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INTERVENTI DI ADEGUAMENTO DELLA RETE DI COLLEGAMENTO DEI SERVIZI INTERCOMUNALI NELLA VAL POLCEVERA: NUOVO PONTE SUL TORRENTE SECCA TRA LA SP3 (COMUNE DI SERRA RICCÒ) E VIA LEVI (COMUNE DI S. OLCESE)

MINISTERO DELL'INTERNO

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RELAZIONE DI COMPATIBILITA' IDRAULICA DEI CORSI D'ACQUA

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1 PREMESSA

Oggetto della presente relazione è lo studio di compatibilità idraulica per la progettazione a livello definitivo delle opere idrauliche relativamente all’intervento di realizzazione di una nuova viabilità stradale e ciclopedonale nell’ambito del fondovalle del torrente Secca, affluente del torrente Polcevera, all’interno dei comuni di Serra Riccò e Sant’Olcese, Genova.

In particolare, il progetto ha per oggetto lo studio di un nuovo collegamento viario di attraversamento del torrente Secca, tra la viabilità presente lungo la sponda destra del torrente (strada provinciale SP3) e quella di sponda sinistra, così da realizzare le interconnessioni con:

- il polo sportivo esistente di Villa Negrotto, ubicato nel territorio del Comune di Serra Riccò, attrattore di utenza proveniente sia dall’interno che dall’esterno dell’ambito territoriale della vallata. Allo stato attuale l’unico accesso veicolare disponibile per la fruizione agli impianti sportivi è rappresentato dal guado in alveo;
- il polo culturale / congressuale / formativo di Villa Serra a Comago e del relativo Parco, localizzati nel territorio del Comune di Sant’Olcese, che riveste importanza a scala metropolitana e regionale;
- gli insediamenti produttivi di Via Carlo Levi, oggi raggiungibili soltanto da sud tramite una viabilità urbana che attraversa il centro urbano di Manesseno, a confine con il Comune di Genova;
- la frazione Ligge del Comune di Sant’Olcese, al quale l’accesso veicolare è oggi garantito esclusivamente attraverso la percorrenza del guado con risalita della strada comunale di via Ligge.

A tal fine è previsto un nuovo attraversamento stradale e una nuova viabilità di circa 600 m di estensione.

Il nuovo tracciato stradale prevede la realizzazione di nuovi attraversamenti per risolvere l’interferenza col reticolo idrografico esistente.

Il torrente Secca presenta le peculiari caratteristiche idrauliche dei torrenti liguri: bacino con versanti a forte pendenza, prevalentemente asciutto durante l’anno ma ad alta energia idrodinamica durante le piene rapide ed impulsive, con capacità anche di trasporto solido.

I rii minori interessati dal tracciato non evidenziano fenomeni di trasporto solido, ne sono presenti dissesti di versante tali da generare particolari condizioni critiche di flusso.

L’inquadramento normativo connesso alle attività idrauliche consente di poter delimitare i vincoli attorno ai quali costruire/inserire il progetto. Nel quadro complessivo, si pone particolare attenzione alle norme definite dal Distretto Idrografico dell’Appennino Settentrionale (PAI e Direttiva Alluvioni PGRA), nonché alle recenti norme tecniche delle costruzioni NTC2018.

La localizzazione planimetrica del tracciato stradale è stata individuata rispettando i vincoli imposti sia dall’Autorità di Bacino del Torrente Polcevera in termini di fasce di inondabilità, sia rispettando la fascia demaniale e la conseguente area di inedificabilità, individuata a 10 m dall’inviluppo delle due precedenti limitazioni.

2 NORMATIVA DI RIFERIMENTO

Le analisi sono state svolte nel rispetto della seguente normativa di riferimento:

- Piano di Bacino Stralcio per la tutela dal rischio idrogeologico – Bacino del T. Polcevera, approvato con DCP n. 14 del 02/04/2003 (Ultima variante approvata: DSG n. 29 del 06/04/2023 entrata in vigore il 03/05/2023);
- Norme Tecniche di Attuazione (NTA) approvate con DCM n. 26 del 25/06/2015,
- Regio decreto n. 3267 del 30/12/1923, Riordinamento e riforma della legislazione in materia di boschi e di terreni montani;
- Regolamento Regionale n. 3 del 14/07/2011, Regolamento recante disposizioni in materia di tutela delle aree di pertinenza dei corsi d’acqua;
- Regolamento Regionale n. 1 del 16/03/2016, Modifiche al Regolamento regionale del 14/07/2011, n. 3;
- Norme Tecniche delle Costruzioni (NTC), approvate con DM del 17/01/2018;
- Circolare esplicativa C.S.LL.PP del DM 17/01/2018 del 21/01/2019;
- Piano di gestione del Rischio Alluvioni (PGRA), Distretto Idrografico Appennino Settentrionale (II ciclo 2021-2027)
- Regolamento Regionale n.1/2025, recante *“Disposizioni concernenti l’attuazione dei Piani di bacino distrettuali, anche stralcio, per le aree a pericolosità da alluvione fluviale e costiera in attuazione dell’articolo 91, comma 1 ter 2 della legge regionale 21 giugno 1999, n. 18 (Adeguamento delle discipline e conferimento delle funzioni agli enti locali in materia di ambiente, difesa del suolo ed energia)”*.

A seguire una specifica sintesi del Piano di Settore vigente in materia idraulica.

2.1 PIANO DI GESTIONE DEL RISCHIO ALLUVIONI (PGRA)

Il torrente Secca appartiene al territorio di competenza dell’Autorità di Bacino Distrettuale dell’Appennino Settentrionale, la quale opera mediante il Piano di Gestione del Rischio di Alluvioni (P.G.R.A.) per la mappatura delle aree a pericolosità e a rischio di alluvione e per l’individuazione delle misure da attuare per ridurre le conseguenze negative delle alluvioni nei confronti della salute umana, della salvaguardia del territorio, del patrimonio culturale e delle attività economiche e sociali.

Il P.G.R.A. è previsto dalla Direttiva comunitaria 2007/60/CE ed è stato recepito nell’ordinamento legislativo italiano con D. lgs. n. 49/2010. Il P.G.R.A. costituisce, inoltre, lo stralcio del Piano di bacino distrettuale, previsto dall’art. 65 del d. lgs. 152/06, in materia di alluvioni.
Con D.P.C.M. 1° dicembre 2022, pubblicato sulla Gazzetta Ufficiale n. 31 del 7.02.2023, è stato approvato il primo aggiornamento del Piano di gestione del rischio di alluvioni relativo al periodo 2021-2027 (secondo ciclo di gestione), al quale si è fatto riferimento per l’inquadramento dell’area di intervento.
Per le disposizioni normative in merito alla gestione del rischio nelle aree a pericolosità da alluvione fluviale e costiera con particolare riferimento al settore urbanistico, ai sensi dell’art. 65 c. 6 del D.lgs. n. 152/2006, il riferimento è il Regolamento Regionale n. 1/2025.

2.1.1.1 PERICOLO IDRAULICO

Per l’UoM Regionale Liguria, il P.G.R.A. suddivide le aree di pericolosità in tre categorie:

- Aree a pericolosità da alluvione elevata (P3): aree inondabili da eventi con periodo di ritorno: minore od uguale a 50 anni;
- Aree a pericolosità da alluvione media (P2): aree inondabili da eventi con periodo di ritorno maggiore di 50 anni e minore od uguale a 200 anni;
- f) Aree a pericolosità da alluvione bassa (P1): aree inondabili da eventi con periodo di ritorno uguale a 500 anni.

L’area di intervento ricade all’interno di area a pericolosità da alluvione bassa (P1) e elevata (P3).
Ai sensi dell’art 4, comma 1 del Regolamento Regionale n. 1/2025, nelle aree a pericolosità da alluvione fluviale P3, e P1 “*qualsiasi intervento realizzato non deve pregiudicare la sistemazione idraulica definitiva del corso d’acqua, aumentare la pericolosità di inondazione ed il rischio connesso, sia localmente, sia a monte che a valle, costituire significativo ostacolo al deflusso delle acque di piena, ridurre significativamente la capacità di invaso delle aree stesse*”.
Nelle aree P3 da alluvione fluviale “*le nuove aree destinate a parcheggi a raso sono ammissibili esclusivamente a seguito di verifica, da parte dell’amministrazione comunale, della loro compatibilità con la pianificazione di protezione civile aggiornata secondo le disposizioni del PGRA, nonché della previsione di adeguate misure per la gestione in sicurezza dell’area in caso di allerta meteoidrologica*” (comma 2).
Ai sensi del comma 2 dell’art. 5, nelle aree a pericolosità da alluvione fluviale elevata (P3) non sono consentiti:
“*la realizzazione e l’ampliamento di infrastrutture, fatti salvi gli interventi inquadrabili nelle opere di attraversamento, quelli necessari ai fini della tutela della pubblica incolumità e quelli relativi e connessi alla rete infrastrutturale viaria e ferroviaria non diversamente localizzabili, nel caso di*

nuove realizzazioni previo parere dell’ufficio regionale competente, qualora non siano oggetto di parere da parte dell’Autorità di bacino ai sensi della disciplina del PGRA, purché progettati sulla base di uno specifico studio di compatibilità idraulica di cui all’articolo 3, lettera y), non aumentino le condizioni di rischio, siano dotati degli opportuni interventi di flood-proofing e a condizione che risultino assunte le misure di autoprotezione e le azioni previste dai piani comunali di protezione civile. Per i volumi connessi devono essere rispettati i criteri di cui all’allegato 1a”.

Nelle aree a pericolosità da alluvione fluviale bassa (P1) “*sono consentiti tutti gli interventi, purché realizzati con tipologie costruttive finalizzate alla riduzione della vulnerabilità delle opere e, quindi, del rischio per la pubblica incolumità, anche attraverso accorgimenti tecnico-costruttivi di protezione dagli allagamenti di cui all’allegato 1a e a condizione che risultino assunte le misure di autoprotezione e le azioni previste dai piani comunali di protezione civile*” (art. 7, comma 1).

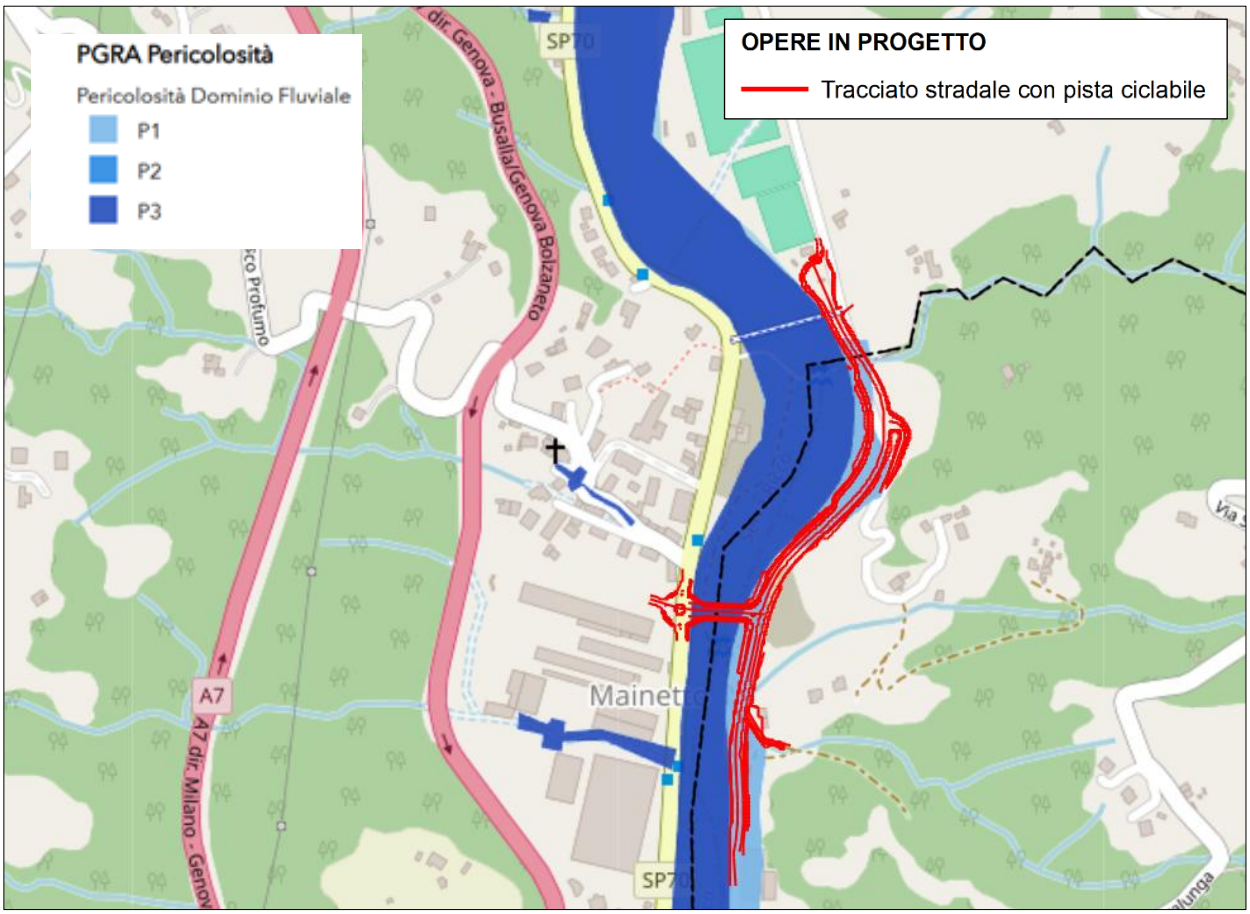


Figura 1. Inquadramento della mappa di pericolosità idraulica - PGRA ciclo 2021-2027, secondo ciclo di gestione (Fonte: geoportale AdBAS)

Le mappe del PGRA mostrano l’interferenza fra la nuova strada di progetto e le aree di pericolosità P1 lungo tutto il tratto in maniera non uniforme.

2.1.2 RISCHIO IDRAULICO

La Direttiva alluvioni stabilisce che in corrispondenza di ciascuno scenario di probabilità, siano redatte mappe del rischio di alluvioni, in cui devono essere rappresentate le potenziali conseguenze avverse in termini di:

- numero indicativo di abitanti potenzialmente interessati;
- tipo di attività economiche insistenti nell’area potenzialmente interessata;
- impianti di cui alla Direttiva 96/61/CE che potrebbero provocare inquinamento accidentale in caso di alluvioni e aree protette (di cui all’allegato IV, paragrafo 1, punti i), iii) e v) della Dir. 2000/60/CE) potenzialmente interessate;
- altre informazioni considerate utili dai MS, come l’indicazione delle aree in cui possono verificarsi alluvioni con elevato trasporto solido e colate detritiche e informazioni su altre fonti notevoli di inquinamento.

Il D.Lgs. 49/2010 prevede che le mappe del rischio rappresentino le 4 classi rischio R1-R4 di cui al DPCM del 29 settembre 1998, espresse in termini di:

- numero indicativo di abitanti potenzialmente interessati
- infrastrutture e strutture strategiche (autostrade, ferrovie, ospedali, scuole, ecc.)
- beni ambientali, storici e culturali di rilevante interesse presenti nell’area potenzialmente interessata
- distribuzione e tipologia delle attività economiche insistenti sull’area potenzialmente interessata
- impianti di cui all’allegato I del D.Lgs. 59/2005 che potrebbero provocare inquinamento accidentale in caso di alluvione e aree protette di cui all’allegato 9 alla parte III del D.Lgs. 152/2006
- altre informazioni considerate utili dalle Autorità distrettuali, come le aree soggette ad alluvioni con elevato volume di trasporto solido e colate detritiche o informazioni su fonti rilevanti di inquinamento.

In corrispondenza dei tratti in cui il reticolo presenta pericolosità, sono quindi stati definiti gli elementi soggetti a rischio (E) di essere colpiti da eventi calamitosi; tali elementi sono stati suddivisi in coerenza con la normativa vigente, secondo le seguenti classi:

Classe	Descrizione
E1	Case sparse - Impianti sportivi e ricreativi - Cimiteri - Insediamenti agricoli a bassa tecnologia - Insediamenti zootecnici.
E2	Reti e infrastrutture tecnologiche di secondaria importanza e/o a servizio di ambiti territoriali ristretti (acquedotti, fognature, reti elettriche, telefoniche, depuratori,…) - Viabilità secondaria (strade provinciali e comunali che non rappresentino vie di fuga) - Insediamenti agricoli ad alta tecnologia - Aree naturali protette, aree sottoposte a vincolo ai sensi del D. L.vo 490/99.
E3	Nuclei abitati - Ferrovie - Viabilità primaria e vie di fuga – Aree di protezione civile (attesa, ricovero e ammassamento) - Reti e infrastrutture tecnologiche di primaria importanza (reti elettriche e gasdotti) - Beni culturali, architettonici e archeologici sottoposti a vincolo - Insediamenti industriali e artigianali - Impianti D.P.R. 175/88.
E4	Centri abitati - Edifici pubblici di rilevante importanza (es. scuole, chiese, ospedali, ecc.).

Tabella 1. PGRA classi elementi a rischio (Ei).

In questo modo, posta cautelativamente la Vulnerabilità al massimo valore pari a 1, è stato possibile definire le diverse classi di rischio secondo l’usuale formula:

$$R_i = P_i \cdot E \cdot V$$

Le classi di rischio adottate nel PGRA conformi alla normativa in materia sono descritte nella tabella seguente.

R1	**RISCHIO MODERATO**: per il quale i danni sociali, economici e al patrimonio ambientale sono marginali.
R2	**RISCHIO MEDIO**: per il quale sono possibili danni minori agli edifici, alle infrastrutture a al patrimonio ambientale che non pregiudicano l'incolumità del personale, l'agibilità degli edifici e la funzionalità delle attività economiche.
R3	**RISCHIO ELEVATO:** per il quale sono possibili problemi per l'incolumità delle persone, danni funzionali agli edifici e alle infrastrutture con conseguente inagibilità degli stessi,la interruzione di funzionalità delle attività socio-economiche e danni rilevanti al patrimonio ambientale.
R4	**RISCHIO MOLTO ELEVATO**: per il quale sono possibili la perdita di vite umane e lesioni gravi alle persone, danni gravi agli edifici, alle infrastrutture e al patrimonio ambientale, la distruzione di attività socio-economiche.

Tabella 2. PGRA classi di rischio idraulico (Ri).

Per tutto il tratto di intervento progettuale e in maniera non uniforme, la nuova strada interferisce unicamente con aree a rischio R1 e R2. Per gli interventi da realizzare in tale fascia si può ricorrere a quanto esplicitato dall’Allegato 5 delle NTA il quale afferma che: “*affinché l’introduzione di un nuovo elemento in un’area interessata da possibili inondazioni non determini un aumento delle condizioni di rischio, deve poter essere eliminata la vulnerabilità dell’elemento stesso nei confronti dell’evento temuto*”. Sempre all’interno del suddetto allegato viene riportato che in ogni caso, la quota del piano viabile delle nuove realizzazioni deve essere posta ad un livello adeguatamente superiore a quella del tirante idrico associato alla piena duecentennale di riferimento.

3 SINTESI IDROLOGICA

Sulla scorta delle valutazioni condotte nella Relazione Idrologica, a cui si rimanda per l’approccio metodologico, è di seguito riportata la sintesi dei risultati ottenuti.

Parametri idrologici

Le curve di possibilità climatica adottate sono:

Tabella 3. Sintesi dei risultati

TR	5	10	25	50	100	200	500
d< 1 ora							
a	63.74	81.80	104.62	121.55	138.35	155.10	177.19
n	0.566	0.566	0.566	0.566	0.566	0.566	0.566
d> 1 ora							
a	63.74	81.80	104.62	121.55	138.35	155.10	177.19
n	0.401	0.401	0.401	0.401	0.401	0.401	0.401

Portate al colmo

Nella tabella a seguire sono descritti i valori di portata di progetto duecentennale dei bacini minori potenzialmente interferenti col tracciato stradale. Si evidenzia per ciascun bacino il valore di portata specifica q, ottenuto rapportando la portata al colmo con la superficie sottesa.

Tabella 4. Bacini interferenti con il tracciato

BACINO IDROGRAFICO	AREA BACINO	PORTATA TR200	PORTATA SPECIFICA q	OSSERVAZIONI
ID	**km^2**	**m^3/s**	**$m^3/s/km^2$**	**-**
B101-T.Secca	25.2	505	20	Nuovo ponte in progetto
B201	0.05	1.8	40	Nessun attraversamento previsto
B202	0.15	5.9	40	TM01-TM02
B203	0.15	6.2	40	TM03
B204-Rio Pei	0.36	14.6	40	TM04

4 ANALISI IDRAULICA

Per la verifica idraulica delle interferenze è stato utilizzato un unico approccio, quello modellistico monodimensionale: il codice di calcolo applicato è HEC-RAS ver. 6.1, sviluppato dalla Hydrologic Engineering Center della U.S. Army, che consente il calcolo dell’andamento dei profili di corrente in moto gradualmente variato oppure in moto vario in alvei naturali o canali artificiali includendo anche la valutazione degli effetti sulla corrente dovuti all’interazione con ponti, tombinature, briglie, stramazzi, aree golenali, etc.;

Per mantenere una rigorosa corrispondenza tra le aste ed i bacini afferenti si è scelto di nominare ciascun corso d’acqua con la medesima nomenclatura del bacino pertinente.

4.1 Allestimento e geometria dei modelli idraulici

La schematizzazione geometrica delle varie aste fluviali studiate è stata effettuata in modo da ottenere una buona e realistica rappresentazione del deflusso di piena basandosi sul rilievo topografico celerimetrico dell’area.

Corsi d’acqua schematizzati con modello monodimensionale

La schematizzazione del Torrente Secca è stata realizzata determinando sezioni trasversali al flusso della corrente in condizioni di piena ordinaria, la cui ubicazione planimetrica è apprezzabile dall’elaborato grafico dedicato alle aree di allagamento (3536-2-0-DD-PZ-PLA-II-LI-IS-001-0A). Le opere strutturali sono state inserite nel modello tramite la funzione “Bridge”, sia quelle esistenti sia il ponte di progetto a valle del guado. Inoltre è stato modellato l’inserimento della protezione al piede del muro di contenimento, prevista solo in alcuni tratti dell’estensione longitudinale del corso d’acqua, tramite l’inserimento delle “obstruction”. Queste sono delle entità fisiche che fungono da sbarramento della corrente, non permettendo ilpassaggio del flusso nell’area delimitata dall’ostruzione stessa.

In Figura 2 viene riportata una rappresentazione schematiche della distribuzione planimetrica delle sezioni di calcolo.

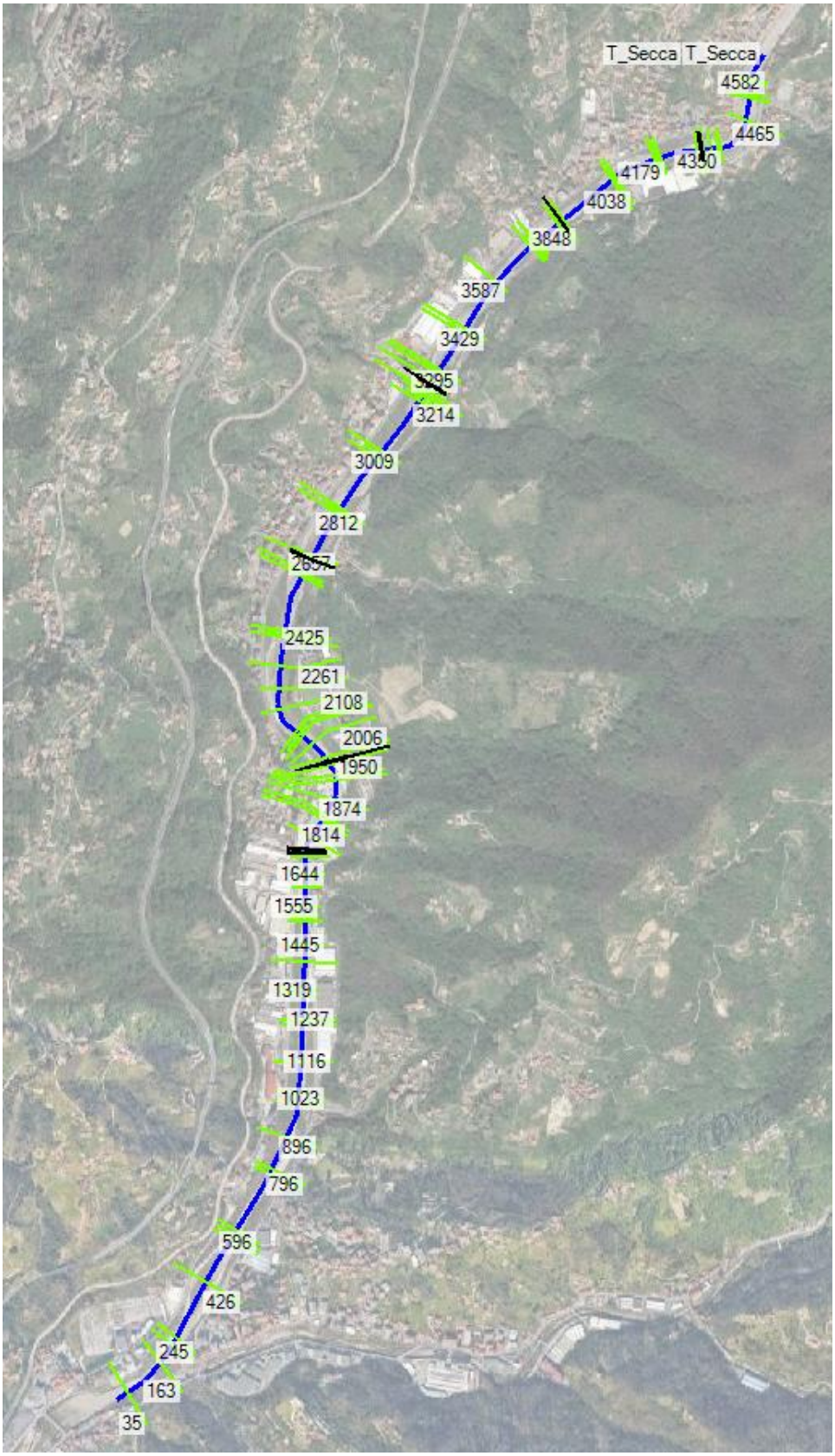


Figura 2. Inquadramento planimetrico modello 1D Torrente Secca

La schematizzazione dei tombini idraulici in ciascun modello di calcolo numerico è stata effettuata mediante la funzione “Bridge and culverts” del codice di calcolo in questione.
Per il calcolo del profilo di corrente in corrispondenza delle strutture, tra le diverse opzioni offerte dal codice di calcolo, sono state selezionate le equazioni di bilancio dell’energia ed il metodo dei momenti, tra le quali il software seleziona in automatico la formulazione caratterizzata dalla maggiore dissipazione energetica. Finché il livello idrico rimane al di sotto dell’impalcato (low flow), viene assunta la schematizzazione di deflusso non in pressione ovvero a superficie libera; viene invece assunta la schematizzazione con deflusso in pressione e stramazzo al di sopra dell’impalcato (pressure and weir), per le situazioni con livello della corrente tale da interessare l’intradosso del ponte (high flow). Le condizioni limite per il deflusso in pressione sono definite dal programma in base al livello di corrente registrato a monte.
L’ubicazione del tracciato analizzato e delle sezioni di calcolo sono riportate in Figura 3 e successive ma per maggiori dettagli si rimanda all’elaborato grafico 3536-2-0-DD-PZ-SEZ-II-LI-IS-001/2-0A.

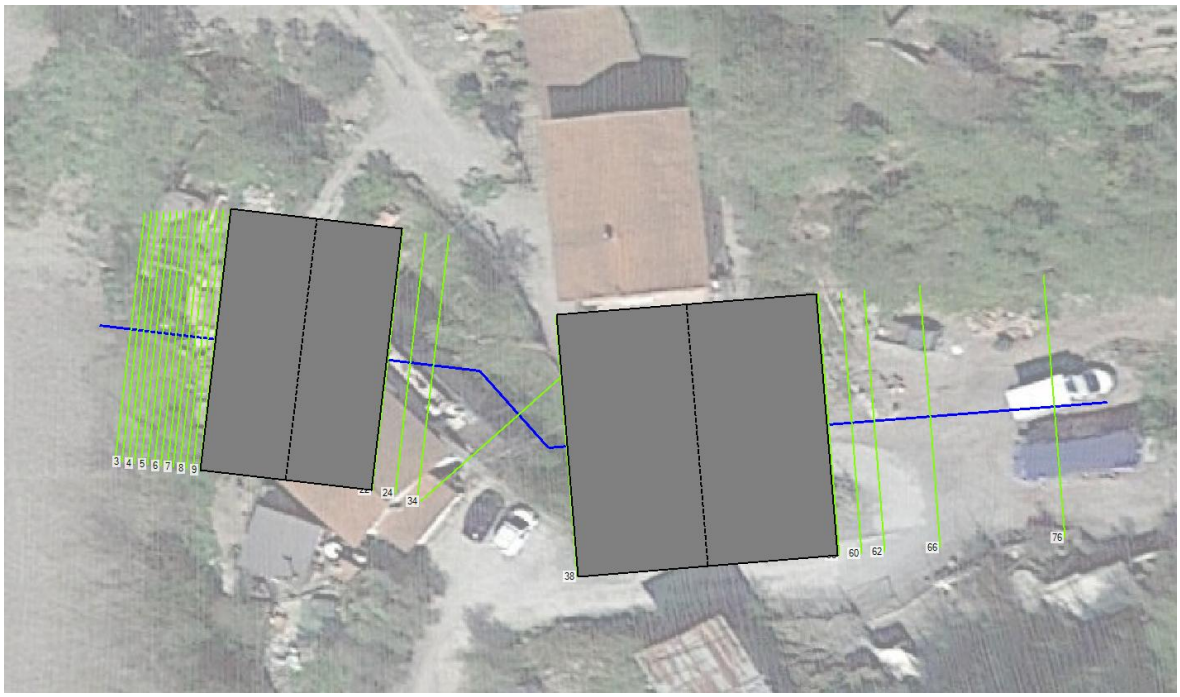


Figura 3. Inquadramento planimetrico modello 1D tombini TM01 e TM02

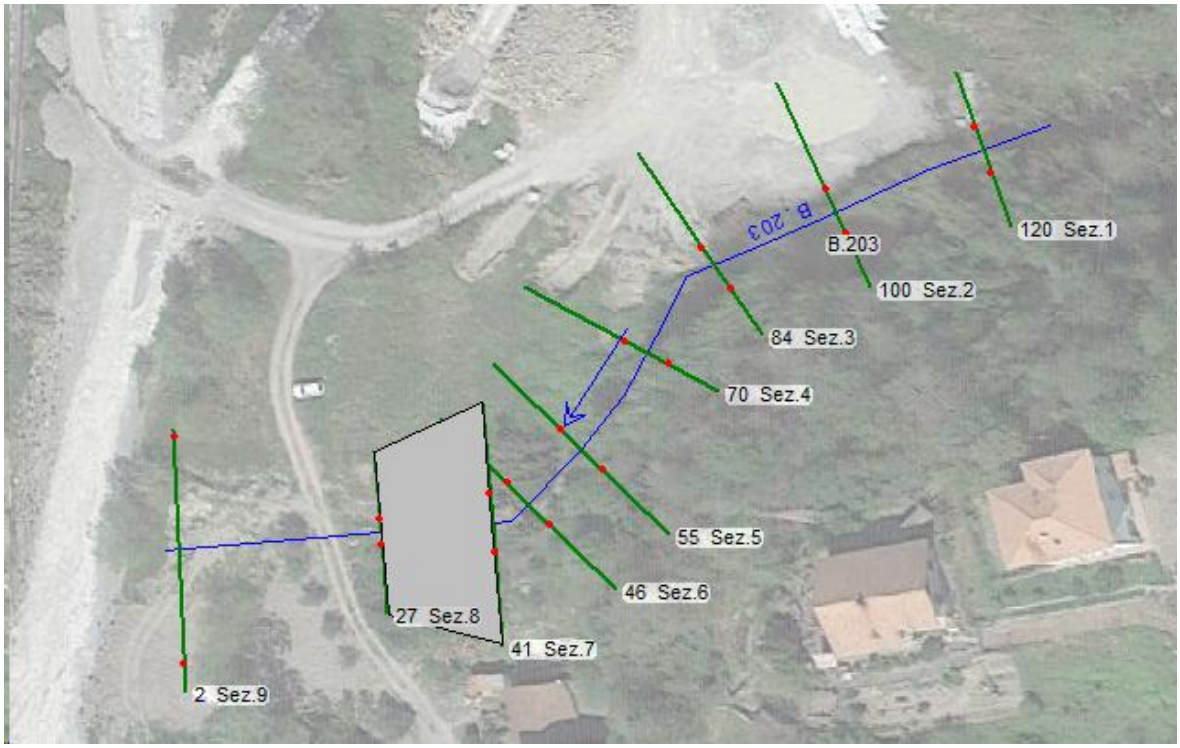


Figura 4. Inquadramento planimetrico modello 1D tombini TM03

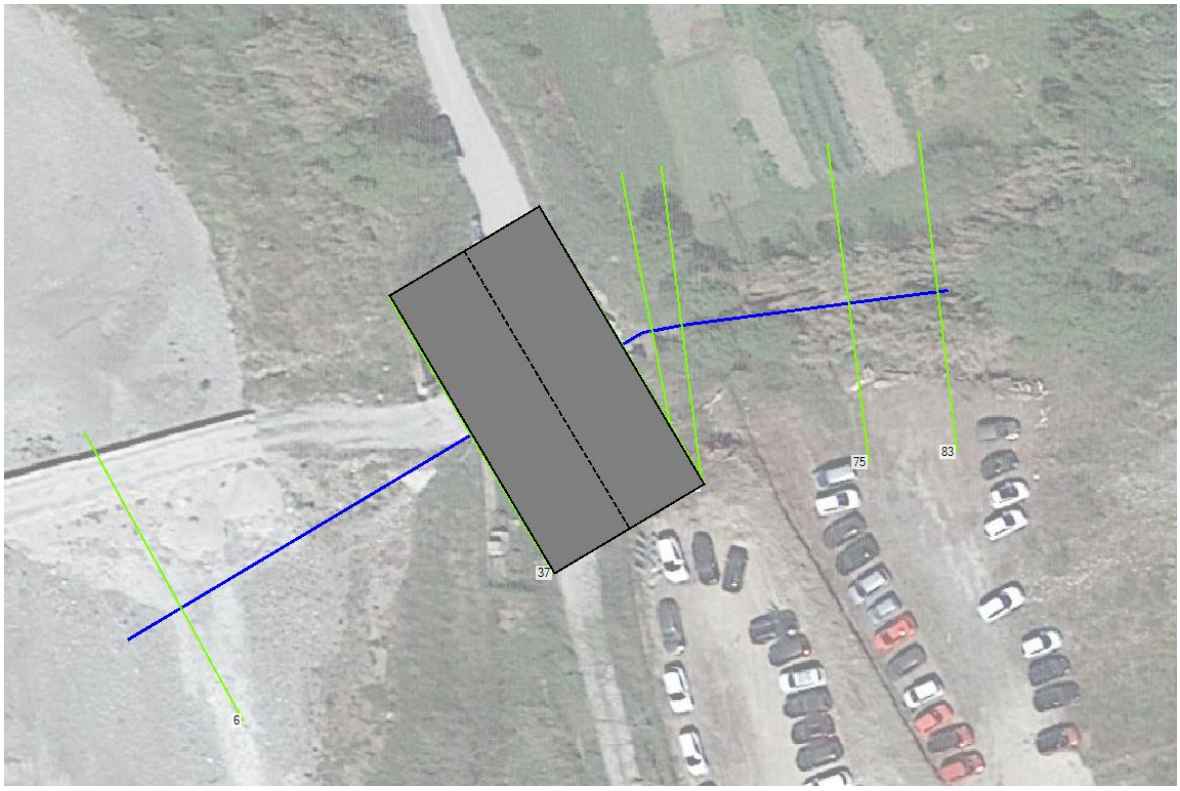


Figura 5. Inquadramento planimetrico modello 1D tombini TM04

Modellazione delle opere strutturali

Come accennato in precedenza, le opere strutturali interfernti con il Torrente Secca nel tratto modellato, sono state rappresentate con sezioni tipo “Bridge”. Di seguito vengono riportate le sezioni significative per l’inserimento di questo genere di strutture, ossia la sezione di monte (upstream) e di valle (downstream).

