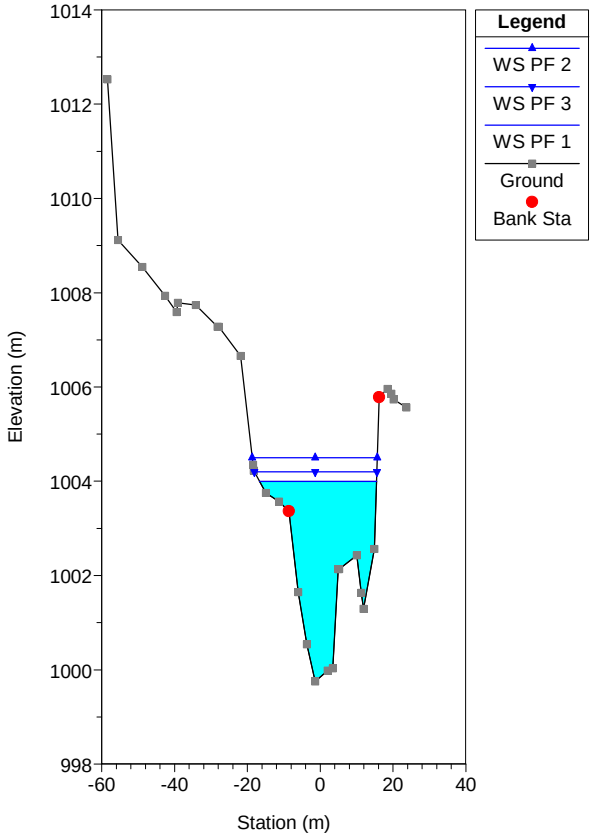

River = 1 Reach = a RS = 153.00*

PROFILO IDRAULICO DORA RIPARIA



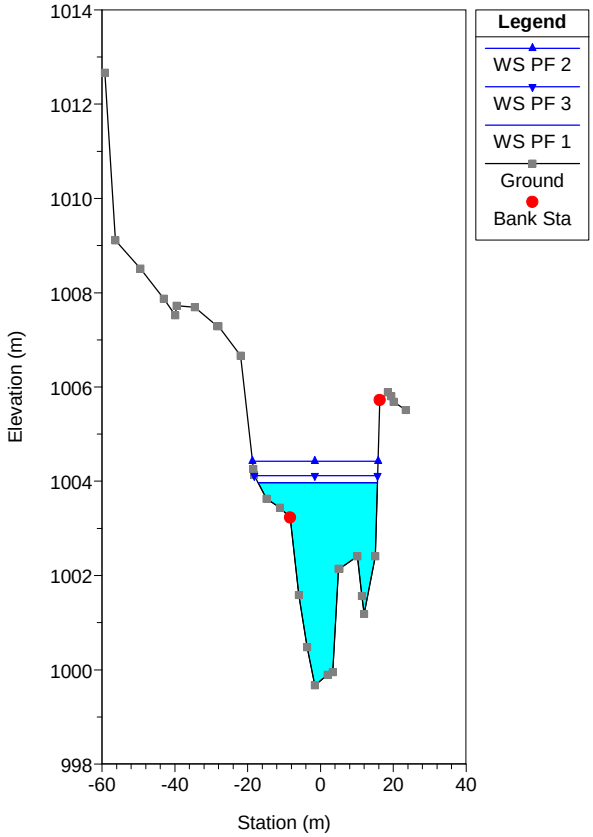
River = 1 Reach = a RS = 152.67*

PROFILO IDRAULICO DORA RIPARIA



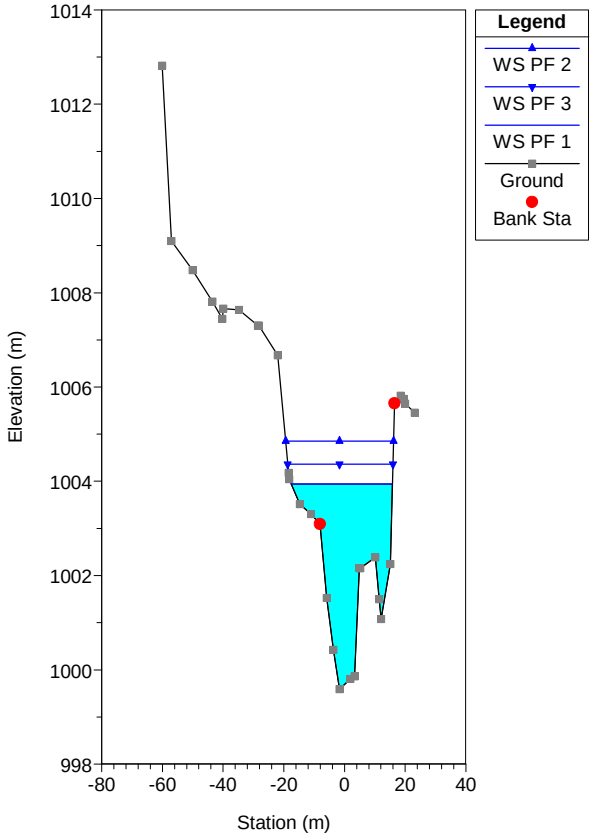

River = 1 Reach = a RS = 152.33*

PROFILO IDRAULICO DORA RIPARIA



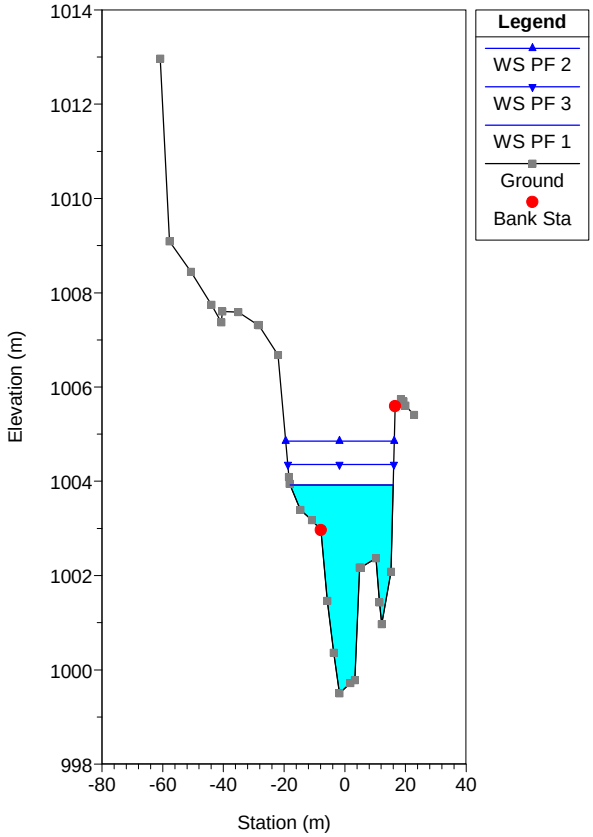

River = 1 Reach = a RS = 152.00*

PROFILO IDRAULICO DORA RIPARIA



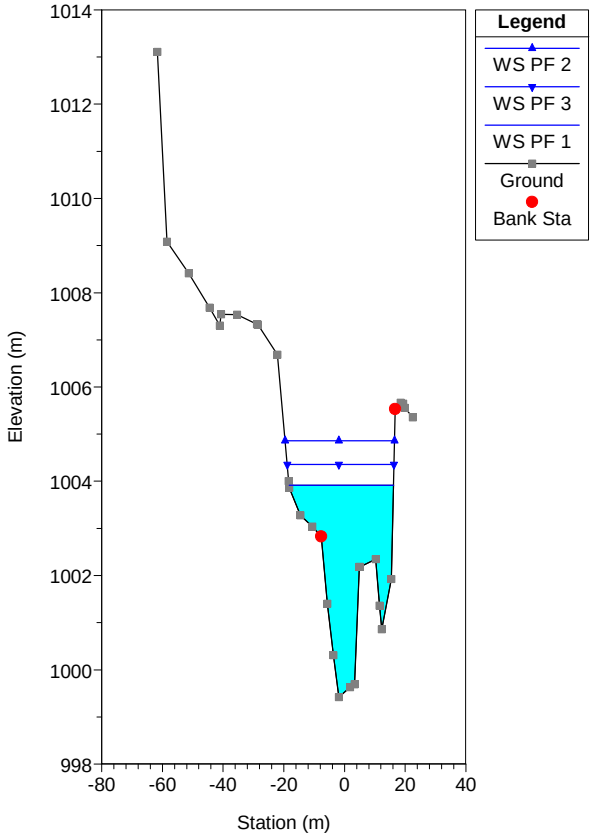

River = 1 Reach = a RS = 151.67*

PROFILO IDRAULICO DORA RIPARIA



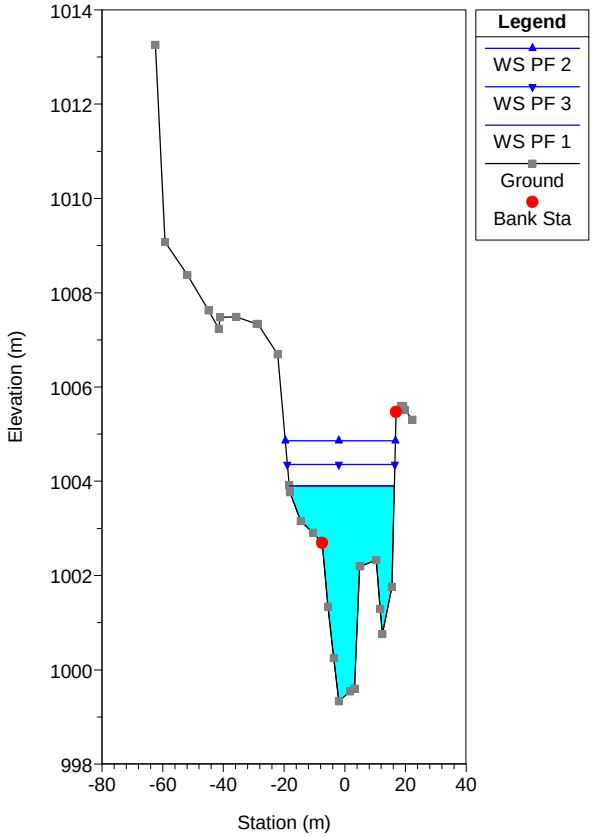
River = 1 Reach = a RS = 151.33*

PROFILO IDRAULICO DORA RIPARIA



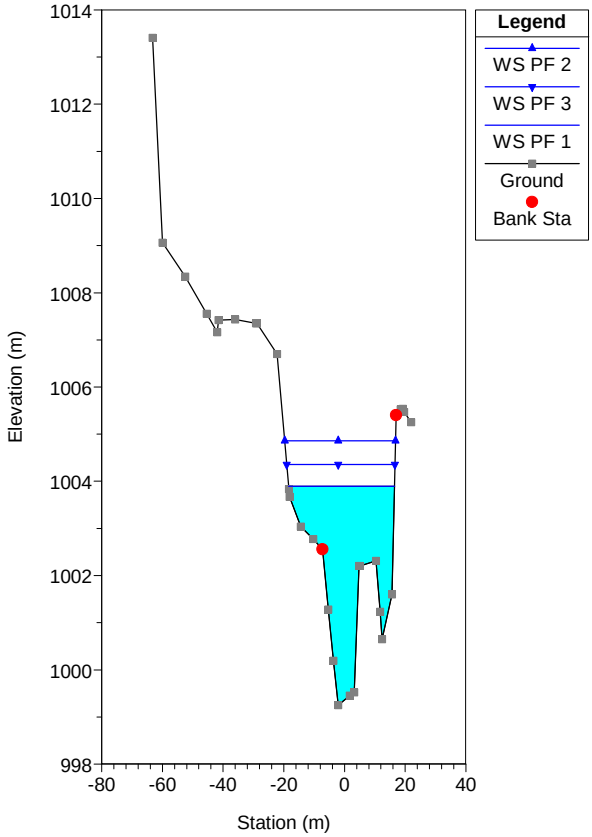

River = 1 Reach = a RS = 151.00*

PROFILO IDRAULICO DORA RIPARIA



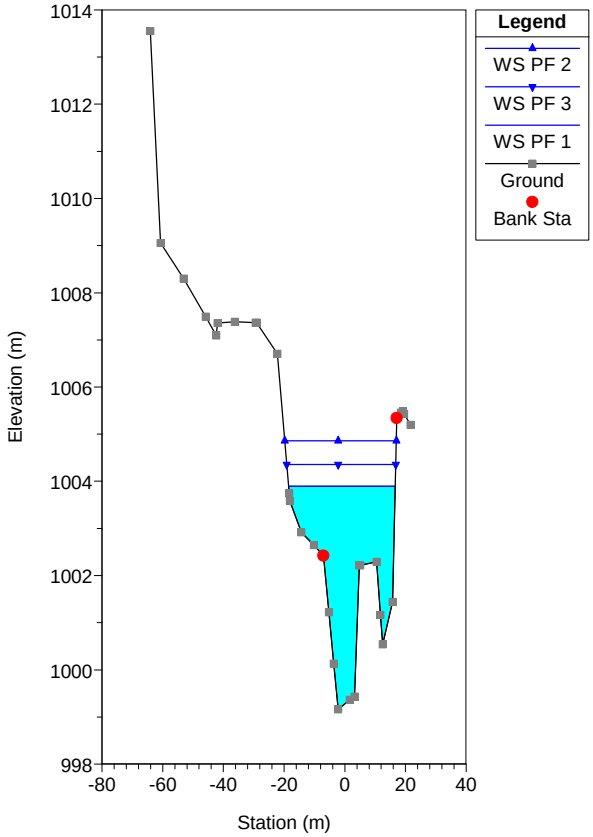

River = 1 Reach = a RS = 150.67*

PROFILO IDRAULICO DORA RIPARIA



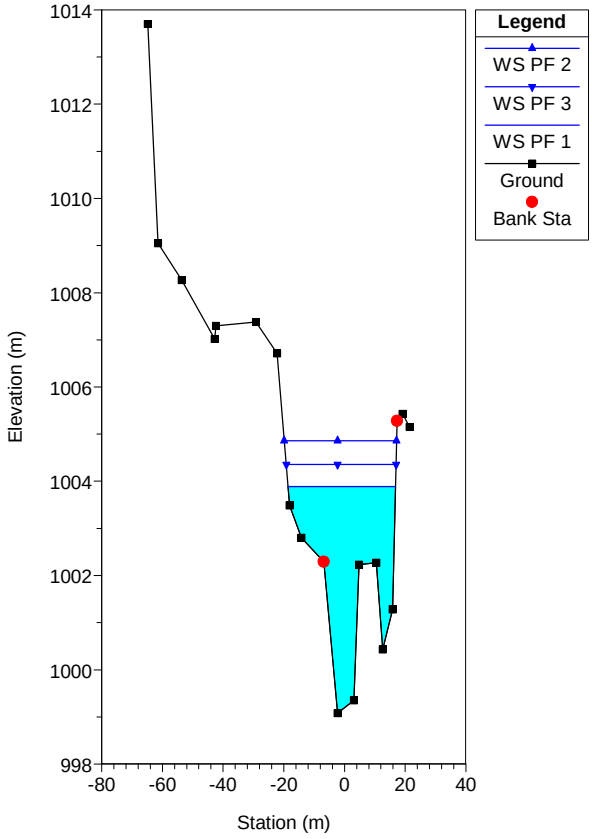

River = 1 Reach = a RS = 150.33*

PROFILO IDRAULICO DORA RIPARIA



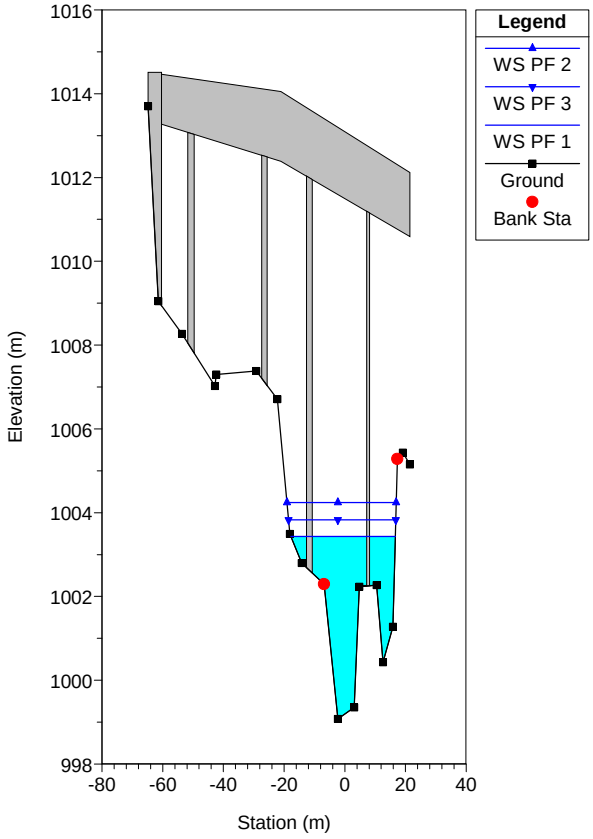
River = 1 Reach = a RS = 150

PROFILO IDRAULICO DORA RIPARIA



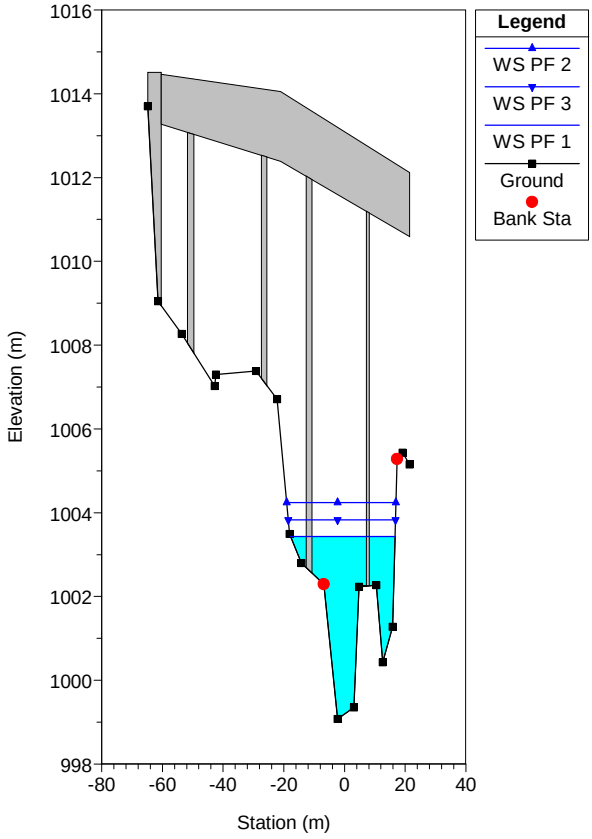

River = 1 Reach = a RS = 149 BR

PROFILO IDRAULICO DORA RIPARIA



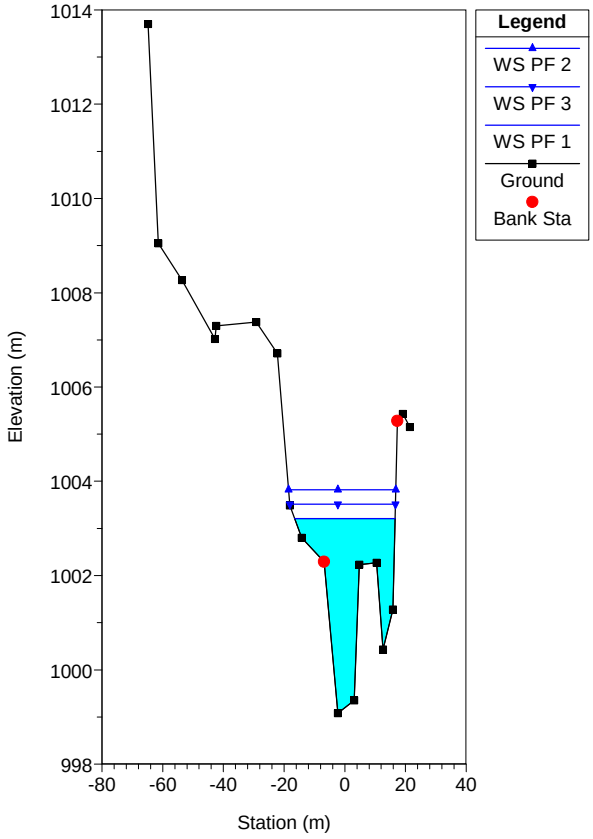

River = 1 Reach = a RS = 149 BR

PROFILO IDRAULICO DORA RIPARIA



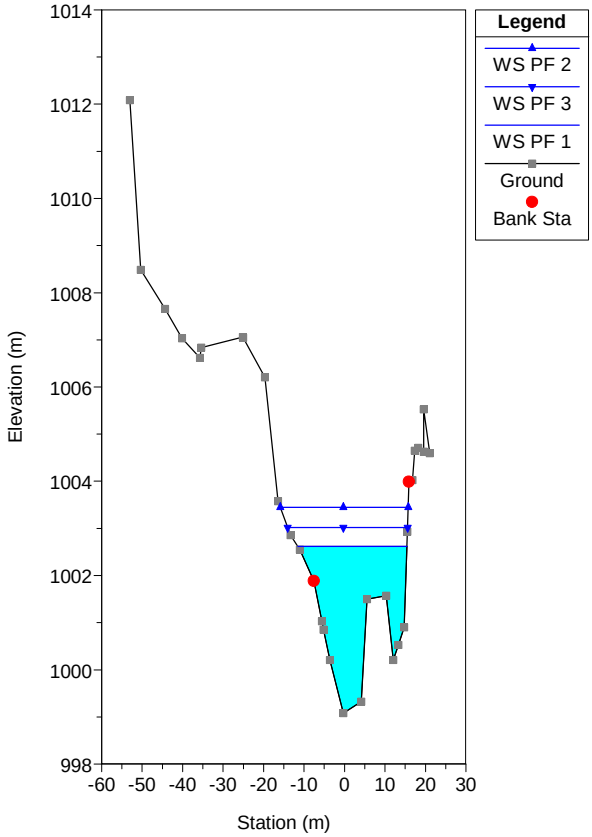

River = 1 Reach = a RS = 148

PROFILO IDRAULICO DORA RIPARIA



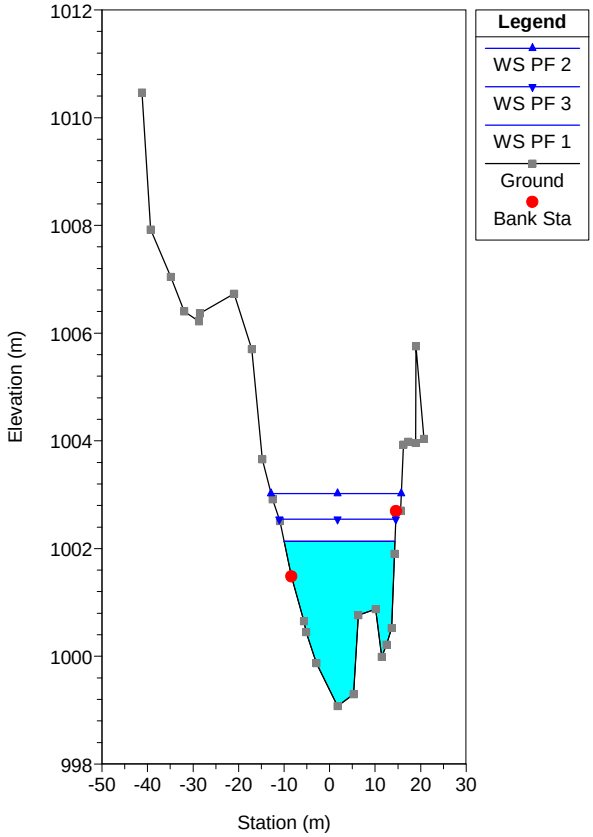
River = 1 Reach = a RS = 146.00*

PROFILO IDRAULICO DORA RIPARIA



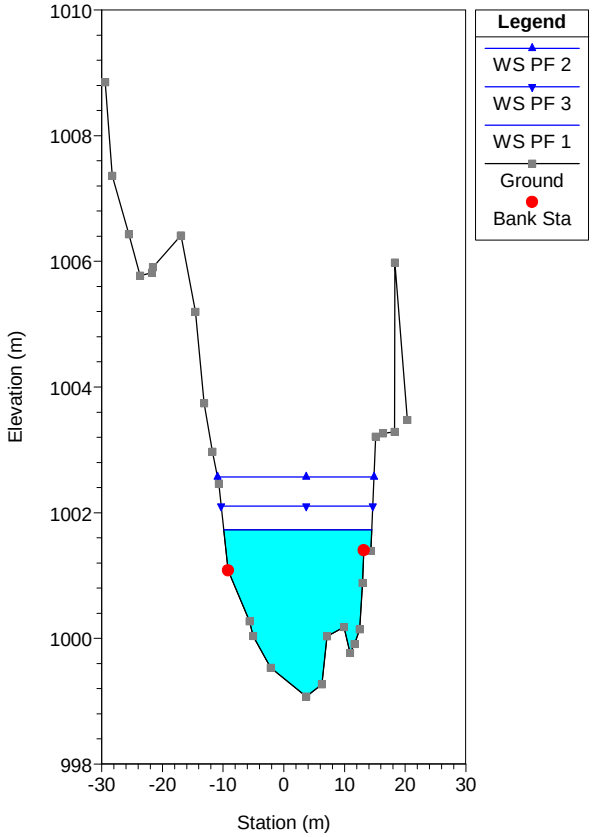

River = 1 Reach = a RS = 144.00*

PROFILO IDRAULICO DORA RIPARIA



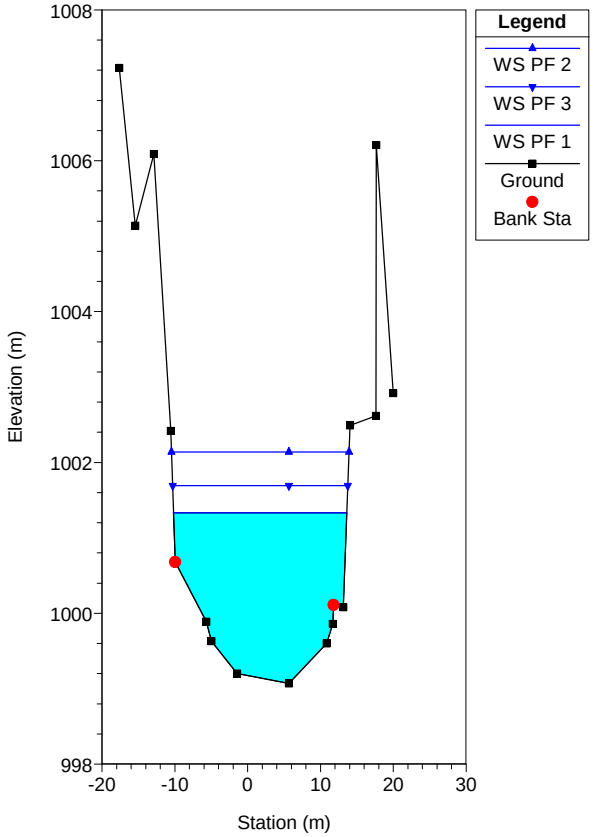

River = 1 Reach = a RS = 142.00*

PROFILO IDRAULICO DORA RIPARIA



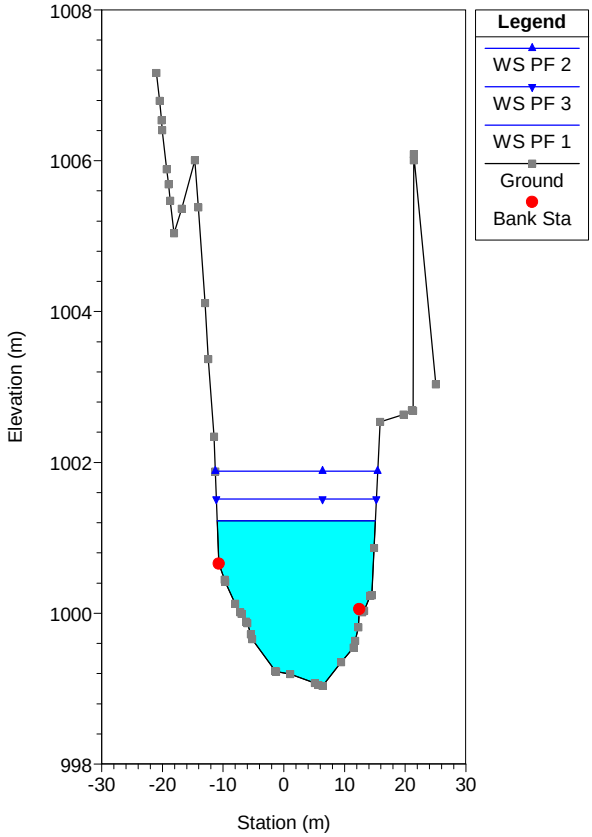

River = 1 Reach = a RS = 140

PROFILO IDRAULICO DORA RIPARIA



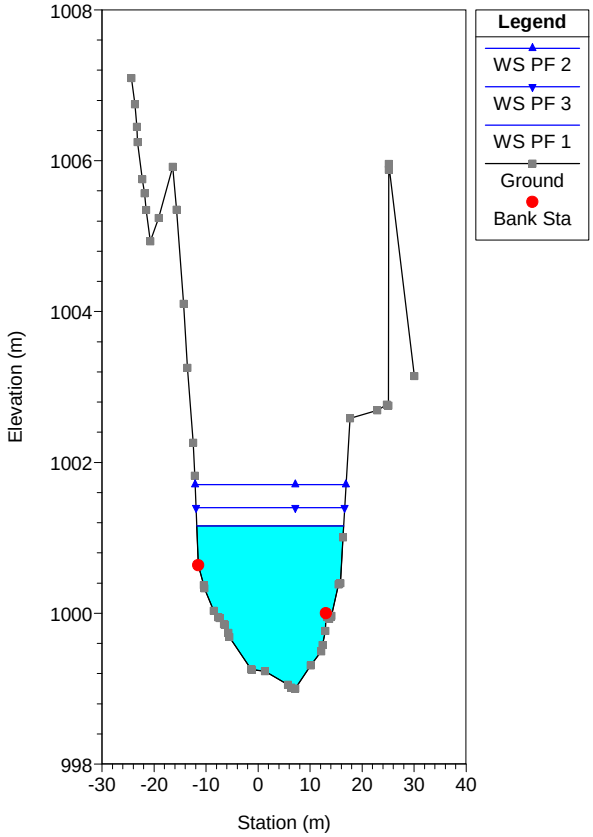
River = 1 Reach = a RS = 139.47*

PROFILO IDRAULICO DORA RIPARIA



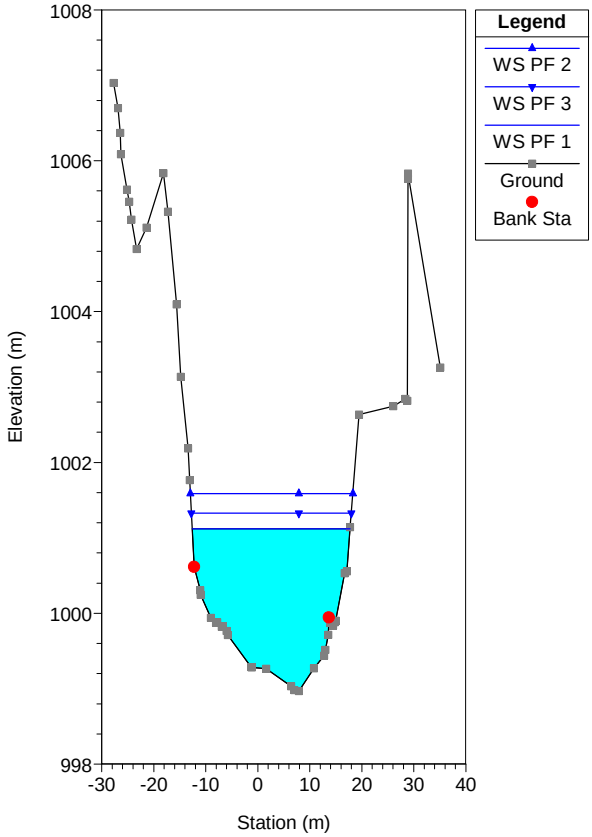

River = 1 Reach = a RS = 138.95*

PROFILO IDRAULICO DORA RIPARIA



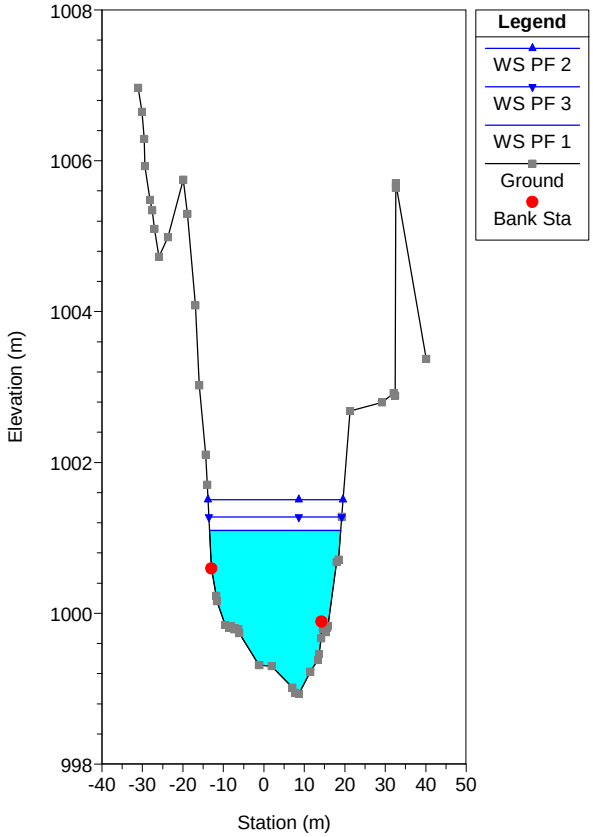

River = 1 Reach = a RS = 138.42*

PROFILO IDRAULICO DORA RIPARIA



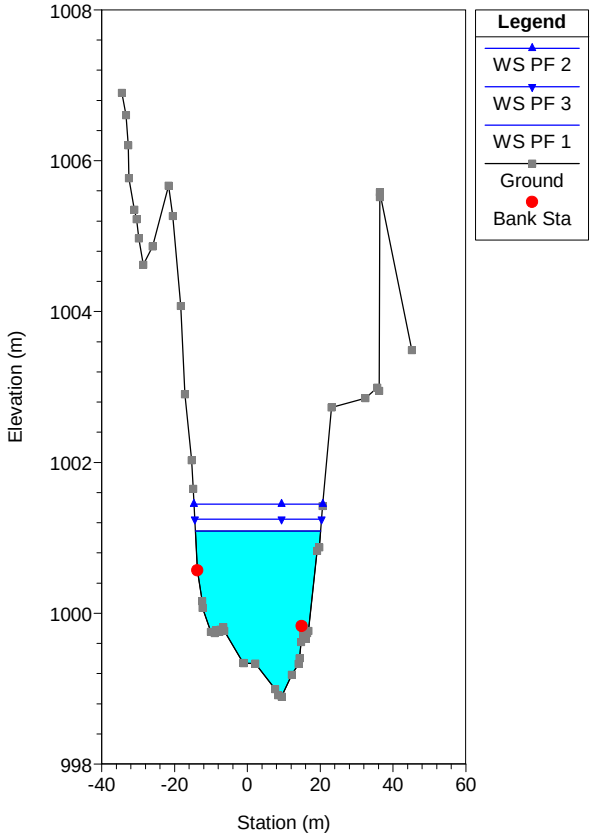

River = 1 Reach = a RS = 137.89*

PROFILO IDRAULICO DORA RIPARIA



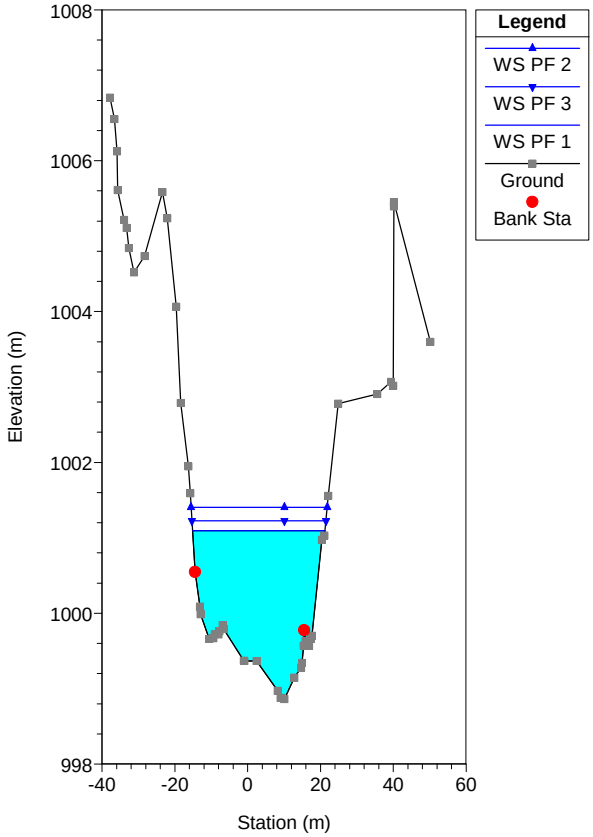
River = 1 Reach = a RS = 137.37*

PROFILO IDRAULICO DORA RIPARIA



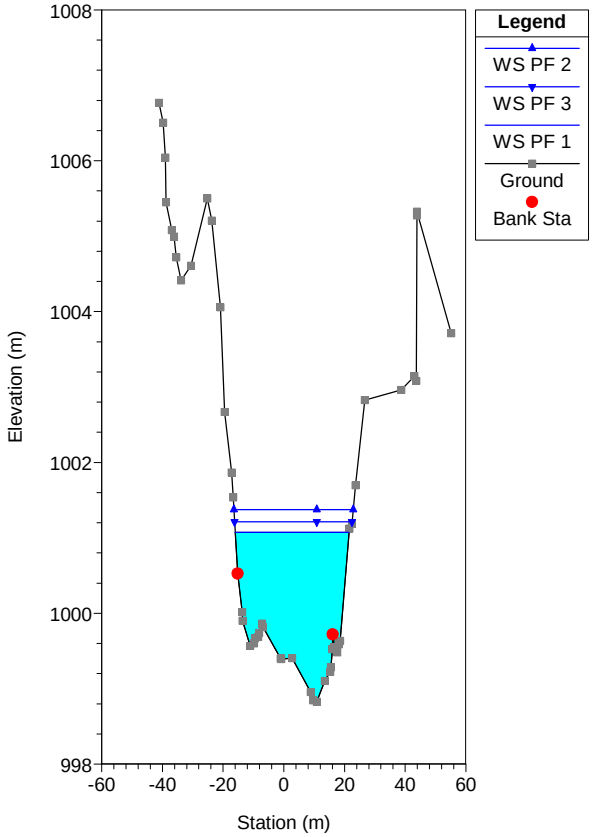

River = 1 Reach = a RS = 136.84*

PROFILO IDRAULICO DORA RIPARIA



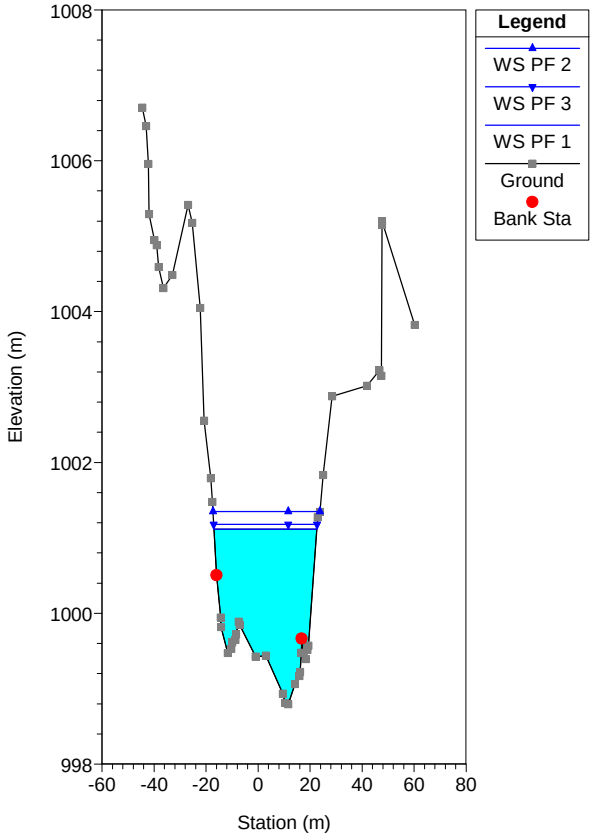

River = 1 Reach = a RS = 136.32*

PROFILO IDRAULICO DORA RIPARIA



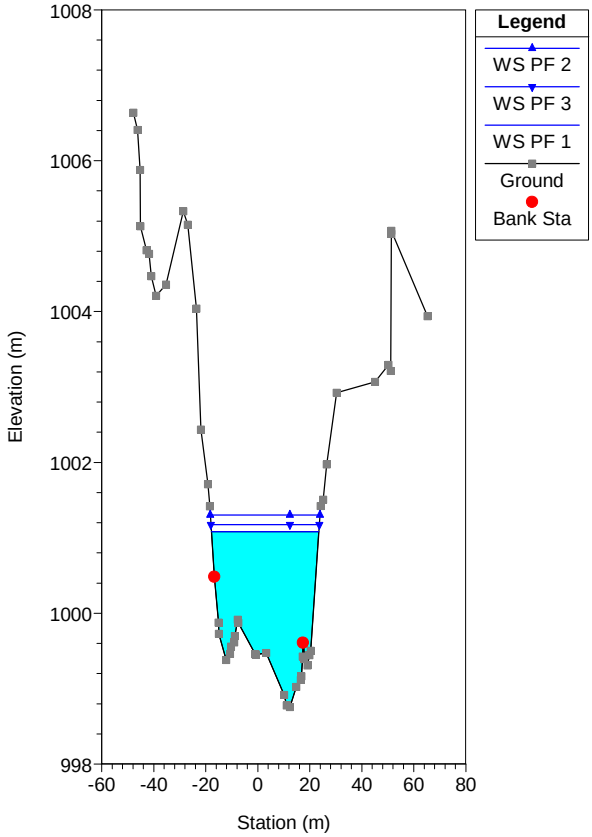

River = 1 Reach = a RS = 135.79*

PROFILO IDRAULICO DORA RIPARIA



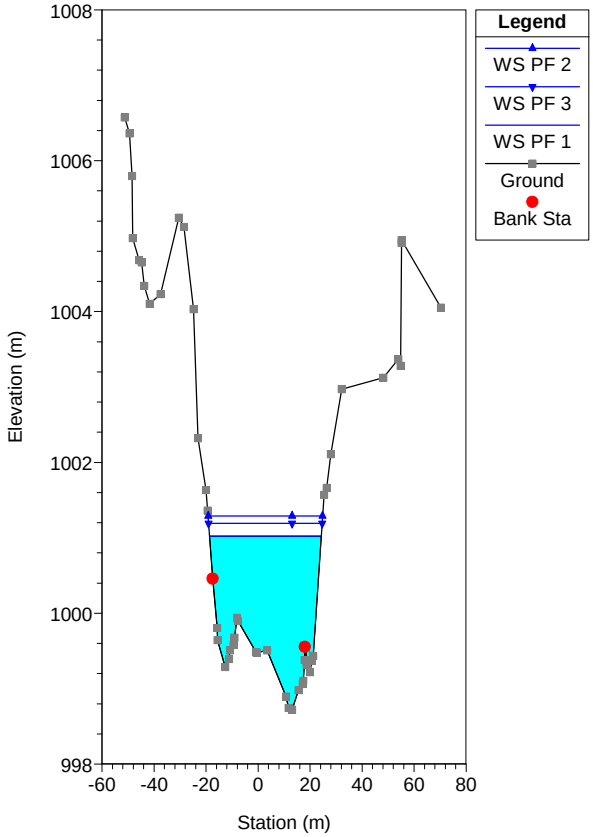
River = 1 Reach = a RS = 135.26*

PROFILO IDRAULICO DORA RIPARIA



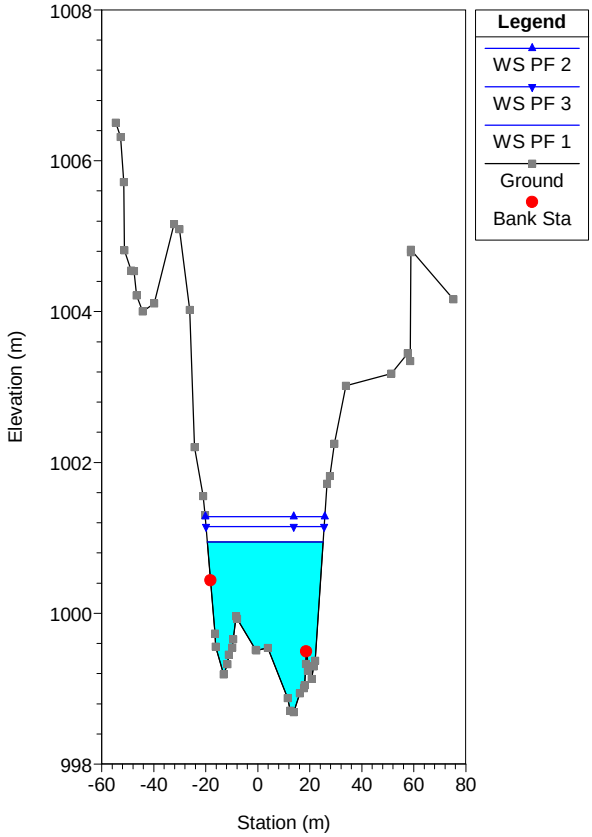

River = 1 Reach = a RS = 134.74*

PROFILO IDRAULICO DORA RIPARIA



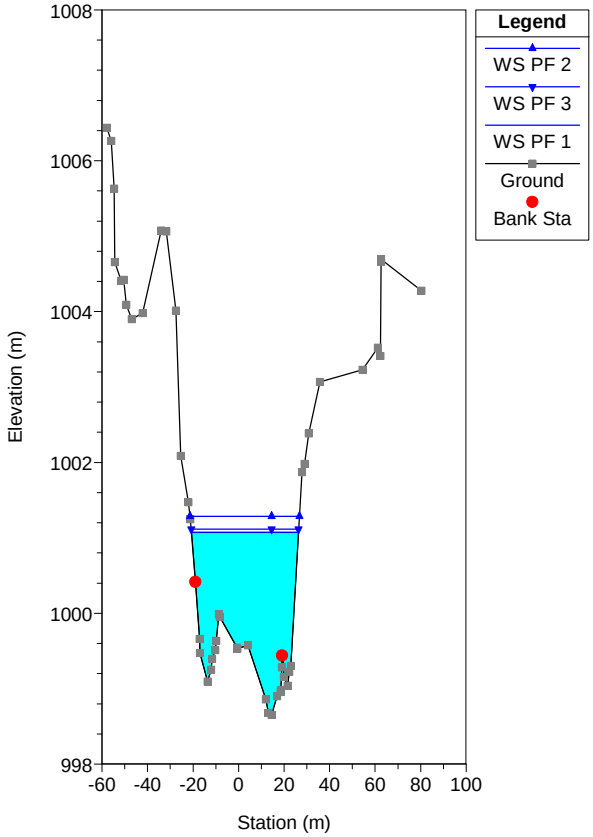

River = 1 Reach = a RS = 134.21*

PROFILO IDRAULICO DORA RIPARIA



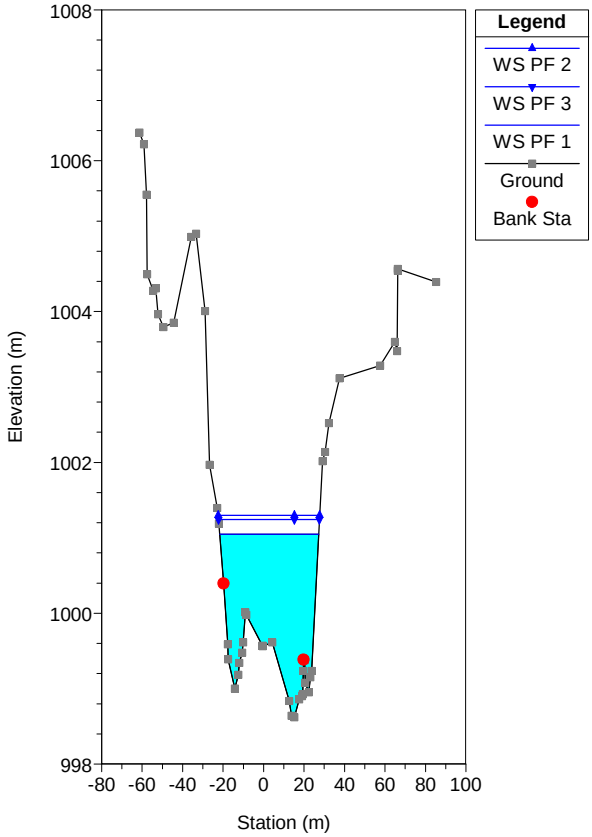

River = 1 Reach = a RS = 133.68*

PROFILO IDRAULICO DORA RIPARIA



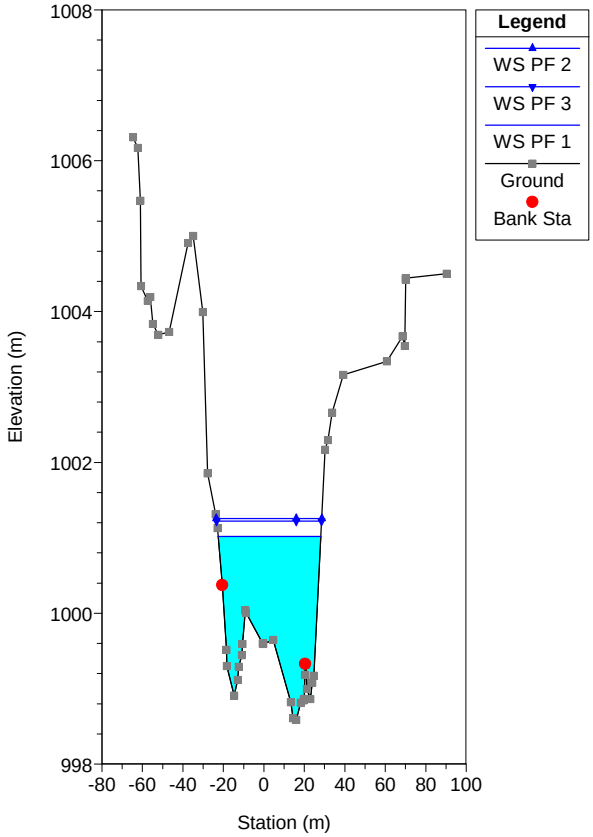
River = 1 Reach = a RS = 133.16*

PROFILO IDRAULICO DORA RIPARIA



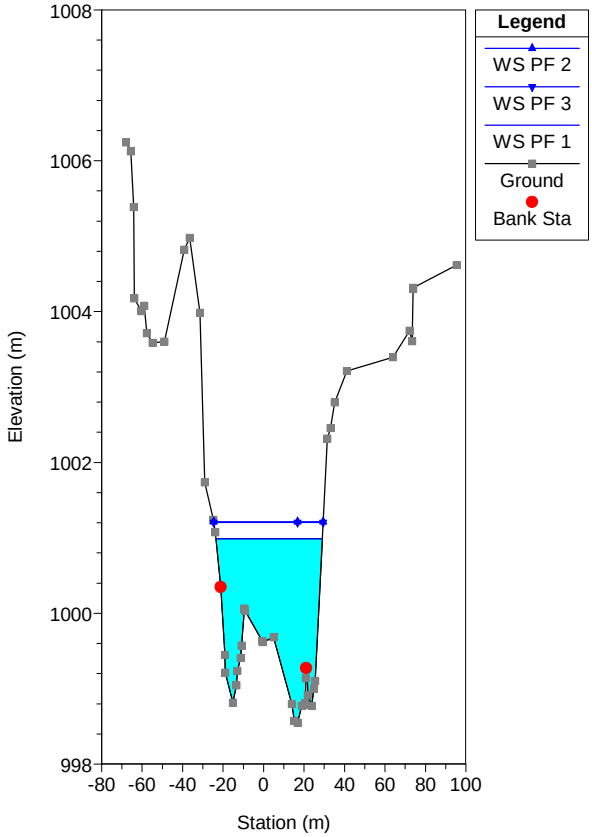

River = 1 Reach = a RS = 132.63*

PROFILO IDRAULICO DORA RIPARIA



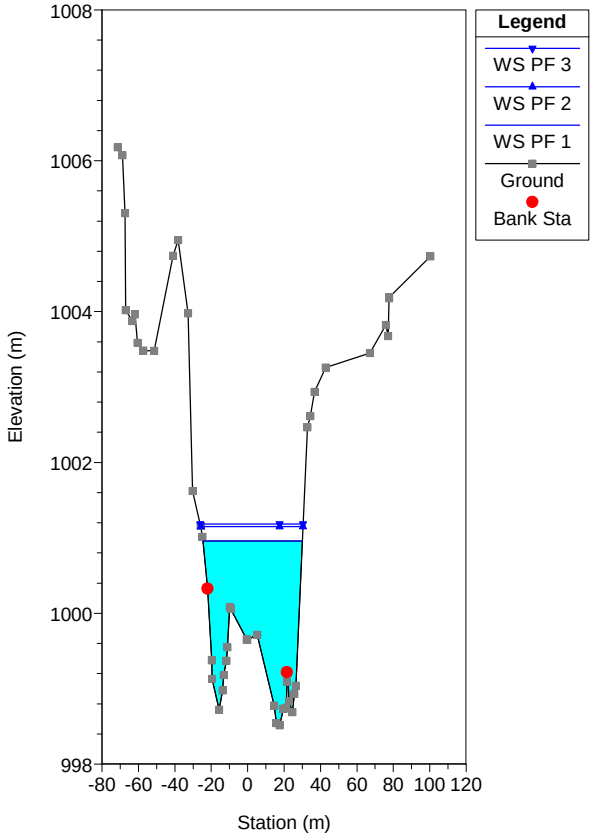

River = 1 Reach = a RS = 132.11*

PROFILO IDRAULICO DORA RIPARIA



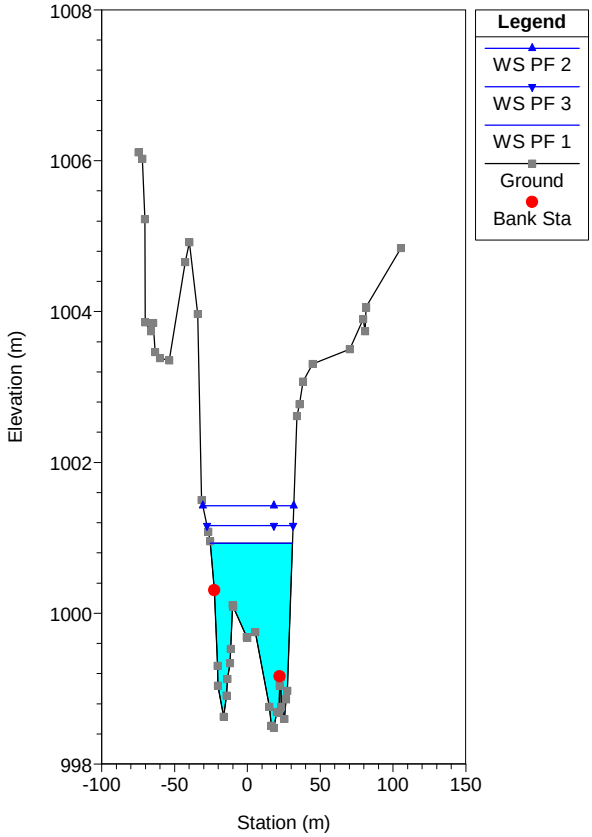

River = 1 Reach = a RS = 131.58*

PROFILO IDRAULICO DORA RIPARIA



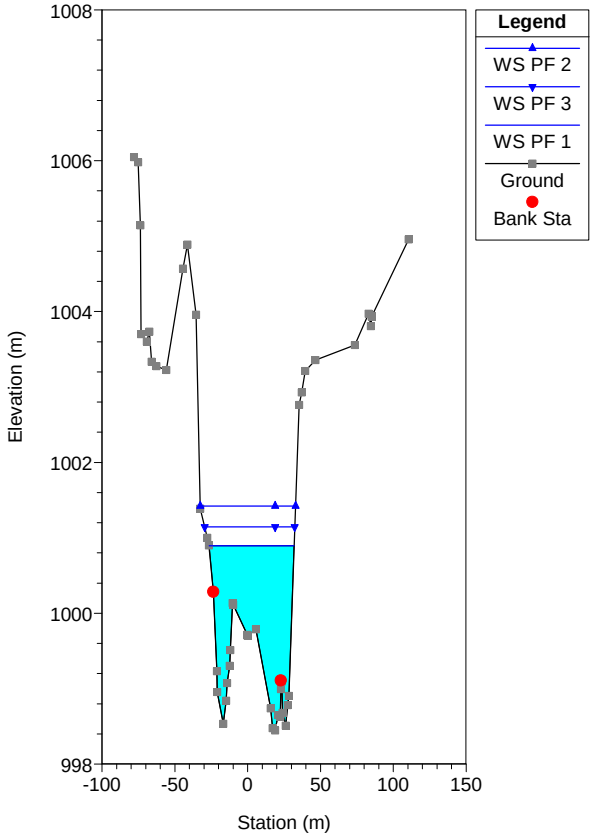
River = 1 Reach = a RS = 131.05*

PROFILO IDRAULICO DORA RIPARIA



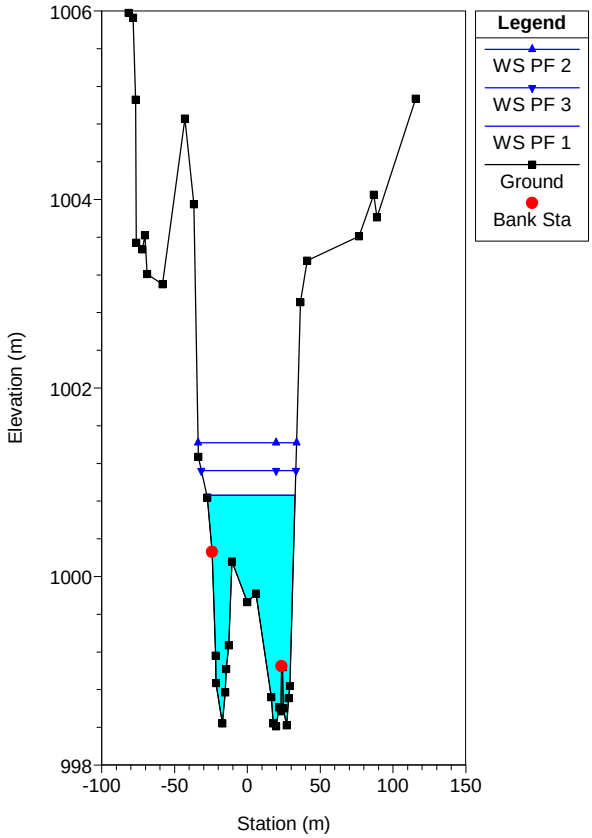

River = 1 Reach = a RS = 130.53*

PROFILO IDRAULICO DORA RIPARIA



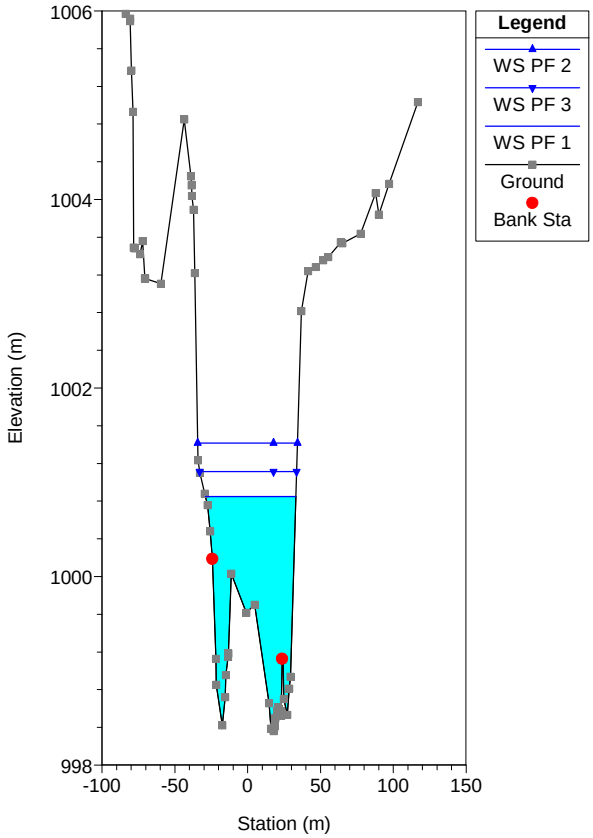

River = 1 Reach = a RS = 130

PROFILO IDRAULICO DORA RIPARIA



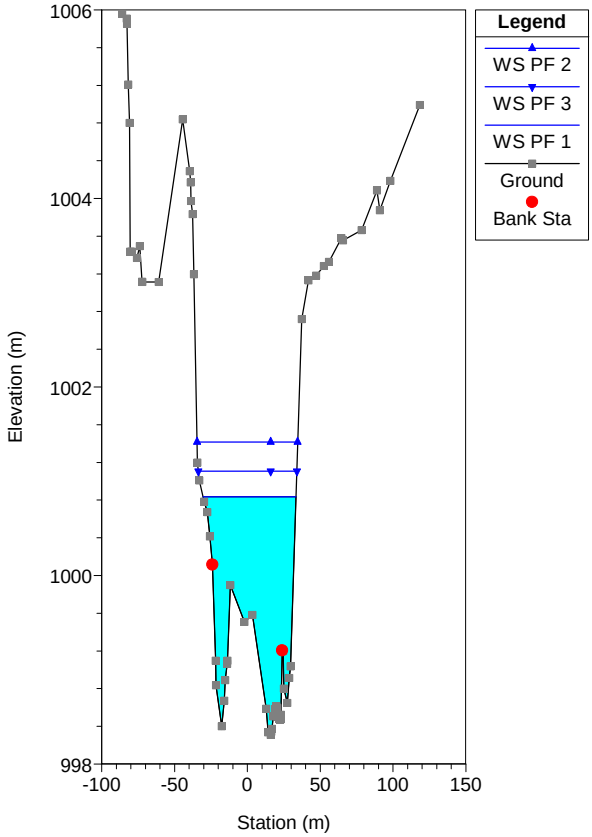

River = 1 Reach = a RS = 129.50*

PROFILO IDRAULICO DORA RIPARIA



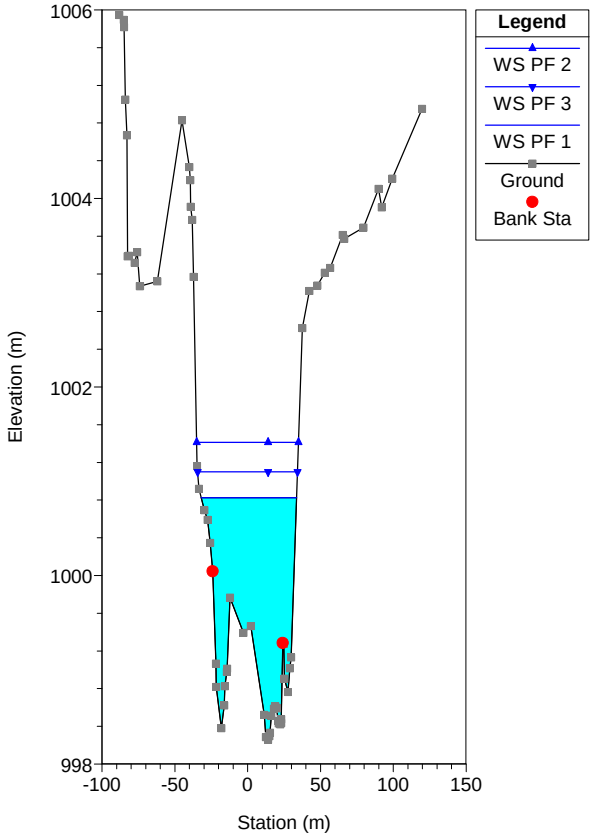
River = 1 Reach = a RS = 129.00*

PROFILO IDRAULICO DORA RIPARIA



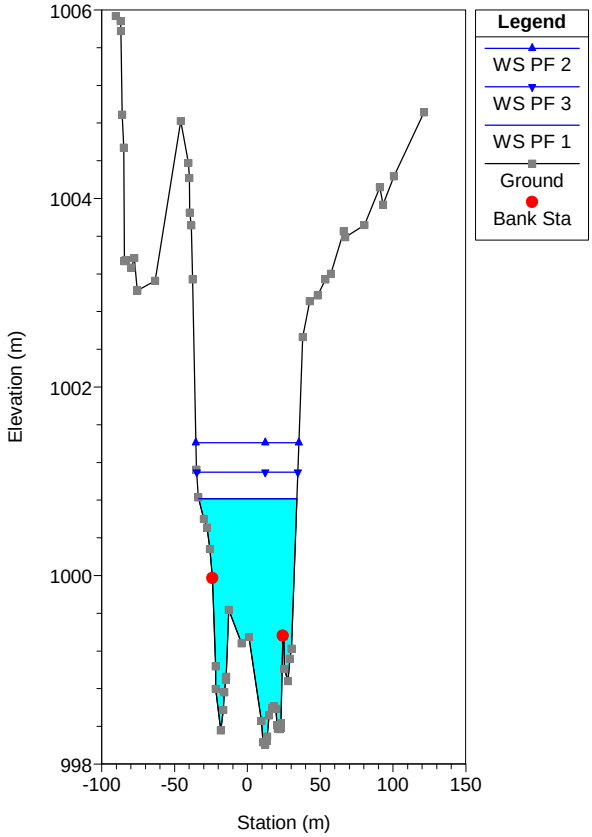

River = 1 Reach = a RS = 128.50*

PROFILO IDRAULICO DORA RIPARIA



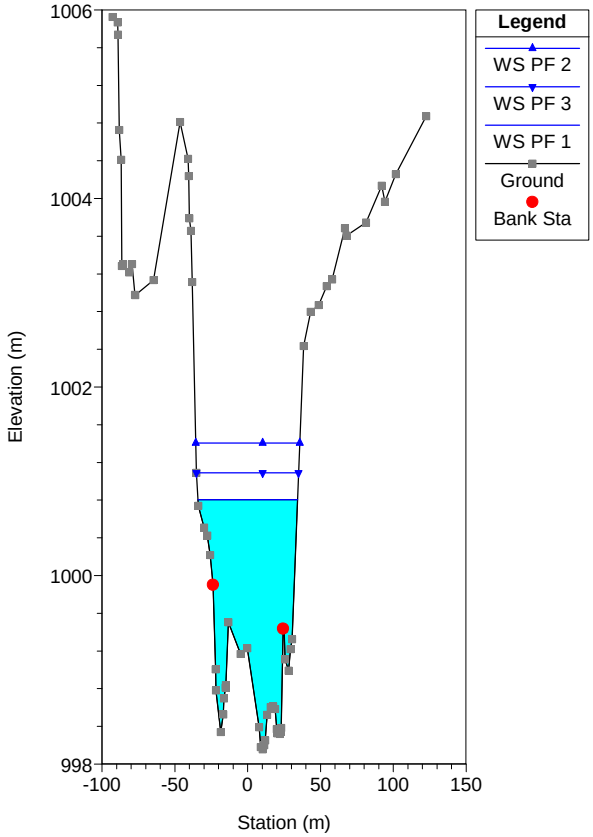

River = 1 Reach = a RS = 128.00*

PROFILO IDRAULICO DORA RIPARIA



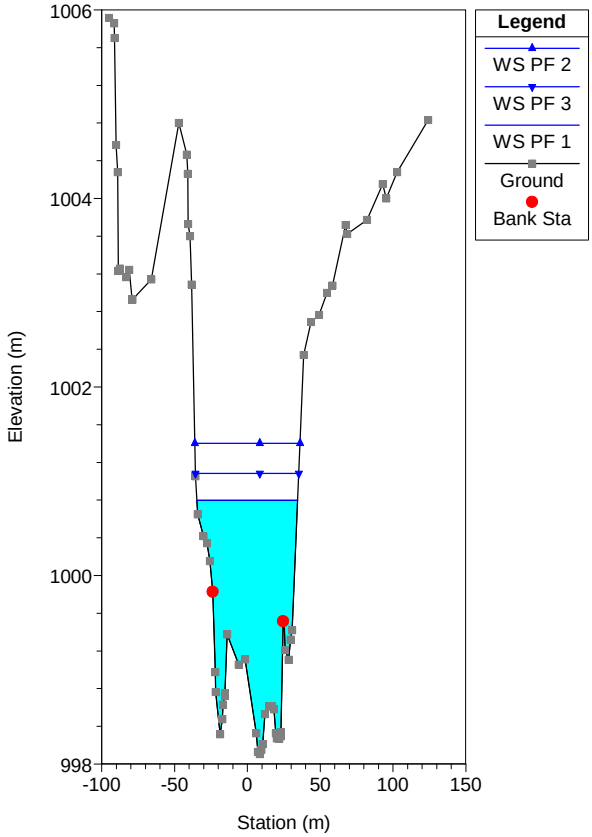

River = 1 Reach = a RS = 127.50*

PROFILO IDRAULICO DORA RIPARIA



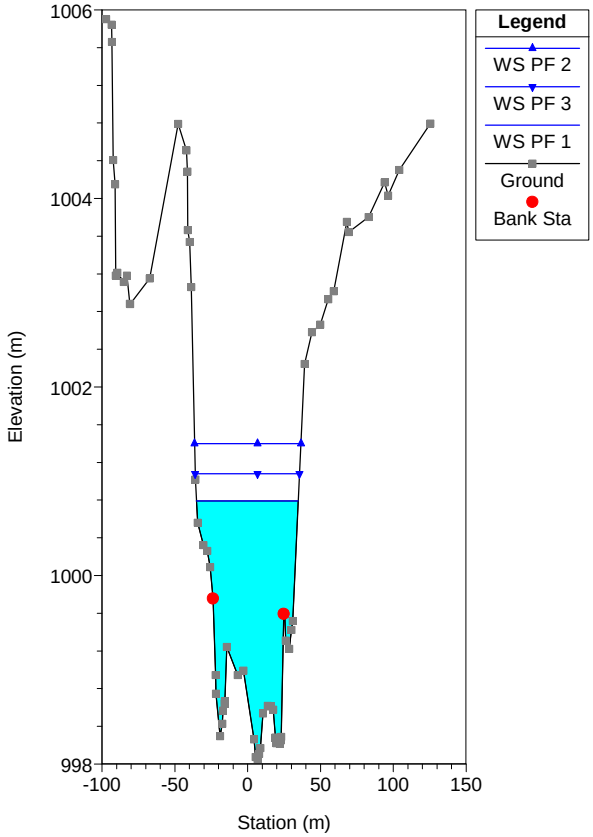
River = 1 Reach = a RS = 127.00*

PROFILO IDRAULICO DORA RIPARIA



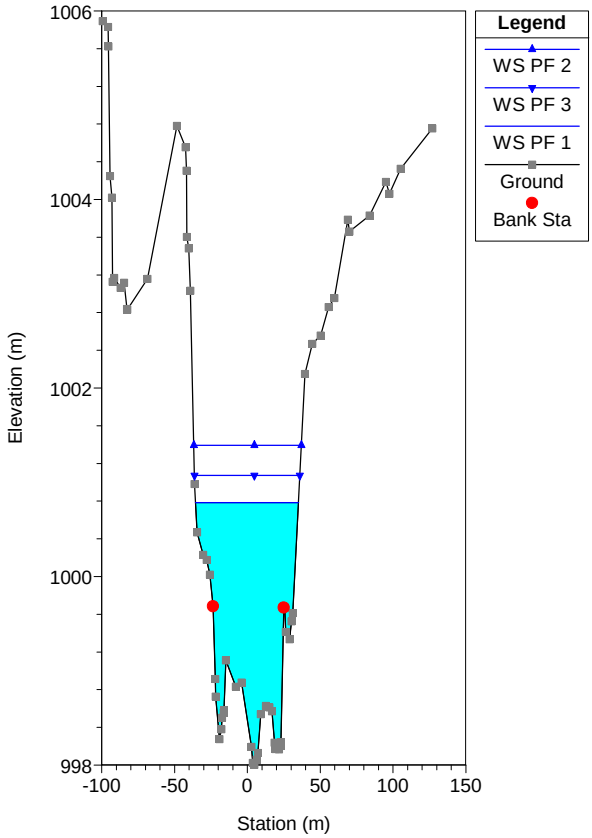

River = 1 Reach = a RS = 126.50*

PROFILO IDRAULICO DORA RIPARIA



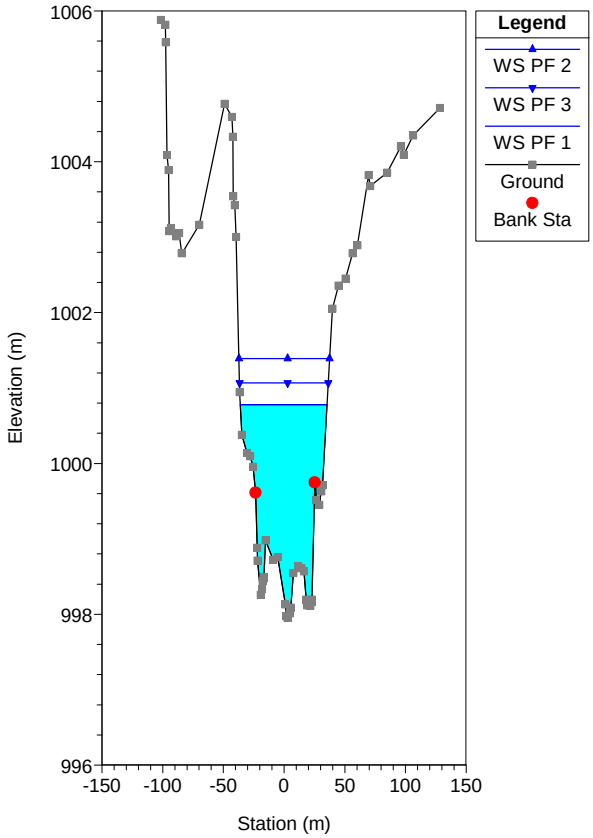

River = 1 Reach = a RS = 126.00*

PROFILO IDRAULICO DORA RIPARIA



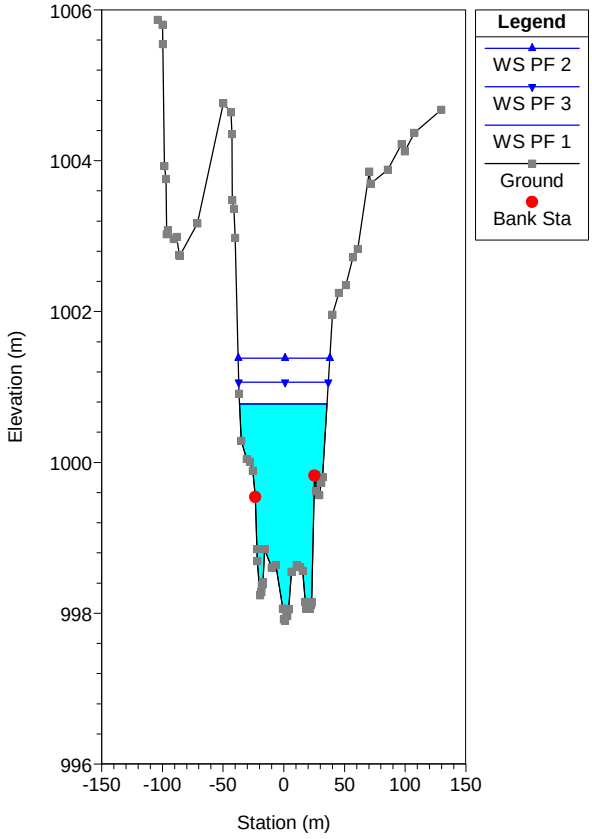

River = 1 Reach = a RS = 125.50*

PROFILO IDRAULICO DORA RIPARIA



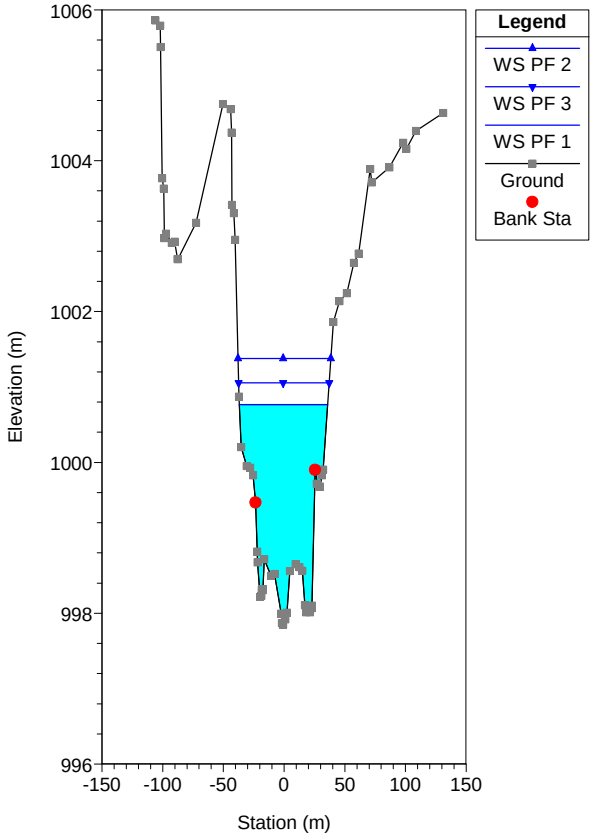
River = 1 Reach = a RS = 125.00*

PROFILO IDRAULICO DORA RIPARIA



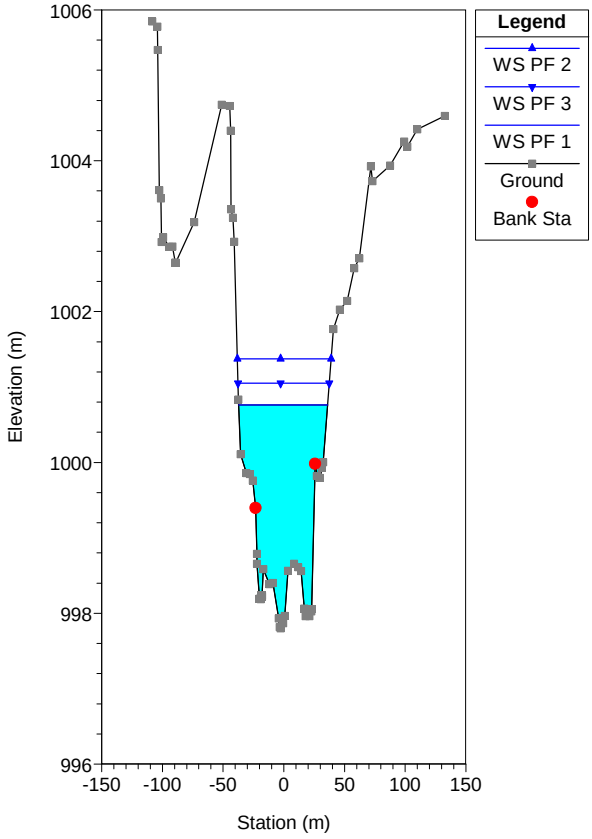

River = 1 Reach = a RS = 124.50*

PROFILO IDRAULICO DORA RIPARIA



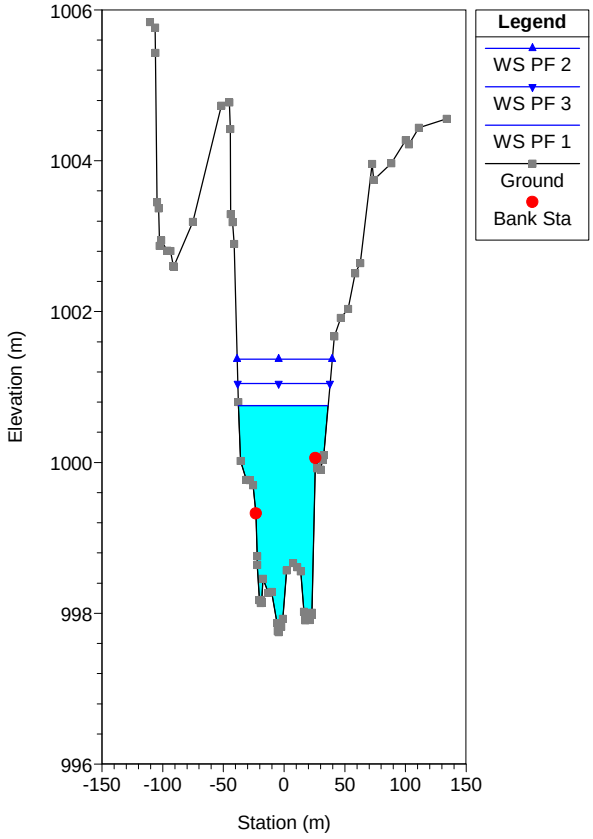

River = 1 Reach = a RS = 124.00*

PROFILO IDRAULICO DORA RIPARIA



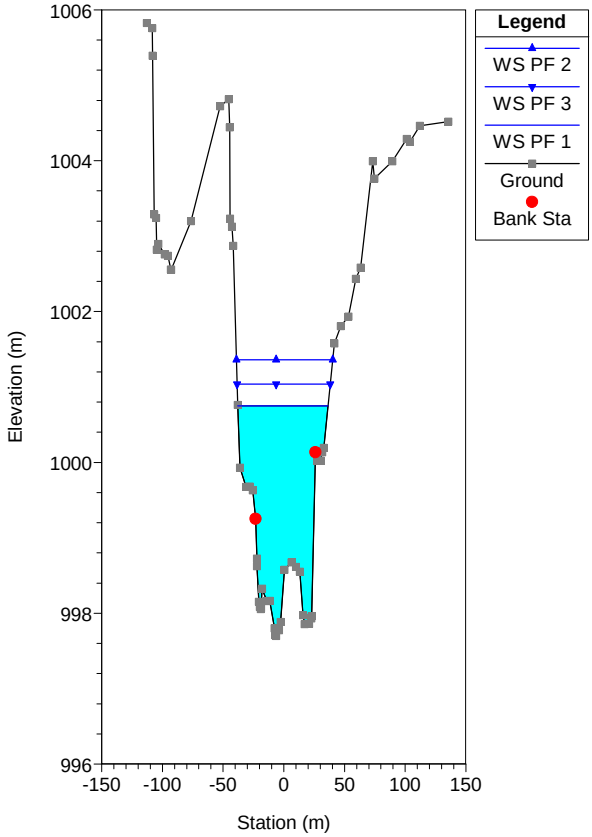