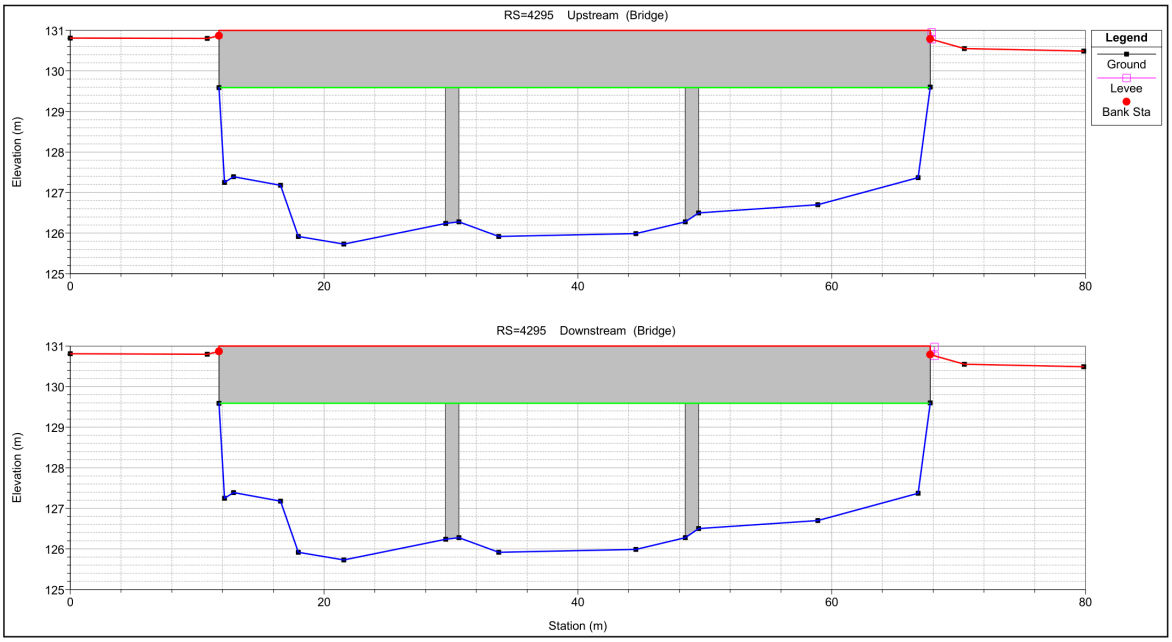


Figura 6. Ponte carrabile Battaglione Alpini Pieve di Teco.

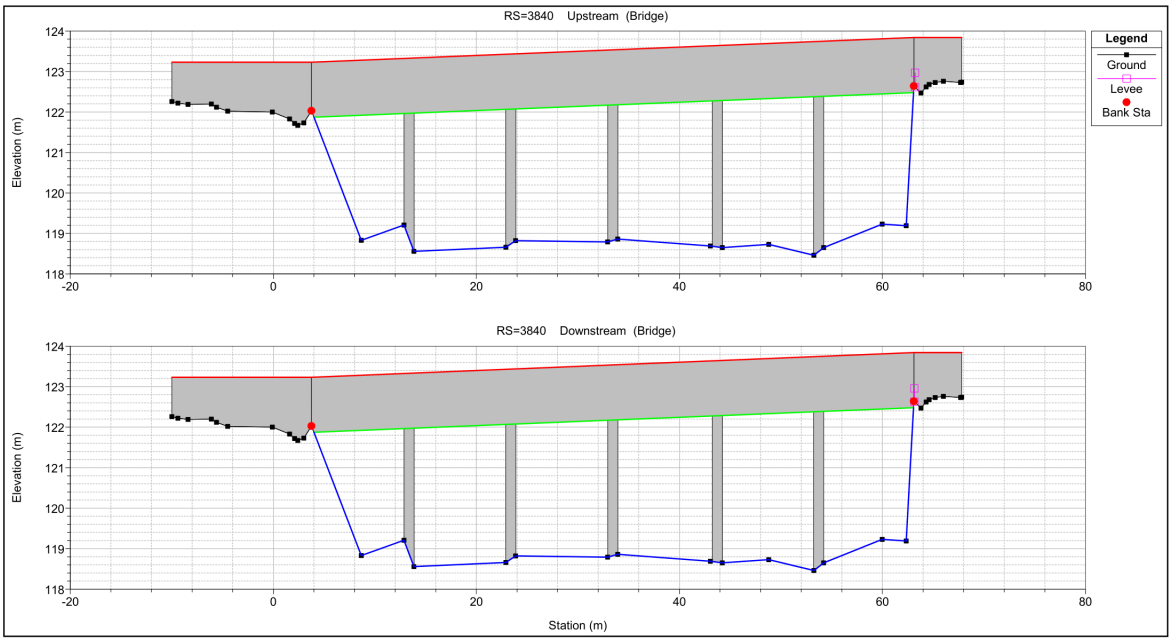


Figura 7. Ponte pedonale Via Chiappella

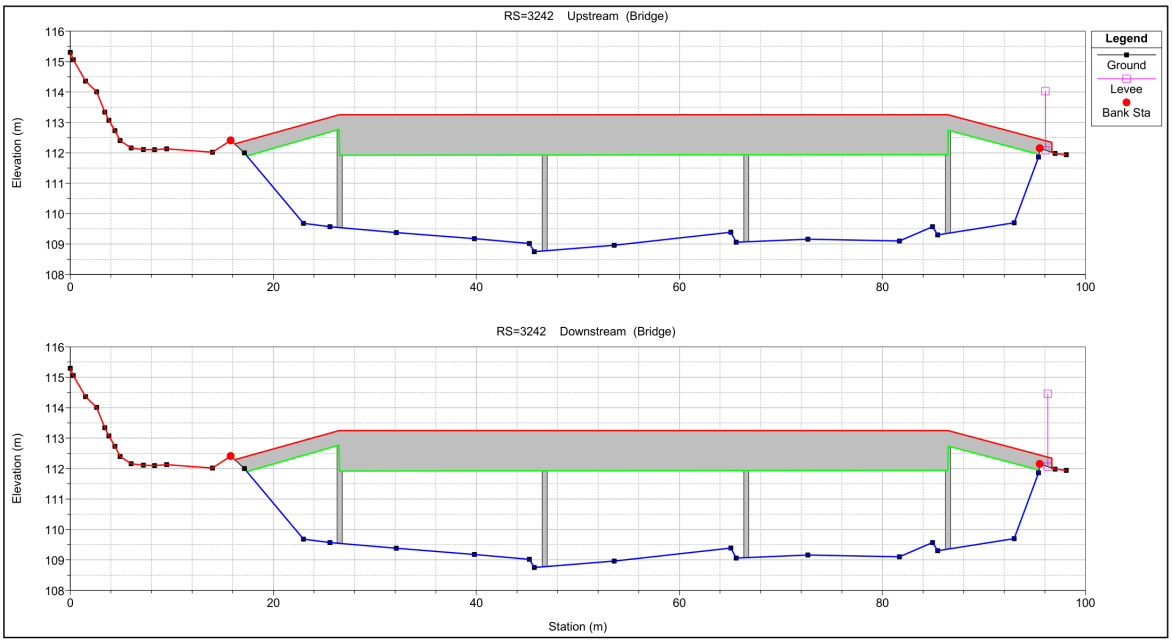


Figura 8. Ponte carrabile Via Valle

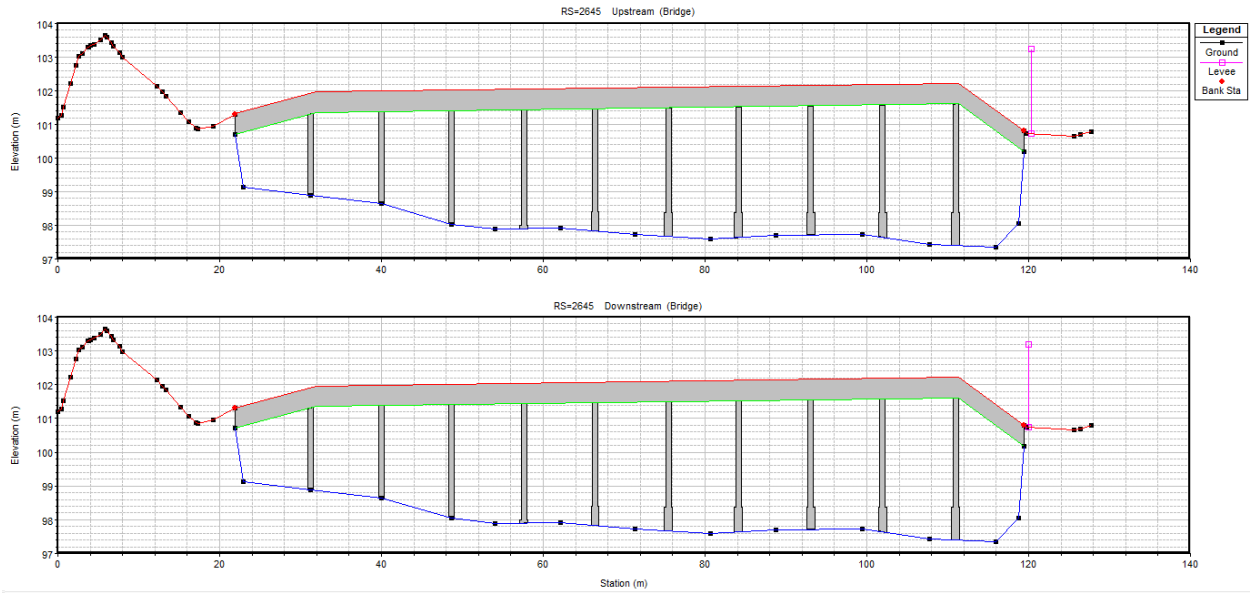


Figura 9. Ponte pedonale Via Reumà

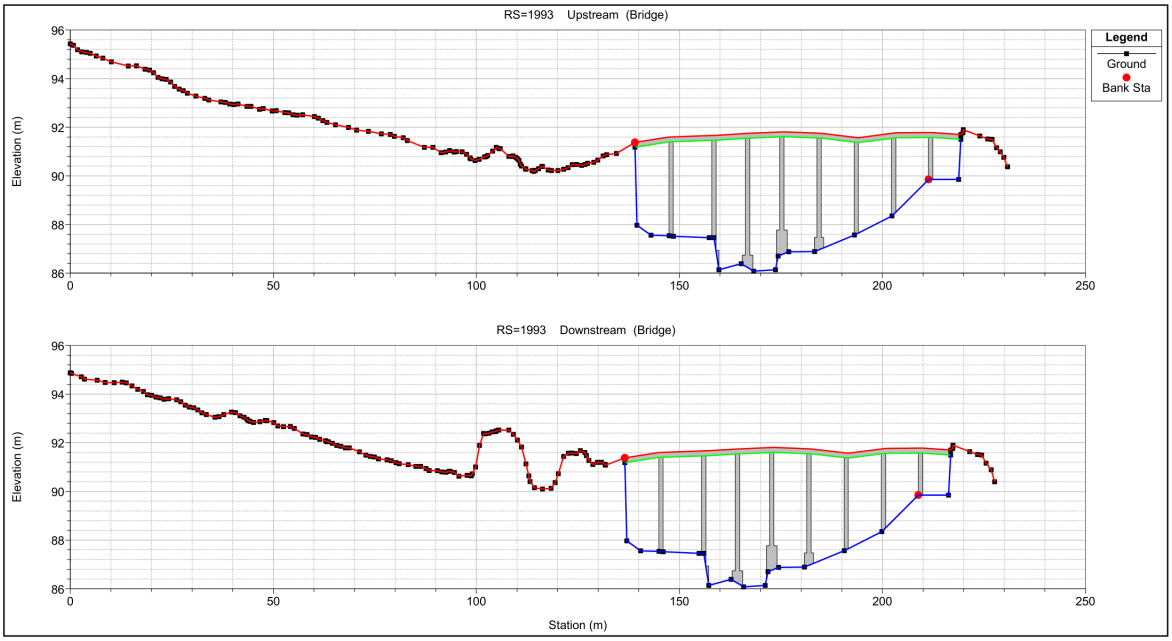


Figura 10. Ponte pedonale Via Negrotto.

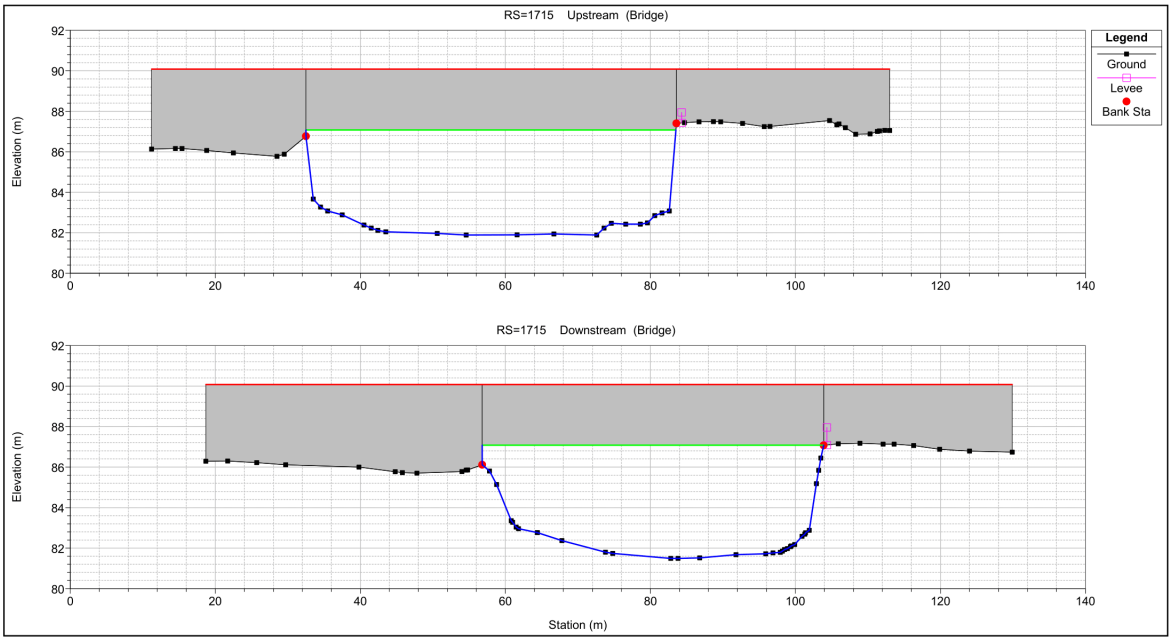


Figura 11. Ponte di progetto.

Con riferimento alla Figura 9, si può notare l’inserimento della scogliera a protezione del piede del muro, posizionata in sinistra idraulica.

4.2 Condizioni al contorno e definizione della scabrezza

Le simulazioni idrodinamiche sono state effettuate in moto permanente. Nello specifico per ciascun modello numerico è stata stabilita una condizione al contorno di monte imponendo la portata di progetto relativa in ingresso, mentre come condizione al contorno di valle sono stati simulati due scenari: nel primo è stato imposto normalmente il deflusso in moto uniforme “Normal Depth”, mentre nel secondo è stata simulata una condizione di rigurgito (“Water Surface” assegnata) causata dalla simultanea condizione di piena del Torrente Secca. A tal riguardo sono state considerate la condizione di piena duecentennale per gli attraversamenti idraulici, mentre quella di piena cinquantennale per il T.Secca. Questa scelta progettuale è stata dettata dalla notevole differenza tra le dimensioni dei bacini afferenti alle sezioni di chiusura dei due corsi d’acqua e di conseguenza ai relativi tempi di corrivazione.

Nella successiva tabella vengono riportati sinteticamente gli scenari appena descritti.

Tabella 5. Scenari e condizioni al contorno imposte nelle simulazioni

ASTA MODELLATA	COND. CONTORNO DI MONTE	COND. CONTORNO DI VALLE
ID	**(-)**	**(-)**
B101-T.Secca	Q=505 m^3/s Normal Depth: 0.021	Normal Depth: 0.0127
B202	Q=5.9 m^3/s Normal Depth: 0.01	S1: Normal Depth: 0.02
		S2: Water Surface: 84.1 m
B203	Q=6.15 m^3/s Normal Depth: 0.08	S1: Normal Depth: 0.05
		S2: Water Surface: 84.3 m
B204-Rio Pei	Q=14.6 m^3/s Normal Depth: 0.08	S1: Normal Depth: 0.07
		S2: Water Surface: 88.5 m

Per quanto concerne la scabrezza, la valutazione dei coefficienti da inserire in ciascun modello è stata basata su dati di letteratura, sull’esperienza acquisita nel campo della modellistica idraulica e sui rilievi effettuati.

Sono stati assunti coefficienti diversi in base all’asta modellata e quelli utilizzati vengono riportati in Tabella 6. Per il torrente Secca sono stati modellati due differenti scenari allo stato di progetto. Nel primo, più cautelativo, è stato utilizzato un unico valore di scabrezza, sia nel canale principale che nelle aree golenali in linea, ricavato dall’analisi modellistica idraulica svolta dall’Autorità di

Bacino e riportata nel PAI. Nel secondo scenario si è invece attribuito un coefficiente di scabrezza in linea con la l’Allegato 1 del RR2011, che definisce rispetto al primo scenario una scabrezza minore.
Per le aste inerenti gli attraversamenti principali, il valore di scabrezza è stato diversificato in base al fatto che il perimetro bagnato sia realizzato in calcestruzzo o mantenuto allo stato naturale.

Tabella 6. Definizione delle scabrezze

ASTA MODELLATA	COEFF. SCABREZZA MANNING	OSSERVAZIONI
ID	**(-)**	**(-)**
B101-T.Secca	0.036	Coeff. Cautelativo uniforme in tutta la sezione
B202	0.02	Coeff. Tombini in calcestruzzo
	0.05	Coeff. di materiale d’alveo naturale (limoso)
B203	0.02	Coeff. Tombini in calcestruzzo
	0.05	Coeff. di materiale d’alveo naturale (limoso)
B204-Rio Pei	0.02	Coeff. Tombini in calcestruzzo
	0.05	Coeff. di materiale d’alveo naturale (limoso)

A seguito delle prescrizioni riportate dalla Regione tramite l’ufficio Difesa del Suolo, le condizioni di scabrezza precedentemente descritte ed utilizzate nella verifica delle interferenze idrauliche, sono state svolte delle verifiche applicando anche i valori riportati dal RR 3/2011:

- torrente secca: ks=35 $m^{1/3}s^{-1}$;
- tombini minori: sono stati attribuiti ai tratti in terra valori di ks pari a 25 $m^{1/3}s^{-1}$ (n=0.04) ed ai tratti ove è previsto di convogliare il deflusso attraverso manufatti in calcestruzzo (canali e tombini) è stato attribuito un ks=40 $m^{1/3}s^{-1}$ (n=0.025).

4.3 Simulazioni idrauliche in moto permanente

Lo studio del funzionamento idraulico di ciascuna opera in progetto verte sulla verifica del franco idraulico e ubicazione spalle e pile secondo le modalità indicate dalle recenti NTC2018 nel capitolo dedicato alla compatibilità idraulica.

Secondo tale norma, per le nuove opere valgono i seguenti principali vincoli:

- la portata di verifica di progetto è quella caratterizzata da tempo di ritorno duecentennale;
- il franco calcolato sul livello della portata di progetto deve essere di 1.5 m;
- il manufatto non deve interessare con rilevati, spalle e pile la sezione del corso d’acqua;
- qualora fosse necessario realizzare pile in alveo, la luce netta minima tra pile contigue, o fra pila e spalla del ponte, non deve essere inferiore a 40 m misurati ortogonalmente al filone principale della corrente;
- nelle verifiche sui tombini, intendendosi manufatti totalmente rivestiti in sezione, eventualmente suddivisi in più canne, in grado di condurre complessivamente portate fino a 50 m^3/s, è necessario garantire, in caso di funzionamento a superficie libera, un tirante idrico inferiore ai 2/3 dell’altezza della sezione, garantendo comunque un franco minimo di 0.50 m.

L’applicazione di tale normativa si intende riferita a nuovi ponti/tombini, mentre sono necessari adeguati approfondimenti nel caso di opere esistenti costruite prima del 2018. È quest’ultimo il caso certamente delle opere esistenti di attraversamento carrabile e cilabile sul Torrente Secca.

Per i risultati estesi delle simulazioni si rimanda all’Allegato presente in calce alla presente relazione, in cui trovano spazio le tabelle dei risultati numerici, i profili altimetrici dei corpi idrici analizzati e le sezioni geometriche utilizzate per la modellazione numerica.

Nel capitolo 6 infine vengono riportate le tabelle in cui vengono espressi i valori dei franchi idraulici risultanti.
Per le opere minori vengono riportate la Tabella 7 e la Tabella 8 le quali differiscono per i diversi valori di scabrezza descritti al capitolo precedente; si può apprezzare che i valori dei tiranti idrici e delle velocità presenti in alveo fanno si che la compatibilità idraulica venga garantita anche a seguito delle suddette variazioni.

5 ANALISI DELL’INTERAZIONE DELLA CORRENTE

5.1 Valutazione dello scalzamento a valle della briglia pk 0+060.00

Nella briglia immediatamente a valle del ponte in progetto, è sorta la necessità di calcolare lo scalzamento massimo verificabile in occasione della piena duecentennale di progetto. Questo fenomeno è particolarmente rilevante nei casi in cui il manufatto si presente con parete di sfioro verticale e soprattutto in assenza di un bacino di calma o di una vasca di dissipazione a valle del manufatto stesso. Nel caso in oggetto è risultato necessario valutarne l’entità in quanto in sinistra idraulica verrà data continuità al muro di contenimento del deflusso, già presente alcuni metri a valle della briglia.

Per una valutazione di larga massima della profondità s_{max} può essere utilizzata la formula proposta da Schoklitsch che, pur essendo dedotta per escavazioni di tipo diverso da quelle che si realizzano a valle di una briglia, ha fornito nelle pratiche applicazioni valori della massima profondità di scavo molto prossimi a quelli effettivi:

$$s_{max} + h_2 = 4.75 \frac{y^{0.2} q^{0.57}}{d_{90}^{0.32}}$$

In cui s_{max} indica la massima profondità di scavo sotto il piano del fondo alveo espressa in m, con y il dislivello tra il pelo libero a monte e quello a valle, con q la portata per unità di larghezza espressa in m^3/s m., con d_{90} il diametro corrispondente al frattile 90% della curva granulometrica (il 10% delle particelle viene trattenuto dalle maglie del setaccio) e con h_2 il tirante idrico nel torrente a valle del manufatto.

Nel caso in esame attribuendo alle suddette variabili rispettivamente i valori di 1.92 m, 11 m^3/s m, 80 mm e 1.73 m, si è ottenuto un valore di s_{max} pari a 3.5 m nella conformazione indisturbata. Essendo che allo stato di fatto è già presente un dislivello di 1 m causato dalle precedenti piene avvenute , si ha un margine residuo di 2.5 m rispetto all’attuale fondo alveo.

6 CONCLUSIONI: VERIFICA DI COMPATIBILITA’ IDRAULICA

Nuova viabilità e ponte

Le analisi condotte evidenziano come gli interventi previsti garantiscano franchi di sicurezza secondo il quadro normativo di riferimento sia definito dalle NTC2018.

Tutti gli interventi rispettano anche il Regolamento Regionale 3/2011, il quale oltre a prevedere un franco idraulico riferito alle quote altimetriche del pelo libero dell’onda di piena di riferimento, contempla anche la componente cinetica della corrente.

L’unica eccezione, come si può apprezzare dalla Tabella 7, riguarda l’attraversamento TM03. Se s’imposta la condizione di alluvione concomitante del Torrente Secca, questa genera un parziale rigurgito del profilo andando a ridurre il franco di 8 cm al di sotto della soglia tollerata, ma comunque senza mandare mai in pressione il manufatto.

Il nuovo ponte di progetto sul torrente Secca non prevede la realizzazione di pile, mentre le spalle non interessano, nella configurazione di progetto, le aree di allagamento.

I risultati ottenuti vengono riportati sinteticamente in Tabella 9.

Le opere inoltre NON peggiorano il quadro di pericolosità idraulica così come definito sia dalle indicazioni PAI che dal PGRA, senza ridurre la sezione di deflusso.

Le opere in progetto non ricadono all’interno della fascia di inedificabilità, identificata a una distanza di 10 m dai limiti demaniali riferiti al Torrente Secca e ad una distanza di 3 m dai corsi d’acqua classificabili come reticolo minuto, aventi cioè un bacino afferente <0.1 km^2, secondo il Regolamento Regionale 3/2011. A riguardo, la presenza di opere di contenimento quali i muri arginali esistenti fungono da discriminante nella definizione del limite ammissibile.

Tabella 7. Verifica di compatibilità idraulica e valori dei franchi dei tombini principali alla conformazione di progetto.

	IDROLOGIA						GEOMETRIA OPERA		Scenari simulati	Parametri idraulici		Franco Calcolato	Da RR 3/2011			Da NTC2018	Verifica	Verifica
OPERA	**Bacino**	**Area**	**Area**	**Reticolo**	**Tempo di ritorno**	**Portata**	**Base**	**Altezza**	**Cond. Contorno valle**	**Tirante**	**Velocità media (U)**		**Franco cinetico**		**Franco**	**Franco**	**RR 3/2011**	**NTC2018**
ID	*ID*	*mq*	*kmq*	*Livello*	*anni*	*mc/s*	*m*	*m*		*m*	*m/s*	*m*	*m*		*m*	*m*		-
TM01	B202	147389	0.15	3°	200	5.9	2.0	2.0	Normal Depth	0.38	7.8	1.62	$0.5*U^2/2g$	1.6	1.00	0.67	OK	OK
									TR50 T.Secca	0.38	7.8	1.62		1.6	1.00	0.67	OK	OK
TM02	B202	147389	0.15	3°	200	5.9	2.0	2.0	Normal Depth	0.41	7.2	1.59	$0.5*U^2/2g$	1.3	1.00	0.67	OK	OK
									TR50 T.Secca	0.41	7.2	1.59		1.3	1.00	0.67	OK	OK
TM03	B203	153832	0.15	3°	200	6.2	3.0	2.0	Normal Depth	0.98	1.9	1.02	$0.5*U^2/2g$	0.1	1.00	0.67	OK	OK
									TR50 T.Secca	1.08	1.7	0.98		0.1	1.00	0.67	NO	OK
TM04	B204	364516	0.36	2°	200	14.6	3.0	3.0	Normal Depth	1.46	3.3	1.54	$U^2/2g$	0.6	1.50	1.00	OK	OK
									TR50 T.Secca	1.46	3.3	1.54		0.6	1.50	1.00	OK	OK

Tabella 8. Verifica di compatibilità idraulica e valori dei franchi dei tombini principali alla conformazione di progetto (ks da RR 3/2011)

	IDROLOGIA						GEOMETRIA OPERA		Scenari simulati	Parametri idraulici		Franco Calcolato	Da RR 3/2011			Da NTC2018	Verifica	Verifica
OPERA	**Bacino**	**Area**	**Area**	**Reticolo**	**Tempo di ritorno**	**Portata**	**Base**	**Altezza**	**Cond. Contorno valle**	**Tirante**	**Velocità media (U)**		**Franco cinetico**		**Franco**	**Franco**	**RR 3/2011**	**NTC2018**
ID	*ID*	*mq*	*kmq*	*Livello*	*anni*	*mc/s*	*m*	*m*		*m*	*m/s*	*m*	*m*		*m*	*m*		-
TM01	B202	147389	0.15	3°	200	5.9	2.0	2.0	Normal Depth	0.42	7.1	1.58	$0.5*U^2/2g$	1.3	1.00	0.67	OK	OK
									TR50 T.Secca	0.42	7.1	1.58		1.3	1.00	0.67	OK	OK
TM02	B202	147389	0.15	3°	200	5.9	2.0	2.0	Normal Depth	0.42	7.0	1.58	$0.5*U^2/2g$	1.2	1.00	0.67	OK	OK
									TR50 T.Secca	0.42	7.0	1.58		1.2	1.00	0.67	OK	OK
TM03	B203	153832	0.15	3°	200	6.2	3.0	2.0	Normal Depth	0.98	1.9	1.02	$0.5*U^2/2g$	0.1	1.00	0.67	OK	OK
									TR50 T.Secca	1.08	1.7	0.92		0.1	1.00	0.67	NO	OK
TM04	B204	364516	0.36	2°	200	14.6	3.0	3.0	Normal Depth	1.46	3.3	1.54	$U^2/2g$	0.6	1.50	1.00	OK	OK
									TR50 T.Secca	1.46	3.3	1.54		0.6	1.50	1.00	OK	OK

Tabella 9. Verifica di compatibilità idraulica e valori dei franchi del ponte sul T.Secca alla conformazione di progetto.

	IDROLOGIA						GEOMETRIA OPERA		Quote riferimento		Scenari simulati	Parametri idraulici		Franco Calcolato	Da RR 3/2011			Da NTC2018	Verifica	Verifica
OPERA	**Bacino**	**Area**	**Area**	**Reticolo**	**Tempo di ritorno**	**Portata**	**Base**	**Altezza max**	**Intradosso**	**TR200**	**Coeff. Strickler**	**Tirante**	**Velocità media (U)**		**Franco cinetico**		**Franco**	**Franco**	**RR 3/2011**	**NTC2018**
ID	*ID*	*mq*	*kmq*	*Livello*	*anni*	*mc/s*	*m*	*m*	*m s.l.m.*	*m s.l.m.*	$m^{1/3}s^{-1}$	*m*	*m/s*	*m*	*m*		*m*	*m*		-
NUOVO PONTE SECCA	B101	25158684	25.16	1°	200	505.0	51.0	5.5	87.25	85.67	28	3.78	3.0	1.58	$U^2/2g$	0.5	1.50	1.50	OK	OK
										85.48	33	3.59	3.1	1.77	$U^2/2g$	0.5	1.50	1.50	OK	OK

Tabella 10. Verifica dei franchi rispetto alle sponde sul T.Secca nella conformazione di progetto.

SEZ. IDRAULICHE	TR200 PROGETTO	QUOTA SPONDA SINISTRA PROGETTO	FRANCO SPONDA SINISTRA PROGETTO	QUOTA SPONDA DESTRA	FRANCO SPONDA DESTRA
-	*m slm*	*m slm*	*m*	*m slm*	*m*
2006	90.04	91.23	1.19	92.94	2.9
1950	89.06	91.27	2.21	92.18	3.12
1935	88.19	91.29	3.1	92.12	3.93
1874	87.81	93.99	6.18	90.28	2.47
1826	87.35	93.32	5.97	88.75	1.4
1754	85.73	87.48	1.75	87.79	2.06
1697	85.44	88.23	2.79	87.03	1.59
1644	84.56	87.4	2.84	86.25	1.69
1608	84.53	88.12	3.59	85.64	1.11
1555	83.63	86.81	3.18	84.79	1.16
1530	83.18	85.39	2.21	84.39	1.21
1512	80.8	84.11	3.31	83.45	2.65

ALLEGATI

ALLEGATI

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1 ALLEGATO - DESCRIZIONE DEL CODICE DI CALCOLO HEC-RAS

2 ALLEGATO - RISULTATI SIMULAZIONI IDRODINAMICHE TR200

2.1 Torrente Secca – Stato di fatto

2.2 Torrente Secca – Progetto – ks=28 $m^{1/3}s^{-1}$

2.3 Torrente Secca – Progetto – ks=35 $m^{1/3}s^{-1}$

2.4 Bacino B202 – TM01-TM02 Scenario senza rigurgito

2.5 Bacino B202 – TM01-TM02 Scenario con rigurgito

2.6 Bacino B203 – TM03 Scenario senza rigurgito

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2.9 Bacino B204 – TM04 Scenario con rigurgito

3 ALLEGATO - RISULTATI SIMULAZIONI IDRODINAMICHE TR200 – Ks da RR 3/2011

3.1 Bacino B202 – TM01-TM02 Scenario senza rigurgito

3.2 Bacino B202 – TM01-TM02 Scenario con rigurgito

3.3 Bacino B203 – TM03 Scenario senza rigurgito

3.4 Bacino B203 – TM03 Scenario con rigurgito

3.5 Bacino B204 – TM04 Scenario senza rigurgito

3.6 Bacino B204 – TM04 Scenario con rigurgito

1 ALLEGATO - DESCRIZIONE DEL CODICE DI CALCOLO HEC-RAS

1. DESCRIZIONE DEL CODICE DI CALCOLO

Il modello di simulazione implementato da HEC-RAS (River Analysis System) presso l'Hydrologic Engineering Center dell'United States Army Corps of Engineers, consente il calcolo dei profili idraulici di moto permanente gradualmente vario in reti di canali naturali o artificiali.

Con tale modello possono essere simulate condizioni di moto subcritico, supercritico e misto e possono essere valutati gli effetti di immissioni o emissioni laterali di portata, opere in alveo, ostacoli al flusso e costruzioni presenti lungo le sponde.

Come noto, le equazioni utilizzate per valutare le perdite di carico e quindi il profilo di rigurgito di una corrente variano a seconda del tipo di corrente. Per correnti che si mantengono o sempre lente o sempre veloci in un determinato tratto, si è utilizzata l'equazione della conservazione dell'energia totale.

1.1 CONSERVAZIONE DELL'ENERGIA TOTALE

Isolando un tratto di corrente e indicando con 1 e 2 le sezioni a monte e a valle del tratto, si è definita l'equazione dell'energia, in riferimento alla Figura 1, nel modo seguente:

$$Y_2 + Z_2 + \frac{\alpha_2 V_2^2}{2g} = Y_1 + Z_1 + \frac{\alpha_1 V_1^2}{2g} + h_e \qquad (1)$$

dove

h_e, perdite di energia;

V_i , velocità media nella sezione, pari al rapporto tra portata totale ed area totale;

a_i , coefficienti legati alla distribuzione della velocità nella sezione

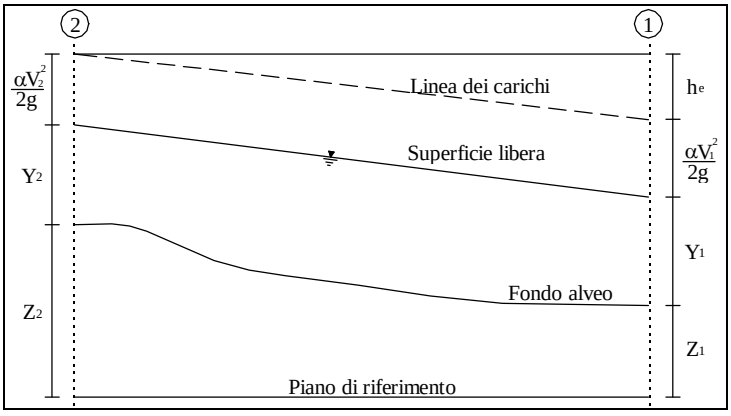


Figura 1 Schema di calcolo

La perdita di carico h_e presente tra due sezioni è causata prevalentemente dalla perdita per attrito o per le variazioni di velocità intrinseche nelle zone di espansione o contrazione della corrente. Indicando con J la cadente piezometrica e con C un coefficiente che tiene conto del fenomeno dell'espansione o contrazione, le perdite di pressione sono state pertanto calcolate nel modo seguente:

$$h_e = LJ + C\left|\frac{\alpha_2 V_2^2}{2g} - \frac{\alpha_1 V_1^2}{2g}\right| \qquad (2)$$

Il coefficiente C di espansione o contrazione è stato valutato, in funzione del tipo di transizione che si determina, in accordo alla seguente tabella.

Tabella 1 - Coefficiente di contrazione o espansione

C	Contrazione	Espansione
Nessuna transizione	0,0	0,0
Transizione graduale	0,1	0,3
Sezione tipica di un ponte	0,3	0,5
Rapida transizione	0,6	0,8

La presenza di una espansione o di una contrazione è valutata confrontando la velocità a monte e a valle della sezione considerata. In particolare, se la velocità a monte risulta maggiore della velocità a valle, nella sezione si attesta un'espansione del canale; viceversa una contrazione.

La cadente piezometrica J e il coefficiente di ragguaglio dell'energia cinetica adimensionale α_i, che compaiono nelle equazioni (1) e (2), vengono espresse in funzione delle caratteristiche idrodinamiche della corrente nel seguente modo.

La pendenza d'attrito J viene calcolata come rapporto tra la portata media Q ed il coefficiente medio di resistenza K.

$$J = \left(\frac{Q}{K}\right)^2 \text{ con } K = \frac{1.486}{n} A R^{2/3} \qquad (3)$$

dove

n, coefficiente di scabrezza di Manning;

A, area della sezione;

R, raggio idraulico.

Per portare adeguatamente in conto la frequente circostanza di sezione caratterizzata da zone a differente scabrezza (tipica in particolare degli alvei a banchina e savanella), i valori della conveyance per ciascuna area golenale sono ottenuti come somma dei rispettivi valori parziali (Figura 2). Il canale principale è invece trattato come un unico elemento dotato di un solo valore

di conveyance. Il valore finale ragguagliato di K per l'intera sezione è ottenuto come somma dei tre contributi parziali (sinistra, canale, destra).

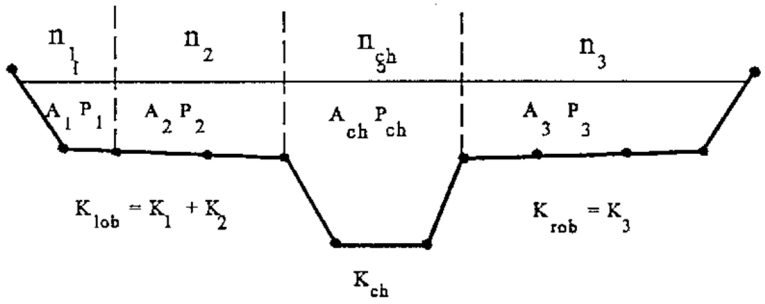


Figura 2 Procedura di calcolo della conveyance

Per ciò che concerne invece il coefficiente di ragguaglio □, poiché coerentemente con la citata ipotesi di corrente monodimensionale, ad ogni sezione resterà associata una sola superficie libera e di conseguenza una sola altezza cinetica. In particolare, per un dato valore del tirante idrico nella sezione, l'altezza cinetica viene calcolata come valor medio pesato alla portata fra quelli associati alle tre sottosezioni: golena sinistra, canale, golena destra. Una semplice schematizzazione del modello, nel caso di assenza di golena sinistra è riportato in Figura 3. In pratica l'altezza cinetica è calcolata mediante la relazione:

$$\alpha \cdot \frac{\bar{V}^2}{2g} = \frac{\sum_{i=1}^{n} Q_i \cdot \left(\frac{V_i^2}{2g} \right)}{Q_{tot}} \qquad (4)$$

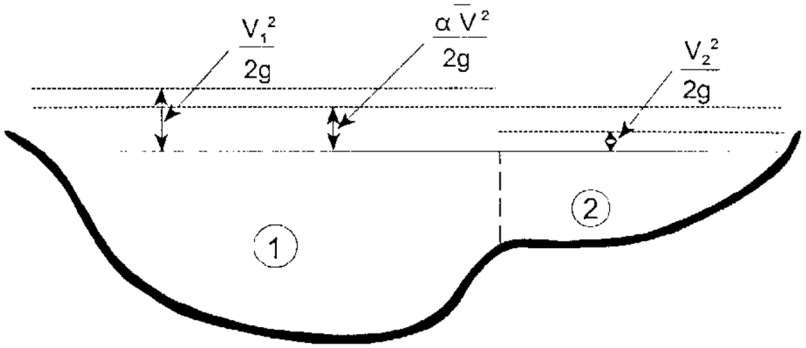


Figura 3 Suddivisione in sottozone con eguale velocità della corrente

Dalla precedente relazione pertanto il coefficiente di ragguaglio risulta quindi:

$$\alpha = \frac{\sum_{i=1}^{n} Q_i \cdot V_i^2}{Q \cdot \overline{V^2}} \tag{5}$$

L'incognita della (1) è la quota idrometrica (Y+Z), che il programma di calcolo determina con il metodo della secante applicato all'equazione del bilancio energetico.

La procedura risulta iterativa e si svolge attraverso i seguenti passi:

- Si assume una quota idrica $(Y+Z)^1_{ass.2}$ di primo tentativo per la sezione incognita, di monte nel caso di moto lento o di valle per corrente rapida;
- Basandosi sull'assunzione della quota idrica si determinano i corrispondenti termini cinetici;
- Valutata la pendenza J, si risolve l'equazione per calcolare le perdite h_e nel tratto;
- Dai valori ottenuti viene effettuato il calcolo della corrispondente quota idrica da confrontare con la quota assunta all'inizio del processo iterativo determinando l'errore commesso.

Il programma ripeterà i passaggi descritti fino al momento in cui l'errore risulterà minore della tolleranza, imposta di default come 0.003 m.

Le equazioni utilizzate per i primi due tentativi sono:

$$(Y+Z)^1_{calc.2} = E_1 + h_e - \left(\alpha \frac{V^2}{2g}\right)_2 \tag{6}$$

Equazione per la determinazione della quota calcolata:

$$err^1 = (Y+Z)^1_{ass.2} - (Y+Z)^1_{calc.2} = E_2 - (E_1 + h_e) \tag{7}$$

Errore della prima iterazione:

$$(Y+Z)^2_{ass.2} = (Y+Z)^1_{ass.2} - 0.70 \cdot err^1 \tag{8}$$

Valore assunto per la seconda iterazione:

$$err^2 = (Y+Z)^2_{ass.2} - (Y+Z)^2_{calc.2} = E_2 - (E_1 - h_e) \tag{9}$$

Errore della seconda iterazione.

Mentre per il calcolo dei tentativi successivi viene applicata la formula del metodo della secante, nella forma:

$$(Y+Z)^{I}_{ass.2} = (Y+Z)^{I-1}_{ass.2} - err^{I-1} \cdot \frac{(Y+Z)^{I-1}_{ass.2} - (Y+Z)^{I-2}_{ass.2}}{err^{I-1} - err^{I-2}} \qquad (10)$$

Nel caso in cui il numero delle iterazioni necessarie raggiunga il valore massimo impostato (20 di default) senza soddisfare la tolleranza, si confronterà con la quota $(Y+Z)_{crit}$, corrispondente alle condizioni critiche della sezione, il valore della quota al quale nelle varie iterazioni compiute corrisponde il valore minimo di errore, $(Y+Z)_{min_err}$.

Se da tale confronto risulta un coretto posizionamento della quota rispetto la quota critica $(Y+Z)_{min_err} > (Y+Z)_{crit}$ per profili in corrente lenta e $(Y+Z)_{min_err} < (Y+Z)$ per profili in corrente veloce) e l'errore associato a $(Y+Z)_{min_err}$ sia inferiore ad una seconda tolleranza impostata maggiore della precedente (0.1 di default), il valore $(Y+Z)_{min_err}$ è assunto come soluzione; nel caso in cui, invece, l'errore corrispondente non soddisfi la seconda tolleranza oppure la posizione risulti non corretta rispetto alla quota critica, la soluzione assunta è l'altezza critica.

Si osserva dunque che indipendentemente dal tipo di condizione imposta per la risoluzione del moto del profilo, moto subcritico o moto supercritco, il profilo può risultare costituito da tratti validi con il pelo libero superiore alla quota critica, intervallati da altri tratti in cui il profilo coincide con quest'ultima.

1.2 EQUAZIONE DELLA CONSERVAZIONE DELLA QUANTITÀ DI MOTO

L'equazione della conservazione dell'energia totale (1) ha validità solo nel caso di correnti gradualmente variate all'interno del ramo in esame. In particolare viene applicata nel caso di corrente ovunque subcritiche o supercritiche. Qualora all'interno di un ramo si verificasse il passaggio da corrente veloce a lenta, con perdita della gradualità del movimento, è necessario impostare una risoluzione del codice di calcolo tramite un regime di corrente mista. Per tale metodo di calcolo è necessario assegnare due condizioni al contorno: una a monte ed una a valle. In tal caso la determinazione del profilo avviene secondo un procedimento nel quale si utilizza il teorema della quantità di moto per la localizzazione dell'eventuale risalto idraulico.

La grandezza che regola il regime di corrente mista è la spinta totale composta dalla spinta idrostatica (*Pi*) e idrodinamica della corrente ($Q\rho\Delta V$). .

$$S_{tot} = \gamma A\overline{Y}\cos\theta + Q\rho V_x \qquad (10)$$

Applicando l'equazione globale dell'equilibrio dinamico al volume di controllo compresso tra le sezioni 1-2, in cui la corrente si suppone gradualmente variata, (Figura 4) e proiettandola lungo l'asse x, si ottiene

$$P_2 - P_1 + W_x - F_f = Q\rho\Delta V_x \qquad (11)$$

dove si è indicato con

Pi , spinta idrostatica sulla sezione i;

Wx , componente della forza peso nella direzione del moto;

Ff , forza d'attrito lungo la superficie di contorno del volume di controllo;

Q , portata complessiva (supposta costante);

ρ , densità del fluido;

ΔVx , variazione della velocità tra le due sezioni.

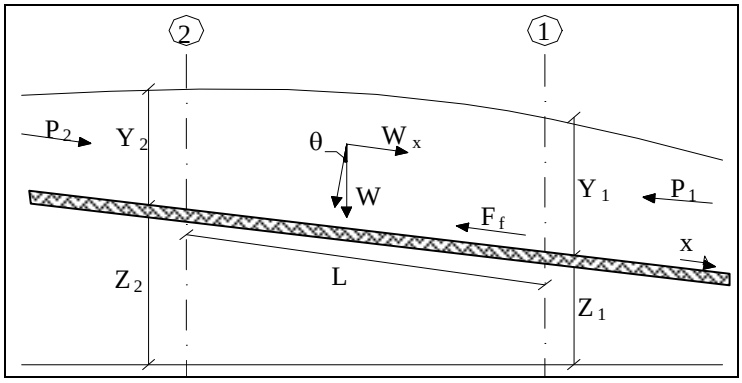


Figura 4 Schema di calcolo

I termini idrostatici per pendenze dell'ordine di 1 a 10 sono valutabili come

$$P = \gamma A\overline{Y}\cos\theta \cong \gamma A\overline{Y} \tag{12}$$

potendo porre, per le pendenze in esame, cosθ = 1.

Nella relazione (12) γ corrisponde al peso specifico del fluido, A l'area della sezione ed $\overline{Y}$ l'altezza del pelo libero nel baricentro della sezione.

La componente della forza peso, noto il peso specifico del fluido, la lunghezza L del tronco e l'area totale di fluido presente, è stata valutata nel modo seguente:

$$W = \gamma\left(\frac{A_1 + A_2}{2}\right)\cdot L \Rightarrow W_x = W\cdot \text{sen}\theta \tag{13}$$

La forza d'attrito F_f è funzione delle caratteristiche del fluido come la densità dell'acqua, l'azione tangenziale che si esplica sul letto del fiume e la cadente piezometrica J.

In particolare:

$$\begin{aligned} &F_f = \tau PL \\ &\tau = \gamma RJ \Rightarrow F_f = \gamma\frac{A}{P}JPL = \gamma\left(\frac{A_1 + A_2}{2}\right)\cdot JL \end{aligned} \tag{14}$$

dove P ed R sono rispettivamente il perimetro bagnato ed il raggio idraulico della sezione.

La soluzione dell'equazione (10) avviene per iterazioni successive. Vengono quindi calcolati tutti i profili sia in regime di corrente subcritica, partendo dalla sezione di valle e procedendo a ritroso fino alla sezione di monte, sia in regime supercritico partendo dalla sezione di monte con la condizione imposta, determinando nel primo caso $S_{tot,sub}$ e nel secondo $S_{tot,super}$. Le sezioni in cui la soluzione è posta uguale alla quota critica $(Y+Z)_{crit}$ vengono salvate in memoria.

Successivamente si controlla che $S_{tot,super}$ sia maggiore della $S_{tot,sub}$. Se risulta $S_{tot,super} > S_{tot,sub}$ allora è valida la condizione supercritica ed inizia il calcolo del profilo di corrente veloce verso valle controllando che in ogni sezione permanga verificata la disuguaglianza.

Se invece nella sezione di monte è $S_{tot,super} < S_{tot,sub}$, è valida la soluzione subcritica, e il programma ricerca la prima sezione verso valle, conservata in memoria, in cui la soluzione in regime subcritico era stata posta uguale alla quota critica. Da qui ha inizio il calcolo di un profilo di corrente rapida verso valle che è valido finché non si arriva ad una sezione con una soluzione subcritica alla quale corrisponde una $S_{tot,super} < S_{tot,sub}$.

Si assume quindi che, fra questa sezione e quella precedente si verifichi un risalto idraulico, con transizione da corrente veloce a corrente lenta e si prosegue con lo stesso criterio fino ad arrivare alla sezione di valle.

Nella Figura 5 è rappresentata una parte del profilo dove si verifica il passaggio dal regime supercritico a quello subcritico, che può verificarsi in regime di corrente mista.

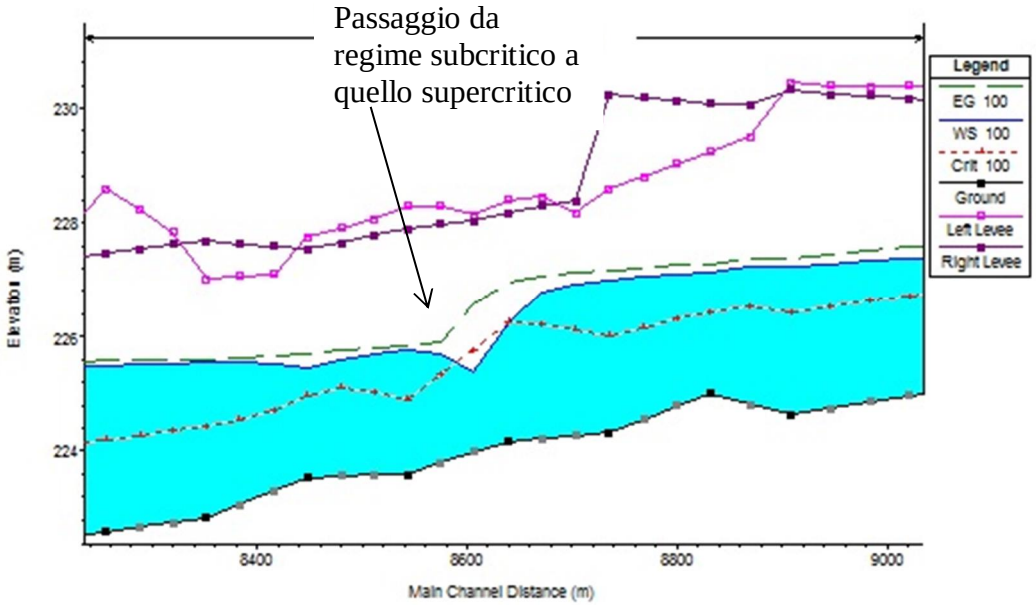


Figura 5 Profilo calcolato in regime di corrente mista

Le equazioni (1) e (11) sono state applicate anche alle sezioni caratterizzate dalla presenza di un ponte. E' stato sufficiente suddividere il tratto interessato in più sezioni e ripetere per la successione di esse l'analisi svolta per il tratto delimitato da sole due sezioni.

Prendendo un tratto caratterizzato dalla presenza di un ponte, Figura 4 e Figura 5, si evidenziano 3 zone:

- una zona di contrazione;
- una zona intermedia interessata dalla presenza del ponte;
- una zona di espansione.

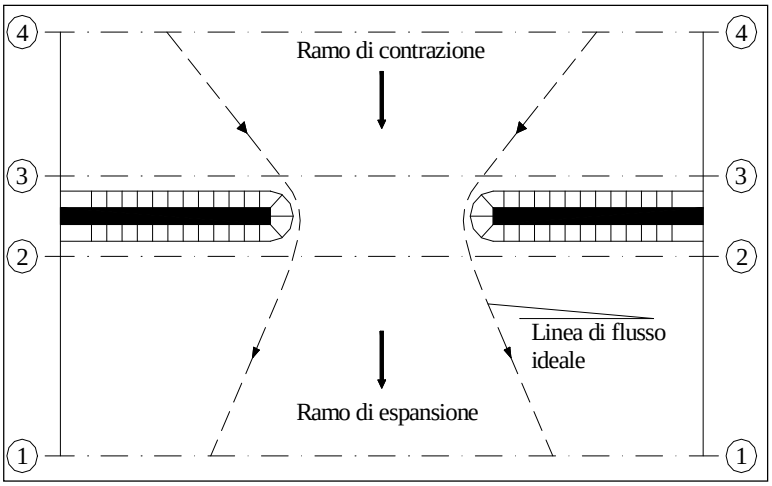


Figura 5 Pianta schematica di un attraversamento fluviale

L'applicazione dell'equazione della conservazione della quantità di moto tra le sezioni 1-2 e 3-4 è del tutto analoga alla situazione vista in precedenza mentre la presenza del ponte comporta termini nuovi nella valutazione dell'equilibrio tra le sezioni 2-BD (Step 1), BD-BU (Step 2) ed BU-3 (Step 3).

Step 1; definendo con Ap_i l'area ostruita ed con Yp_i la distanza verticale che intercorre tra il baricentro delle pile e la superficie libera nella zona di valle, l'espressione del bilancio è la seguente:

$$\frac{Q_{BD}^2 \beta_{BD}}{gA_{BD}} + A_{BD}Y_{BD} = \frac{Q_2^2 \beta_2}{gA_2} + A_2 Y_2 - A_{P_{BD}} Y_{P_{BD}} + F_f - W_x \qquad (15)$$

Step 2 ; equilibrio tra BU e BD:

$$\frac{Q_{BD}^2 \beta_{BD}}{gA_{BD}} + A_{BD}Y_{BD} + F_f - W_x = \frac{Q_{BU}^2 \beta_{BU}}{gA_{BU}} + A_{BU}Y_{BU} \qquad (16)$$

Step 3 ; equilibrio tra BU e 3:

$$\frac{Q_3^2 \beta_3}{gA_3} + A_3 Y_3 = \frac{Q_{BU}^2 \beta_{BU}}{gA_{BU}} + A_{BU}Y_{BU} - A_{P_{BU}} Y_{P_{BU}} + F_f - W_x + \frac{1}{2} C_D \frac{A_{P_{BU}} Q_3^2}{gA_3^2} \qquad (17)$$

con C_D coefficiente di resistenza idrodinamica intorno alla pila ricavabile dalla tab. 2 in funzione del tipo di pila presente.

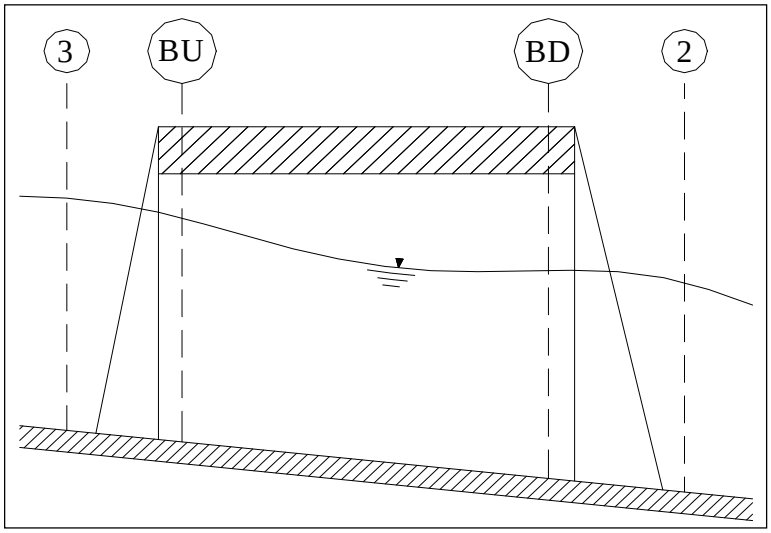


Figura 6 Sezione schematica di un attraversamento fluviale

Tabella 2 - Coefficiente di resistenza idrodinamico CD

TIPO DI PILA	**C_D**
Pila circolare	1.2
Pila allungata con punta semicircolare	1.33
Pila ellittica con rapporto assi 2 :1	0.6
Pila ellittica con rapporto assi 4 :1	0.32
Pila ellittica con rapporto assi 8 :1	0.29
Pila rettangolare	2.00
Pila triangolare con apertura α = 30°	1.00
Pila triangolare con apertura α = 60°	1.39
Pila triangolare con apertura α = 90°	1.60
Pila triangolare con apertura α = 120°	1.72

In alternativa all'equazione della conservazione della quantità di moto il software permette anche di utilizzare l'equazione di Yarnell (non utilizzata per i casi specifici) che permette di valutare le perdite di energia localizzate in corrispondenza di un ponte.

Con riferimento alle Figura 4 e Figura 5, le perdite di energia tra le sezioni 2 e 3 sono state valutate nel modo seguente:

$$H_{3-2} = 2K(K + 10\omega - 0.6) \cdot \left(\alpha + 15\alpha^4\right) \cdot \frac{V_2^2}{2g} \qquad (18)$$

dove H_{i-j} rappresenta appunto la perdita di energia nel passaggio della corrente attraverso la sezione ostruita e K, coefficiente di Yarnell, tiene conto delle differenti sagome di pila esistenti, tabella 3;

Tabella 3 - Coefficiente di Yarnell

TIPO DI PILA	K
Pila semicircolare in punta	0.9
Pila cilindrica doppia collegata con diaframma	0.95
Pila cilindrica doppia senza diaframma	1.05
Pila con punta triangolare $\alpha = 90°$	1.05
Pile rettangolari	1.25
Dieci pile a cavalletto inclinate	2.5

ω rappresenta il rapporto tra l'altezza ed il tirante della sezione 2; α il rapporto tra l'area ostruita dalle pile e l'area totale ed infine V_2 la velocità a valle della sezione.

Il modello elaborato prevede una corrente con un'altezza idrica minore dell'altezza di intradosso del ponte. Nel caso di correnti con altezza idrica superiore o eguale alla quota di intradosso dell'attraversamento fluviale, la valutazione delle perdite di energia è effettuata attraverso il calcolo della portata che attraversa la sezione. In particolare, in riferimento ad un caso generico, Figura 6, la portata è calcolata nel modo seguente:

$$Q = C_d A_1 \left[2g \left(Y_1 - \frac{Z}{2} + \frac{\alpha_1 V_1^2}{2g} \right) \right]^{1/2} \qquad (19)$$

dove

Cd, coefficiente di deflusso il cui andamento è riportato nel grafico di Figura 7, assumendo valori tra 0,27 e 0,5;

A1, area della luce nella sezione di monte;

Y1, altezza idrica della sezione di monte;

α, coefficiente correttivo cinetico;

V1, velocità della corrente a monte.

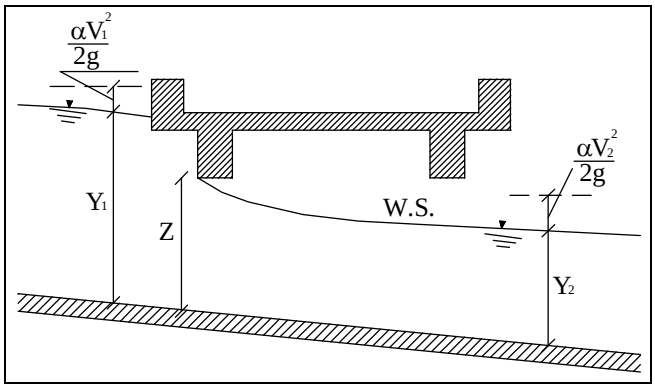


Figura 7 Sezione schematica di un ponte – Schema di calcolo

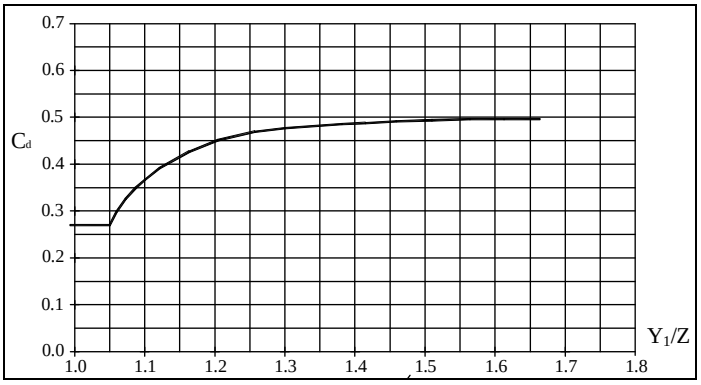


Figura 8 Diagramma per la stima del coefficiente di deflusso Cd

Se il ponte è in pressione sia a monte che a valle l'equazione (19) è corretta nel modo seguente:

$$Q = CA\sqrt{2gH} \tag{20}$$

dove C assume il valore di 0.8 ed H coincide con la perdita di energia totale tra la sezione di monte e di valle del ponte come indicato in Figura 9.

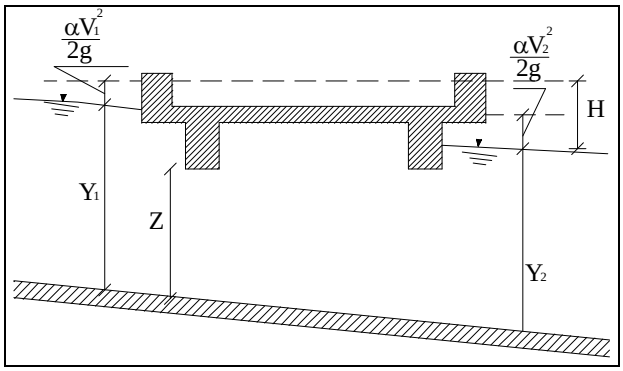


Figura 9 Sezione schematica di un ponte – Schema di calcolo

Infine se il ponte è superato dalla corrente di piena, Figura 10, la portata si calcola nel modo seguente:

$$Q = CLH^{2/3} \tag{21}$$

con C si indica un coefficiente correttivo della portata, L la lunghezza del ponte ed H la differenza di energia tra monte e valle.

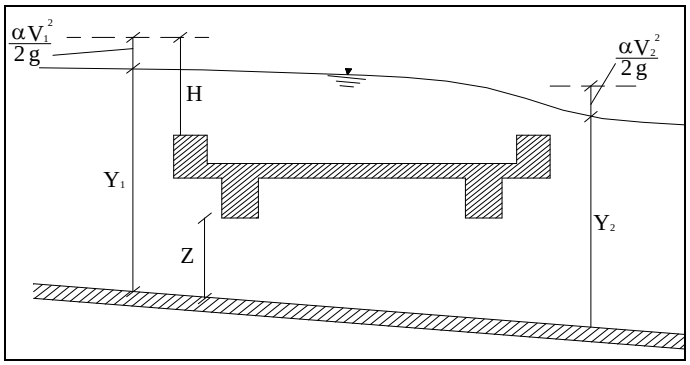


Figura 10 Sezione schematica di un ponte – Schema di calcolo

2 ALLEGATO - RISULTATI SIMULAZIONI IDRODINAMICHE TR200

2.1 Torrente Secca – Stato di fatto

HEC-RAS Plan: Secca_SDF_Rev03 River: T_Secca Reach: T_Secca Profile: TR200

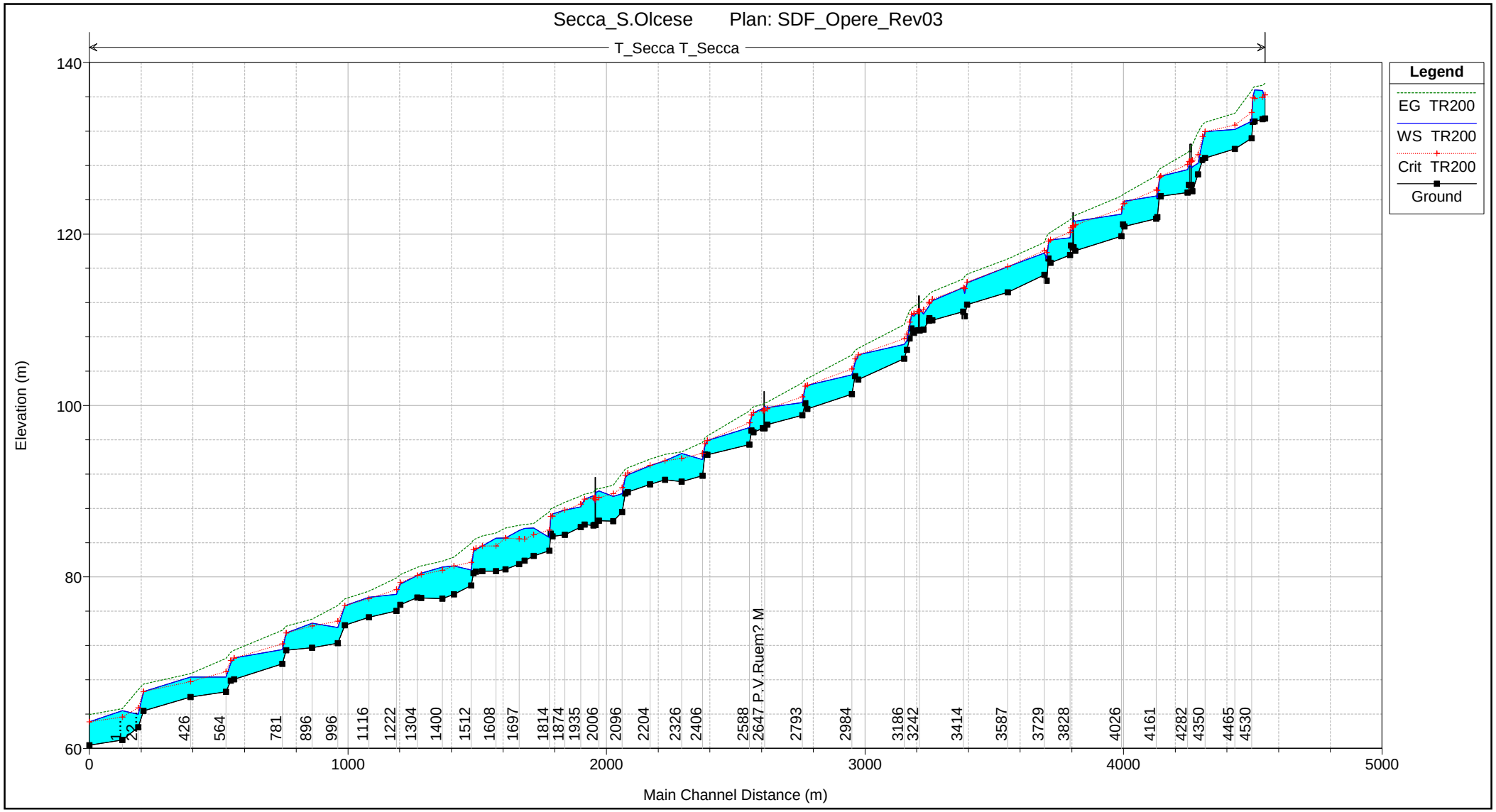
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	4582	TR200	505.00	133.48	2.25	135.73	136.24	-0.51	1.41	137.59	6.04	6.04	1.84	378.09	1.88
T_Secca	4572	TR200	505.00	133.39	3.34	136.73	135.97	0.76	0.65	137.35	3.50	3.50	2.79	110.24	2.93
T_Secca	4541	TR200	505.00	133.14	3.69	136.83	135.81	1.02	0.49	137.18	2.76	2.47	2.34	66.09	2.45
T_Secca	4534	TR200	505.00	133.07	2.83	135.90	135.90	0.00	0.99	137.07	4.79	4.78	2.22	220.78	2.30
T_Secca	4530	TR200	505.00	131.18	1.99	133.17	134.19	-1.02	2.27	136.75	8.38	8.38	1.37	803.79	1.39
T_Secca	4465	TR200	505.00	129.94	2.27	132.21	132.71	-0.50	1.41	134.10	6.08	6.08	1.86	381.85	1.91
T_Secca	4350	TR200	505.00	128.86	3.09	131.95	131.95	0.00	1.00	133.02	4.59	4.58	2.08	208.13	2.14
T_Secca	4340	TR200	505.00	128.64	2.17	130.81	131.38	-0.57	1.54	132.78	6.22	6.16	1.52	418.36	1.57
T_Secca	4323	TR200	505.00	126.96	1.30	128.26	129.26	-1.00	2.41	131.90	8.45	8.45	1.21	849.60	1.26
T_Secca	4300	TR200	505.00	124.99	2.84	127.83	128.62	-0.79	1.86	130.41	7.11	7.11	1.46	566.50	1.50
T_Secca	4297 P. carr Alpini M	TR200	505.00	125.73	1.94	127.67	128.44	-0.77	2.02	130.28	7.16	7.16	1.26	603.35	1.29
T_Secca	4295		Bridge												
T_Secca	4287 P. carr Alpini V	TR200	505.00	125.73	2.24	127.97	128.44	-0.47	1.47	129.68	5.80	5.80	1.54	370.48	1.58
T_Secca	4282	TR200	505.00	124.83	2.70	127.53	128.11	-0.58	1.63	129.51	6.24	6.24	1.47	435.66	1.50
T_Secca	4179	TR200	505.00	124.41	2.34	126.75	126.75	0.00	1.00	127.68	4.26	4.26	1.79	189.62	1.84
T_Secca	4173	TR200	505.00	124.41	1.96	126.37	126.59	-0.22	1.20	127.57	4.85	4.85	1.61	255.69	1.67
T_Secca	4165	TR200	505.00	121.97	2.24	124.21	125.12	-0.91	2.05	127.19	7.65	7.65	1.40	666.16	1.42
T_Secca	4161	TR200	505.00	121.78	2.65	124.43	125.15	-0.72	1.93	126.79	6.80	6.80	1.26	544.04	1.27
T_Secca	4038	TR200	505.00	120.88	2.96	123.84	123.56	0.28	0.84	124.70	4.11	4.11	2.39	160.67	2.47
T_Secca	4032	TR200	505.00	121.12	2.39	123.51	123.51	0.00	1.00	124.63	4.69	4.69	2.13	217.81	2.24
T_Secca	4026	TR200	505.00	119.74	2.57	122.31	122.92	-0.61	1.57	124.43	6.44	6.44	1.68	443.34	1.72
T_Secca	3848	TR200	505.00	118.04	3.47	121.51	121.08	0.43	0.75	122.20	3.68	3.68	2.35	129.08	2.42
T_Secca	3841 P.V.ChiappellaM	TR200	505.00	118.46	3.13	121.59	120.84	0.75	0.63	122.12	3.21	3.21	2.56	95.86	2.69
T_Secca	3840		Bridge												
T_Secca	3838 P.V.ChiappellaV	TR200	505.00	118.46	2.00	120.46	120.85	-0.39	1.36	121.98	5.46	5.46	1.59	324.65	1.64
T_Secca	3831	TR200	505.00	118.66	1.77	120.43	120.73	-0.30	1.27	121.80	5.20	5.20	1.64	291.17	1.70
T_Secca	3828	TR200	505.00	117.56	2.01	119.57	120.19	-0.62	1.81	121.65	6.39	6.39	1.25	480.95	1.27
T_Secca	3752	TR200	505.00	116.65	2.67	119.32	119.32	0.00	1.00	120.21	4.17	4.17	1.74	184.00	1.78
T_Secca	3744	TR200	505.00	117.15	1.77	118.92	119.16	-0.24	1.25	120.08	4.76	4.76	1.47	253.86	1.49
T_Secca	3737	TR200	505.00	114.56	2.54	117.10	117.85	-0.75	2.26	119.71	7.16	7.16	1.01	649.74	1.02
T_Secca	3729	TR200	505.00	115.23	2.56	117.79	118.09	-0.30	1.33	119.02	4.92	4.92	1.37	276.95	1.39
T_Secca	3587	TR200	505.00	113.20	2.99	116.19	116.19	0.00	1.00	117.10	4.24	4.24	1.81	187.69	1.84
T_Secca	3429	TR200	505.00	111.76	2.56	114.32	114.39	-0.07	1.06	115.32	4.43	4.43	1.76	206.72	1.80
T_Secca	3420	TR200	505.00	110.41	2.65	113.06	113.65	-0.59	1.62	115.05	6.24	6.24	1.47	435.55	1.52
T_Secca	3414	TR200	505.00	110.94	2.83	113.77	113.77	0.00	1.00	114.77	4.42	4.42	1.96	198.36	2.00
T_Secca	3295	TR200	505.00	109.94	2.28	112.22	112.40	-0.18	1.18	113.27	4.53	4.53	1.50	228.43	1.52
T_Secca	3284	TR200	505.00	110.19	1.57	111.76	112.07	-0.31	1.36	113.04	5.01	5.01	1.37	287.56	1.39
T_Secca	3281	TR200	505.00	109.88	1.71	111.59	111.97	-0.38	1.45	112.97	5.21	5.21	1.31	314.89	1.32
T_Secca	3261	TR200	505.00	108.85	1.80	110.65	111.16	-0.51	1.67	112.35	5.78	5.78	1.21	399.44	1.22
T_Secca	3246 P.carr V.Valle M	TR200	505.00	108.75	2.56	111.31	110.96	0.35	0.75	111.88	3.34	3.34	1.96	112.98	1.99