River = 1 Reach = a RS = 123.50*

PROFILO IDRAULICO DORA RIPARIA



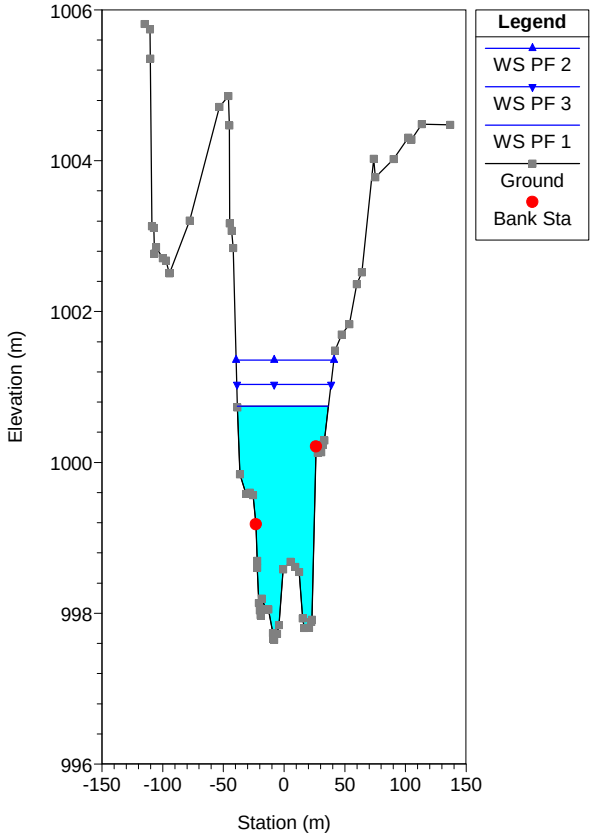
River = 1 Reach = a RS = 123.00*

PROFILO IDRAULICO DORA RIPARIA



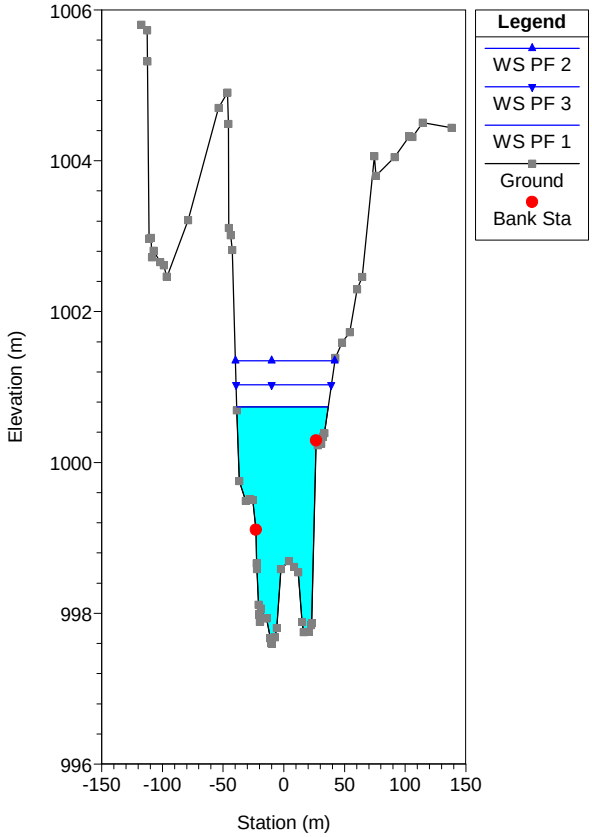

River = 1 Reach = a RS = 122.50*

PROFILO IDRAULICO DORA RIPARIA



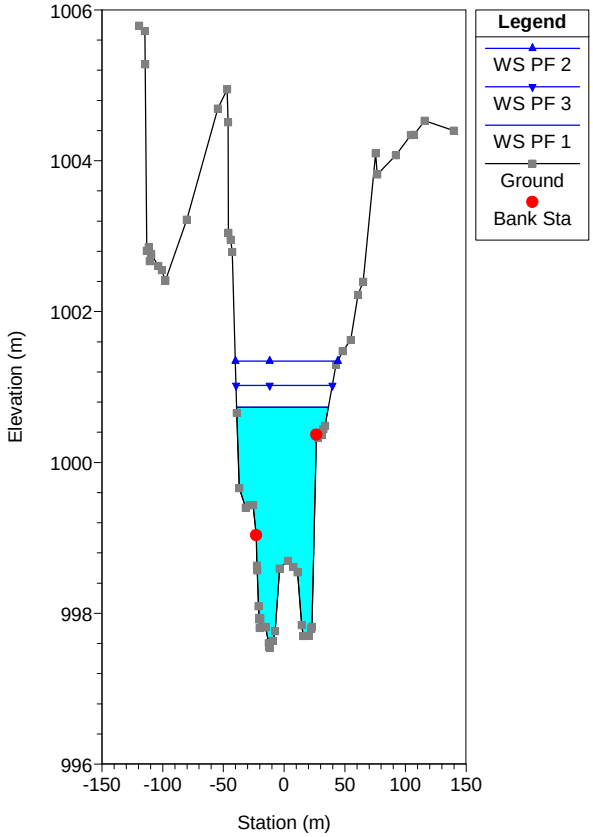

River = 1 Reach = a RS = 122.00*

PROFILO IDRAULICO DORA RIPARIA



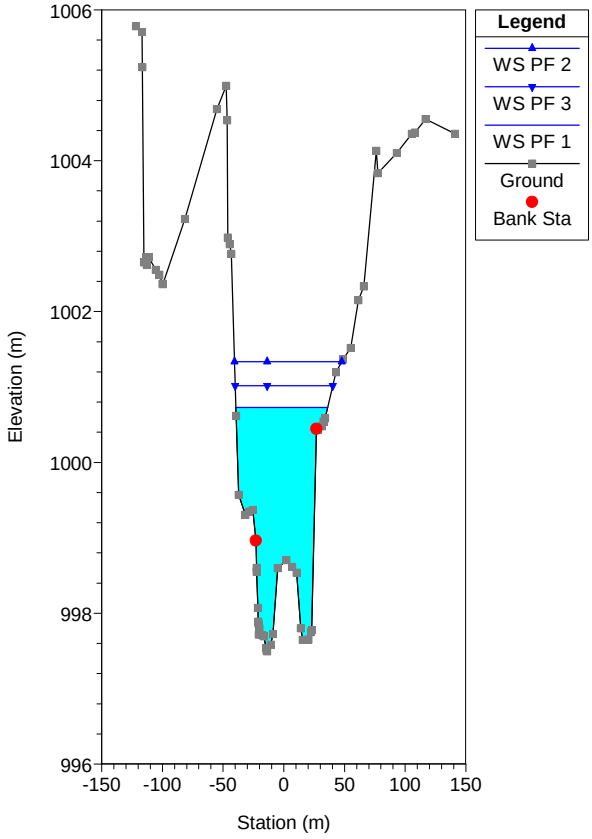

River = 1 Reach = a RS = 121.50*

PROFILO IDRAULICO DORA RIPARIA



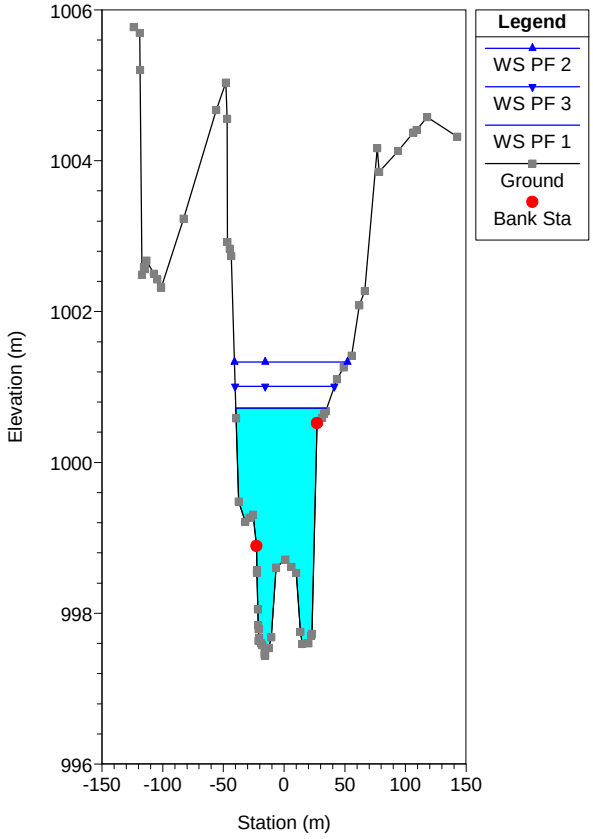
River = 1 Reach = a RS = 121.00*

PROFILO IDRAULICO DORA RIPARIA



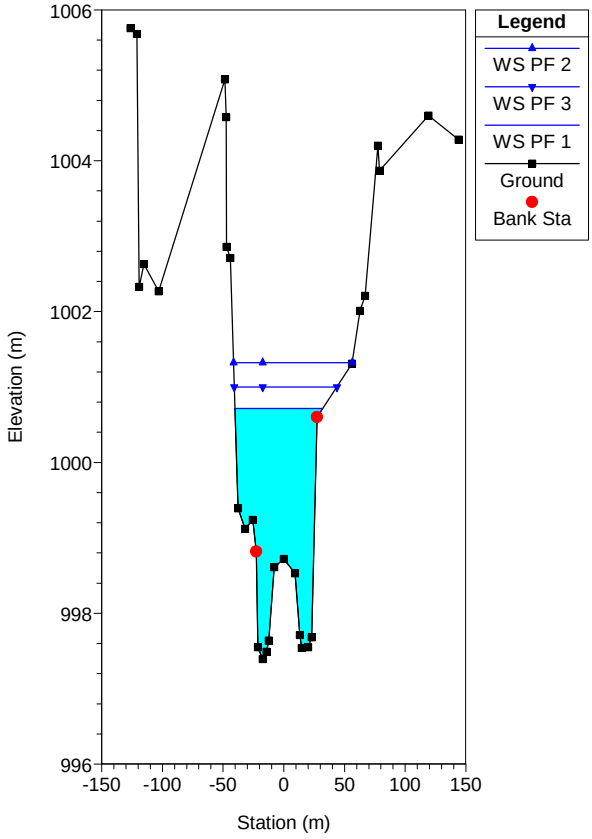

River = 1 Reach = a RS = 120.50*

PROFILO IDRAULICO DORA RIPARIA



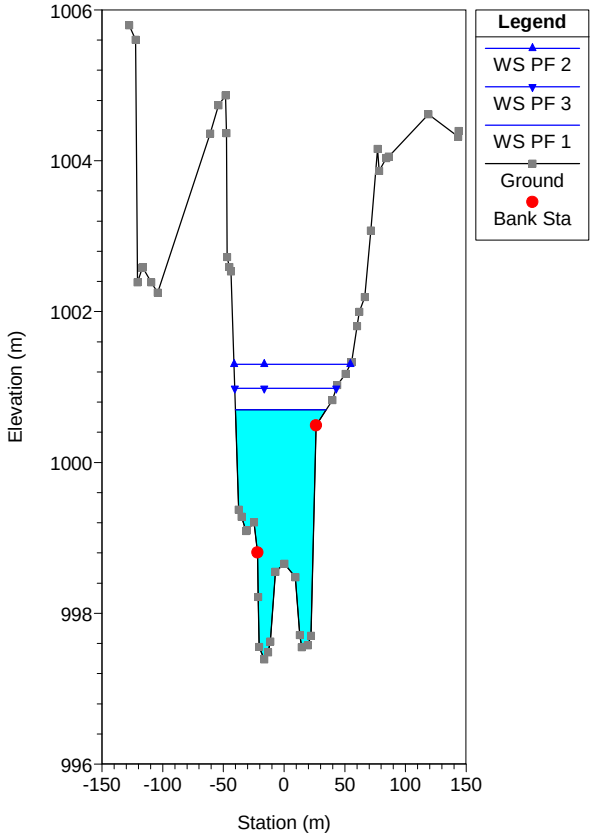

River = 1 Reach = a RS = 120

PROFILO IDRAULICO DORA RIPARIA



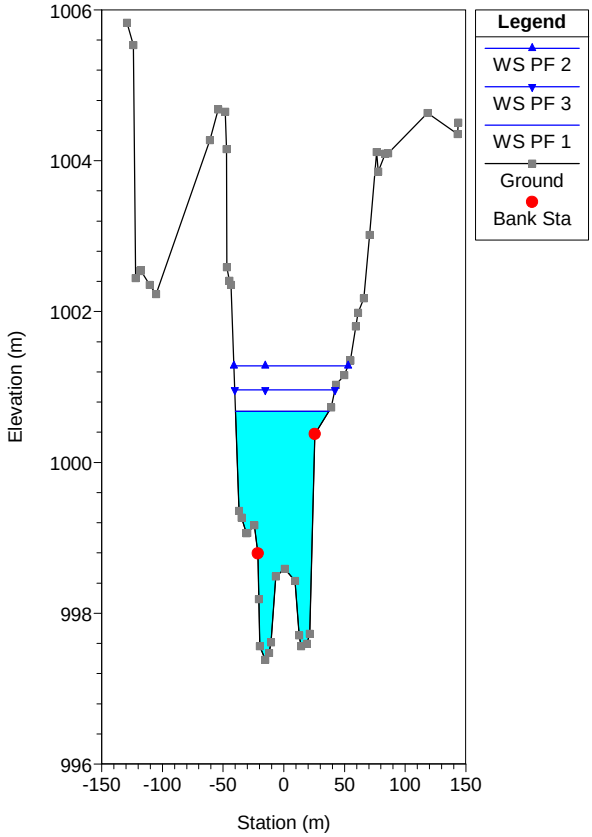

River = 1 Reach = a RS = 119.55*

PROFILO IDRAULICO DORA RIPARIA



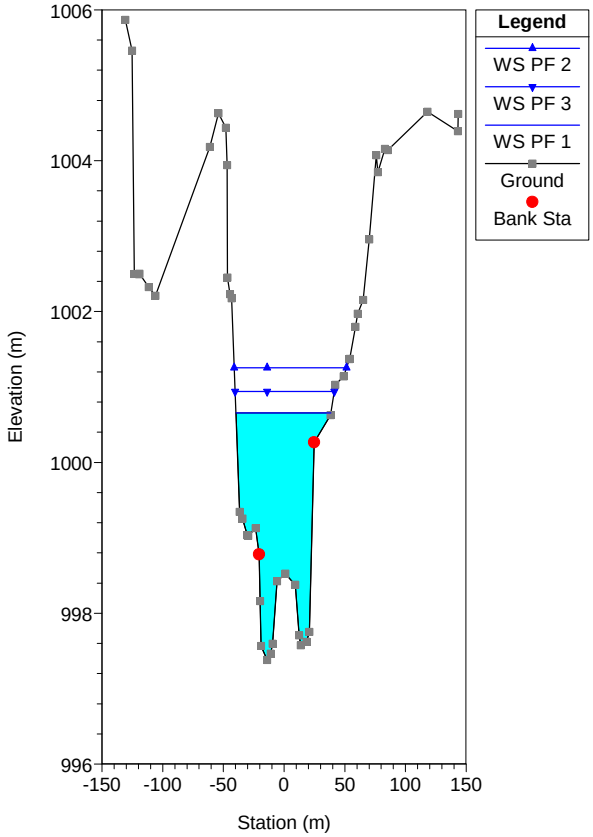
River = 1 Reach = a RS = 119.10*

PROFILO IDRAULICO DORA RIPARIA



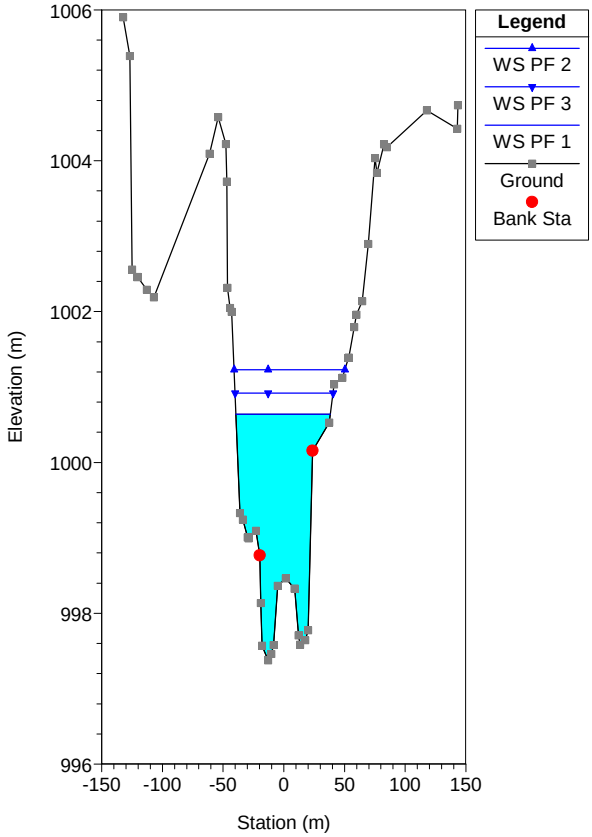

River = 1 Reach = a RS = 118.65*

PROFILO IDRAULICO DORA RIPARIA



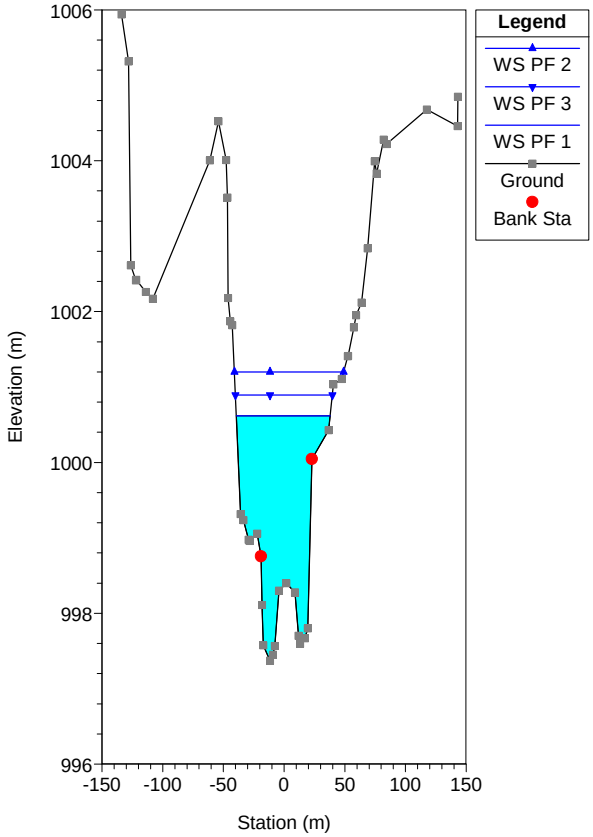

River = 1 Reach = a RS = 118.20*

PROFILO IDRAULICO DORA RIPARIA



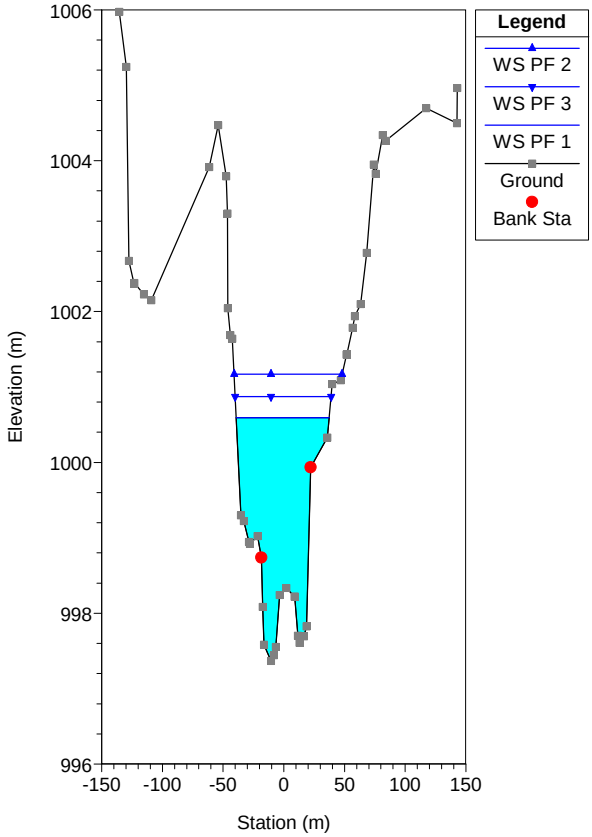

River = 1 Reach = a RS = 117.75*

PROFILO IDRAULICO DORA RIPARIA



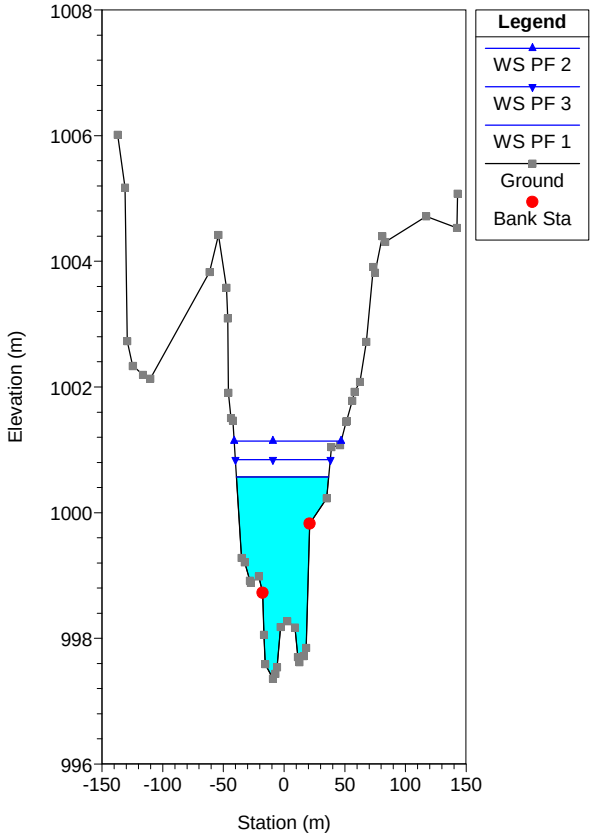
River = 1 Reach = a RS = 117.30*

PROFILO IDRAULICO DORA RIPARIA



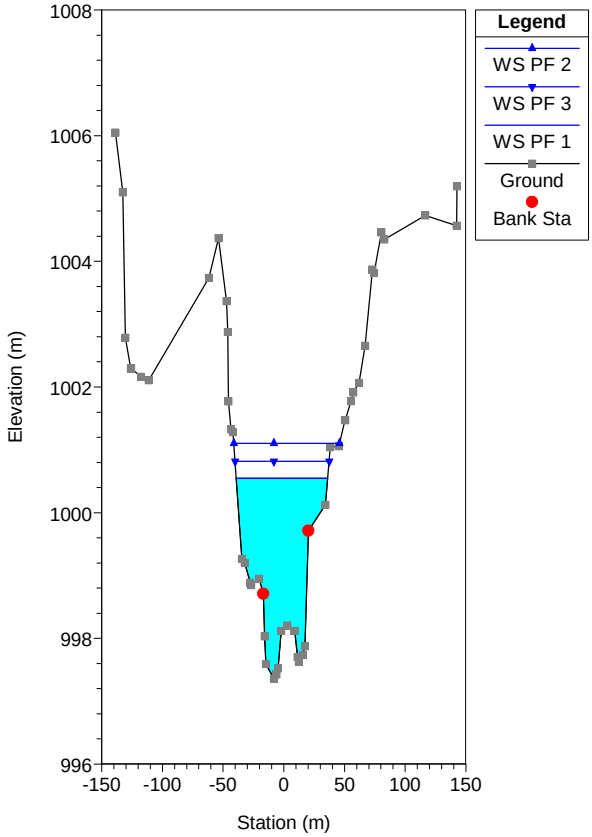

River = 1 Reach = a RS = 116.85*

PROFILO IDRAULICO DORA RIPARIA



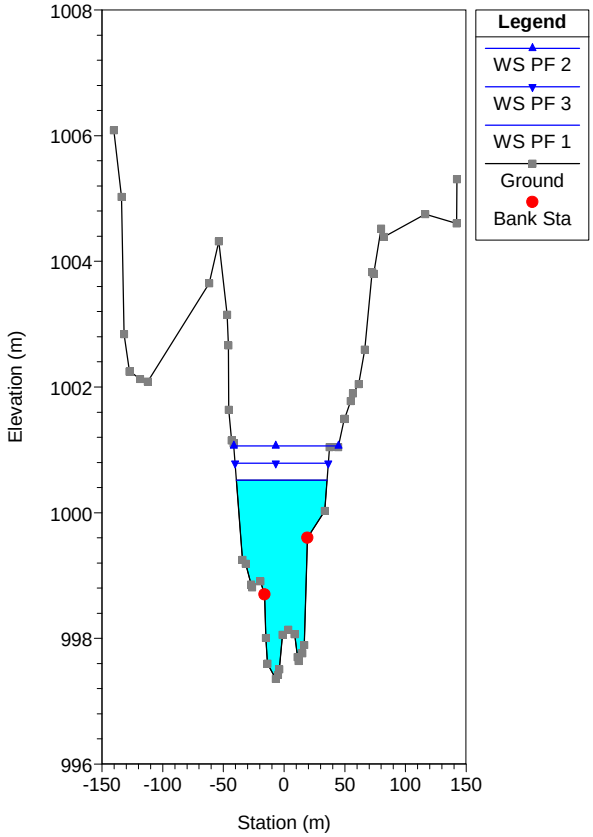

River = 1 Reach = a RS = 116.40*

PROFILO IDRAULICO DORA RIPARIA



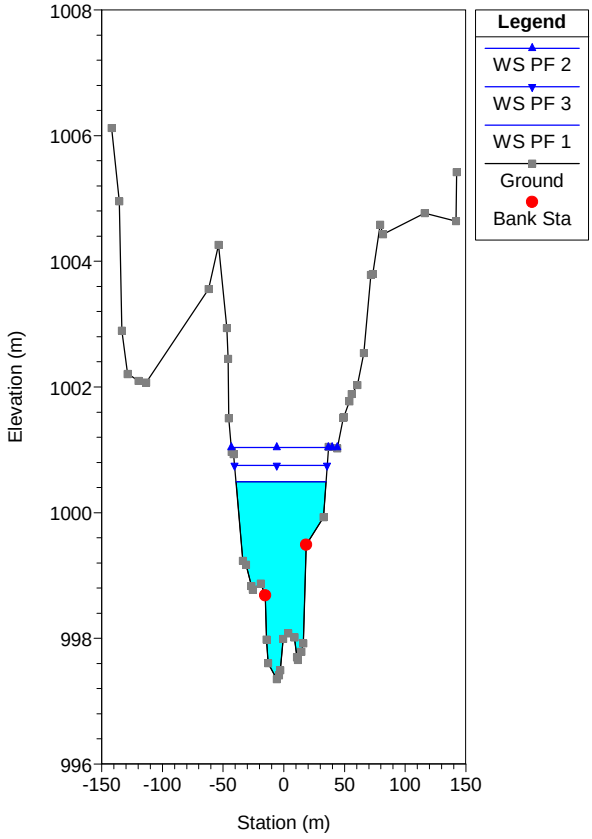

River = 1 Reach = a RS = 115.95*

PROFILO IDRAULICO DORA RIPARIA



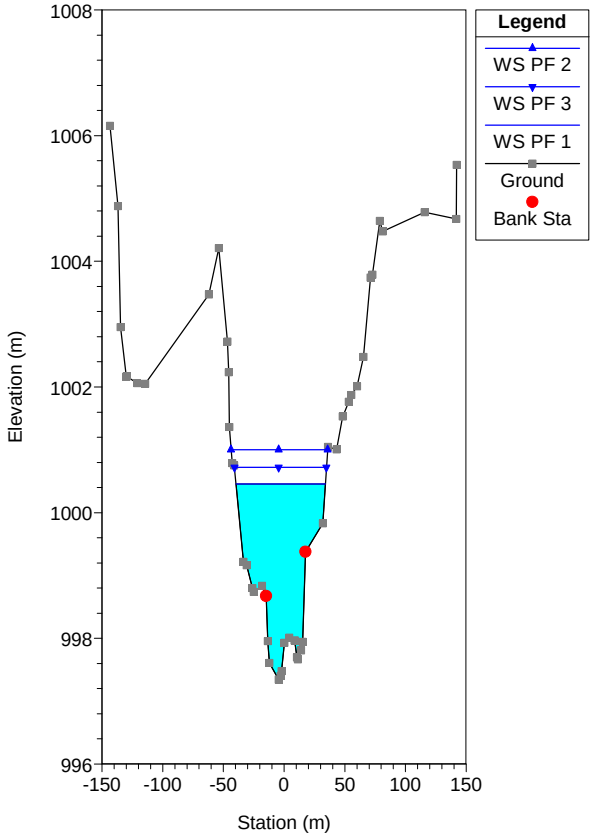
River = 1 Reach = a RS = 115.50*

PROFILO IDRAULICO DORA RIPARIA



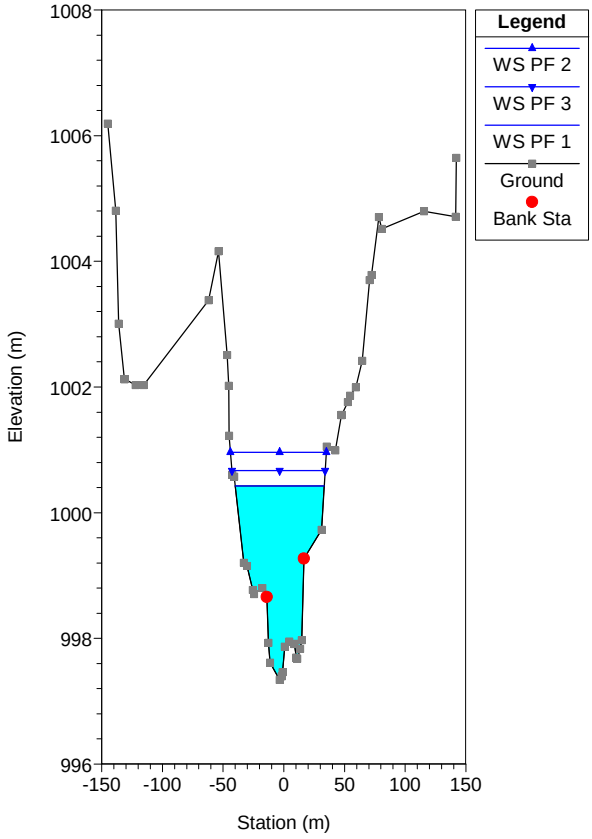

River = 1 Reach = a RS = 115.05*

PROFILO IDRAULICO DORA RIPARIA



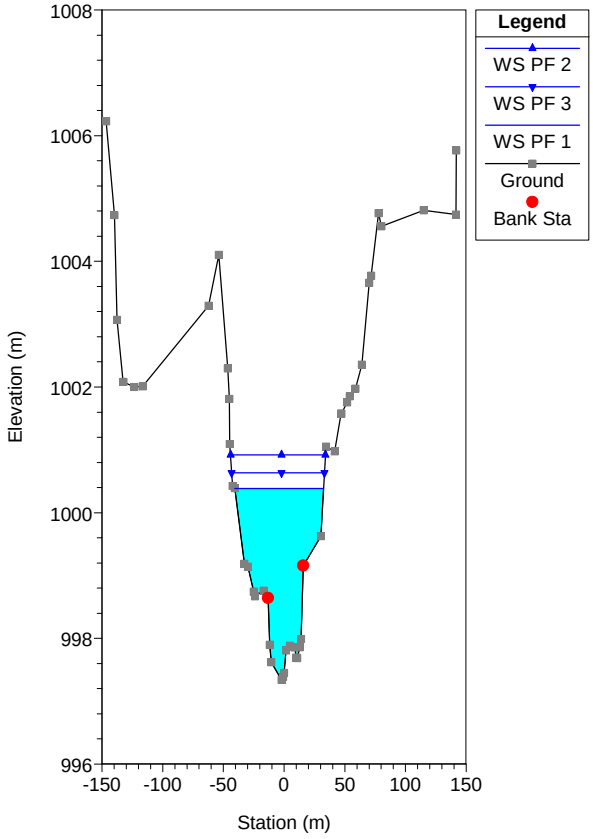

River = 1 Reach = a RS = 114.60*

PROFILO IDRAULICO DORA RIPARIA



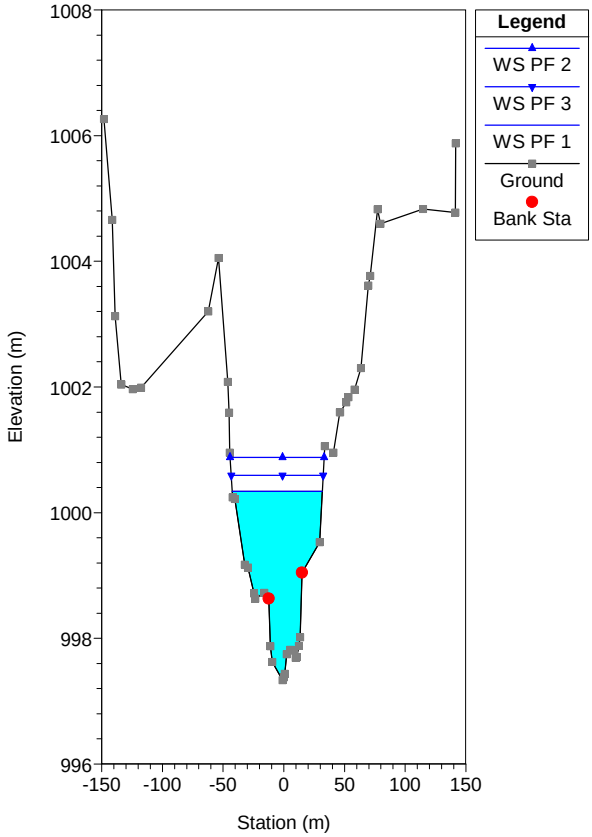

River = 1 Reach = a RS = 114.15*

PROFILO IDRAULICO DORA RIPARIA



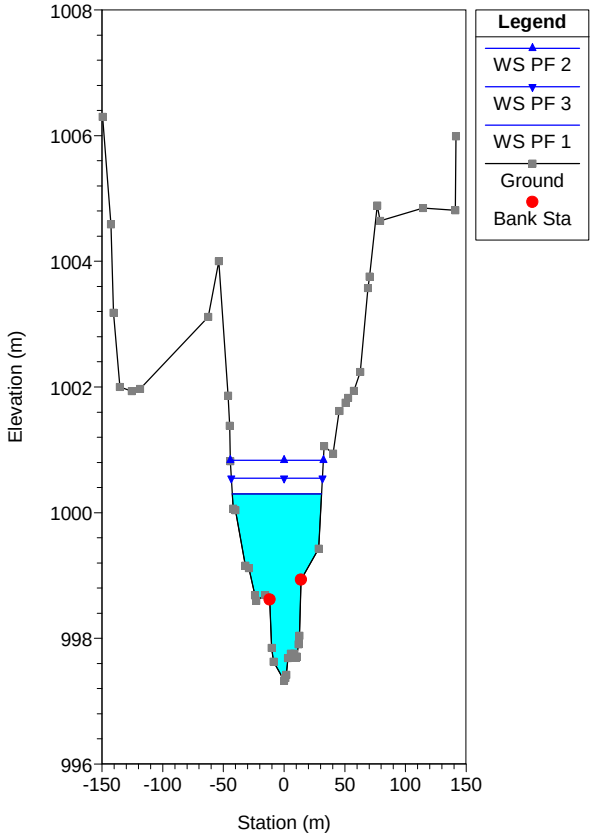
River = 1 Reach = a RS = 113.70*

PROFILO IDRAULICO DORA RIPARIA



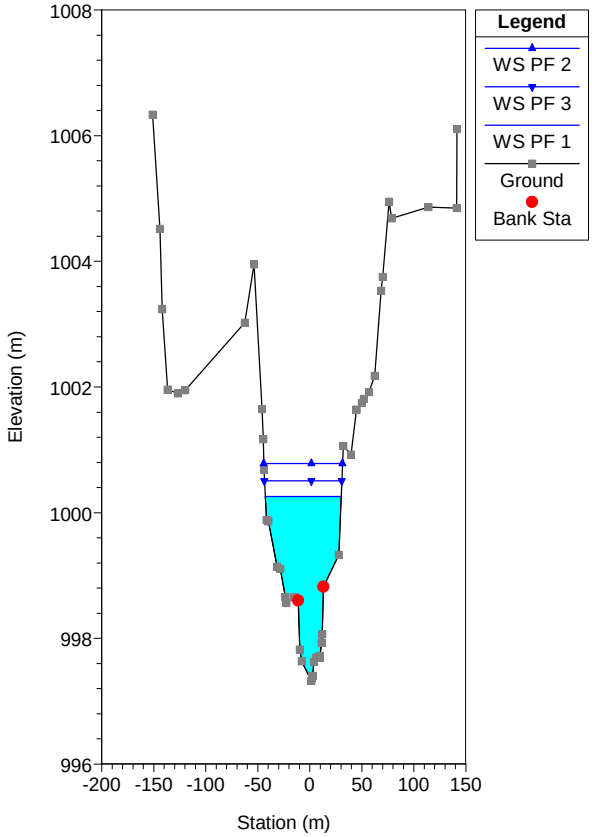

River = 1 Reach = a RS = 113.25*

PROFILO IDRAULICO DORA RIPARIA



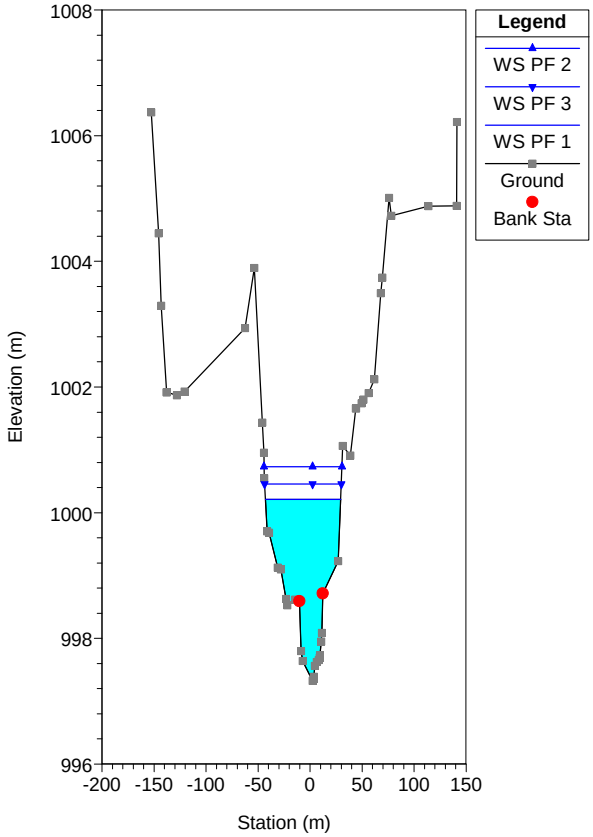

River = 1 Reach = a RS = 112.80*

PROFILO IDRAULICO DORA RIPARIA



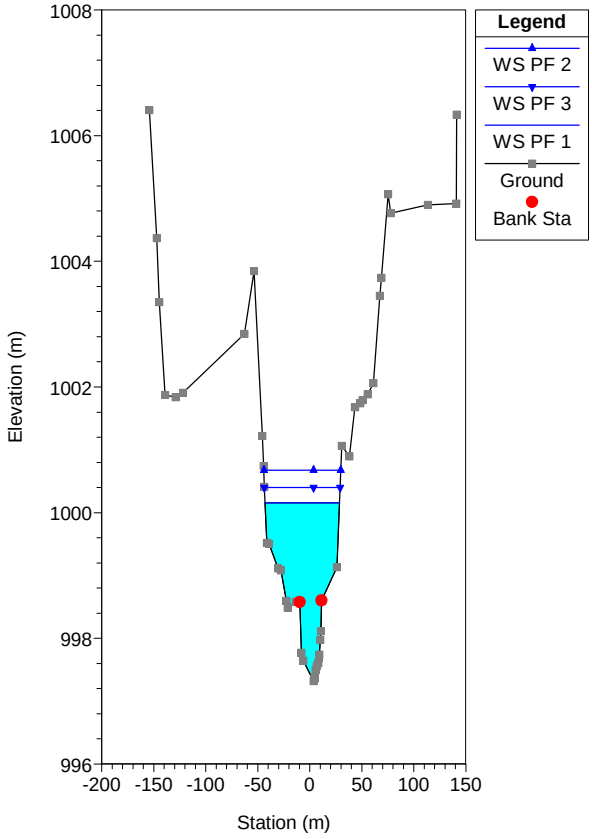

River = 1 Reach = a RS = 112.35*

PROFILO IDRAULICO DORA RIPARIA



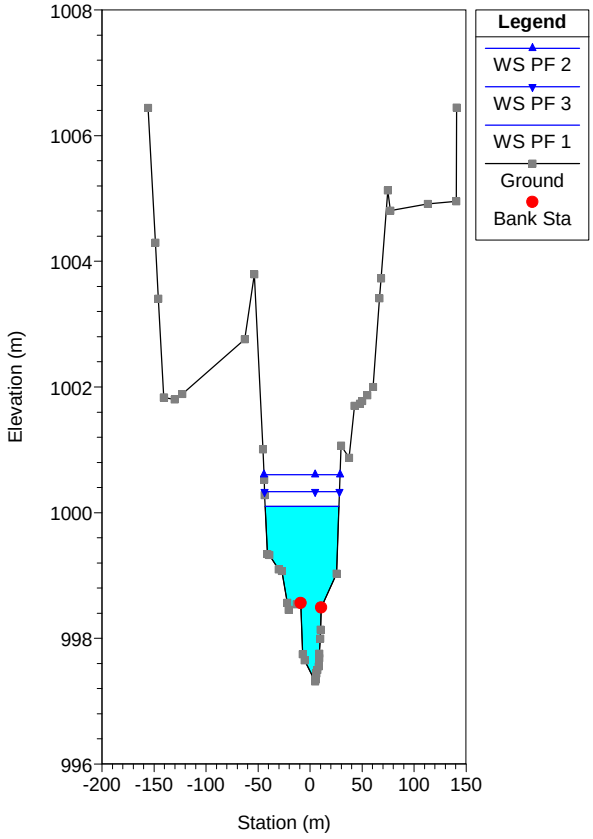
River = 1 Reach = a RS = 111.90*

PROFILO IDRAULICO DORA RIPARIA



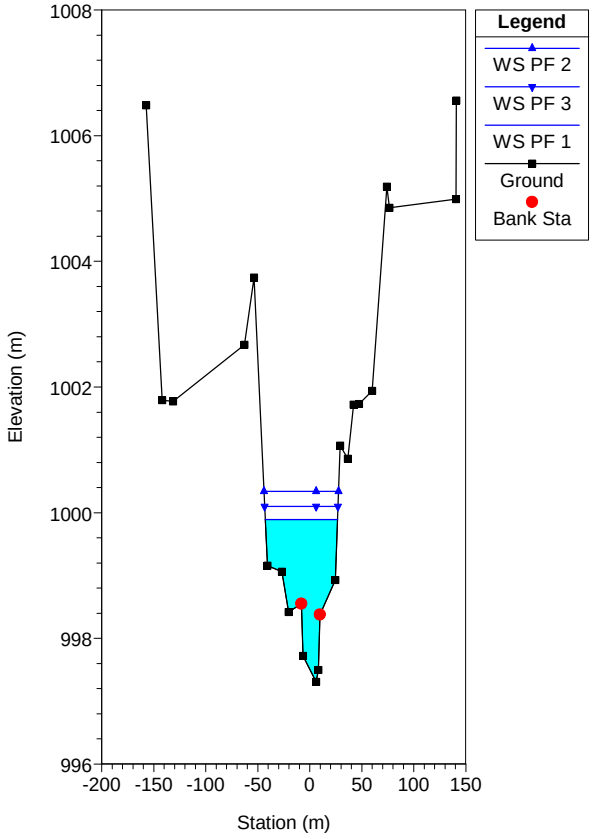

River = 1 Reach = a RS = 111.45*

PROFILO IDRAULICO DORA RIPARIA



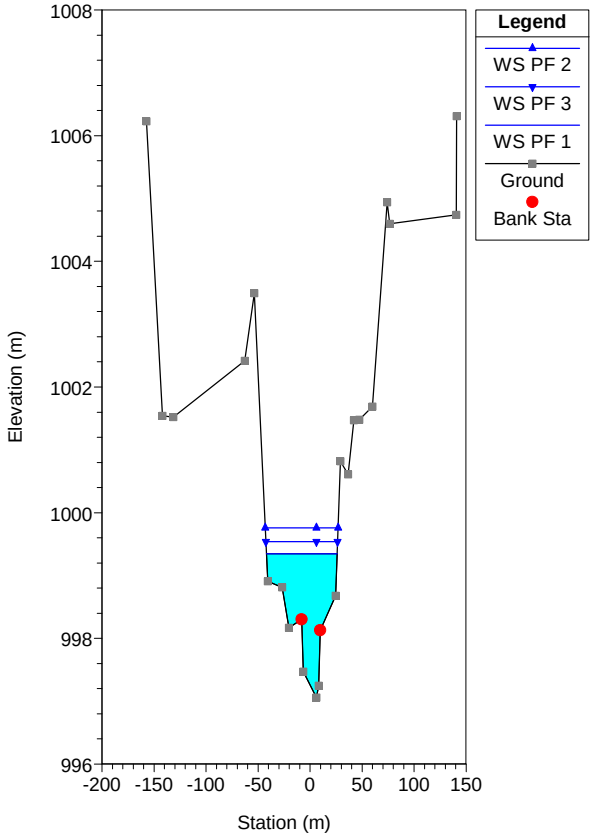

River = 1 Reach = a RS = 111

PROFILO IDRAULICO DORA RIPARIA



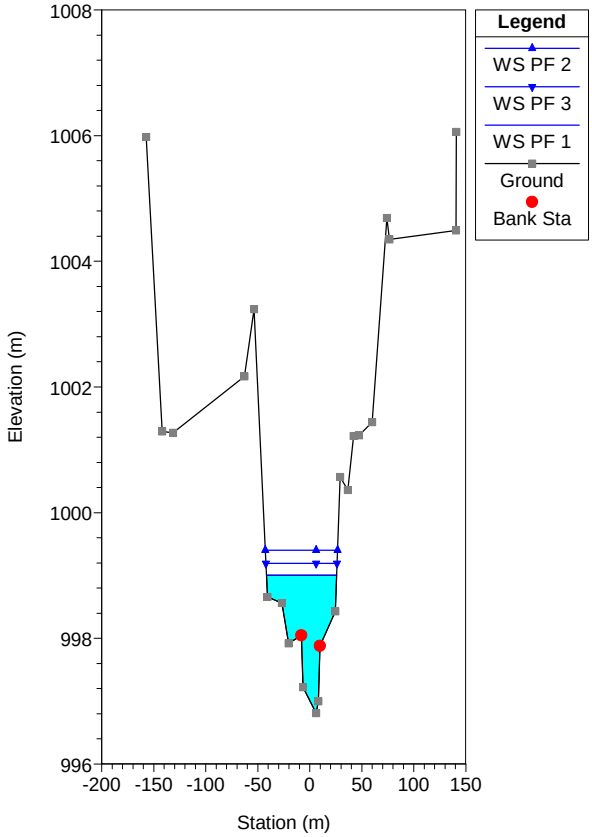

River = 1 Reach = a RS = 110.67*

PROFILO IDRAULICO DORA RIPARIA



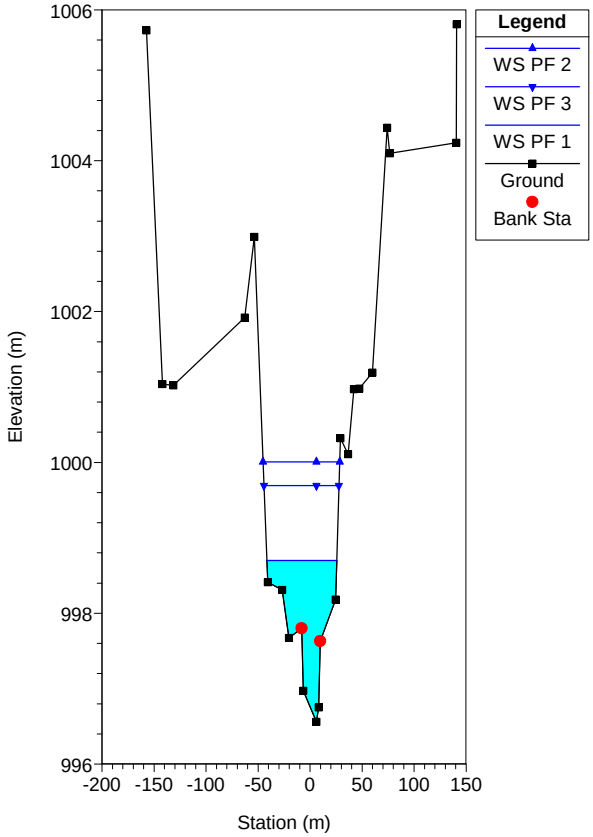
River = 1 Reach = a RS = 110.33*

PROFILO IDRAULICO DORA RIPARIA



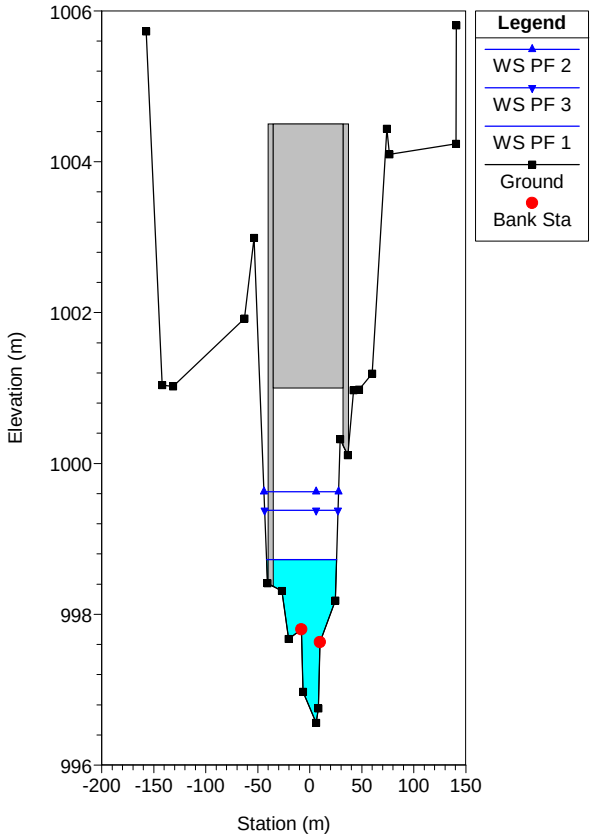

River = 1 Reach = a RS = 110

PROFILO IDRAULICO DORA RIPARIA



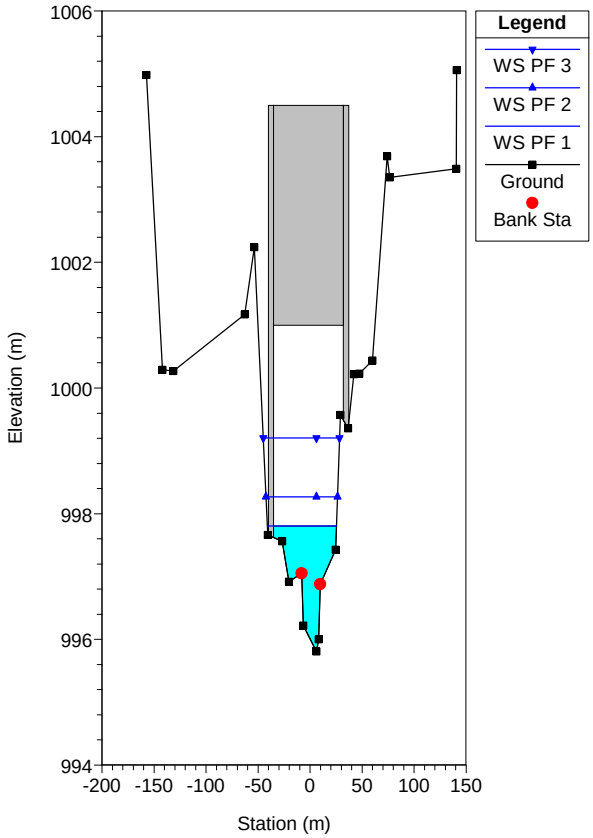

River = 1 Reach = a RS = 108 BR

PROFILO IDRAULICO DORA RIPARIA



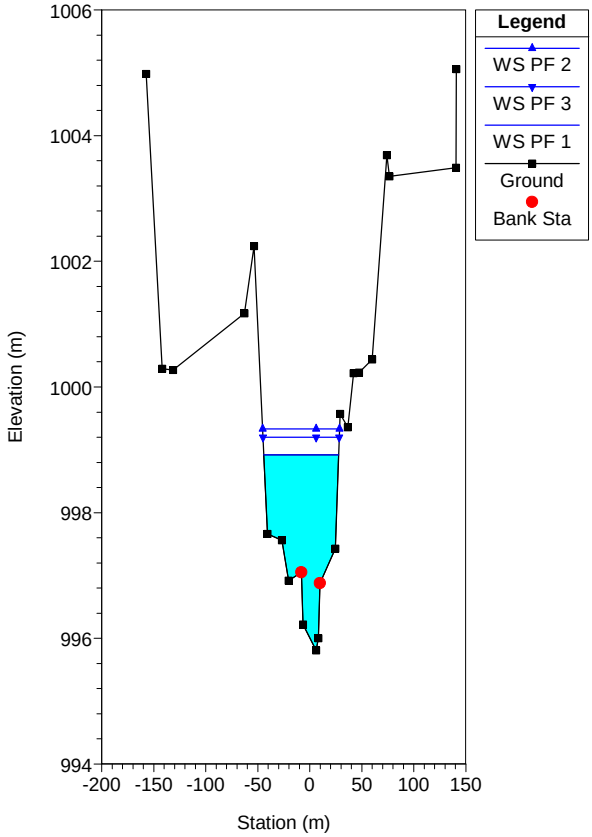

River = 1 Reach = a RS = 108 BR

PROFILO IDRAULICO DORA RIPARIA



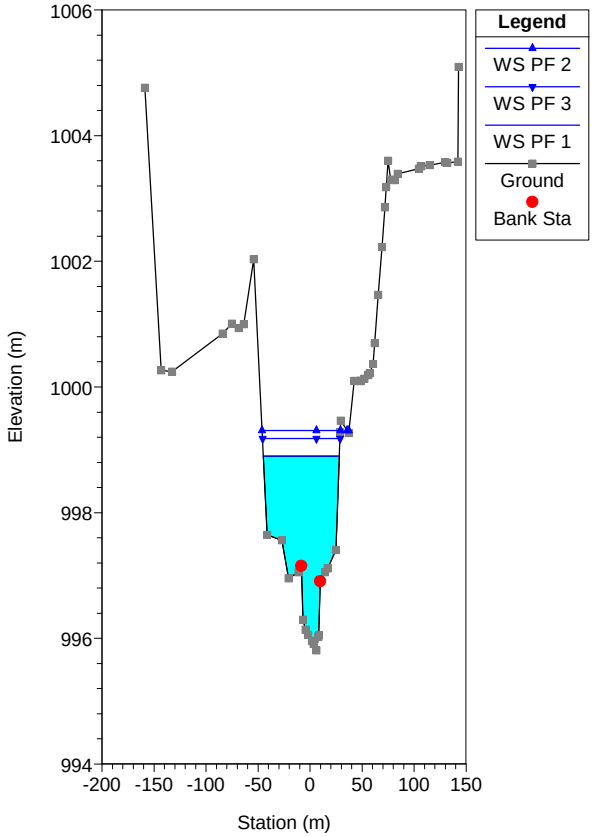
River = 1 Reach = a RS = 105

PROFILO IDRAULICO DORA RIPARIA



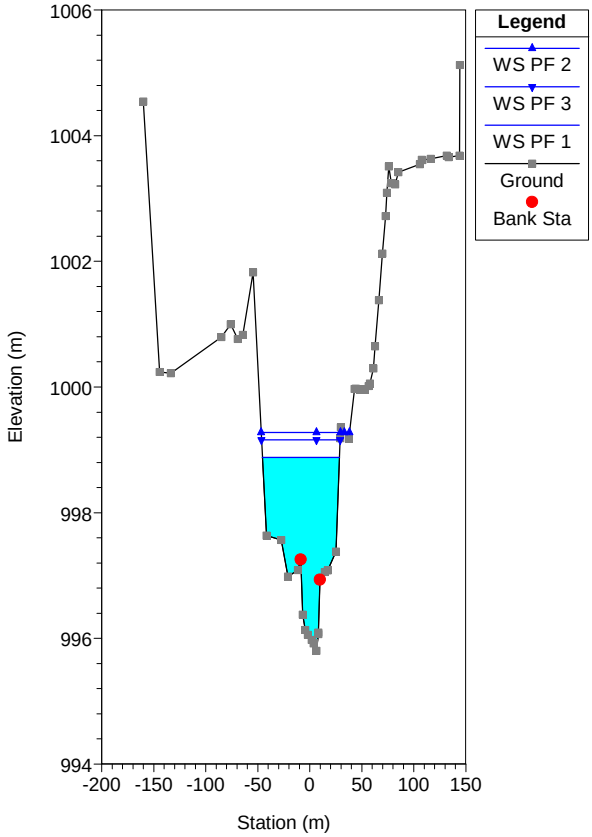

River = 1 Reach = a RS = 104.79*

PROFILO IDRAULICO DORA RIPARIA



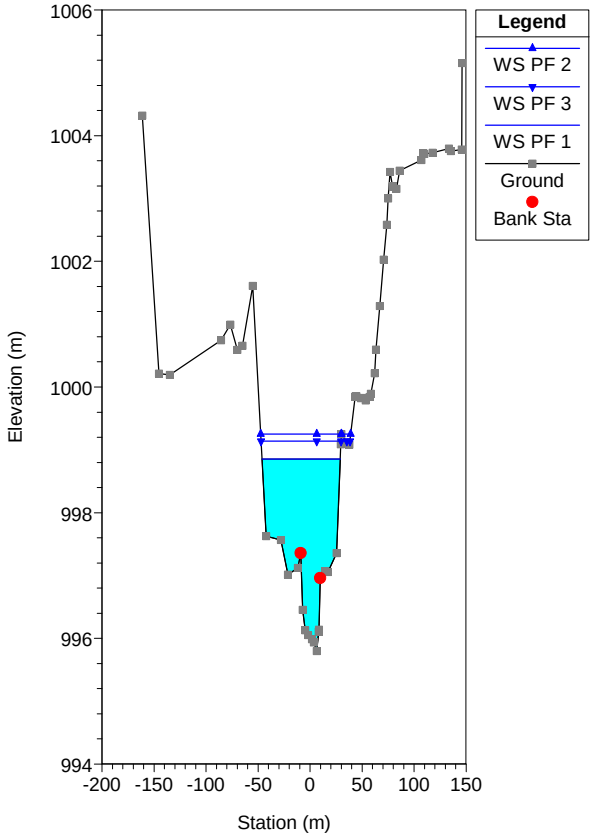

River = 1 Reach = a RS = 104.58*

PROFILO IDRAULICO DORA RIPARIA



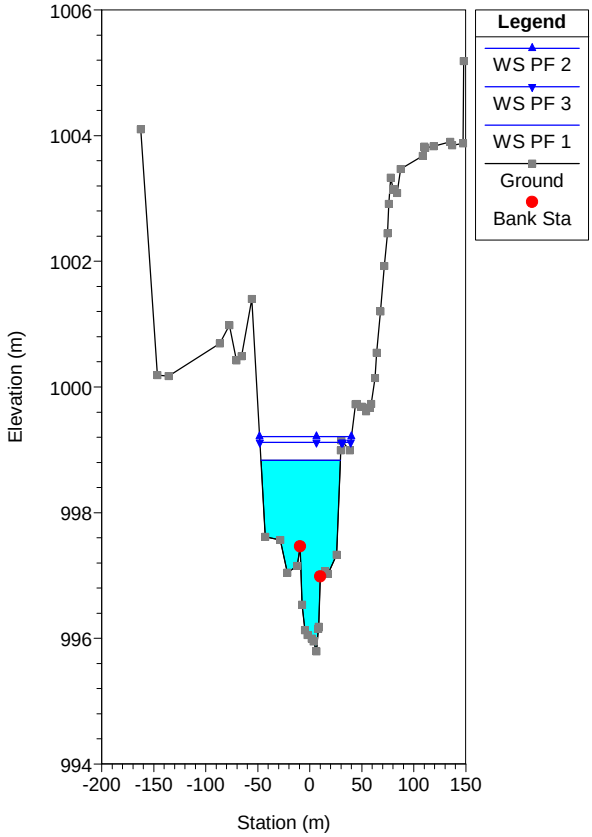

River = 1 Reach = a RS = 104.38*

PROFILO IDRAULICO DORA RIPARIA



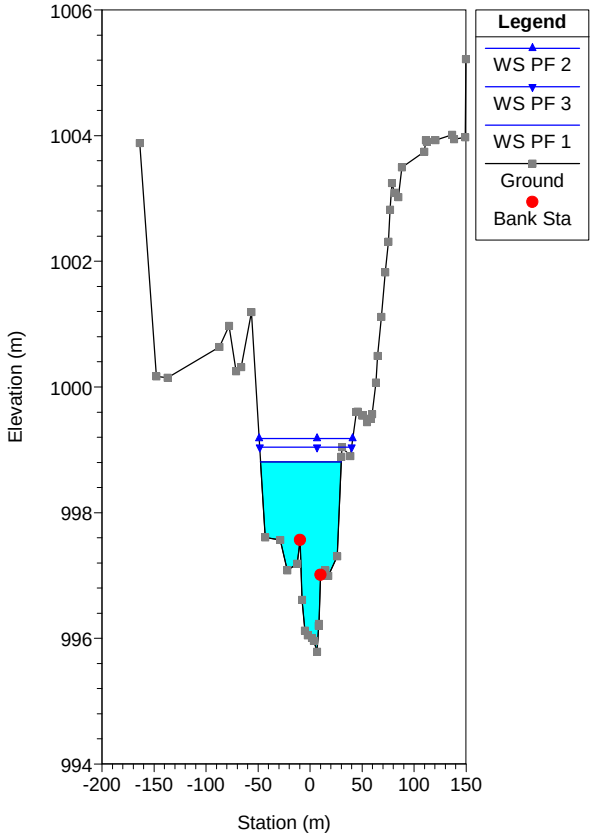
River = 1 Reach = a RS = 104.17*

PROFILO IDRAULICO DORA RIPARIA



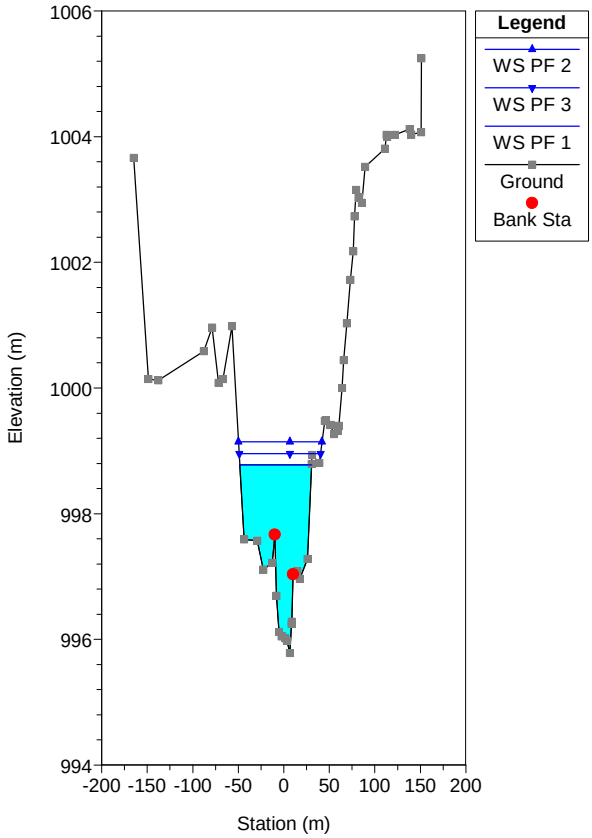

River = 1 Reach = a RS = 103.96*

PROFILO IDRAULICO DORA RIPARIA



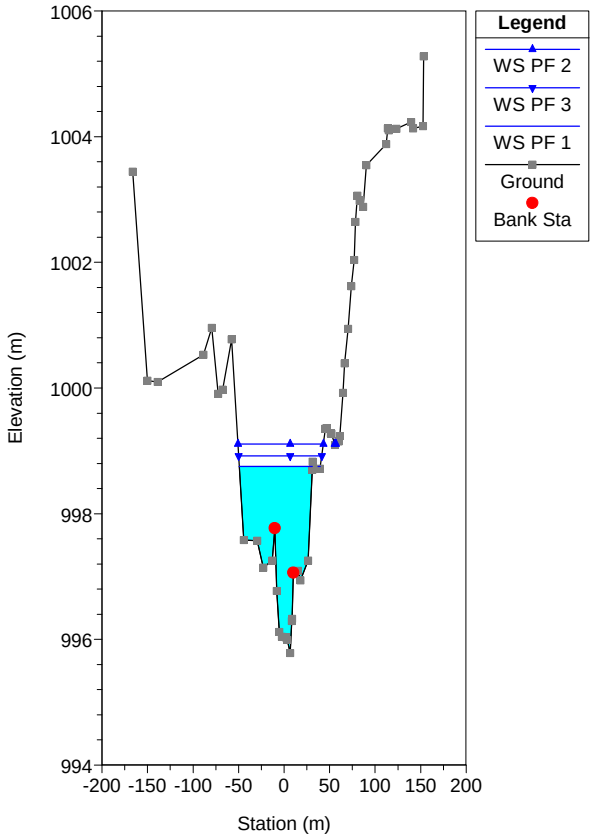

River = 1 Reach = a RS = 103.75*

PROFILO IDRAULICO DORA RIPARIA



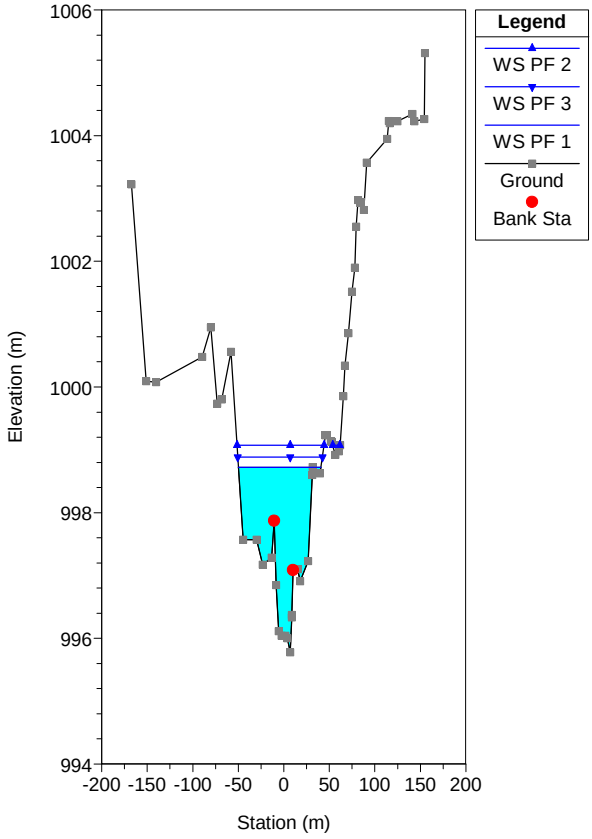

River = 1 Reach = a RS = 103.54*

PROFILO IDRAULICO DORA RIPARIA



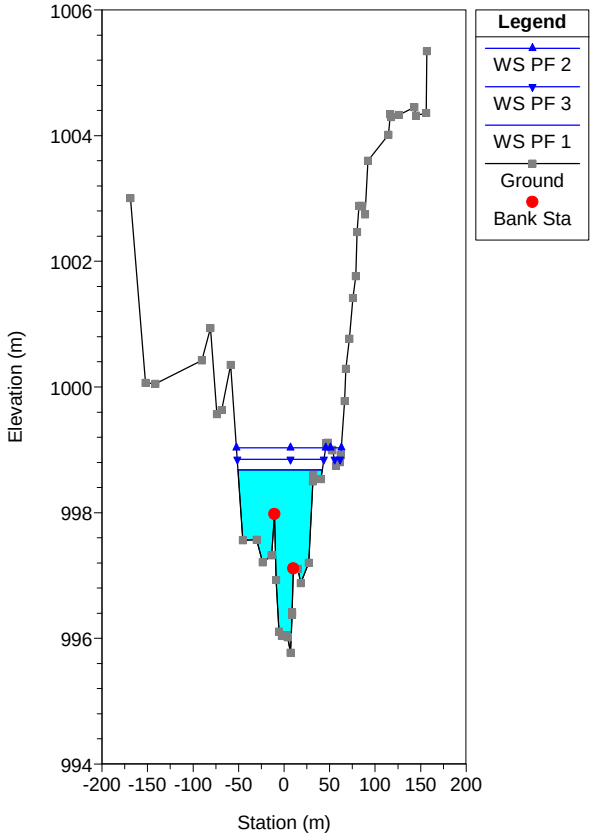
River = 1 Reach = a RS = 103.33*

PROFILO IDRAULICO DORA RIPARIA



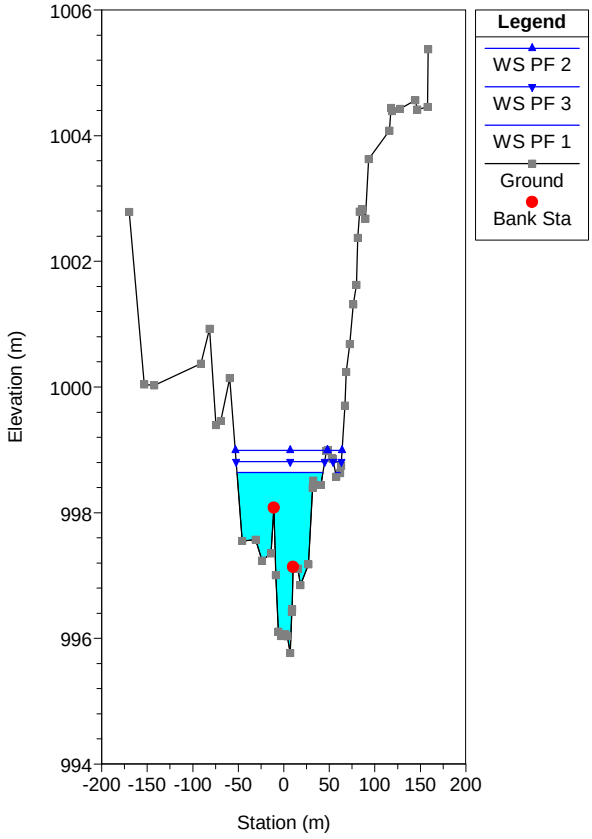

River = 1 Reach = a RS = 103.13*

PROFILO IDRAULICO DORA RIPARIA



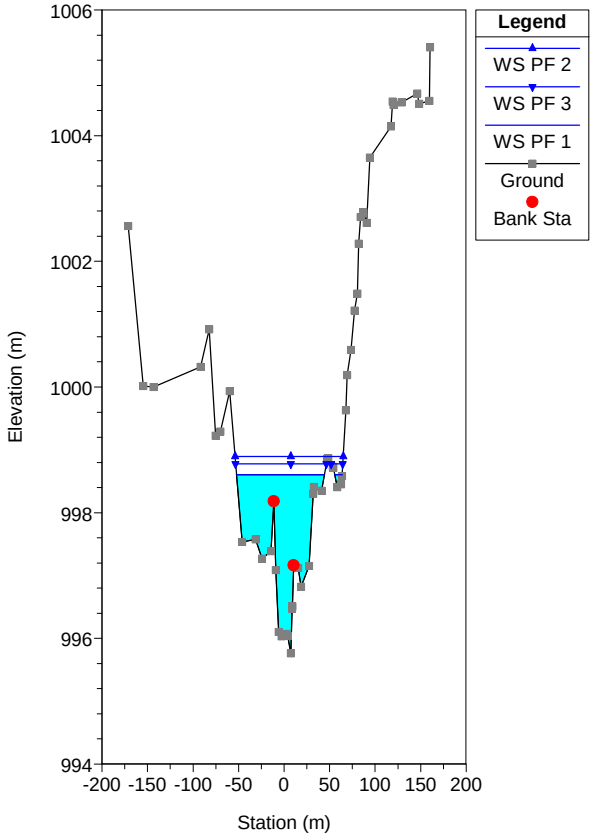

River = 1 Reach = a RS = 102.92*

PROFILO IDRAULICO DORA RIPARIA



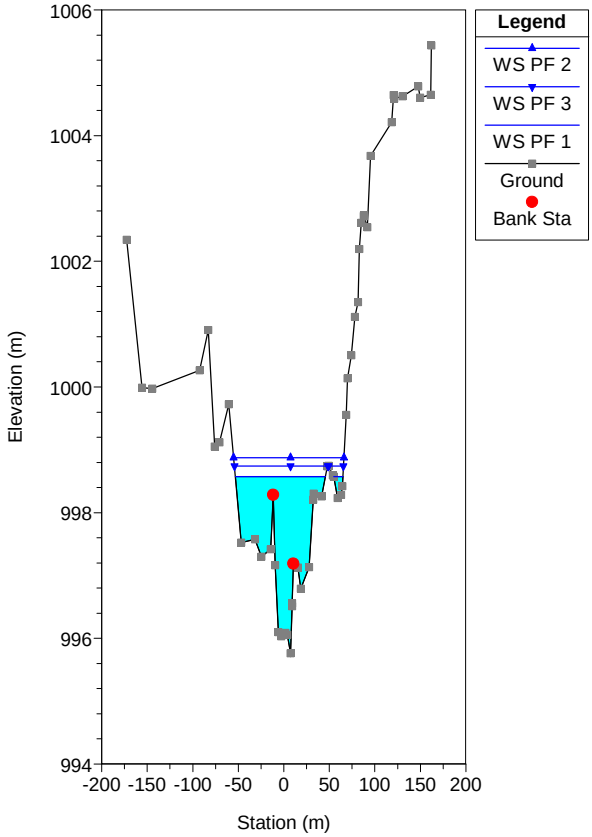

River = 1 Reach = a RS = 102.71*

PROFILO IDRAULICO DORA RIPARIA



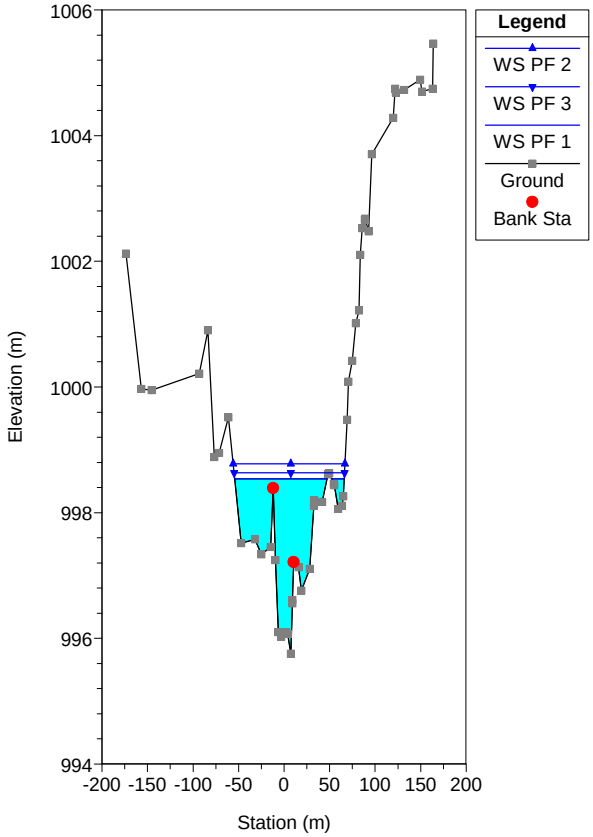
River = 1 Reach = a RS = 102.50*

PROFILO IDRAULICO DORA RIPARIA



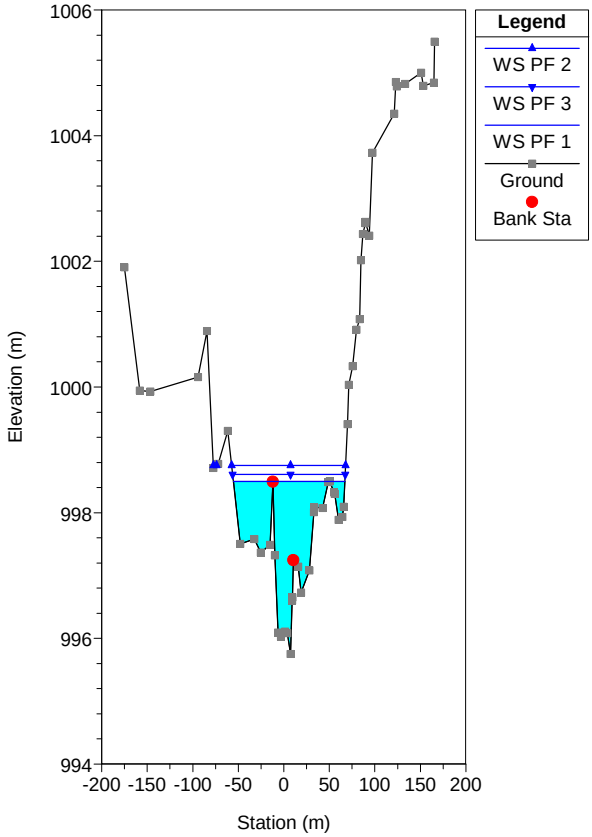

River = 1 Reach = a RS = 102.29*

PROFILO IDRAULICO DORA RIPARIA



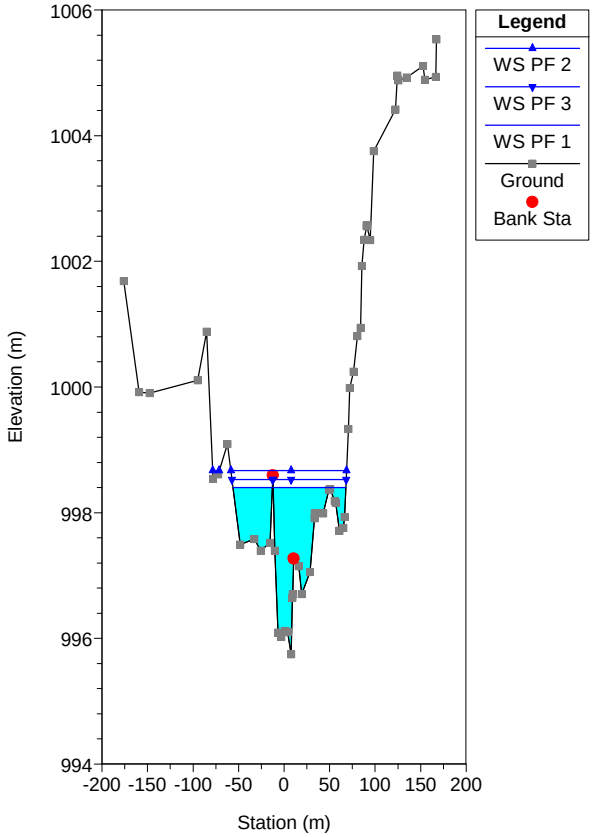

River = 1 Reach = a RS = 102.08*

PROFILO IDRAULICO DORA RIPARIA



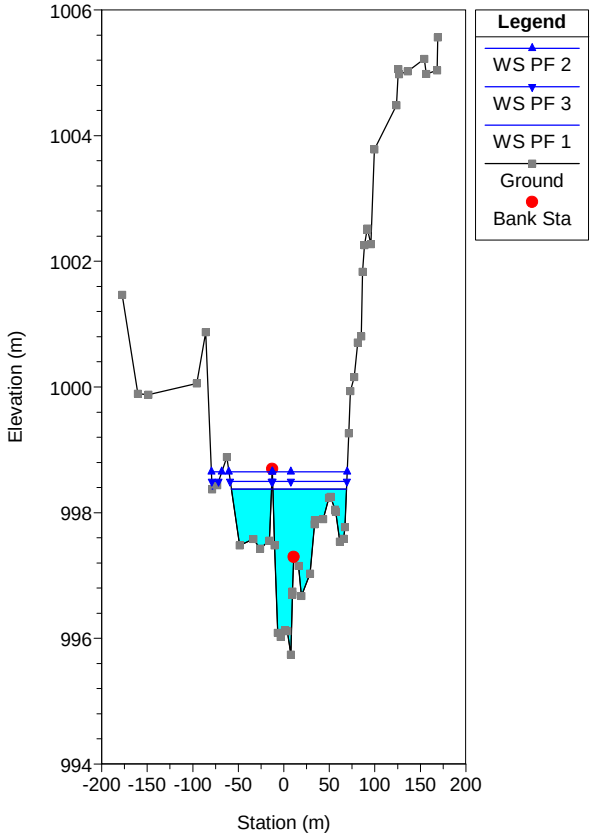