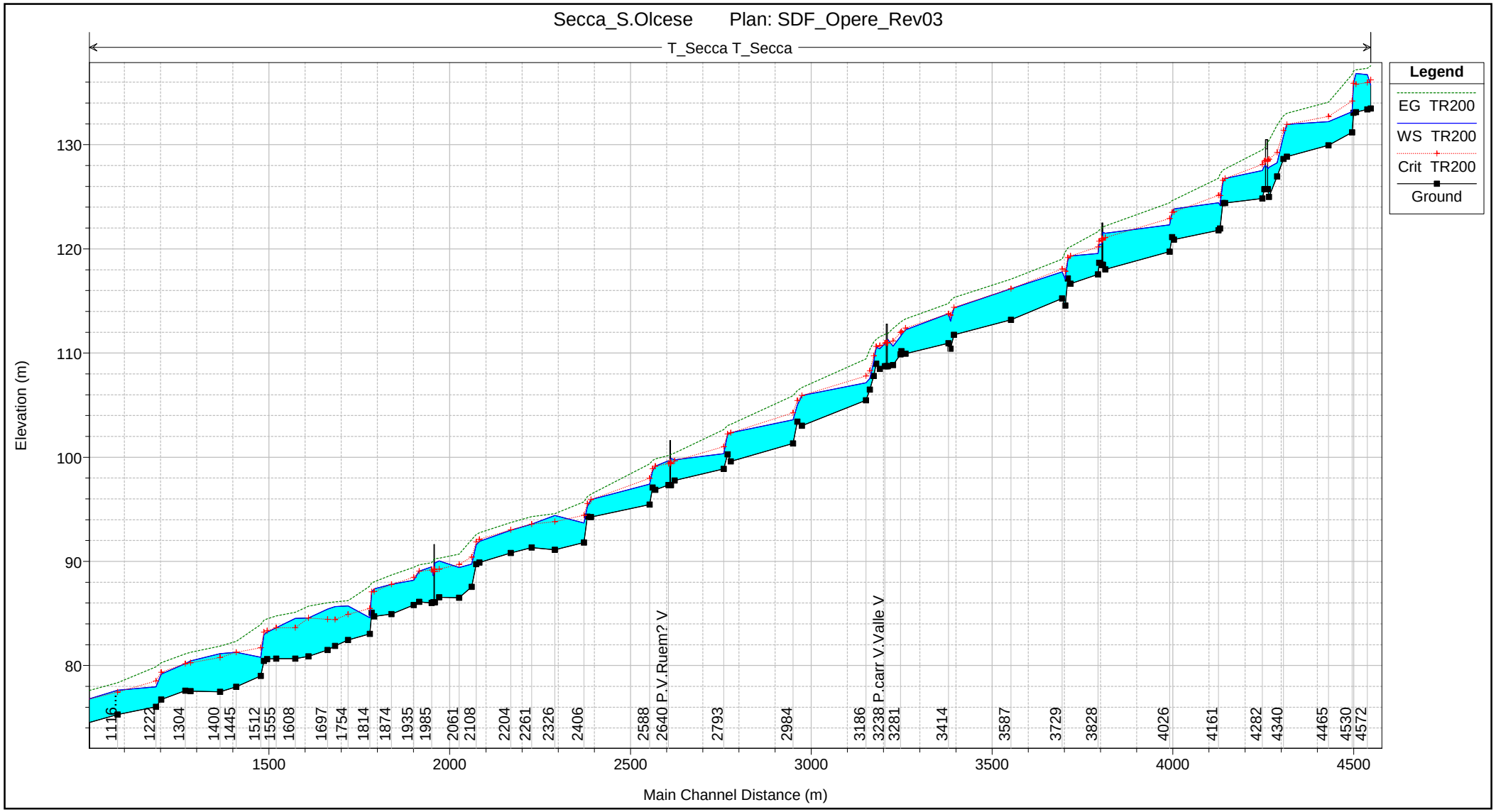
HEC-RAS Plan: Secca_SDF_Rev03 River: T_Secca Reach: T_Secca Profile: TR200 (Continued)

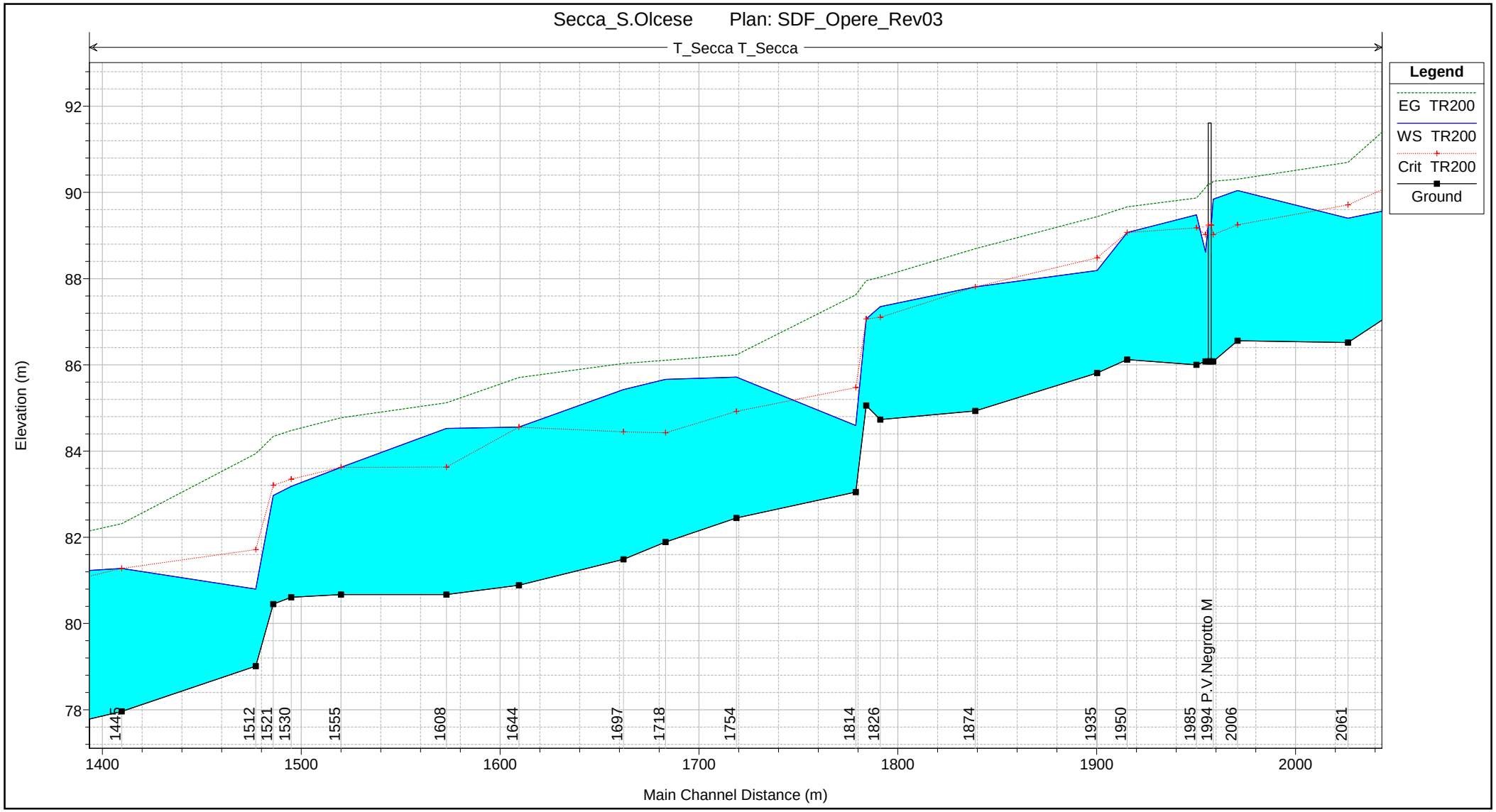
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	3242		Bridge												
T_Secca	3238 P.carr V.Valle V	TR200	505.00	108.75	2.14	110.89	110.96	-0.07	1.06	111.80	4.22	4.22	1.59	194.28	1.61
T_Secca	3224	TR200	505.00	108.48	1.93	110.41	110.73	-0.32	1.27	111.57	4.77	4.73	1.21	256.90	1.22
T_Secca	3214	TR200	505.00	108.98	1.56	110.54	110.64	-0.10	1.05	111.32	3.98	3.81	1.25	177.67	1.26
T_Secca	3207	TR200	505.00	107.81	1.36	109.17	109.73	-0.56	1.92	111.06	6.08	6.08	1.02	467.74	1.03
T_Secca	3197	TR200	505.00	106.49	1.07	107.56	108.31	-0.75	2.52	110.35	7.39	7.39	0.88	724.92	0.88
T_Secca	3186	TR200	505.00	105.46	1.68	107.14	107.80	-0.66	2.15	109.44	6.71	6.71	0.99	573.87	1.00
T_Secca	3009	TR200	505.00	103.03	2.89	105.92	105.92	0.00	1.00	106.68	3.87	3.87	1.51	165.55	1.53
T_Secca	2996	TR200	505.00	103.42	1.59	105.01	105.45	-0.44	1.46	106.41	5.25	5.25	1.29	321.42	1.31
T_Secca	2984	TR200	505.00	101.32	2.26	103.58	104.26	-0.68	2.09	105.89	6.73	6.73	1.05	566.19	1.06
T_Secca	2812	TR200	505.00	99.59	2.76	102.35	102.35	0.00	1.00	103.15	3.96	3.96	1.58	171.24	1.60
T_Secca	2803	TR200	505.00	100.27	1.91	102.18	102.24	-0.06	1.06	103.05	4.13	4.13	1.53	188.65	1.56
T_Secca	2793	TR200	505.00	98.87	1.46	100.33	101.01	-0.68	2.16	102.65	6.74	6.74	0.99	578.66	1.00
T_Secca	2657	TR200	505.00	97.77	1.99	99.76	99.63	0.13	0.89	100.41	3.57	3.57	1.62	137.58	1.64
T_Secca	2647 P.V.Ruem? M	TR200	505.00	97.34	2.55	99.89	99.39	0.50	0.64	100.27	2.75	2.75	1.86	77.91	1.90
T_Secca	2645		Bridge												
T_Secca	2640 P.V.Ruem? V	TR200	505.00	97.34	2.32	99.66	99.39	0.27	0.77	100.16	3.12	3.12	1.65	104.36	1.68
T_Secca	2603	TR200	505.00	96.87	2.28	99.15	99.15	0.00	0.97	99.84	3.70	3.63	1.34	153.80	1.38
T_Secca	2596	TR200	505.00	97.08	1.59	98.67	98.89	-0.22	1.27	99.69	4.47	4.47	1.25	235.74	1.27
T_Secca	2588	TR200	505.00	95.45	1.97	97.42	97.99	-0.57	2.05	99.37	6.19	6.19	0.92	500.45	0.92
T_Secca	2425	TR200	505.00	94.26	1.67	95.93	95.93	0.00	1.00	96.45	3.17	3.19	1.03	126.88	1.04
T_Secca	2415	TR200	505.00	94.29	1.06	95.26	95.54	-0.28	1.58	96.21	4.22	4.30	0.74	252.53	0.75
T_Secca	2406	TR200	505.00	91.81	1.88	93.69	94.42	-0.73	2.01	95.70	6.29	6.29	0.99	504.81	1.00
T_Secca	2326	TR200	505.00	91.12	3.30	94.42	93.82	0.60	0.43	94.59	1.99	1.69	1.47	39.04	1.49
T_Secca	2261	TR200	505.00	91.32	2.25	93.57	93.57	0.00	0.94	94.30	3.89	3.63	1.32	161.44	1.35
T_Secca	2204	TR200	505.00	90.80	2.18	92.98	93.03	-0.05	0.97	93.73	4.02	3.63	1.29	172.35	1.31
T_Secca	2117	TR200	505.00	89.90	2.01	91.91	92.12	-0.21	1.10	92.74	4.17	3.80	1.05	194.95	1.06
T_Secca	2108	TR200	505.00	89.73	1.86	91.59	91.87	-0.28	1.22	92.59	4.50	4.19	0.95	232.59	0.96
T_Secca	2096	TR200	505.00	87.56	2.17	89.73	90.42	-0.69	2.11	92.10	6.82	6.82	1.06	578.97	1.07
T_Secca	2061	TR200	505.00	86.52	2.88	89.40	89.71	-0.31	1.32	90.70	5.04	5.04	1.45	285.77	1.48
T_Secca	2006	TR200	505.00	86.56	3.48	90.04	89.25	0.79	0.48	90.31	2.37	2.13	1.78	53.04	1.82
T_Secca	1994 P.V.Negrotto M	TR200	505.00	86.08	3.76	89.84	89.02	0.82	0.58	90.26	2.86	2.86	2.37	77.77	2.45
T_Secca	1993		Bridge												
T_Secca	1990 P.V.Negrotto V	TR200	505.00	86.08	2.54	88.62	89.02	-0.40	1.44	90.11	5.41	5.41	1.41	331.88	1.45
T_Secca	1985	TR200	505.00	86.00	3.48	89.48	89.18	0.30	0.65	89.87	2.90	2.58	1.43	84.83	1.45
T_Secca	1950	TR200	505.00	86.12	2.95	89.07	89.07	0.00	0.82	89.66	3.60	3.10	1.18	131.63	1.19
T_Secca	1935	TR200	505.00	85.81	2.38	88.19	88.48	-0.29	1.28	89.44	4.95	4.95	1.50	271.75	1.52
T_Secca	1874	TR200	505.00	84.93	2.88	87.81	87.81	0.00	1.00	88.70	4.17	4.17	1.72	184.66	1.76
T_Secca	1826	TR200	505.00	84.73	2.62	87.35	87.10	0.25	0.82	88.03	3.66	3.66	1.96	135.88	2.02
T_Secca	1819	TR200	505.00	85.06	2.01	87.07	87.07	0.00	1.00	87.95	4.17	4.17	1.72	184.27	1.77

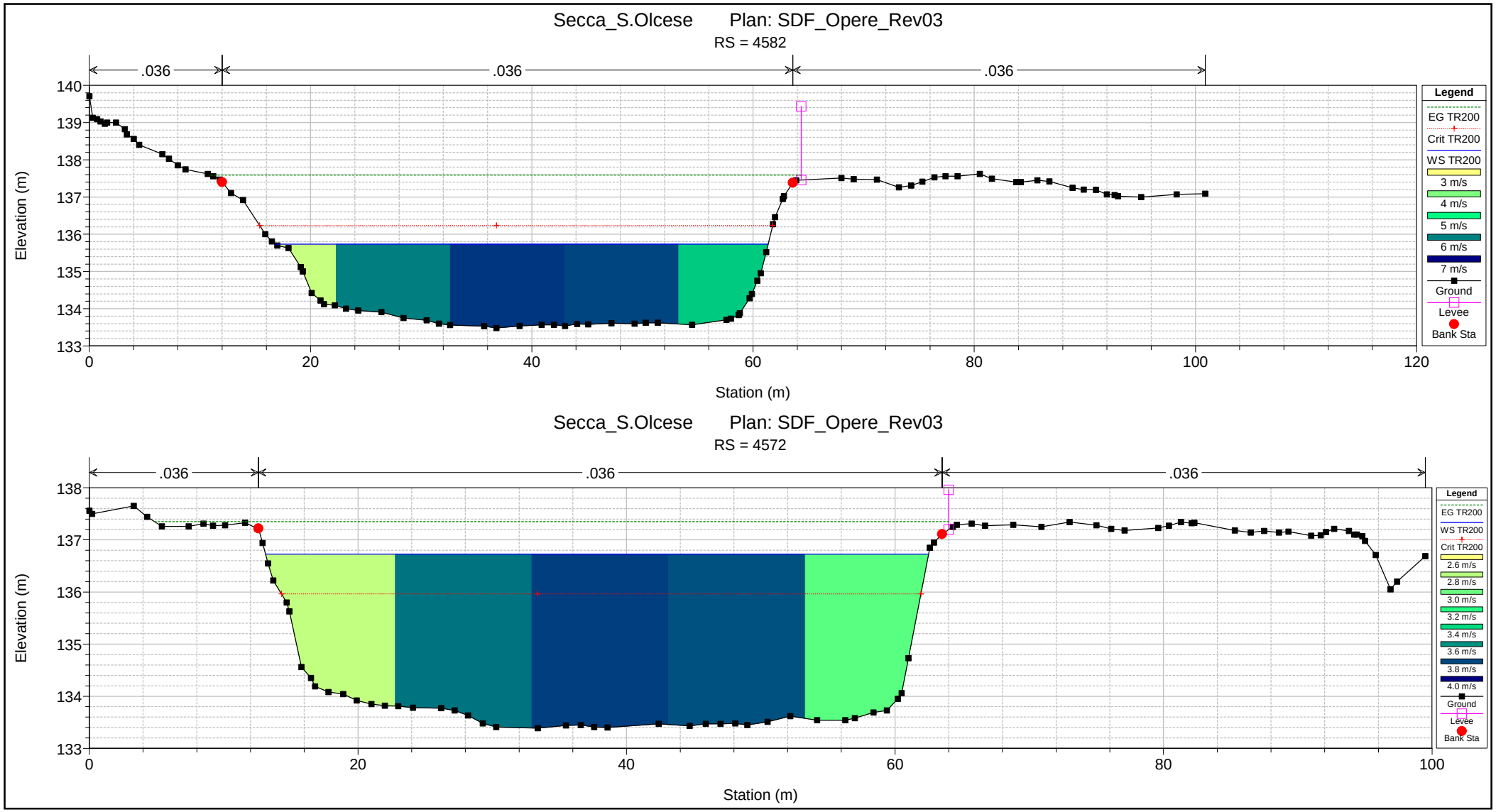
HEC-RAS Plan: Secca_SDF_Rev03 River: T_Secca Reach: T_Secca Profile: TR200 (Continued)

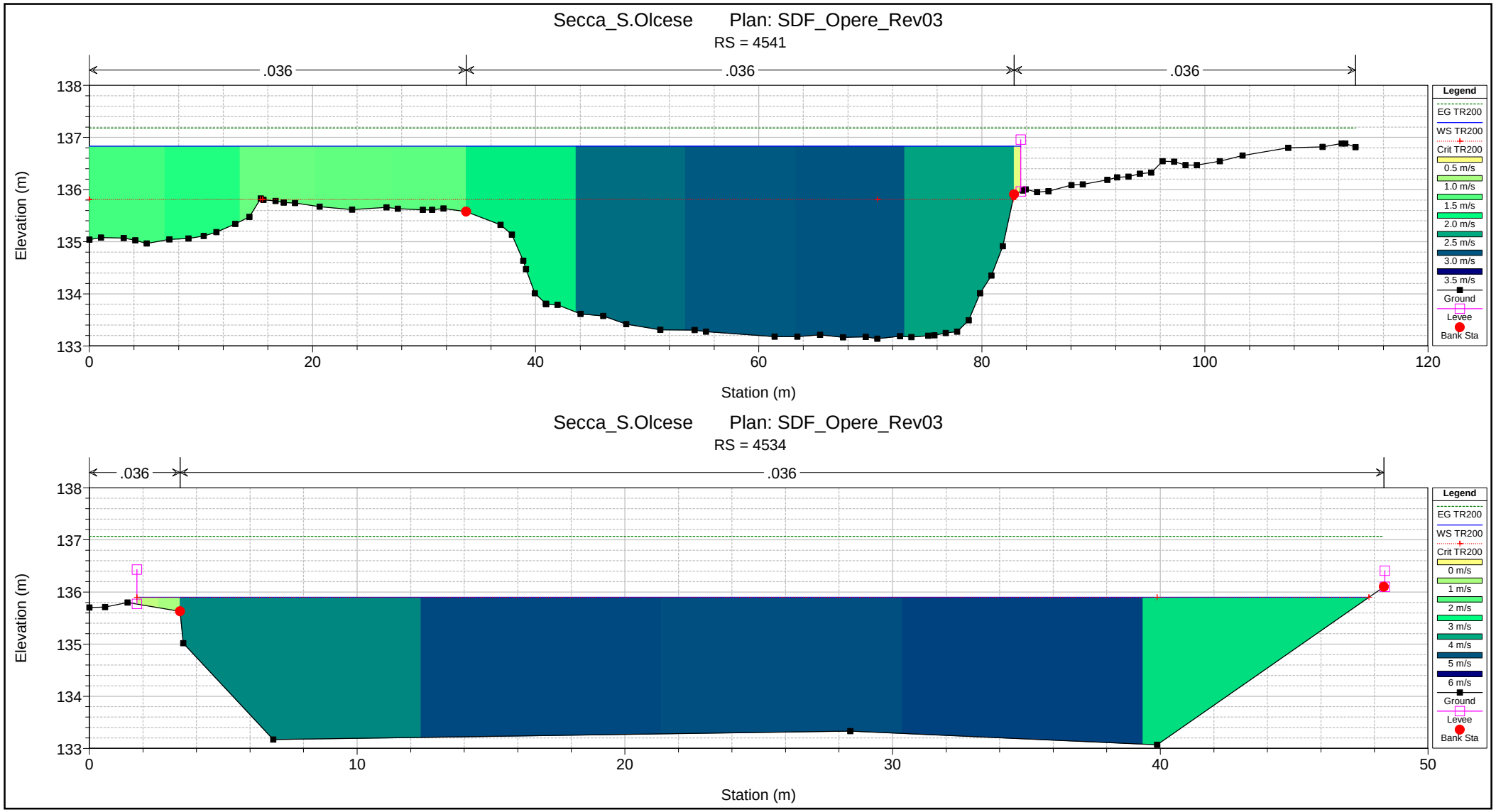
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	1814	TR200	505.00	83.05	1.54	84.59	85.48	-0.89	2.15	87.63	7.71	7.71	1.29	693.83	1.31
T_Secca	1754	TR200	505.00	82.45	3.27	85.72	84.92	0.80	0.62	86.24	3.19	3.19	2.62	93.80	2.74
T_Secca	1718	TR200	505.00	81.89	3.77	85.66	84.42	1.24	0.51	86.11	2.96	2.96	3.15	75.80	3.39
T_Secca	1697	TR200	505.00	81.49	3.94	85.43	84.45	0.98	0.61	86.03	3.44	3.44	3.10	103.27	3.29
T_Secca	1644	TR200	505.00	80.89	3.67	84.56	84.56	0.00	0.94	85.70	4.82	4.64	2.23	217.16	2.34
T_Secca	1608	TR200	505.00	80.67	3.86	84.53	83.63	0.90	0.61	85.12	3.45	3.38	2.91	104.14	3.13
T_Secca	1555	TR200	505.00	80.67	2.96	83.63	83.63	0.00	1.00	84.77	4.75	4.74	2.17	219.80	2.29
T_Secca	1530	TR200	505.00	80.61	2.57	83.18	83.35	-0.17	1.12	84.48	5.04	5.02	1.97	254.96	2.05
T_Secca	1521	TR200	505.00	80.45	2.52	82.97	83.21	-0.24	1.18	84.34	5.18	5.18	1.86	277.18	1.95
T_Secca	1512	TR200	505.00	79.01	1.79	80.80	81.72	-0.92	2.10	83.94	7.85	7.85	1.40	700.09	1.43
T_Secca	1445	TR200	505.00	77.96	3.32	81.28	81.28	0.00	1.00	82.32	4.51	4.51	2.02	204.72	2.07
T_Secca	1400	TR200	505.00	77.48	3.67	81.15	80.78	0.37	0.78	81.86	3.72	3.72	2.26	134.16	2.34
T_Secca	1319	TR200	505.00	77.55	2.89	80.44	80.27	0.17	0.89	81.28	4.04	4.04	2.06	163.18	2.11
T_Secca	1304	TR200	505.00	77.59	2.59	80.18	80.18	0.00	1.00	81.13	4.31	4.31	1.86	192.10	1.90
T_Secca	1237	TR200	505.00	76.74	2.43	79.17	79.36	-0.19	1.18	80.28	4.66	4.66	1.58	236.55	1.60
T_Secca	1222	TR200	505.00	76.03	1.93	77.96	78.53	-0.57	1.72	79.87	6.11	6.11	1.27	438.75	1.28
T_Secca	1116	TR200	505.00	75.29	2.33	77.62	77.46	0.16	0.88	78.34	3.76	3.76	1.84	146.44	1.86
T_Secca	1023	TR200	505.00	74.37	2.27	76.64	76.64	0.00	1.00	77.45	4.00	4.00	1.61	173.67	1.63
T_Secca	996	TR200	505.00	72.26	1.84	74.10	74.84	-0.74	2.33	76.67	7.10	7.10	0.95	652.67	0.95
T_Secca	896	TR200	505.00	71.75	2.85	74.60	74.30	0.30	0.76	75.09	3.10	3.10	1.70	102.29	1.72
T_Secca	796	TR200	505.00	71.44	2.03	73.47	73.47	0.00	1.01	74.25	3.91	3.91	1.53	169.06	1.54
T_Secca	781	TR200	505.00	69.86	1.67	71.53	72.19	-0.66	2.11	73.78	6.64	6.64	1.01	558.95	1.01
T_Secca	596	TR200	505.00	68.05	2.51	70.56	70.56	0.00	1.00	71.44	4.17	4.17	1.74	184.09	1.77
T_Secca	582	TR200	505.00	67.90	2.05	69.95	70.26	-0.31	1.38	71.20	4.97	4.97	1.30	286.75	1.32
T_Secca	564	TR200	505.00	66.60	1.74	68.34	68.96	-0.62	2.07	70.50	6.52	6.52	1.00	538.79	1.01
T_Secca	426	TR200	505.00	65.99	2.33	68.32	67.81	0.51	0.64	68.72	2.80	2.80	1.93	80.09	1.95
T_Secca	245	TR200	505.00	64.37	2.26	66.63	66.63	0.00	1.00	67.51	4.15	4.15	1.73	182.44	1.76
T_Secca	224	TR200	505.00	62.46	1.50	63.96	64.75	-0.79	2.40	66.85	7.52	7.52	0.99	721.22	1.00
T_Secca	163	TR200	505.00	60.99	3.40	64.39	63.66	0.73	0.51	64.63	2.18	2.18	1.88	48.98	1.90
T_Secca	35	TR200	505.00	60.37	2.73	63.10	63.10	0.00	1.01	63.96	4.11	4.11	1.67	181.09	1.69

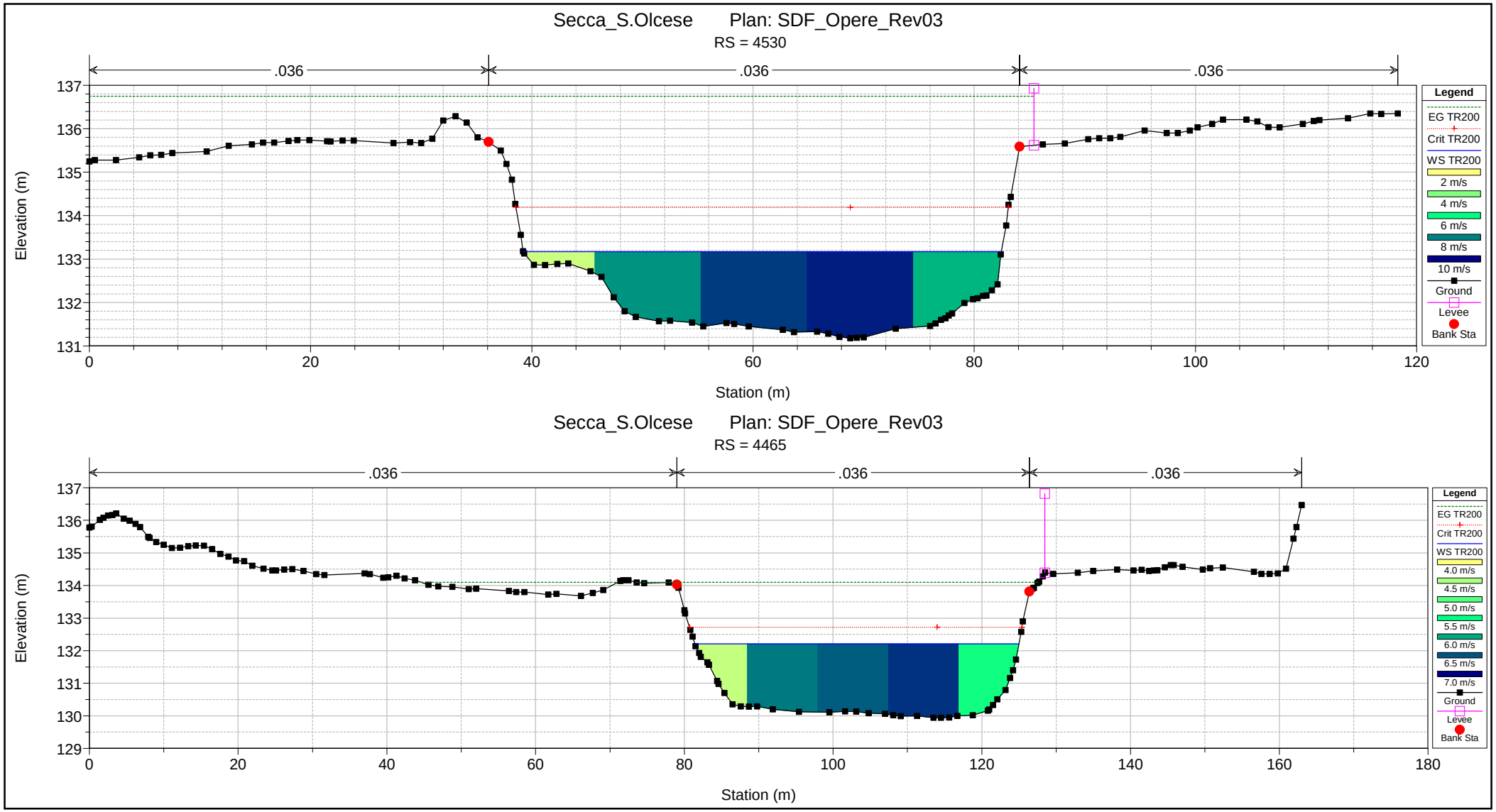

Secca_S.Olcese Plan: SDF_Opere_Rev03
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
140
120
100
80
60
0
1000
2000
3000
4000
5000
426
564
781
896
996
1116
1222
1304
1400
1512
1608
1697
1814
1874
1935
2006
2096
2204
2326
2406
2588
2647 P.V.Ruem2 M
2793
2984
3186
3242
3414
3587
3729
3828
4026
4161
4282
4350
4465
4530

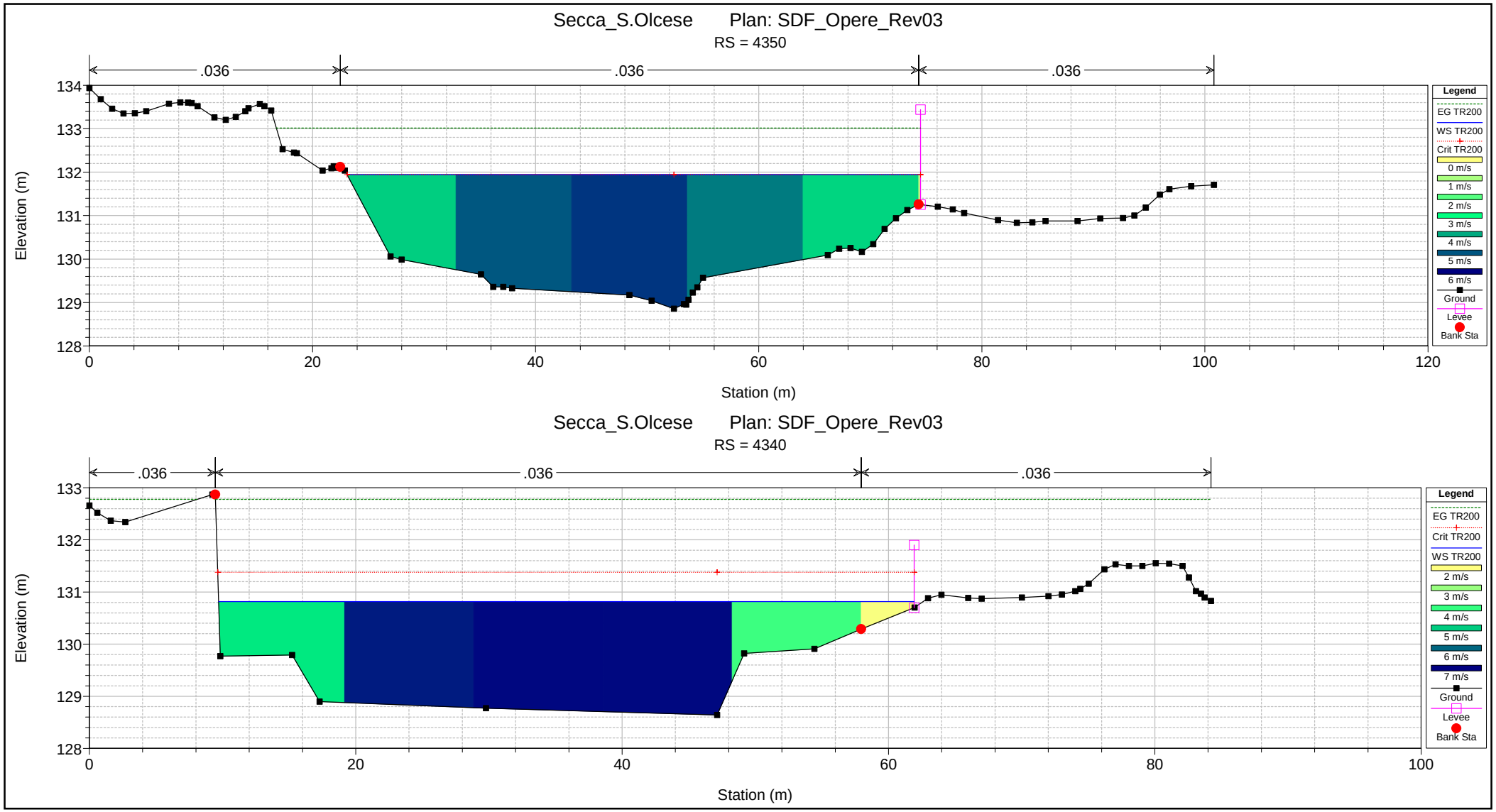

Secca_S.Olcese Plan: SDF_Opere_Rev03
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
130
120
110
100
90
80
1116...
1222
1304
1400
1445
1512
1555
1608
1697
1754
1814
1874
1935
1985
2061
2108
2204
2261
2326
2406
2588
2640 P.V.Ruem? V
2793
2984
3186
3238 P.carr V.Valle V
3281
3414
3587
3729
3828
4026
4161
4282
4340
4465
4530
4572
1500
2000
2500
3000
3500
4000
4500
Main Channel Distance (m)

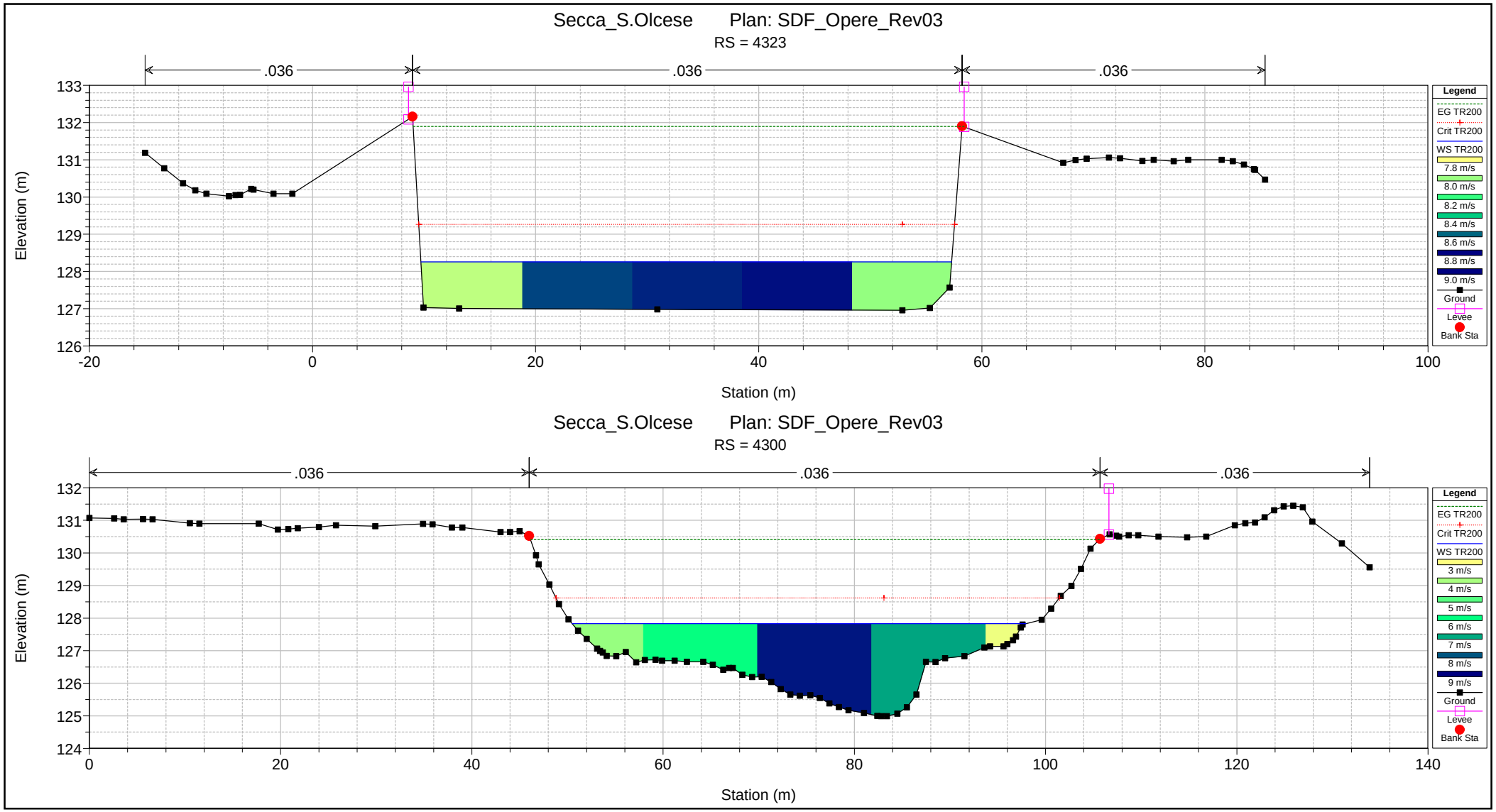

Secca_S.Olcese Plan: SDF_Opere_Rev03
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
92
90
88
86
84
82
80
78
1445
1512
1521
1530
1555
1608
1644
1697
1718
1754
1814
1826
1874
1935
1950
1985
1994 P.V.Negrotto M
2006
2061
1400
1500
1600
1700
1800
1900
2000
Main Channel Distance (m)

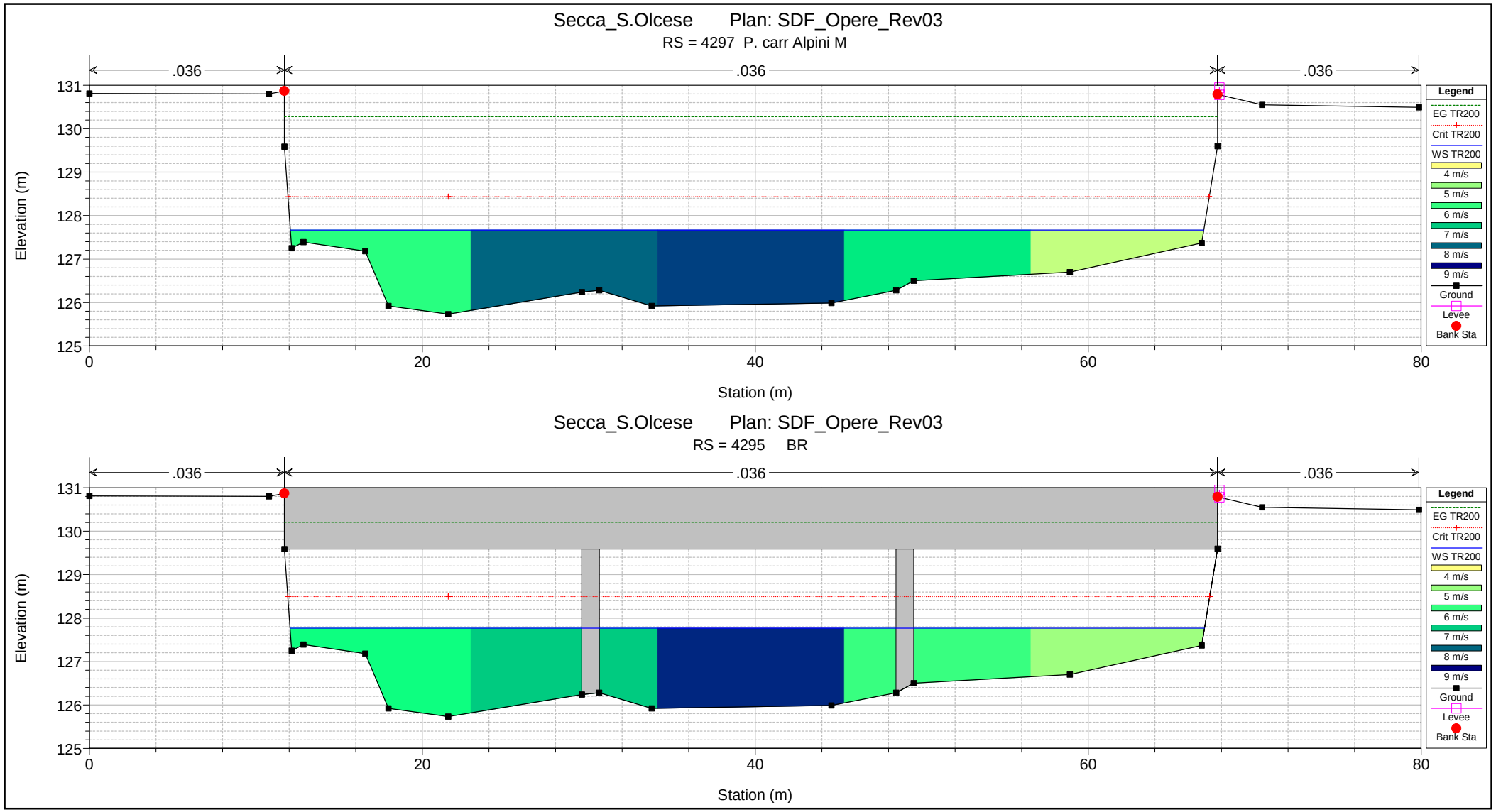

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4582
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4572
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
Ground
Levee
Bank Sta

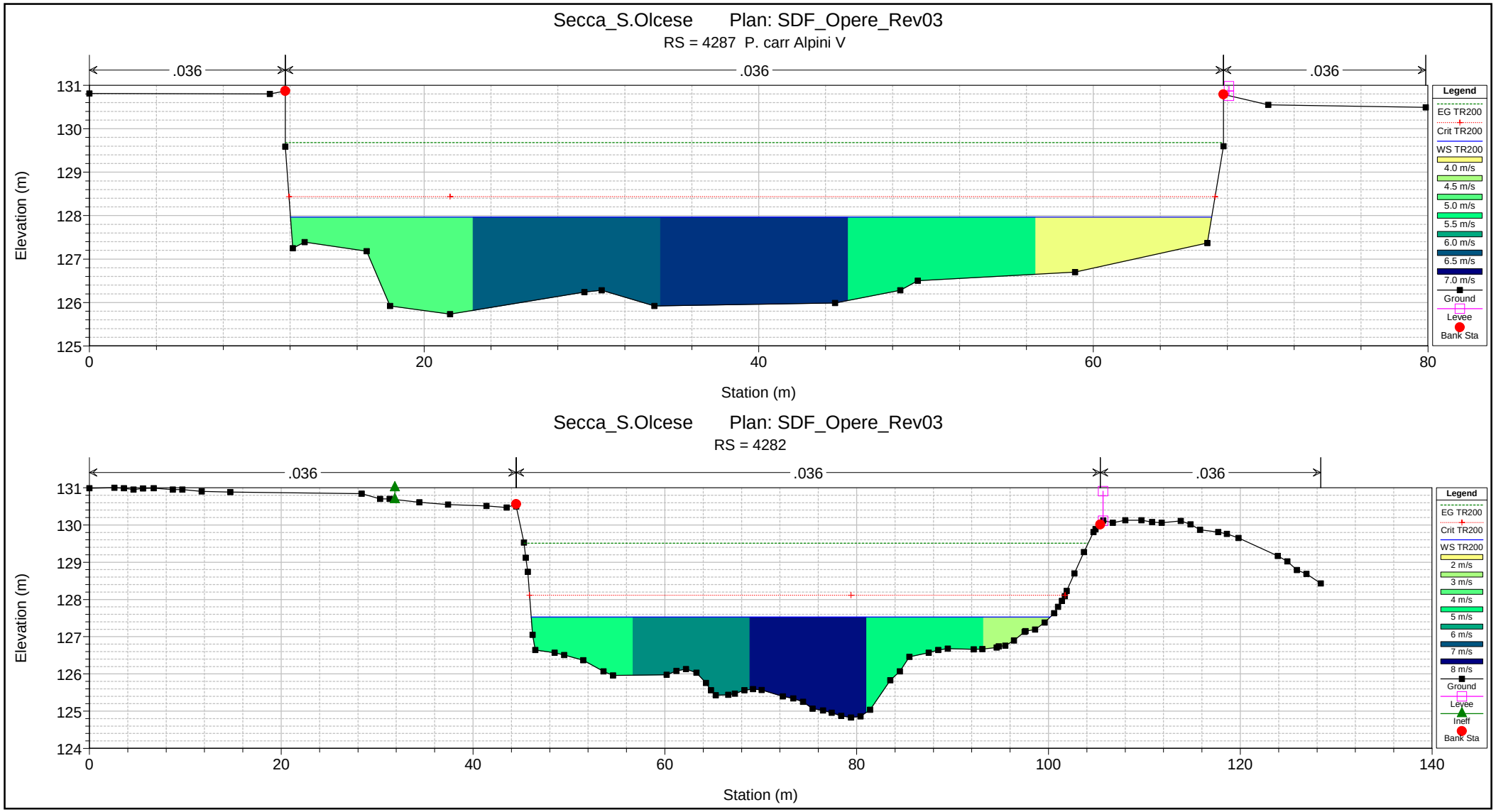

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4541
.036
.036
.036
Elevation (m)
138
137
136
135
134
133
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4534
.036
.036
Elevation (m)
138
137
136
135
134
133
0
10
20
30
40
50
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

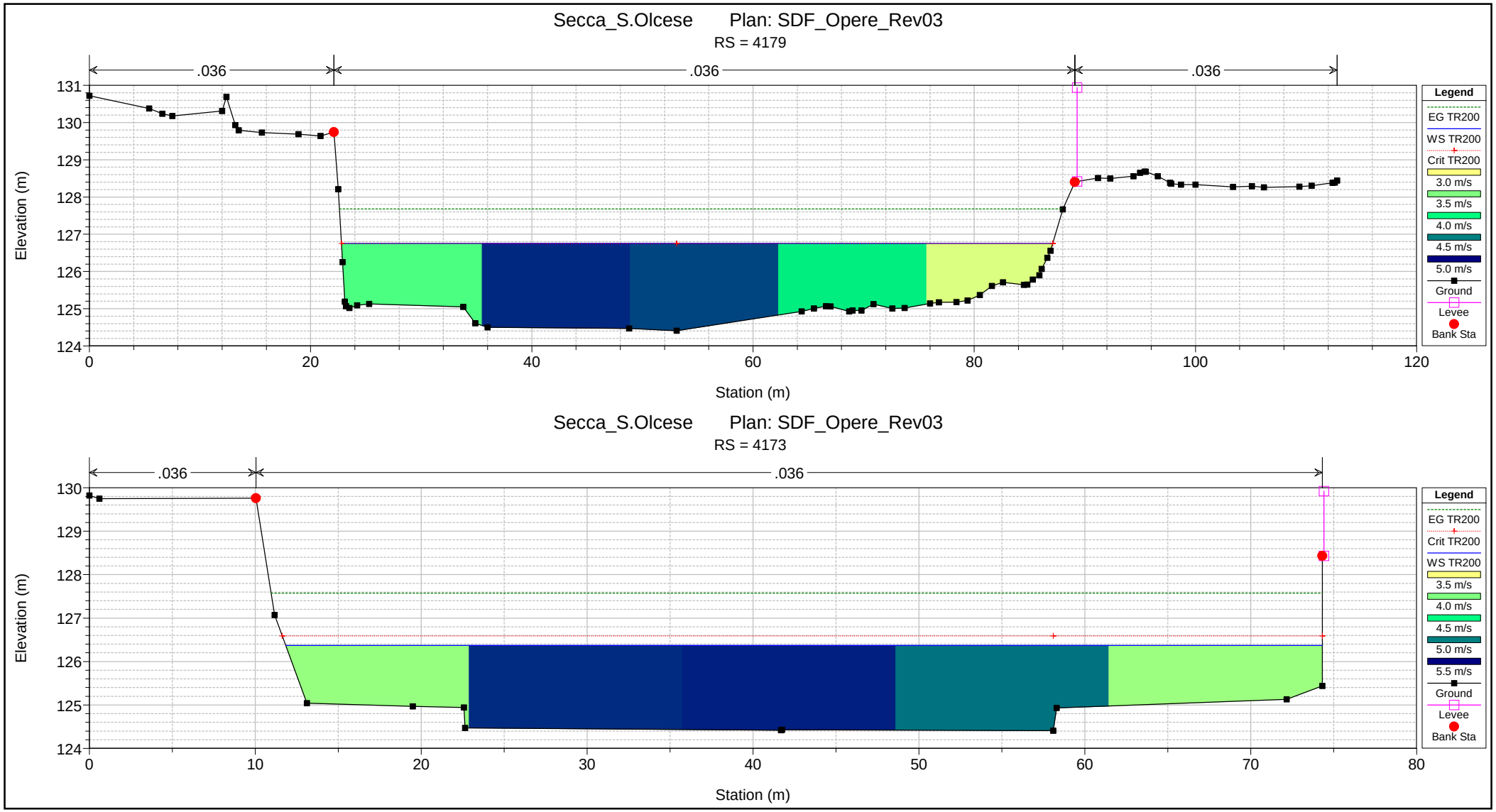

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4530
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4465
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta

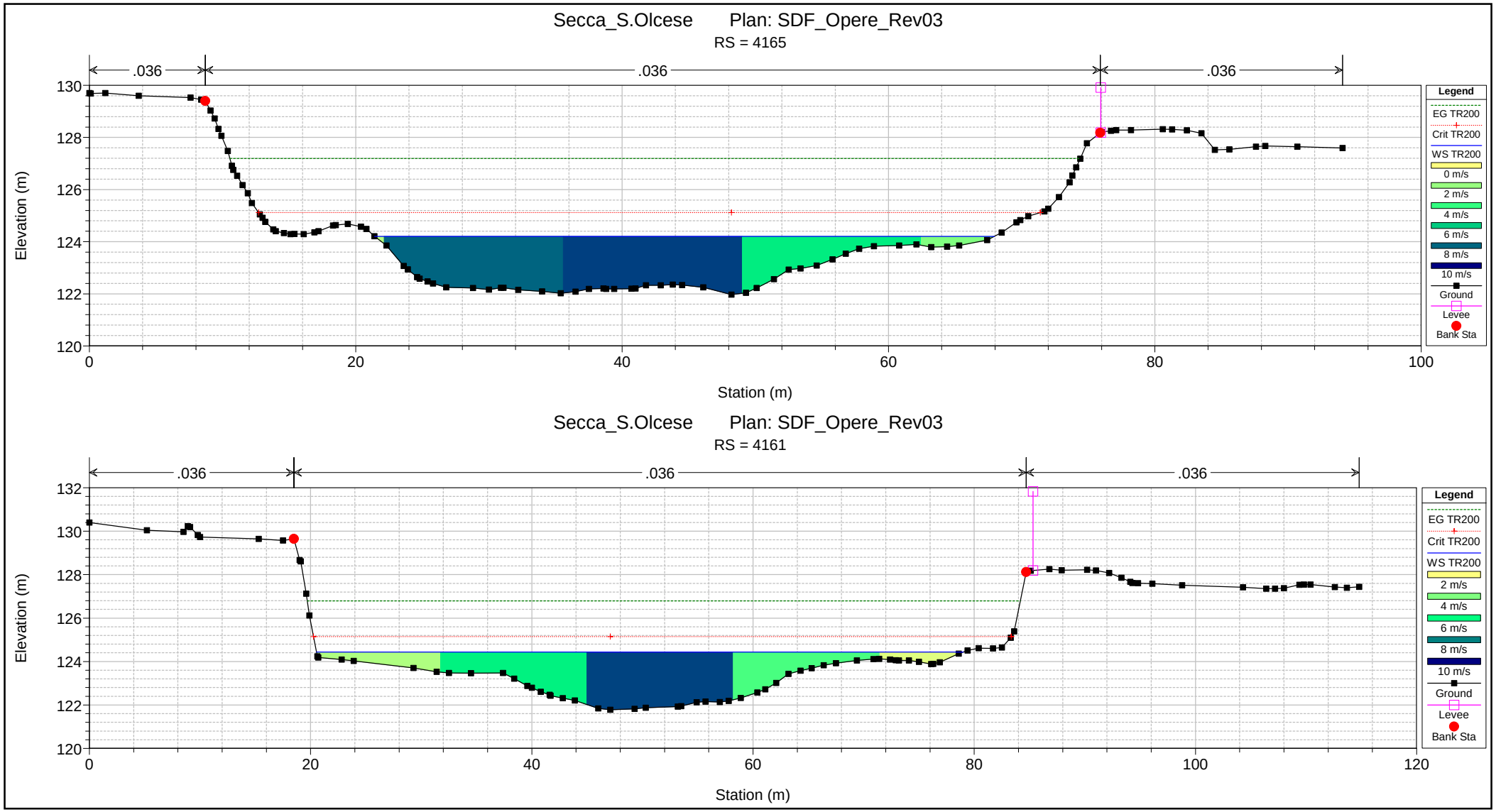

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4350
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4340
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta

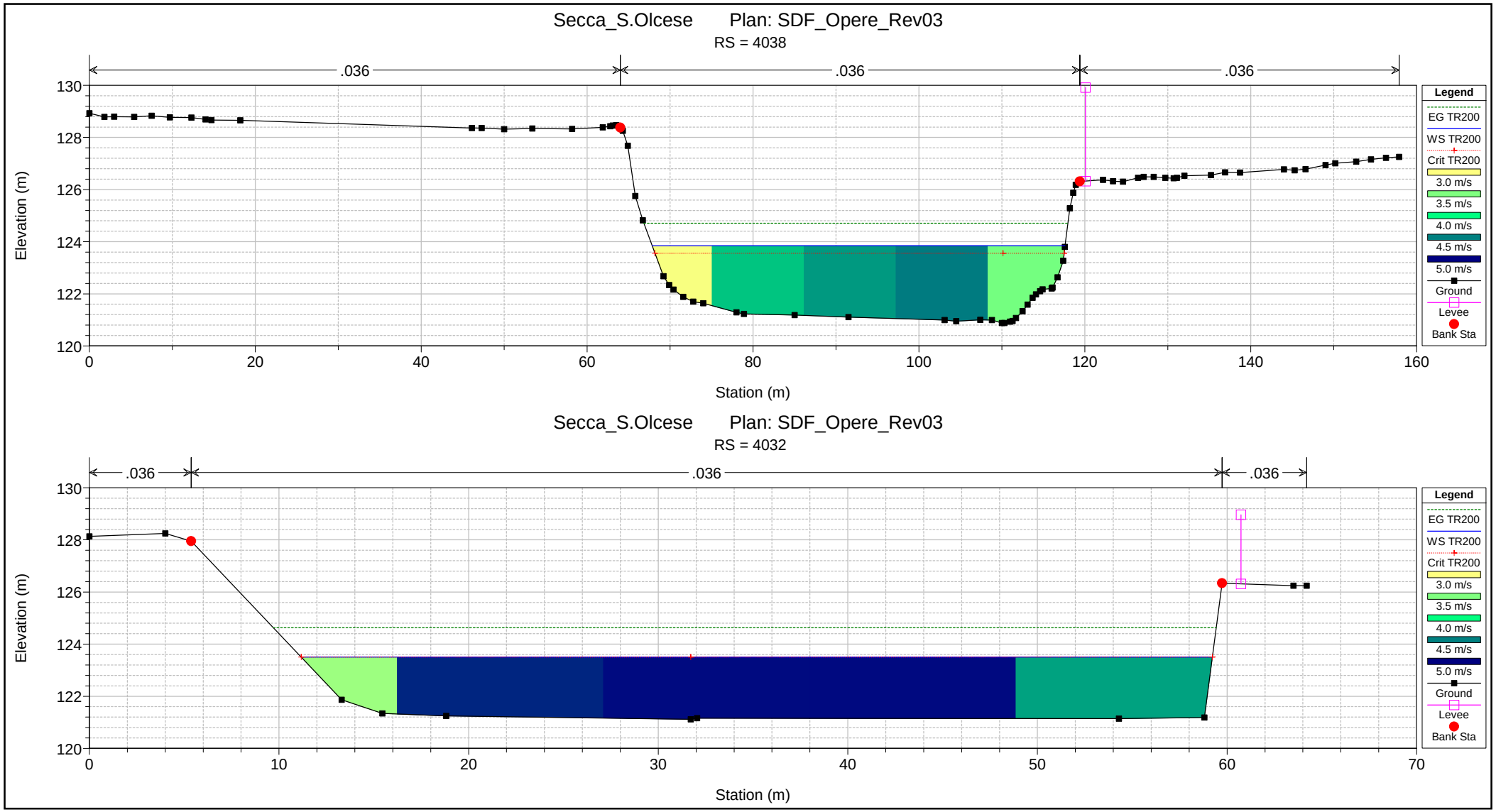

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4323
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
7.8 m/s
8.0 m/s
8.2 m/s
8.4 m/s
8.6 m/s
8.8 m/s
9.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4300
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

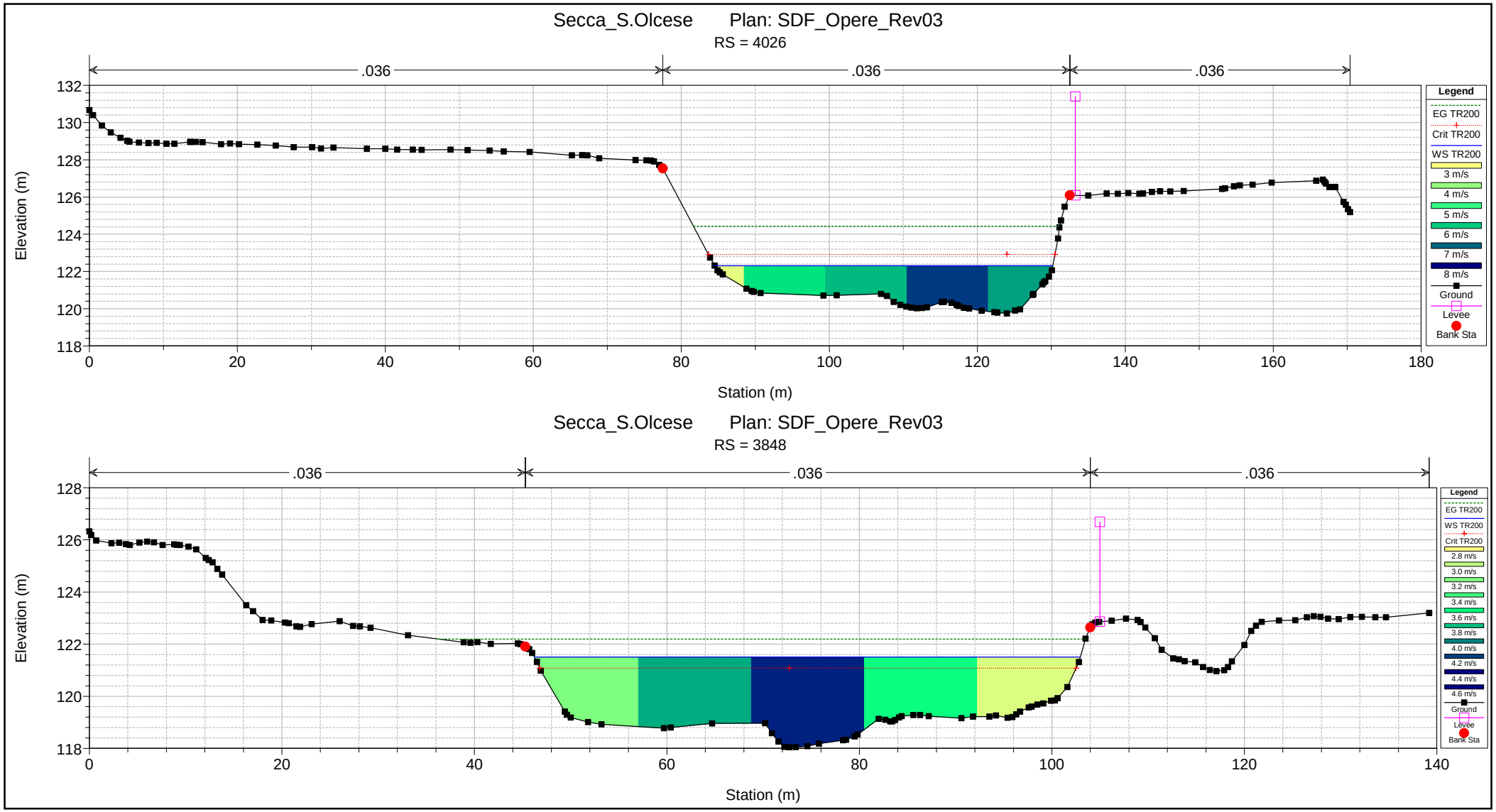

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4297 P. carr Alpini M
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4295 BR
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

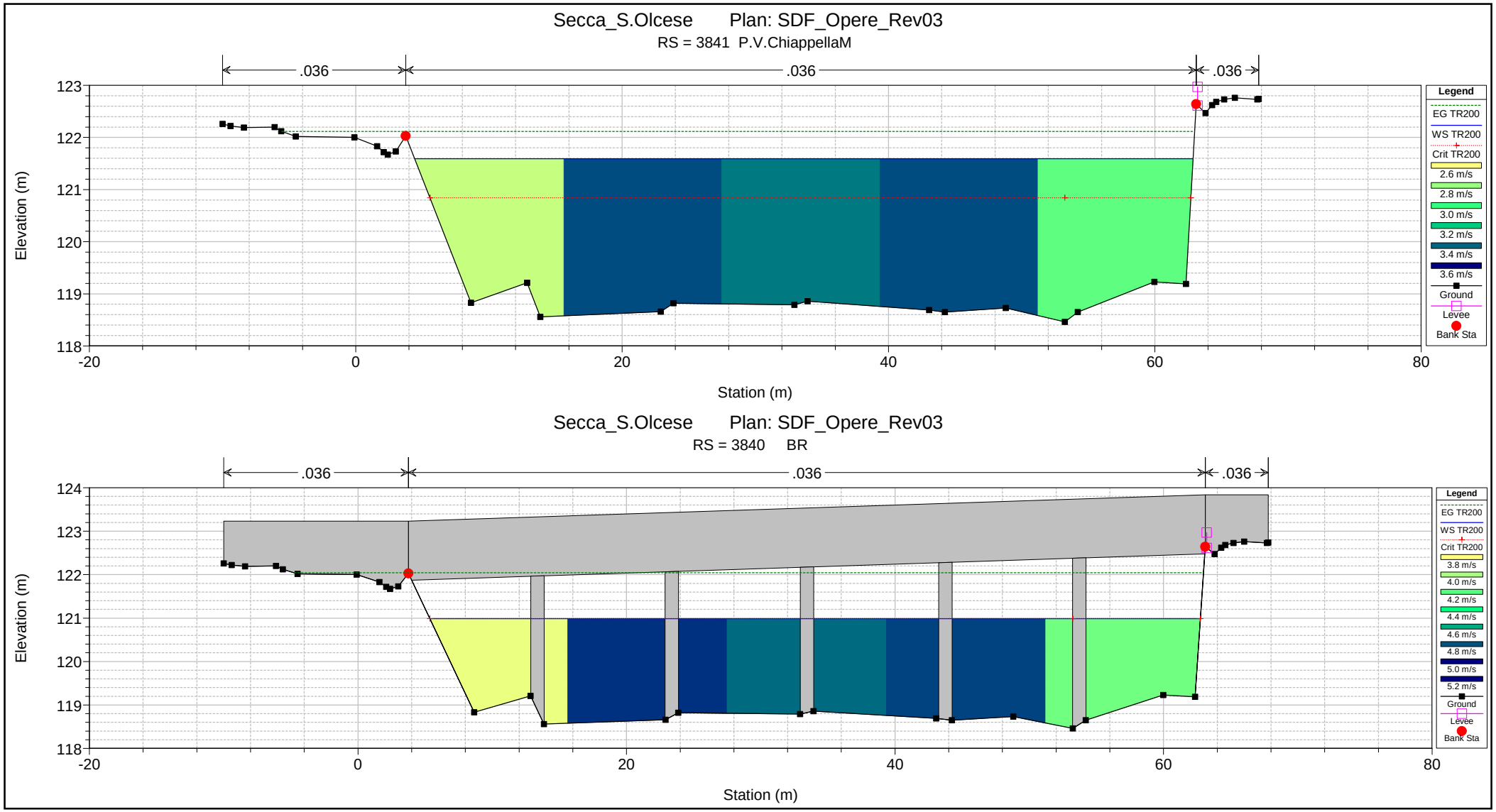

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4287 P. carr Alpini V
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4282
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
124
0
20
40
60
80
100
120
140
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Ineff
Bank Sta

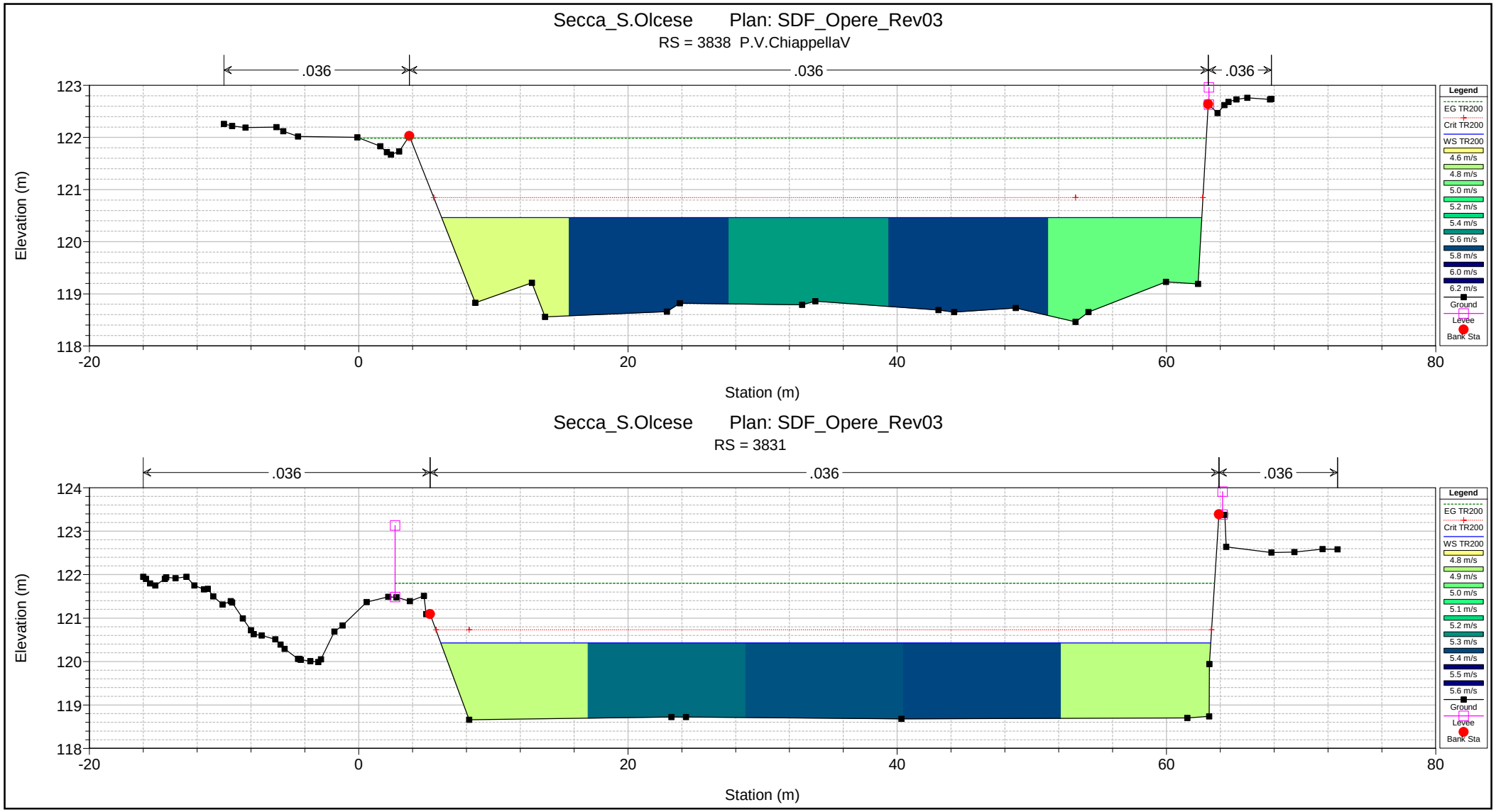

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4179
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
124
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4173
.036
.036
Elevation (m)
130
129
128
127
126
125
124
0
10
20
30
40
50
60
70
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

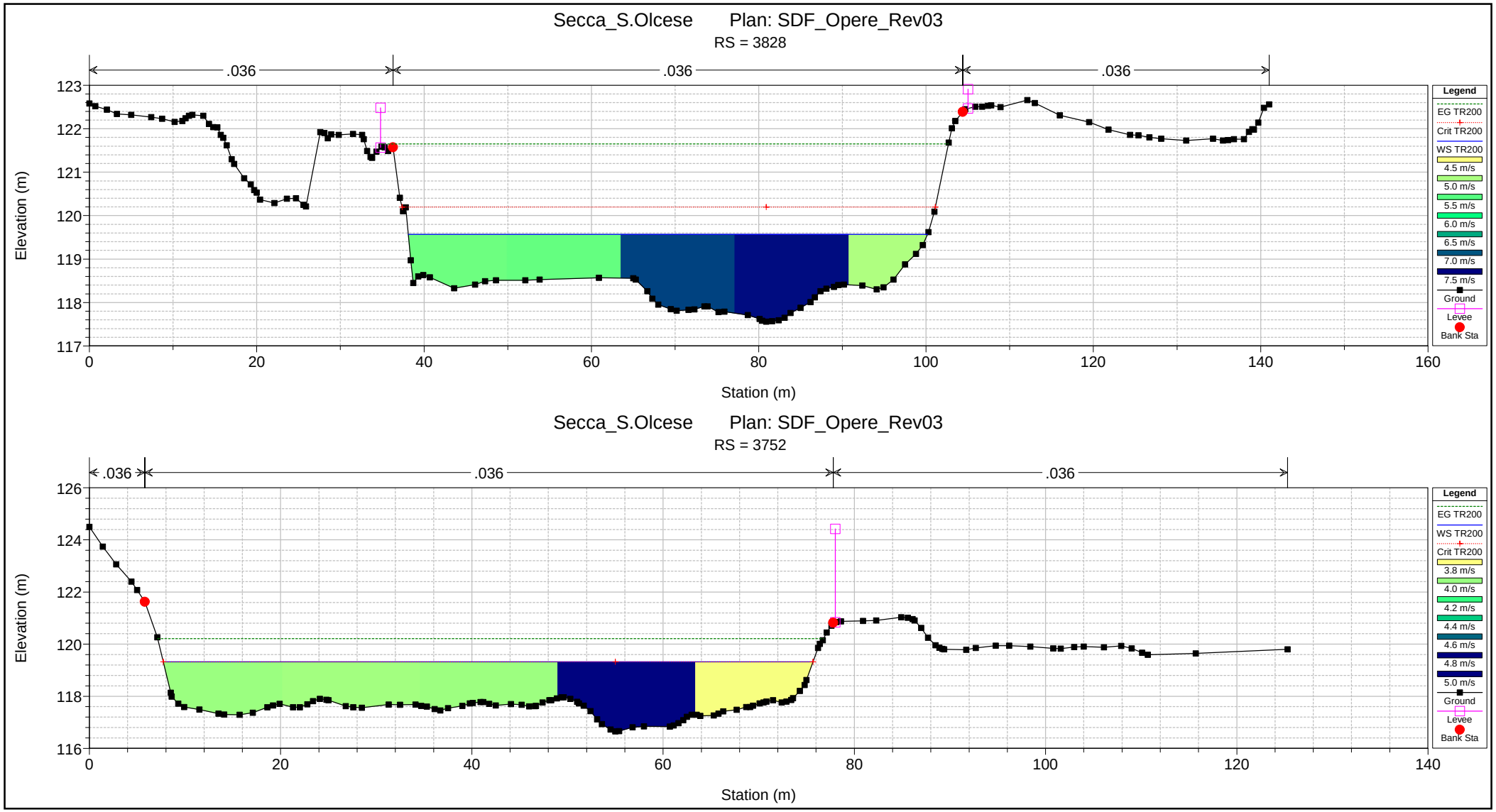

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4165
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4161
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