River = 1 Reach = a RS = 101.88*

PROFILO IDRAULICO DORA RIPARIA



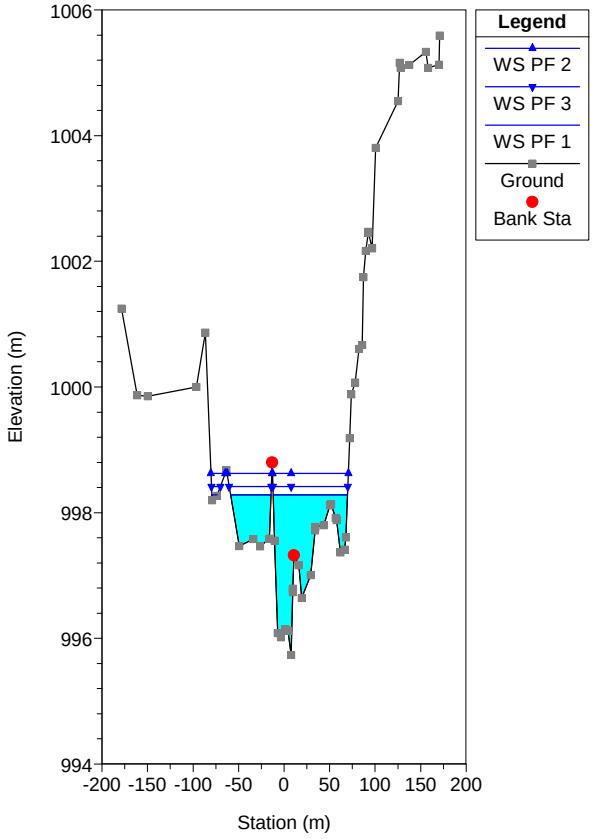
River = 1 Reach = a RS = 101.67*

PROFILO IDRAULICO DORA RIPARIA



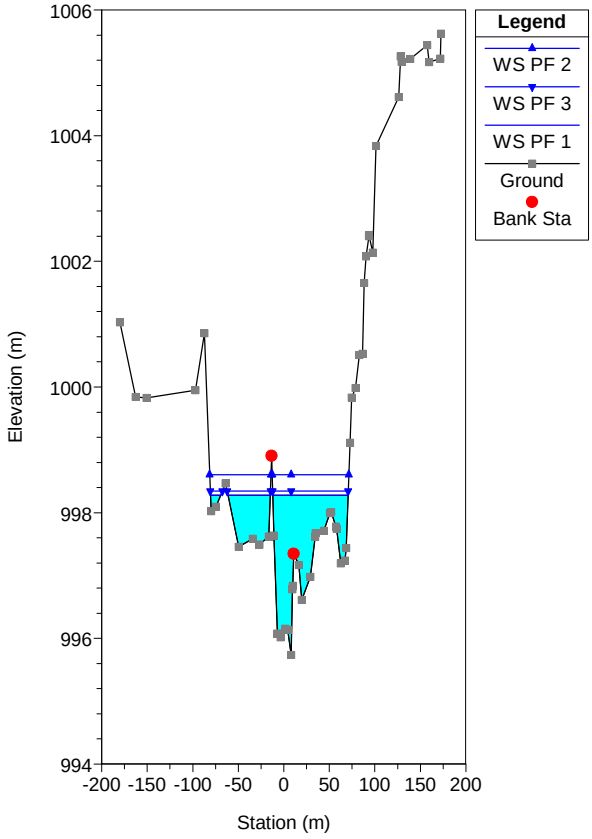

River = 1 Reach = a RS = 101.46*

PROFILO IDRAULICO DORA RIPARIA



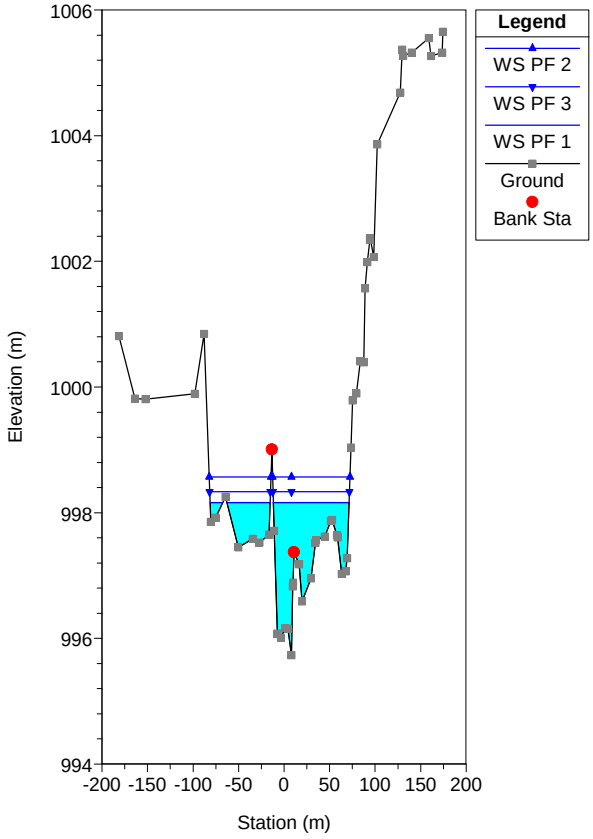

River = 1 Reach = a RS = 101.25*

PROFILO IDRAULICO DORA RIPARIA



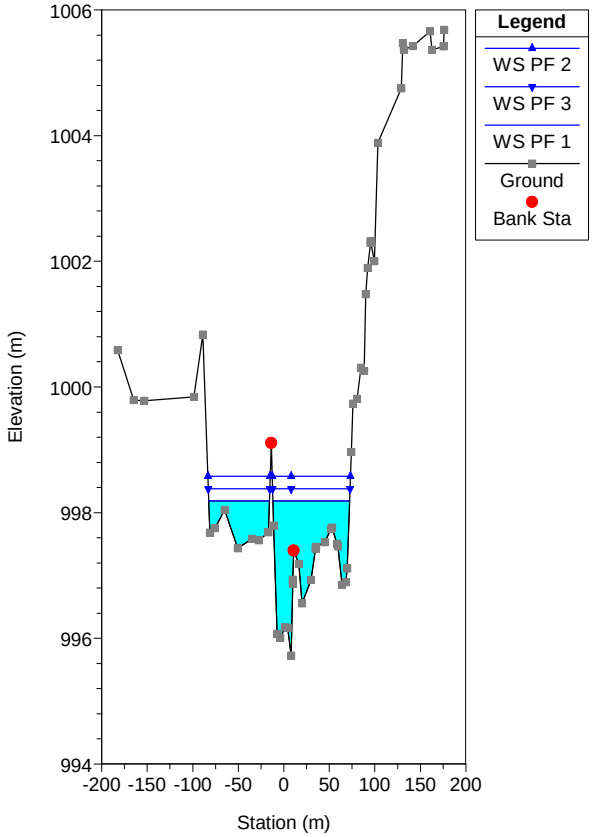

River = 1 Reach = a RS = 101.04*

PROFILO IDRAULICO DORA RIPARIA



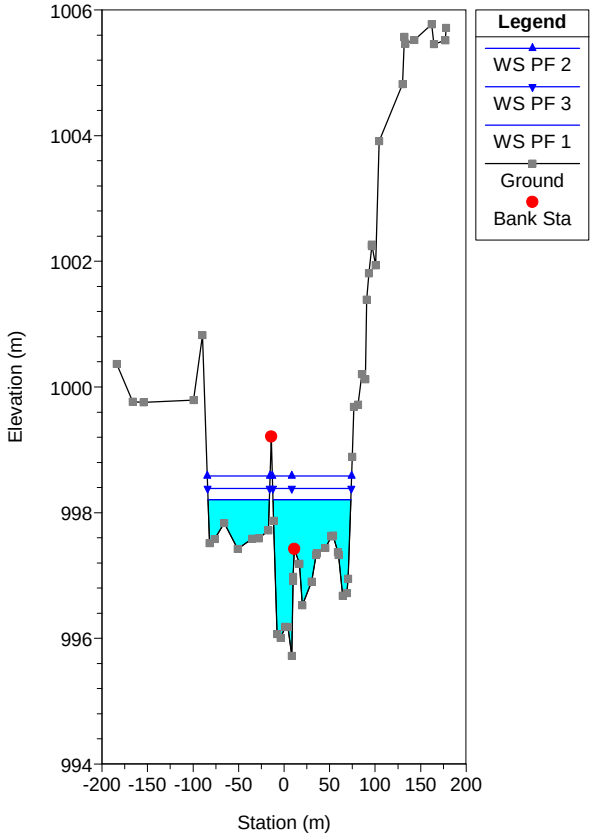
River = 1 Reach = a RS = 100.83*

PROFILO IDRAULICO DORA RIPARIA



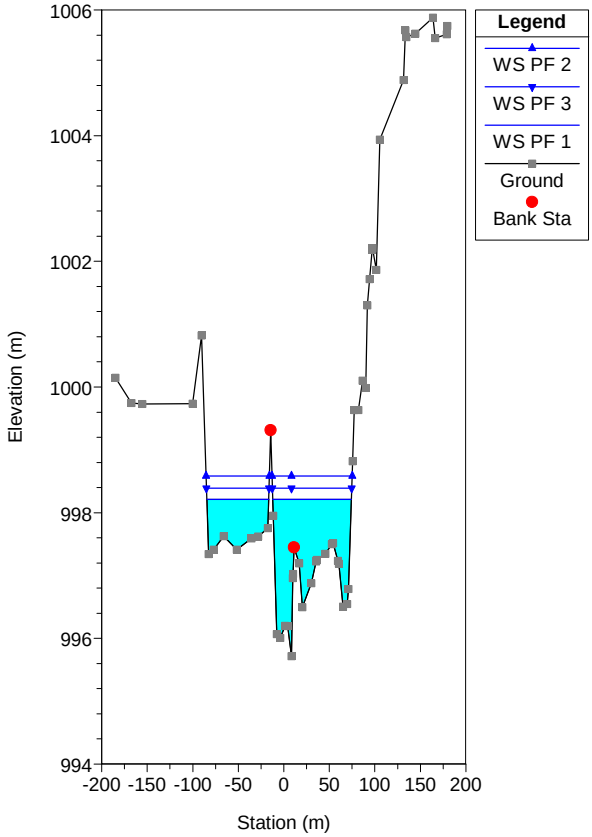

River = 1 Reach = a RS = 100.63*

PROFILO IDRAULICO DORA RIPARIA



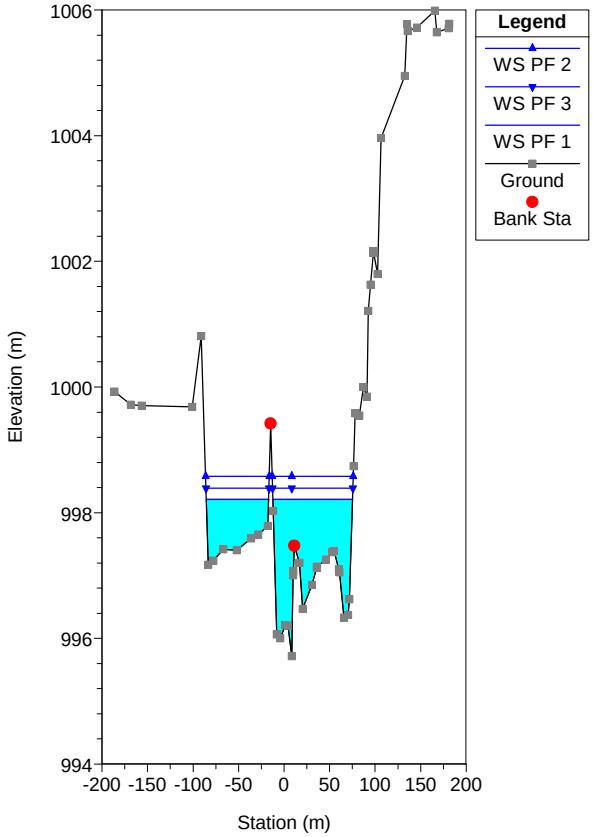

River = 1 Reach = a RS = 100.42*

PROFILO IDRAULICO DORA RIPARIA



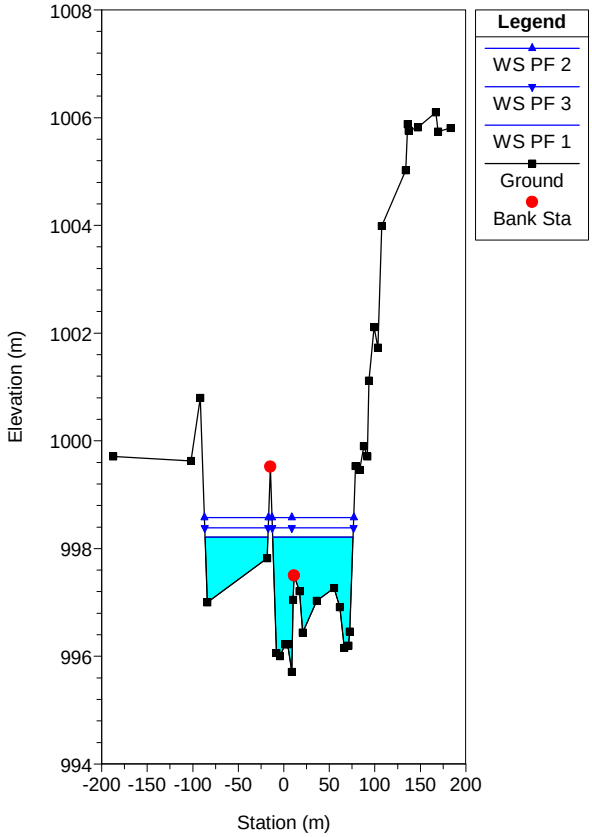

River = 1 Reach = a RS = 100.21*

PROFILO IDRAULICO DORA RIPARIA



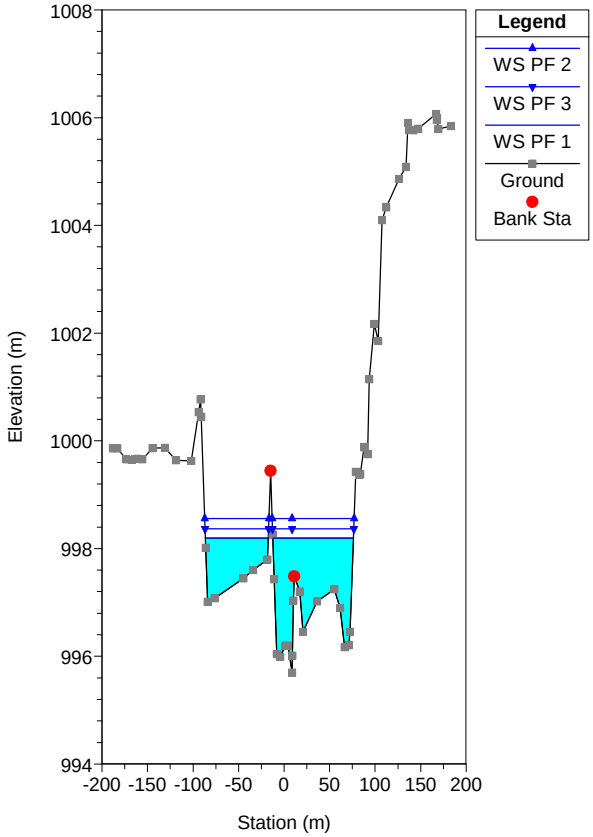
River = 1 Reach = a RS = 100

PROFILO IDRAULICO DORA RIPARIA



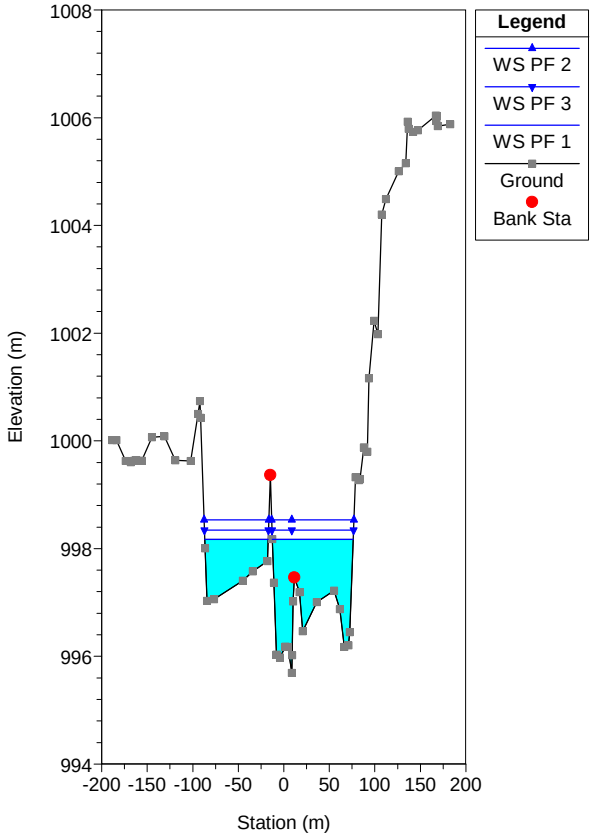

River = 1 Reach = a RS = 99.688*

PROFILO IDRAULICO DORA RIPARIA



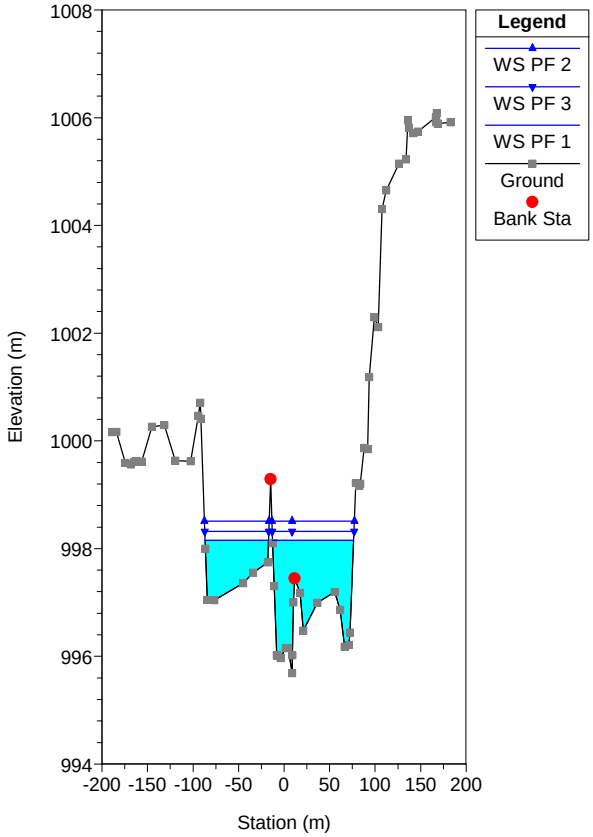

River = 1 Reach = a RS = 99.375*

PROFILO IDRAULICO DORA RIPARIA



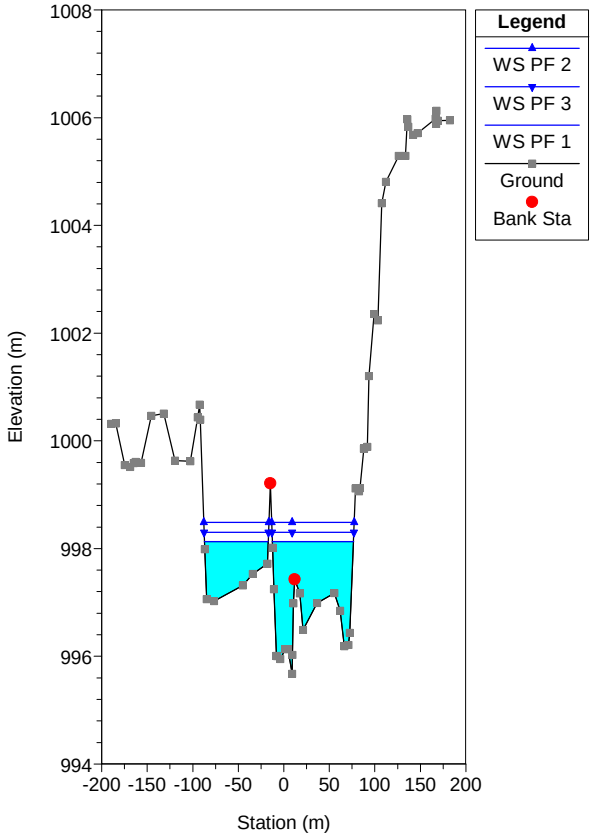

River = 1 Reach = a RS = 99.063*

PROFILO IDRAULICO DORA RIPARIA



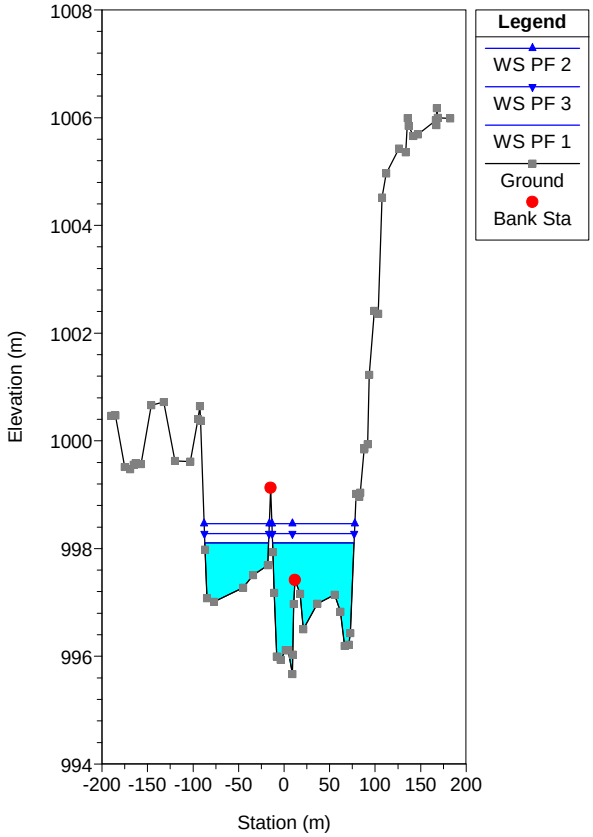
River = 1 Reach = a RS = 98.750*

PROFILO IDRAULICO DORA RIPARIA



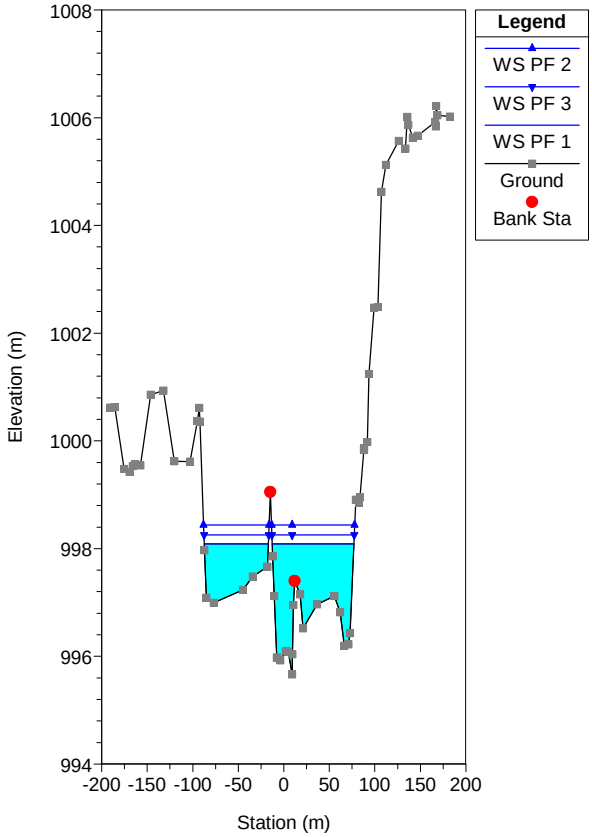

River = 1 Reach = a RS = 98.438*

PROFILO IDRAULICO DORA RIPARIA



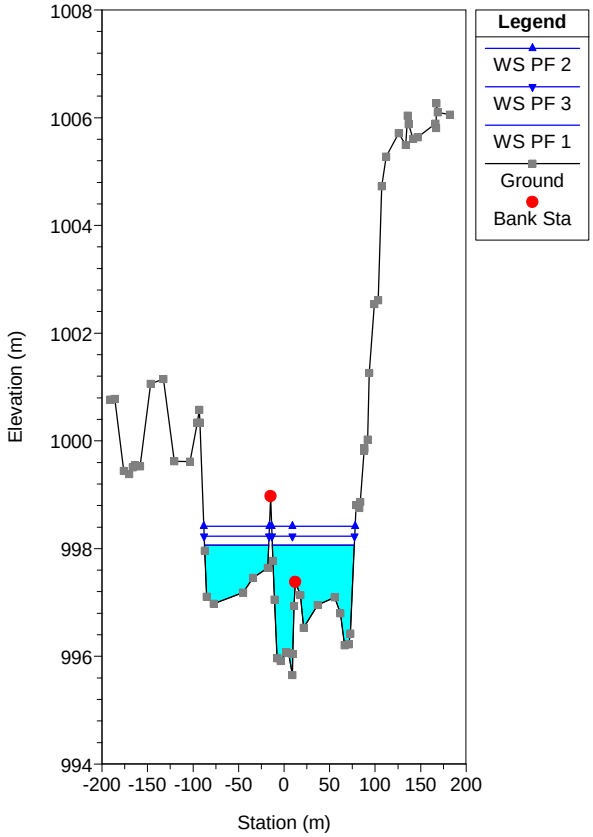

River = 1 Reach = a RS = 98.125*

PROFILO IDRAULICO DORA RIPARIA



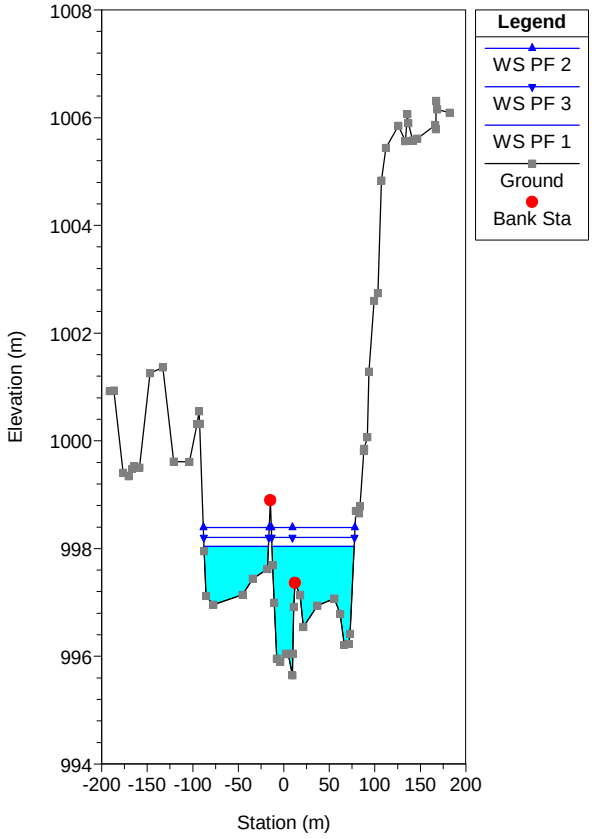

River = 1 Reach = a RS = 97.813*

PROFILO IDRAULICO DORA RIPARIA



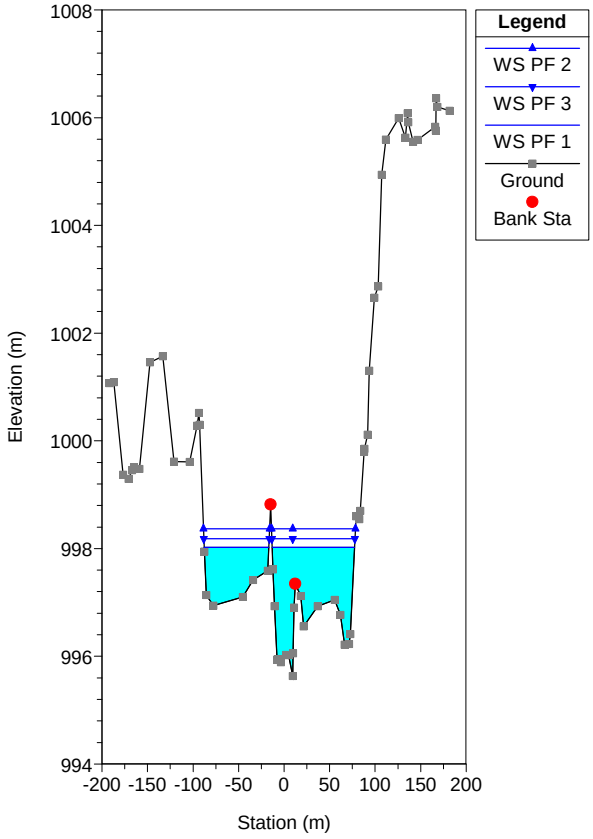
River = 1 Reach = a RS = 97.500*

PROFILO IDRAULICO DORA RIPARIA



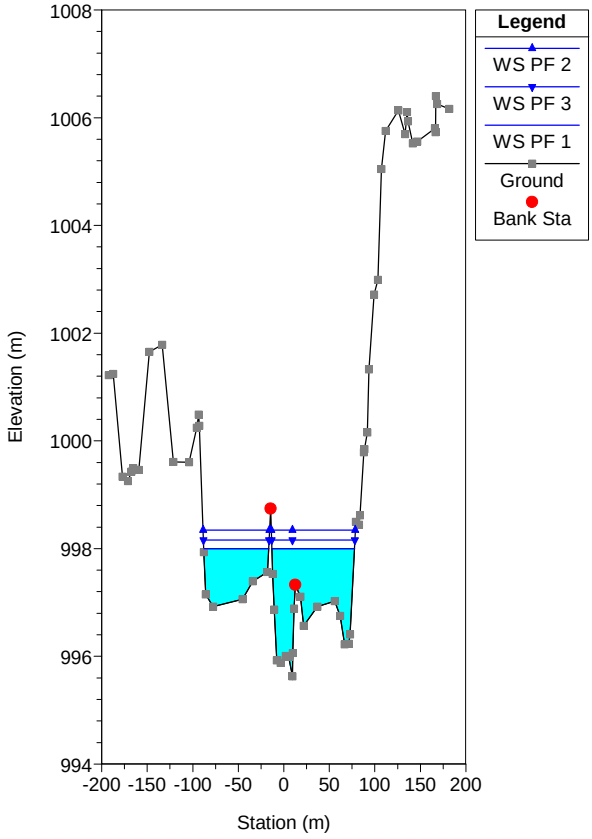

River = 1 Reach = a RS = 97.188*

PROFILO IDRAULICO DORA RIPARIA



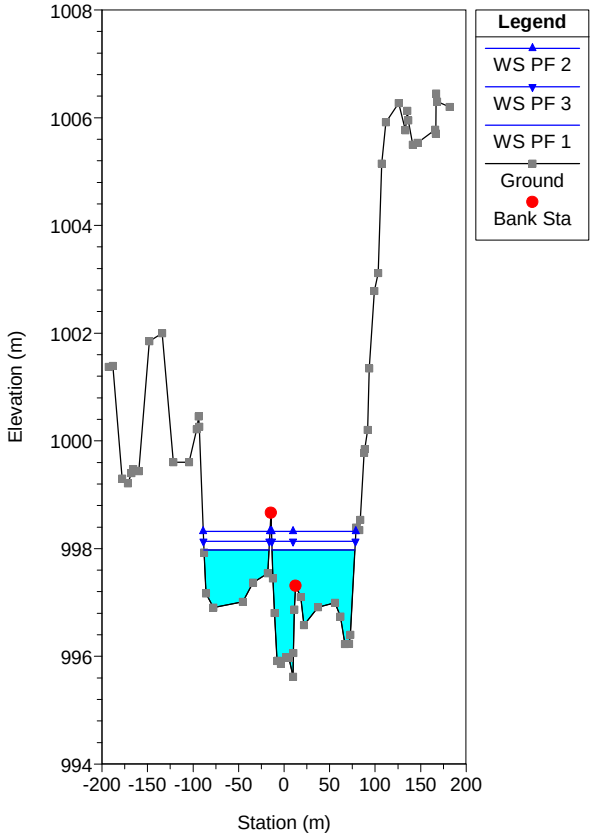

River = 1 Reach = a RS = 96.875*

PROFILO IDRAULICO DORA RIPARIA



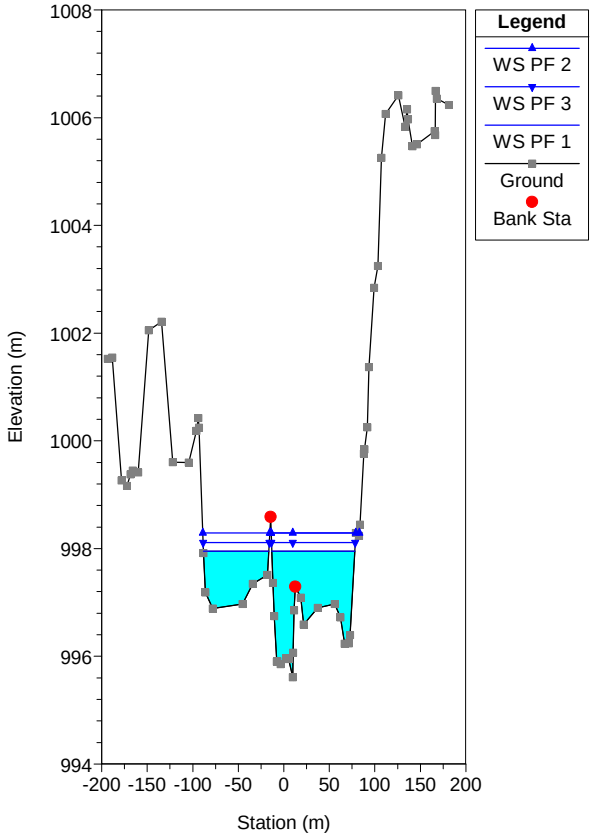

River = 1 Reach = a RS = 96.563*

PROFILO IDRAULICO DORA RIPARIA



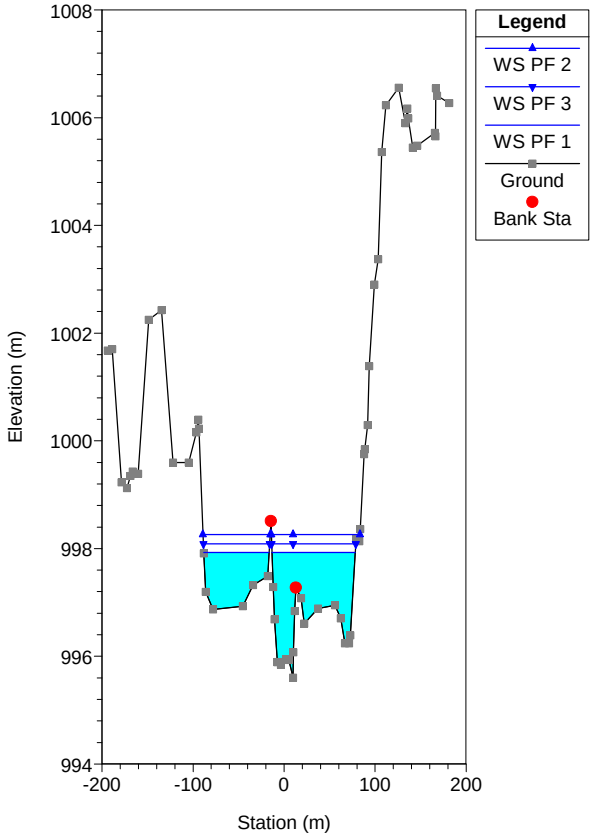
River = 1 Reach = a RS = 96.250*

PROFILO IDRAULICO DORA RIPARIA



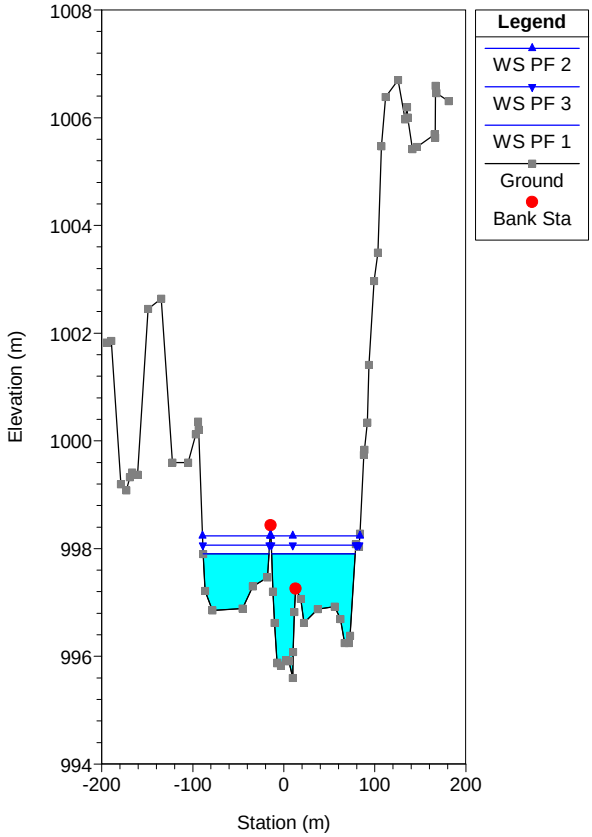

River = 1 Reach = a RS = 95.938*

PROFILO IDRAULICO DORA RIPARIA



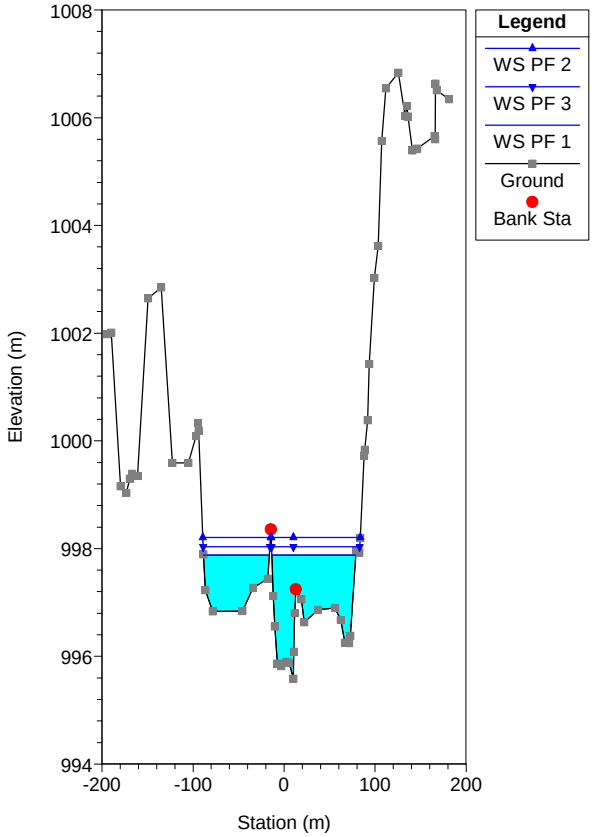

River = 1 Reach = a RS = 95.625*

PROFILO IDRAULICO DORA RIPARIA



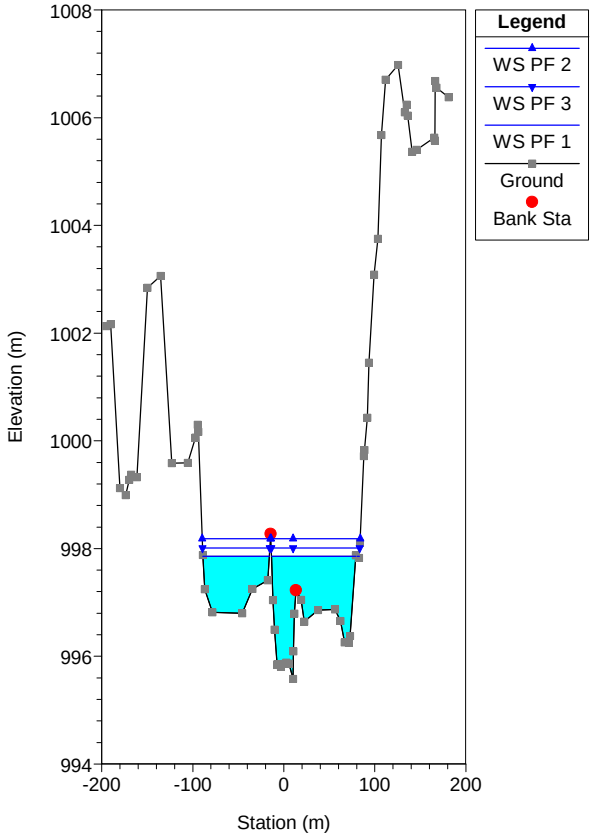

River = 1 Reach = a RS = 95.313*

PROFILO IDRAULICO DORA RIPARIA



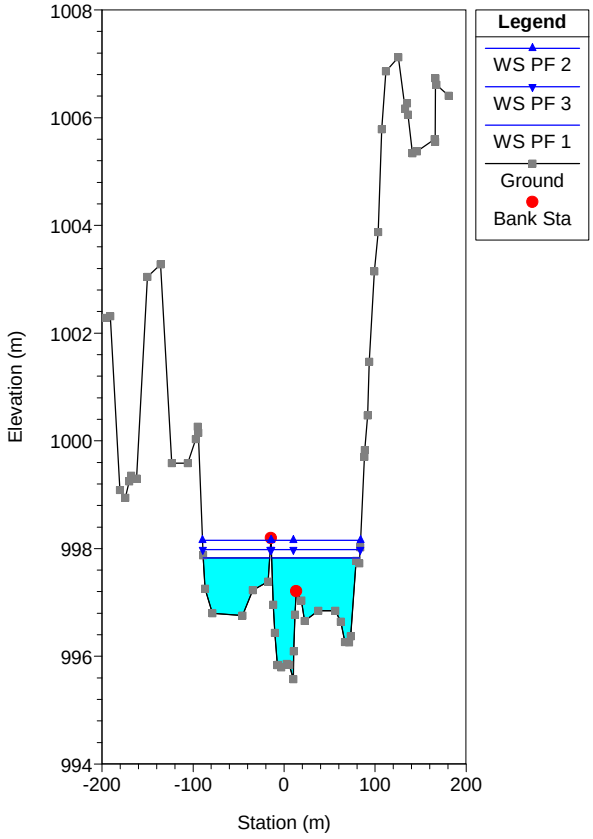
River = 1 Reach = a RS = 95.000*

PROFILO IDRAULICO DORA RIPARIA



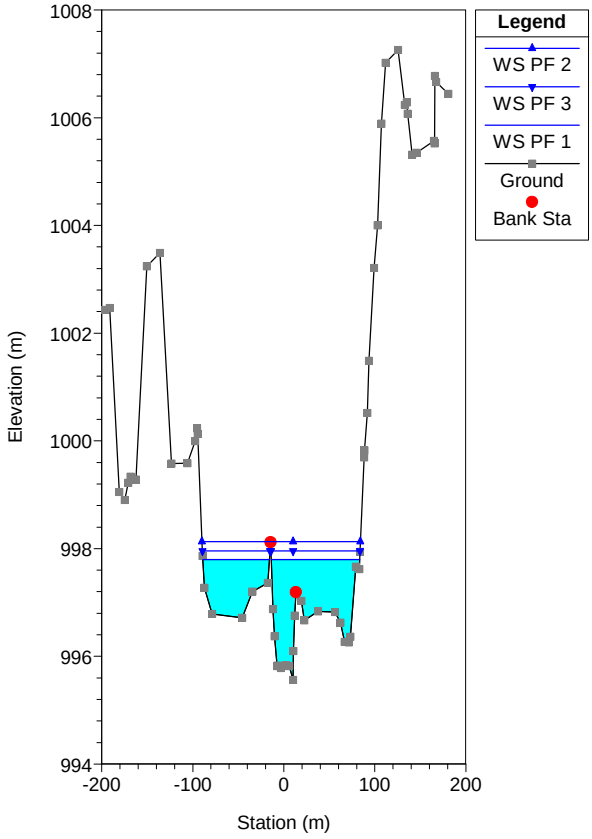

River = 1 Reach = a RS = 94.688*

PROFILO IDRAULICO DORA RIPARIA



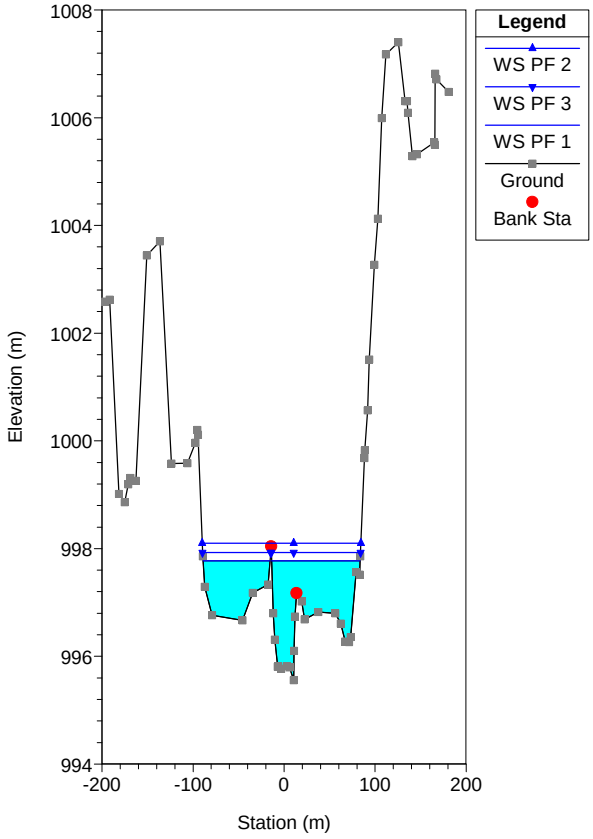

River = 1 Reach = a RS = 94.375*

PROFILO IDRAULICO DORA RIPARIA



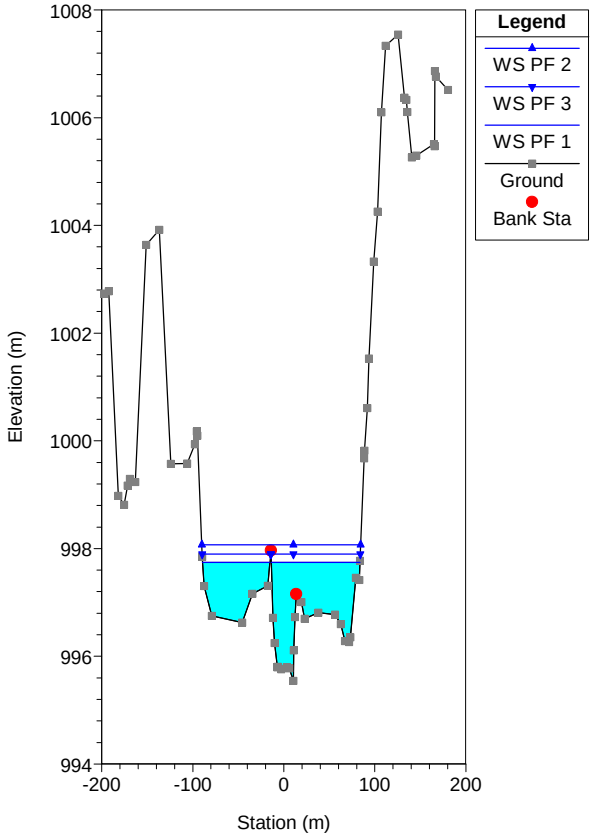

River = 1 Reach = a RS = 94.063*

PROFILO IDRAULICO DORA RIPARIA



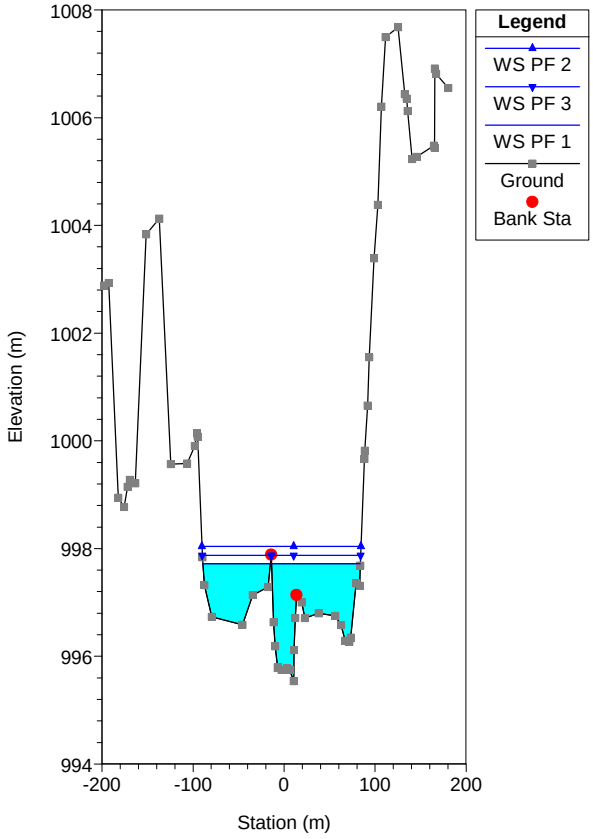
River = 1 Reach = a RS = 93.750*

PROFILO IDRAULICO DORA RIPARIA



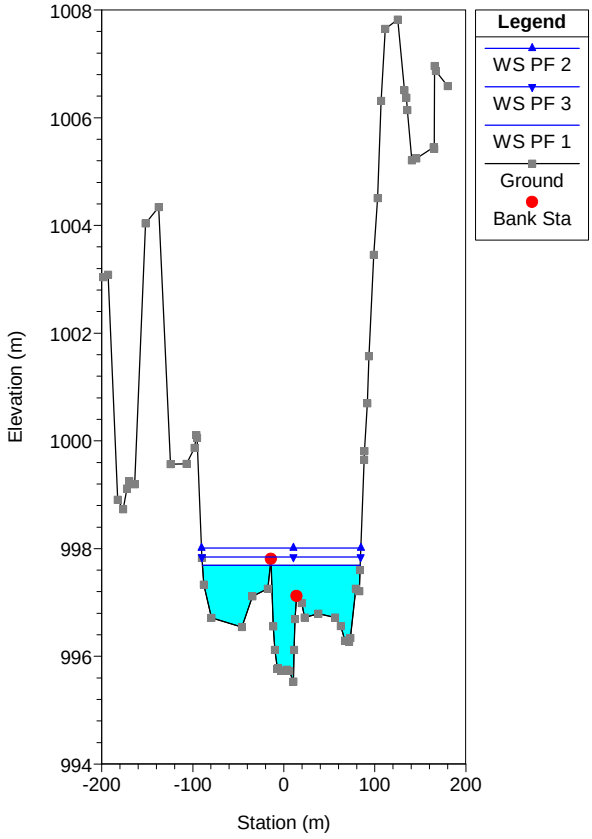

River = 1 Reach = a RS = 93.438*

PROFILO IDRAULICO DORA RIPARIA



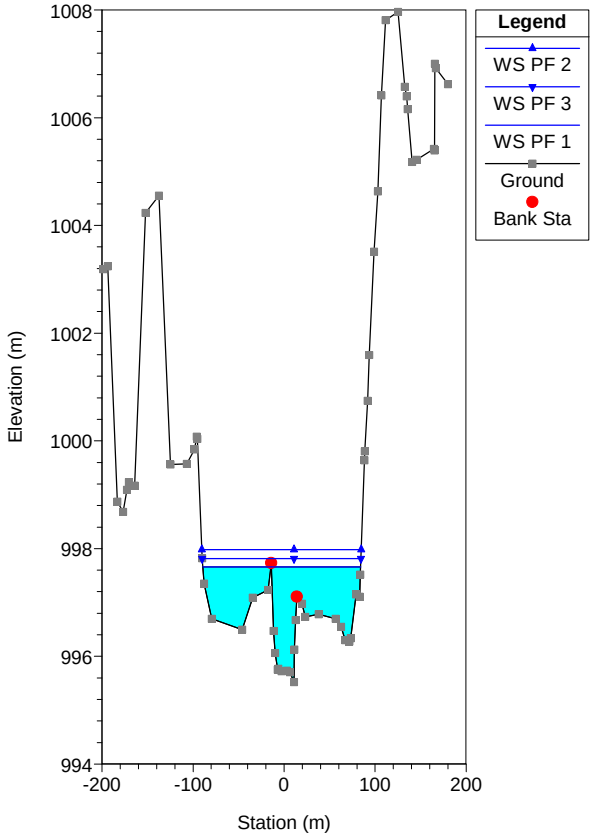

River = 1 Reach = a RS = 93.125*

PROFILO IDRAULICO DORA RIPARIA



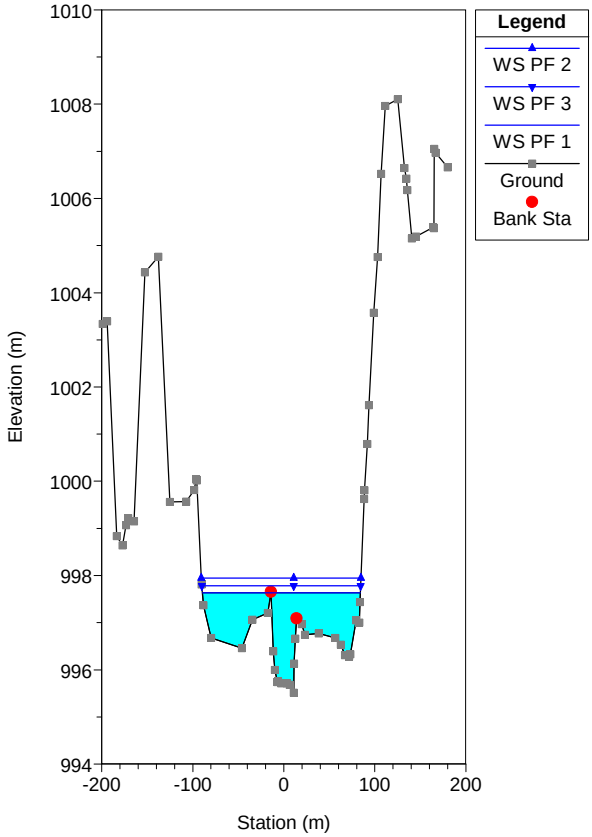

River = 1 Reach = a RS = 92.813*

PROFILO IDRAULICO DORA RIPARIA



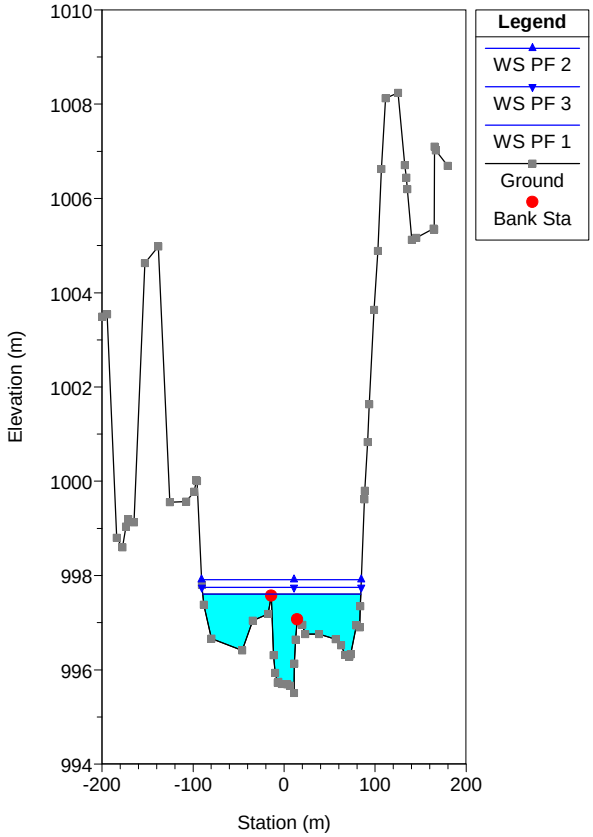
River = 1 Reach = a RS = 92.500*

PROFILO IDRAULICO DORA RIPARIA



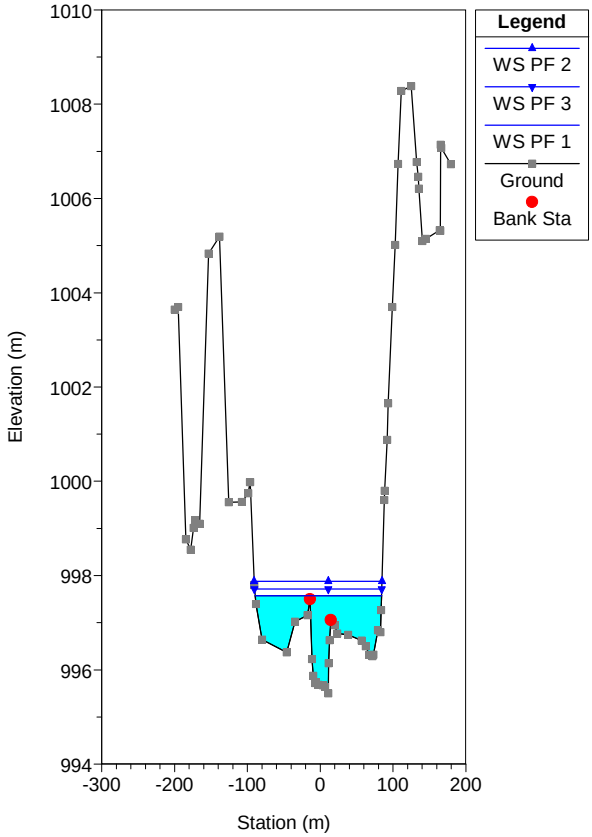

River = 1 Reach = a RS = 92.188*

PROFILO IDRAULICO DORA RIPARIA



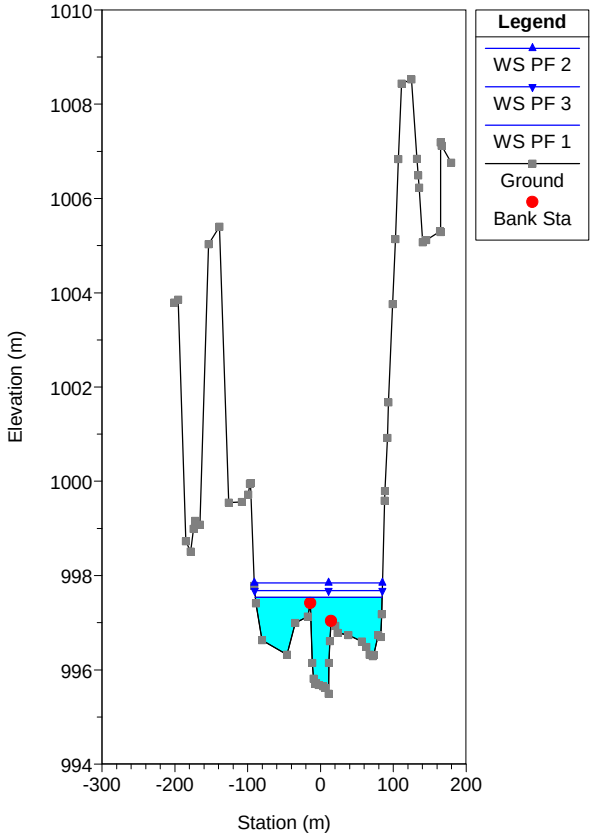

River = 1 Reach = a RS = 91.875*

PROFILO IDRAULICO DORA RIPARIA



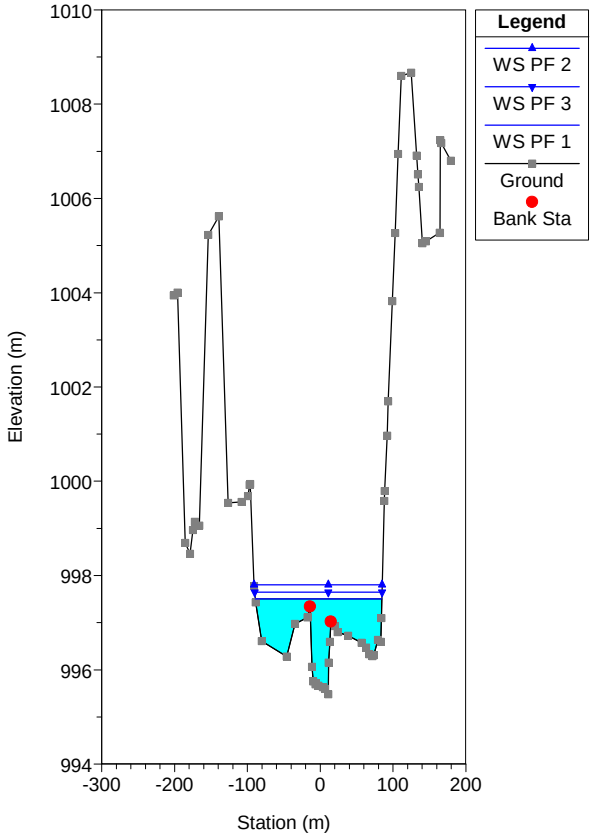

River = 1 Reach = a RS = 91.563*

PROFILO IDRAULICO DORA RIPARIA



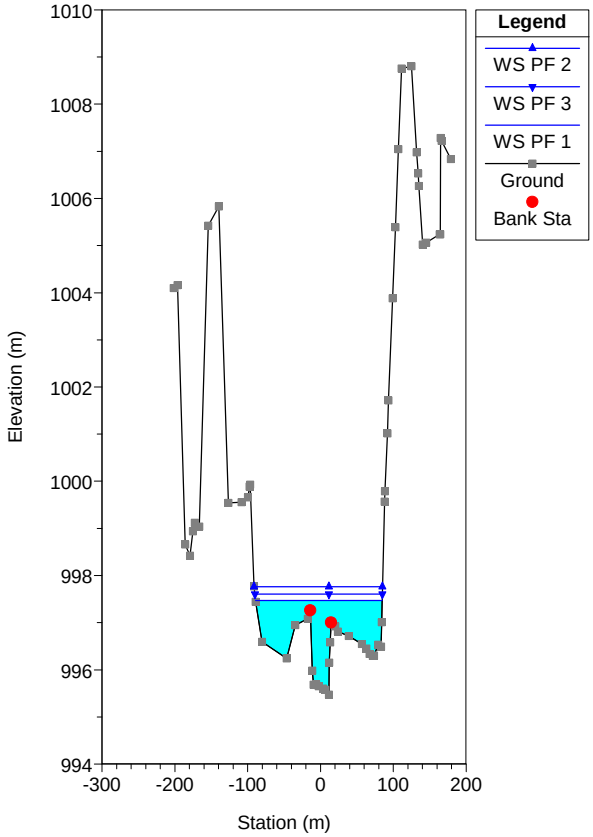
River = 1 Reach = a RS = 91.250*

PROFILO IDRAULICO DORA RIPARIA



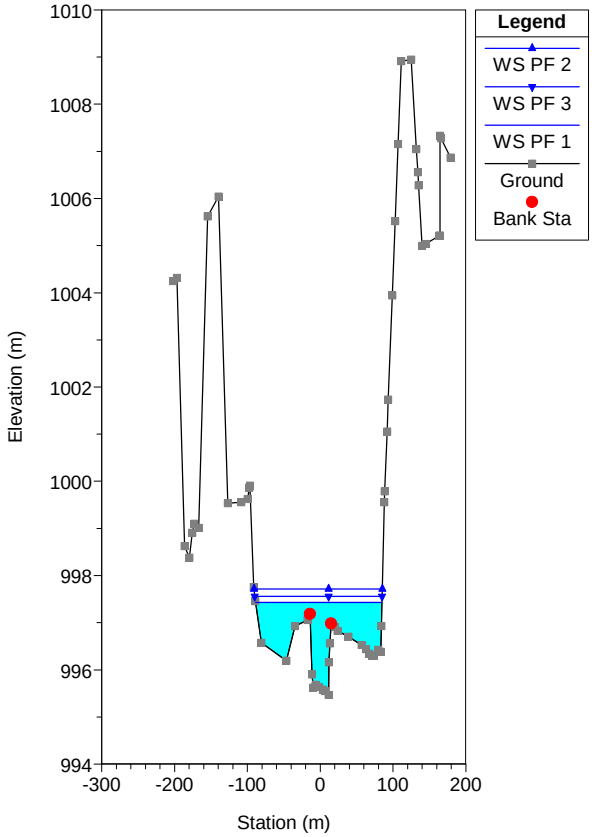

River = 1 Reach = a RS = 90.938*

PROFILO IDRAULICO DORA RIPARIA



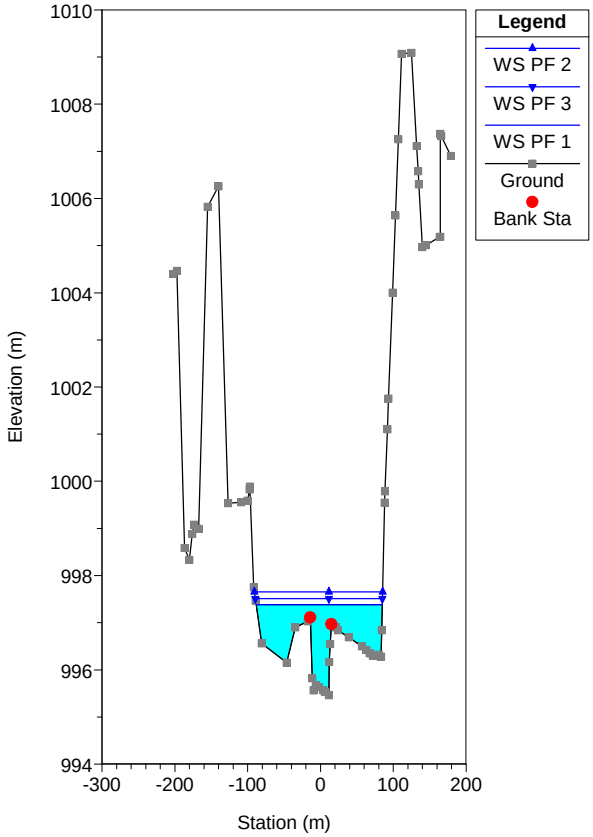

River = 1 Reach = a RS = 90.625*

PROFILO IDRAULICO DORA RIPARIA



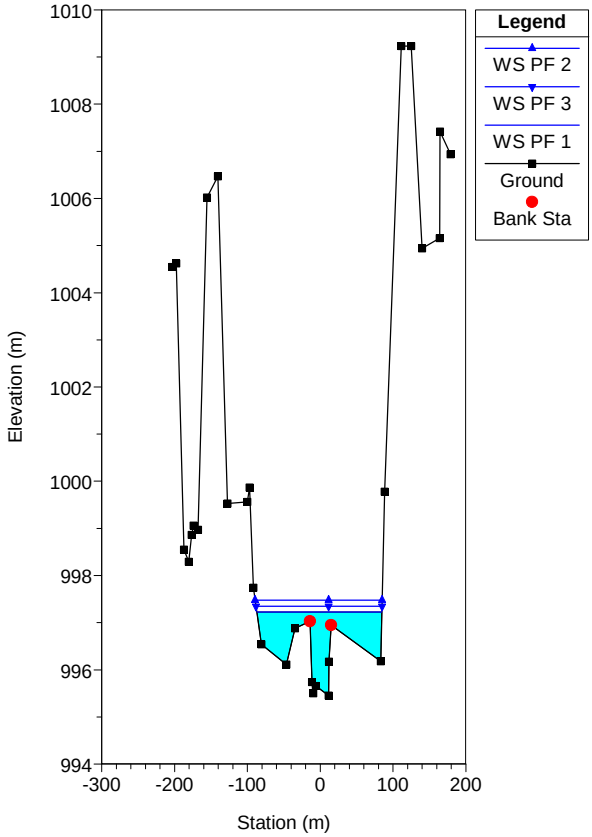

River = 1 Reach = a RS = 90.313*

PROFILO IDRAULICO DORA RIPARIA



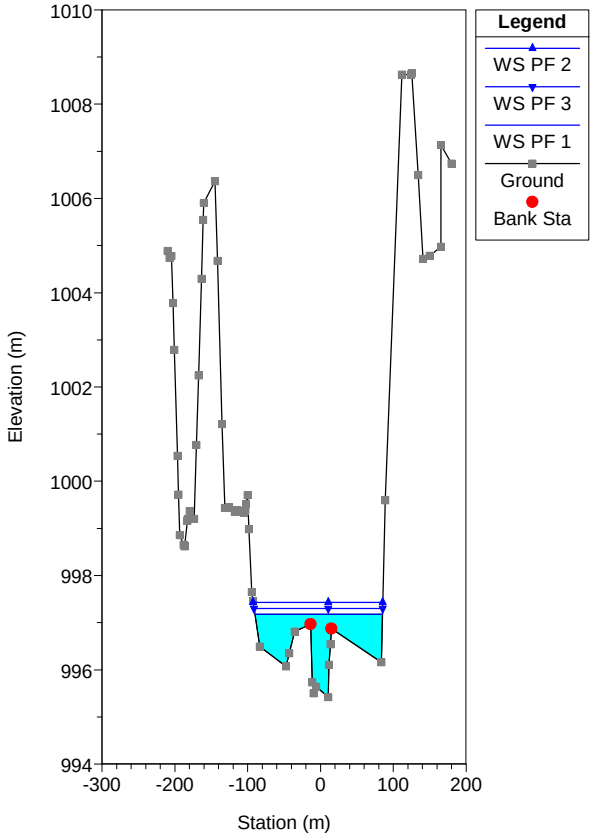
River = 1 Reach = a RS = 90

PROFILO IDRAULICO DORA RIPARIA



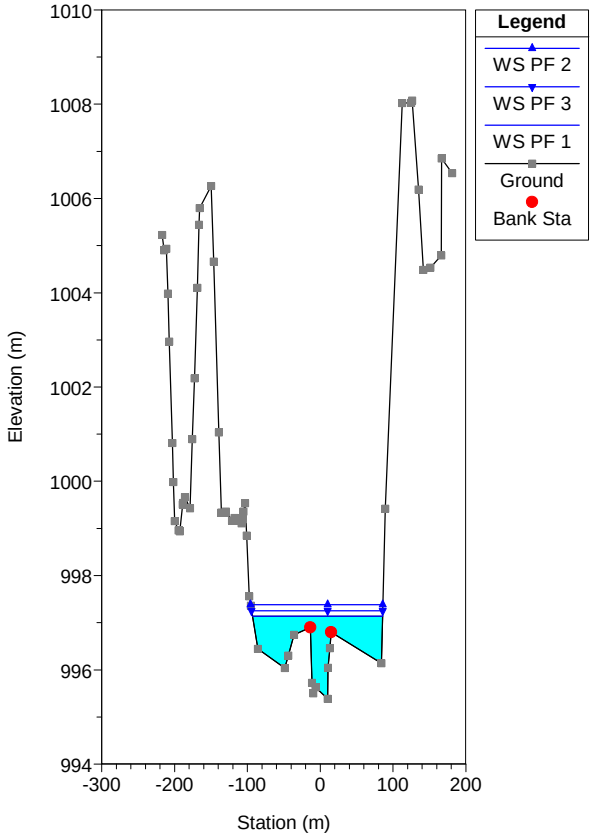

River = 1 Reach = a RS = 89.545*

PROFILO IDRAULICO DORA RIPARIA



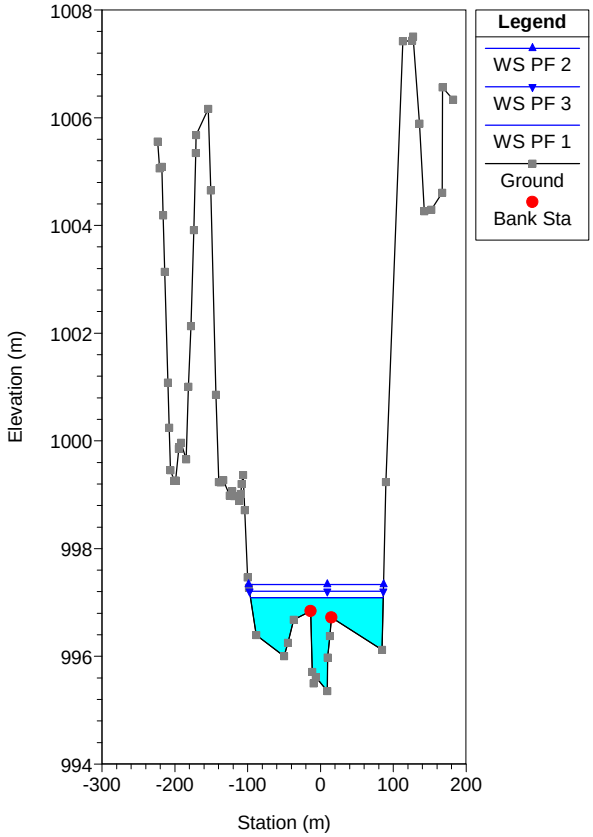

River = 1 Reach = a RS = 89.091*

PROFILO IDRAULICO DORA RIPARIA



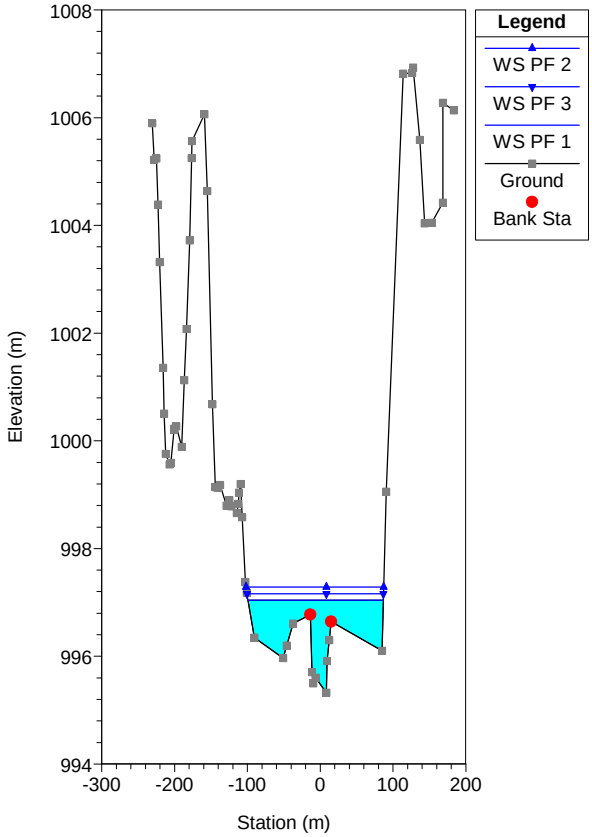

River = 1 Reach = a RS = 88.636*

PROFILO IDRAULICO DORA RIPARIA



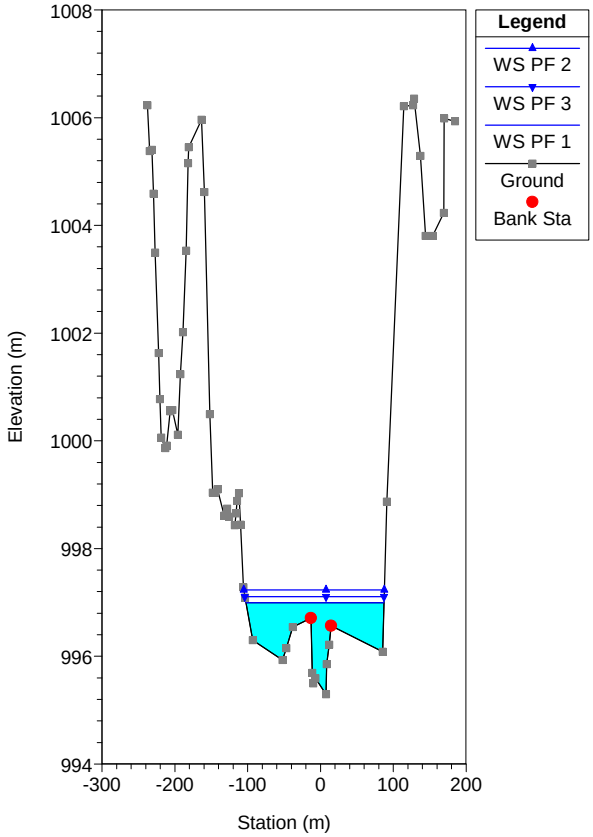
River = 1 Reach = a RS = 88.182*

PROFILO IDRAULICO DORA RIPARIA



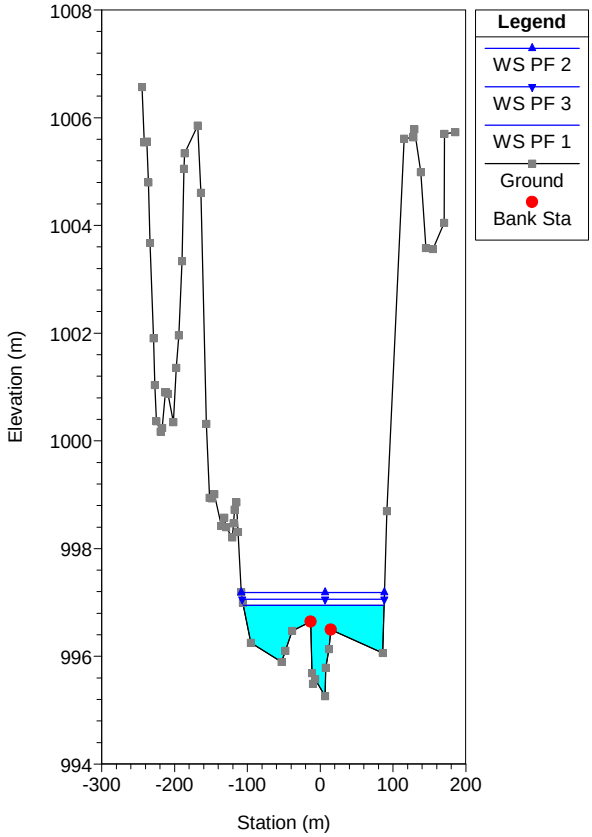

River = 1 Reach = a RS = 87.727*

PROFILO IDRAULICO DORA RIPARIA



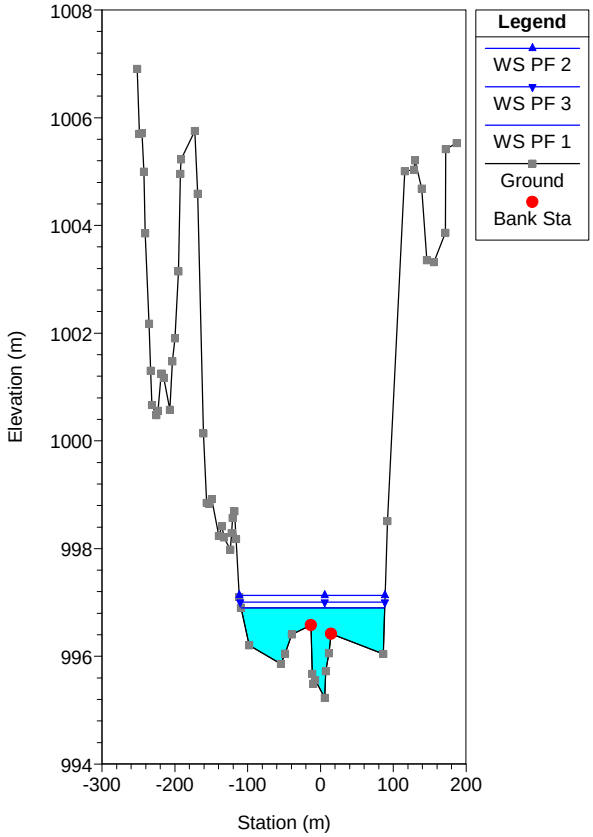

River = 1 Reach = a RS = 87.273*

PROFILO IDRAULICO DORA RIPARIA



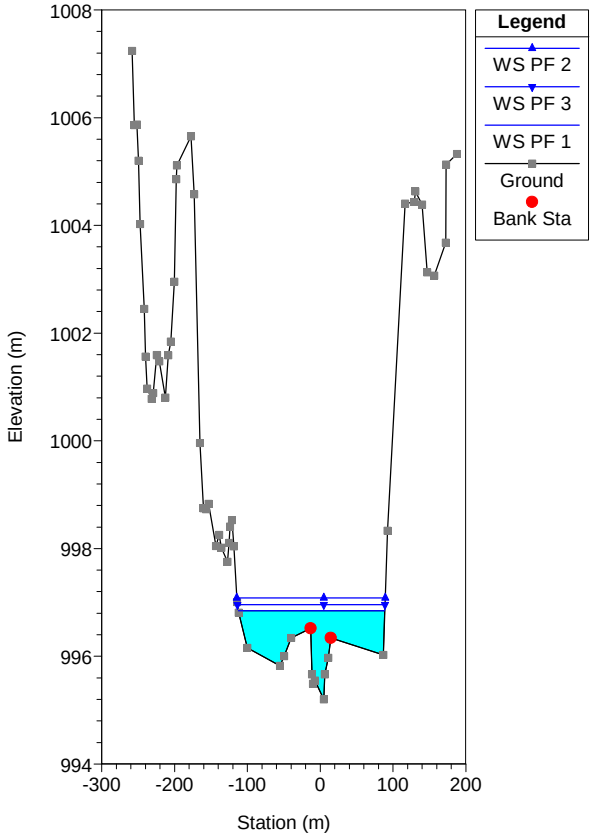

River = 1 Reach = a RS = 86.818*

PROFILO IDRAULICO DORA RIPARIA



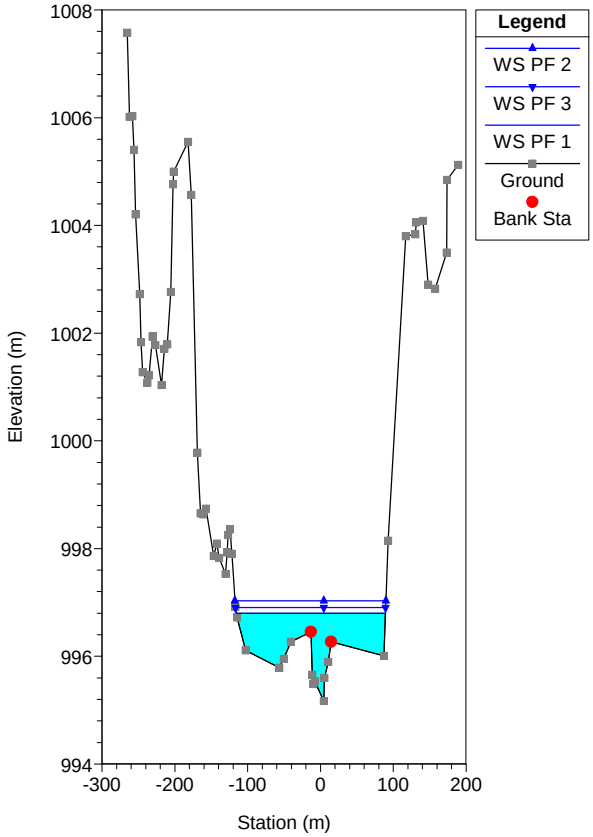
River = 1 Reach = a RS = 86.364*

PROFILO IDRAULICO DORA RIPARIA



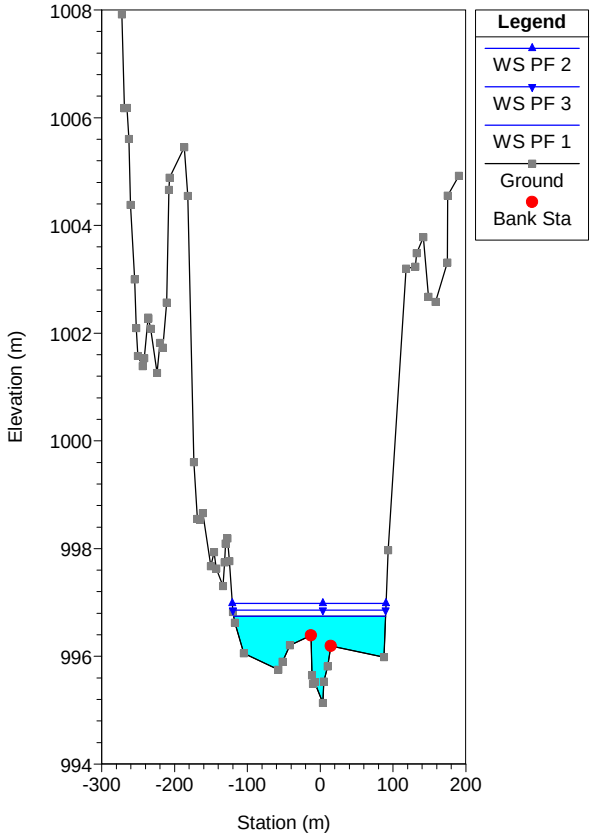

River = 1 Reach = a RS = 85.909*

PROFILO IDRAULICO DORA RIPARIA



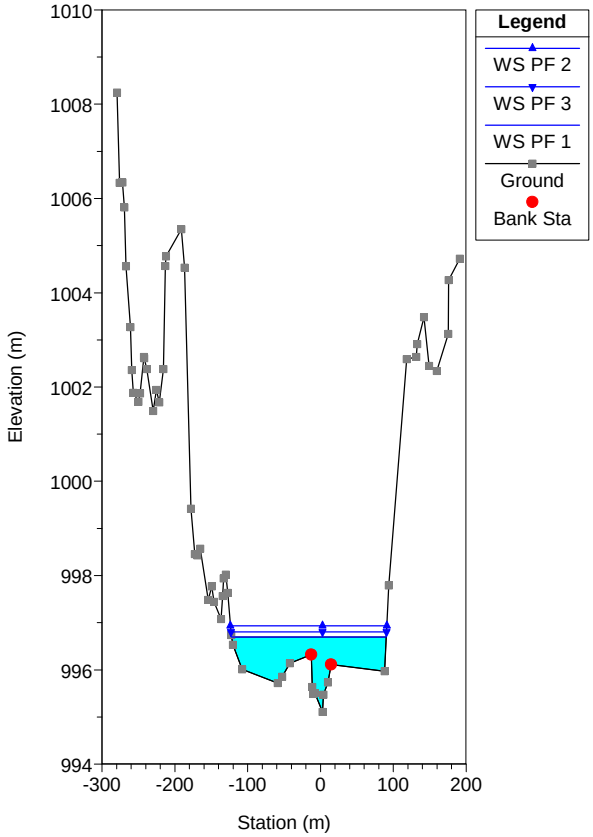

River = 1 Reach = a RS = 85.455*

PROFILO IDRAULICO DORA RIPARIA



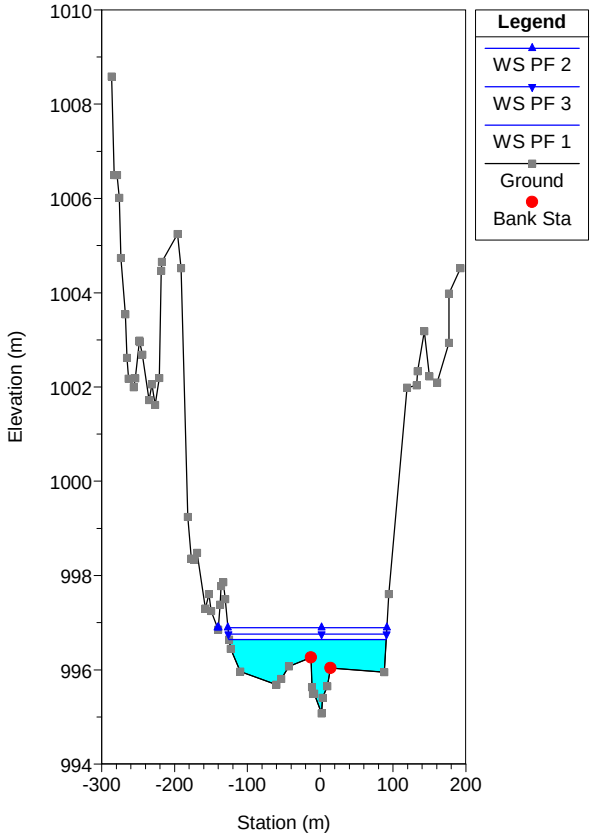

River = 1 Reach = a RS = 85.000*

PROFILO IDRAULICO DORA RIPARIA



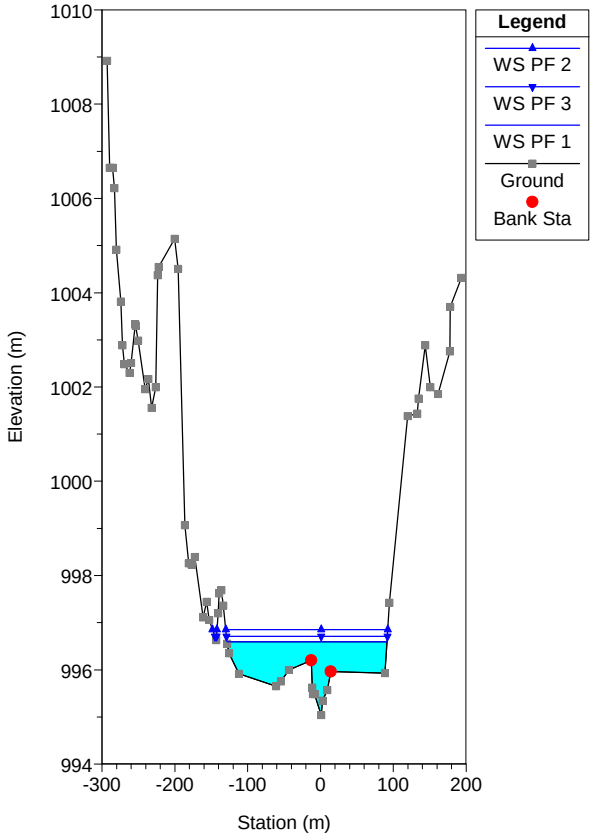
River = 1 Reach = a RS = 84.545*

PROFILO IDRAULICO DORA RIPARIA



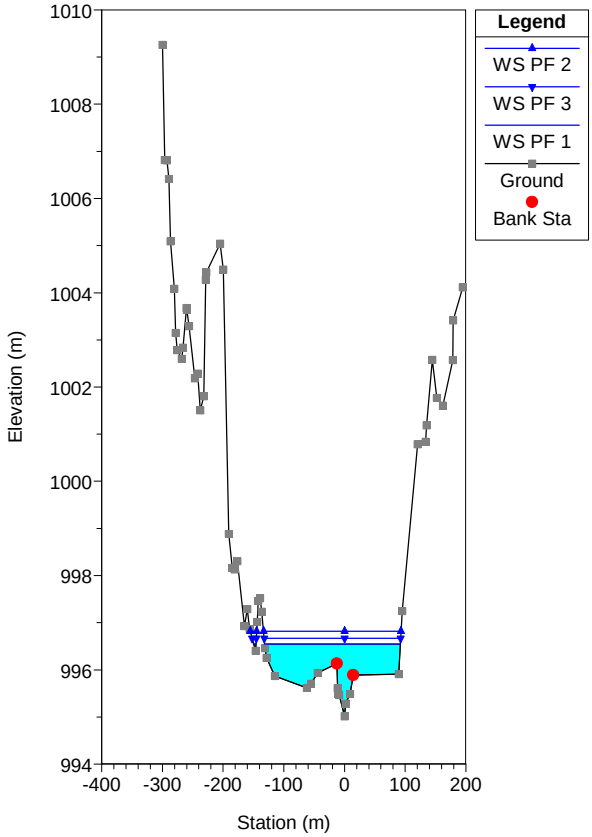

River = 1 Reach = a RS = 84.091*

PROFILO IDRAULICO DORA RIPARIA



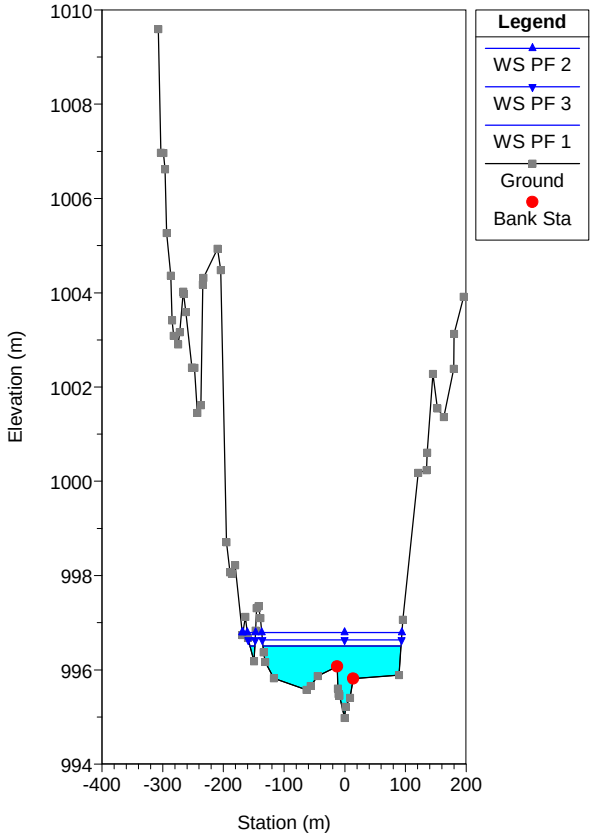

River = 1 Reach = a RS = 83.636*

PROFILO IDRAULICO DORA RIPARIA



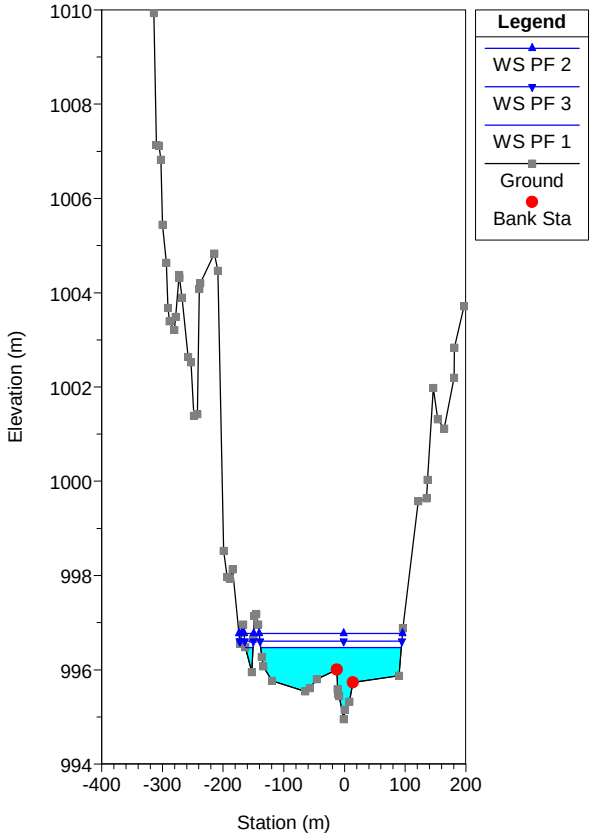

River = 1 Reach = a RS = 83.182*

PROFILO IDRAULICO DORA RIPARIA



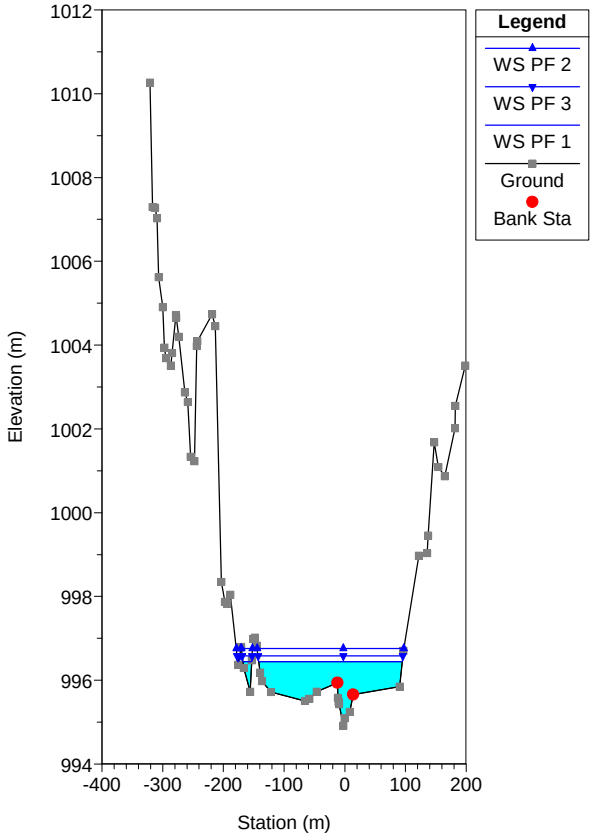
River = 1 Reach = a RS = 82.727*

PROFILO IDRAULICO DORA RIPARIA



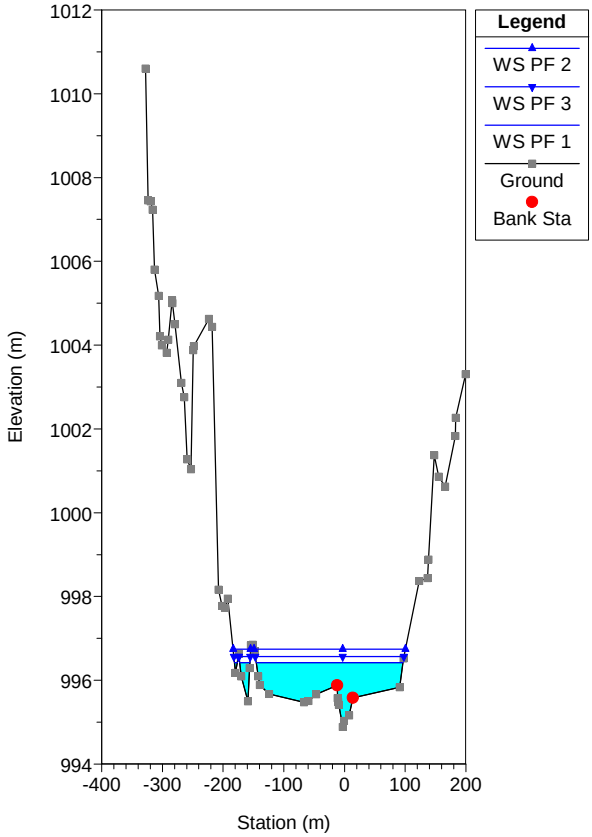

River = 1 Reach = a RS = 82.273*

PROFILO IDRAULICO DORA RIPARIA



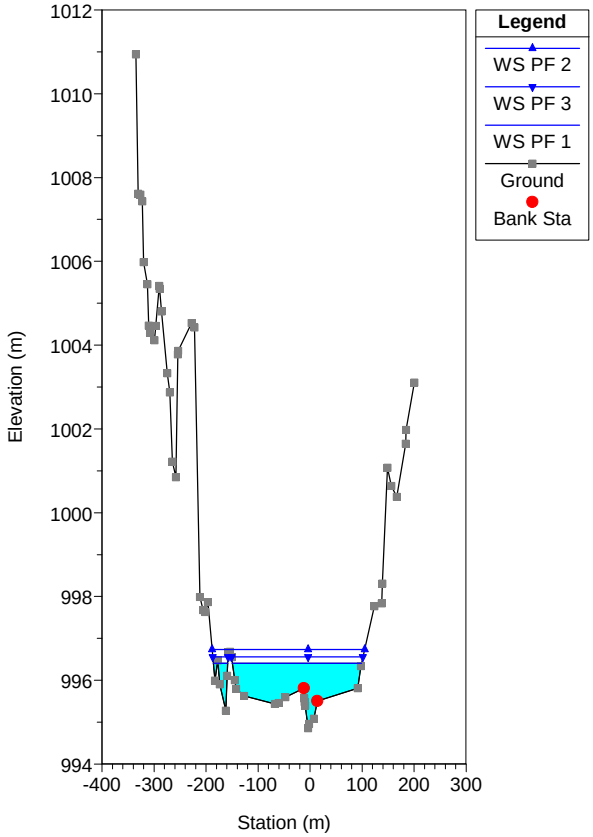

River = 1 Reach = a RS = 81.818*

PROFILO IDRAULICO DORA RIPARIA



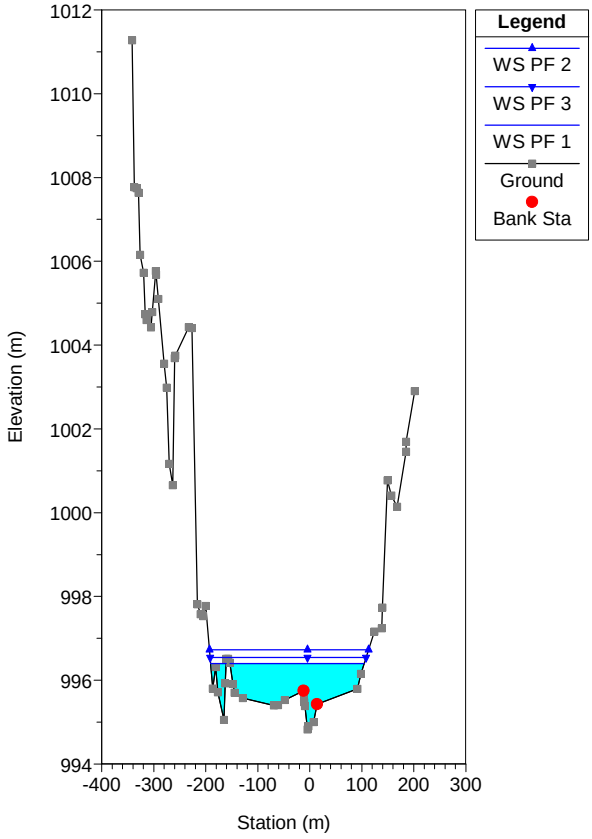

River = 1 Reach = a RS = 81.364*

PROFILO IDRAULICO DORA RIPARIA



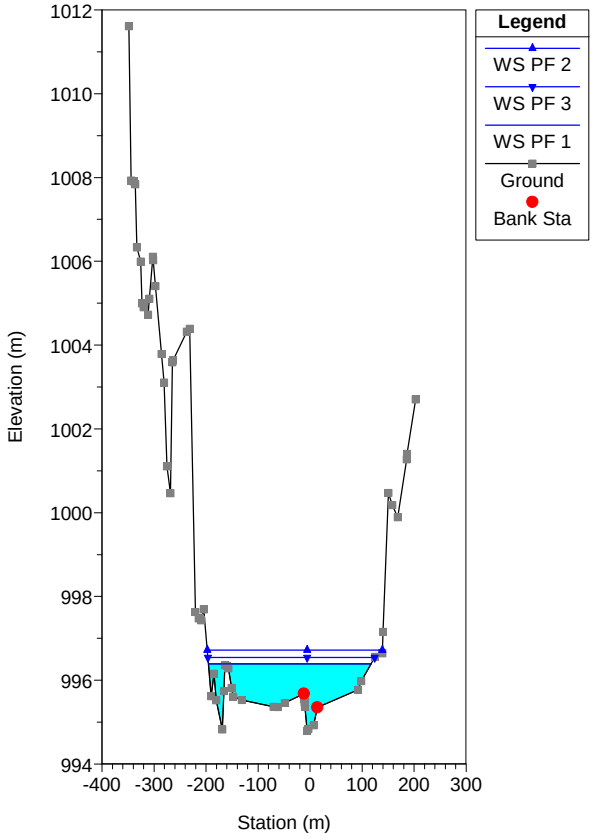
River = 1 Reach = a RS = 80.909*

PROFILO IDRAULICO DORA RIPARIA



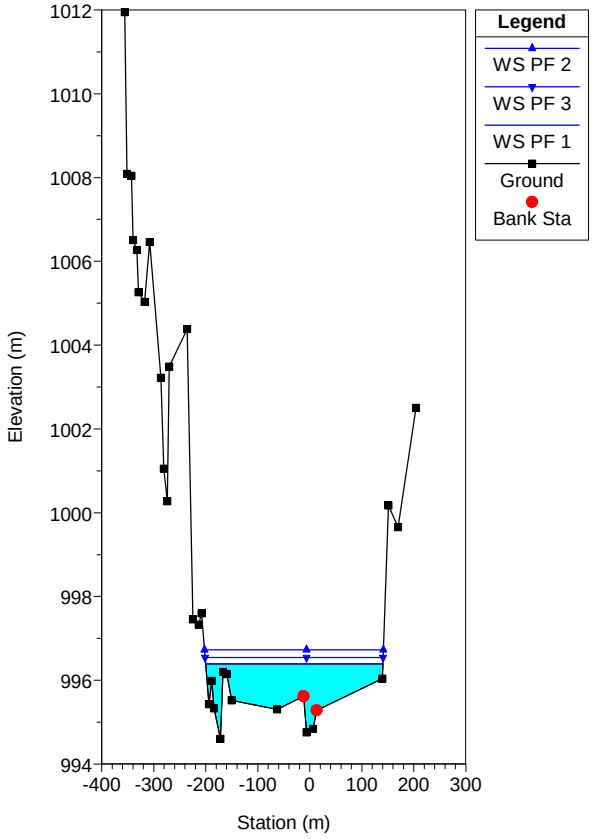

River = 1 Reach = a RS = 80.455*

PROFILO IDRAULICO DORA RIPARIA



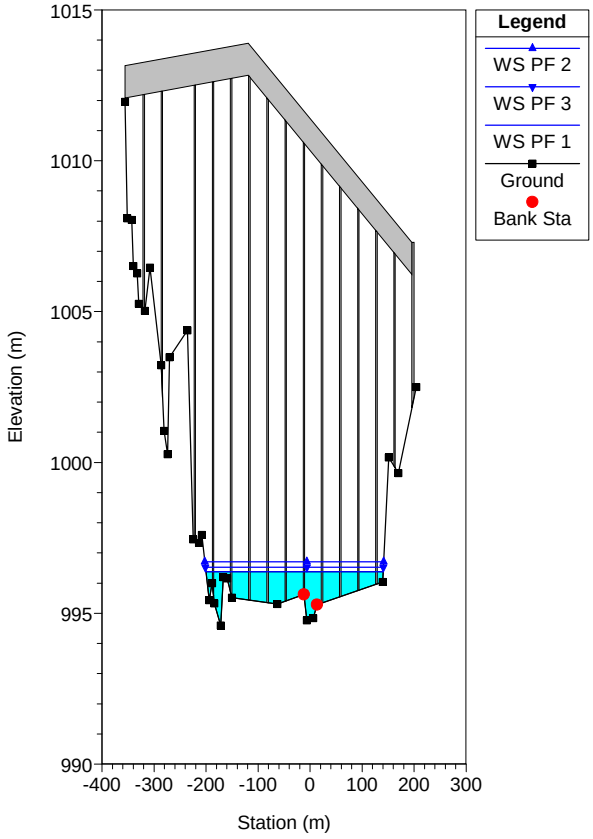

River = 1 Reach = a RS = 80

PROFILO IDRAULICO DORA RIPARIA



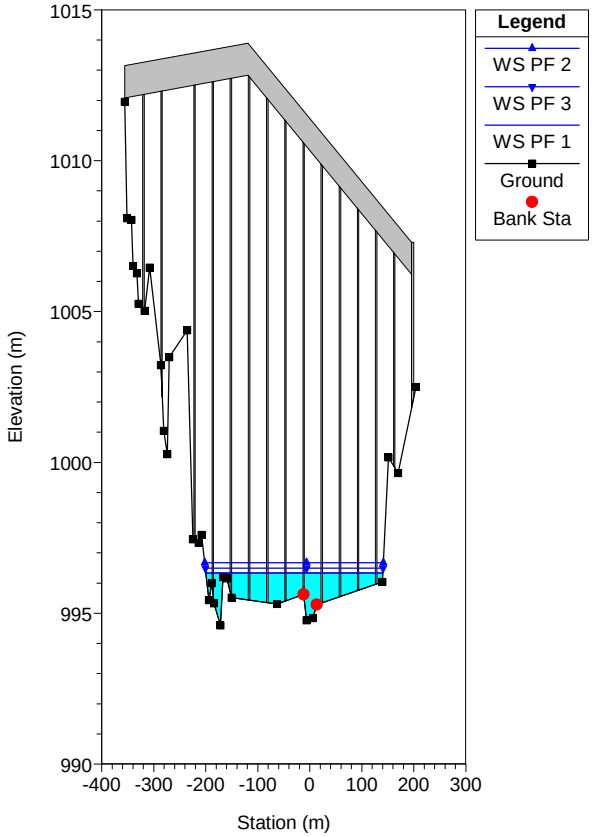

River = 1 Reach = a RS = 79 BR

PROFILO IDRAULICO DORA RIPARIA



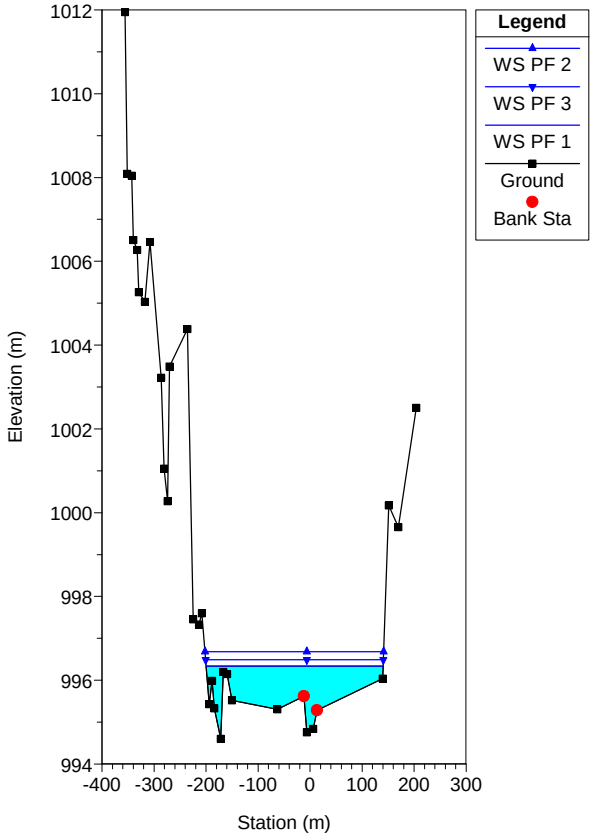
River = 1 Reach = a RS = 79 BR

PROFILO IDRAULICO DORA RIPARIA



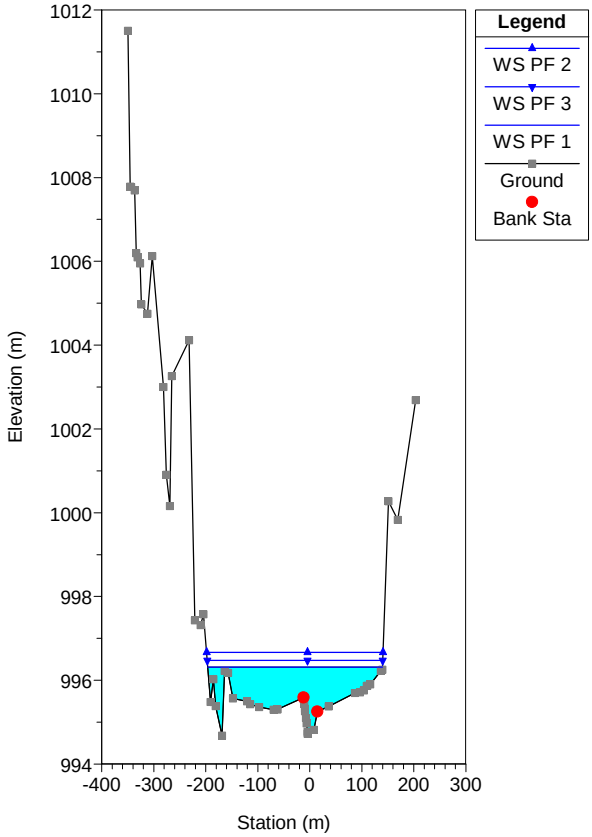

River = 1 Reach = a RS = 78

PROFILO IDRAULICO DORA RIPARIA



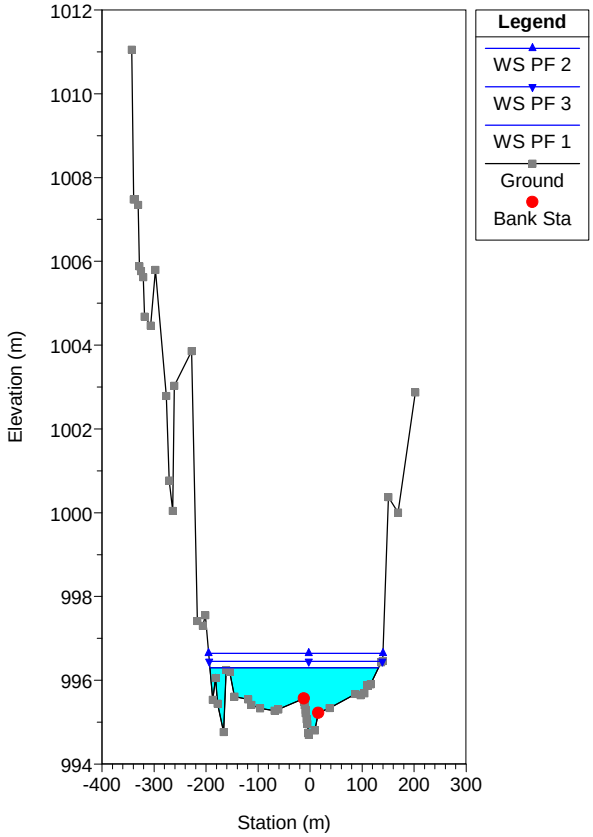

River = 1 Reach = a RS = 77.714*

PROFILO IDRAULICO DORA RIPARIA



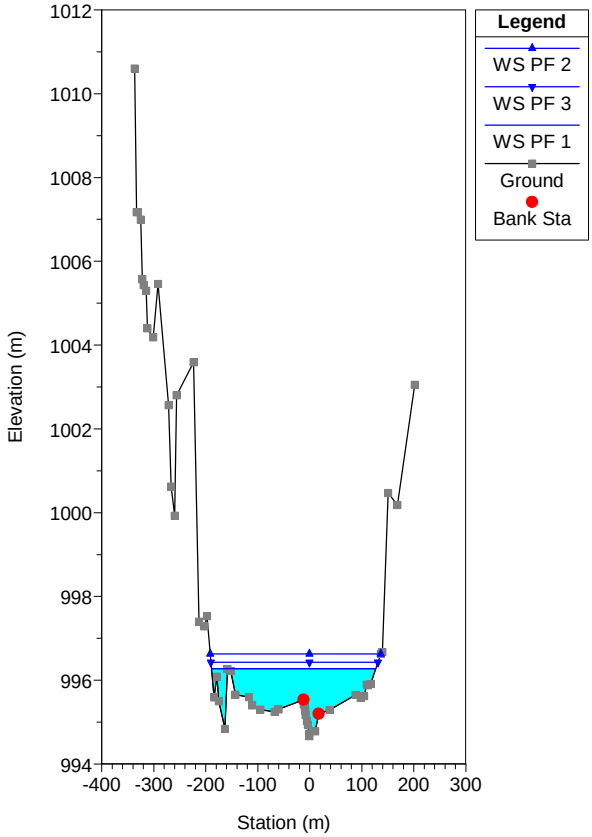

River = 1 Reach = a RS = 77.429*

PROFILO IDRAULICO DORA RIPARIA



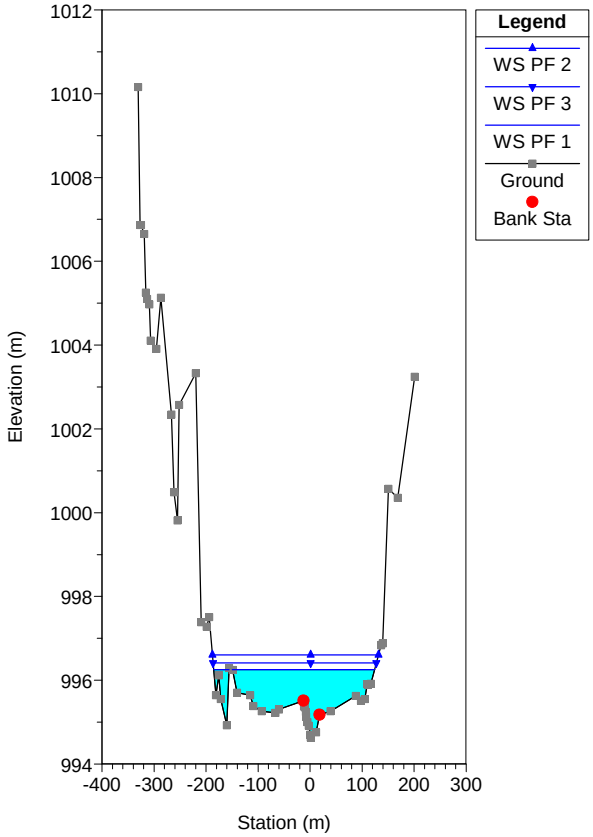
River = 1 Reach = a RS = 77.143*

PROFILO IDRAULICO DORA RIPARIA



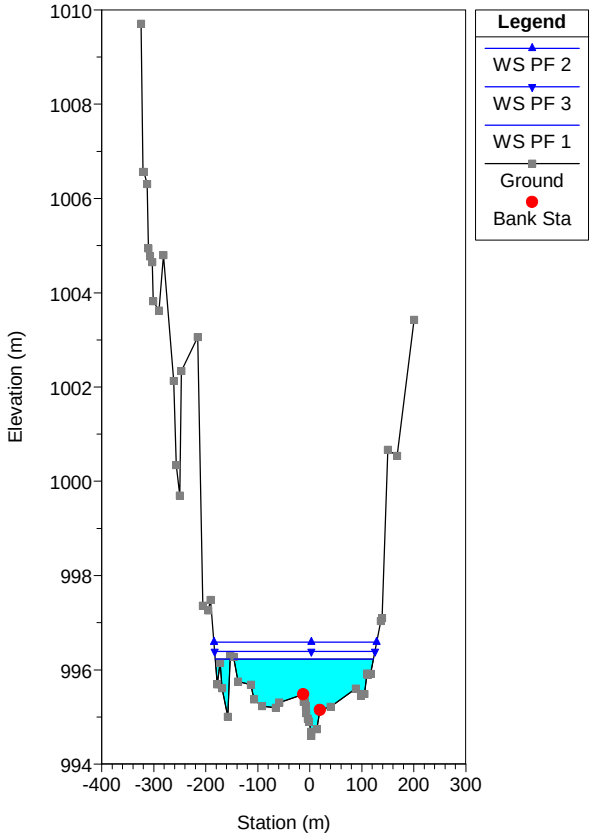

River = 1 Reach = a RS = 76.857*

PROFILO IDRAULICO DORA RIPARIA



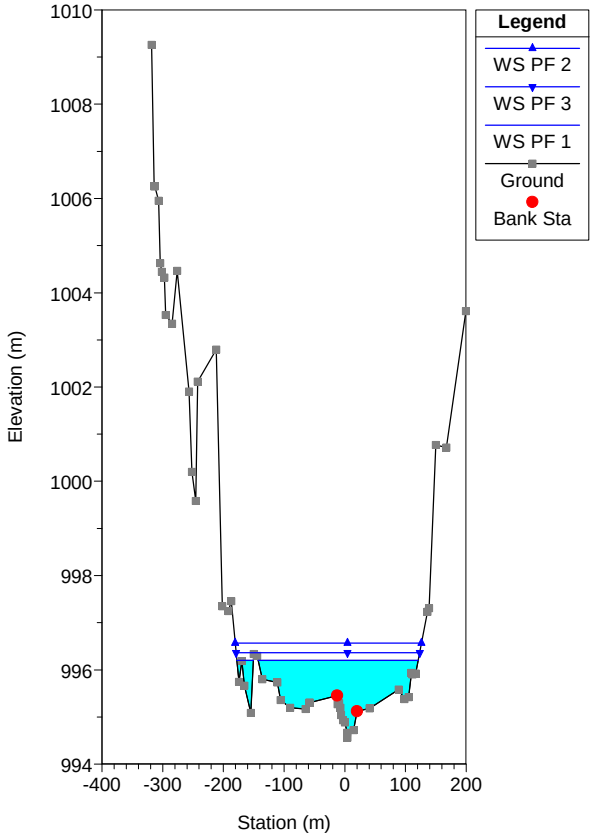

River = 1 Reach = a RS = 76.571*

PROFILO IDRAULICO DORA RIPARIA



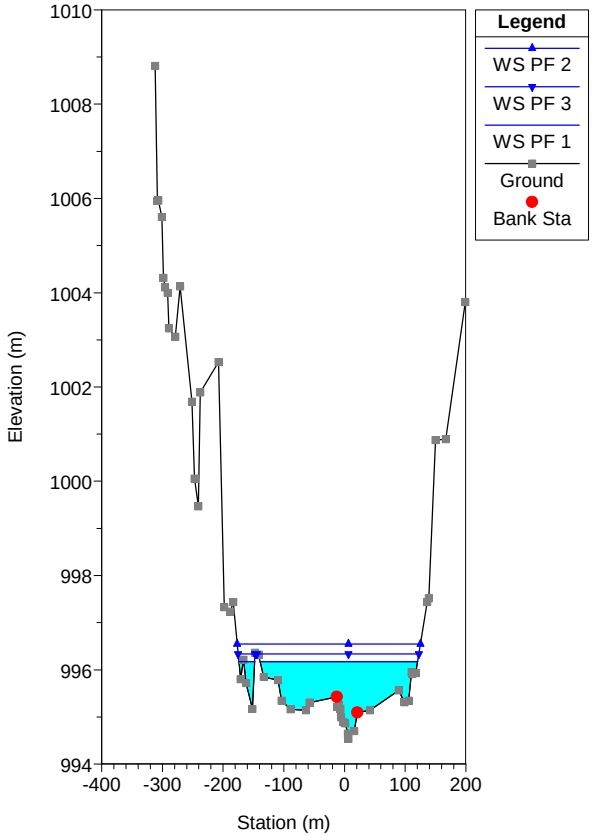

River = 1 Reach = a RS = 76.286*

PROFILO IDRAULICO DORA RIPARIA



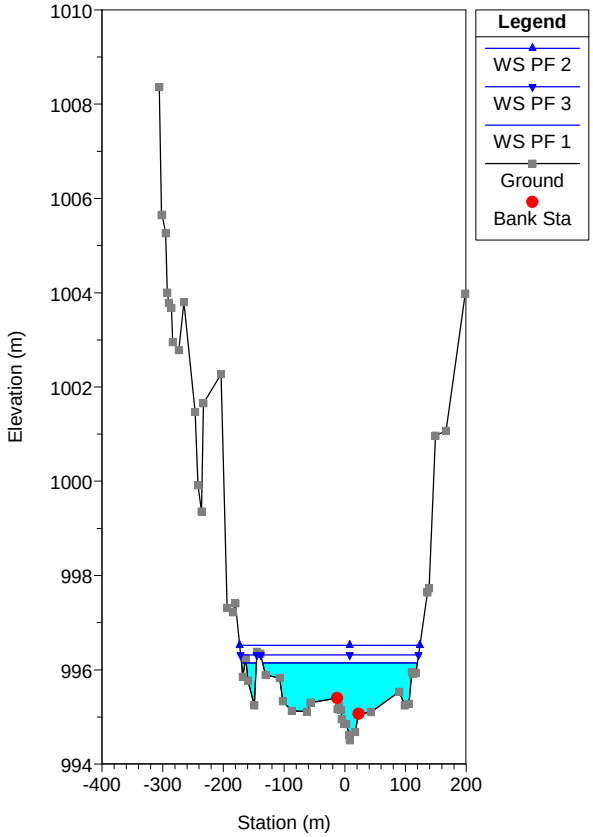
River = 1 Reach = a RS = 76.000*

PROFILO IDRAULICO DORA RIPARIA



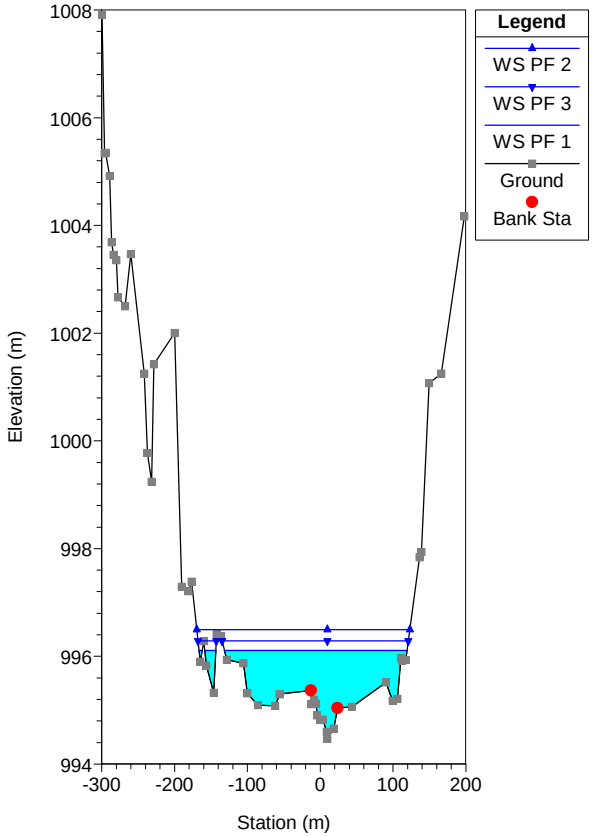

River = 1 Reach = a RS = 75.714*

PROFILO IDRAULICO DORA RIPARIA



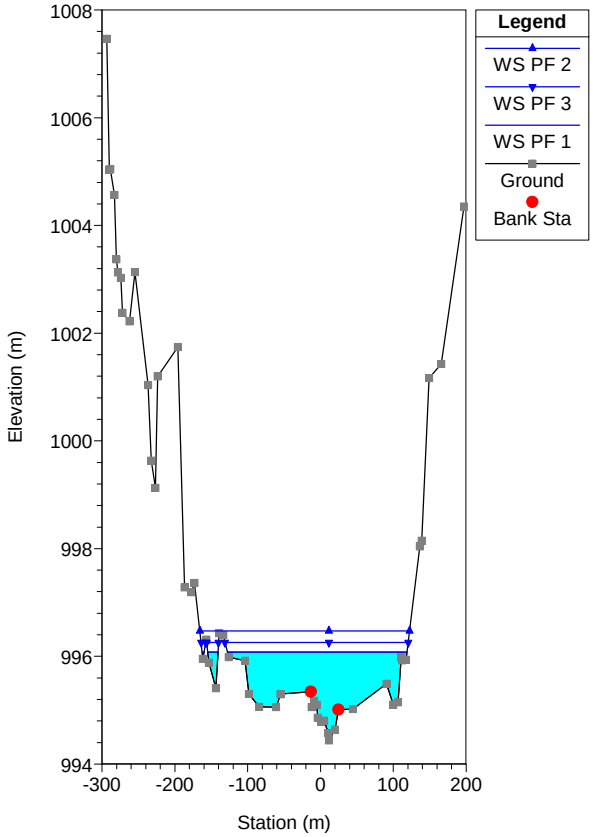

River = 1 Reach = a RS = 75.429*

PROFILO IDRAULICO DORA RIPARIA



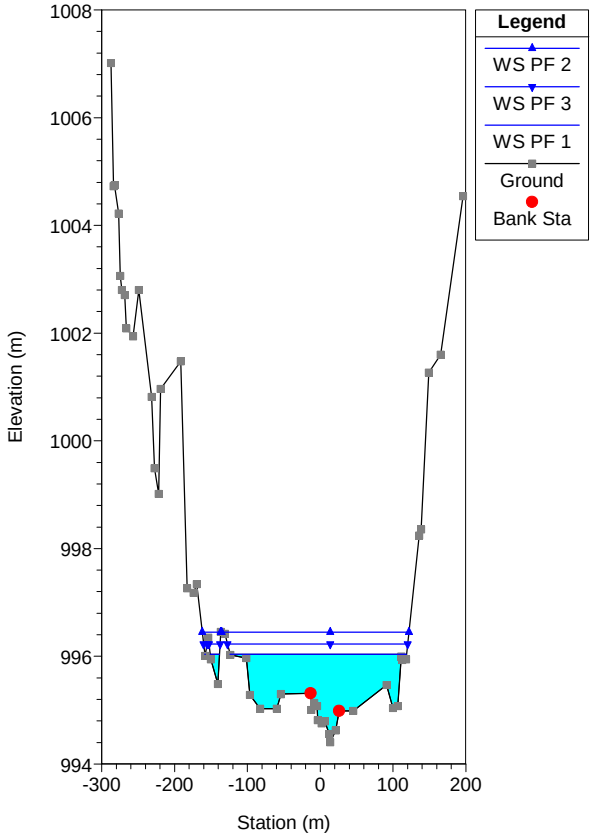

River = 1 Reach = a RS = 75.143*

PROFILO IDRAULICO DORA RIPARIA



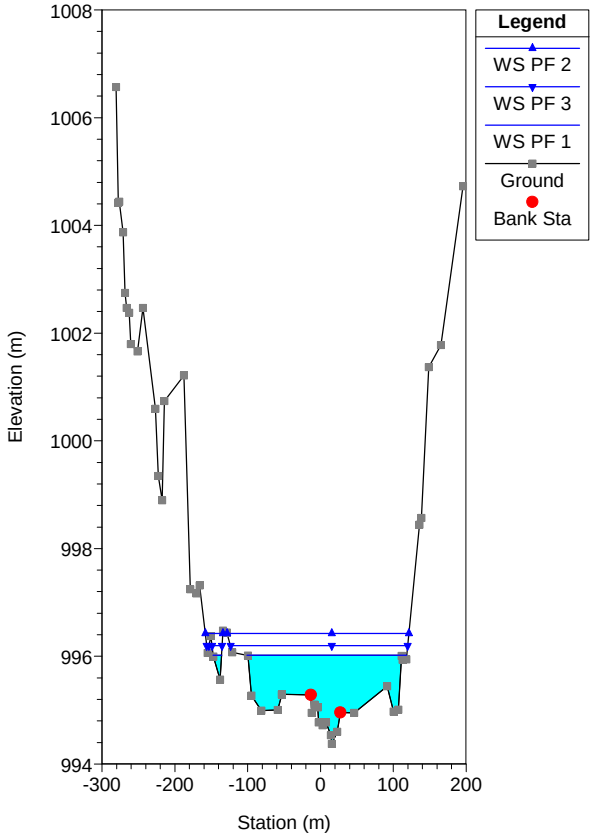
River = 1 Reach = a RS = 74.857*

PROFILO IDRAULICO DORA RIPARIA



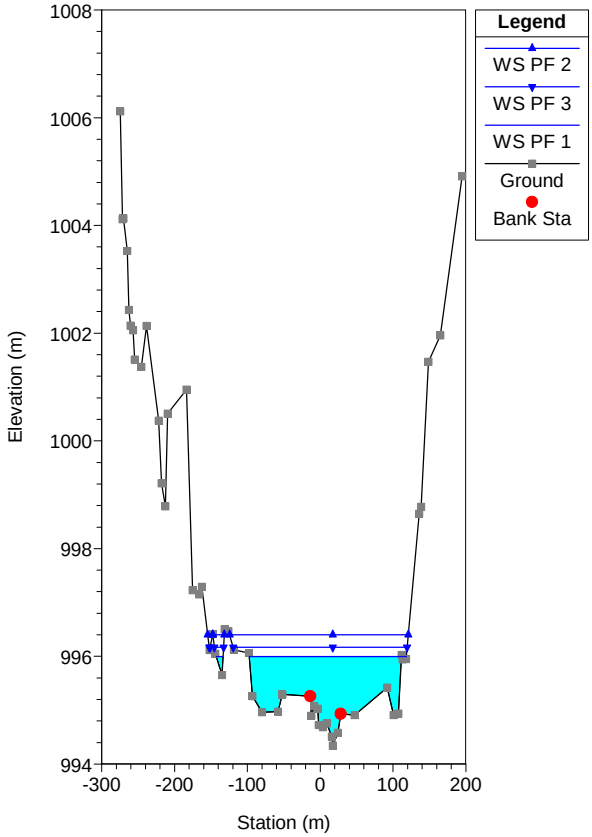

River = 1 Reach = a RS = 74.571*

PROFILO IDRAULICO DORA RIPARIA



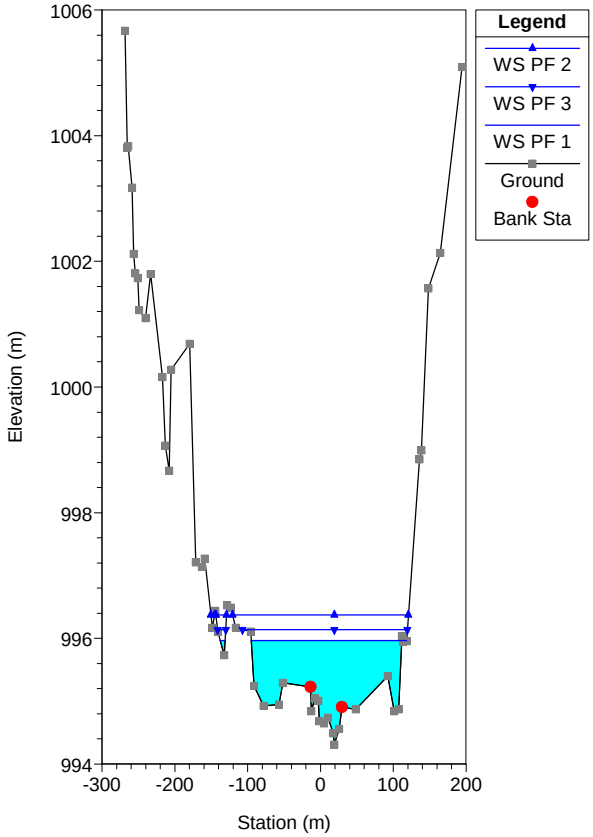

River = 1 Reach = a RS = 74.286*

PROFILO IDRAULICO DORA RIPARIA



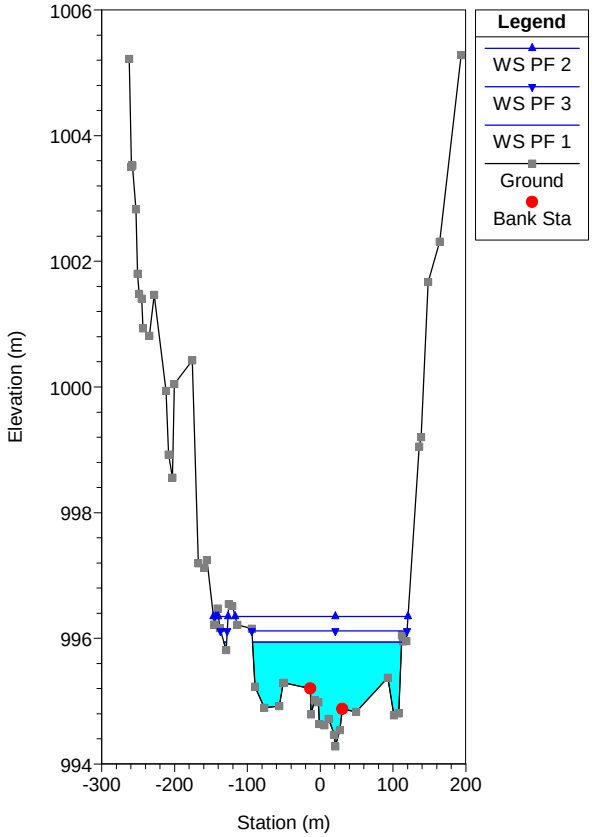

River = 1 Reach = a RS = 74.000*

PROFILO IDRAULICO DORA RIPARIA



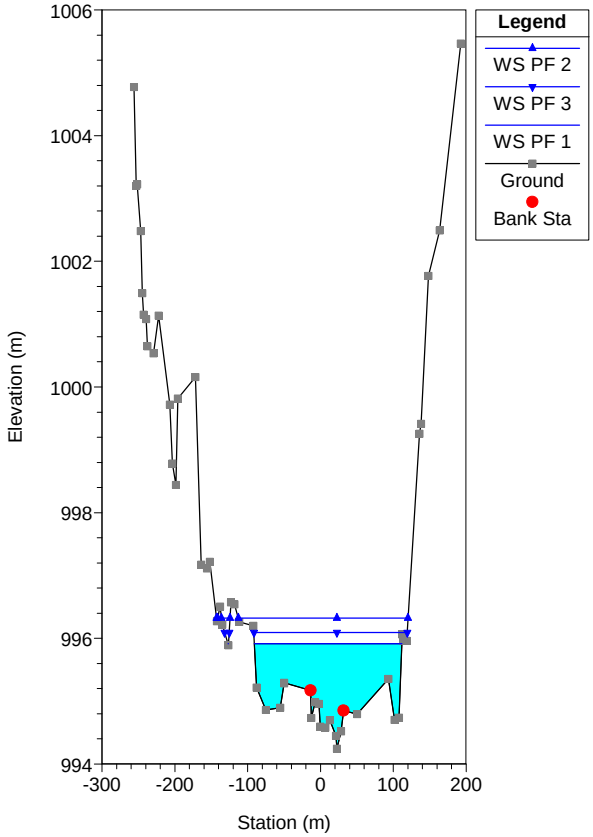
River = 1 Reach = a RS = 73.714*

PROFILO IDRAULICO DORA RIPARIA



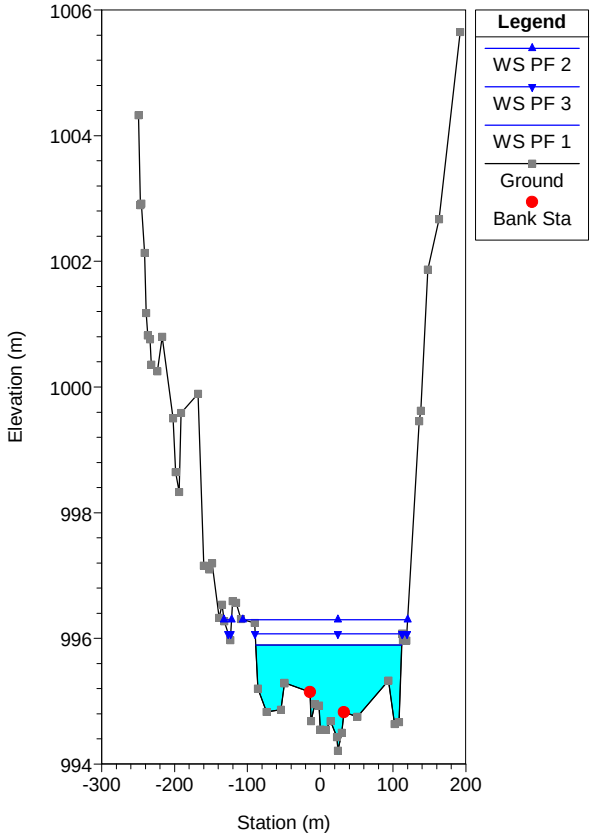

River = 1 Reach = a RS = 73.429*

PROFILO IDRAULICO DORA RIPARIA



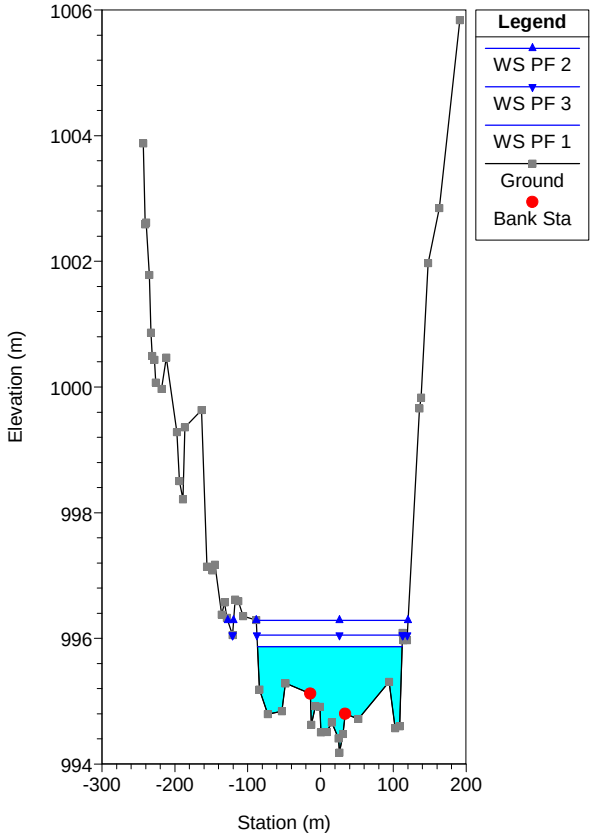

River = 1 Reach = a RS = 73.143*

PROFILO IDRAULICO DORA RIPARIA



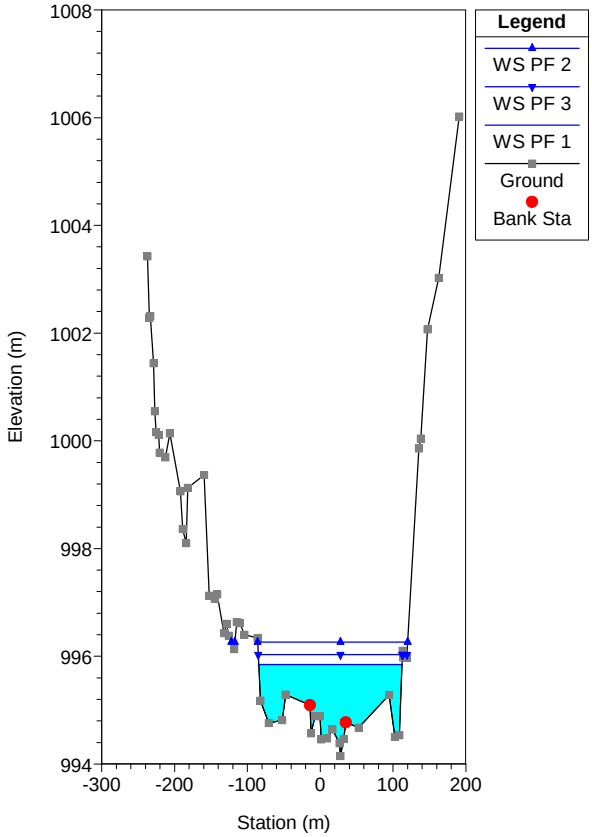

River = 1 Reach = a RS = 72.857*

PROFILO IDRAULICO DORA RIPARIA



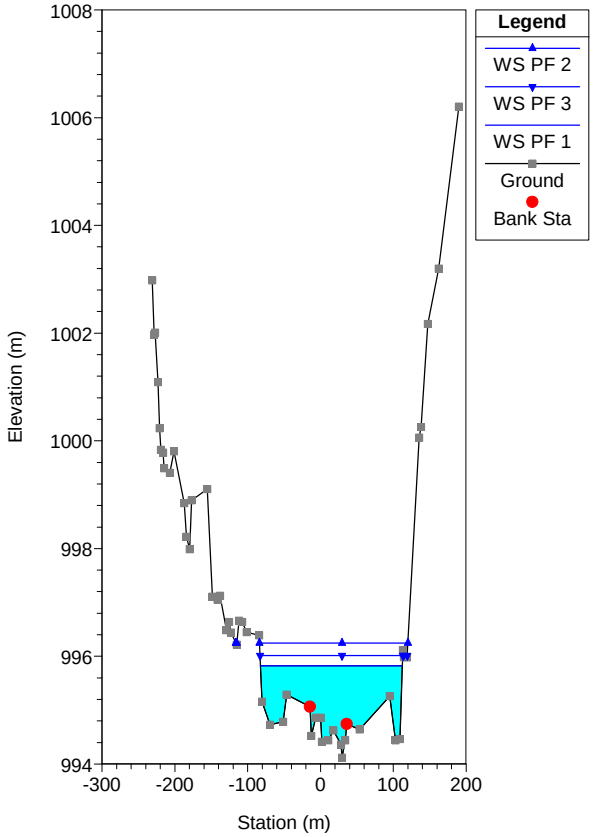
River = 1 Reach = a RS = 72.571*

PROFILO IDRAULICO DORA RIPARIA



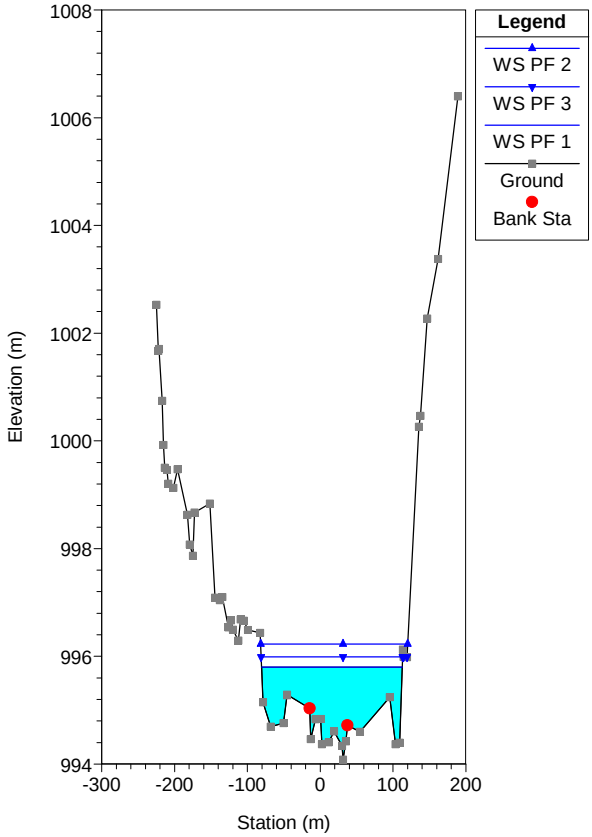

River = 1 Reach = a RS = 72.286*

PROFILO IDRAULICO DORA RIPARIA



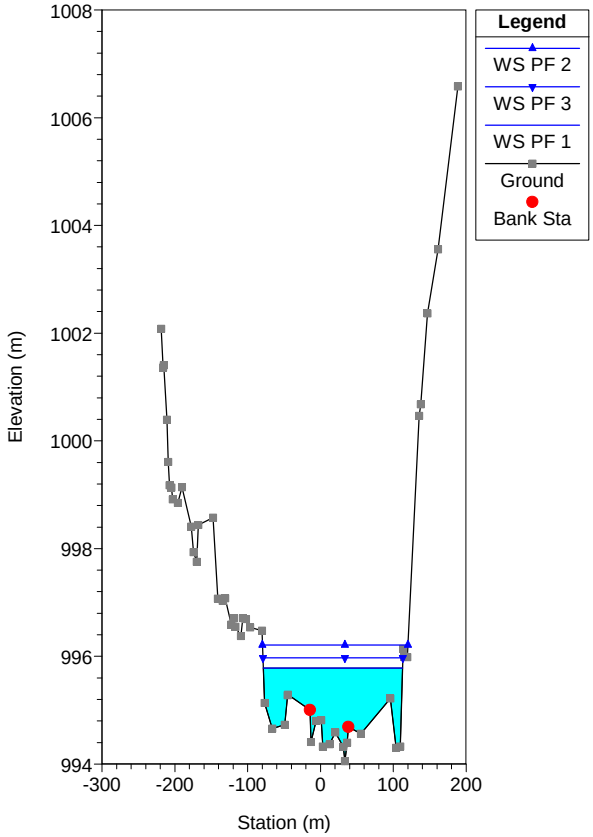

River = 1 Reach = a RS = 72.000*

PROFILO IDRAULICO DORA RIPARIA



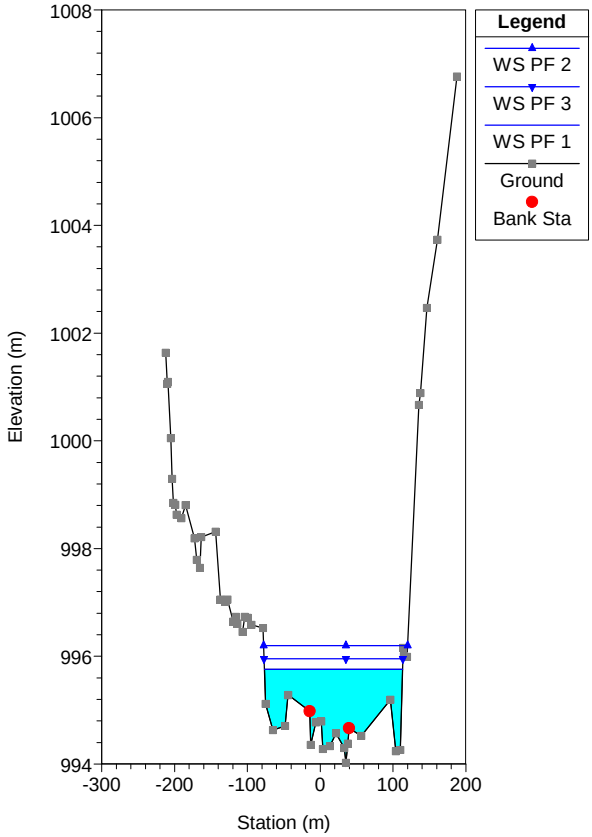

River = 1 Reach = a RS = 71.714*

PROFILO IDRAULICO DORA RIPARIA



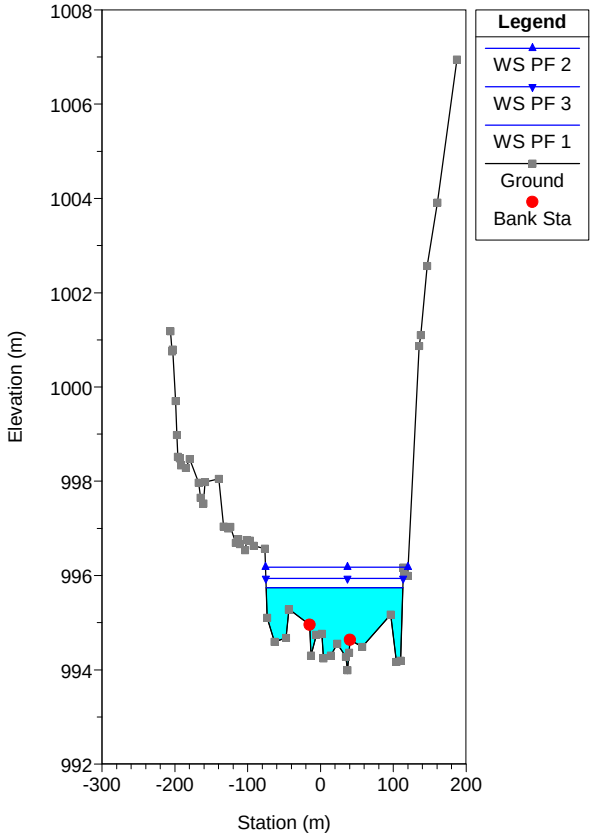
River = 1 Reach = a RS = 71.429*

PROFILO IDRAULICO DORA RIPARIA



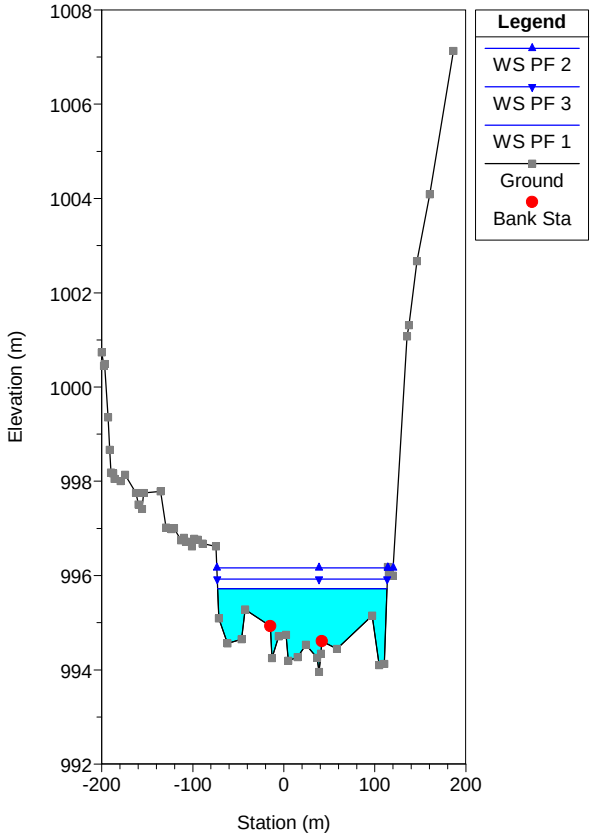

River = 1 Reach = a RS = 71.143*

PROFILO IDRAULICO DORA RIPARIA



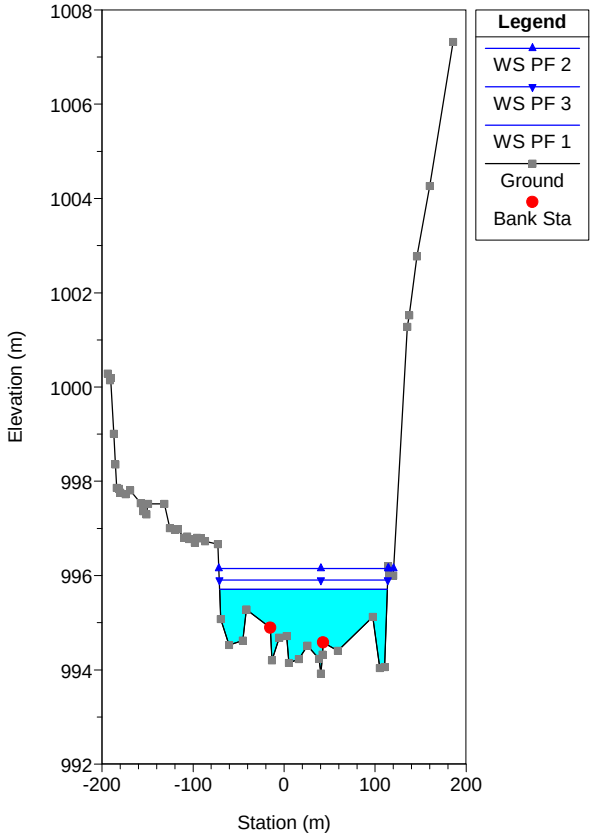

River = 1 Reach = a RS = 70.857*

PROFILO IDRAULICO DORA RIPARIA



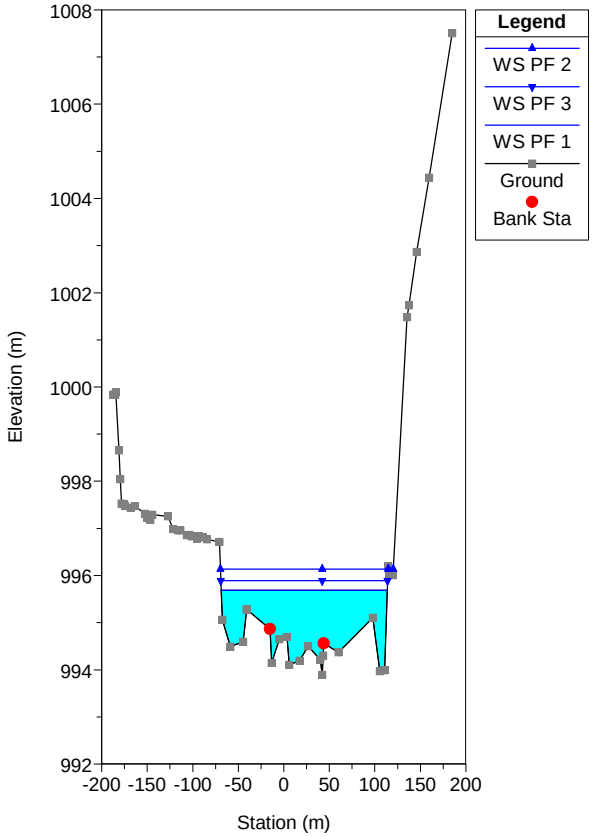

River = 1 Reach = a RS = 70.571*

PROFILO IDRAULICO DORA RIPARIA



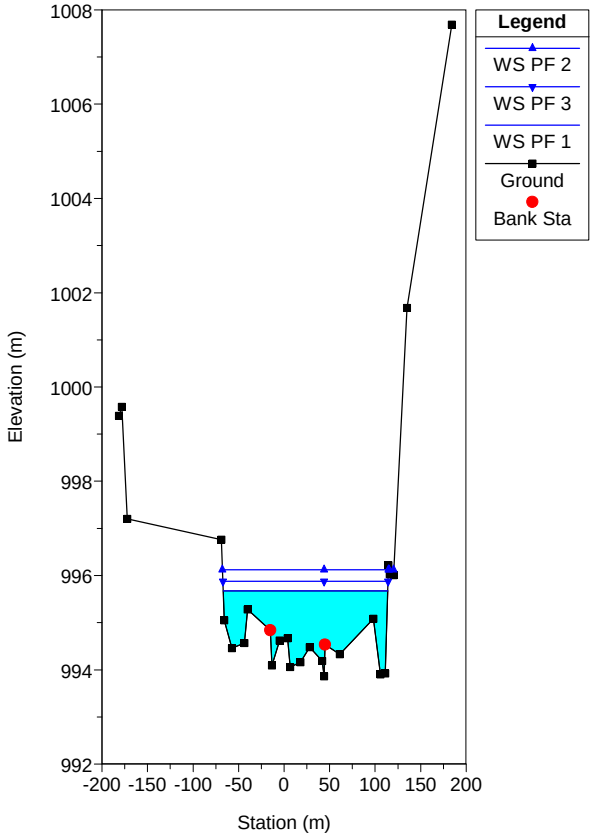
River = 1 Reach = a RS = 70.286*

PROFILO IDRAULICO DORA RIPARIA



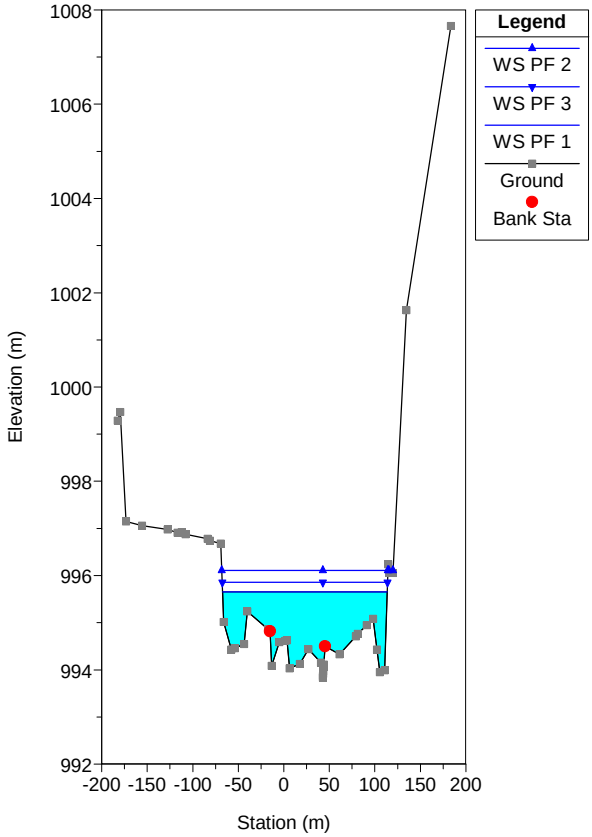

River = 1 Reach = a RS = 70

PROFILO IDRAULICO DORA RIPARIA



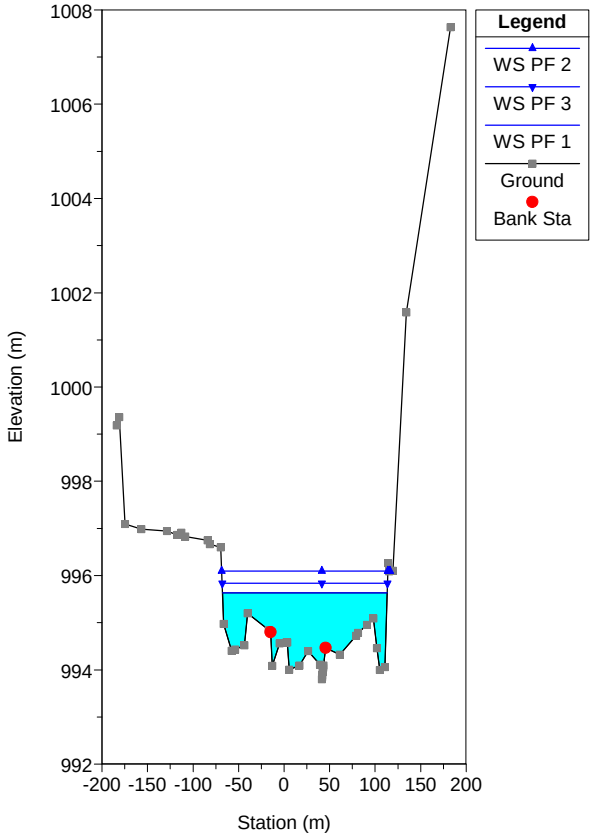

River = 1 Reach = a RS = 69.737*

PROFILO IDRAULICO DORA RIPARIA



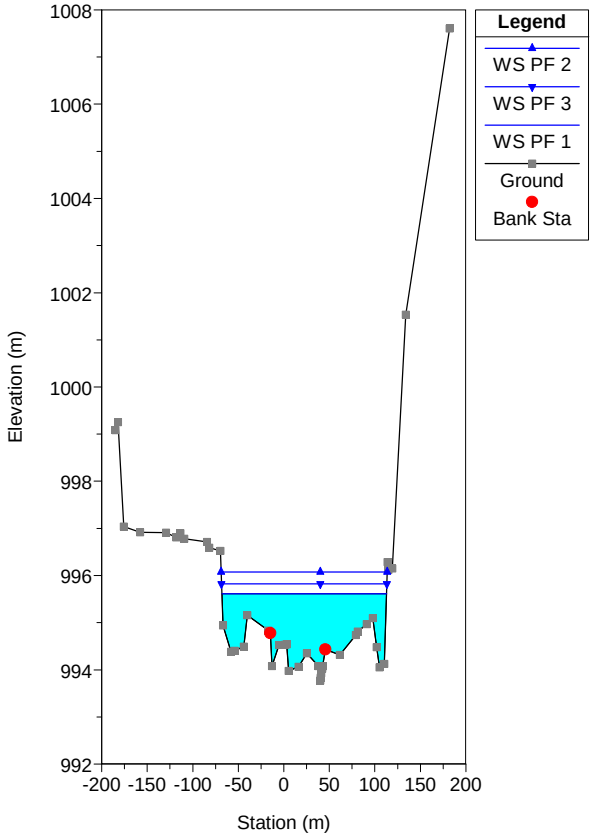

River = 1 Reach = a RS = 69.474*

PROFILO IDRAULICO DORA RIPARIA