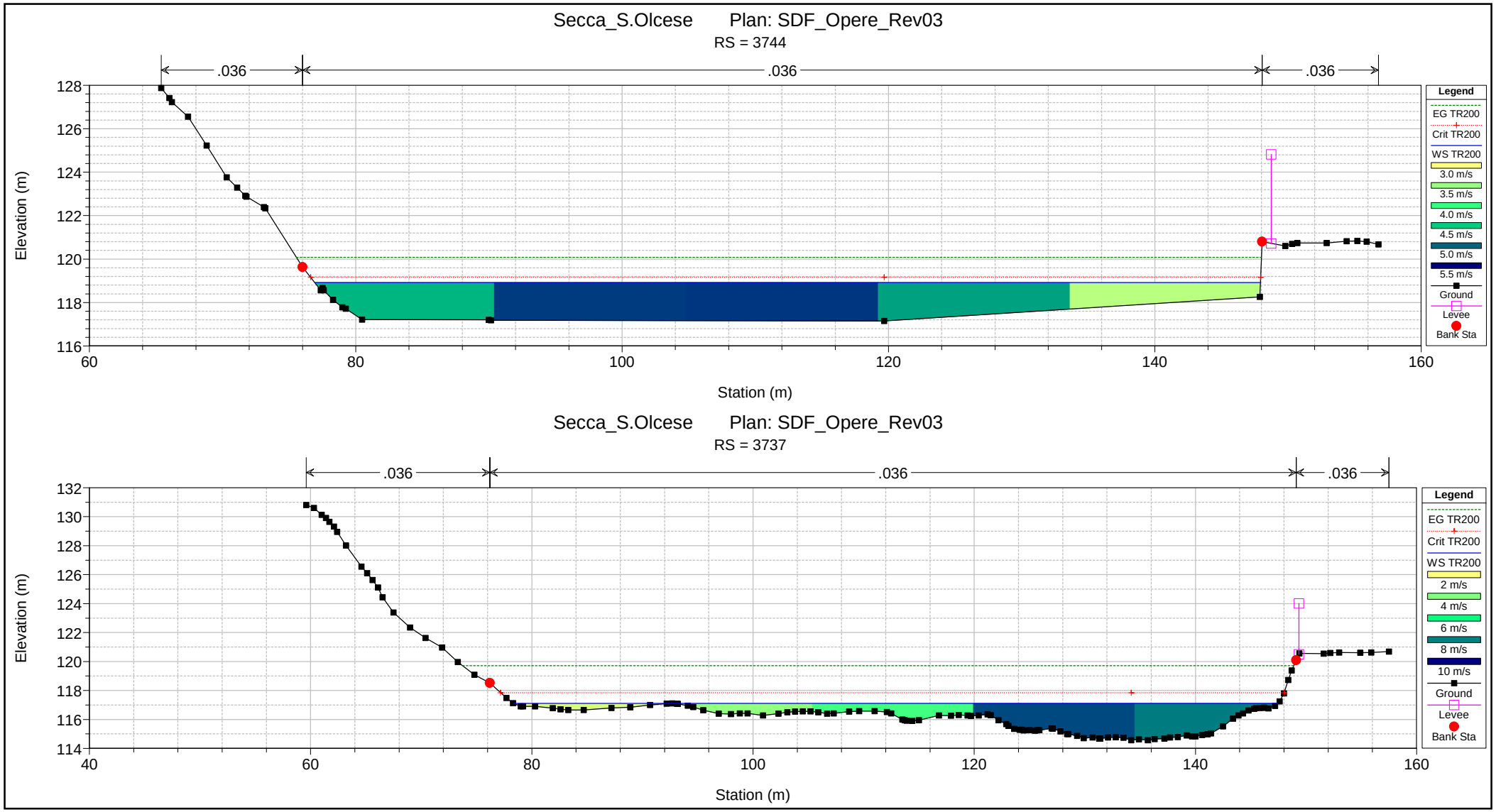

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4038
.036
.036
.036
Elevation (m)
130
128
126
124
122
120
0
20
40
60
80
100
120
140
160
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4032
.036
.036
.036
Elevation (m)
130
128
126
124
122
120
0
10
20
30
40
50
60
70
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta

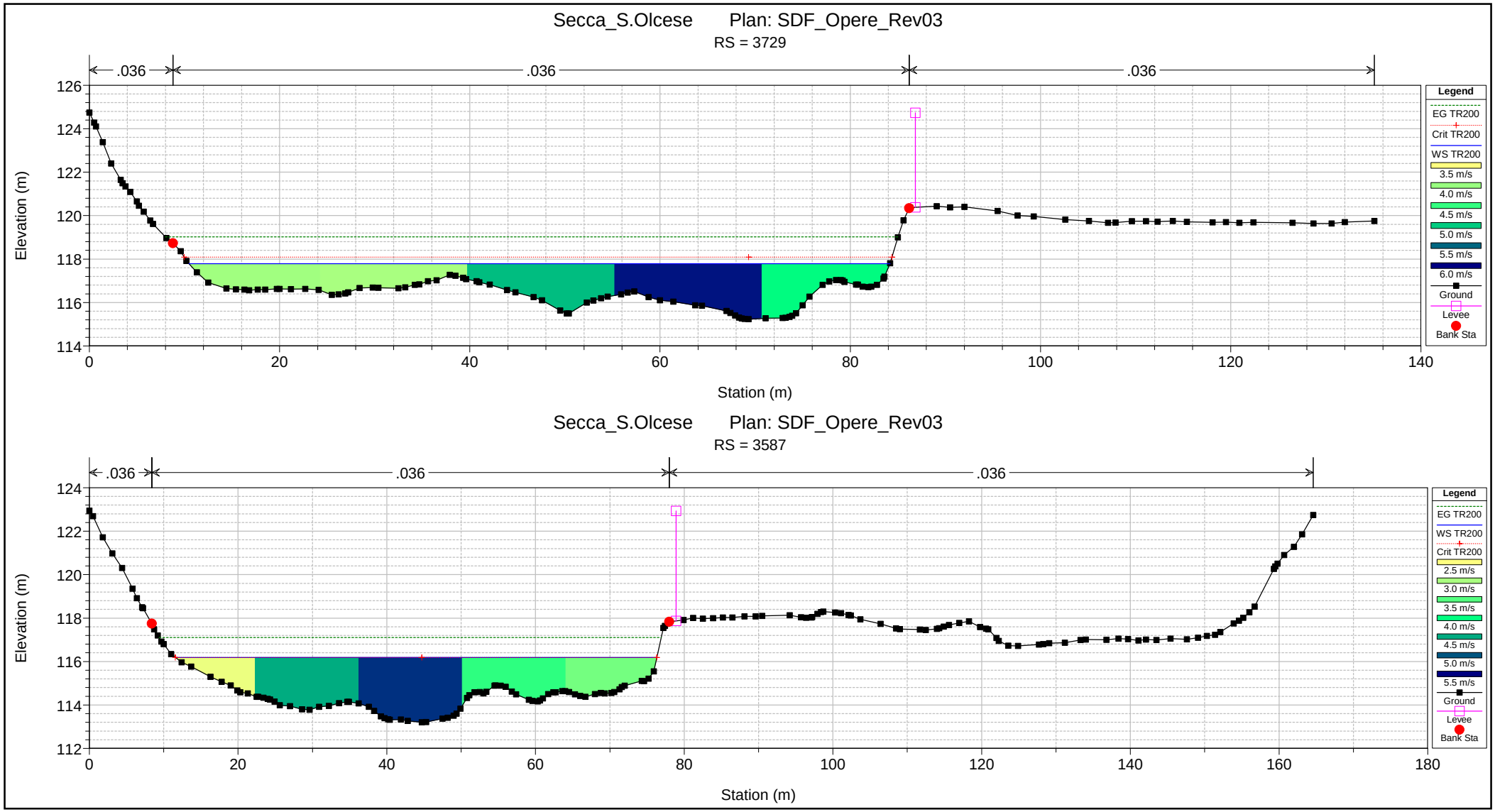

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 4026
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3848
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
Ground
Levee
Bank Sta

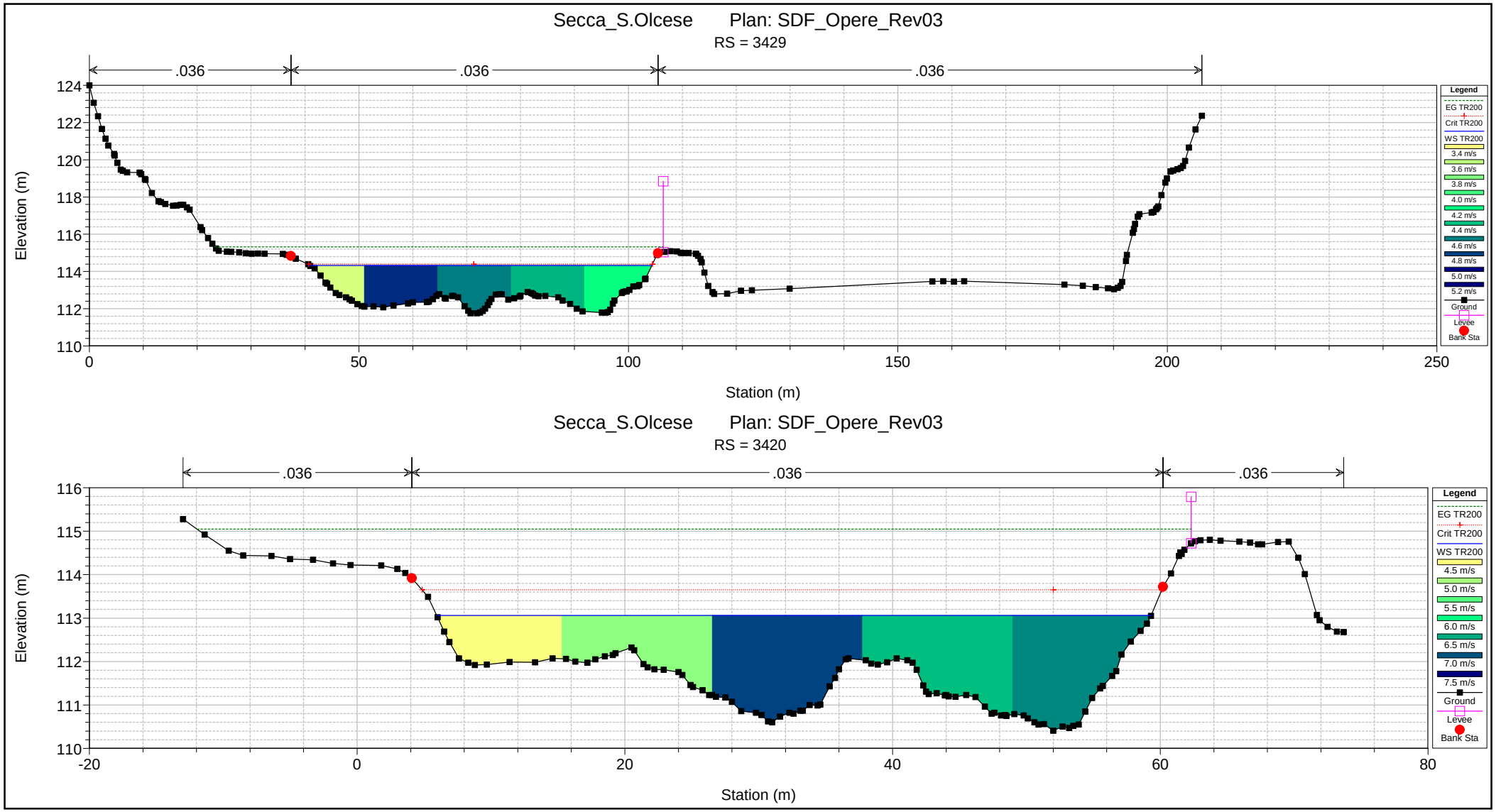

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3841 P.V.ChiappellaM
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3840 BR
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Levee
Bank Sta

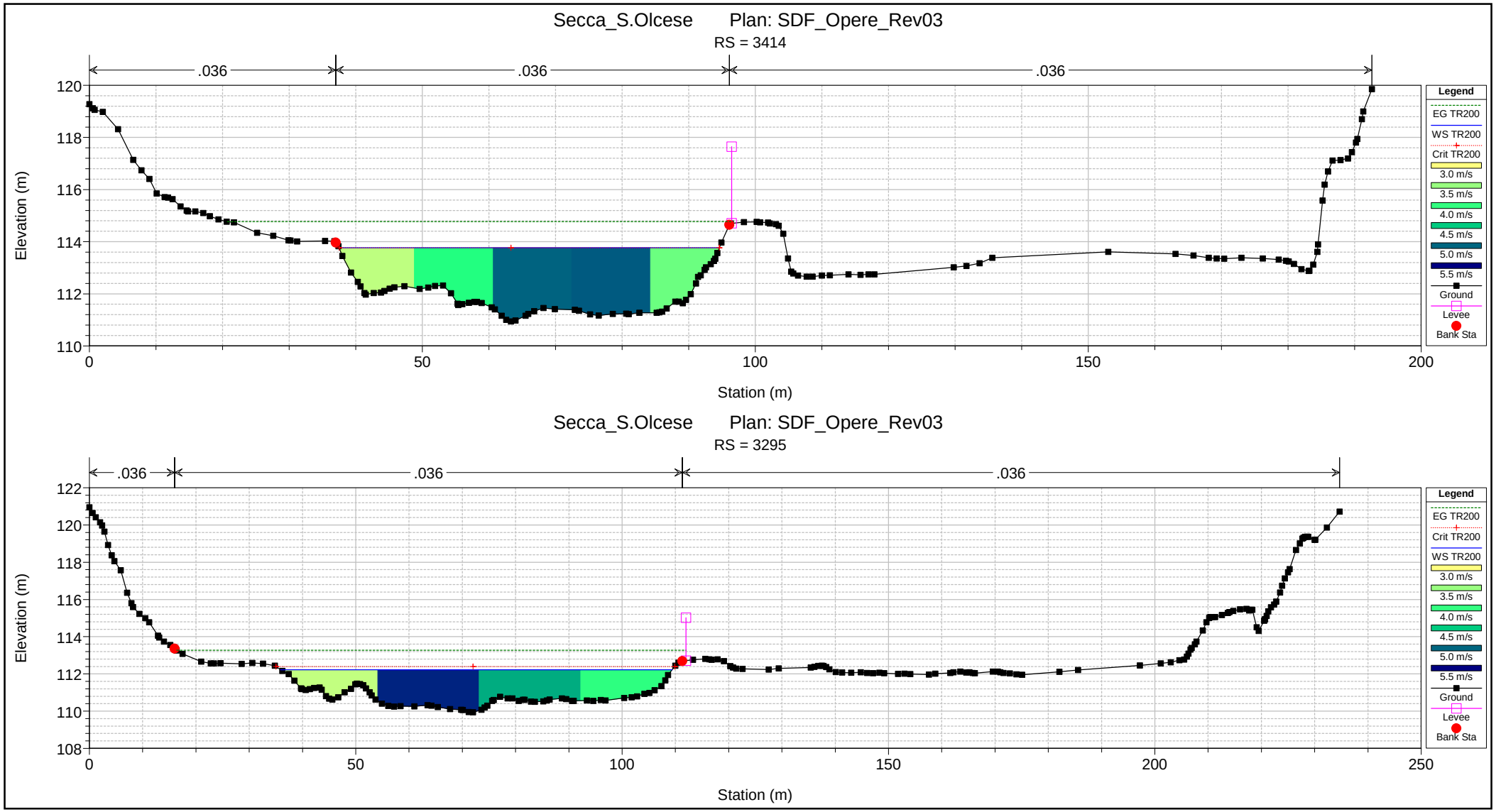

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3838 P.V.ChiappellaV
.036
.036
.036
Elevation (m)
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
5.8 m/s
6.0 m/s
6.2 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3831
.036
.036
.036
Elevation (m)
124
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.8 m/s
4.9 m/s
5.0 m/s
5.1 m/s
5.2 m/s
5.3 m/s
5.4 m/s
5.5 m/s
5.6 m/s
Ground
Levee
Bank Sta

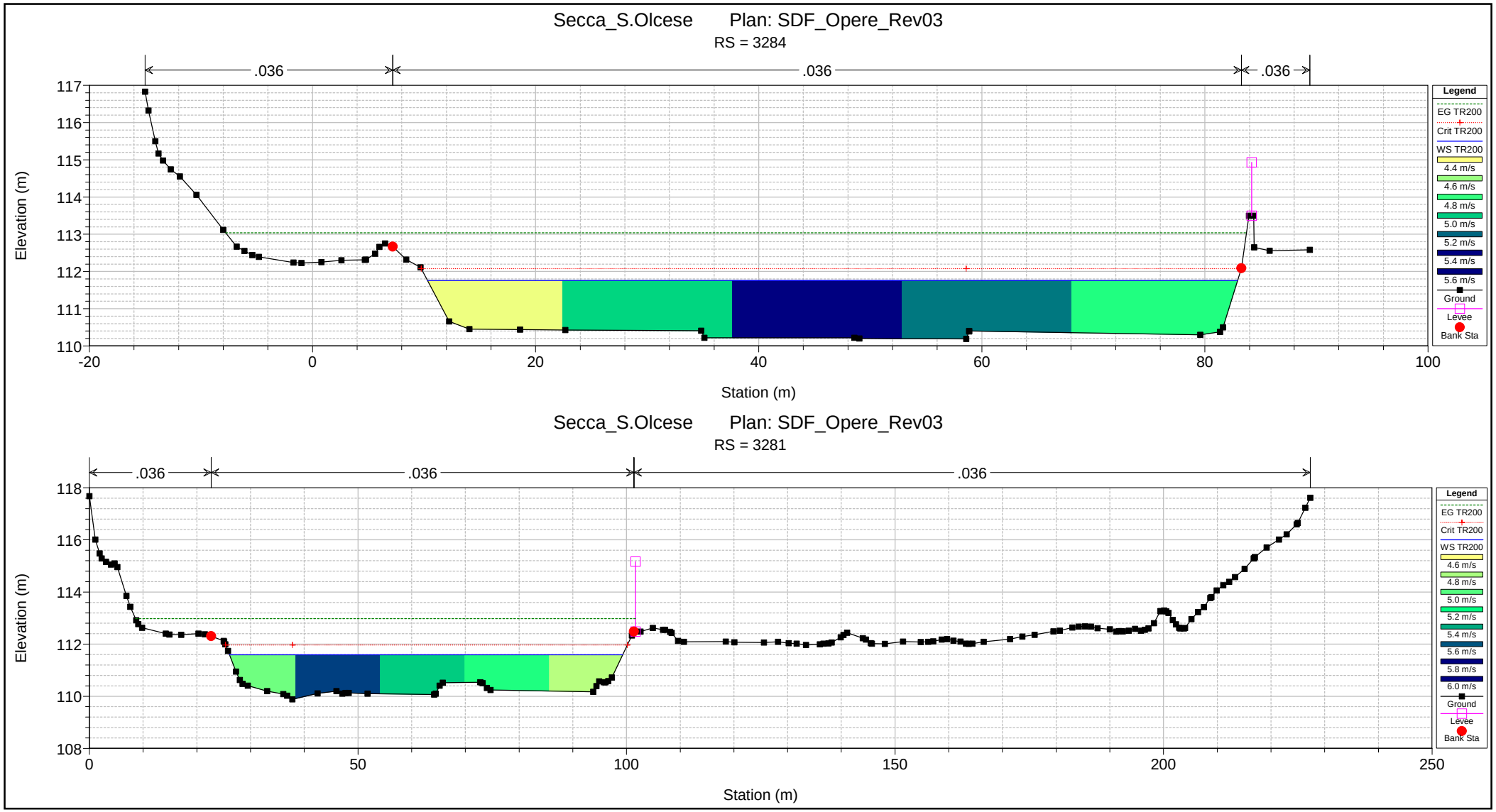

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3828
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3752
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta

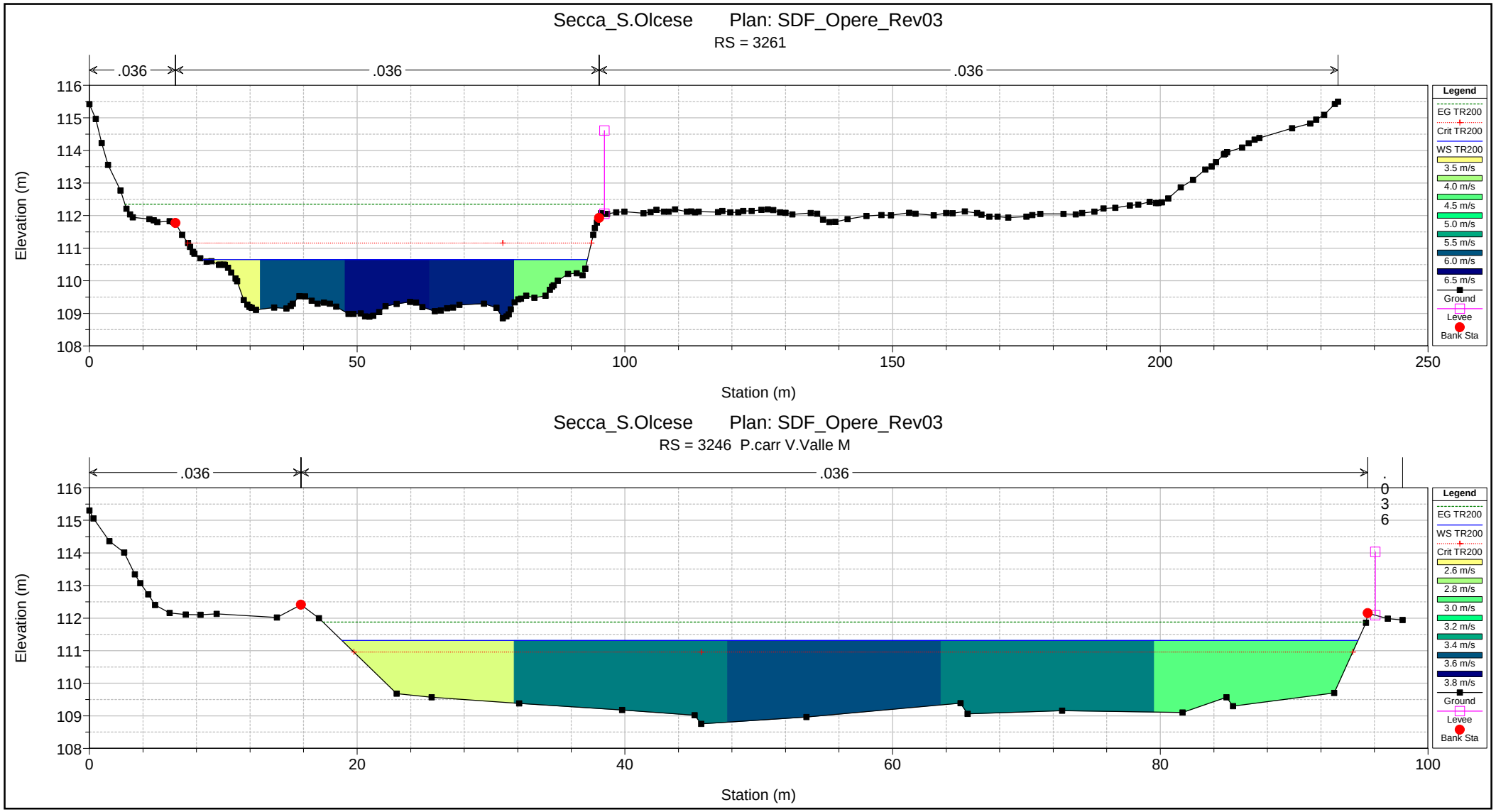

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3744
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3737
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

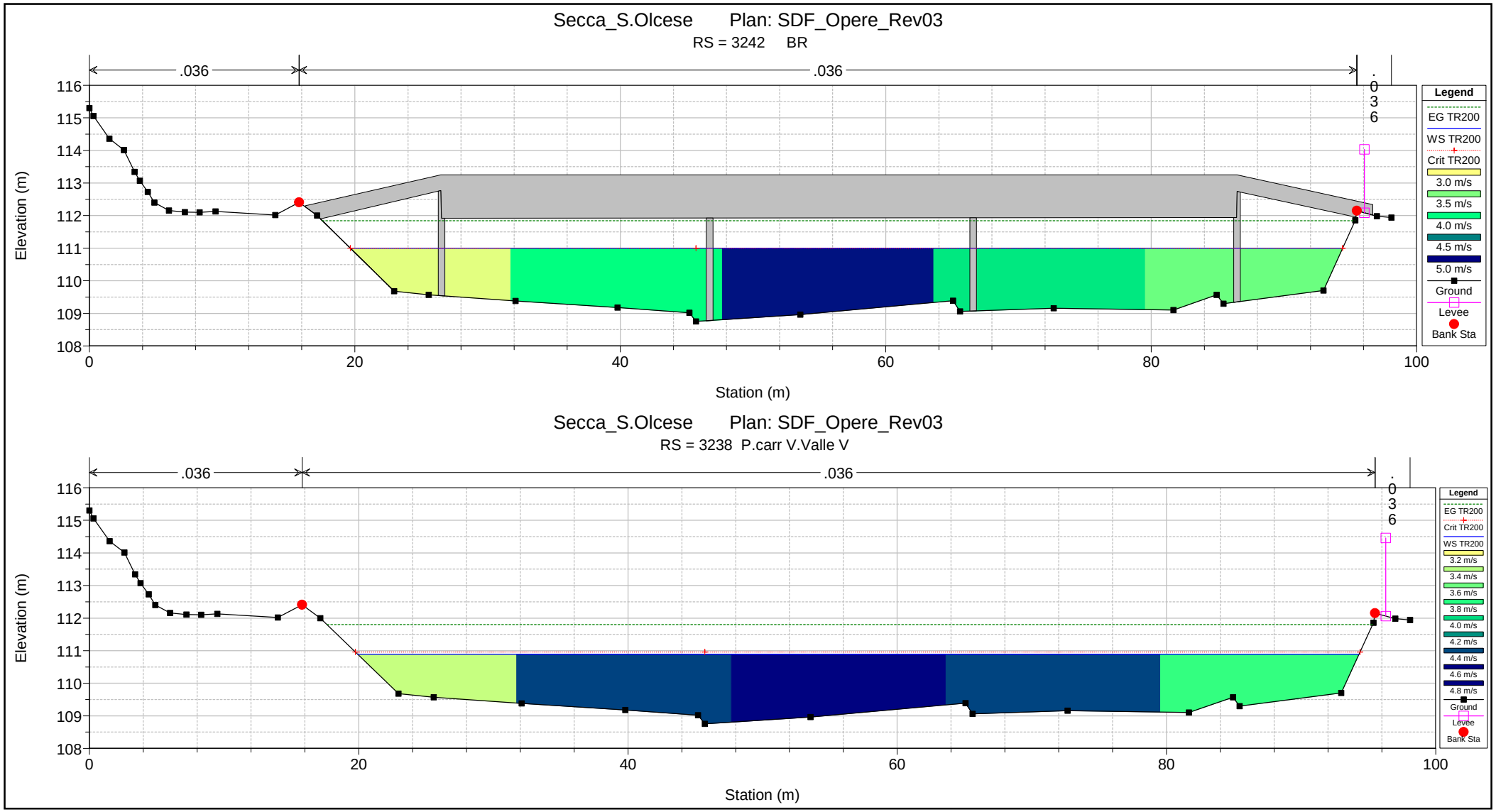

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3729
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3587
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

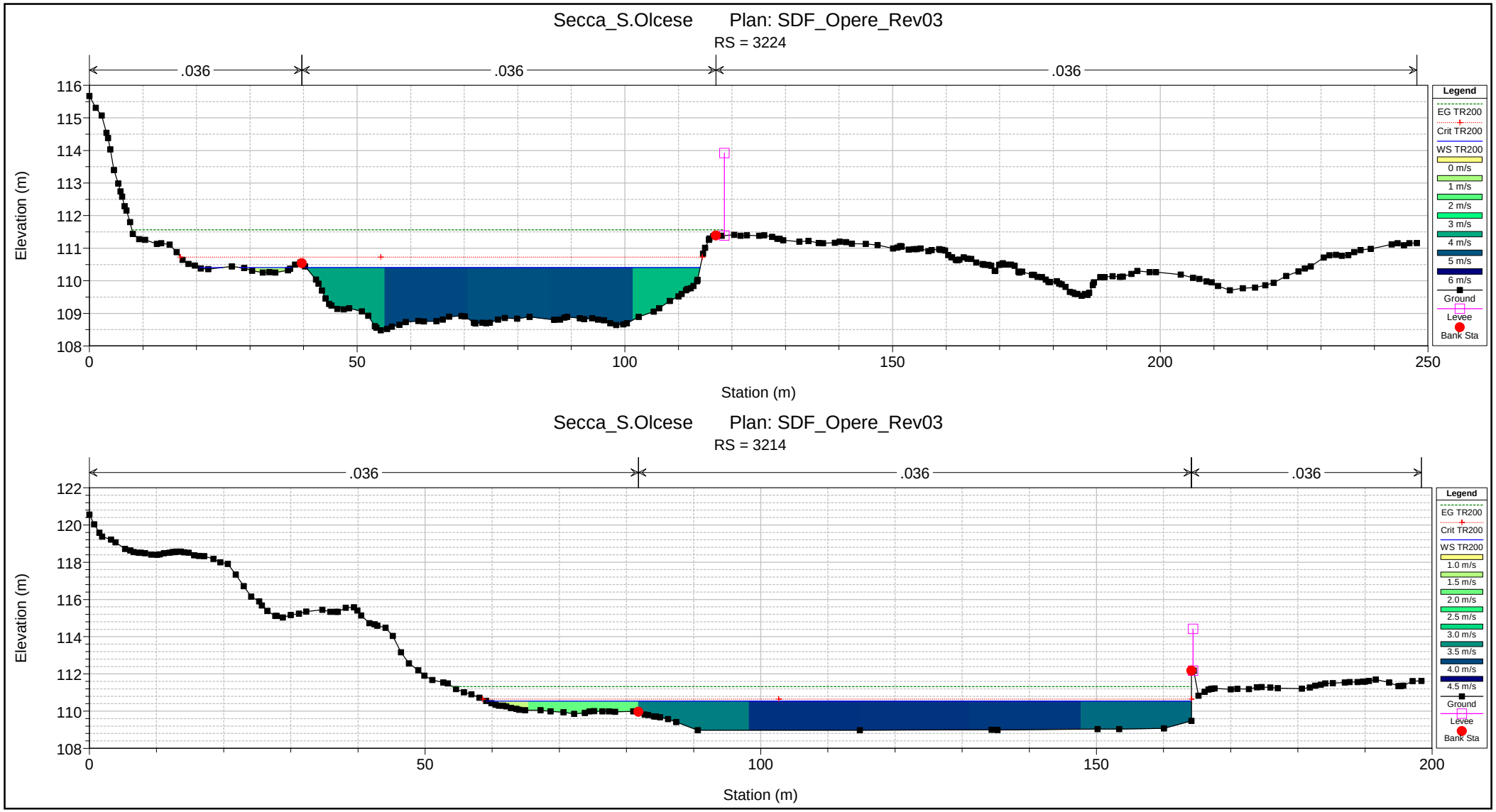

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3429
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3420
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta

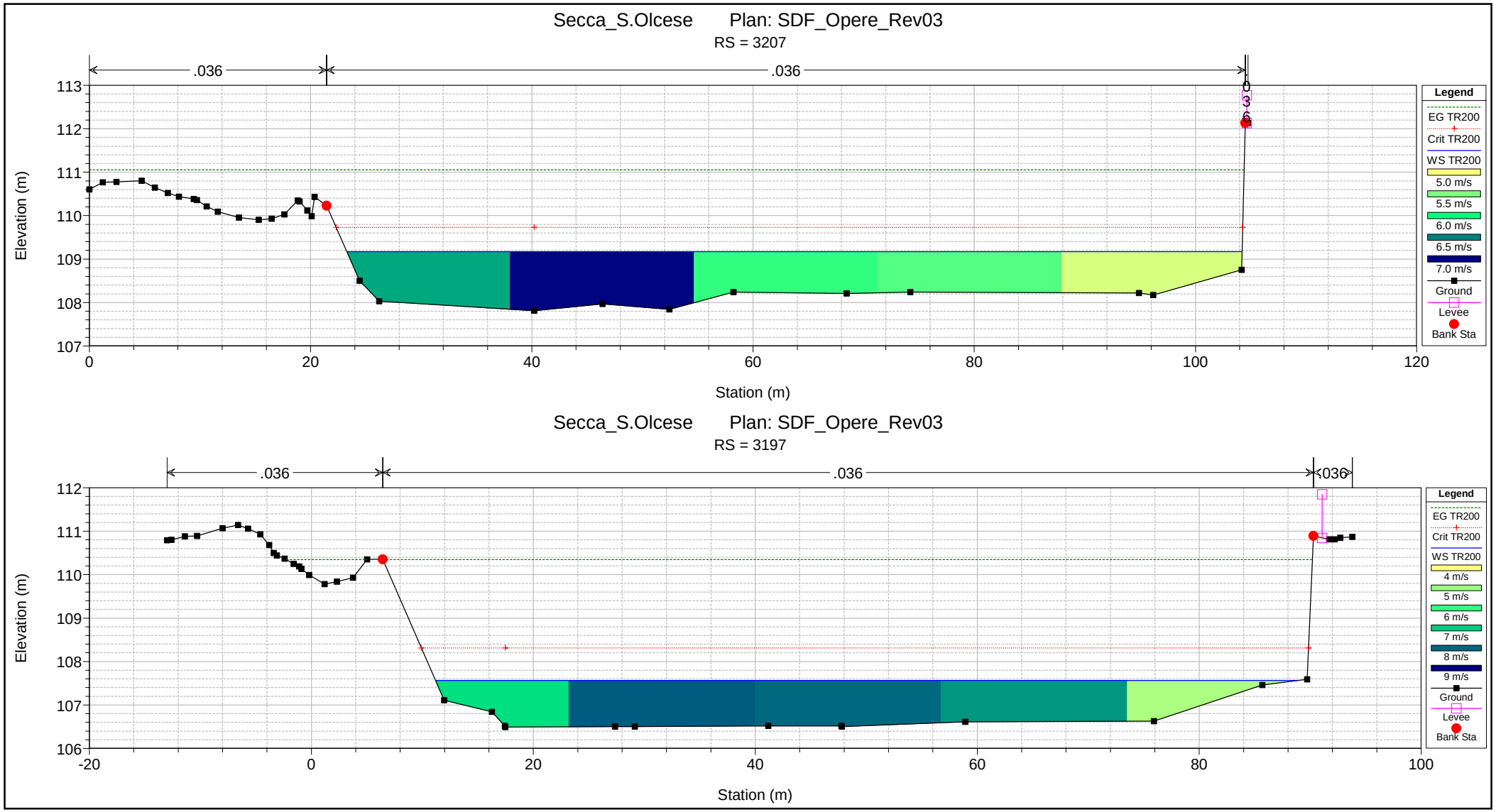

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3414
.036
.036
.036
Elevation (m)
120
118
116
114
112
110
0
50
100
150
200
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3295
.036
.036
.036
Elevation (m)
122
120
118
116
114
112
110
108
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

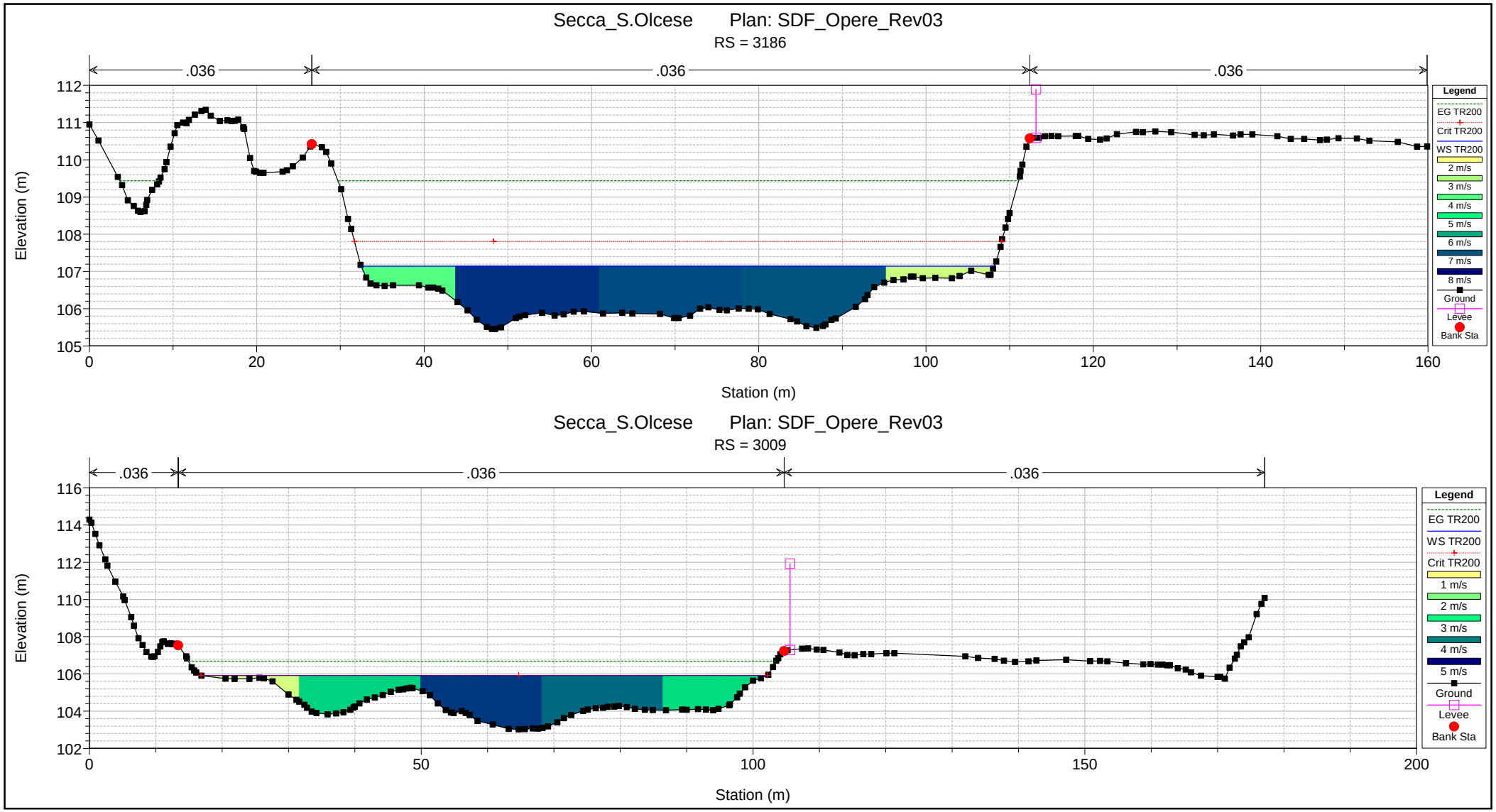

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3284
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3281
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
5.8 m/s
6.0 m/s
Ground
Levee
Bank Sta