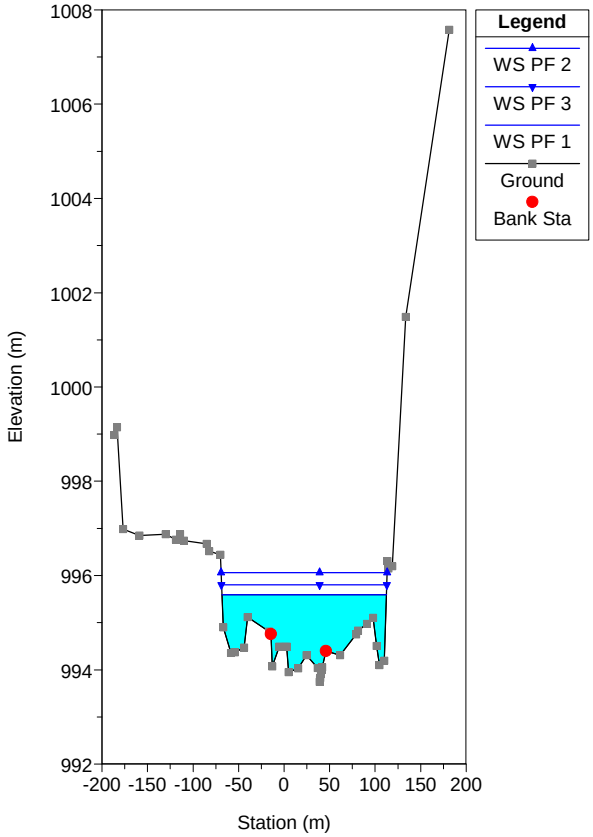
River = 1 Reach = a RS = 69.211*

PROFILO IDRAULICO DORA RIPARIA



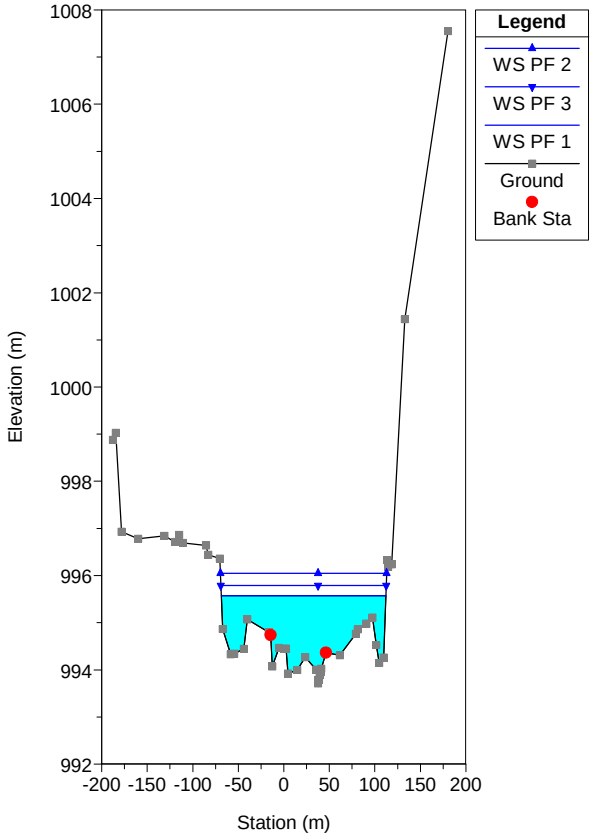

River = 1 Reach = a RS = 68.947*

PROFILO IDRAULICO DORA RIPARIA



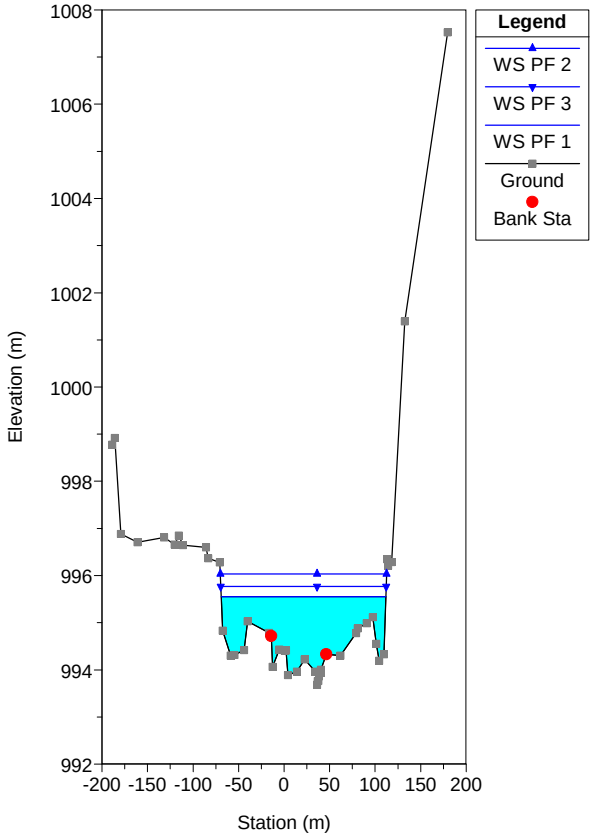

River = 1 Reach = a RS = 68.684*

PROFILO IDRAULICO DORA RIPARIA



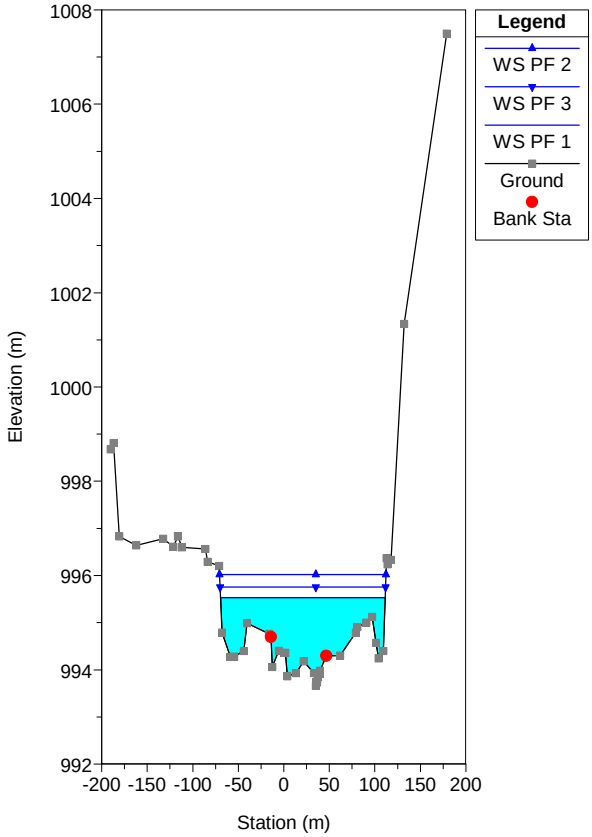

River = 1 Reach = a RS = 68.421*

PROFILO IDRAULICO DORA RIPARIA



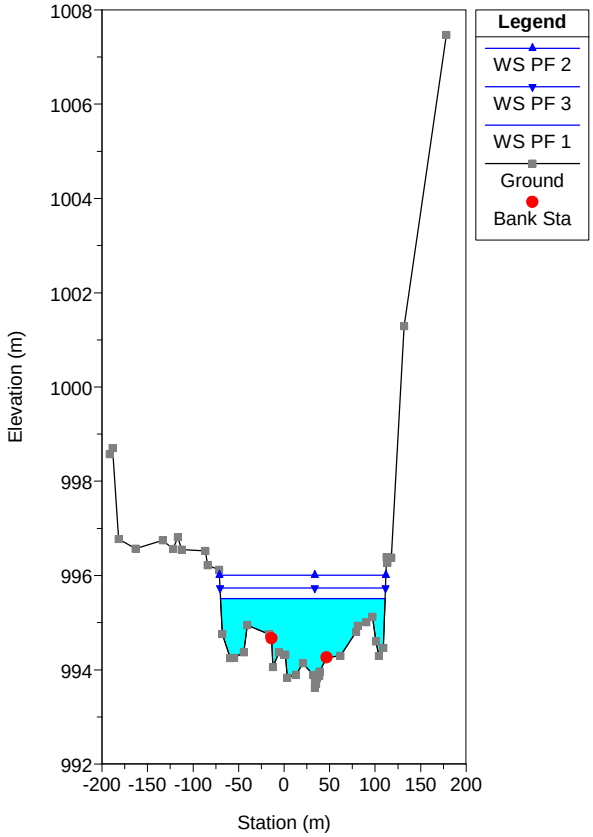
River = 1 Reach = a RS = 68.158*

PROFILO IDRAULICO DORA RIPARIA



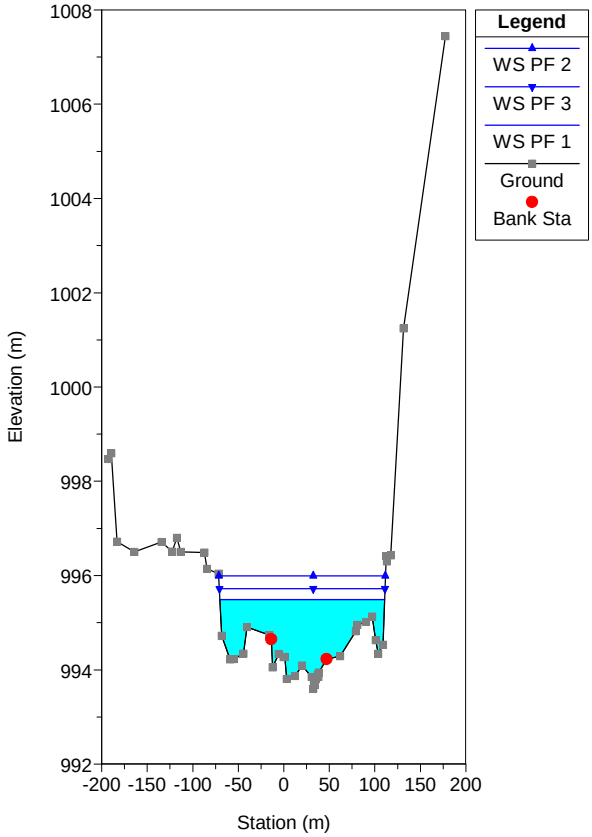

River = 1 Reach = a RS = 67.895*

PROFILO IDRAULICO DORA RIPARIA



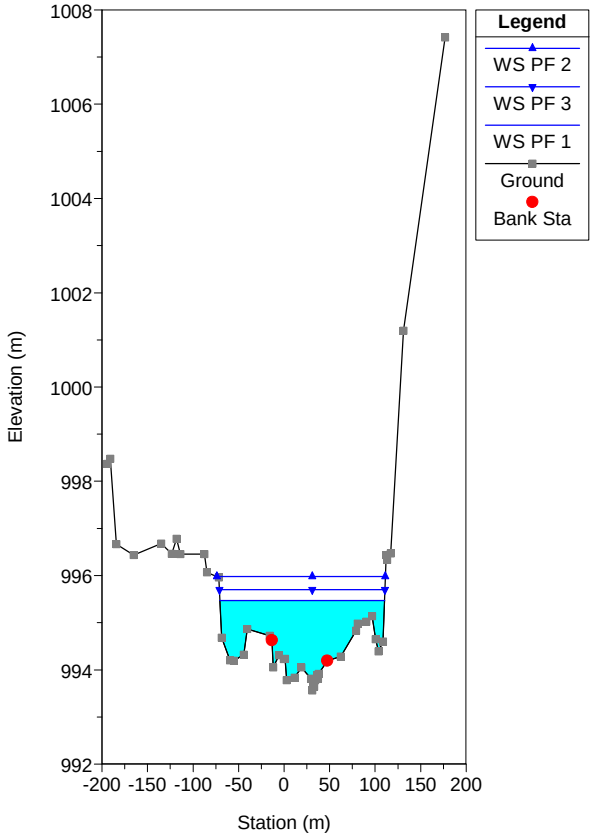

River = 1 Reach = a RS = 67.632*

PROFILO IDRAULICO DORA RIPARIA



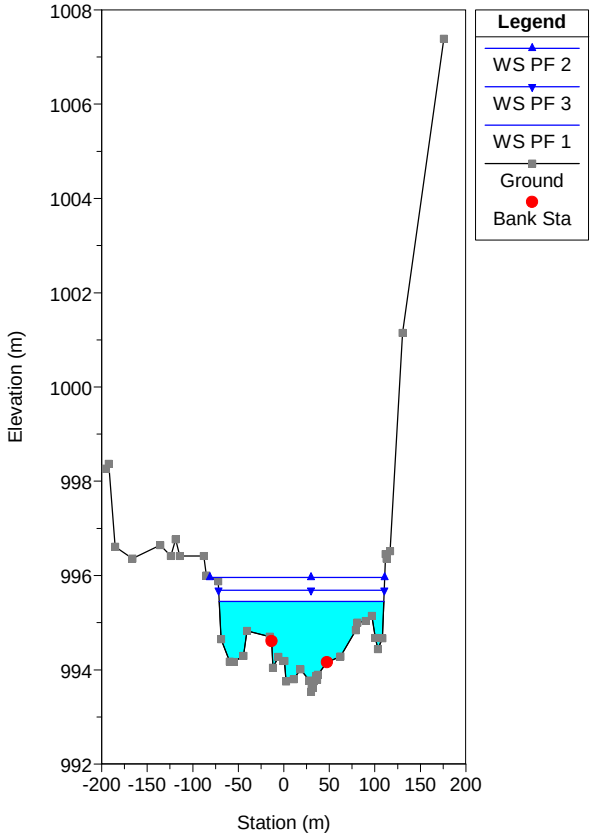

River = 1 Reach = a RS = 67.368*

PROFILO IDRAULICO DORA RIPARIA



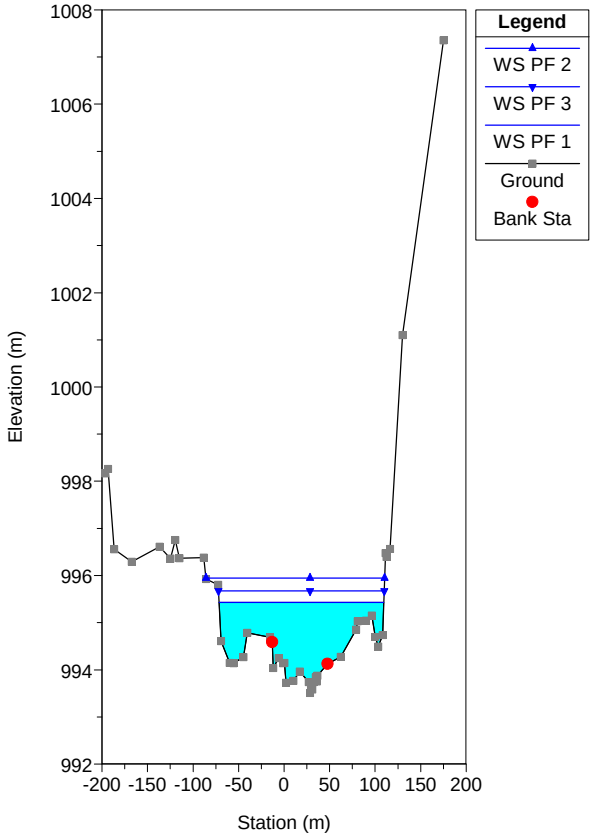
River = 1 Reach = a RS = 67.105*

PROFILO IDRAULICO DORA RIPARIA



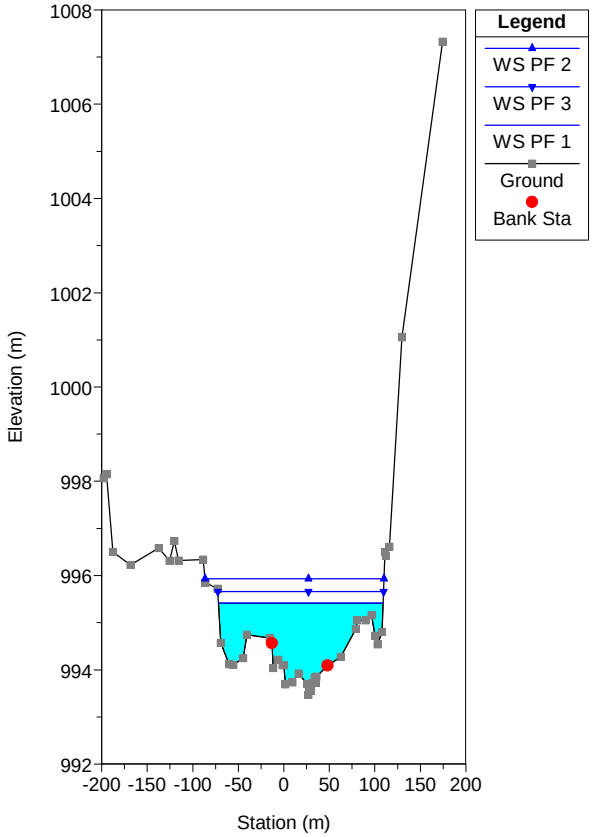

River = 1 Reach = a RS = 66.842*

PROFILO IDRAULICO DORA RIPARIA



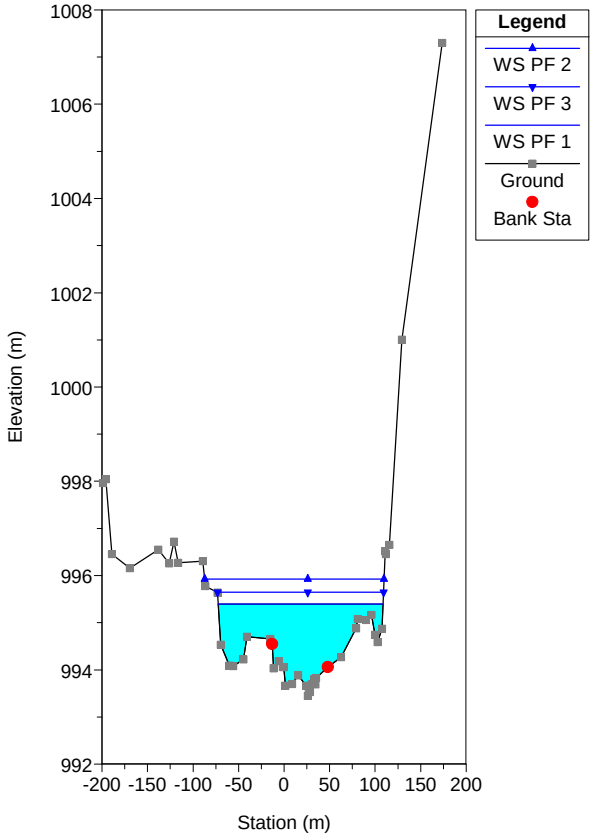

River = 1 Reach = a RS = 66.579*

PROFILO IDRAULICO DORA RIPARIA



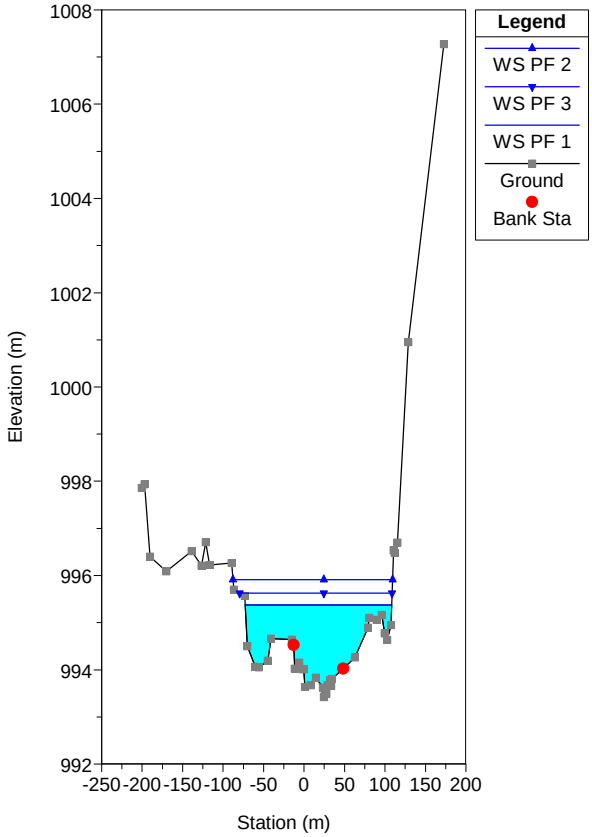

River = 1 Reach = a RS = 66.316*

PROFILO IDRAULICO DORA RIPARIA



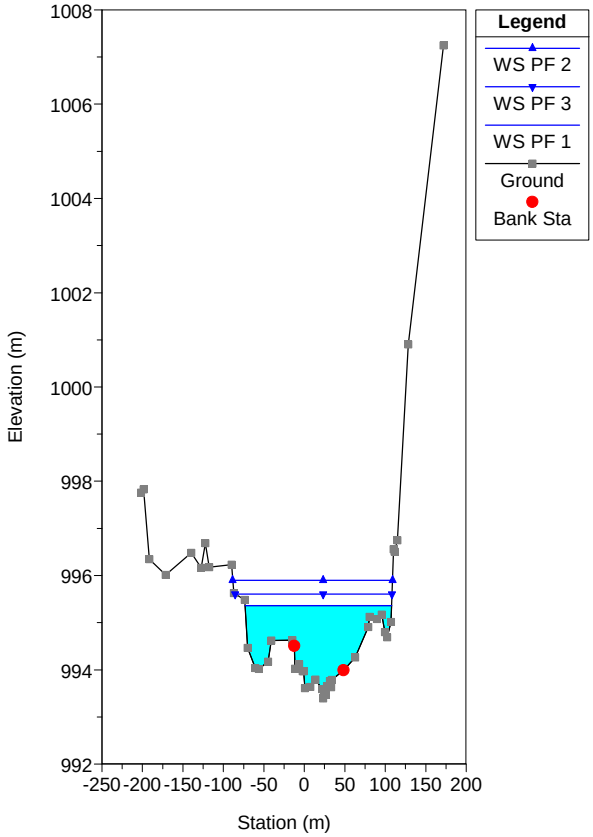
River = 1 Reach = a RS = 66.053*

PROFILO IDRAULICO DORA RIPARIA



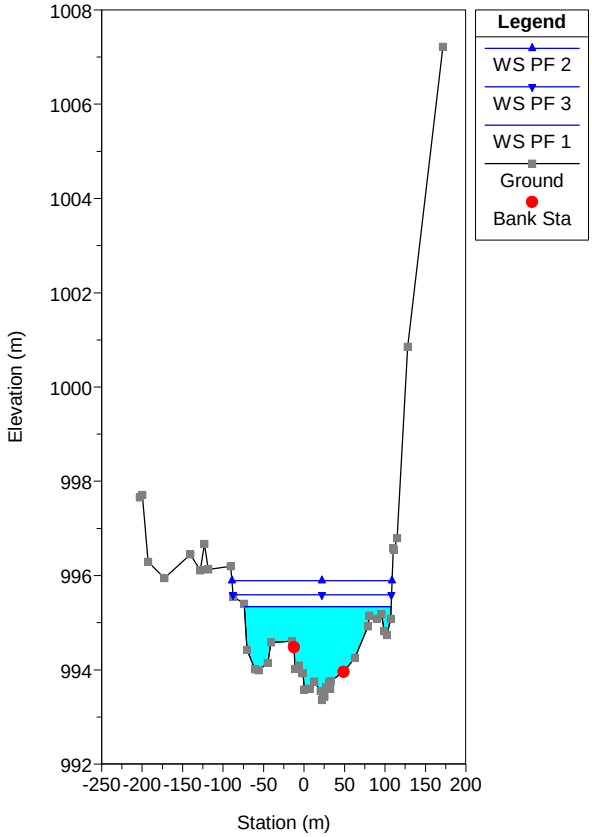

River = 1 Reach = a RS = 65.789*

PROFILO IDRAULICO DORA RIPARIA



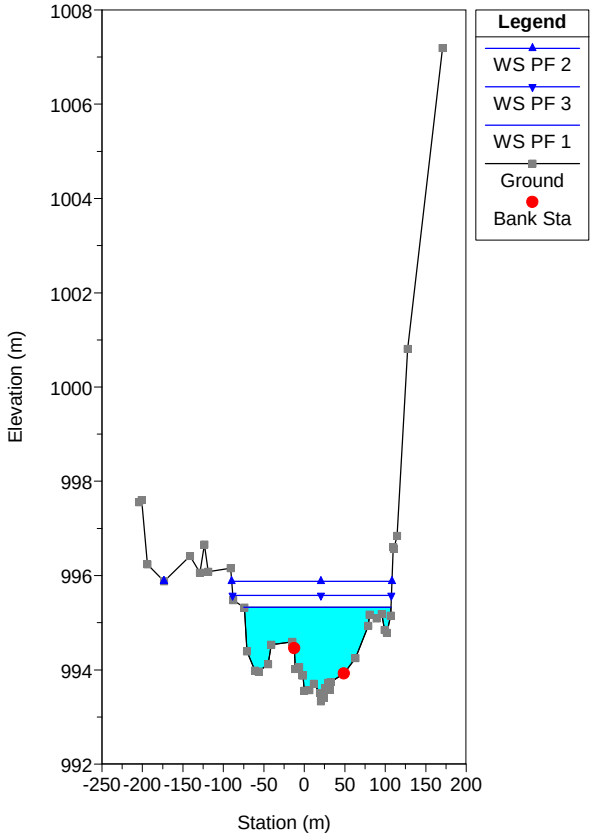

River = 1 Reach = a RS = 65.526*

PROFILO IDRAULICO DORA RIPARIA



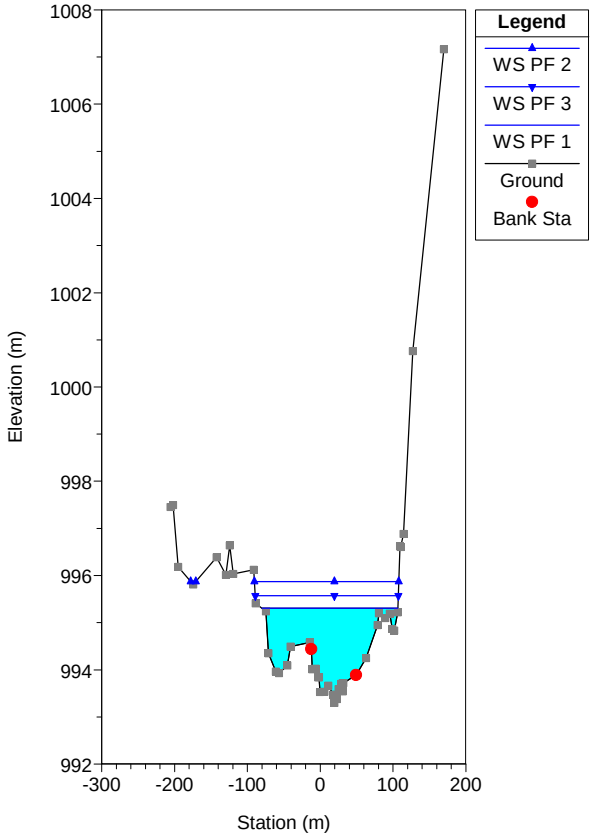

River = 1 Reach = a RS = 65.263*

PROFILO IDRAULICO DORA RIPARIA



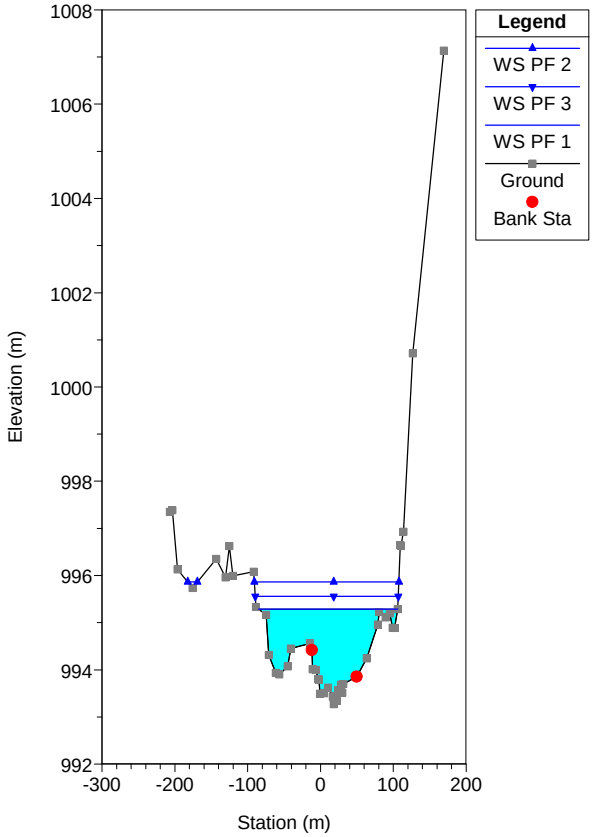
River = 1 Reach = a RS = 65.000*

PROFILO IDRAULICO DORA RIPARIA



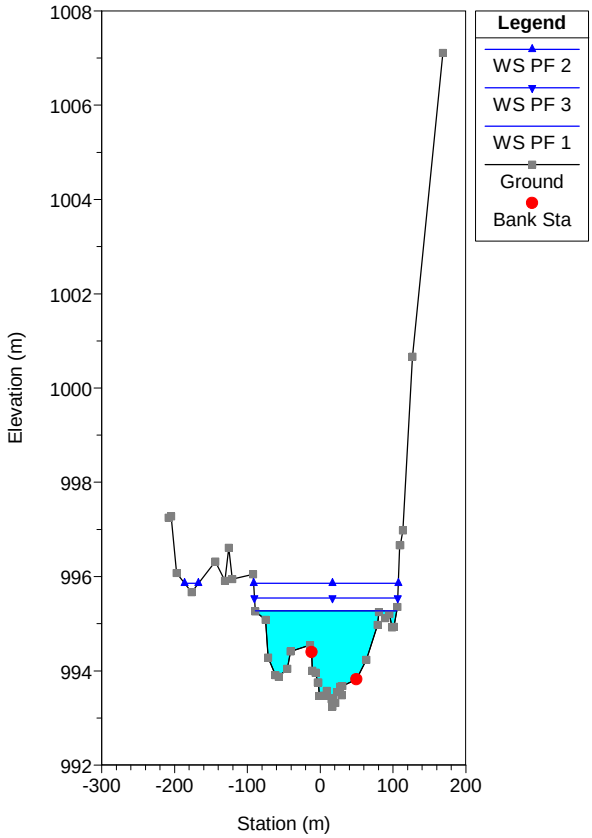

River = 1 Reach = a RS = 64.737*

PROFILO IDRAULICO DORA RIPARIA



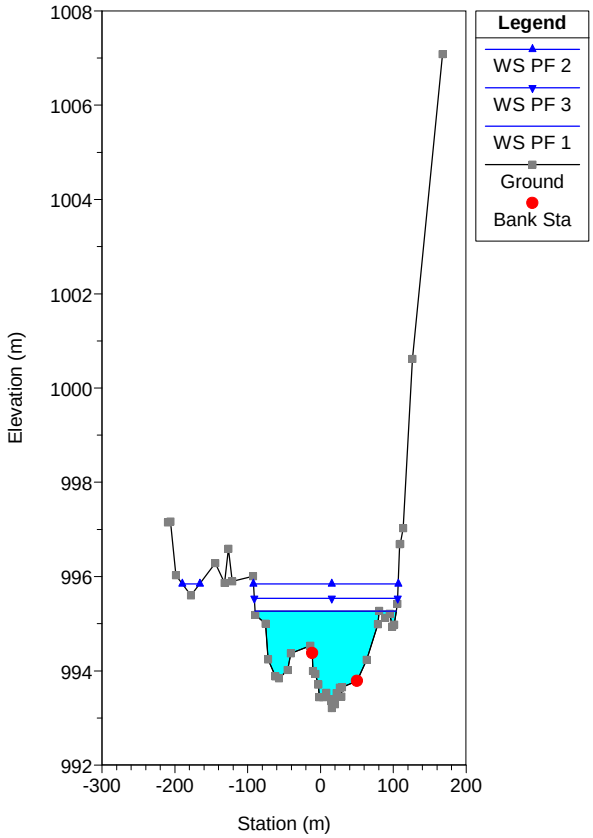

River = 1 Reach = a RS = 64.474*

PROFILO IDRAULICO DORA RIPARIA



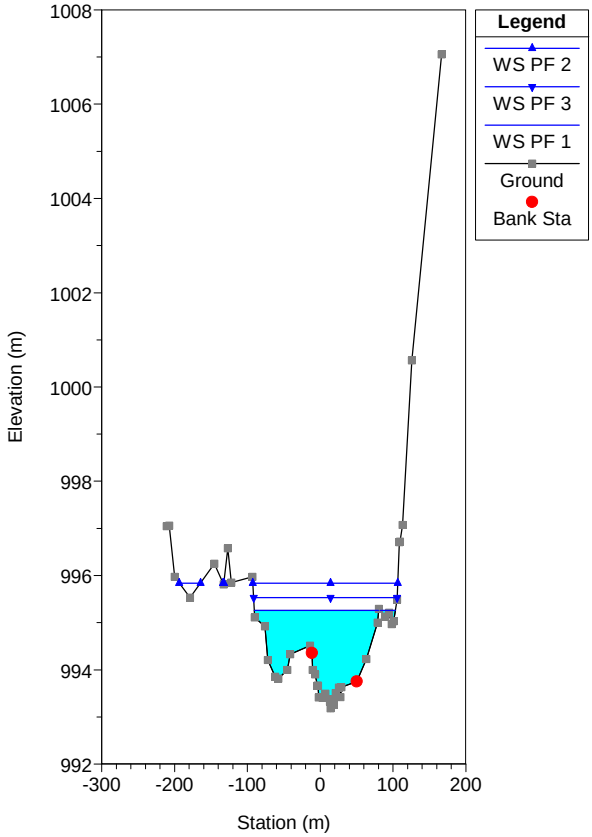

River = 1 Reach = a RS = 64.211*

PROFILO IDRAULICO DORA RIPARIA



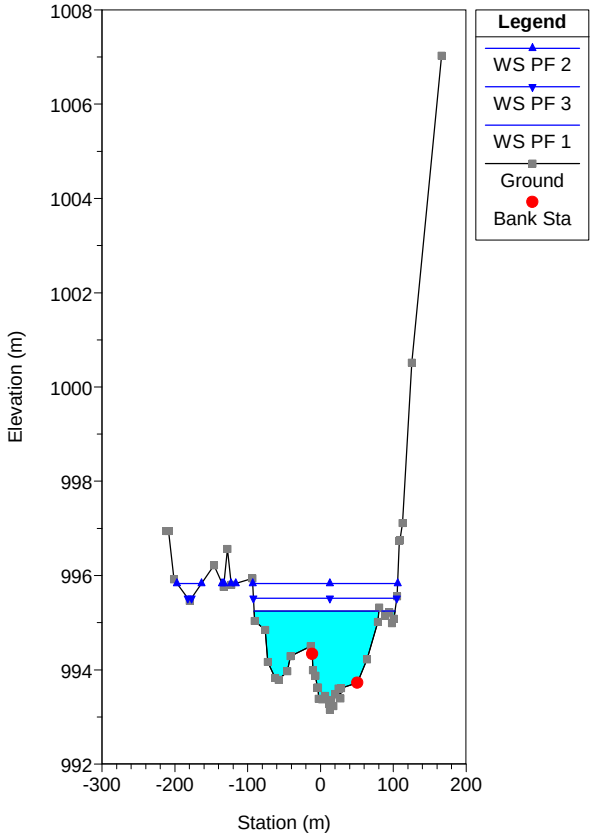
River = 1 Reach = a RS = 63.947*

PROFILO IDRAULICO DORA RIPARIA



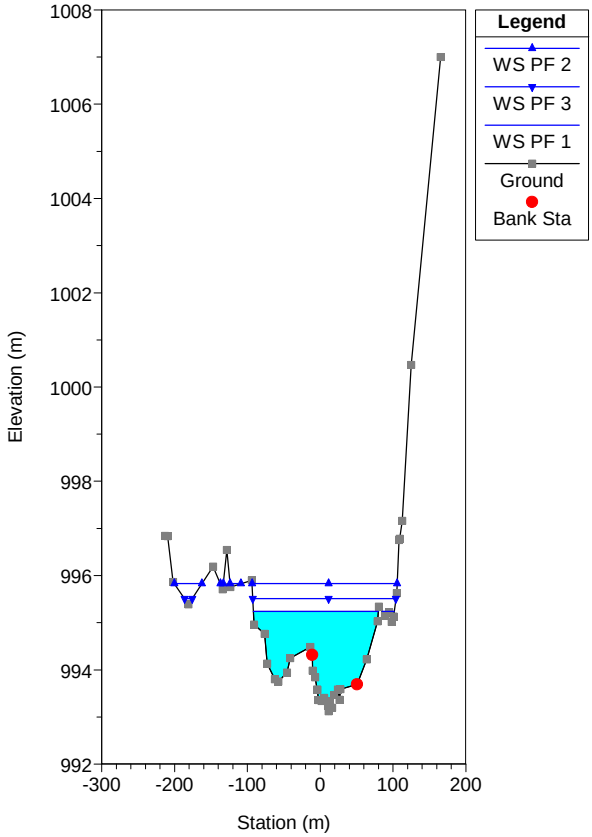

River = 1 Reach = a RS = 63.684*

PROFILO IDRAULICO DORA RIPARIA



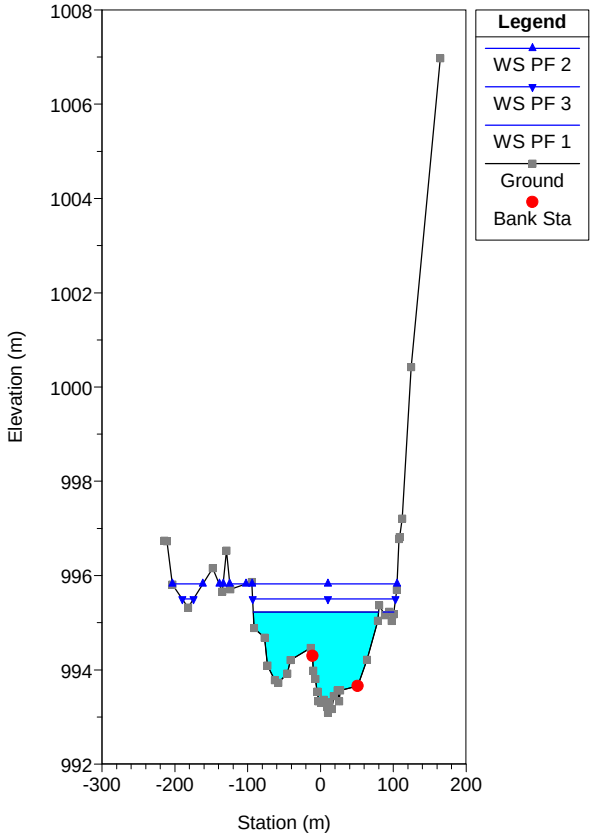

River = 1 Reach = a RS = 63.421*

PROFILO IDRAULICO DORA RIPARIA



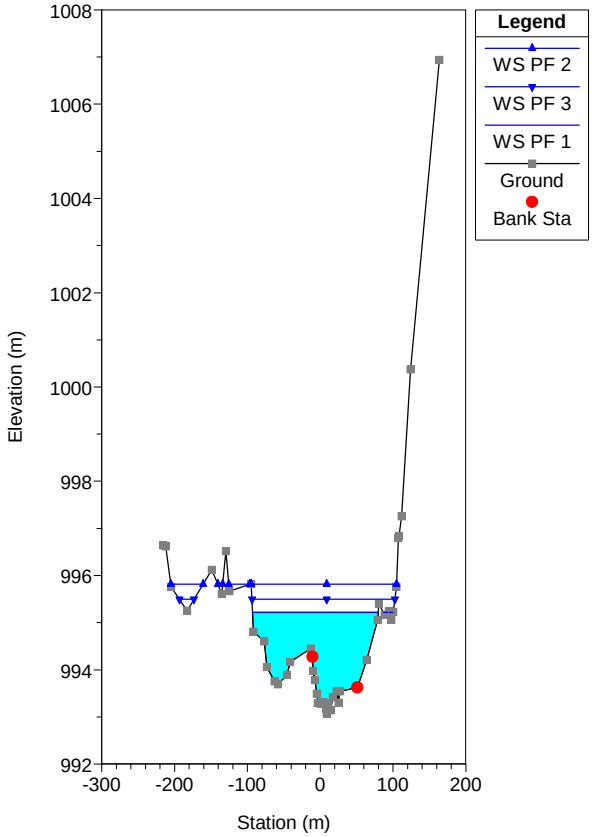

River = 1 Reach = a RS = 63.158*

PROFILO IDRAULICO DORA RIPARIA



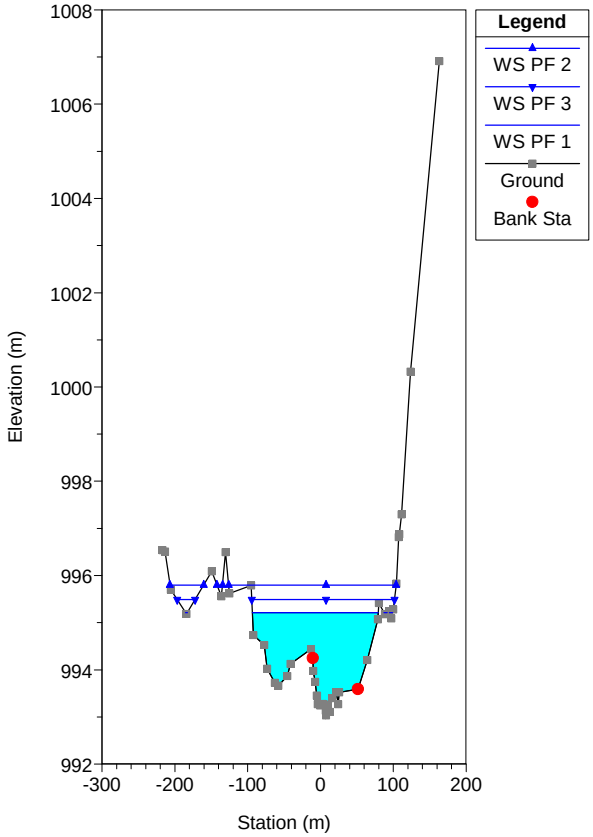
River = 1 Reach = a RS = 62.895*

PROFILO IDRAULICO DORA RIPARIA



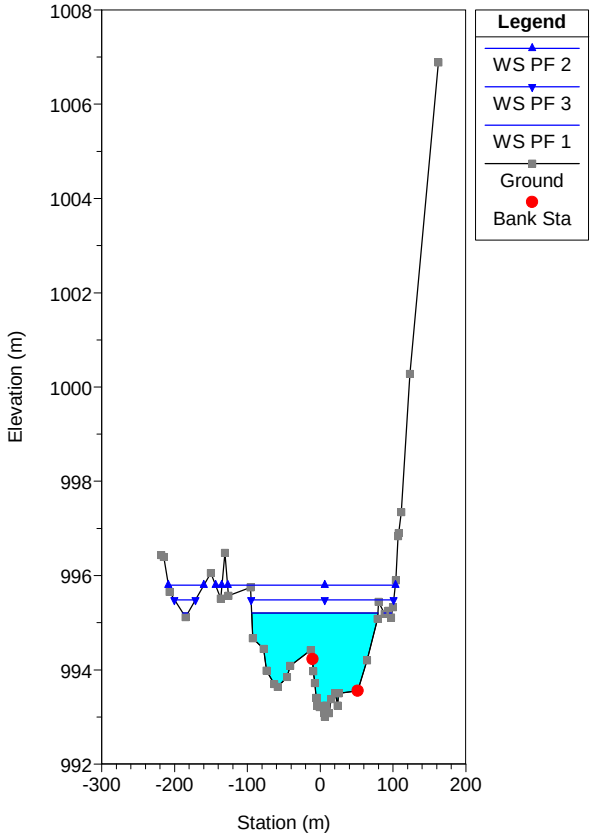

River = 1 Reach = a RS = 62.632*

PROFILO IDRAULICO DORA RIPARIA



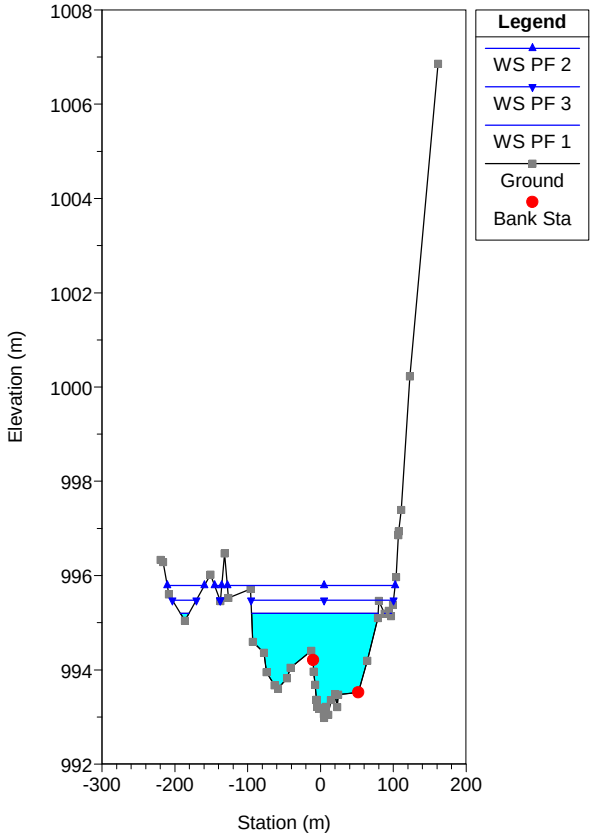

River = 1 Reach = a RS = 62.368*

PROFILO IDRAULICO DORA RIPARIA



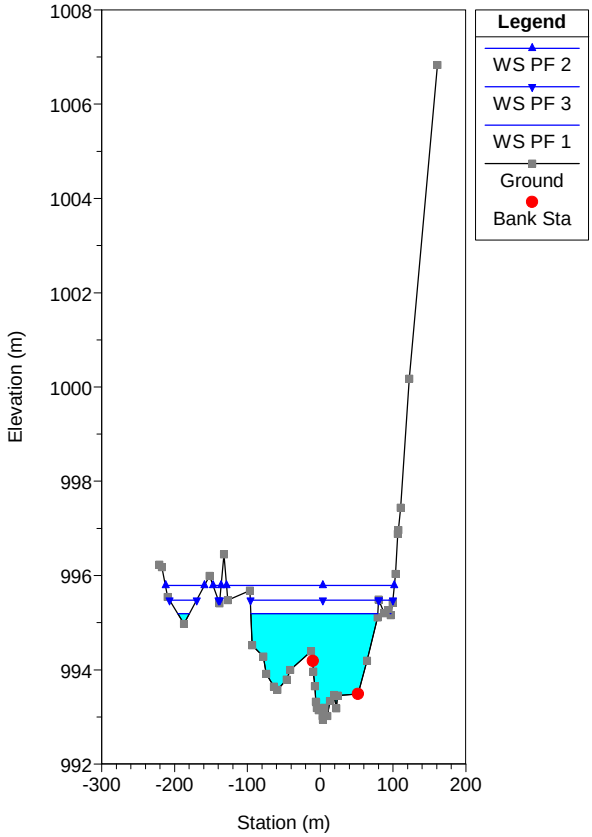

River = 1 Reach = a RS = 62.105*

PROFILO IDRAULICO DORA RIPARIA



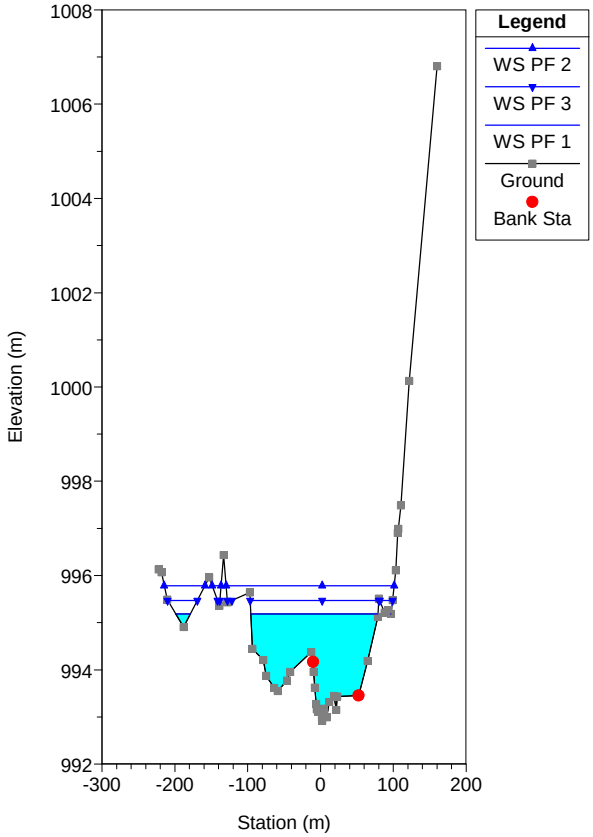
River = 1 Reach = a RS = 61.842*

PROFILO IDRAULICO DORA RIPARIA



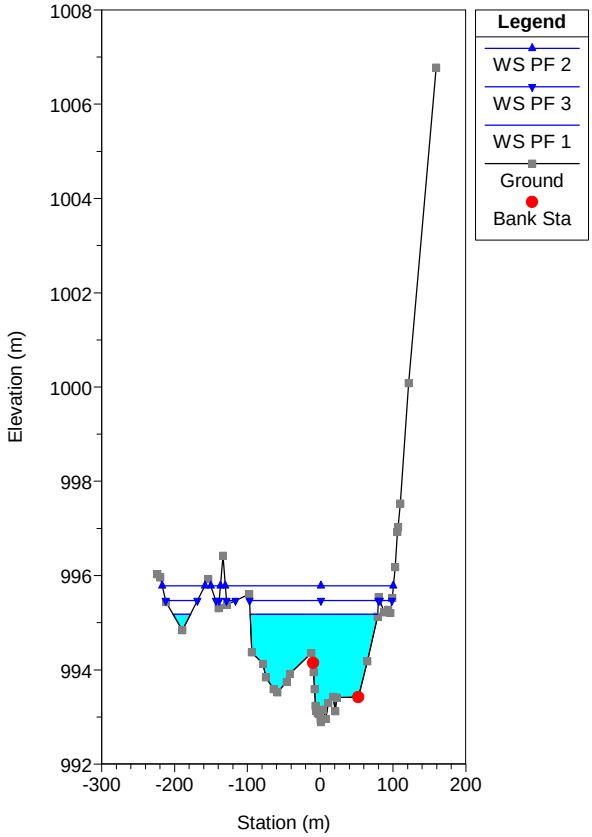

River = 1 Reach = a RS = 61.579*

PROFILO IDRAULICO DORA RIPARIA



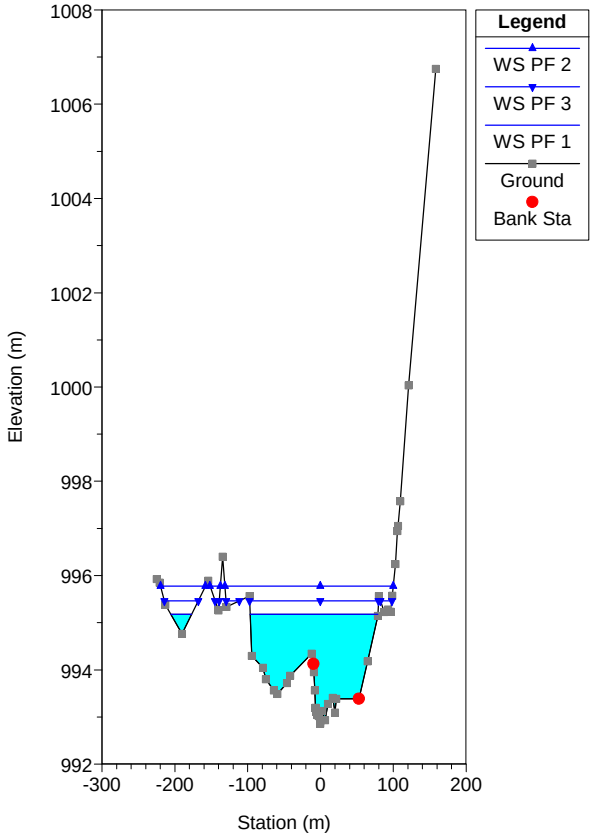

River = 1 Reach = a RS = 61.316*

PROFILO IDRAULICO DORA RIPARIA



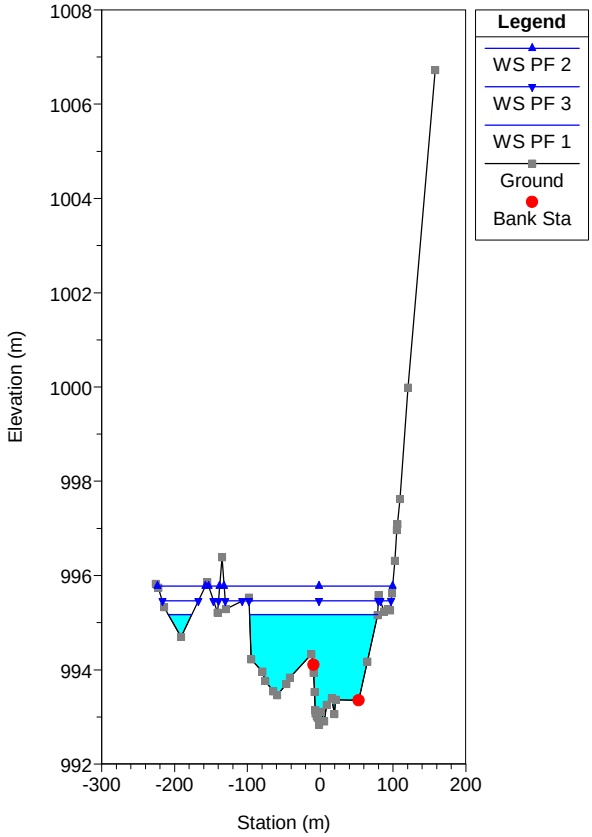

River = 1 Reach = a RS = 61.053*

PROFILO IDRAULICO DORA RIPARIA



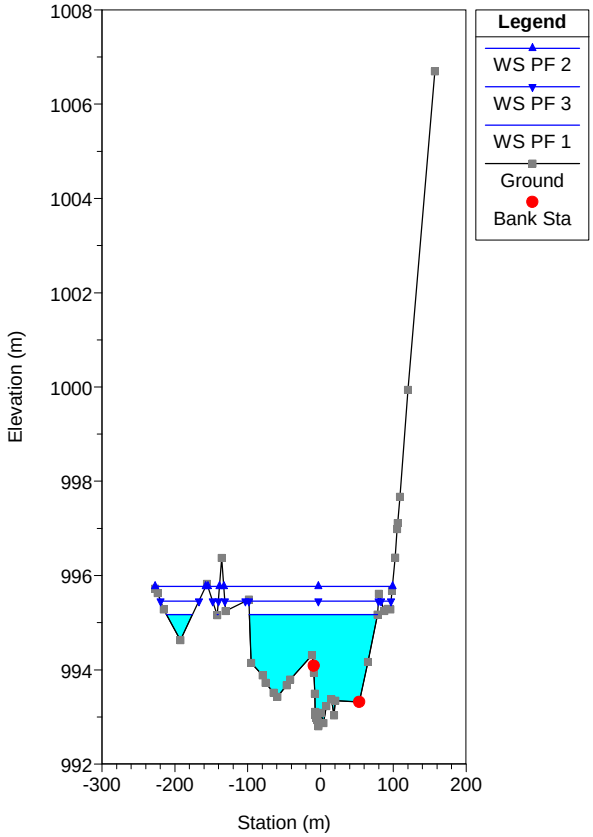
River = 1 Reach = a RS = 60.789*

PROFILO IDRAULICO DORA RIPARIA



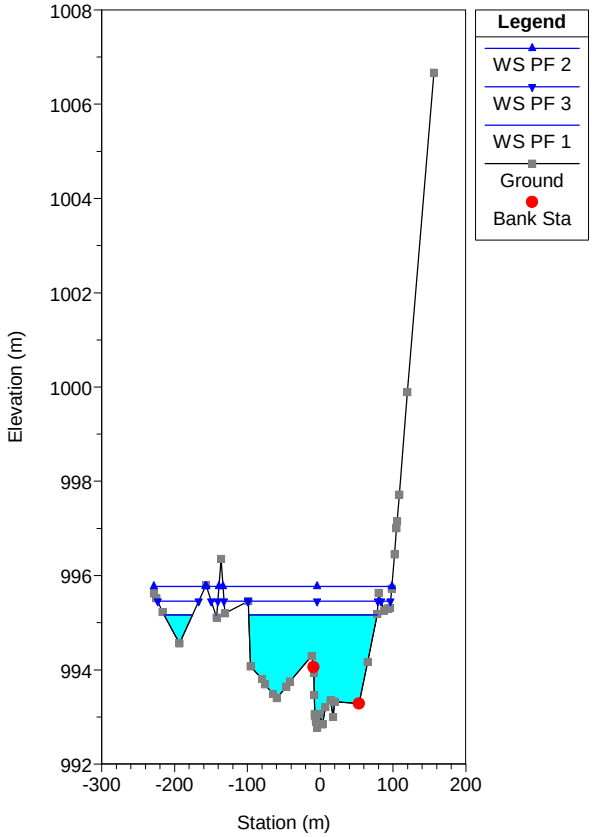

River = 1 Reach = a RS = 60.526*

PROFILO IDRAULICO DORA RIPARIA



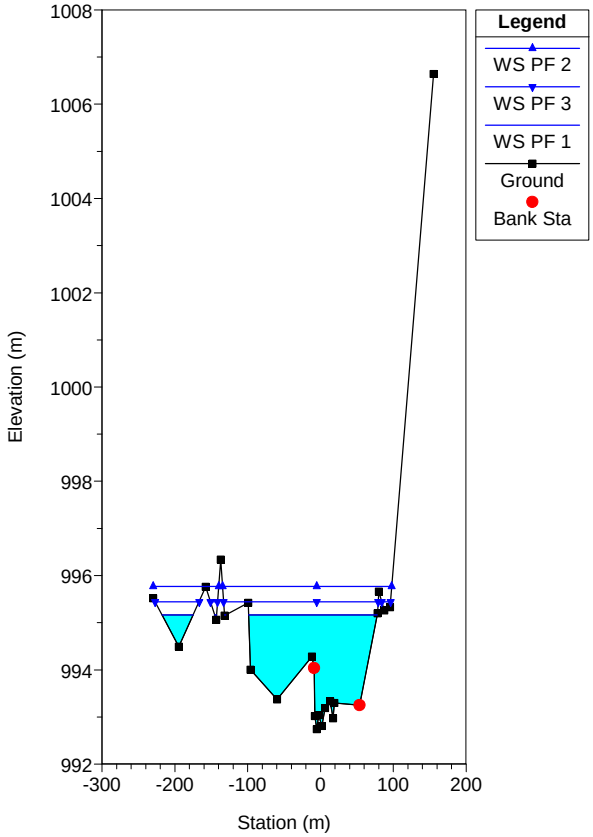

River = 1 Reach = a RS = 60.263*

PROFILO IDRAULICO DORA RIPARIA



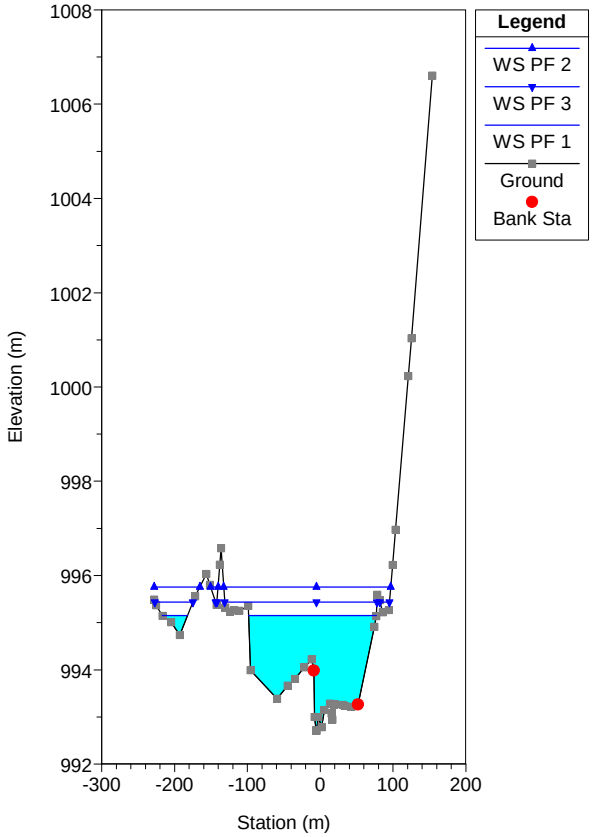

River = 1 Reach = a RS = 60

PROFILO IDRAULICO DORA RIPARIA



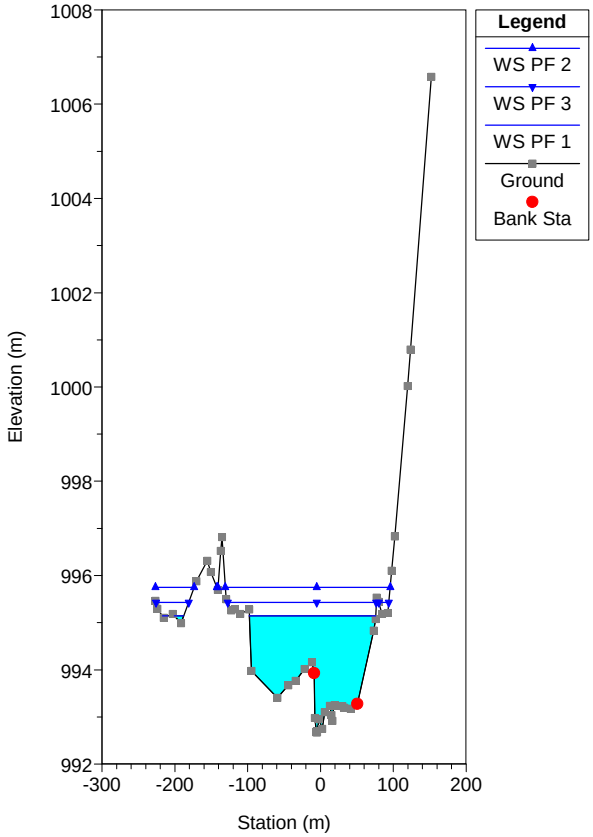
River = 1 Reach = a RS = 59.600*

PROFILO IDRAULICO DORA RIPARIA



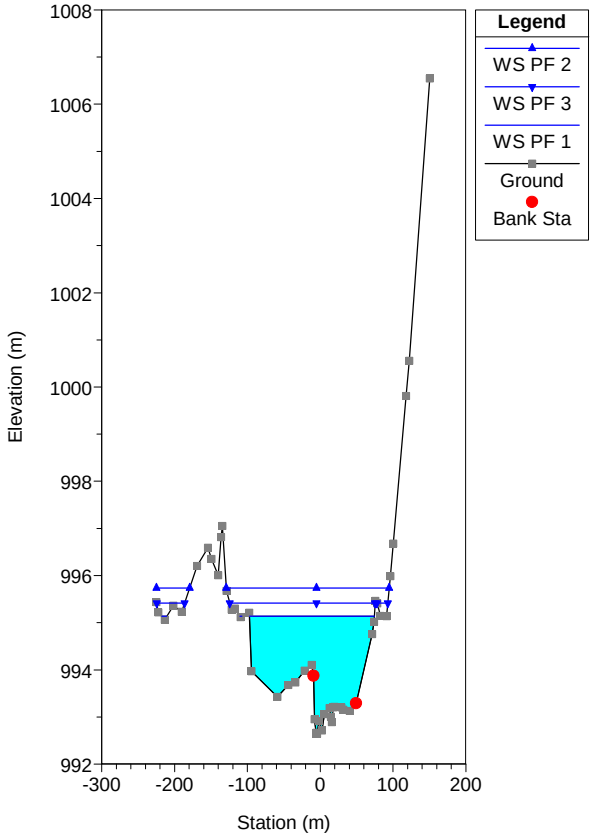

River = 1 Reach = a RS = 59.200*

PROFILO IDRAULICO DORA RIPARIA



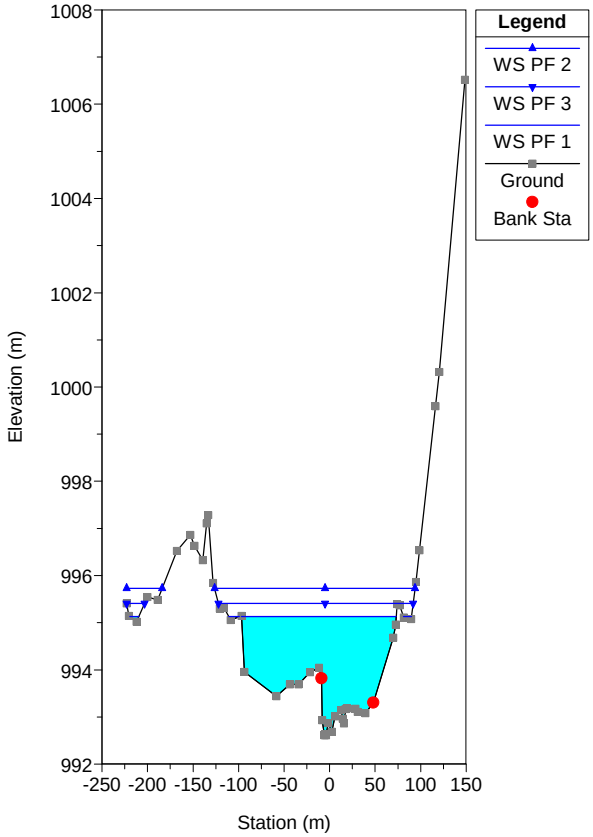

River = 1 Reach = a RS = 58.800*

PROFILO IDRAULICO DORA RIPARIA



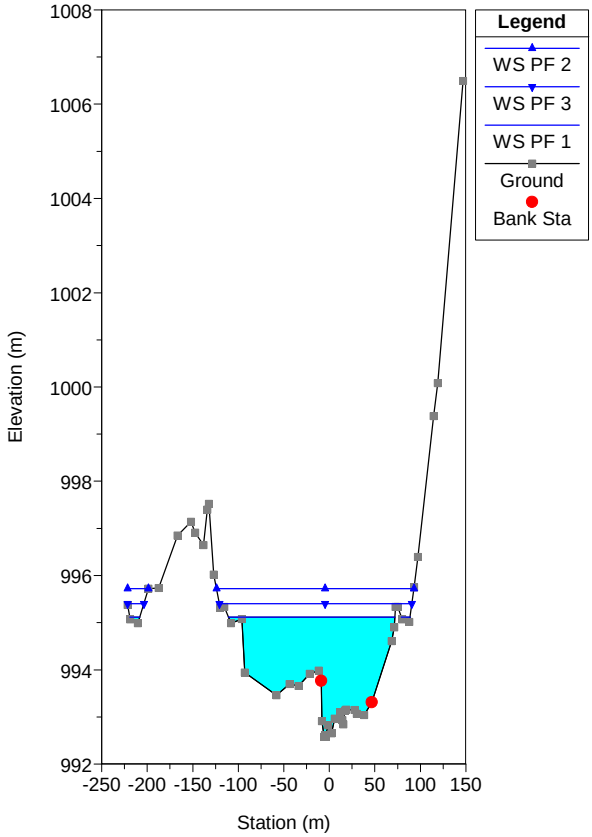

River = 1 Reach = a RS = 58.400*

PROFILO IDRAULICO DORA RIPARIA



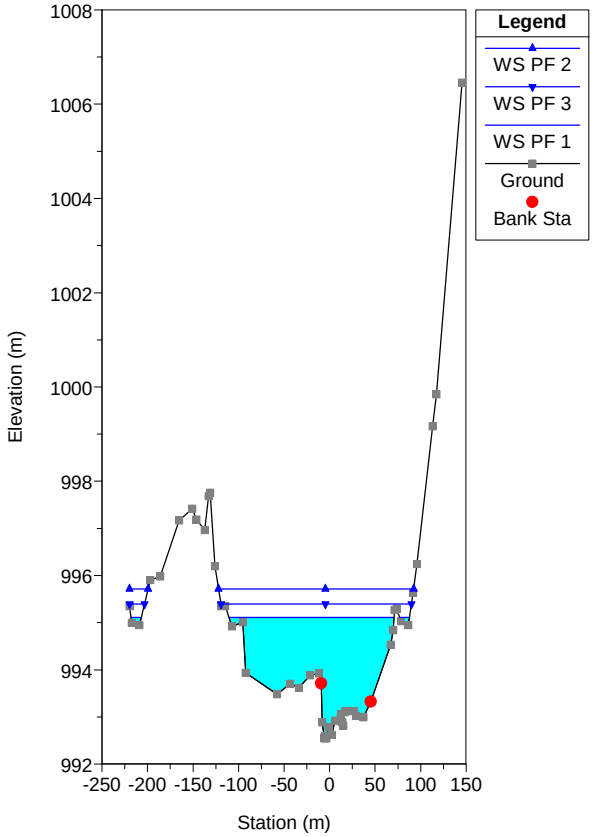
River = 1 Reach = a RS = 58.000*

PROFILO IDRAULICO DORA RIPARIA



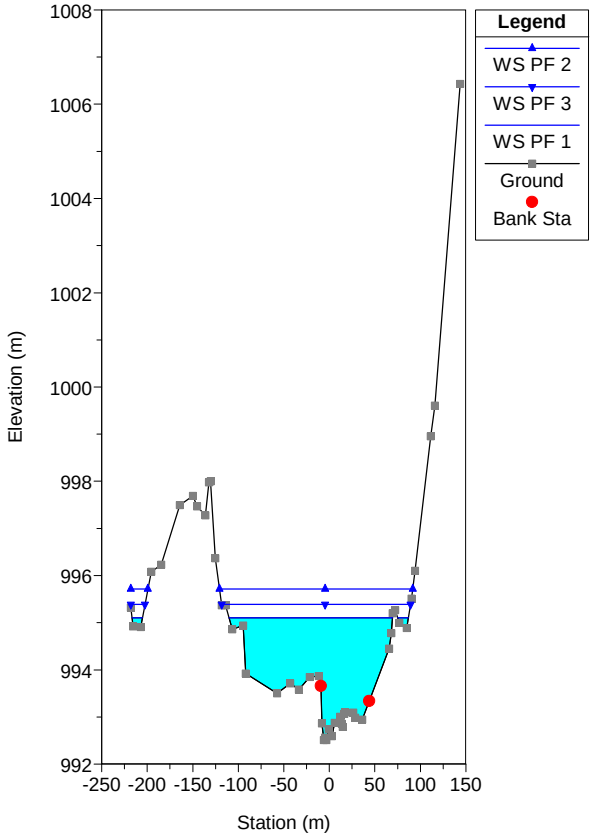

River = 1 Reach = a RS = 57.600*

PROFILO IDRAULICO DORA RIPARIA



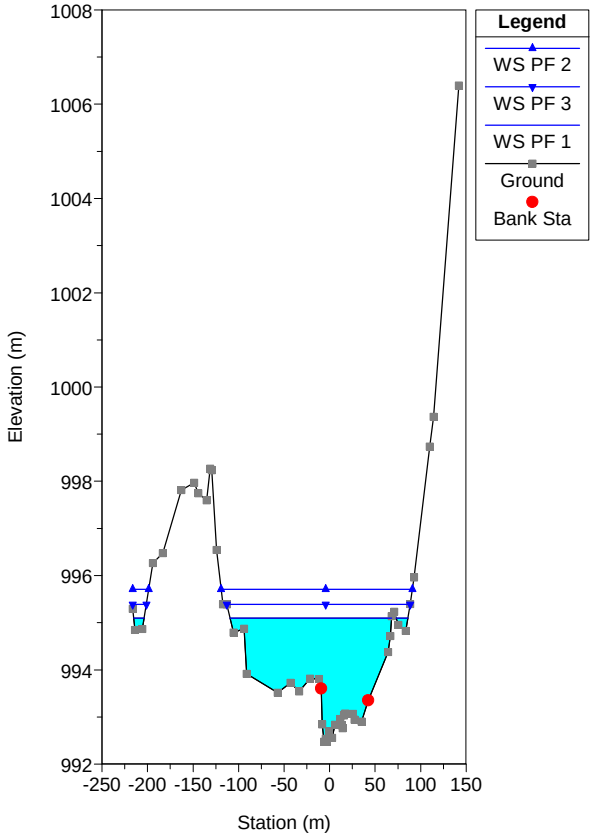

River = 1 Reach = a RS = 57.200*

PROFILO IDRAULICO DORA RIPARIA



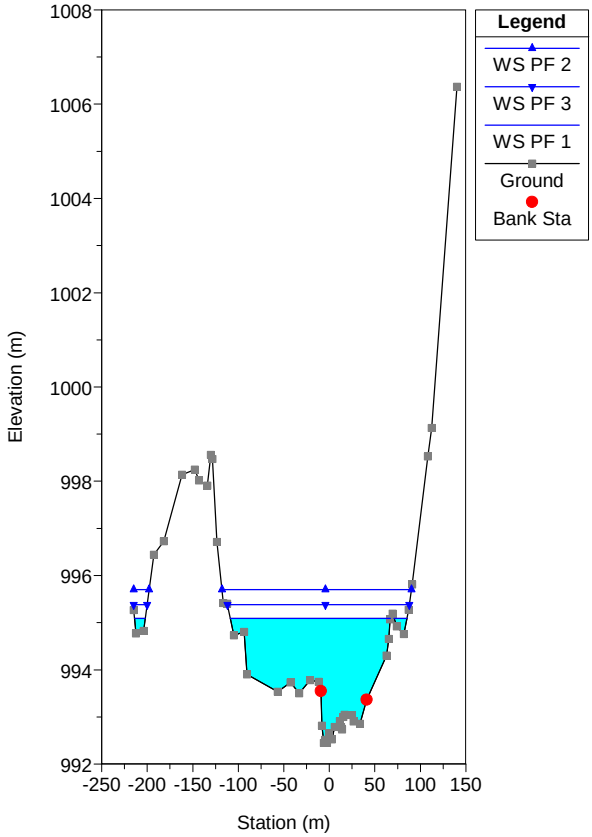

River = 1 Reach = a RS = 56.800*

PROFILO IDRAULICO DORA RIPARIA



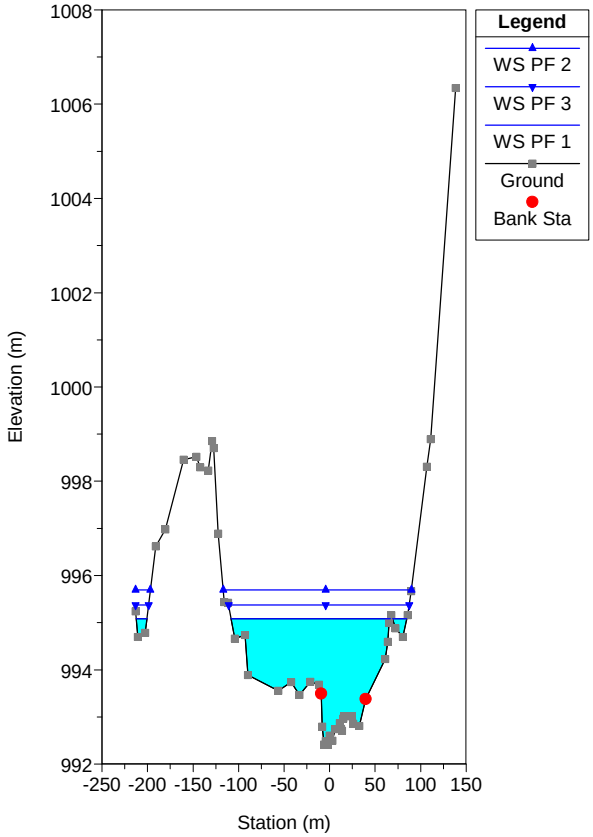
River = 1 Reach = a RS = 56.400*

PROFILO IDRAULICO DORA RIPARIA



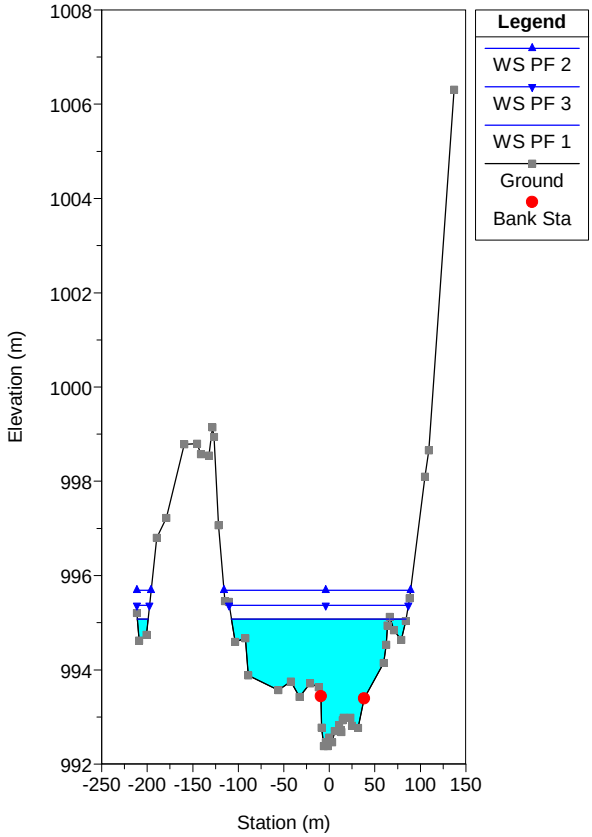

River = 1 Reach = a RS = 56.000*

PROFILO IDRAULICO DORA RIPARIA



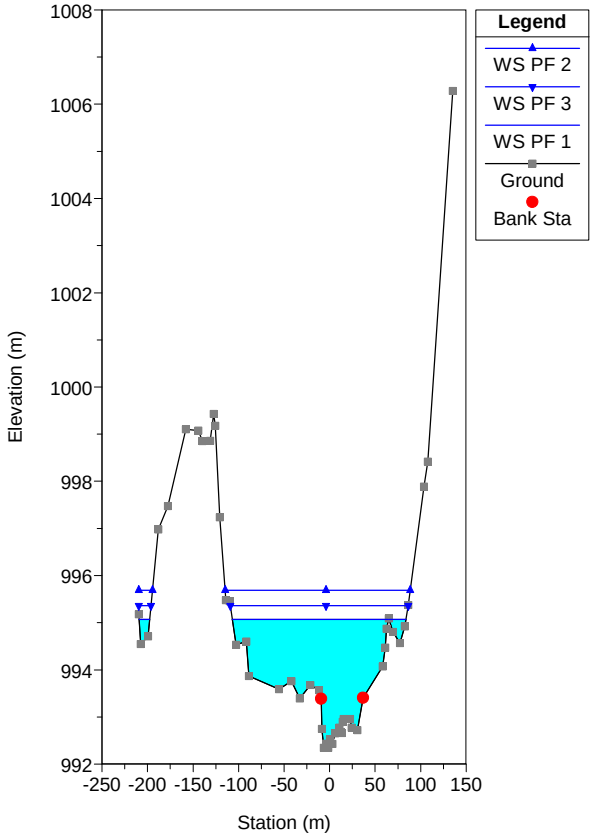

River = 1 Reach = a RS = 55.600*

PROFILO IDRAULICO DORA RIPARIA



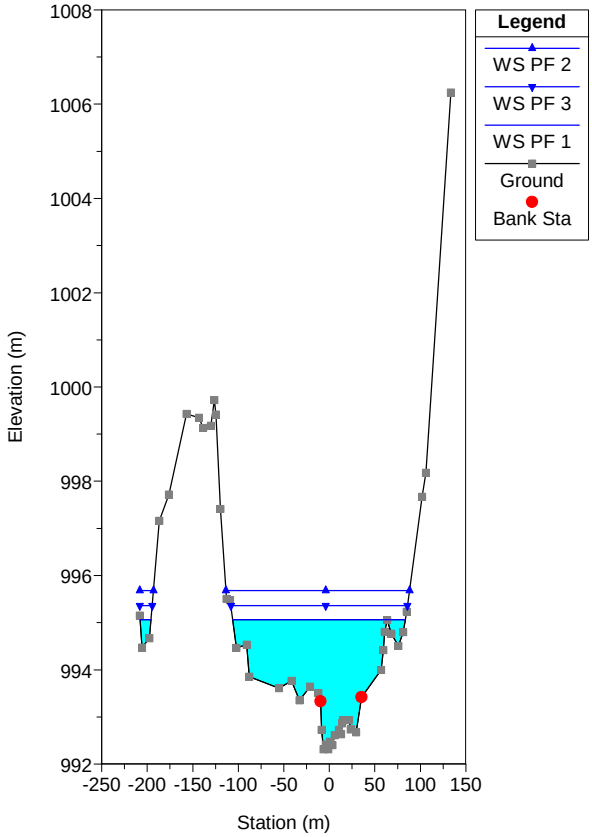

River = 1 Reach = a RS = 55.200*

PROFILO IDRAULICO DORA RIPARIA



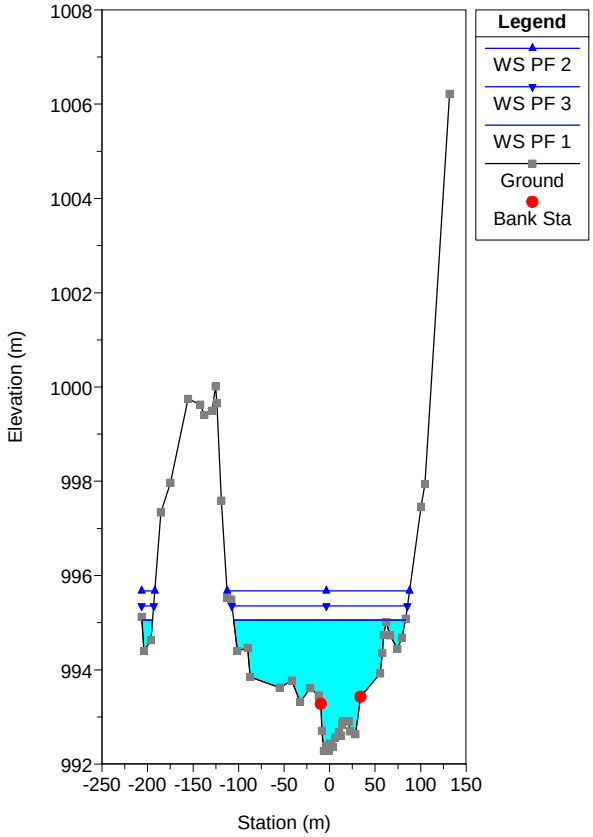
River = 1 Reach = a RS = 54.800*

PROFILO IDRAULICO DORA RIPARIA



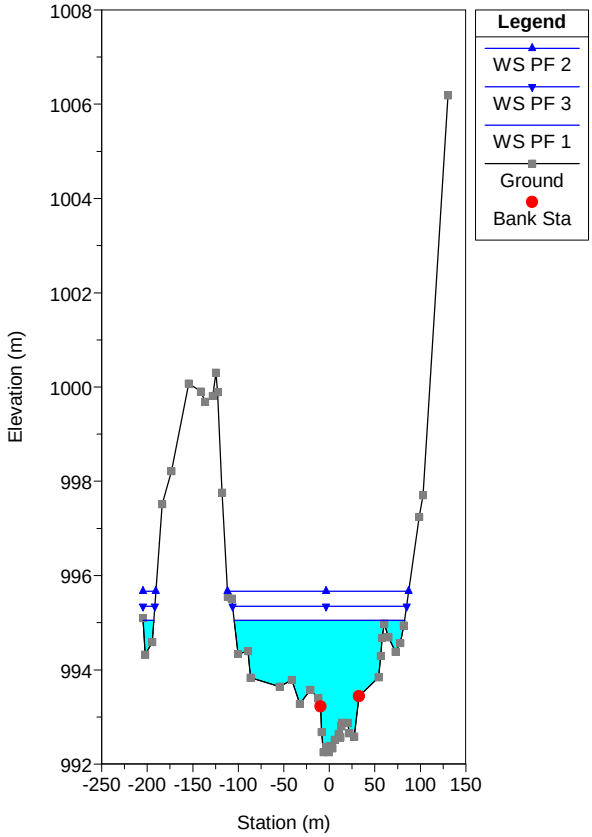

River = 1 Reach = a RS = 54.400*

PROFILO IDRAULICO DORA RIPARIA



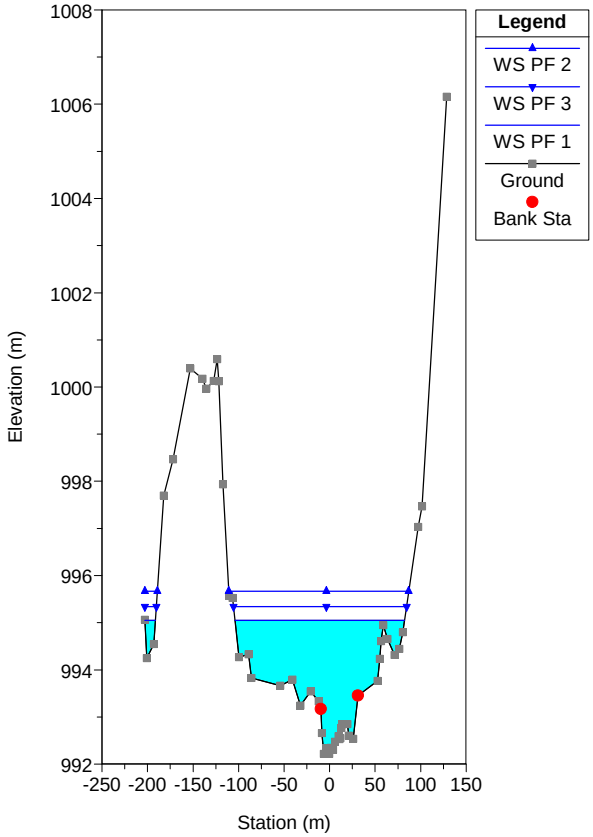

River = 1 Reach = a RS = 54.000*

PROFILO IDRAULICO DORA RIPARIA



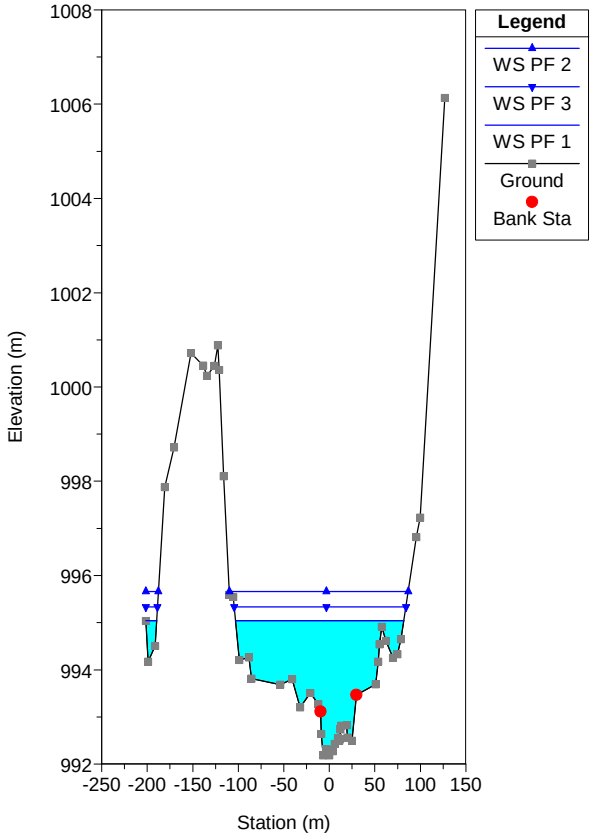

River = 1 Reach = a RS = 53.600*

PROFILO IDRAULICO DORA RIPARIA



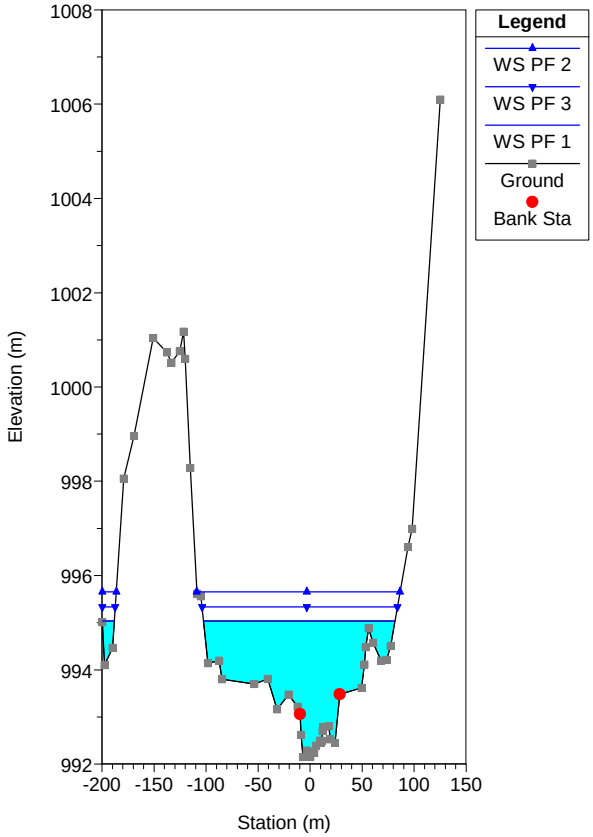
River = 1 Reach = a RS = 53.200*

PROFILO IDRAULICO DORA RIPARIA



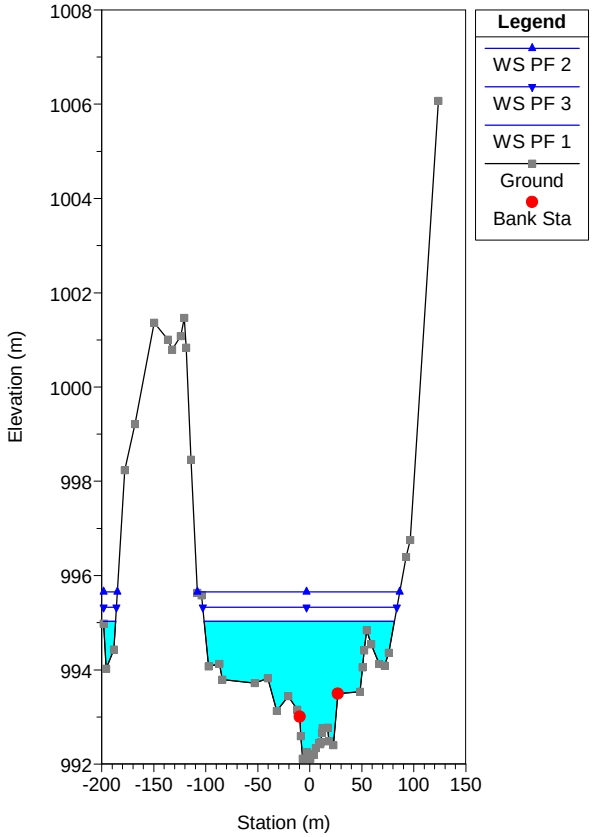

River = 1 Reach = a RS = 52.800*

PROFILO IDRAULICO DORA RIPARIA



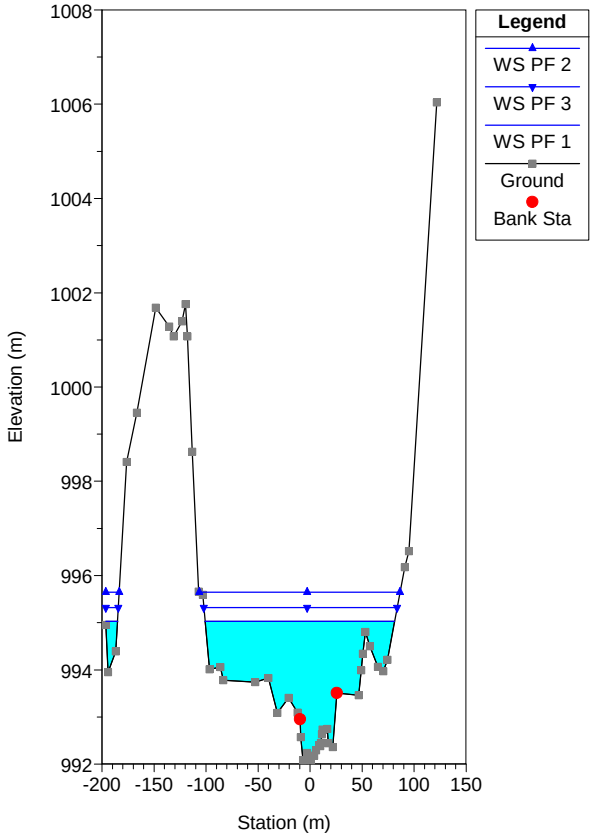

River = 1 Reach = a RS = 52.400*

PROFILO IDRAULICO DORA RIPARIA



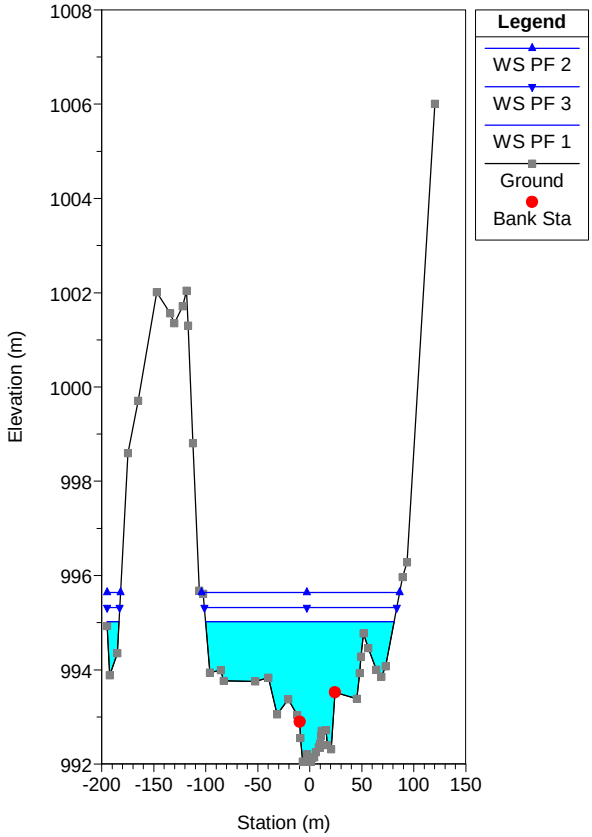

River = 1 Reach = a RS = 52.000*

PROFILO IDRAULICO DORA RIPARIA



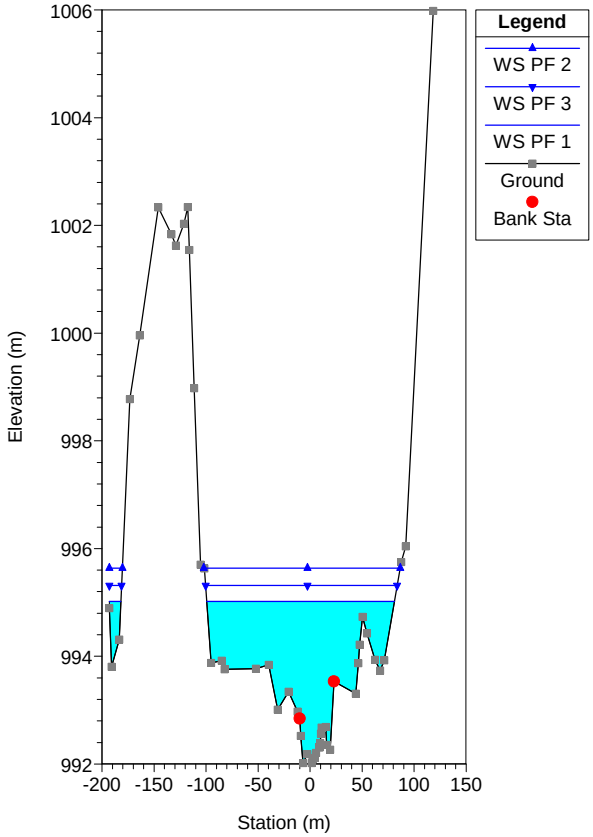
River = 1 Reach = a RS = 51.600*

PROFILO IDRAULICO DORA RIPARIA



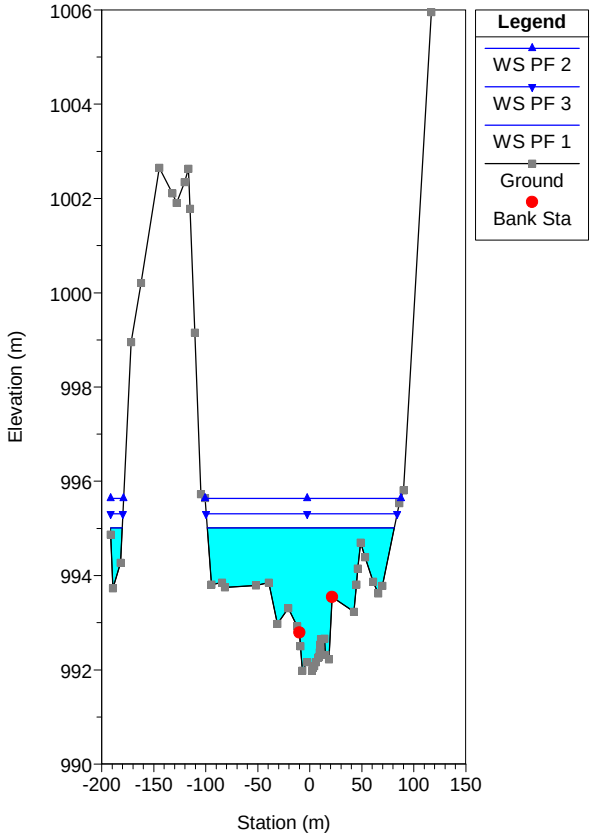

River = 1 Reach = a RS = 51.200*

PROFILO IDRAULICO DORA RIPARIA



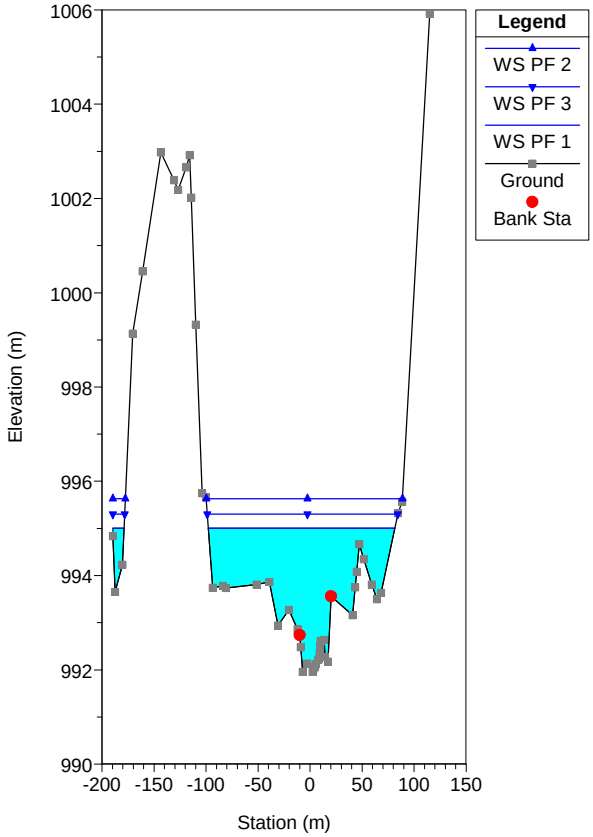

River = 1 Reach = a RS = 50.800*

PROFILO IDRAULICO DORA RIPARIA



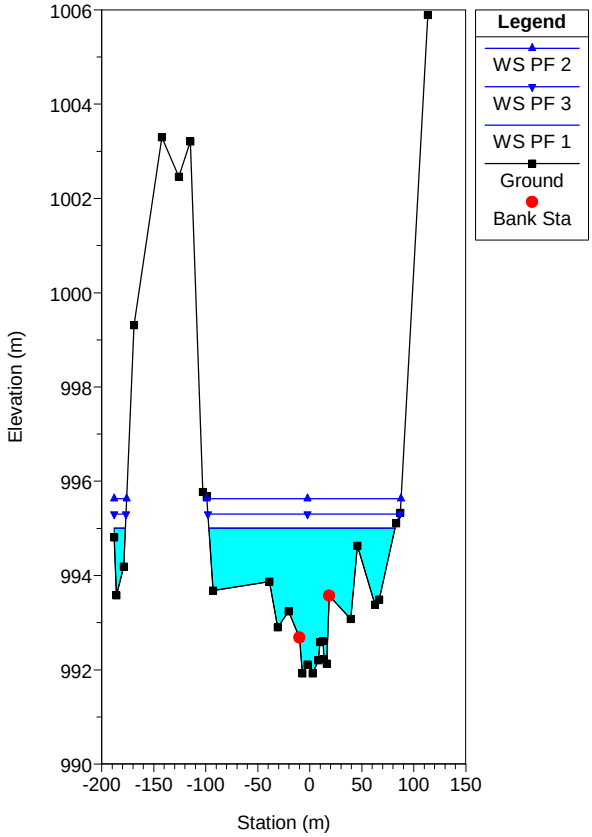

River = 1 Reach = a RS = 50.400*

PROFILO IDRAULICO DORA RIPARIA



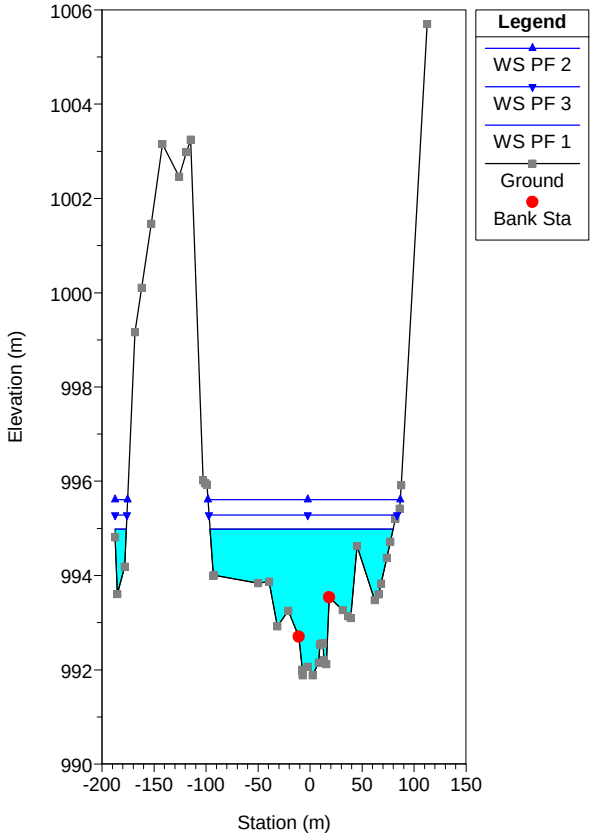
River = 1 Reach = a RS = 50

PROFILO IDRAULICO DORA RIPARIA



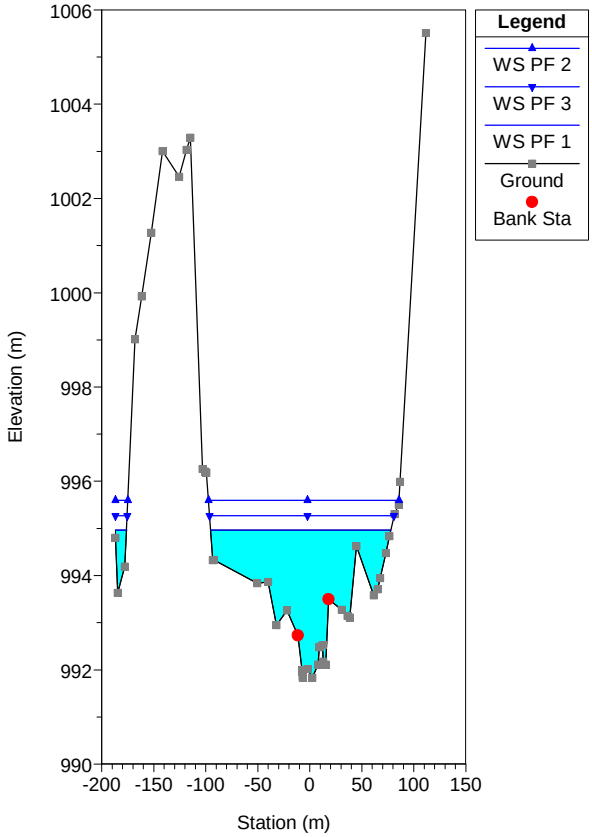

River = 1 Reach = a RS = 49.730*

PROFILO IDRAULICO DORA RIPARIA



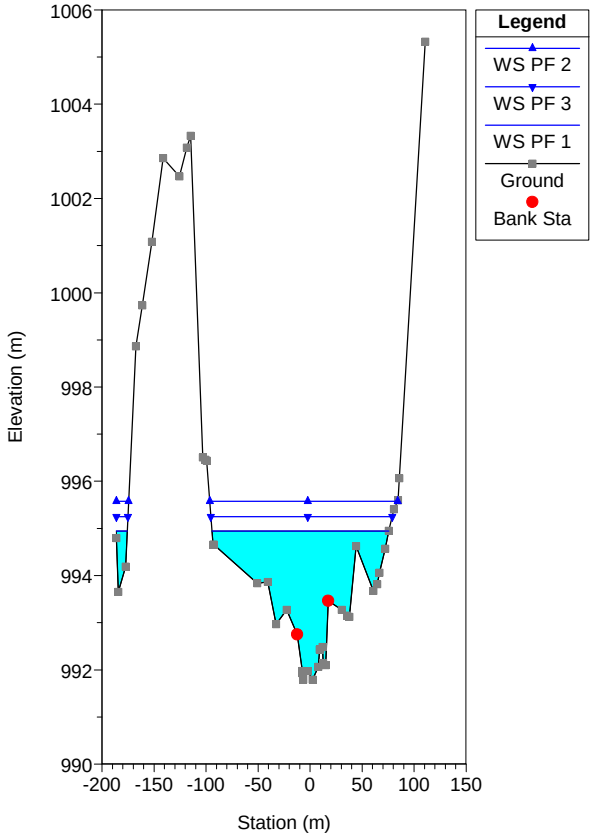

River = 1 Reach = a RS = 49.459*

PROFILO IDRAULICO DORA RIPARIA



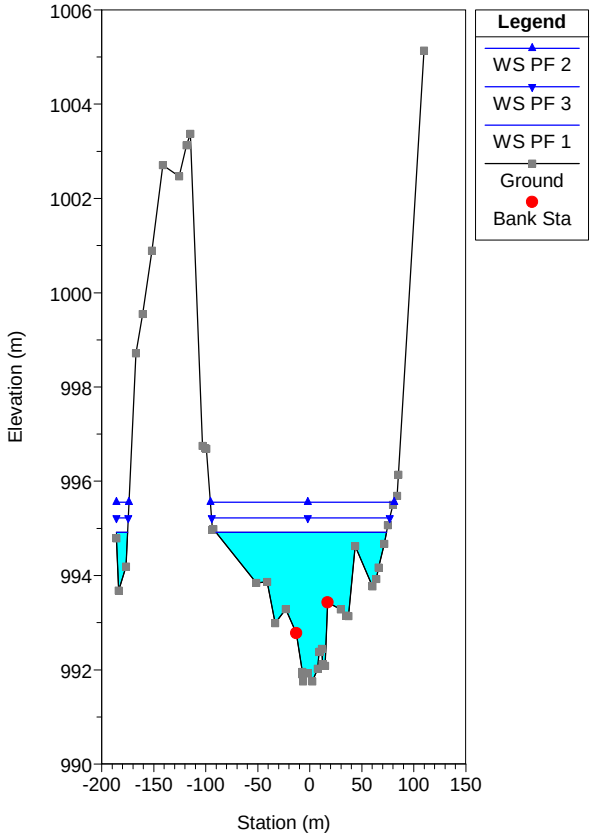

River = 1 Reach = a RS = 49.189*

PROFILO IDRAULICO DORA RIPARIA



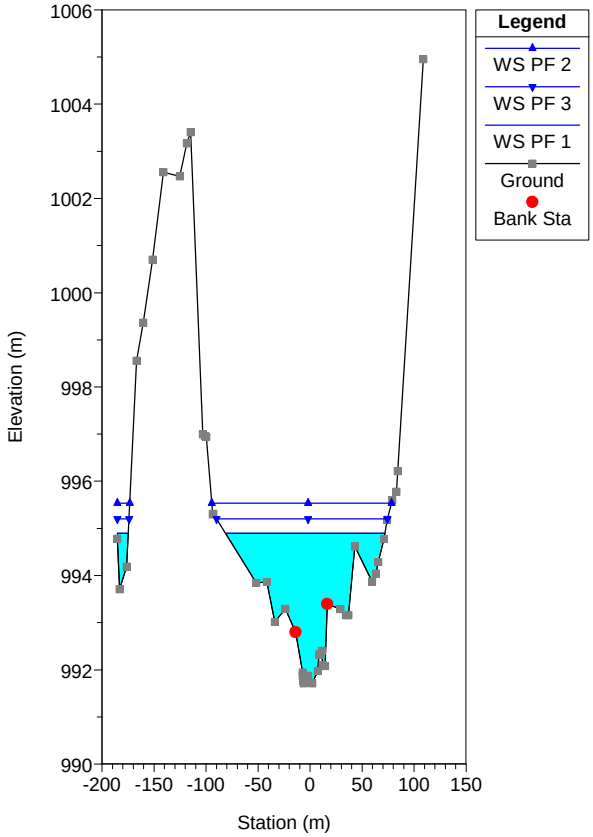
River = 1 Reach = a RS = 48.919*

PROFILO IDRAULICO DORA RIPARIA



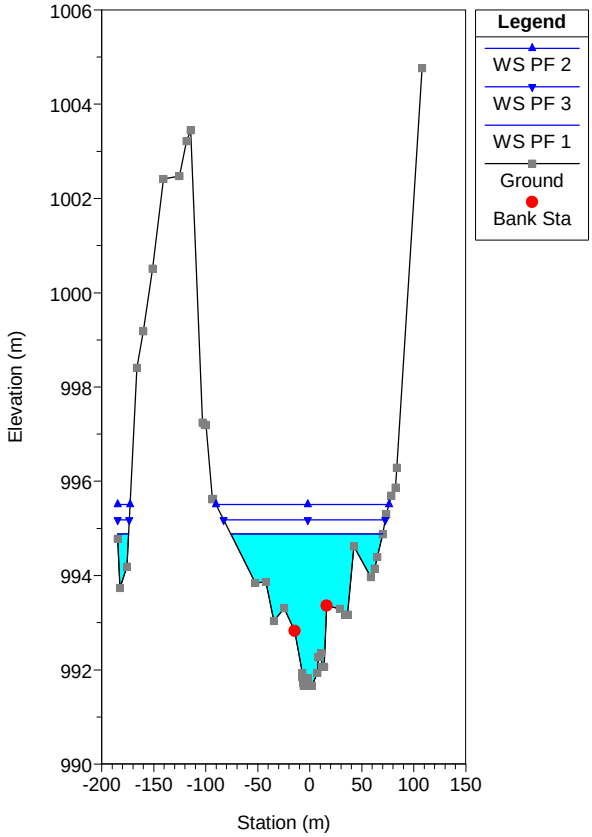

River = 1 Reach = a RS = 48.649*

PROFILO IDRAULICO DORA RIPARIA



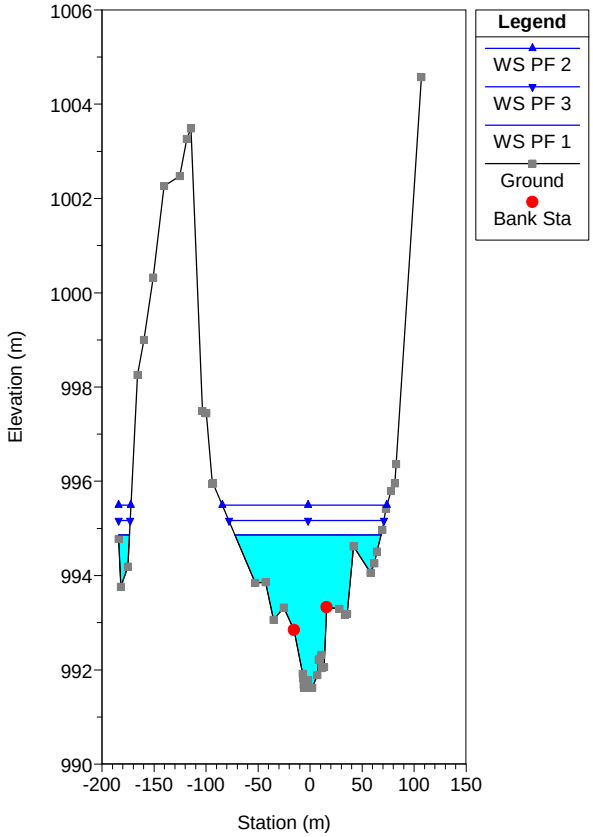

River = 1 Reach = a RS = 48.378*

PROFILO IDRAULICO DORA RIPARIA



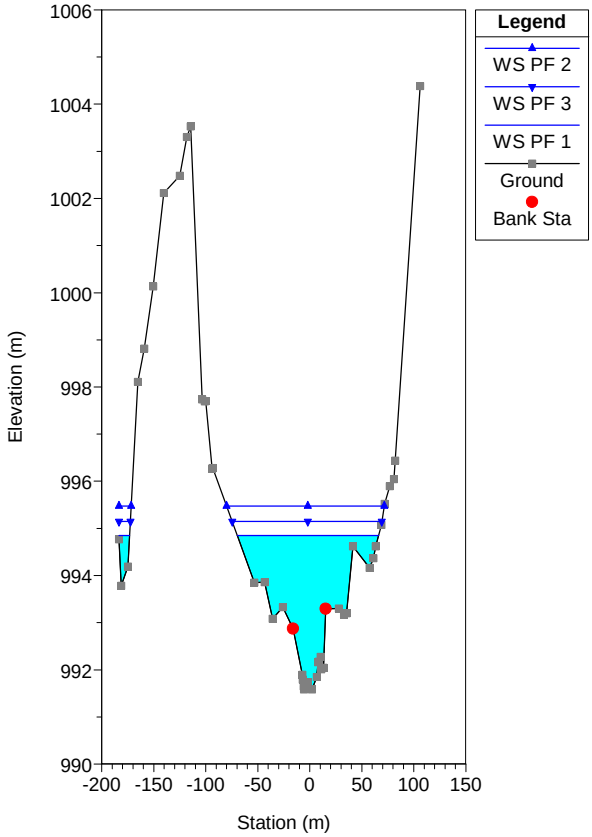

River = 1 Reach = a RS = 48.108*

PROFILO IDRAULICO DORA RIPARIA



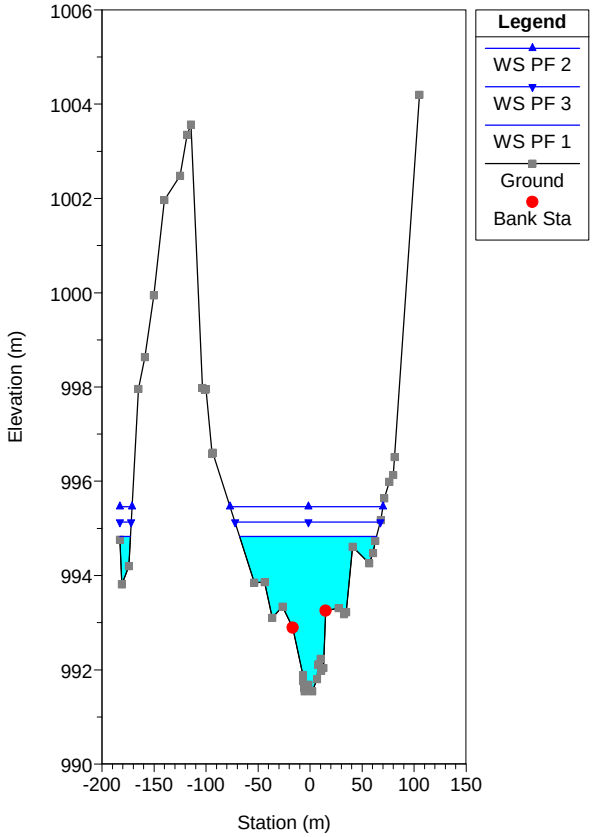
River = 1 Reach = a RS = 47.838*

PROFILO IDRAULICO DORA RIPARIA



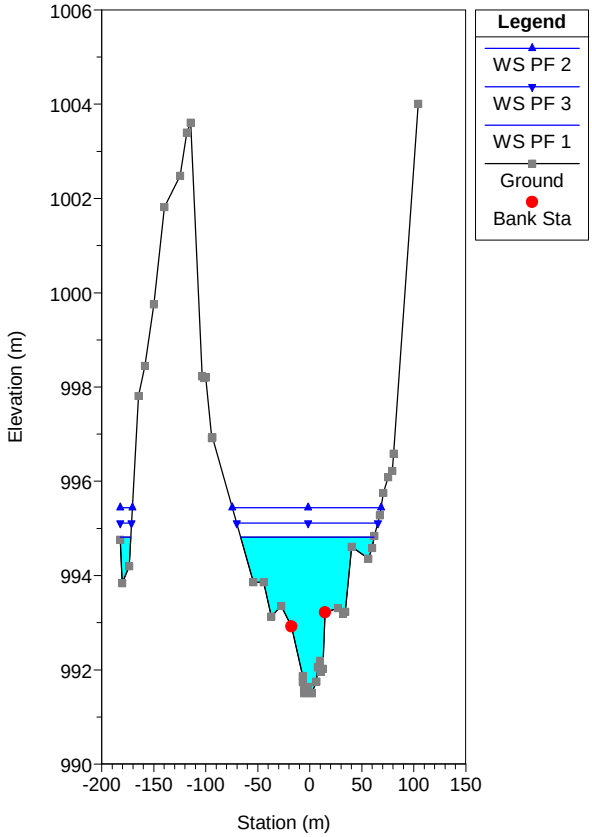

River = 1 Reach = a RS = 47.568*

PROFILO IDRAULICO DORA RIPARIA



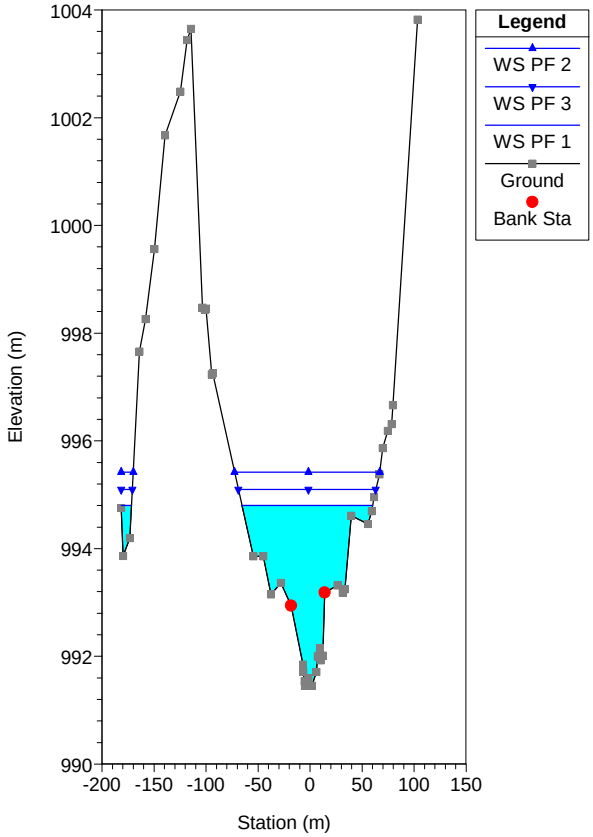

River = 1 Reach = a RS = 47.297*

PROFILO IDRAULICO DORA RIPARIA



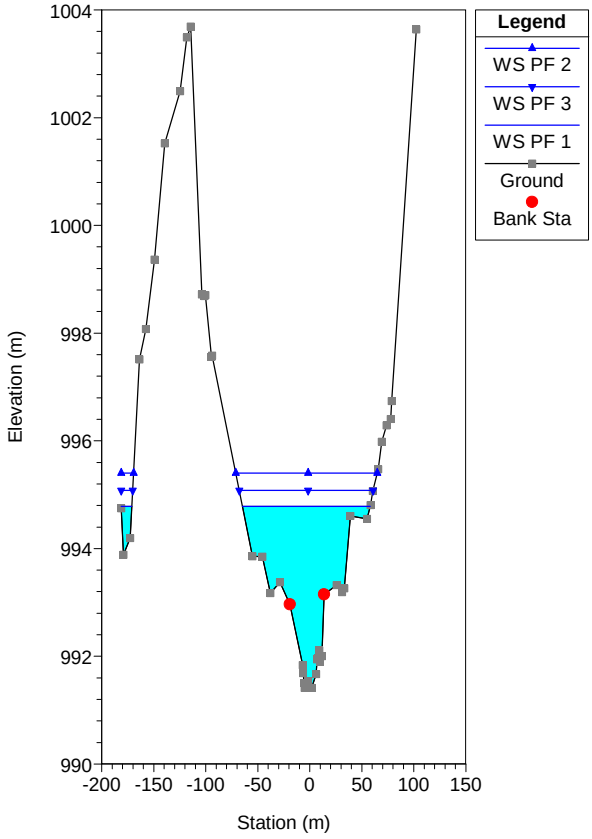

River = 1 Reach = a RS = 47.027*

PROFILO IDRAULICO DORA RIPARIA



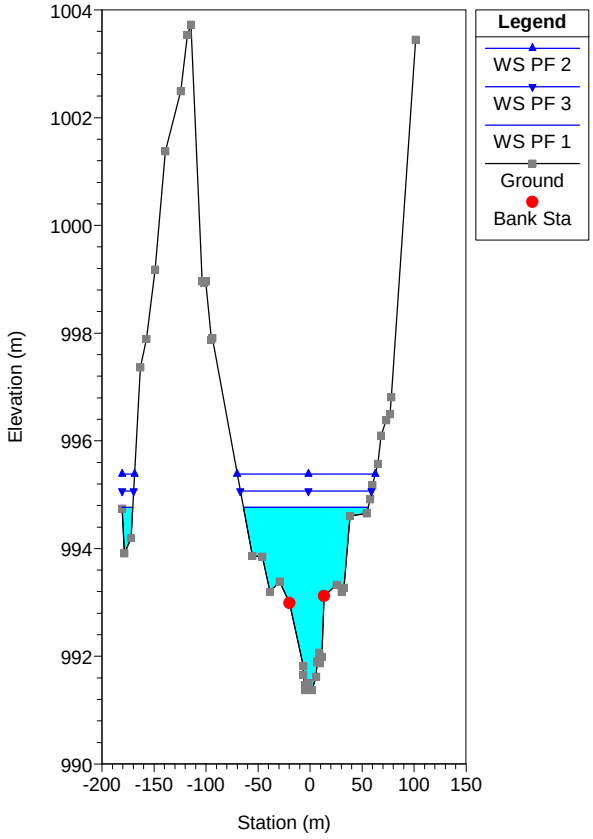
River = 1 Reach = a RS = 46.757*

PROFILO IDRAULICO DORA RIPARIA



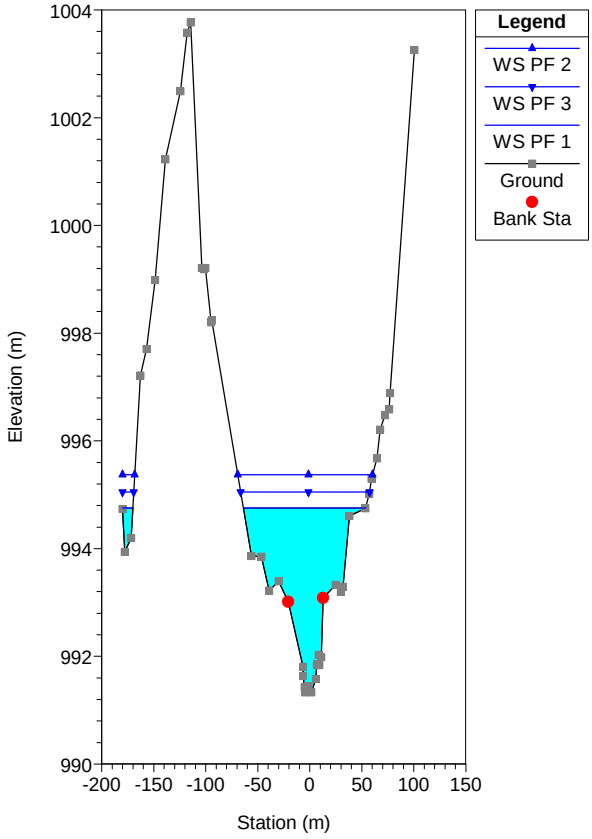

River = 1 Reach = a RS = 46.486*

PROFILO IDRAULICO DORA RIPARIA



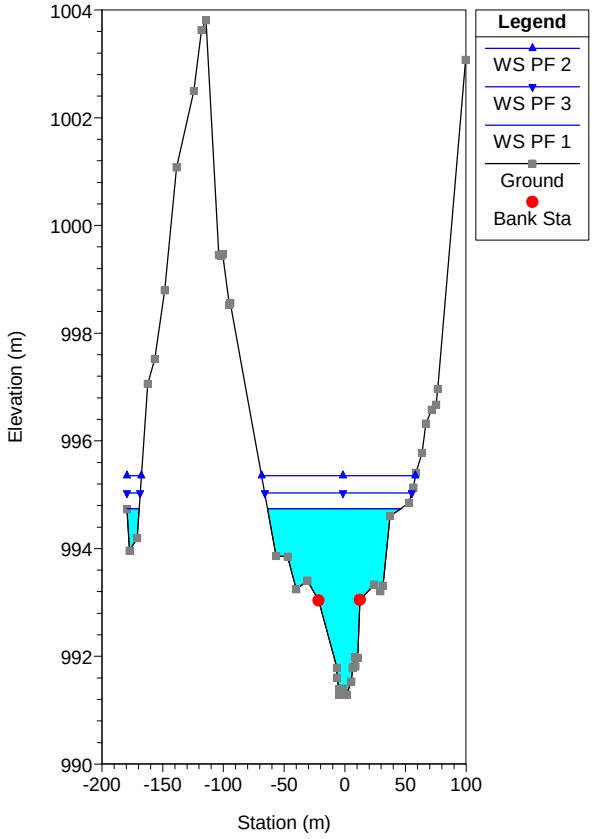

River = 1 Reach = a RS = 46.216*

PROFILO IDRAULICO DORA RIPARIA



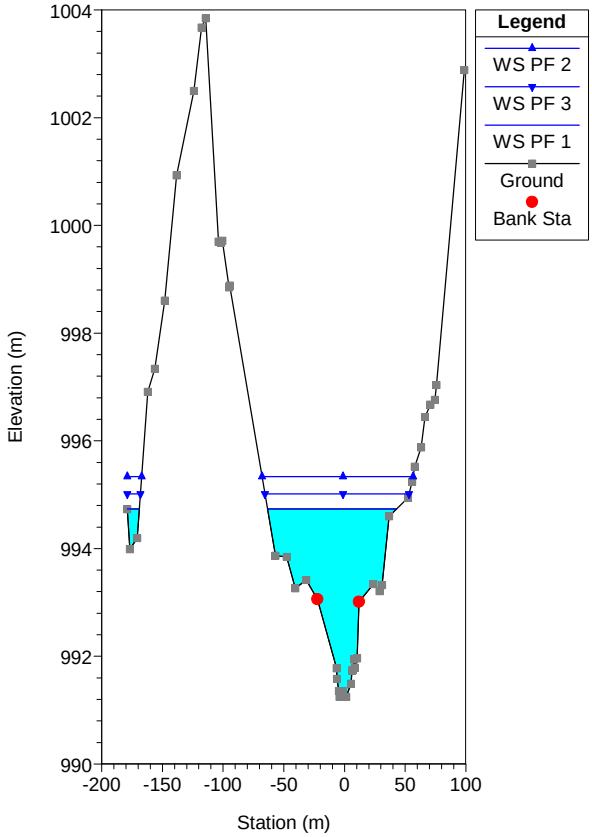

River = 1 Reach = a RS = 45.946*

PROFILO IDRAULICO DORA RIPARIA



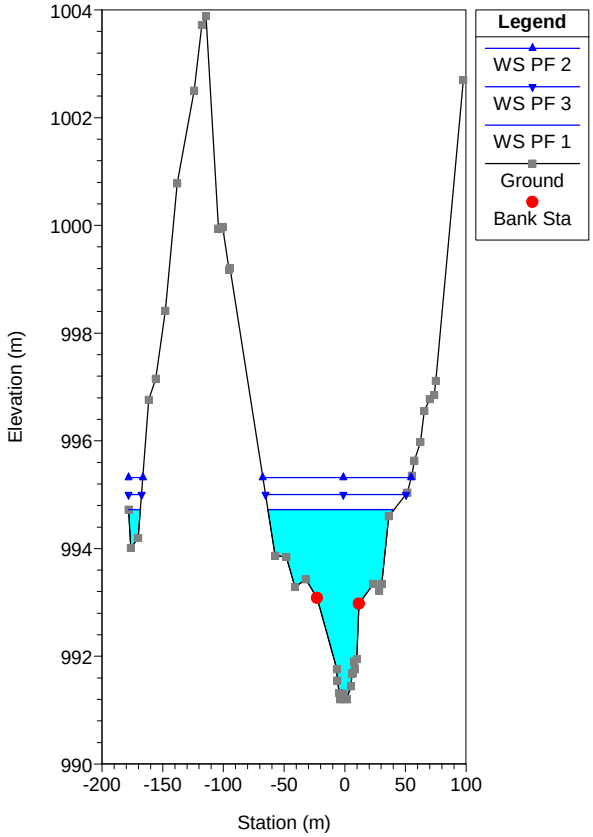
River = 1 Reach = a RS = 45.676*

PROFILO IDRAULICO DORA RIPARIA



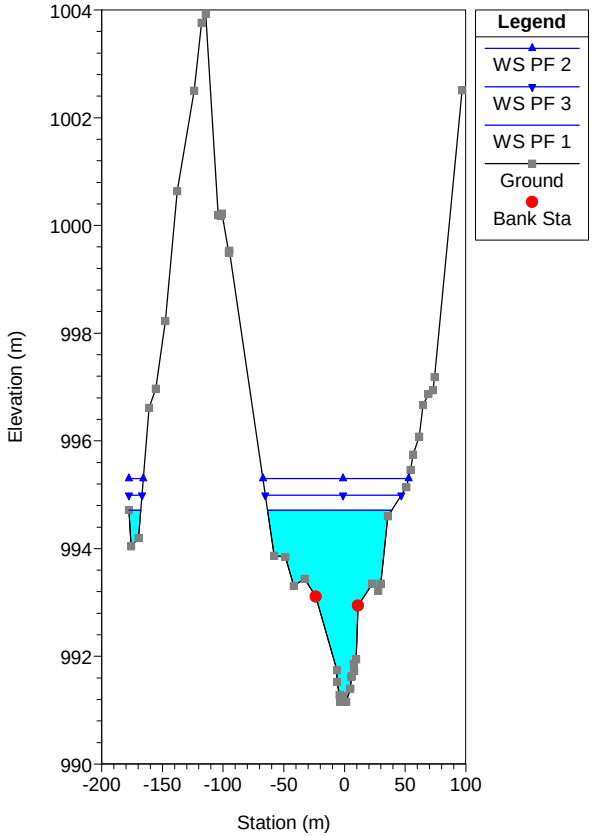

River = 1 Reach = a RS = 45.405*

PROFILO IDRAULICO DORA RIPARIA



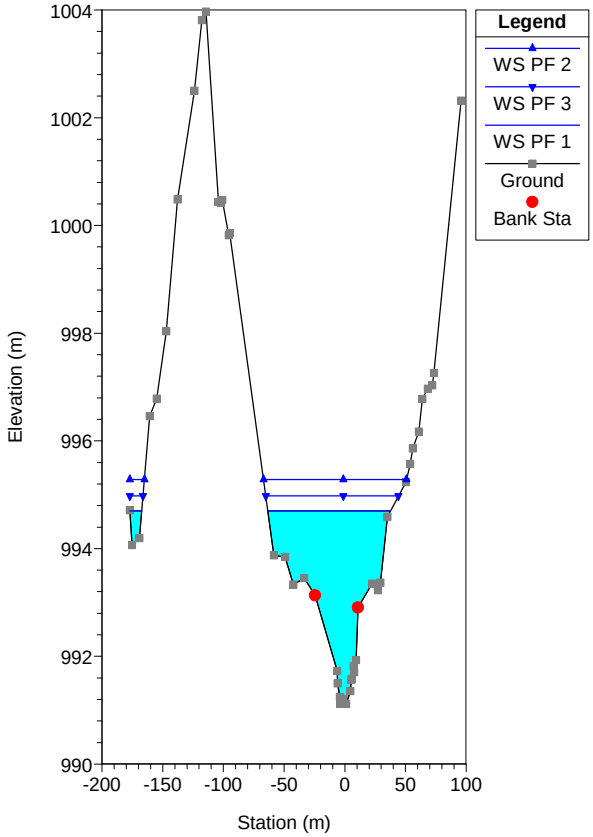

River = 1 Reach = a RS = 45.135*

PROFILO IDRAULICO DORA RIPARIA



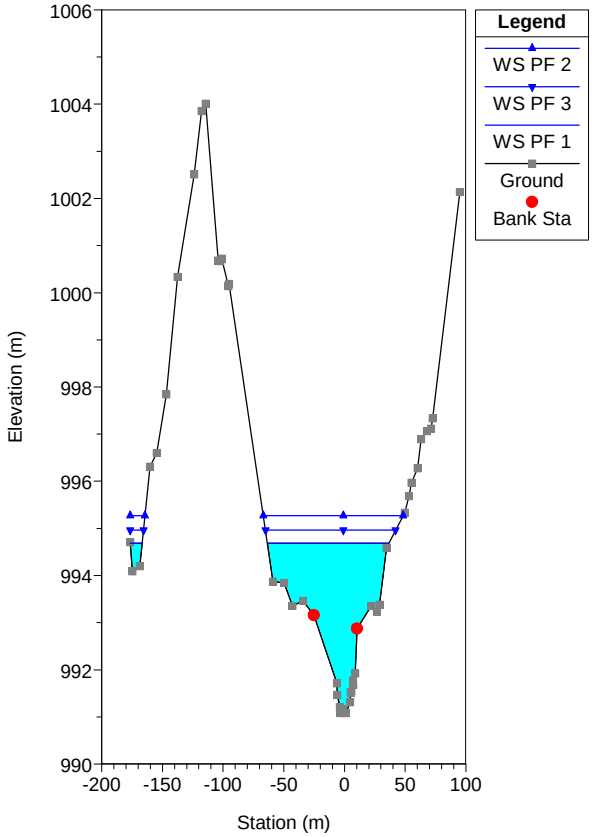

River = 1 Reach = a RS = 44.865*

PROFILO IDRAULICO DORA RIPARIA



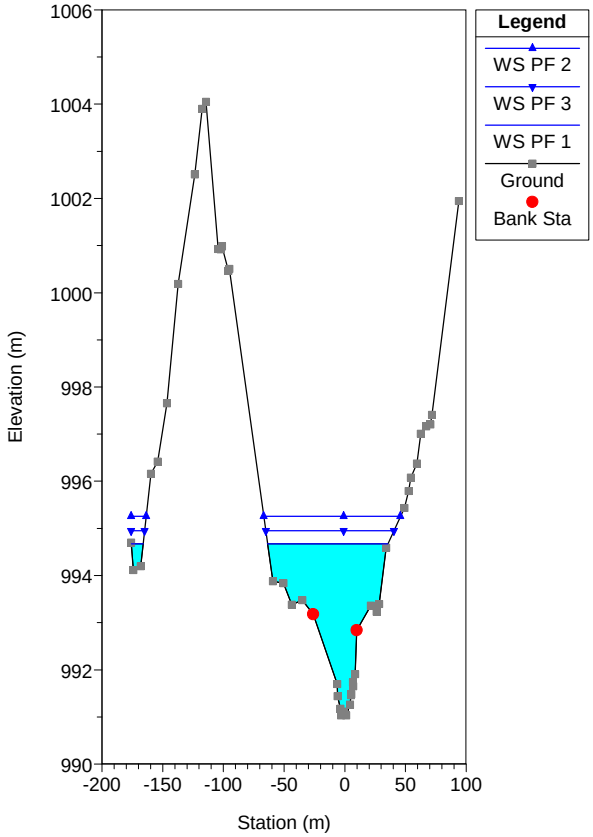
River = 1 Reach = a RS = 44.595*

PROFILO IDRAULICO DORA RIPARIA



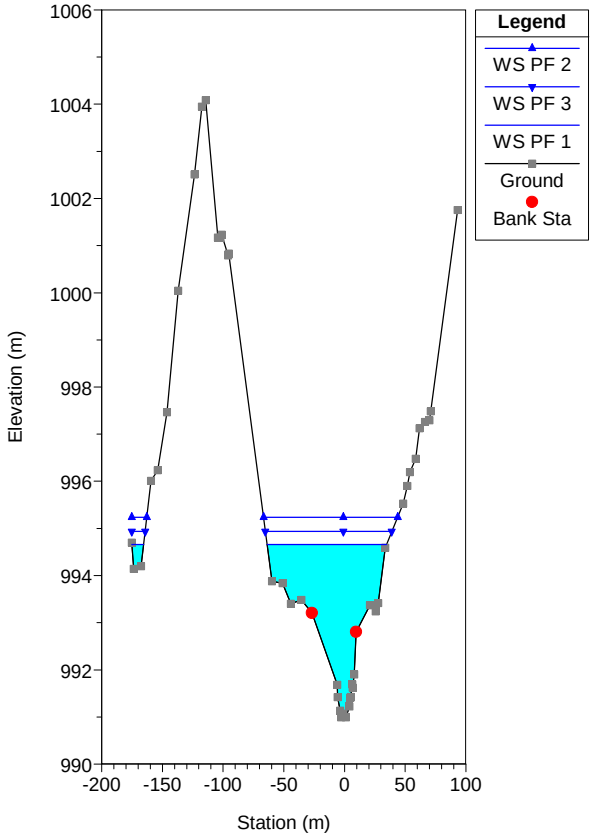

River = 1 Reach = a RS = 44.324*

PROFILO IDRAULICO DORA RIPARIA



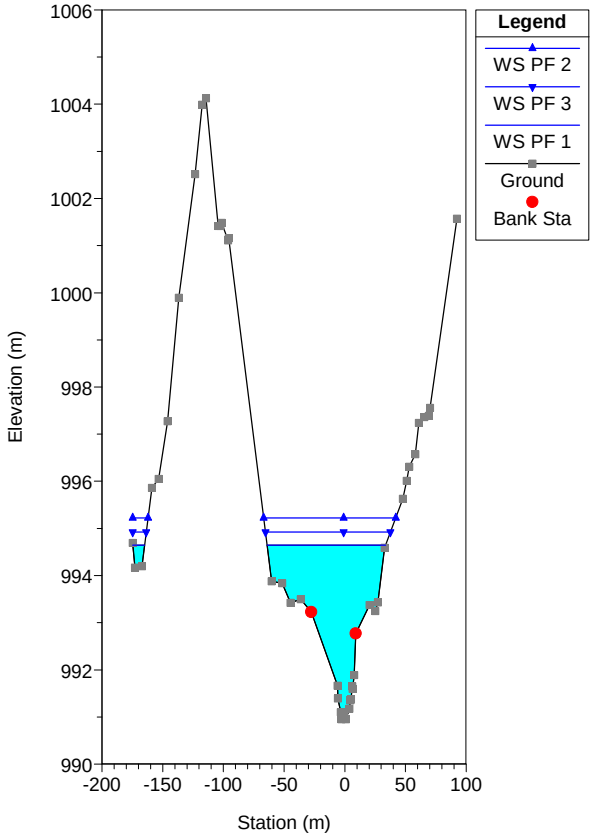

River = 1 Reach = a RS = 44.054*

PROFILO IDRAULICO DORA RIPARIA



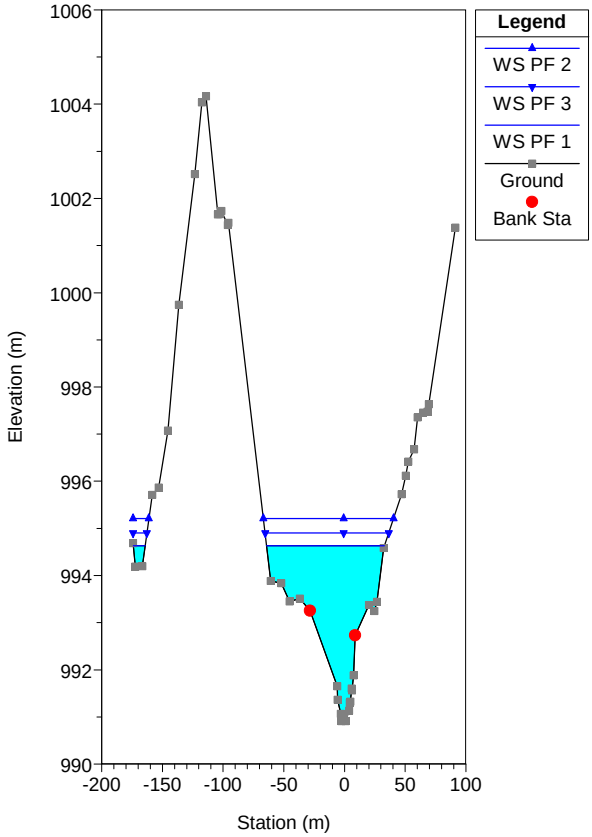

River = 1 Reach = a RS = 43.784*

PROFILO IDRAULICO DORA RIPARIA



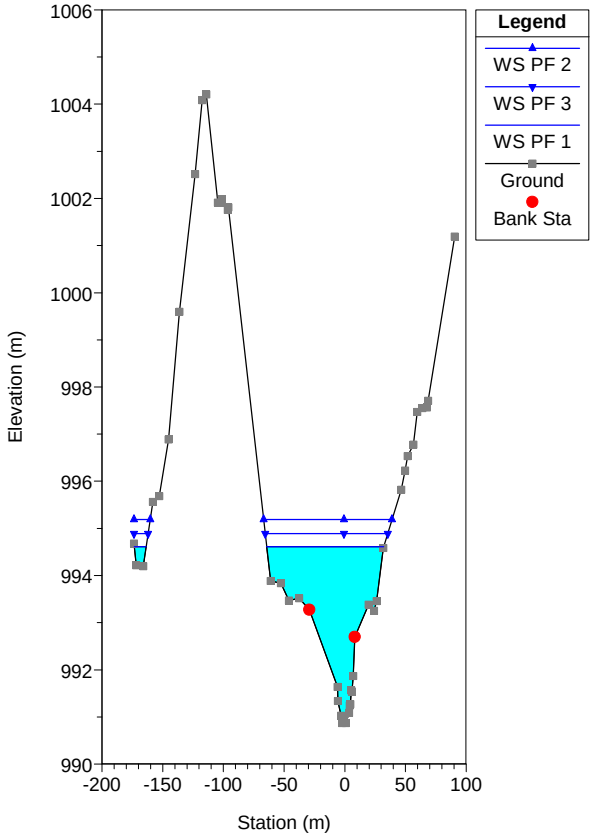
River = 1 Reach = a RS = 43.514*

PROFILO IDRAULICO DORA RIPARIA



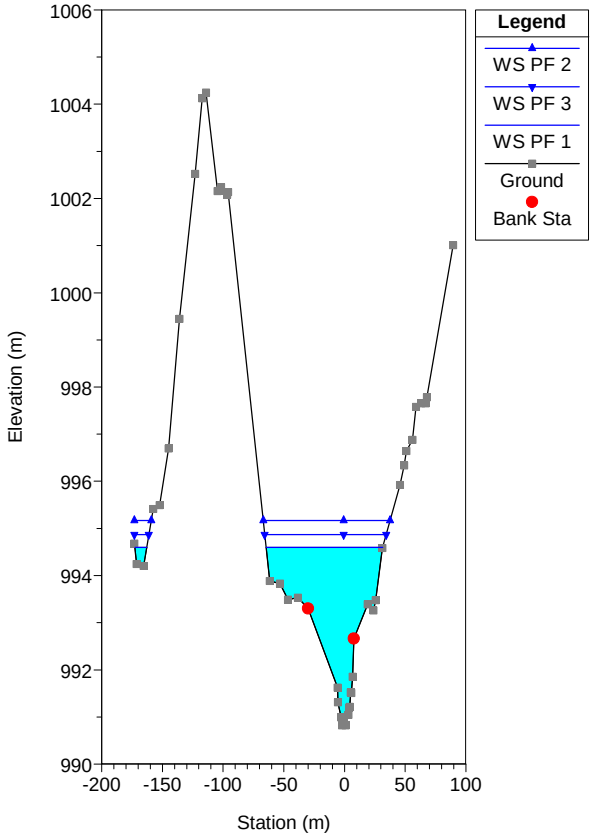

River = 1 Reach = a RS = 43.243*

PROFILO IDRAULICO DORA RIPARIA



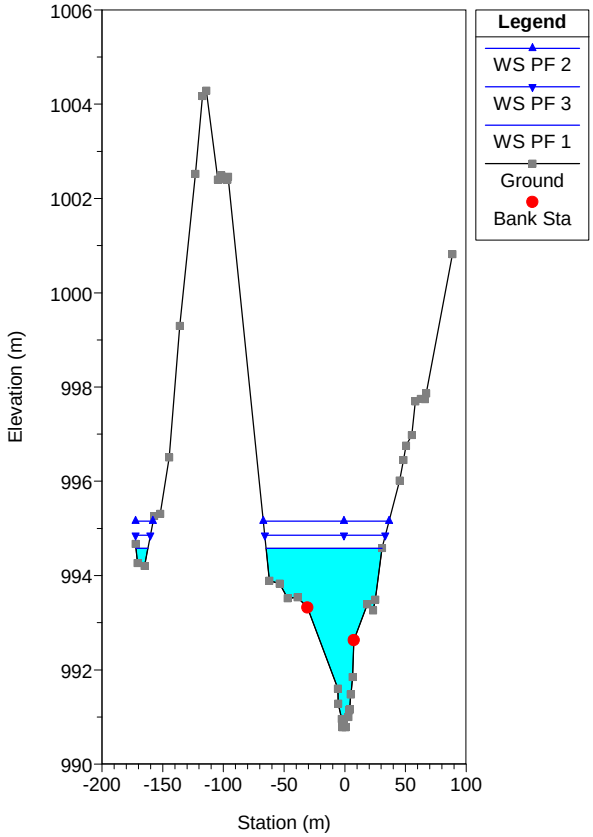

River = 1 Reach = a RS = 42.973*

PROFILO IDRAULICO DORA RIPARIA



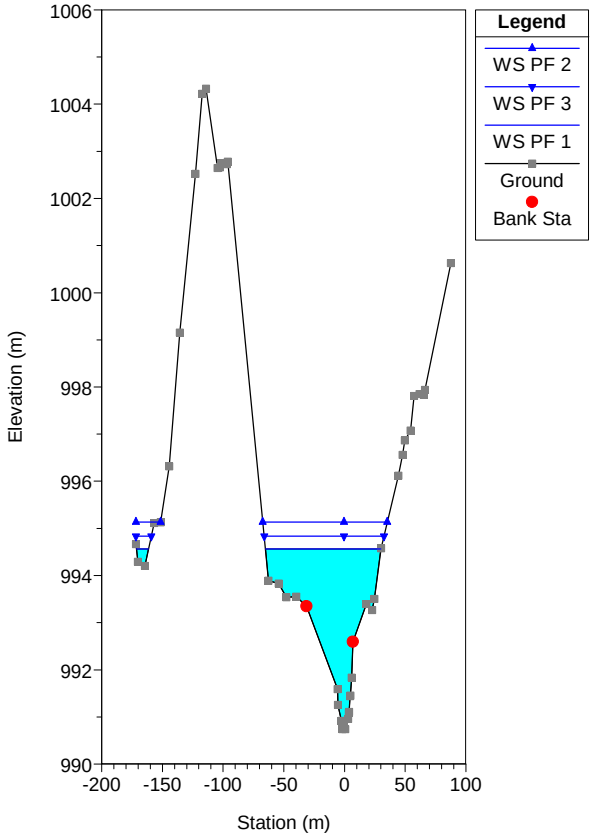

River = 1 Reach = a RS = 42.703*

PROFILO IDRAULICO DORA RIPARIA



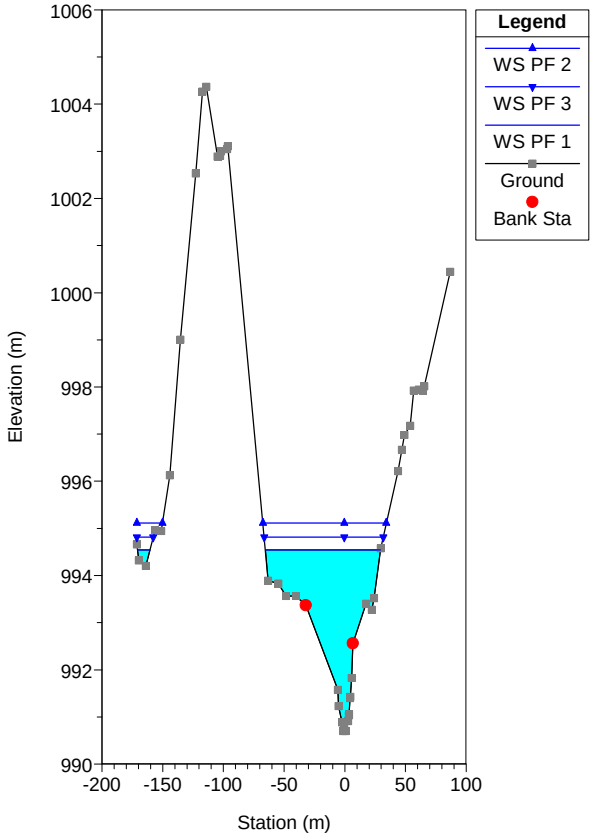
River = 1 Reach = a RS = 42.432*

PROFILO IDRAULICO DORA RIPARIA



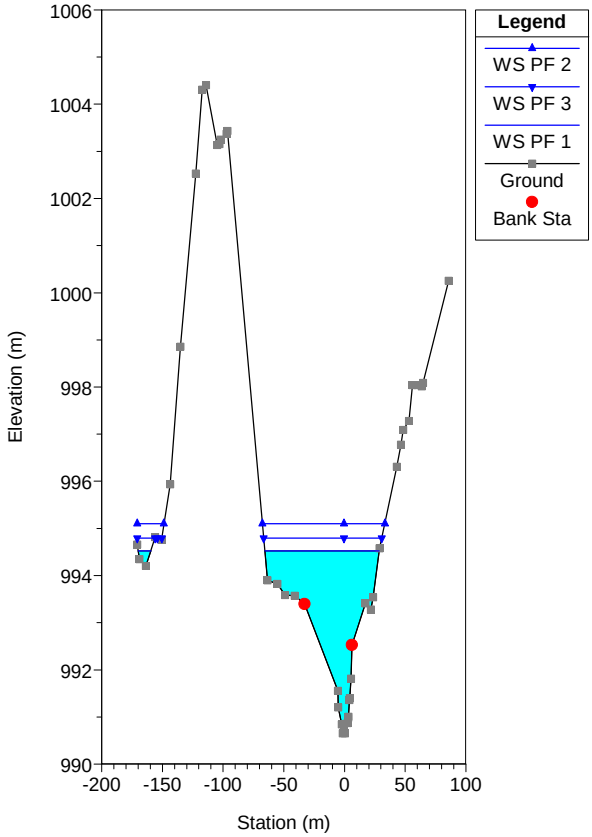

River = 1 Reach = a RS = 42.162*

PROFILO IDRAULICO DORA RIPARIA



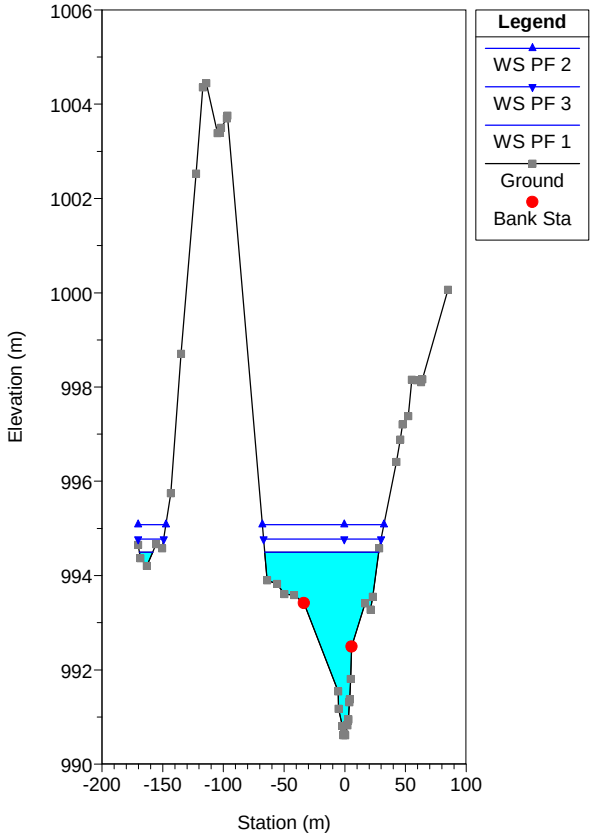

River = 1 Reach = a RS = 41.892*

PROFILO IDRAULICO DORA RIPARIA



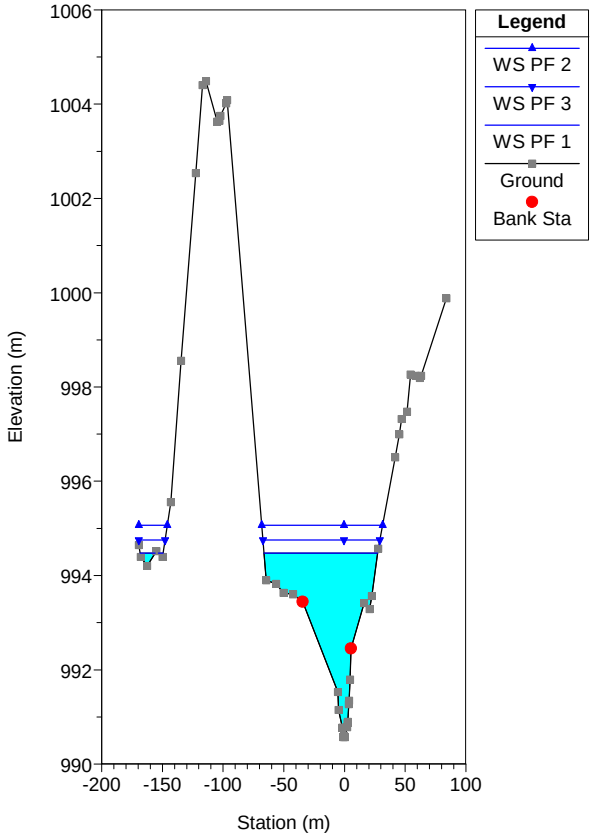

River = 1 Reach = a RS = 41.622*

PROFILO IDRAULICO DORA RIPARIA



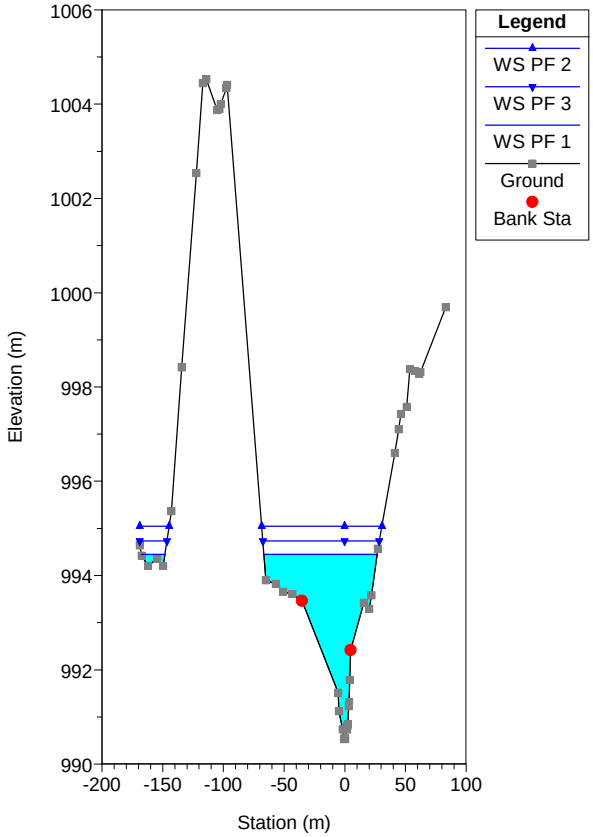
River = 1 Reach = a RS = 41.351*

PROFILO IDRAULICO DORA RIPARIA



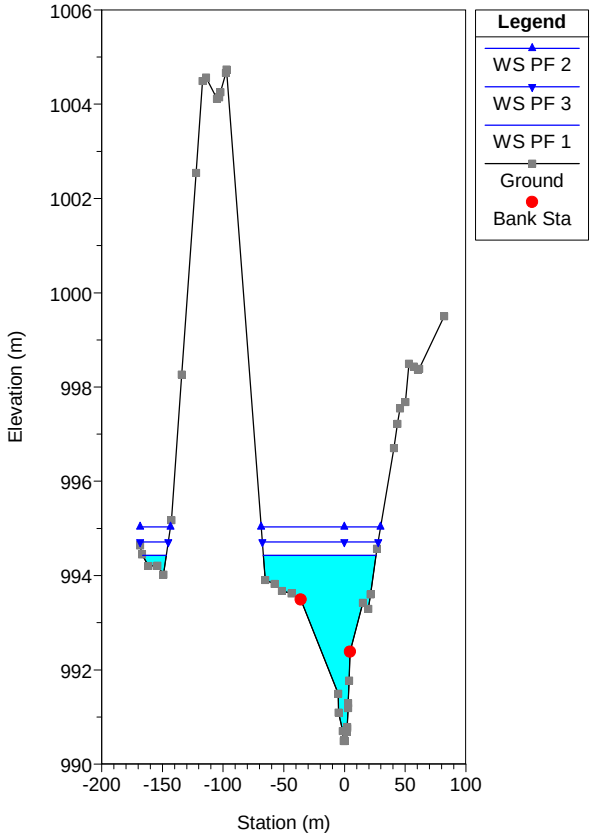

River = 1 Reach = a RS = 41.081*

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 40.811*

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 40.541*

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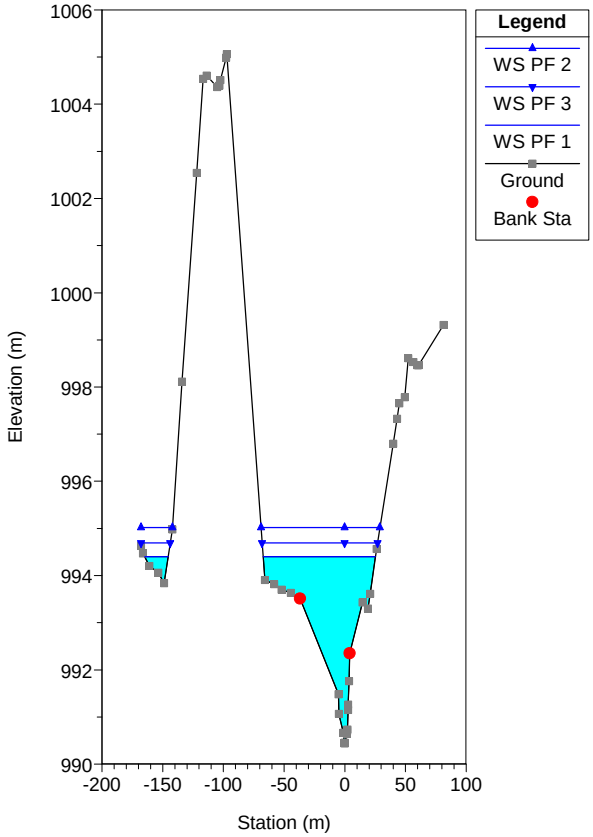
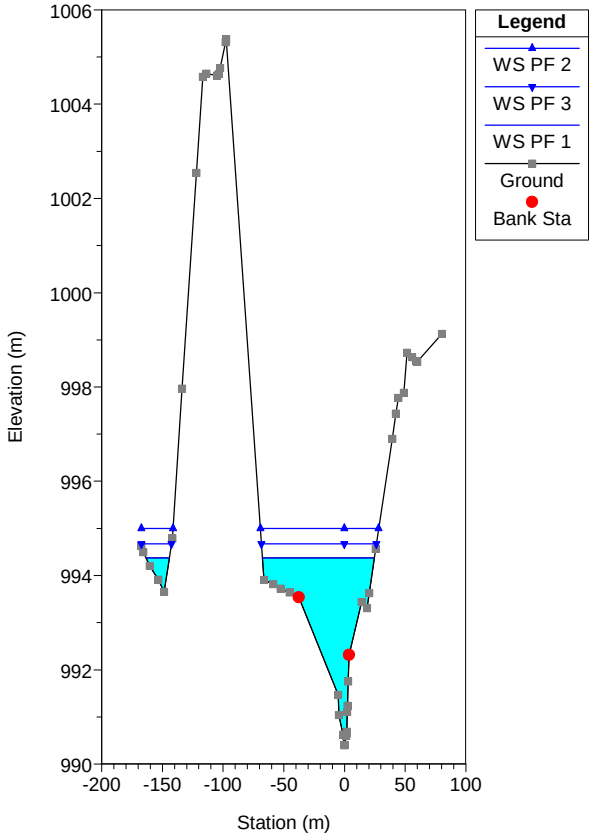