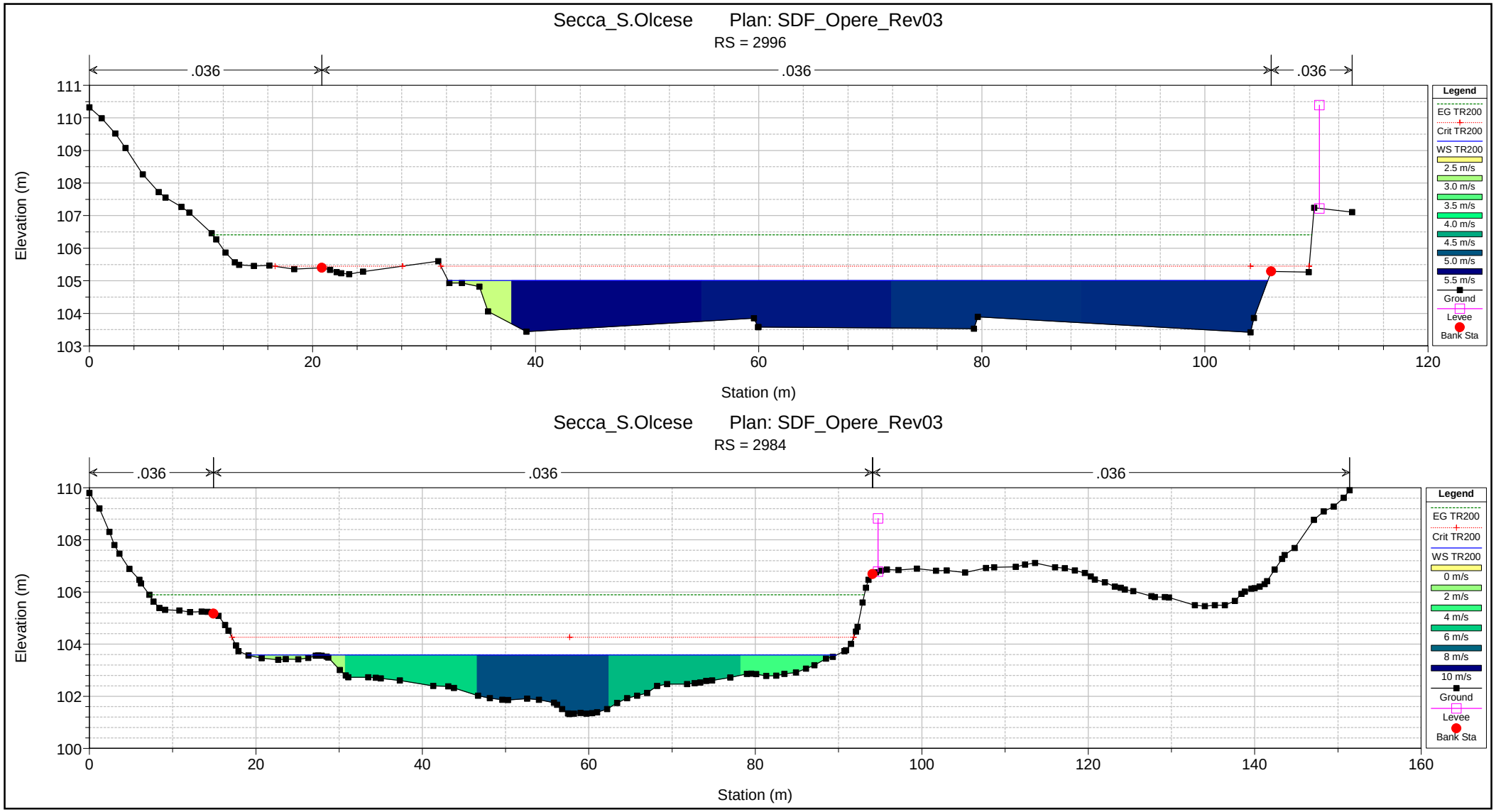

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3261
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3246 P.carr V.Valle M
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
Ground
Levee
Bank Sta

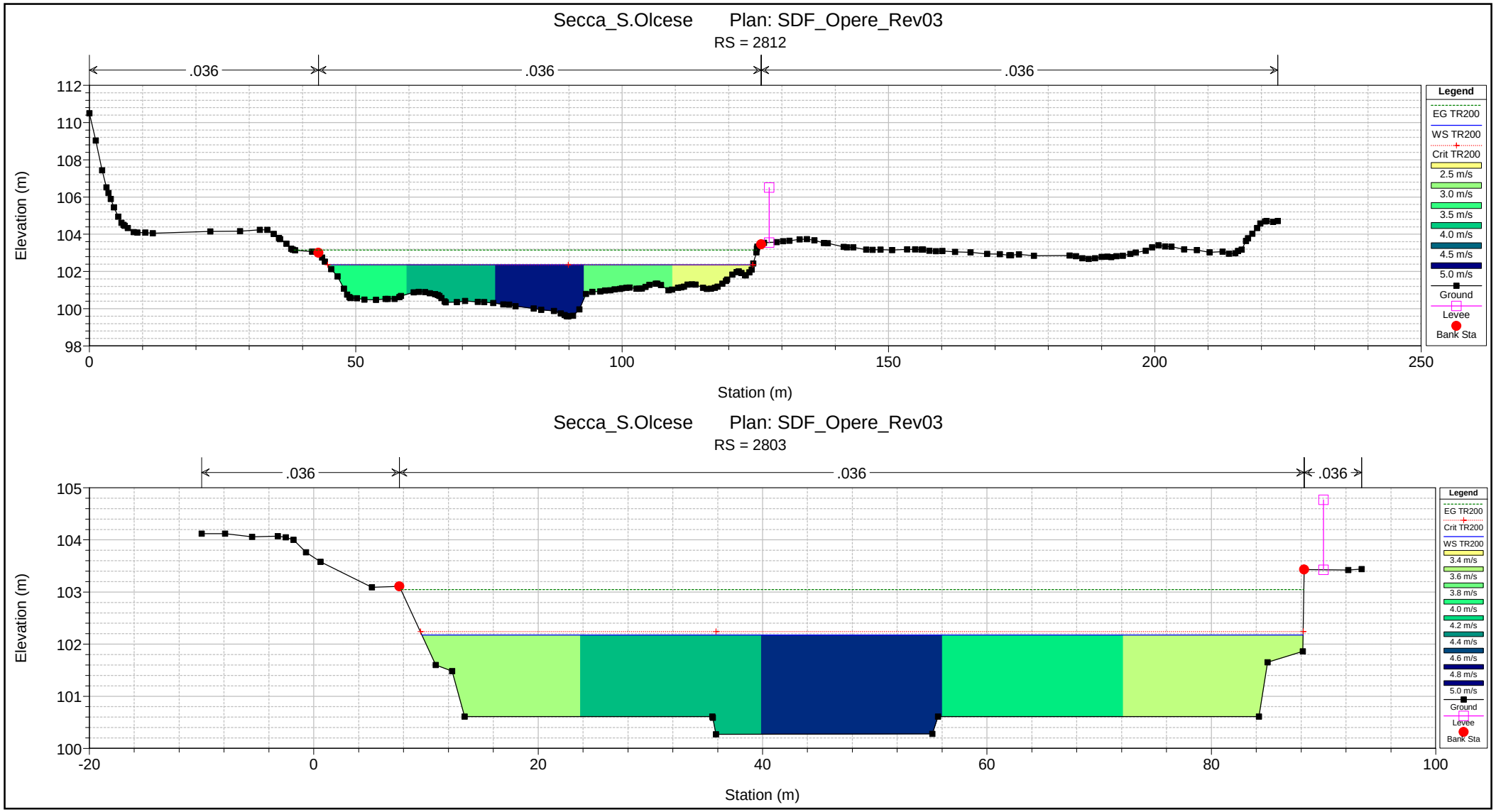

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3242 BR
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3238 P.carr V.Valle V
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
Ground
Levee
Bank Sta

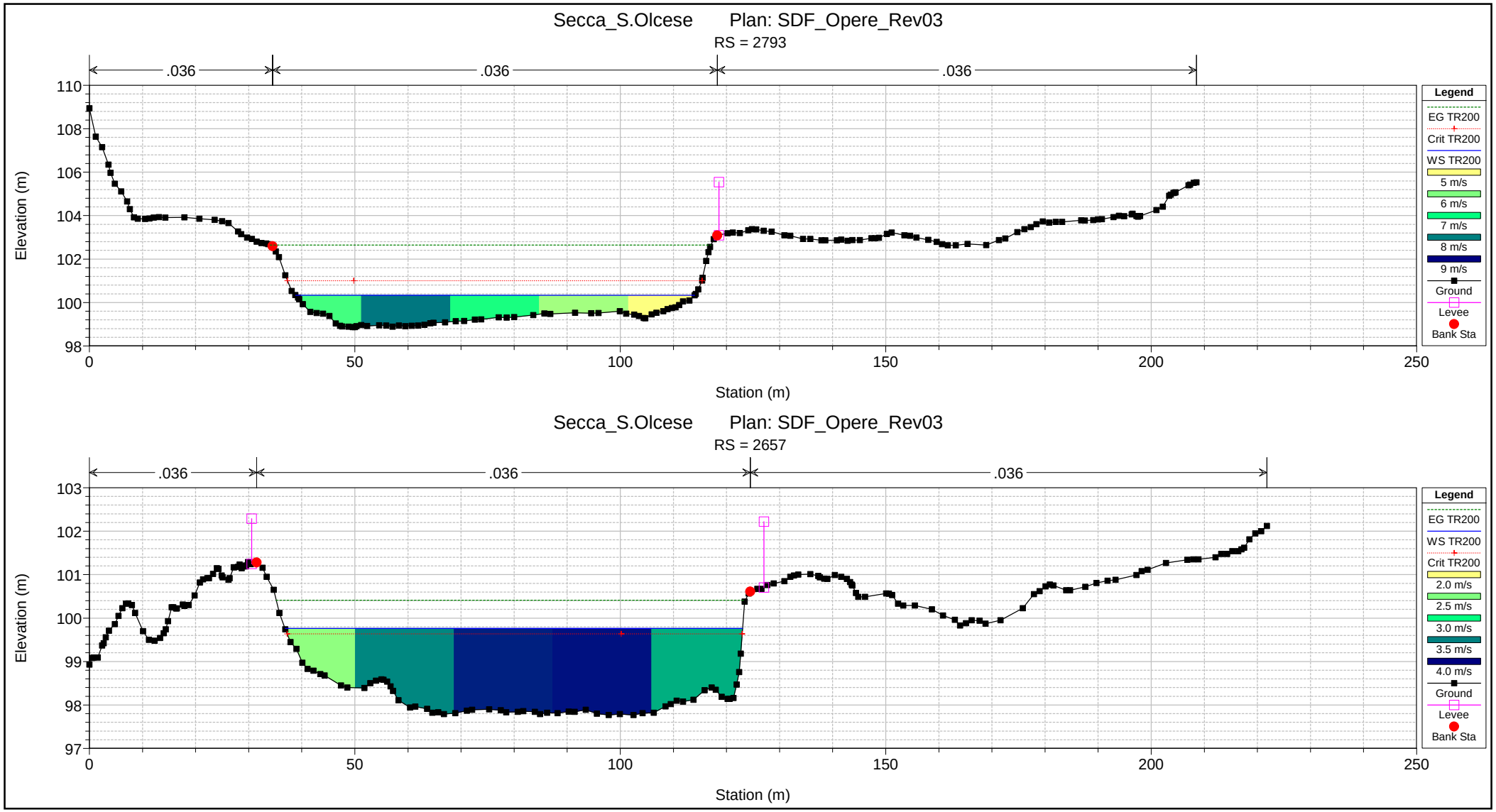

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3224
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3214
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

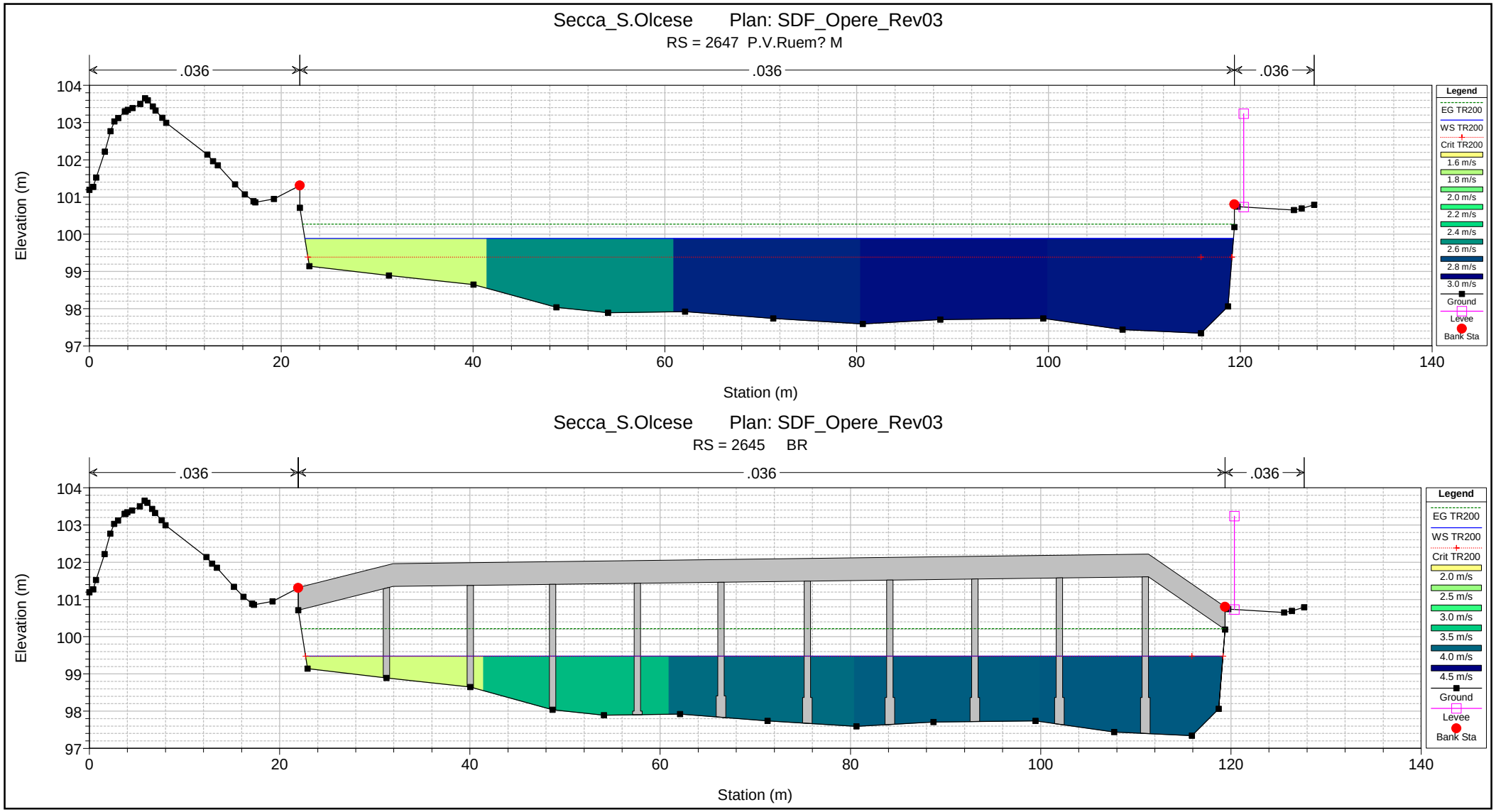

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3207
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3197
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

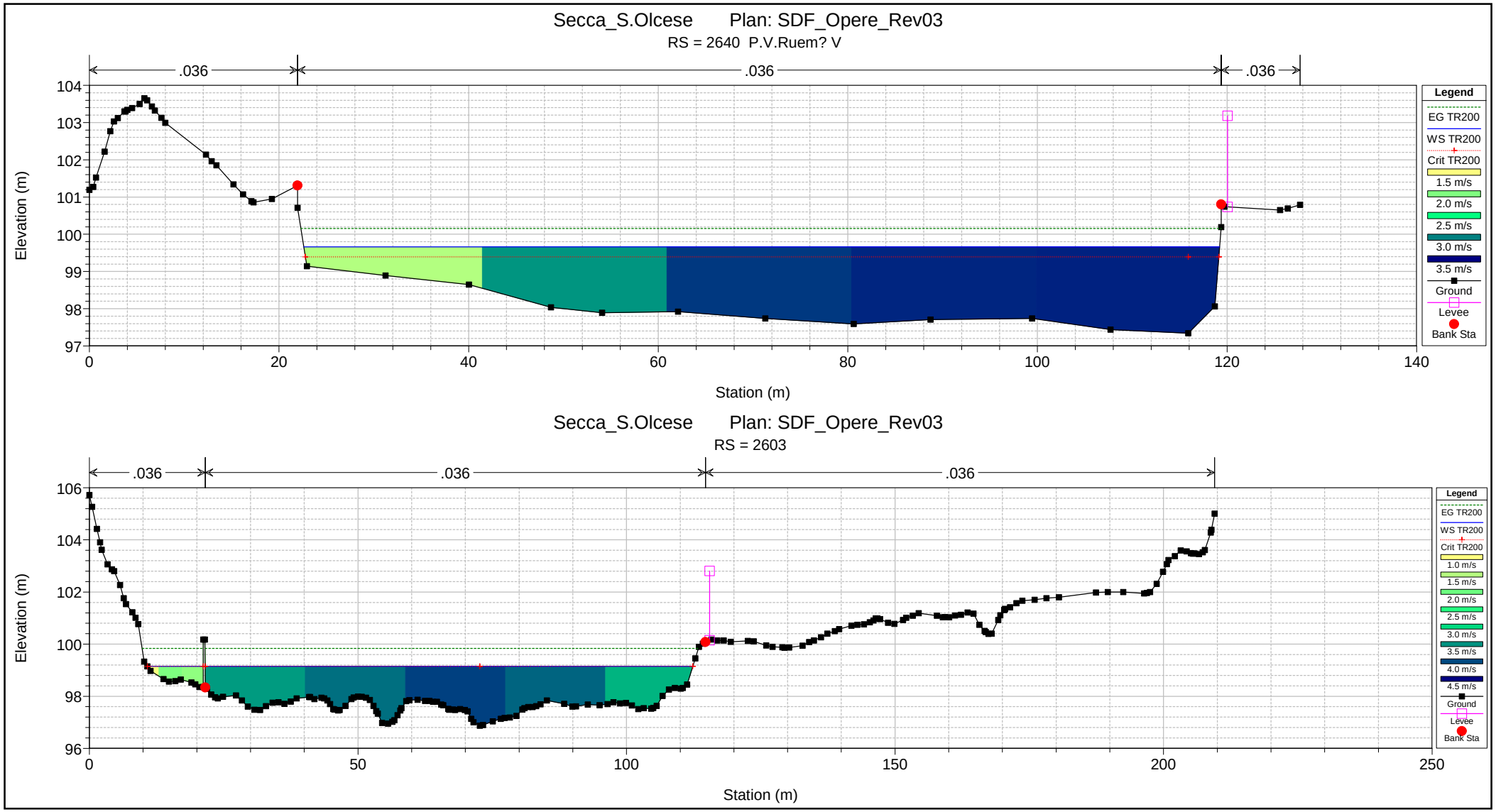

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3186
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 3009
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

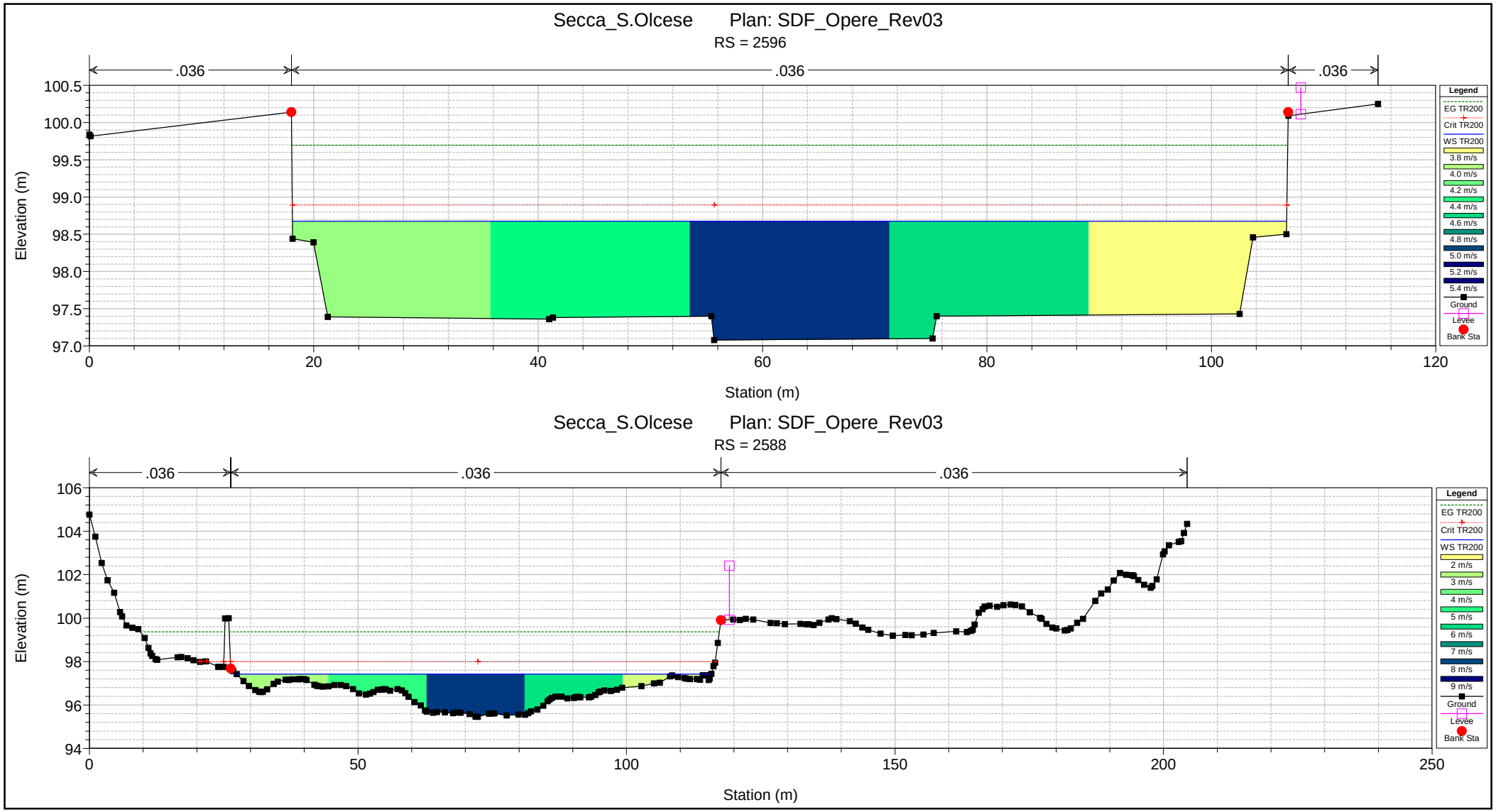

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2996
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2984
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

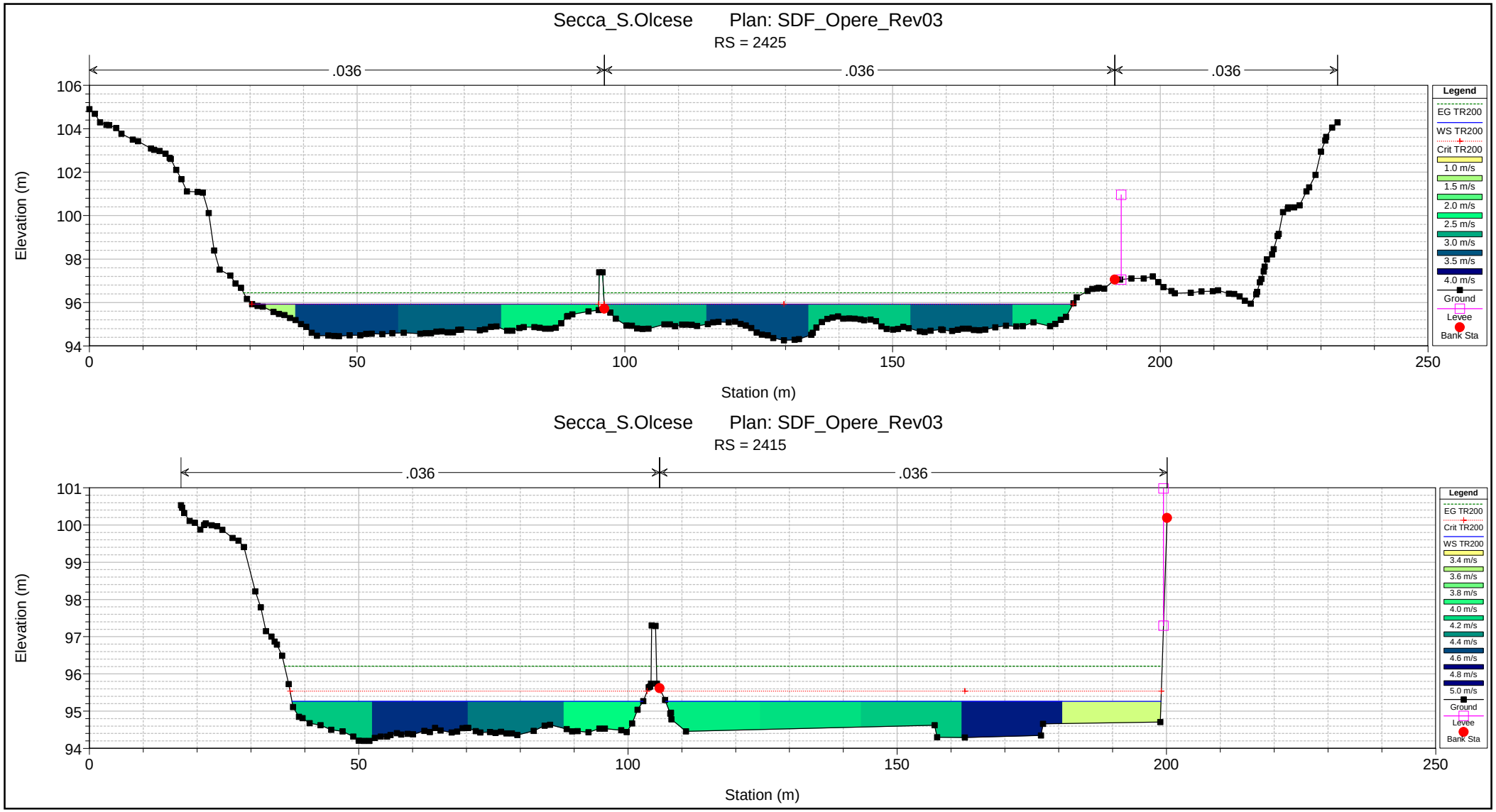

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2812
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2803
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta

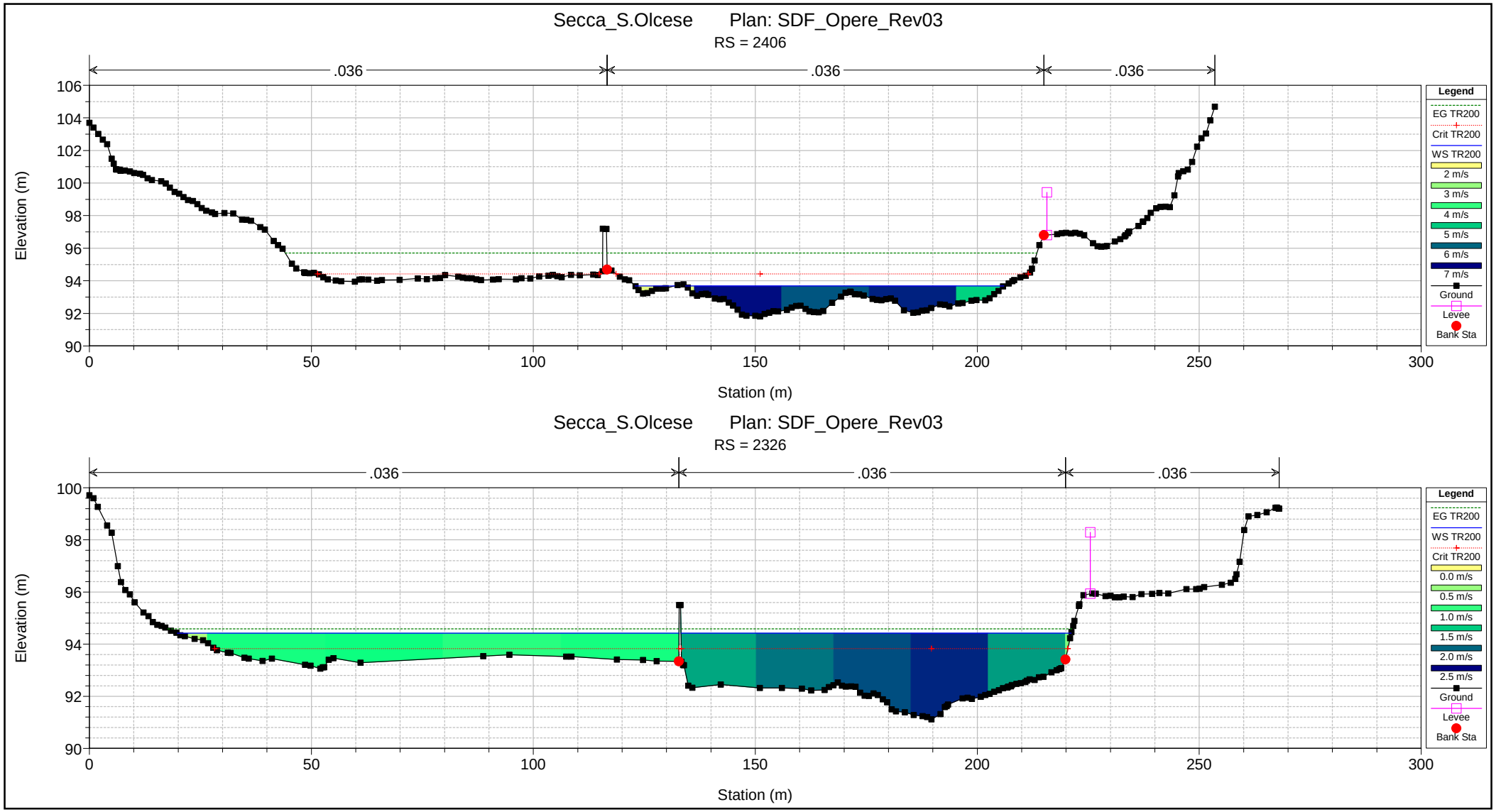

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2793
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2657
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta

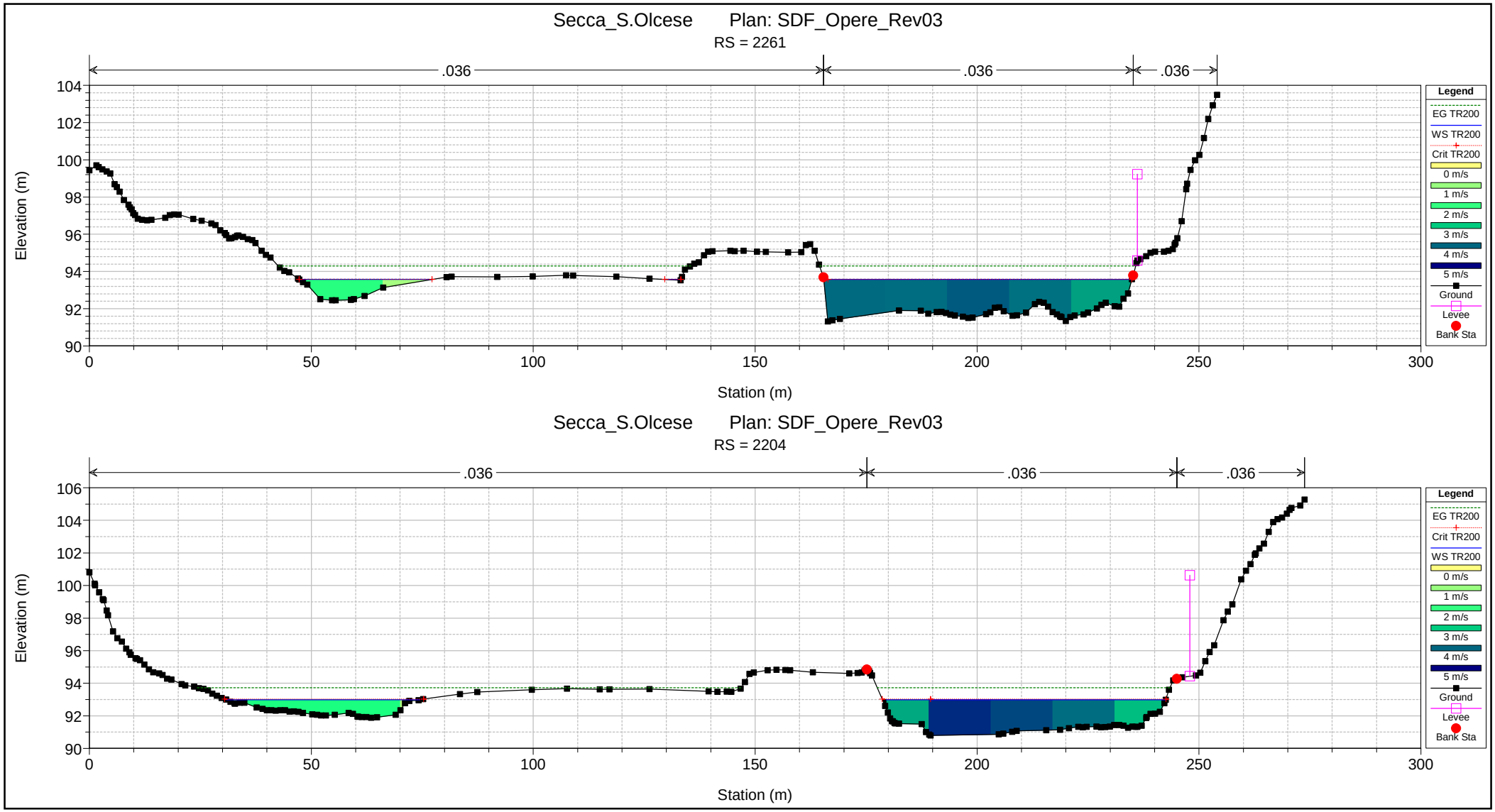

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2647 P.V.Ruem? M
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2645 BR
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