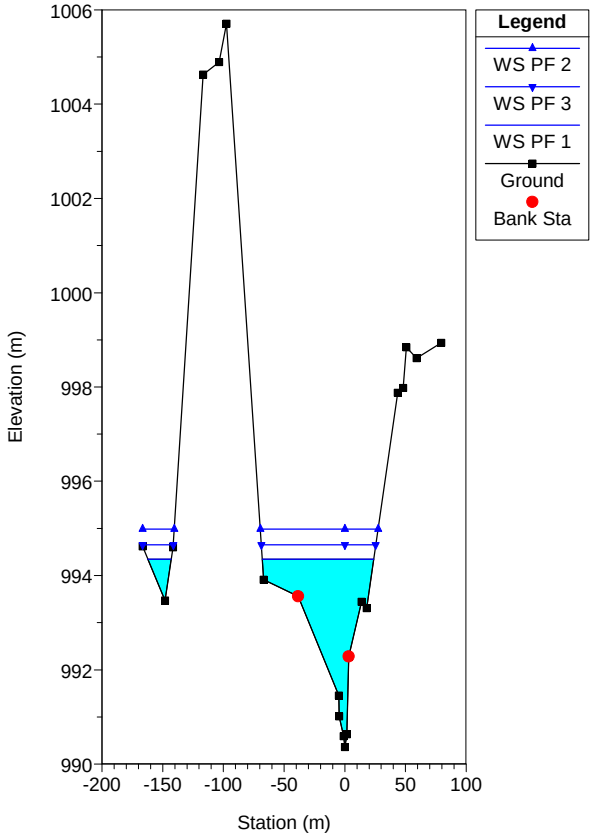
River = 1 Reach = a RS = 40.270*

PROFILO IDRAULICO DORA RIPARIA



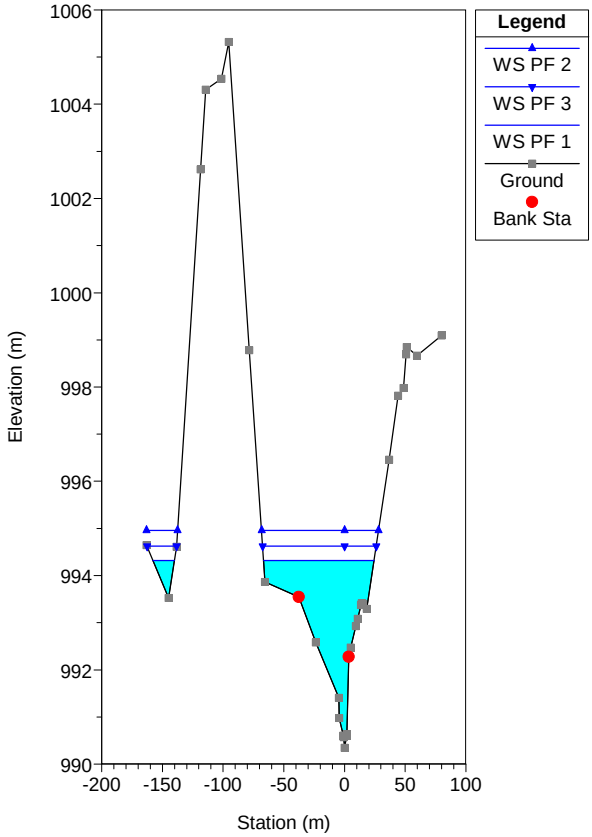

River = 1 Reach = a RS = 40

PROFILO IDRAULICO DORA RIPARIA



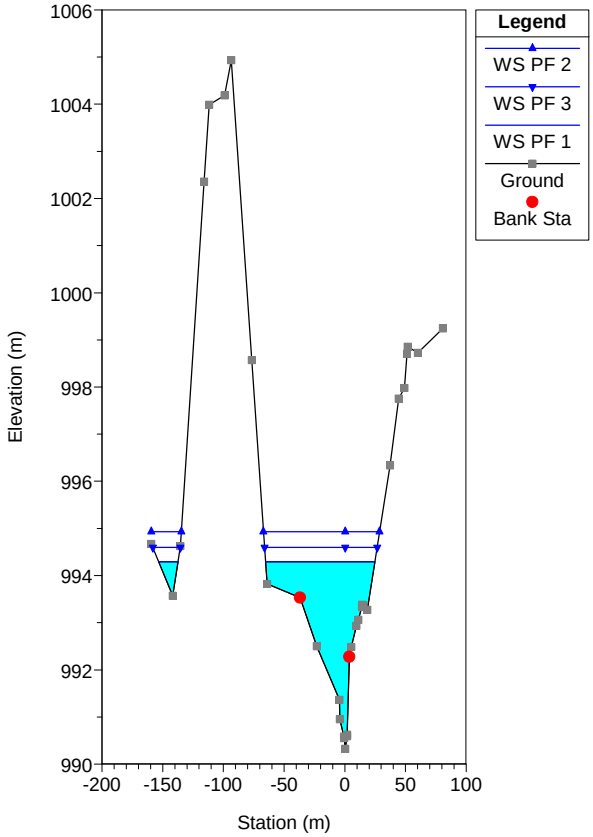

River = 1 Reach = a RS = 39.688*

PROFILO IDRAULICO DORA RIPARIA



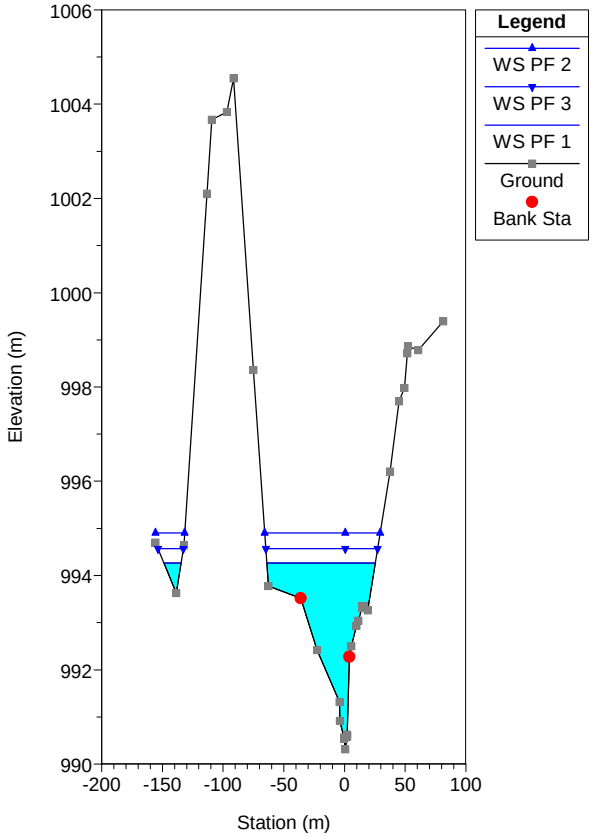

River = 1 Reach = a RS = 39.375*

PROFILO IDRAULICO DORA RIPARIA



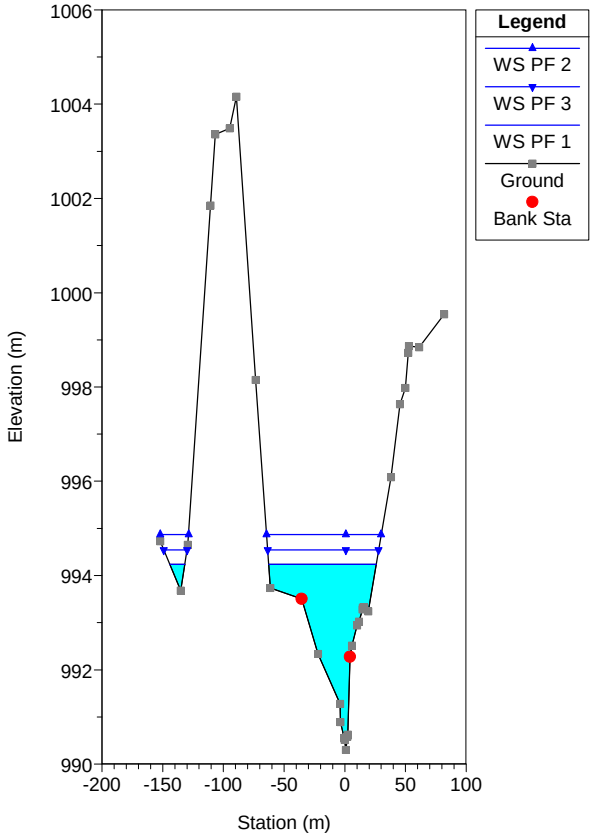
River = 1 Reach = a RS = 39.063*

PROFILO IDRAULICO DORA RIPARIA



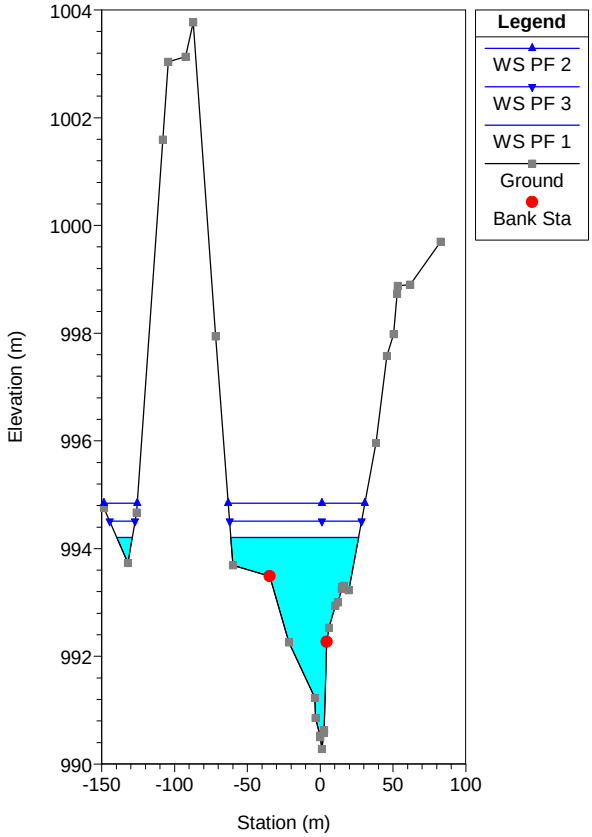

River = 1 Reach = a RS = 38.750*

PROFILO IDRAULICO DORA RIPARIA



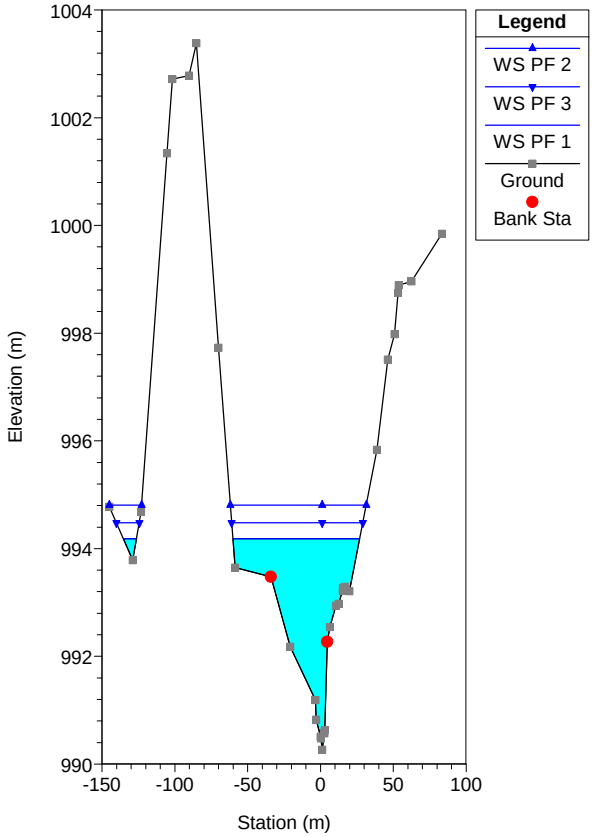

River = 1 Reach = a RS = 38.438*

PROFILO IDRAULICO DORA RIPARIA



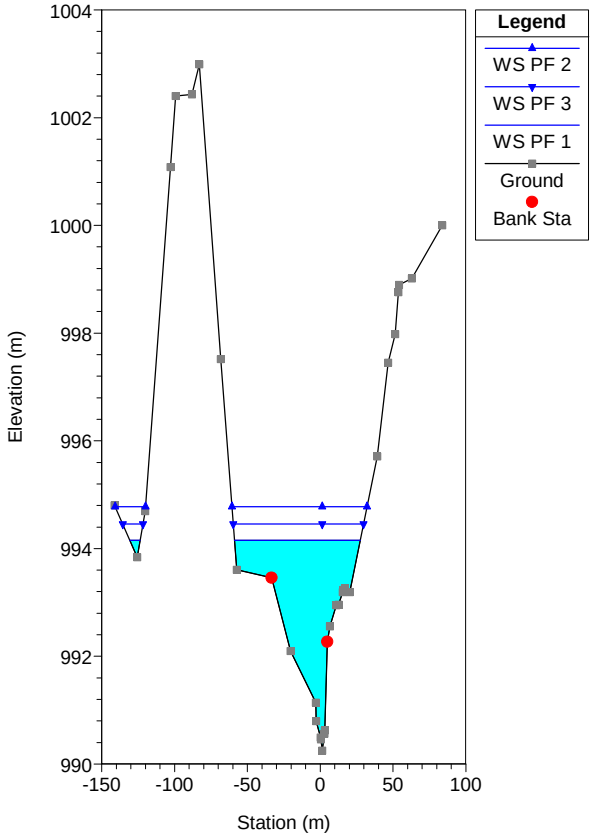

River = 1 Reach = a RS = 38.125*

PROFILO IDRAULICO DORA RIPARIA



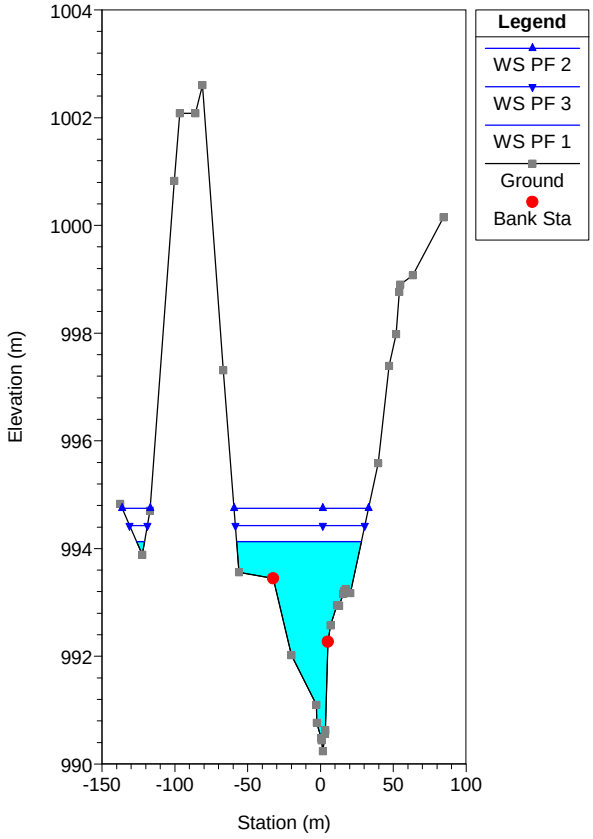
River = 1 Reach = a RS = 37.813*

PROFILO IDRAULICO DORA RIPARIA



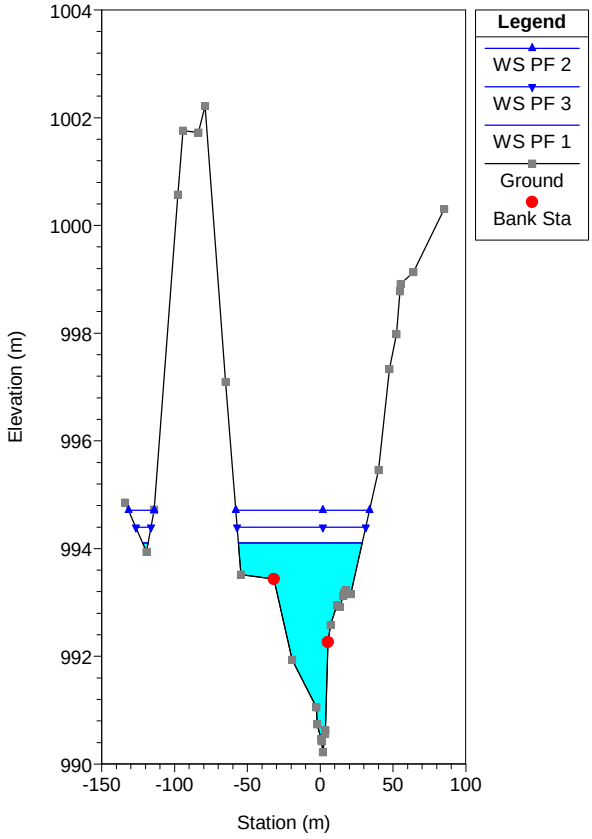

River = 1 Reach = a RS = 37.500*

PROFILO IDRAULICO DORA RIPARIA



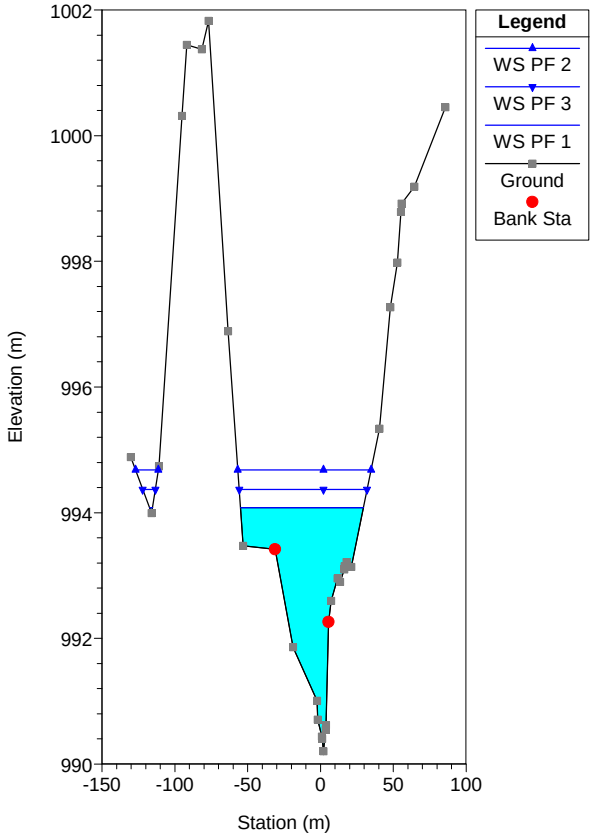

River = 1 Reach = a RS = 37.188*

PROFILO IDRAULICO DORA RIPARIA



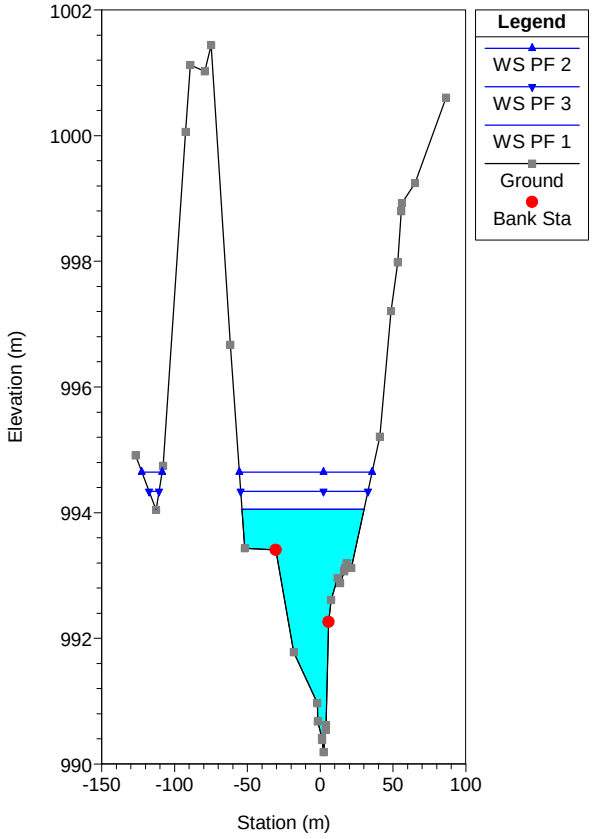

River = 1 Reach = a RS = 36.875*

PROFILO IDRAULICO DORA RIPARIA



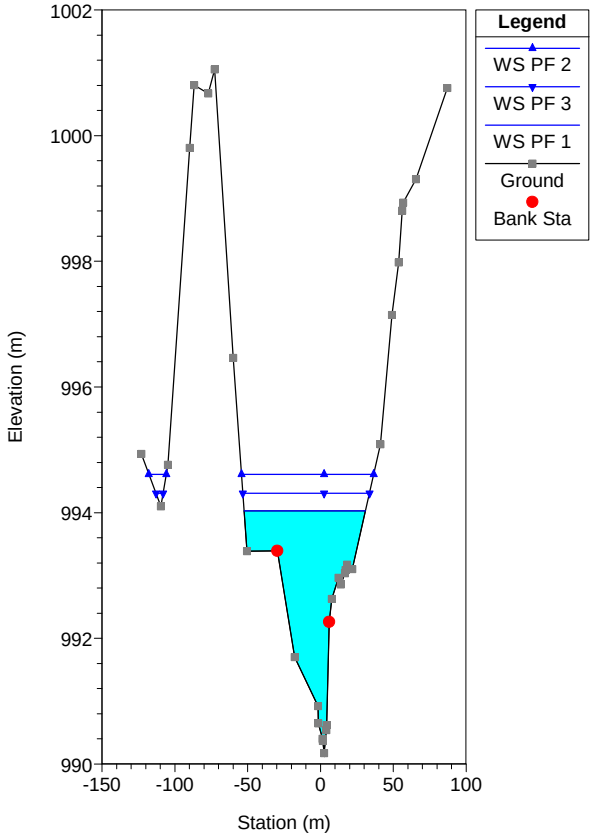
River = 1 Reach = a RS = 36.563*

PROFILO IDRAULICO DORA RIPARIA



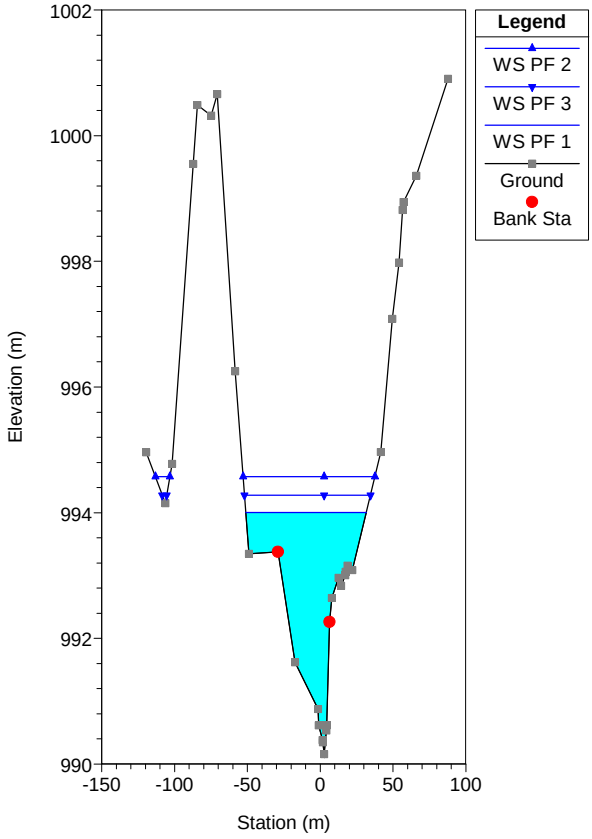

River = 1 Reach = a RS = 36.250*

PROFILO IDRAULICO DORA RIPARIA



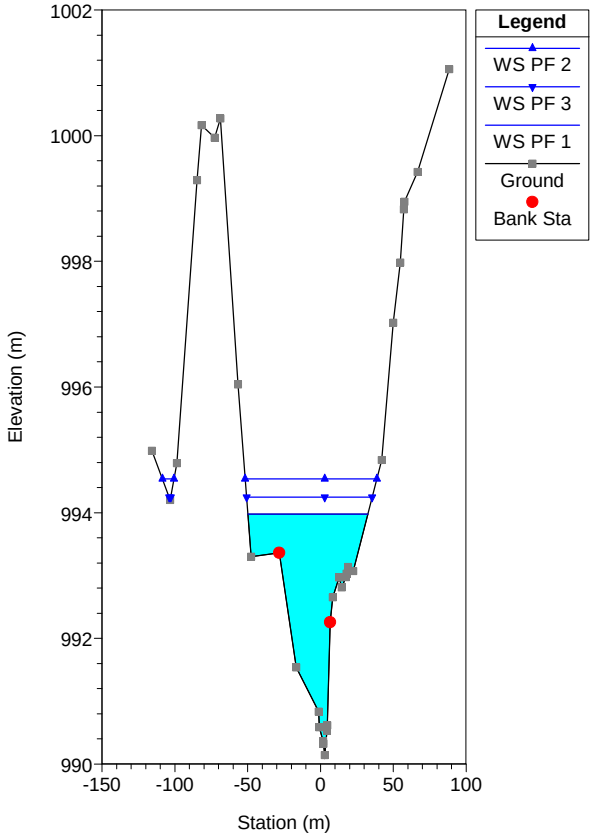

River = 1 Reach = a RS = 35.938*

PROFILO IDRAULICO DORA RIPARIA



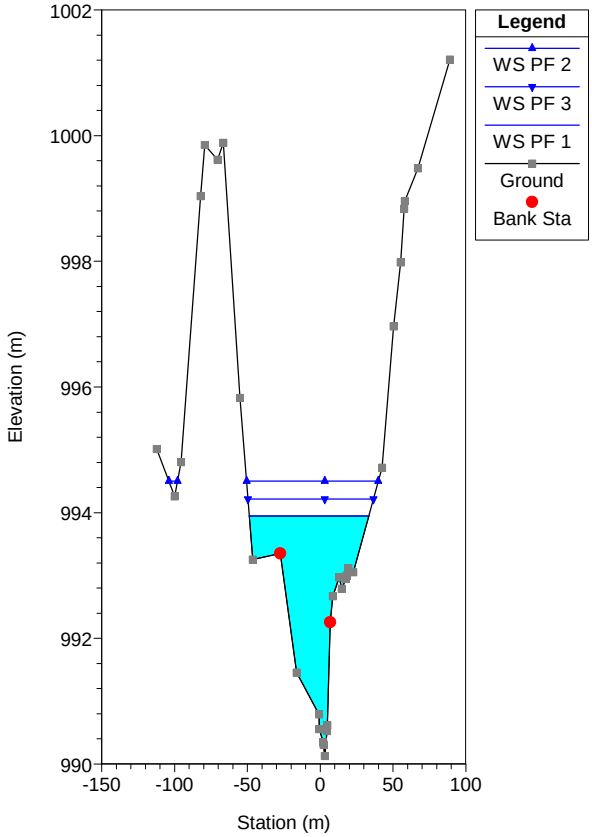

River = 1 Reach = a RS = 35.625*

PROFILO IDRAULICO DORA RIPARIA



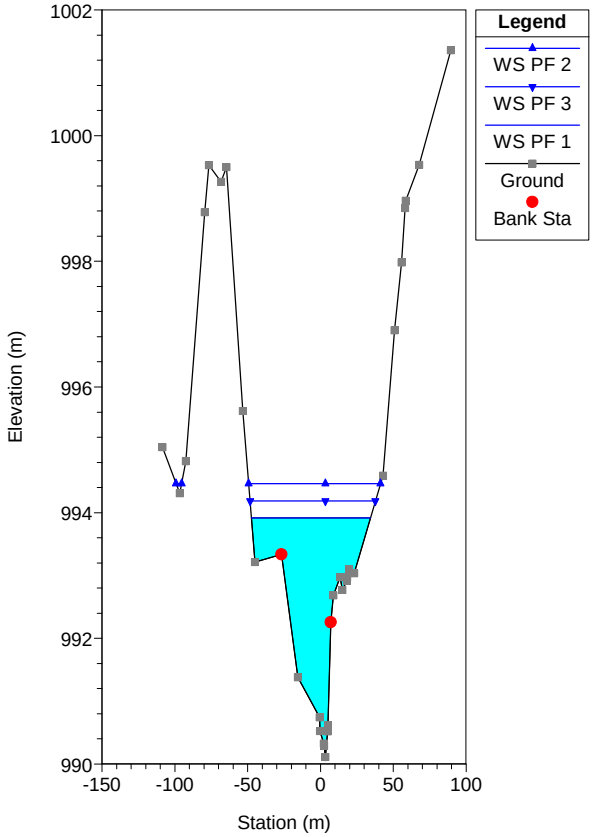
River = 1 Reach = a RS = 35.313*

PROFILO IDRAULICO DORA RIPARIA



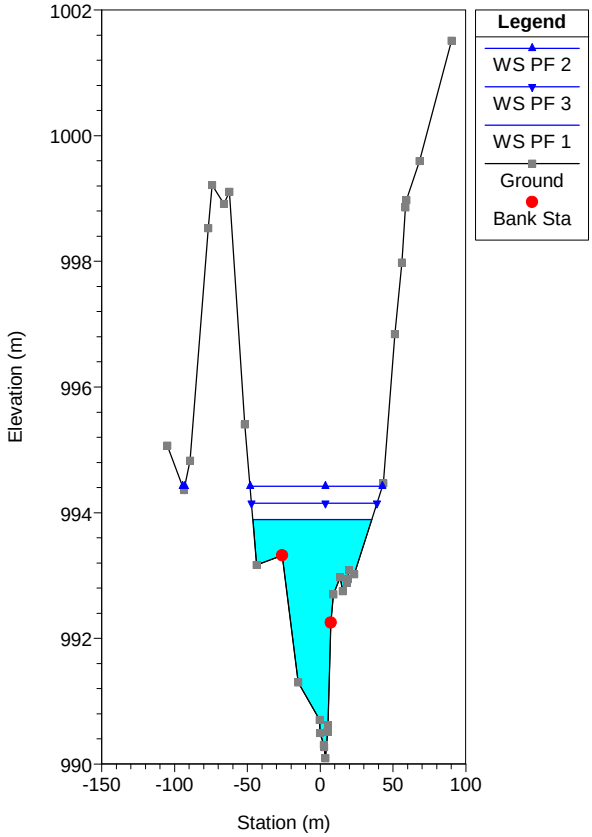

River = 1 Reach = a RS = 35.000*

PROFILO IDRAULICO DORA RIPARIA



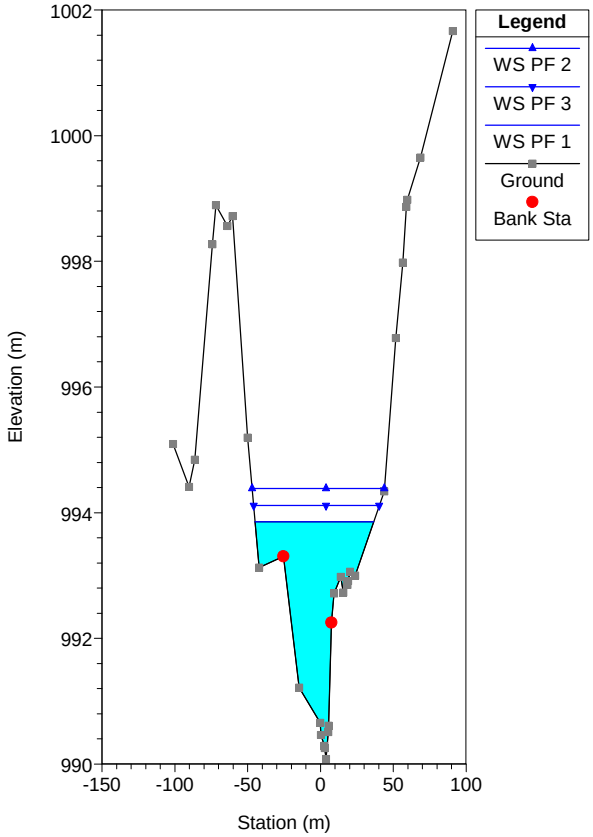

River = 1 Reach = a RS = 34.688*

PROFILO IDRAULICO DORA RIPARIA



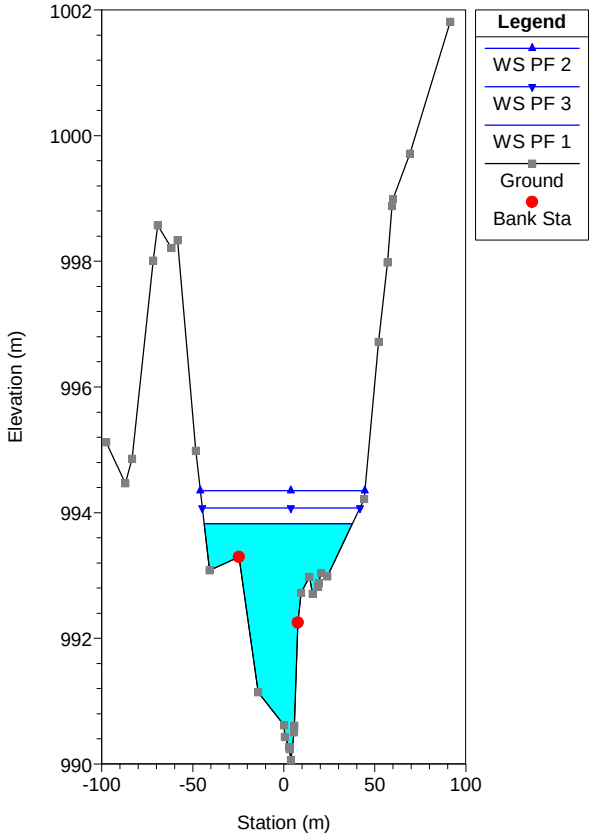

River = 1 Reach = a RS = 34.375*

PROFILO IDRAULICO DORA RIPARIA



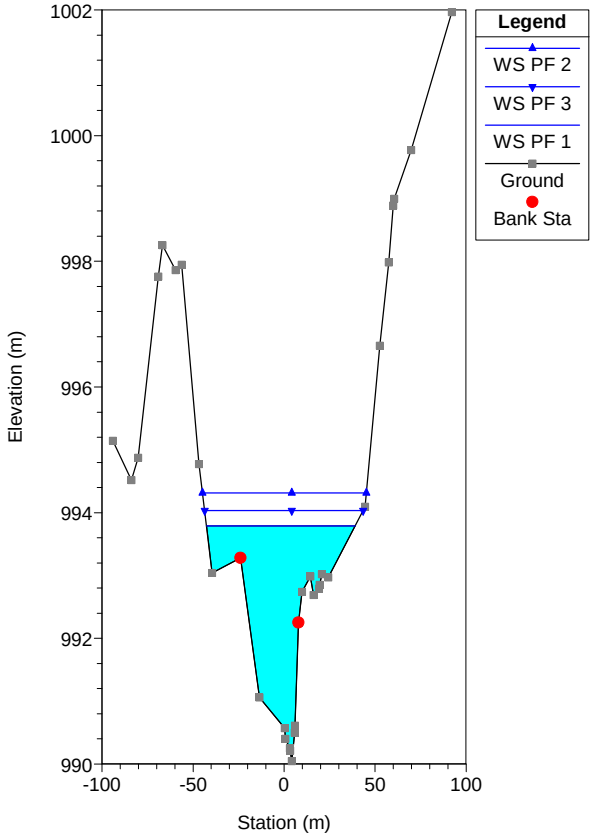
River = 1 Reach = a RS = 34.063*

PROFILO IDRAULICO DORA RIPARIA



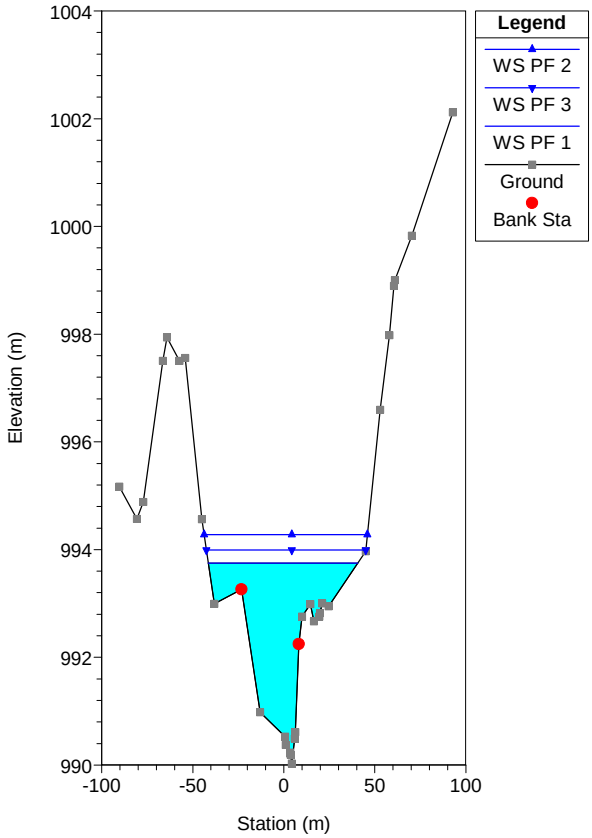

River = 1 Reach = a RS = 33.750*

PROFILO IDRAULICO DORA RIPARIA



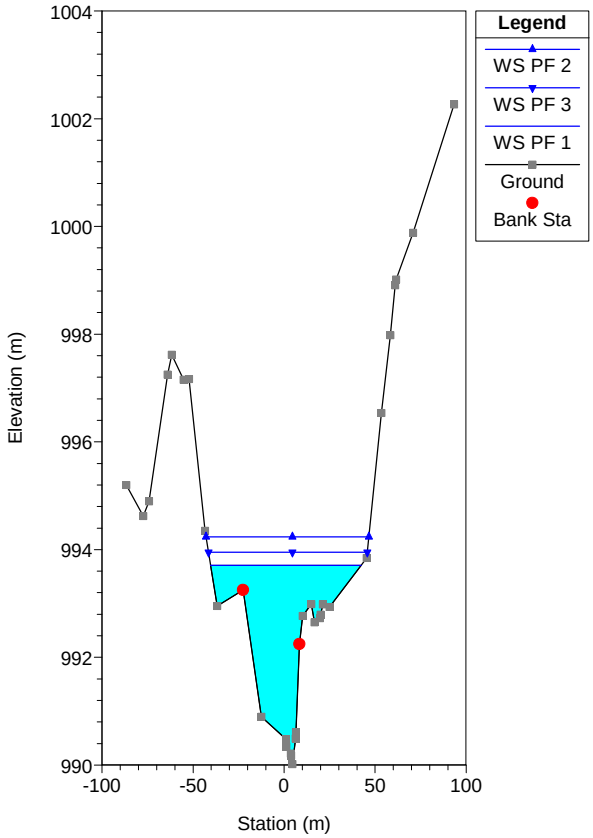

River = 1 Reach = a RS = 33.438*

PROFILO IDRAULICO DORA RIPARIA



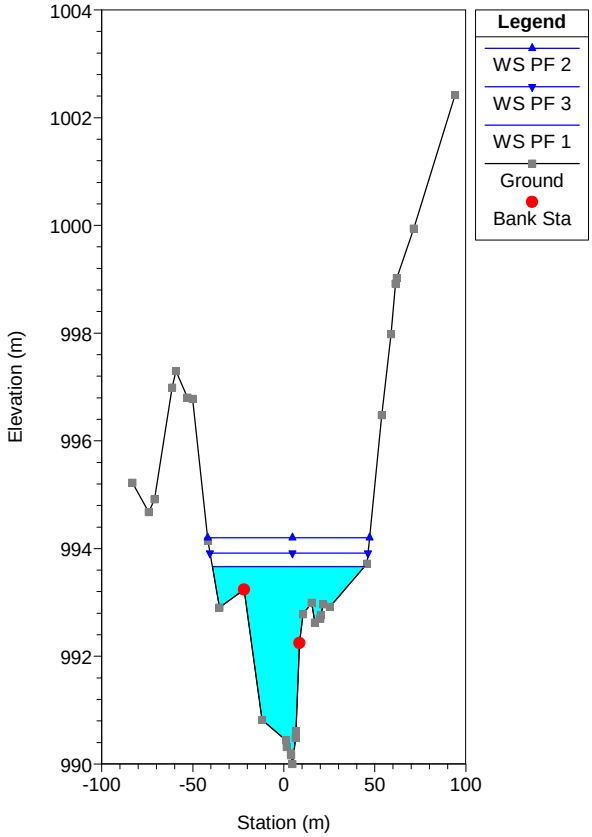

River = 1 Reach = a RS = 33.125*

PROFILO IDRAULICO DORA RIPARIA



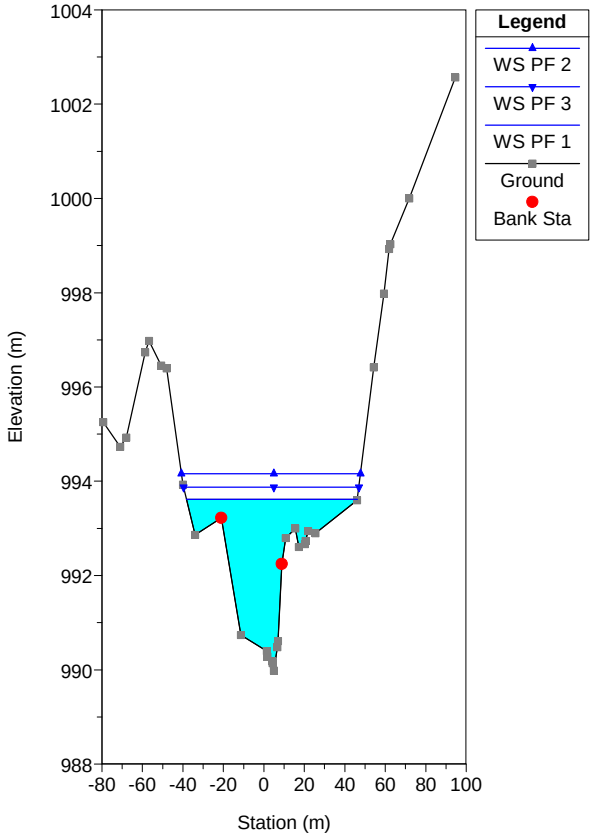
River = 1 Reach = a RS = 32.813*

PROFILO IDRAULICO DORA RIPARIA



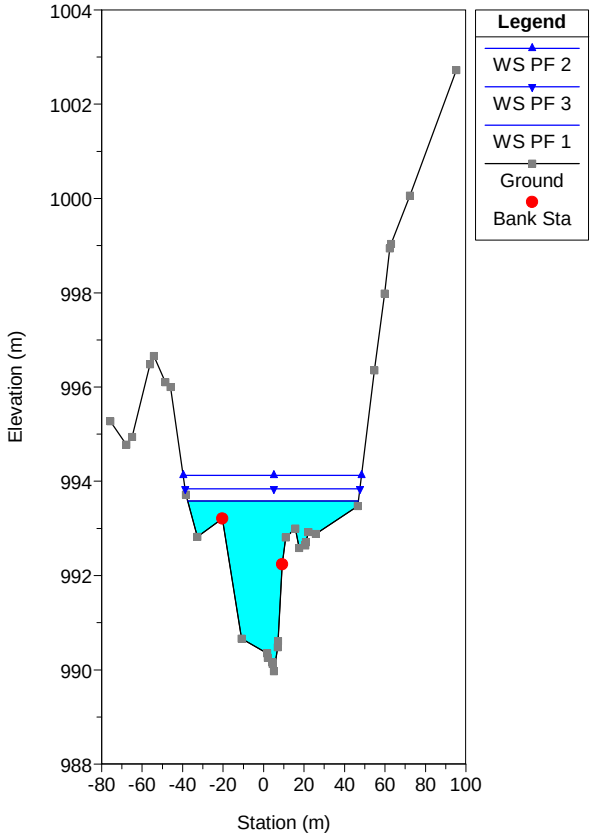

River = 1 Reach = a RS = 32.500*

PROFILO IDRAULICO DORA RIPARIA



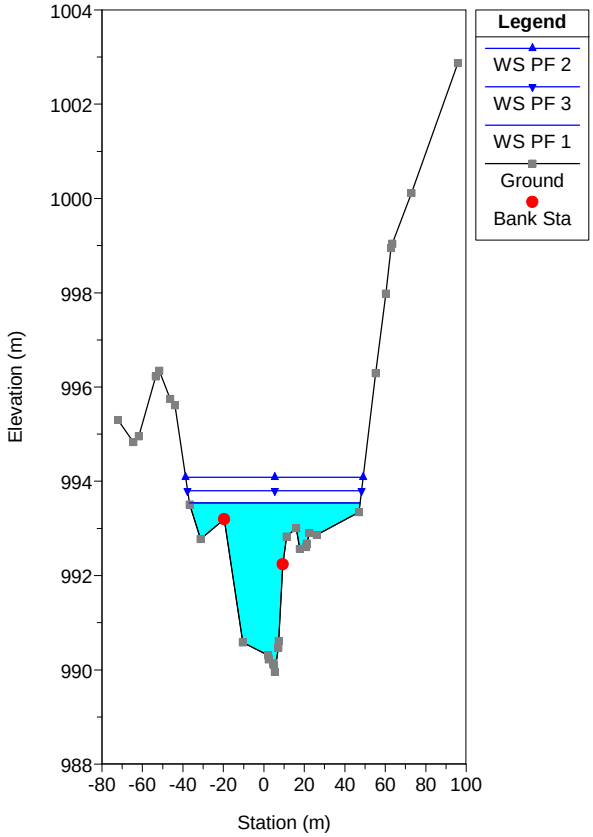

River = 1 Reach = a RS = 32.188*

PROFILO IDRAULICO DORA RIPARIA



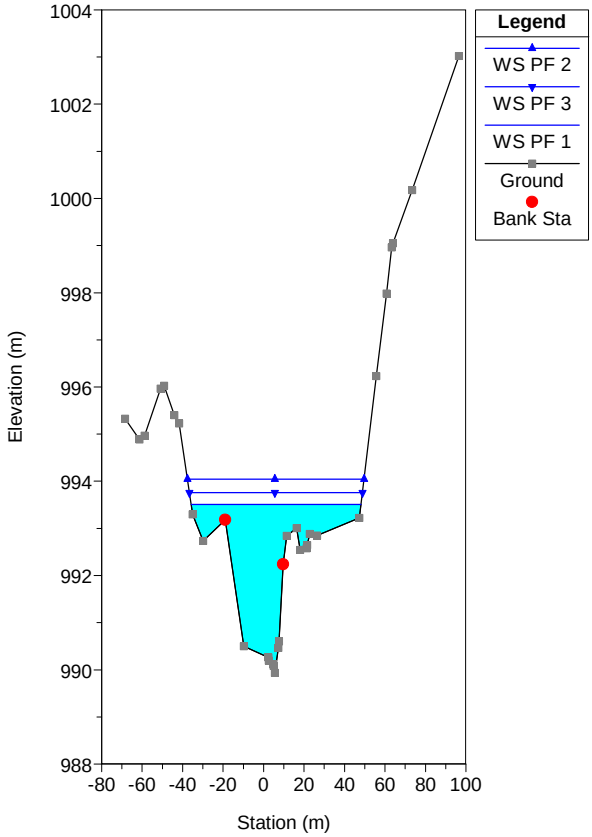

River = 1 Reach = a RS = 31.875*

PROFILO IDRAULICO DORA RIPARIA



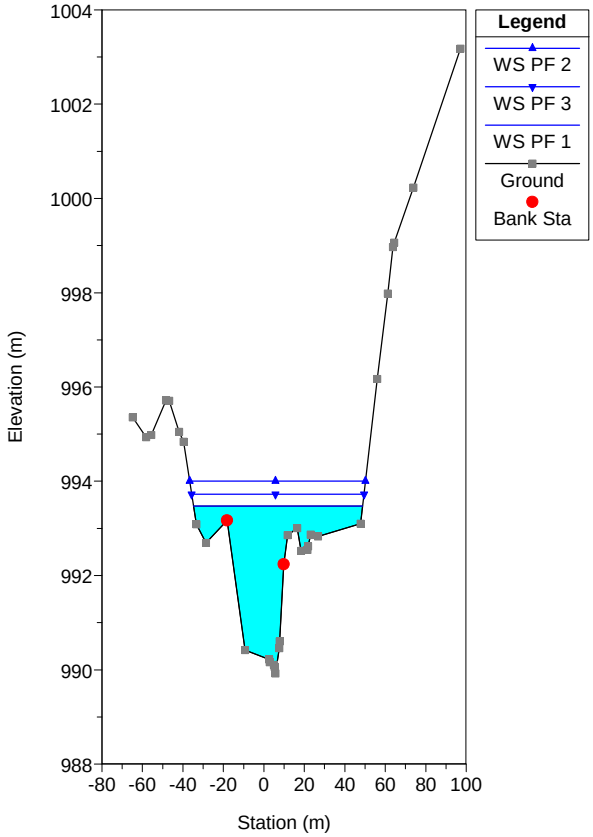
River = 1 Reach = a RS = 31.563*

PROFILO IDRAULICO DORA RIPARIA



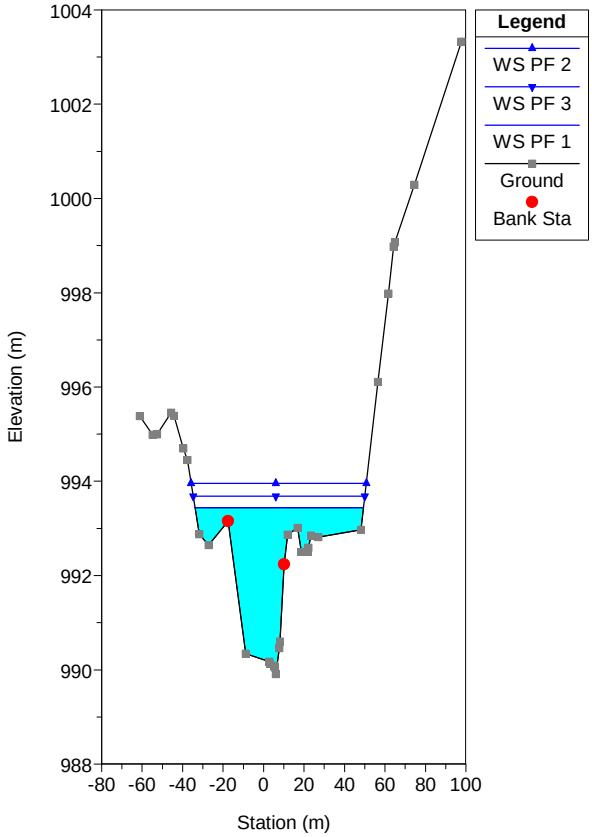

River = 1 Reach = a RS = 31.250*

PROFILO IDRAULICO DORA RIPARIA



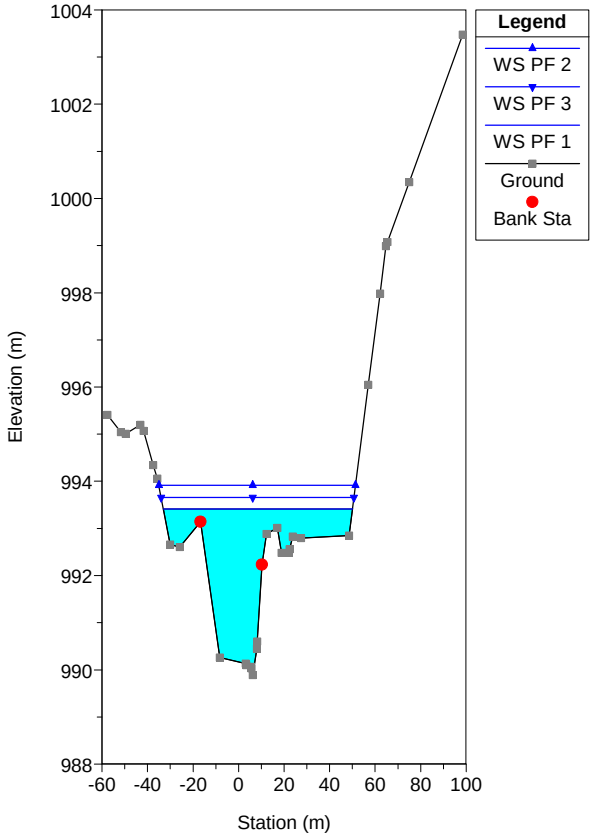

River = 1 Reach = a RS = 30.938*

PROFILO IDRAULICO DORA RIPARIA



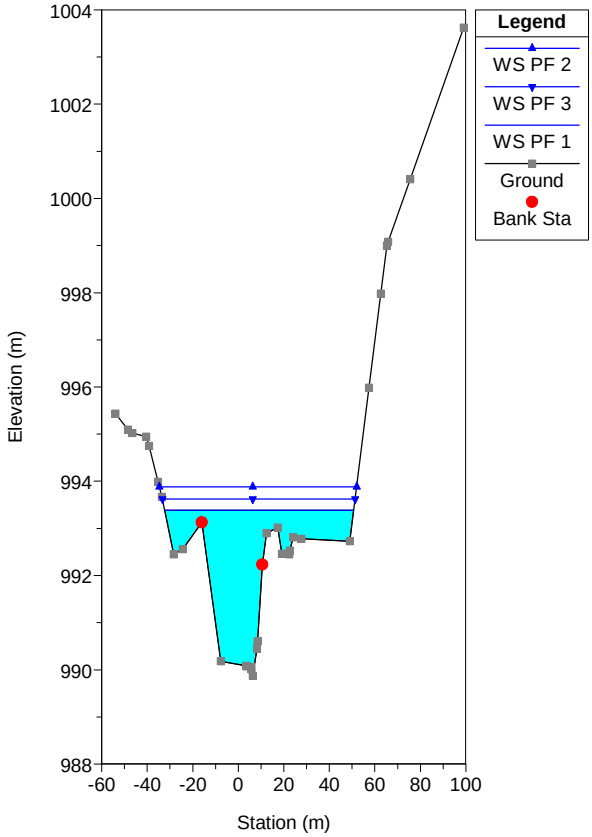

River = 1 Reach = a RS = 30.625*

PROFILO IDRAULICO DORA RIPARIA



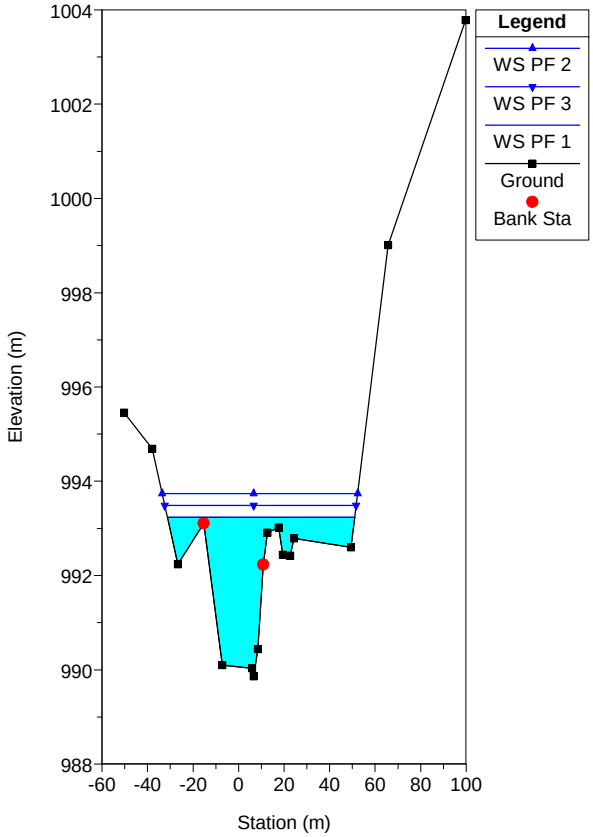
River = 1 Reach = a RS = 30.313*

PROFILO IDRAULICO DORA RIPARIA



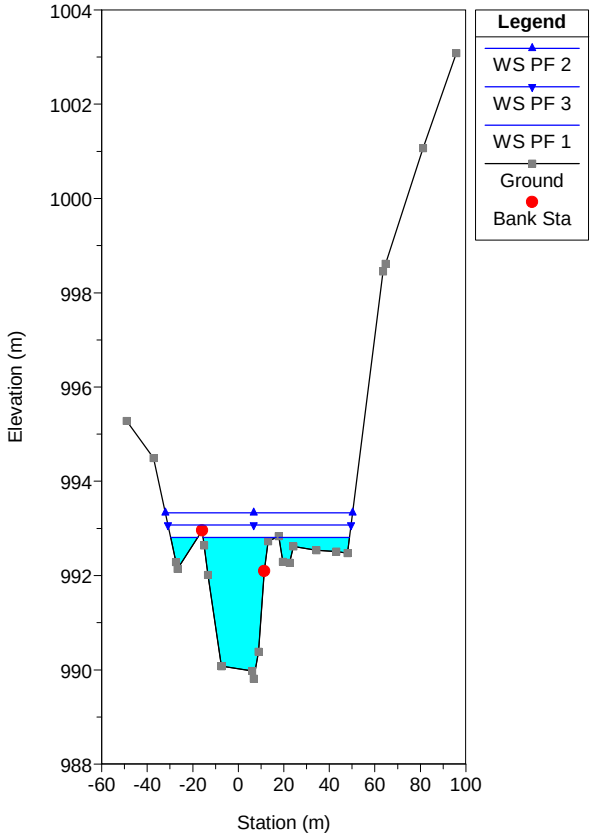

River = 1 Reach = a RS = 30

PROFILO IDRAULICO DORA RIPARIA



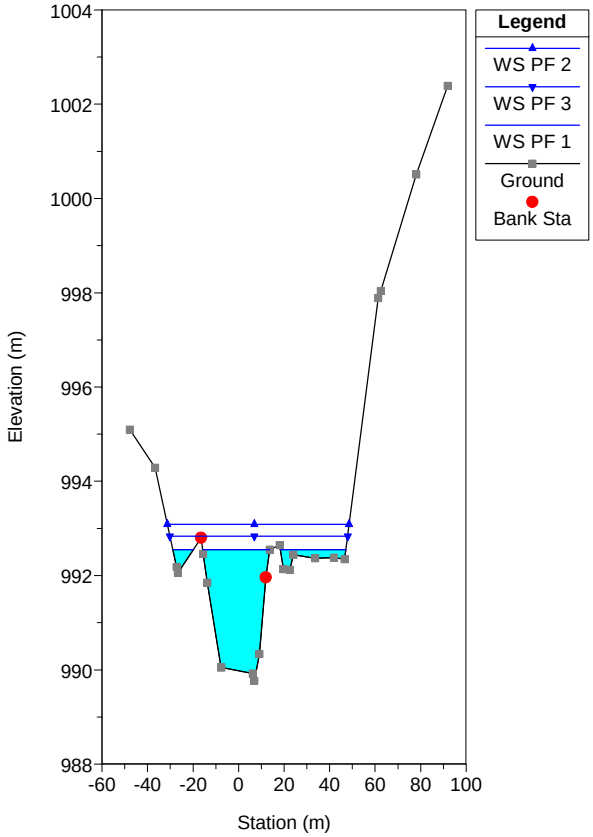

River = 1 Reach = a RS = 29.333*

PROFILO IDRAULICO DORA RIPARIA



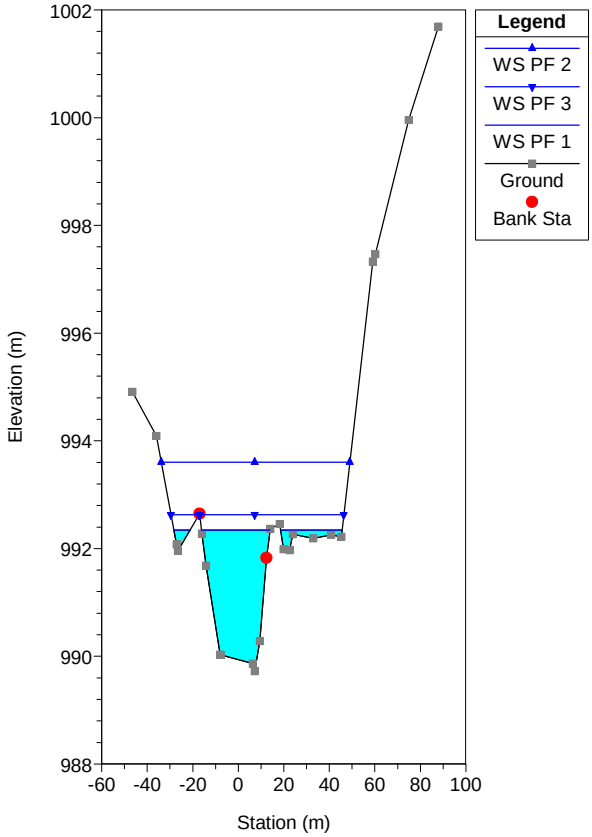

River = 1 Reach = a RS = 28.667*

PROFILO IDRAULICO DORA RIPARIA



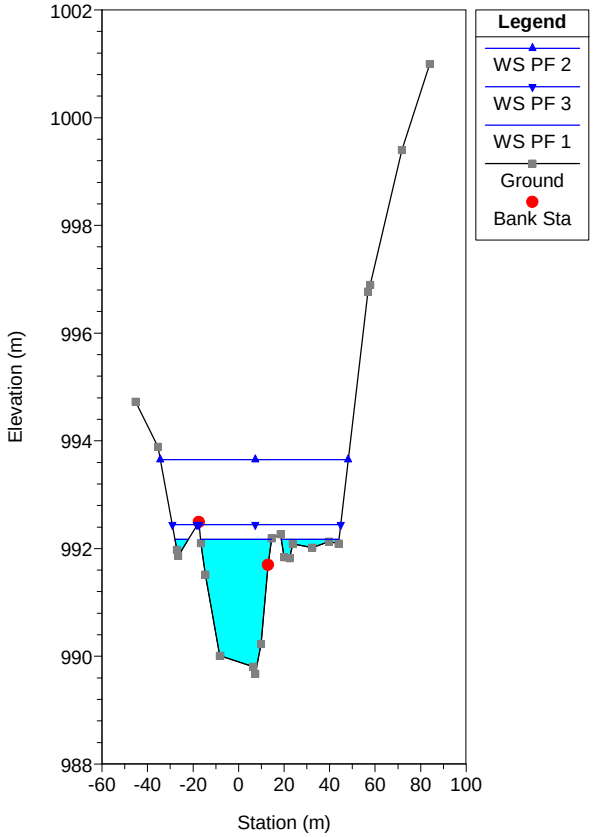
River = 1 Reach = a RS = 28.000*

PROFILO IDRAULICO DORA RIPARIA



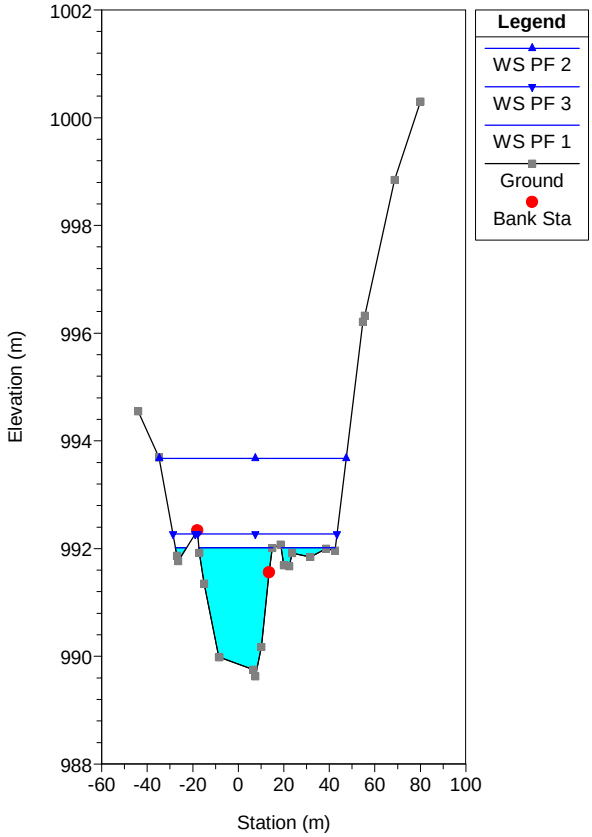

River = 1 Reach = a RS = 27.333*

PROFILO IDRAULICO DORA RIPARIA



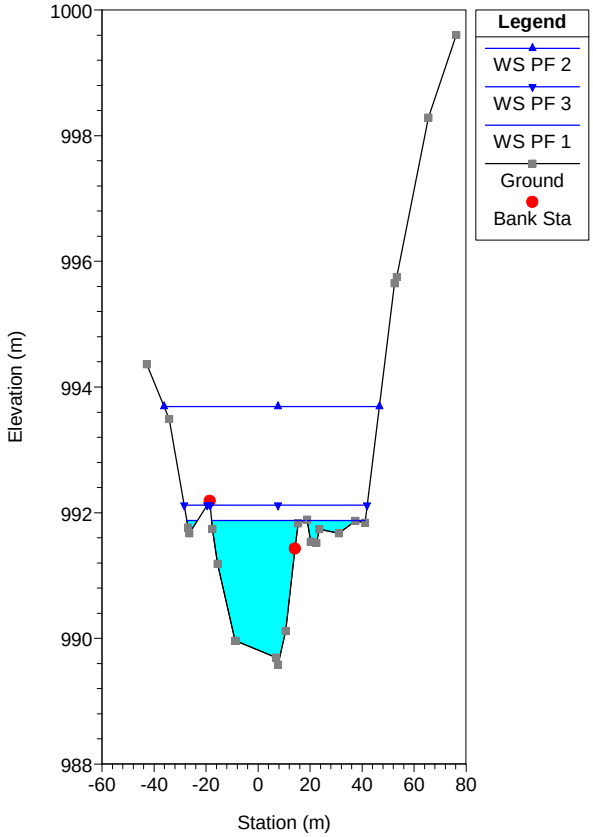

River = 1 Reach = a RS = 26.667*

PROFILO IDRAULICO DORA RIPARIA



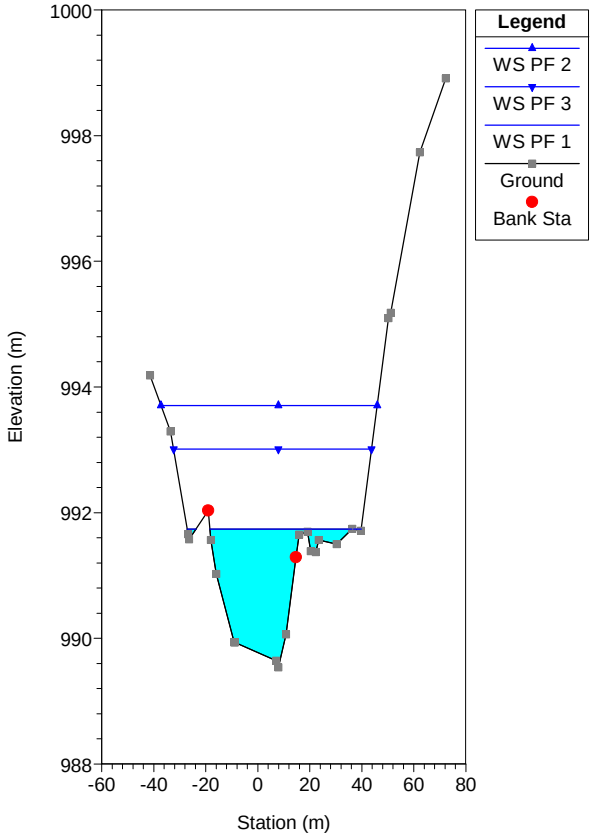

River = 1 Reach = a RS = 26.000*

PROFILO IDRAULICO DORA RIPARIA



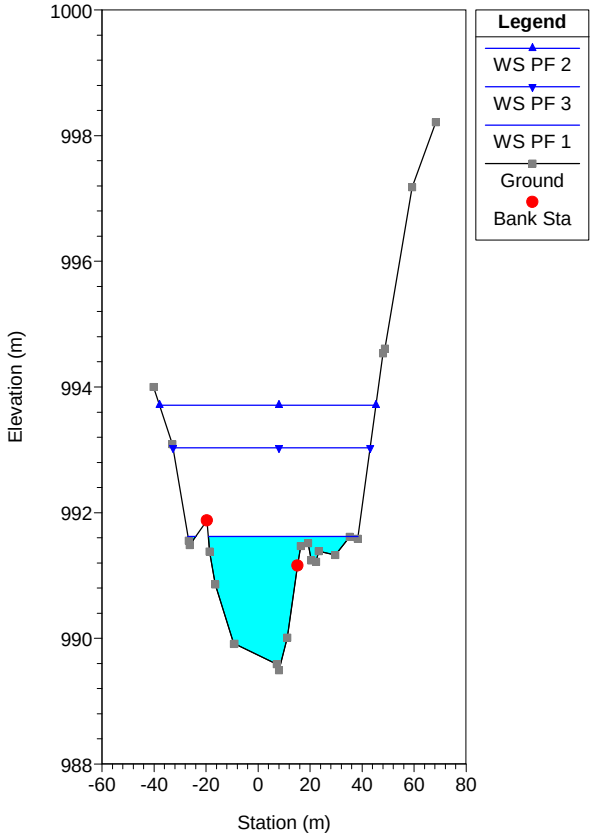
River = 1 Reach = a RS = 25.333*

PROFILO IDRAULICO DORA RIPARIA



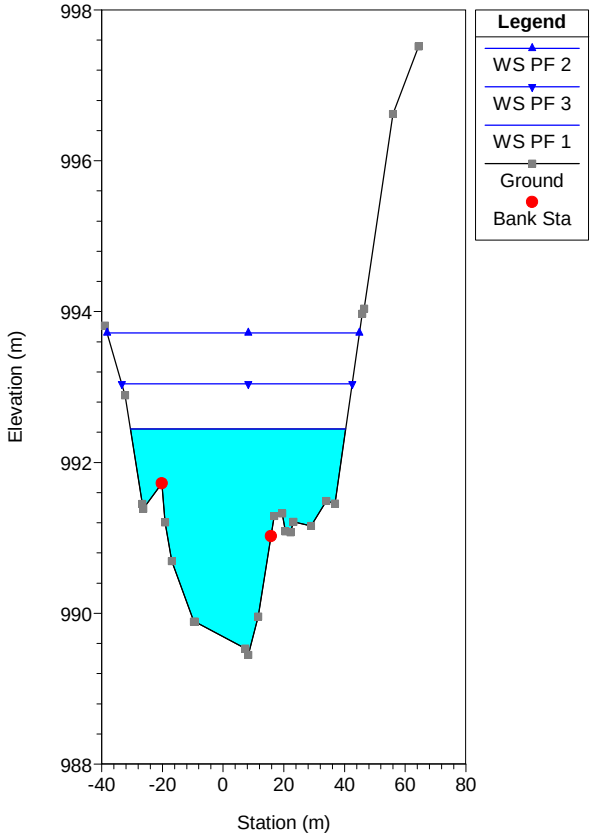

River = 1 Reach = a RS = 24.667*

PROFILO IDRAULICO DORA RIPARIA



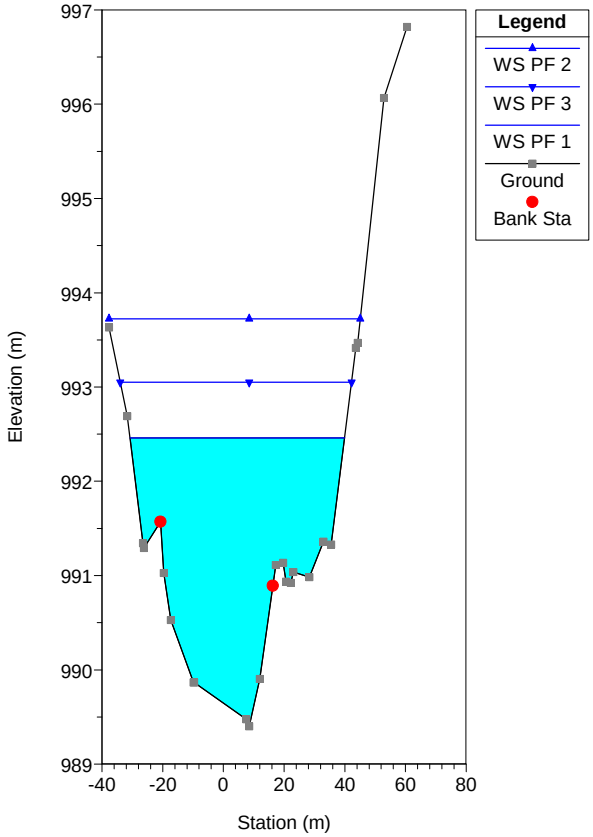

River = 1 Reach = a RS = 24.000*

PROFILO IDRAULICO DORA RIPARIA



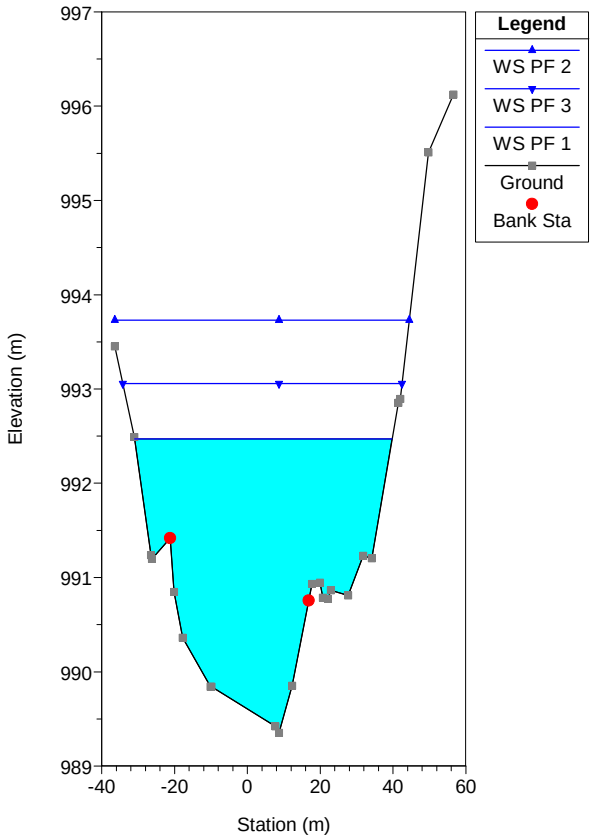

River = 1 Reach = a RS = 23.333*

PROFILO IDRAULICO DORA RIPARIA



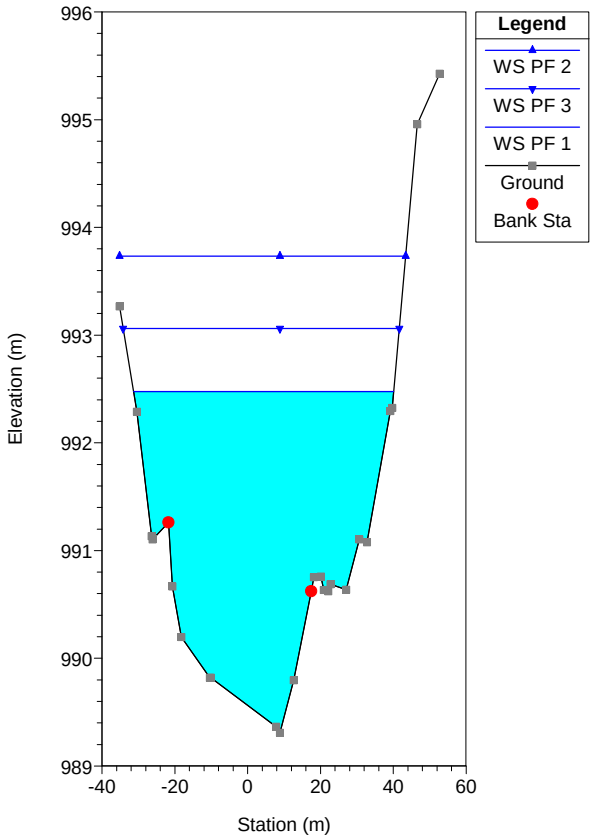
River = 1 Reach = a RS = 22.667*

PROFILO IDRAULICO DORA RIPARIA



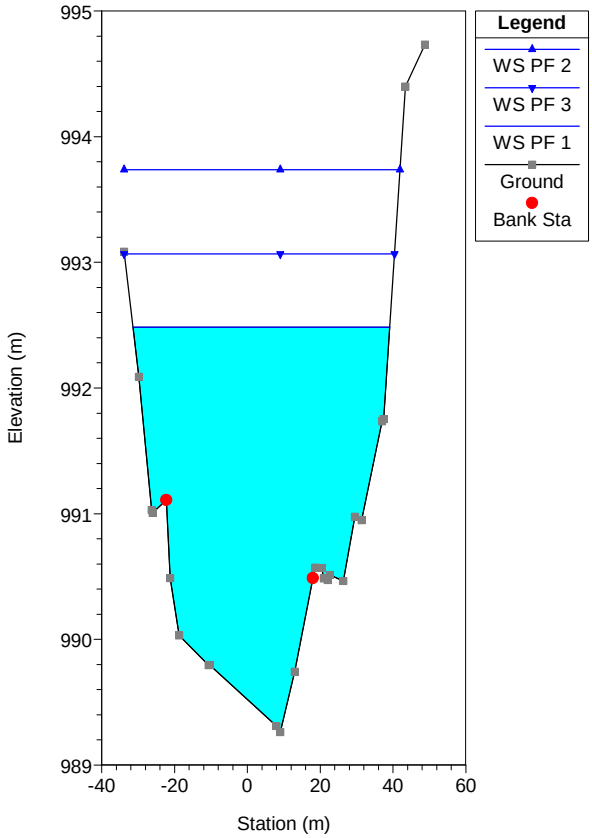

River = 1 Reach = a RS = 22.000*

PROFILO IDRAULICO DORA RIPARIA



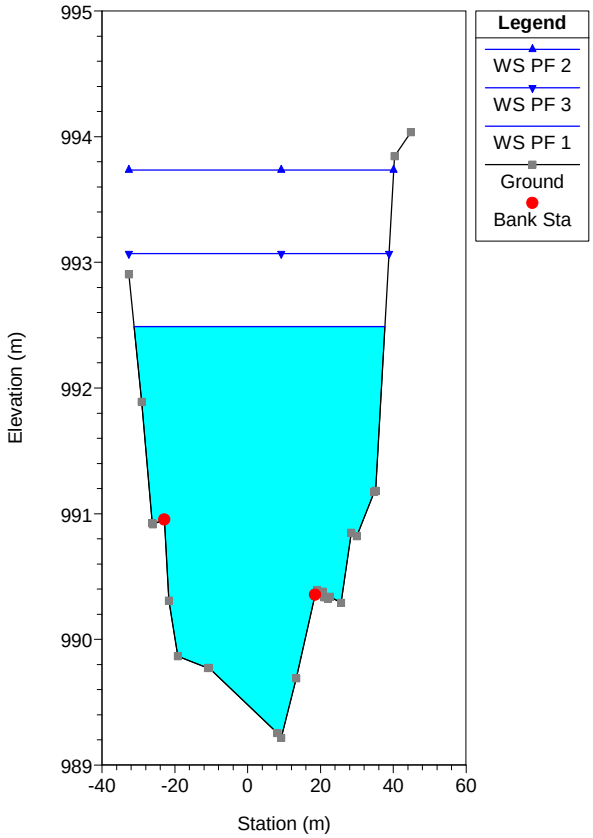

River = 1 Reach = a RS = 21.333*

PROFILO IDRAULICO DORA RIPARIA



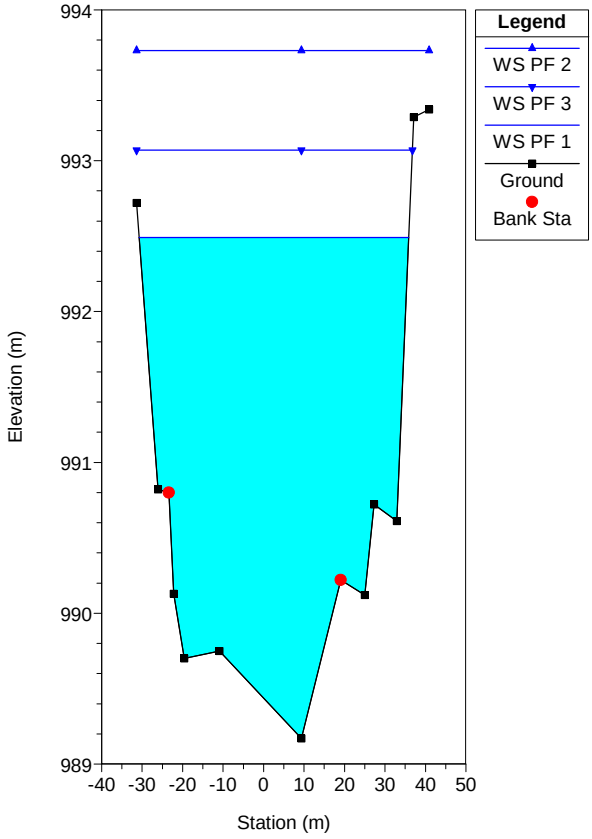

River = 1 Reach = a RS = 20.667*

PROFILO IDRAULICO DORA RIPARIA



River = 1 Reach = a RS = 20

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 19.5 BR

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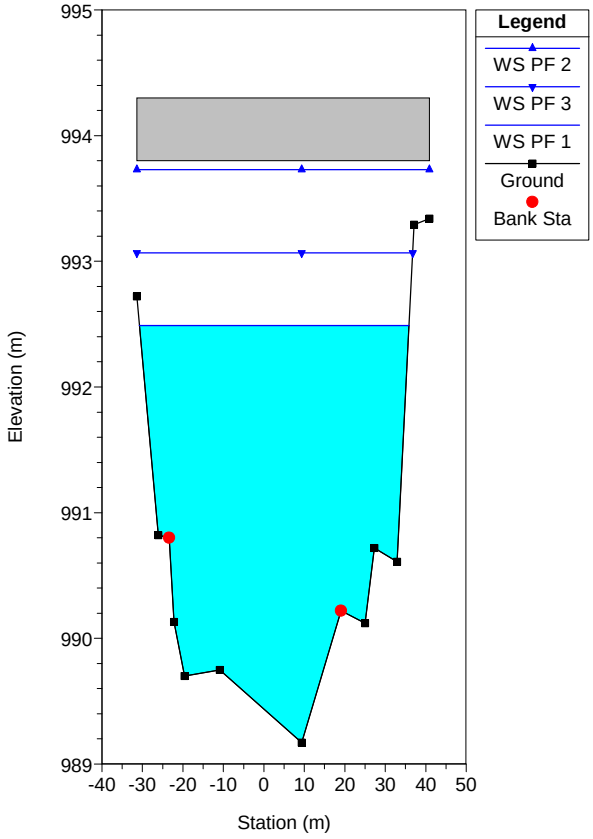


River = 1 Reach = a RS = 19.5 BR

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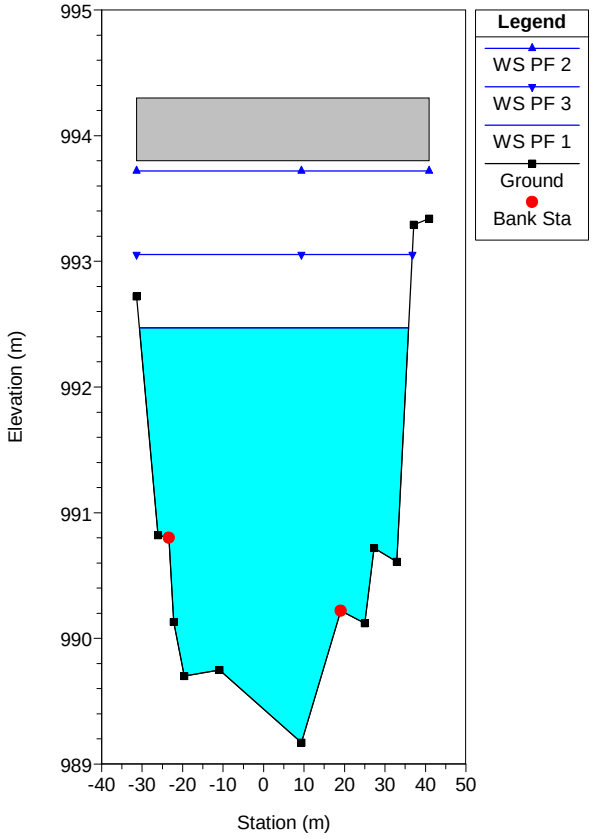


River = 1 Reach = a RS = 19

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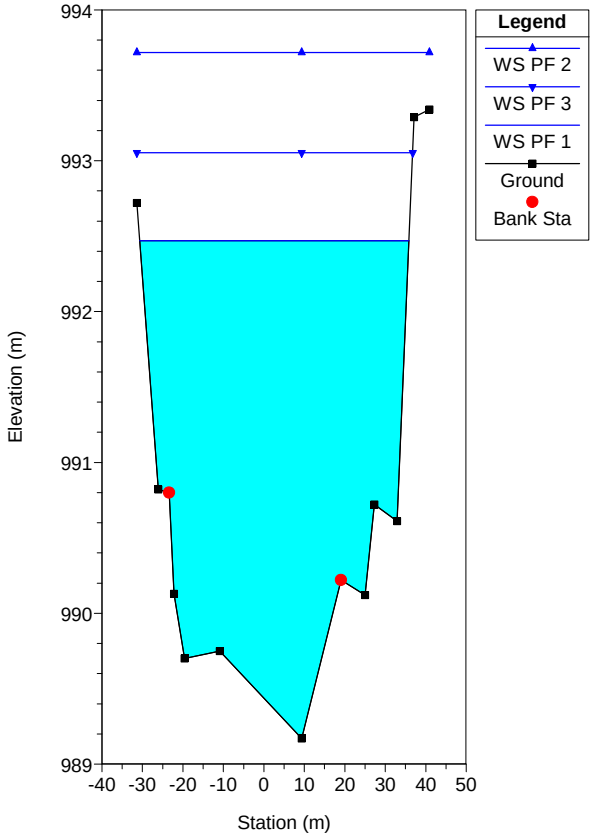
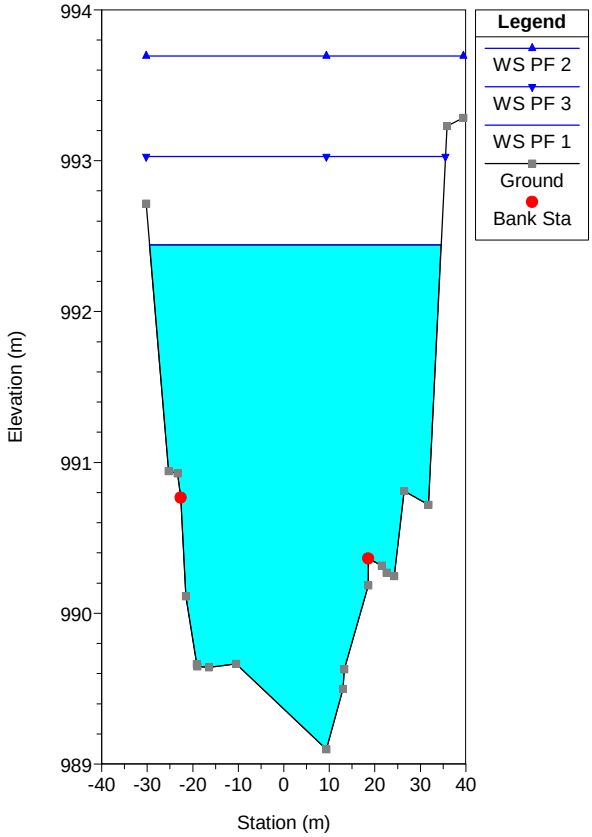


River = 1 Reach = a RS = 18.467*

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 17.933*

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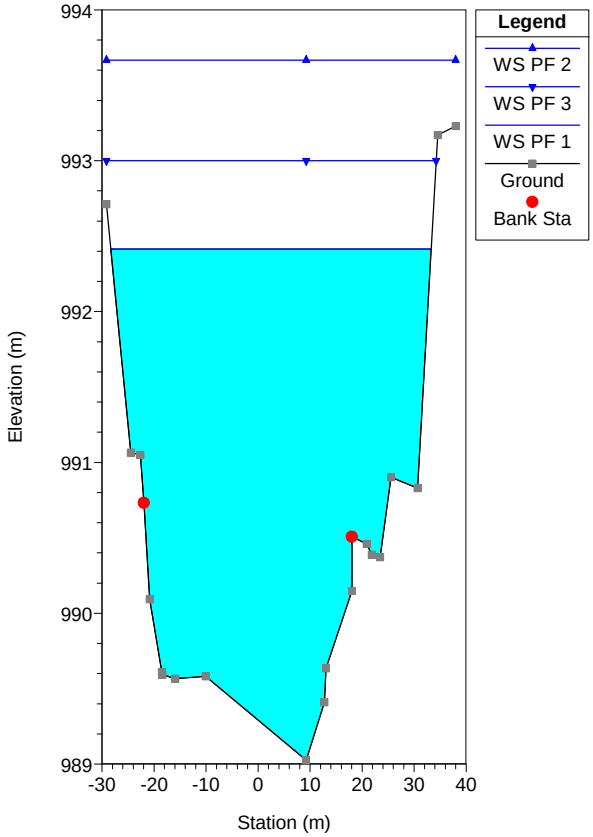
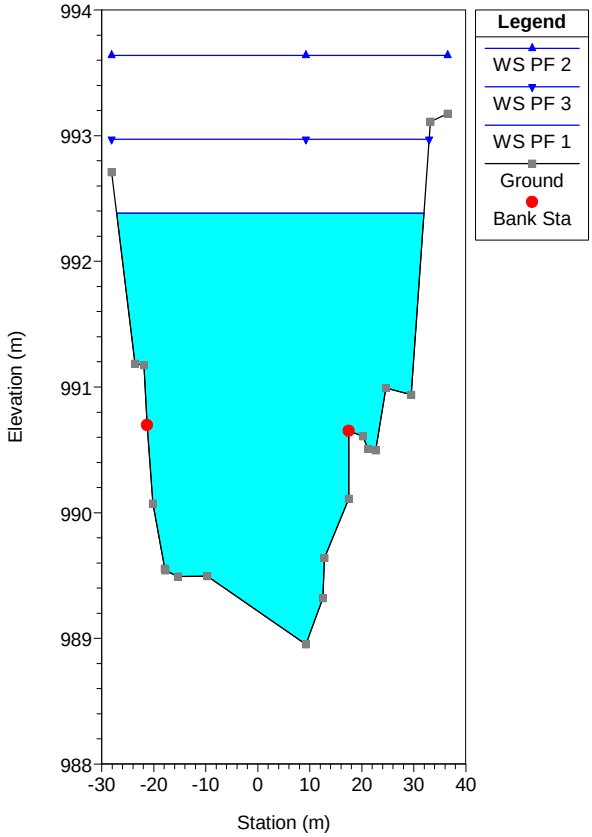


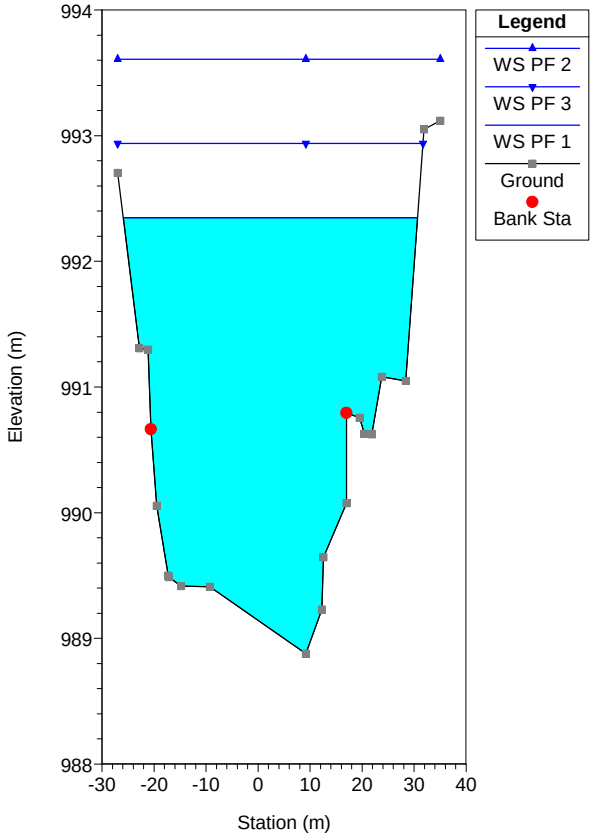

River = 1 Reach = a RS = 17.400*

PROFILO IDRAULICO DORA RIPARIA



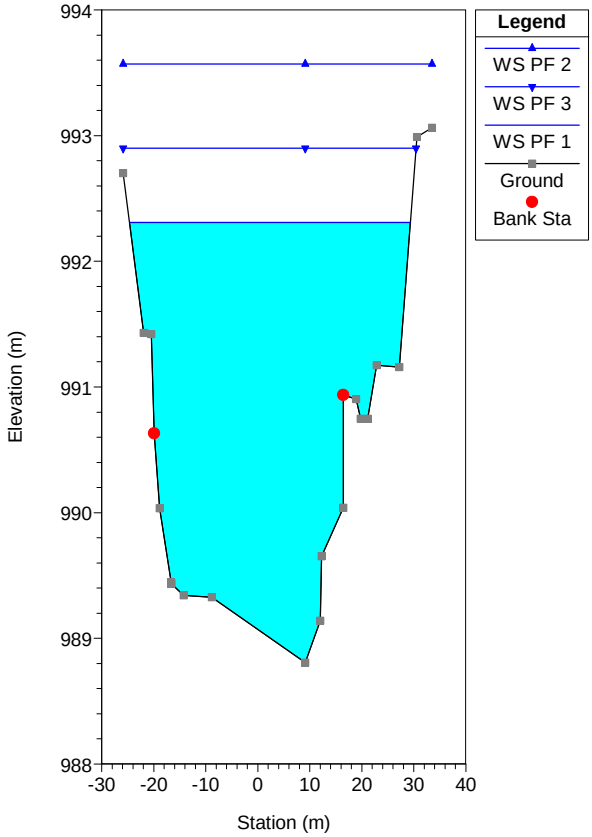

River = 1 Reach = a RS = 16.867*

PROFILO IDRAULICO DORA RIPARIA



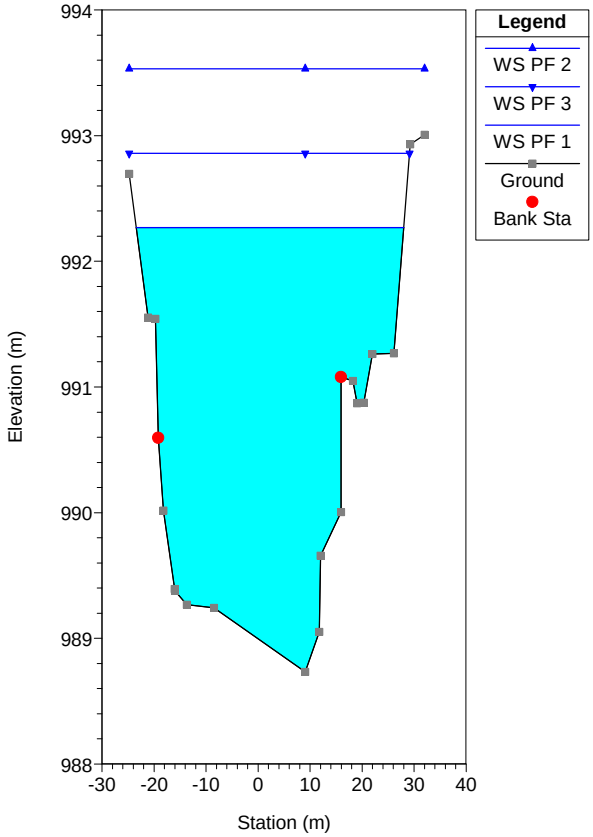
River = 1 Reach = a RS = 16.333*

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 15.800*

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 15.267*

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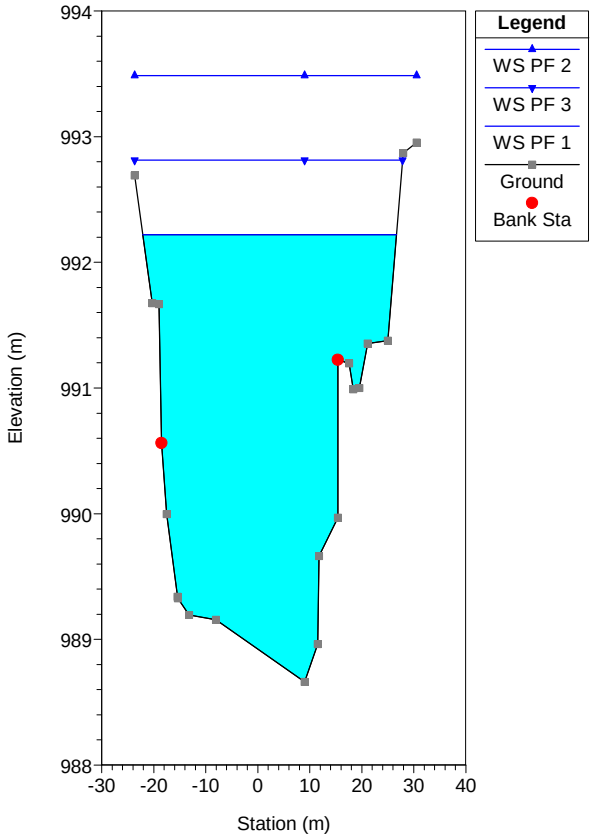


River = 1 Reach = a RS = 14.733*

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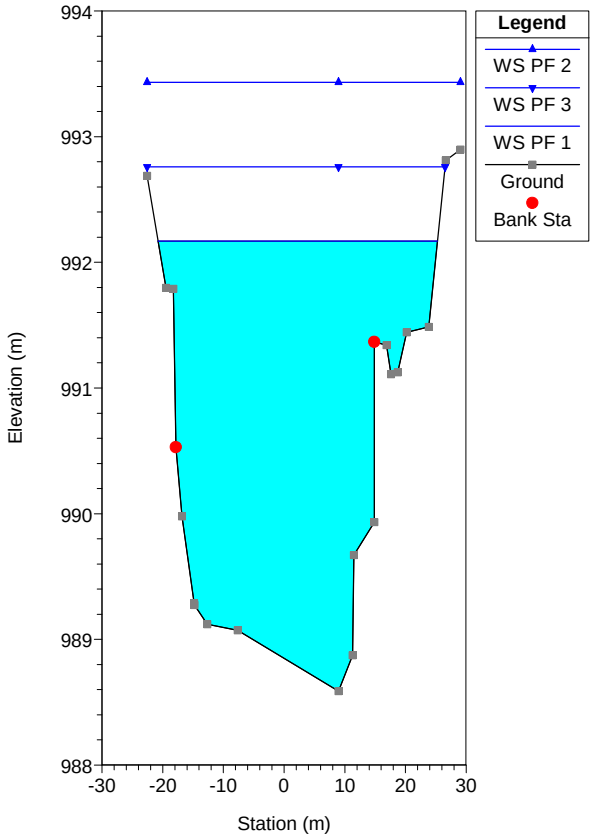

River = 1 Reach = a RS = 14.200*

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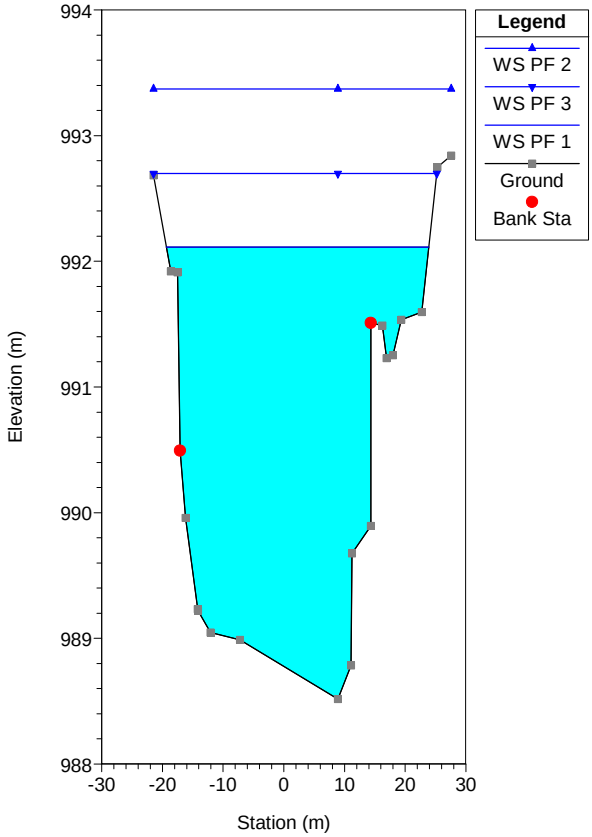


River = 1 Reach = a RS = 13.667*

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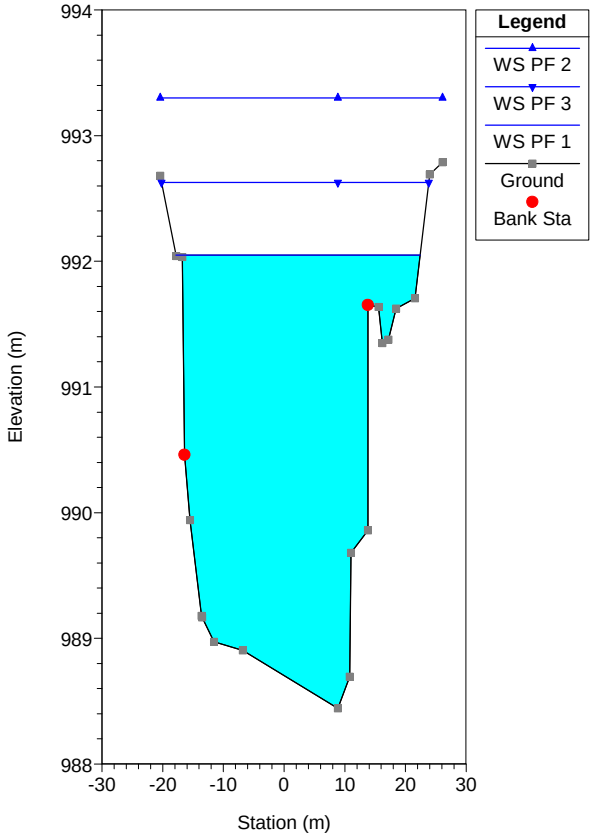
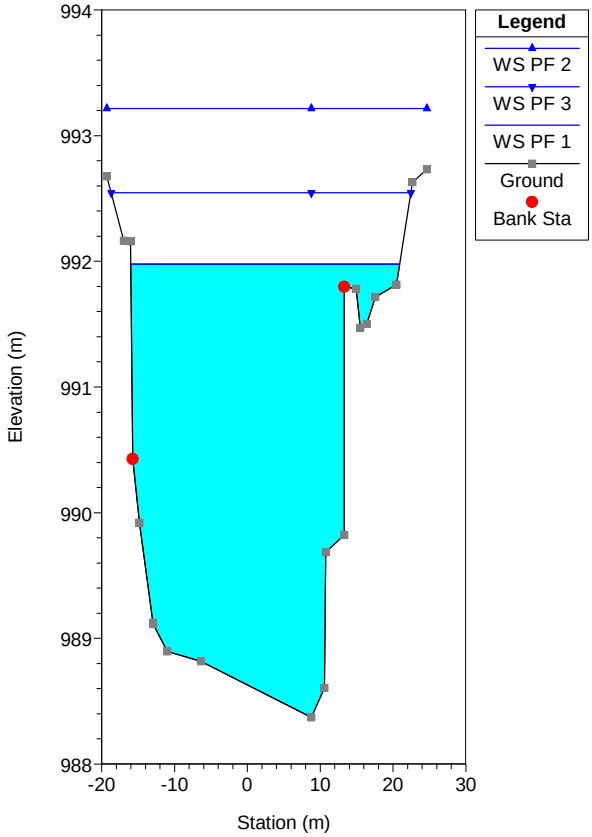



River = 1 Reach = a RS = 13.133*

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 12.600*

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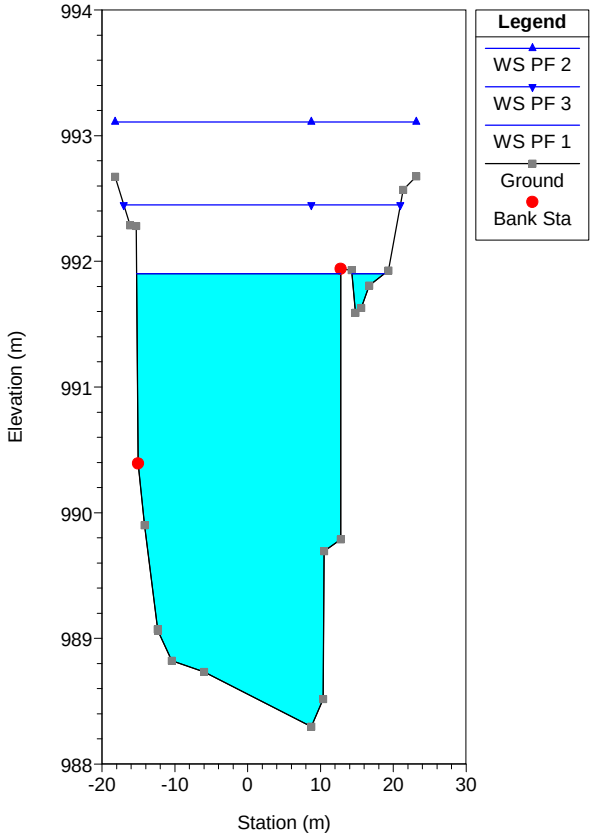

River = 1 Reach = a RS = 12.067*

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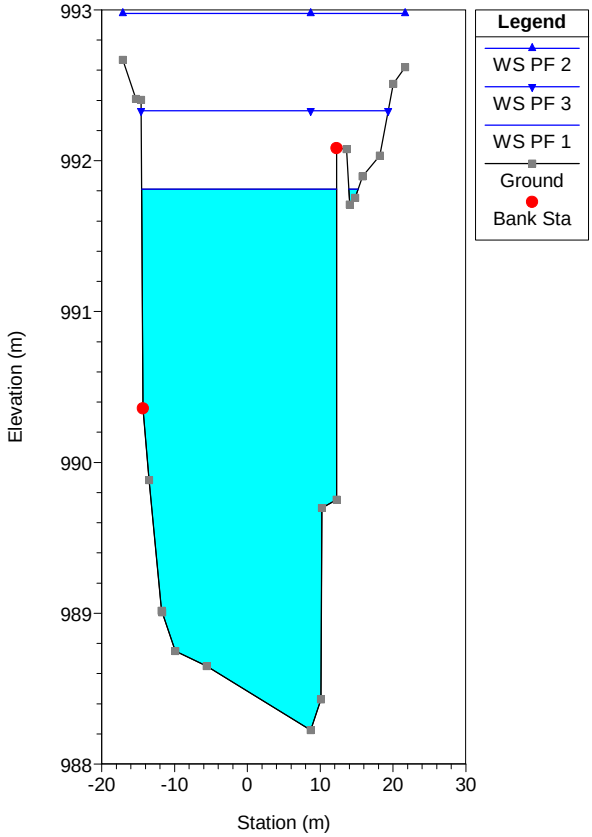
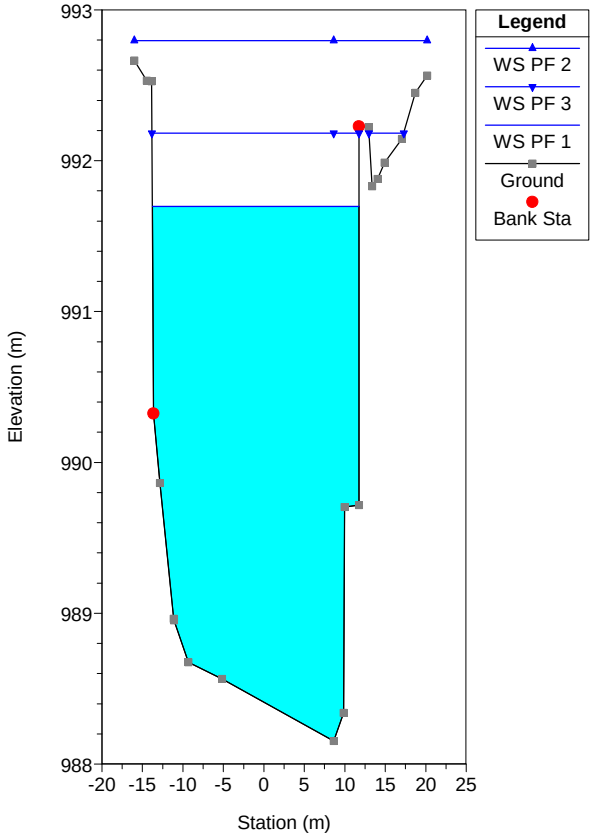



River = 1 Reach = a RS = 11.533*

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 11

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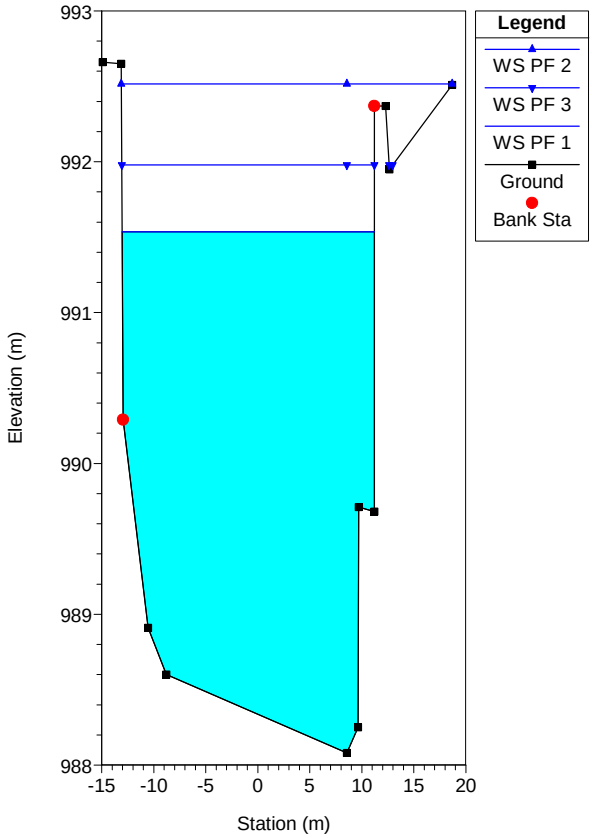
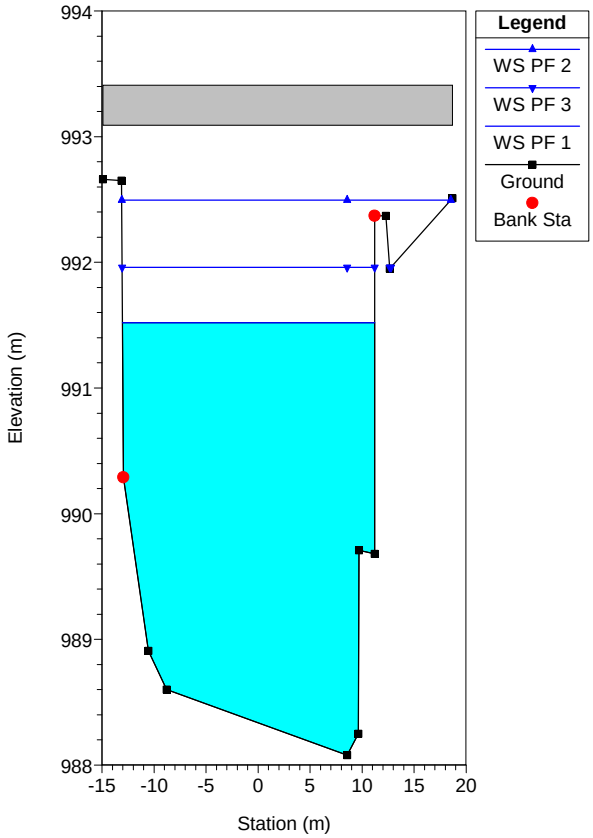


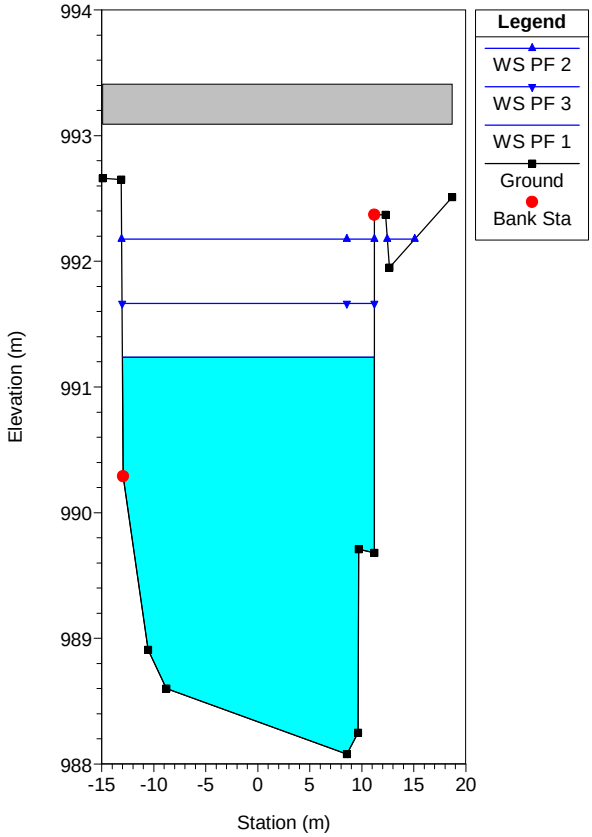

River = 1 Reach = a RS = 10.5 BR

PROFILO IDRAULICO DORA RIPARIA



River = 1 Reach = a RS = 10.5 BR

PROFILO IDRAULICO DORA RIPARIA




River = 1 Reach = a RS = 10

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