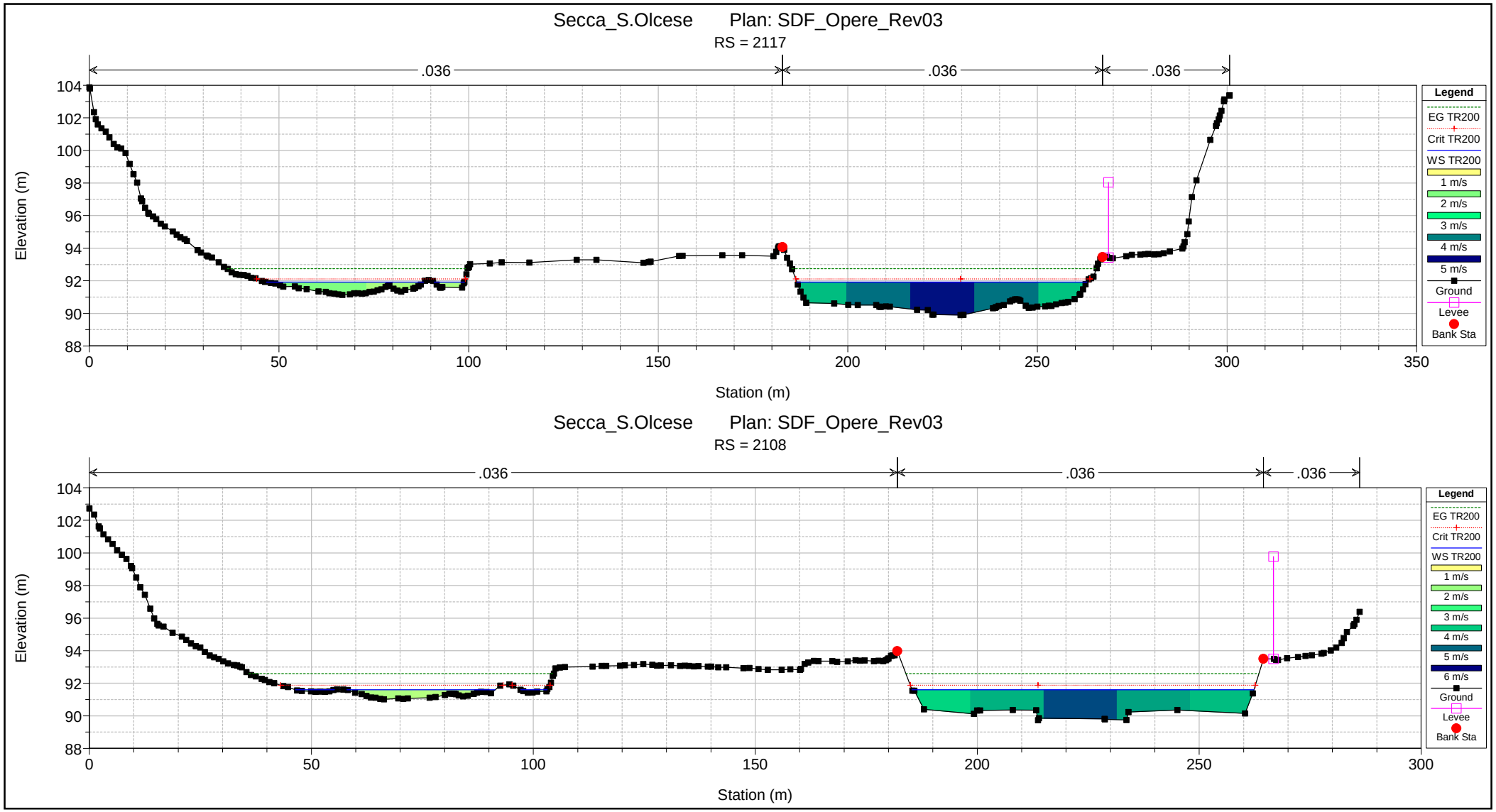

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2640 P.V.Ruem? V
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2603
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

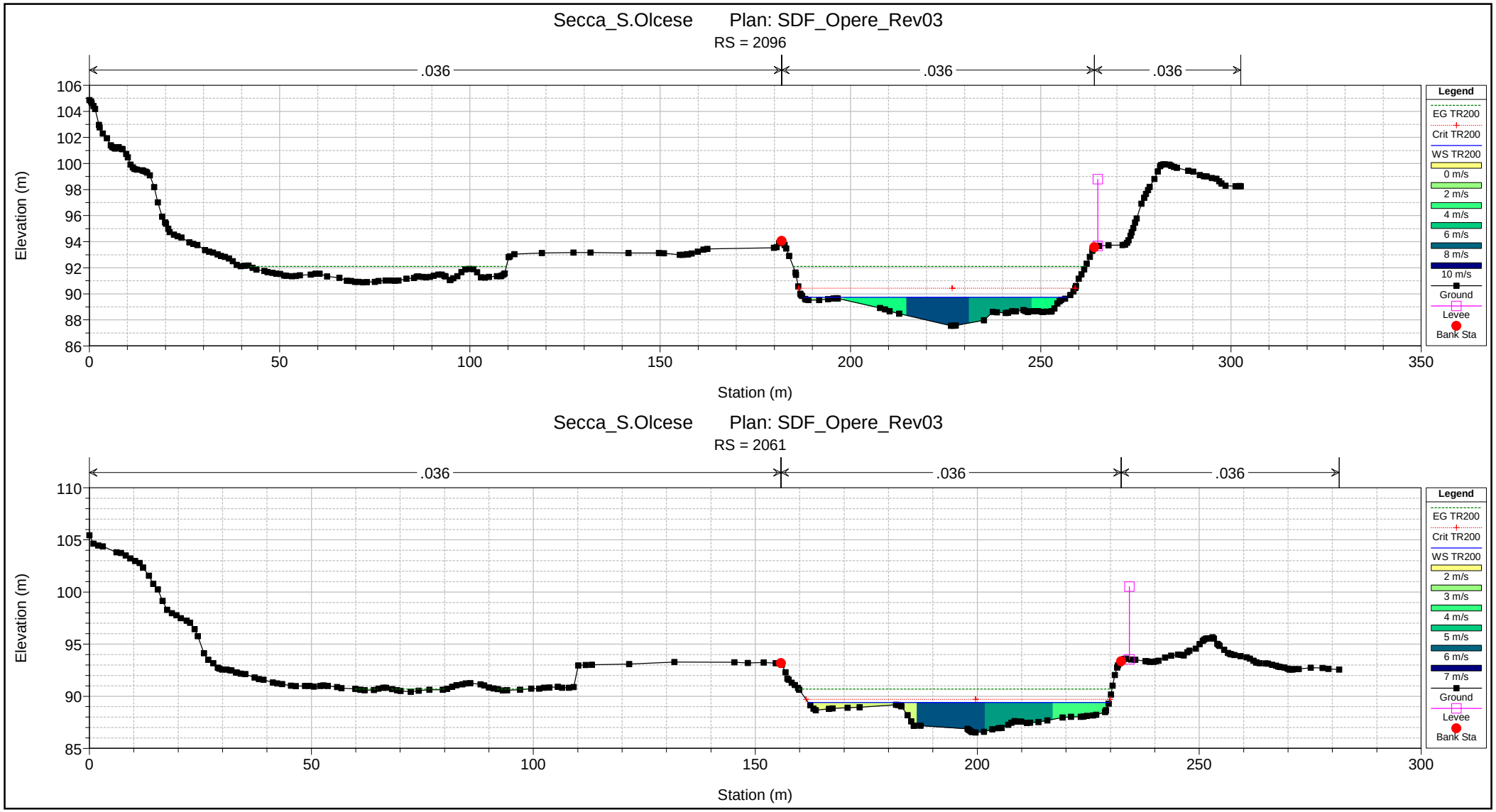

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2596
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2588
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

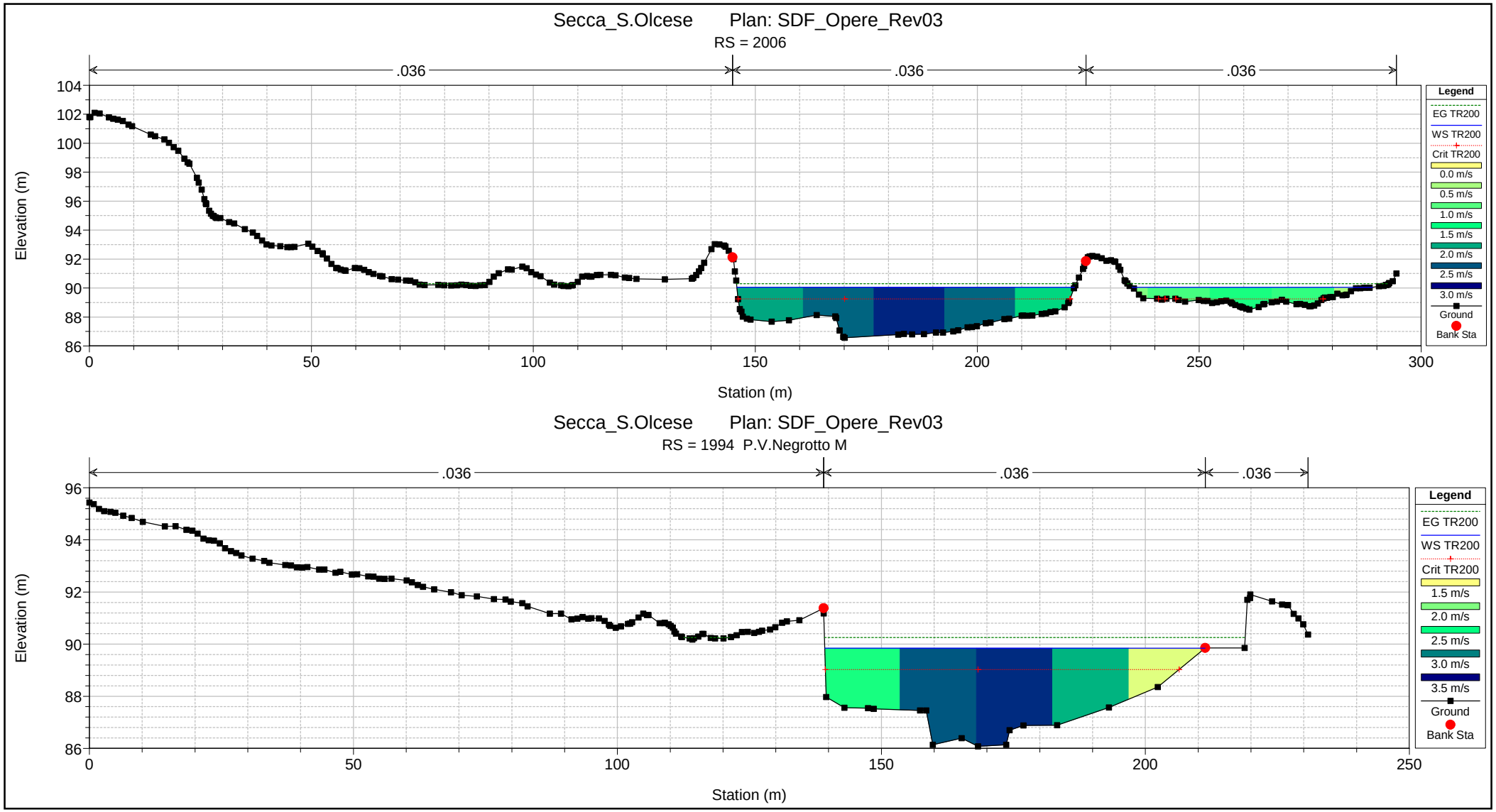

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2425
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2415
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta

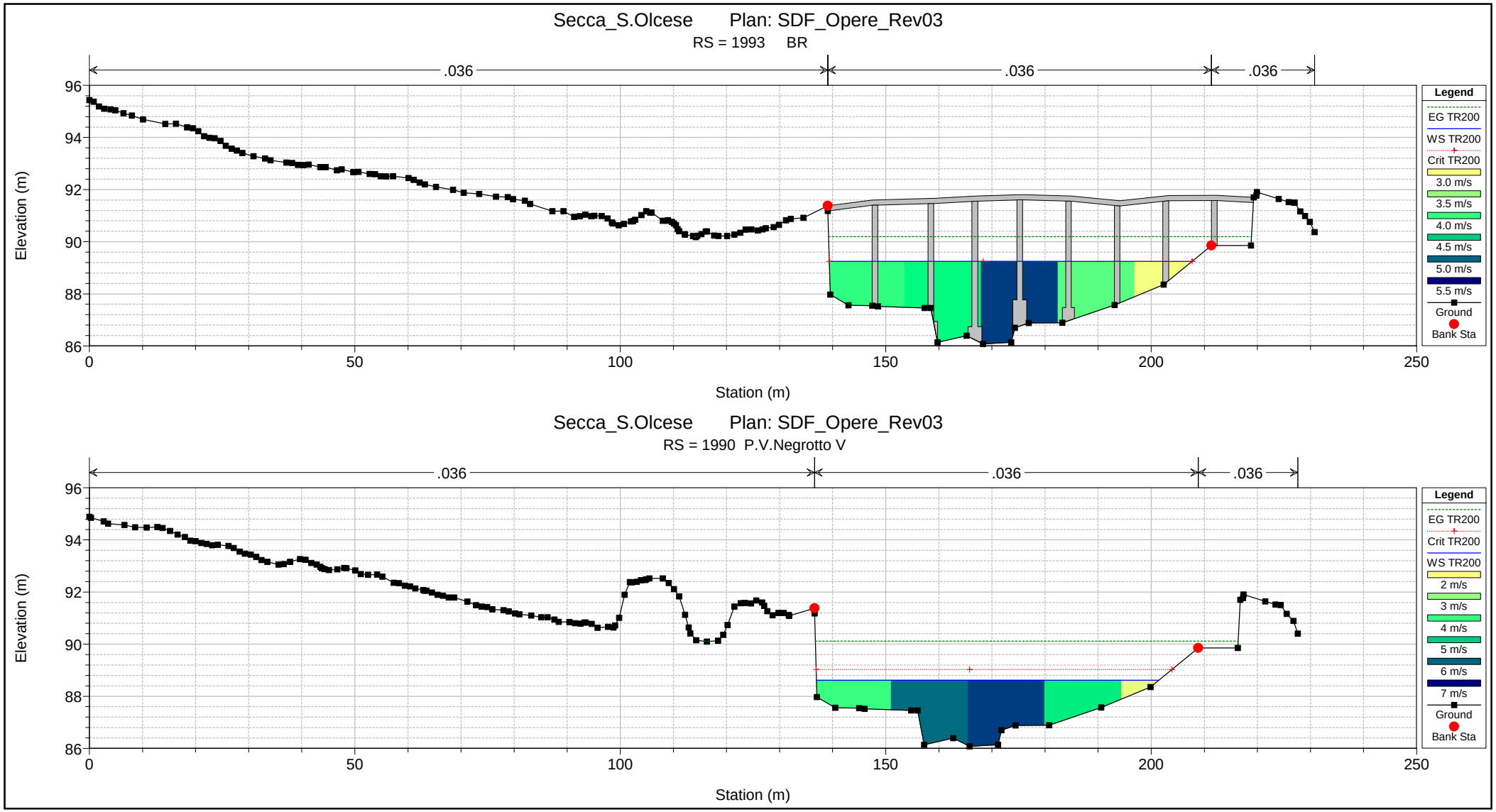

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2406
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2326
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
Ground
Levee
Bank Sta

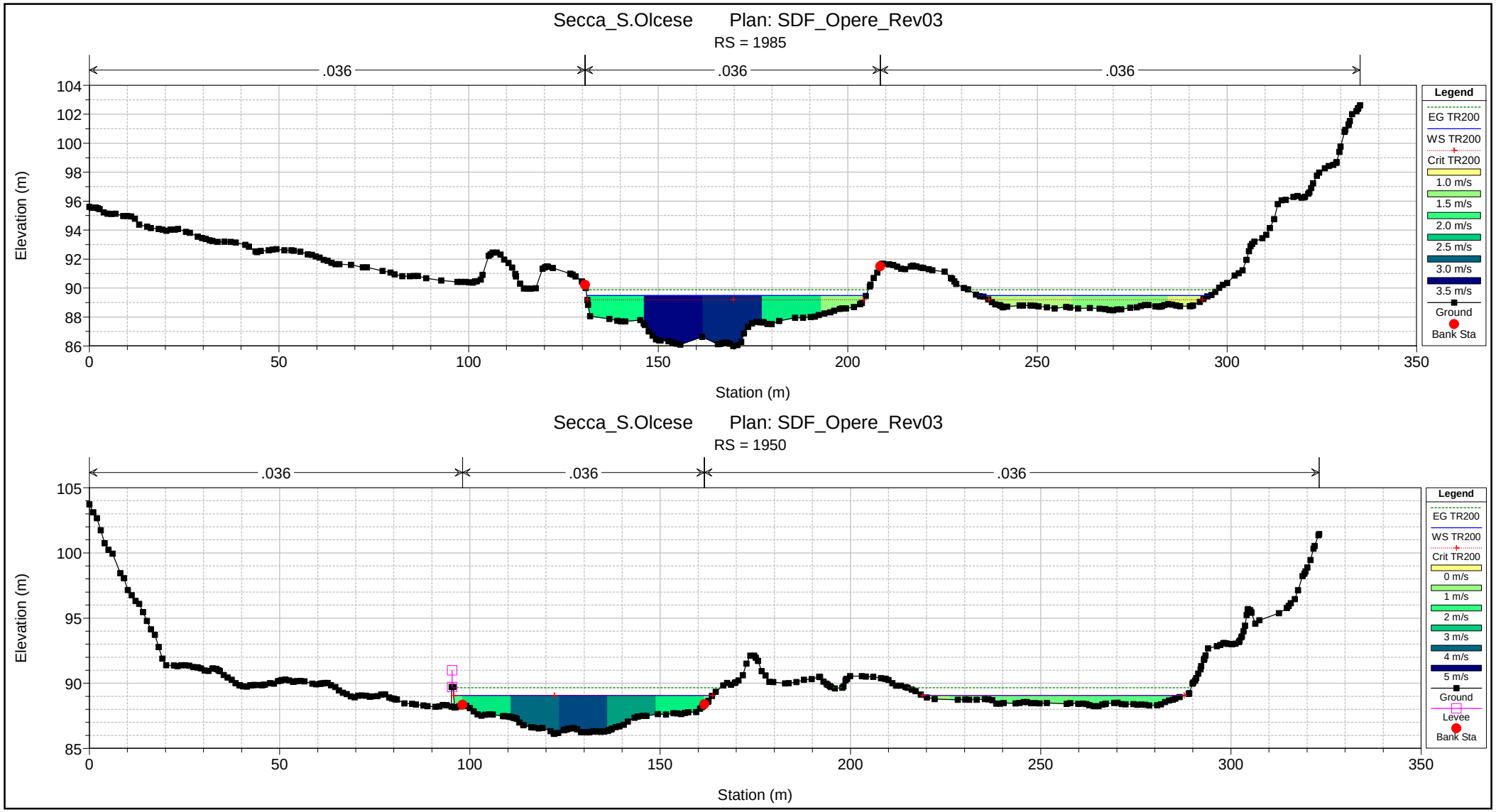

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2261
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2204
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

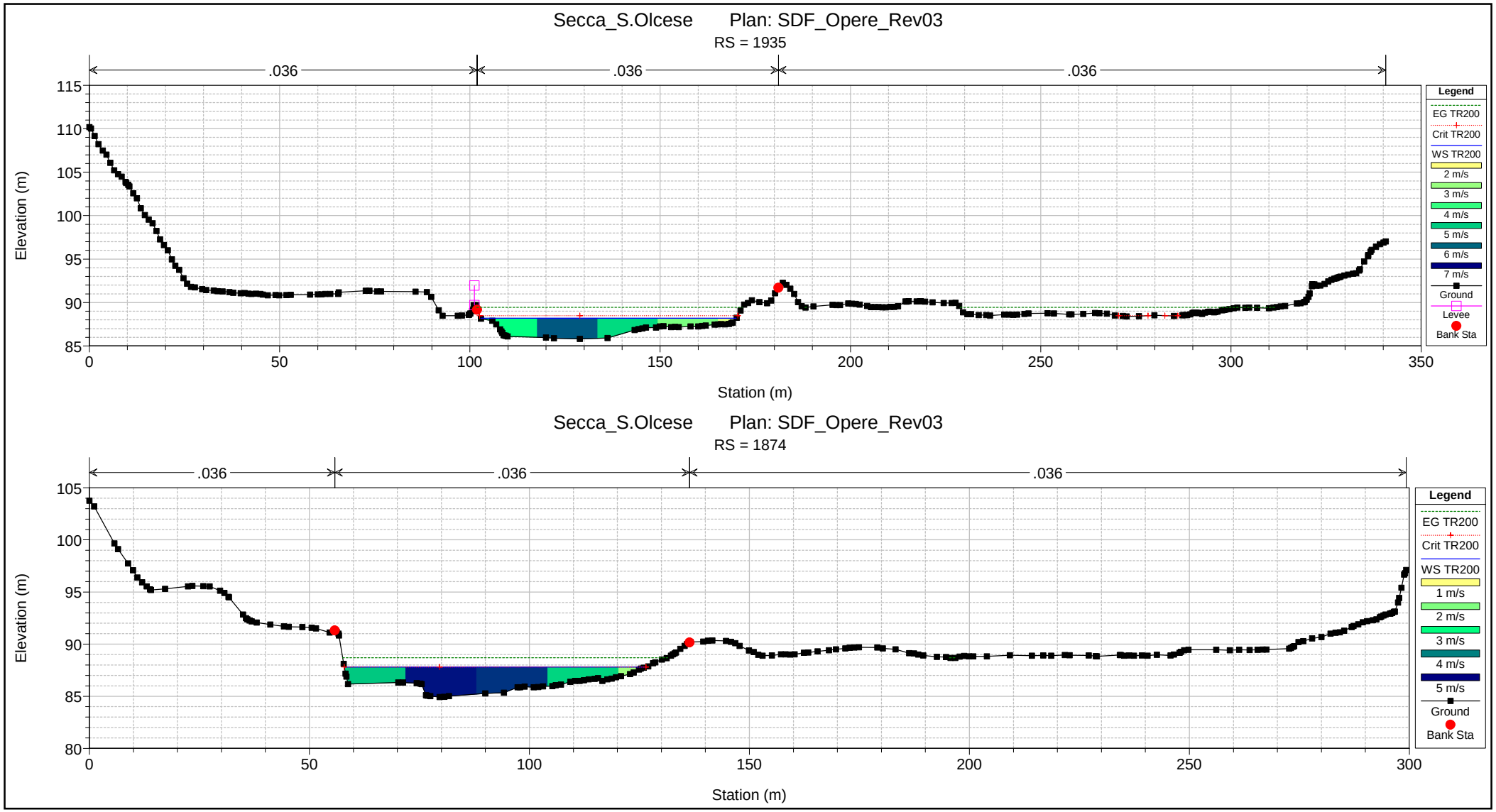

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2117
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2108
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

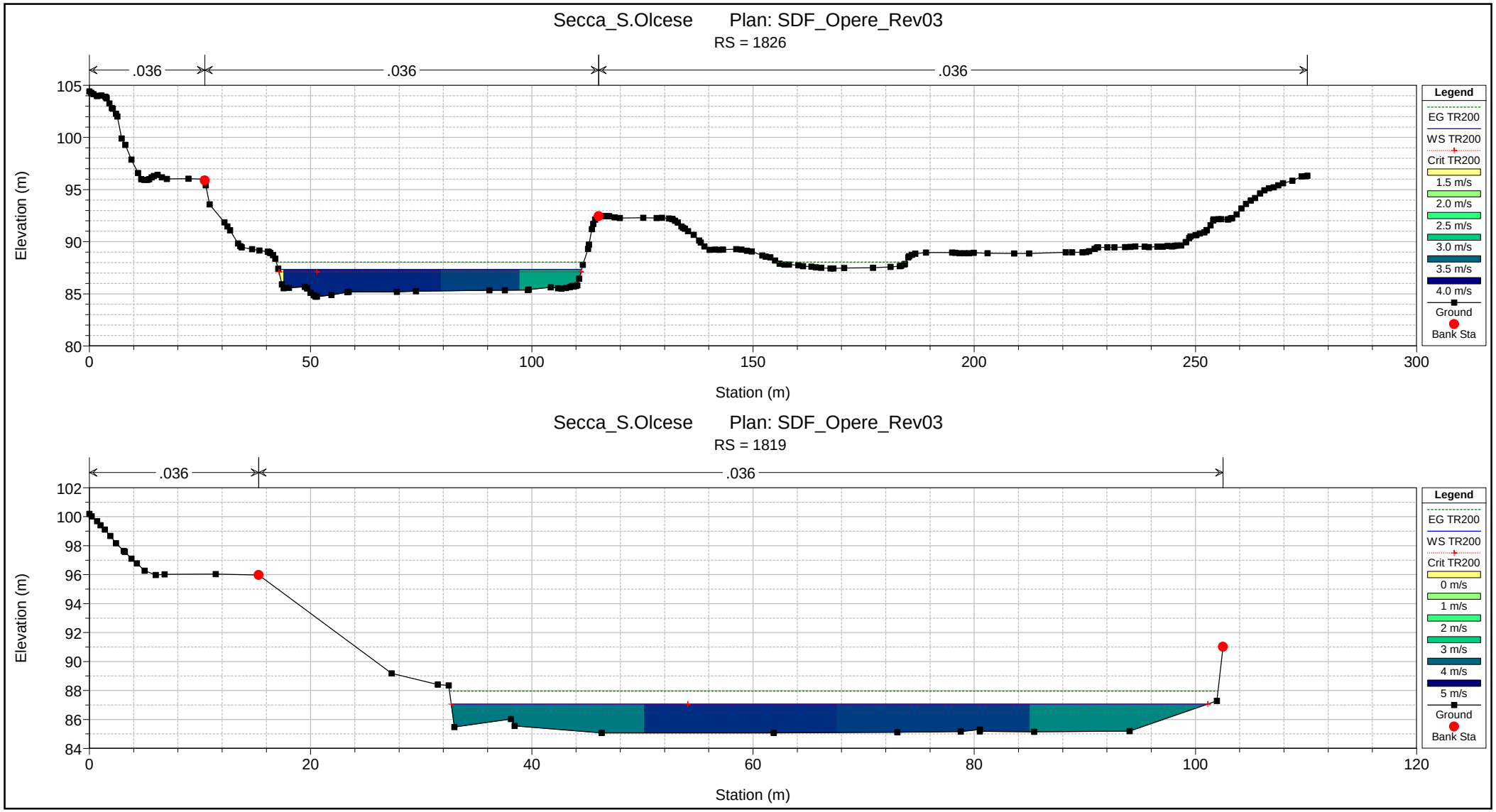

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2096
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2061
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta

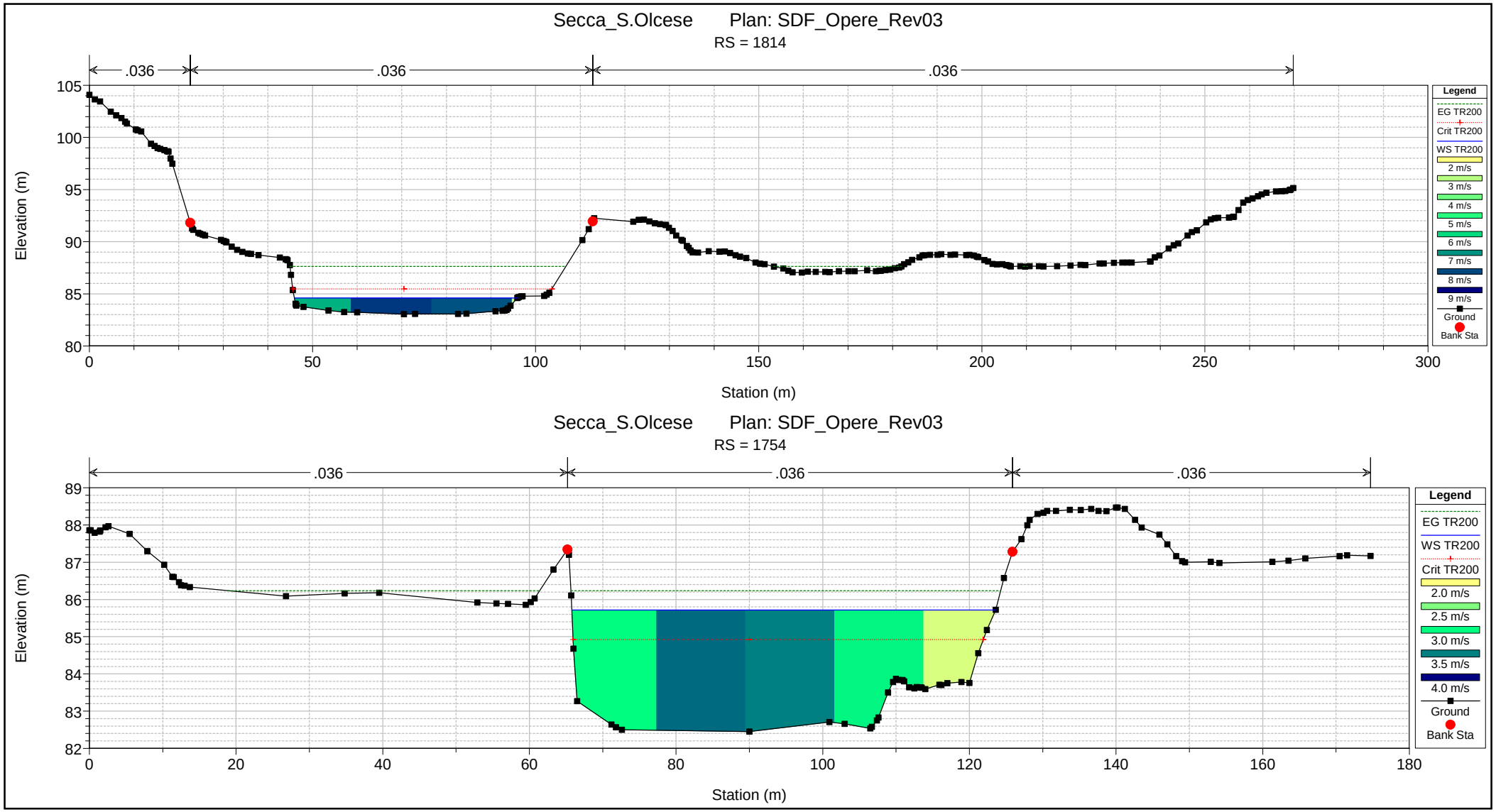

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 2006
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1994 P.V.Negrotto M
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Bank Sta

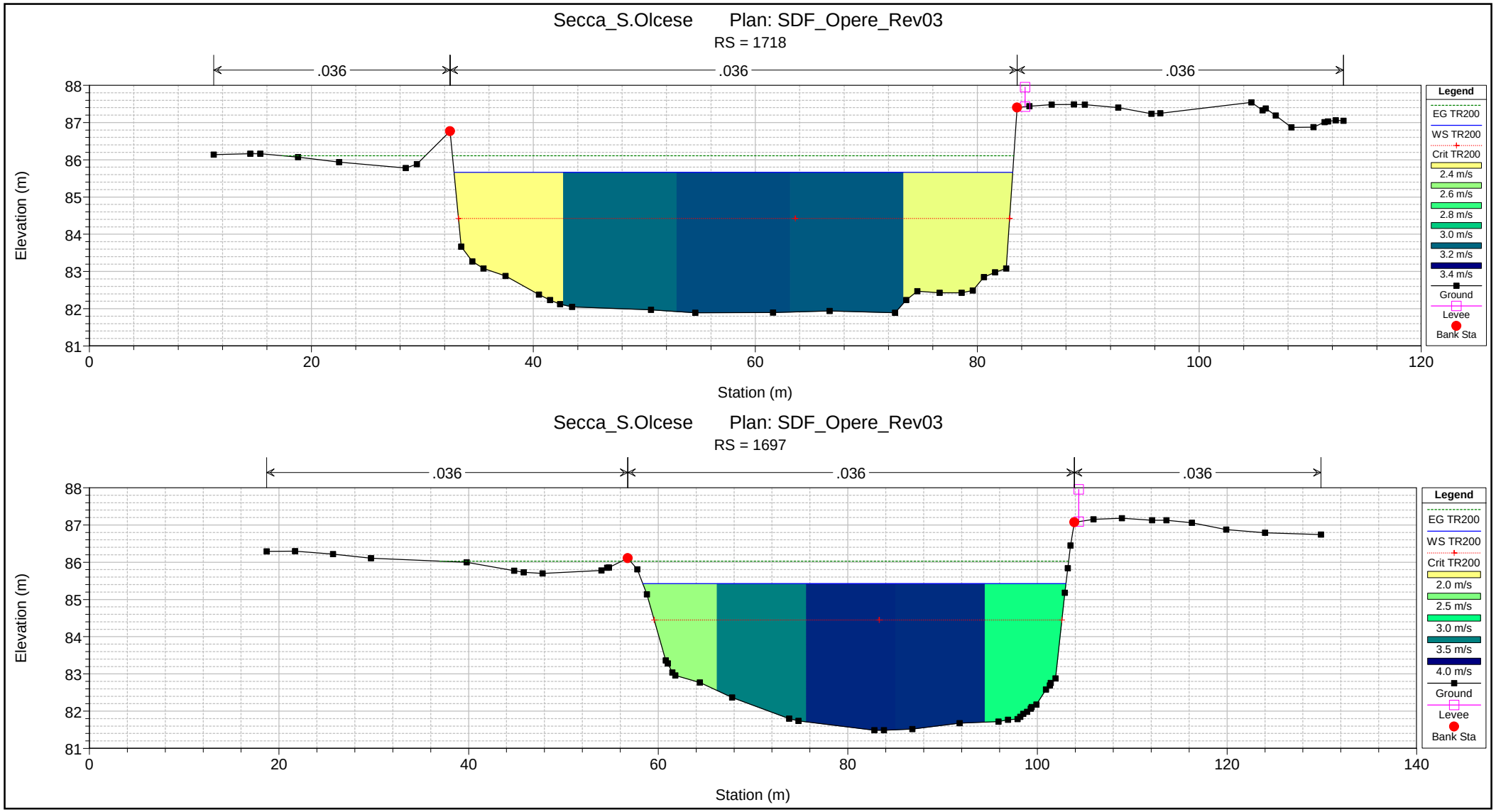

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1993 BR
.036
.036
.036
Elevation (m)
96
94
92
90
88
86
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1990 P.V.Negrotto V
.036
.036
.036
Elevation (m)
96
94
92
90
88
86
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta

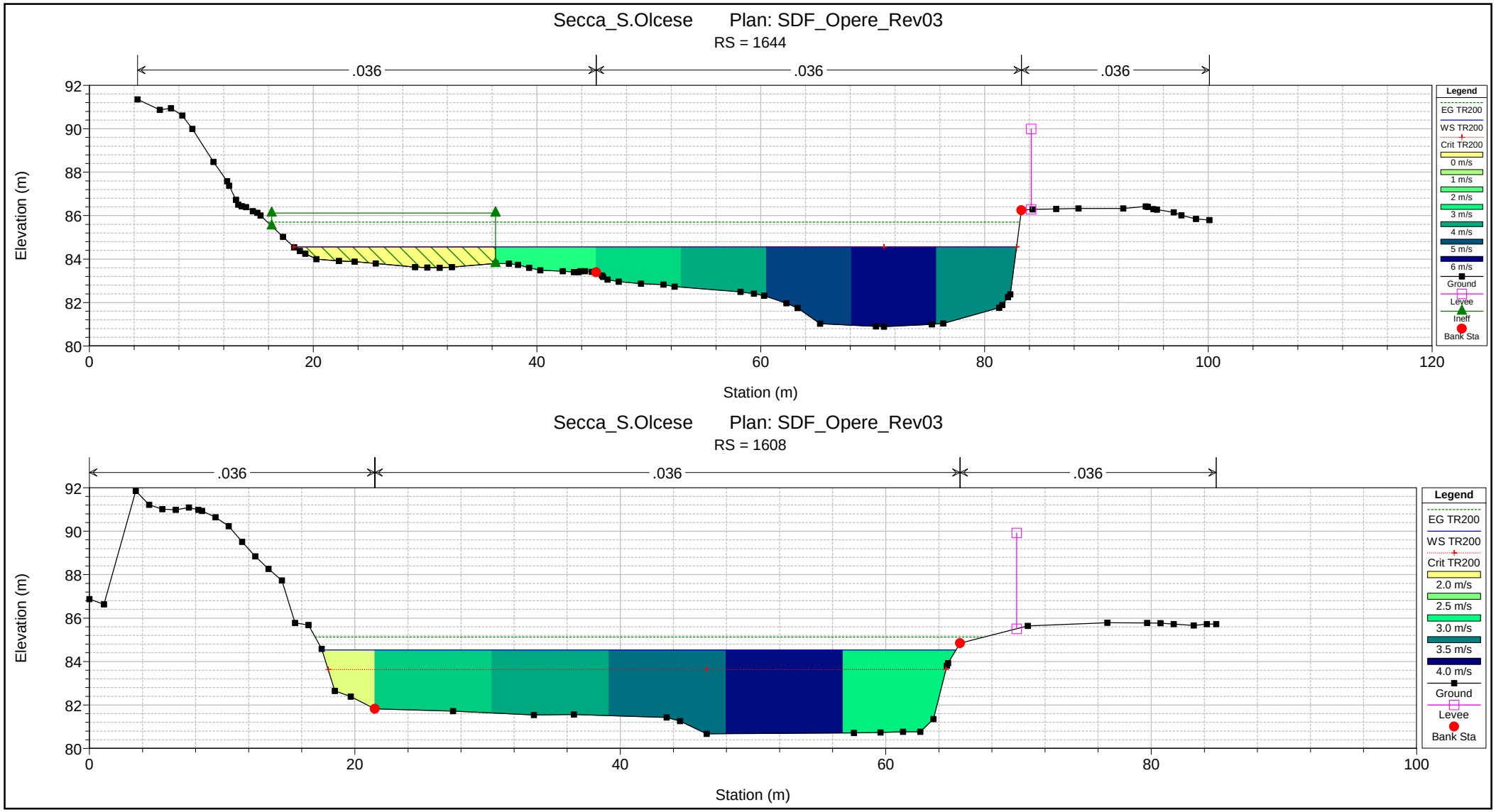

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1985
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1950
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

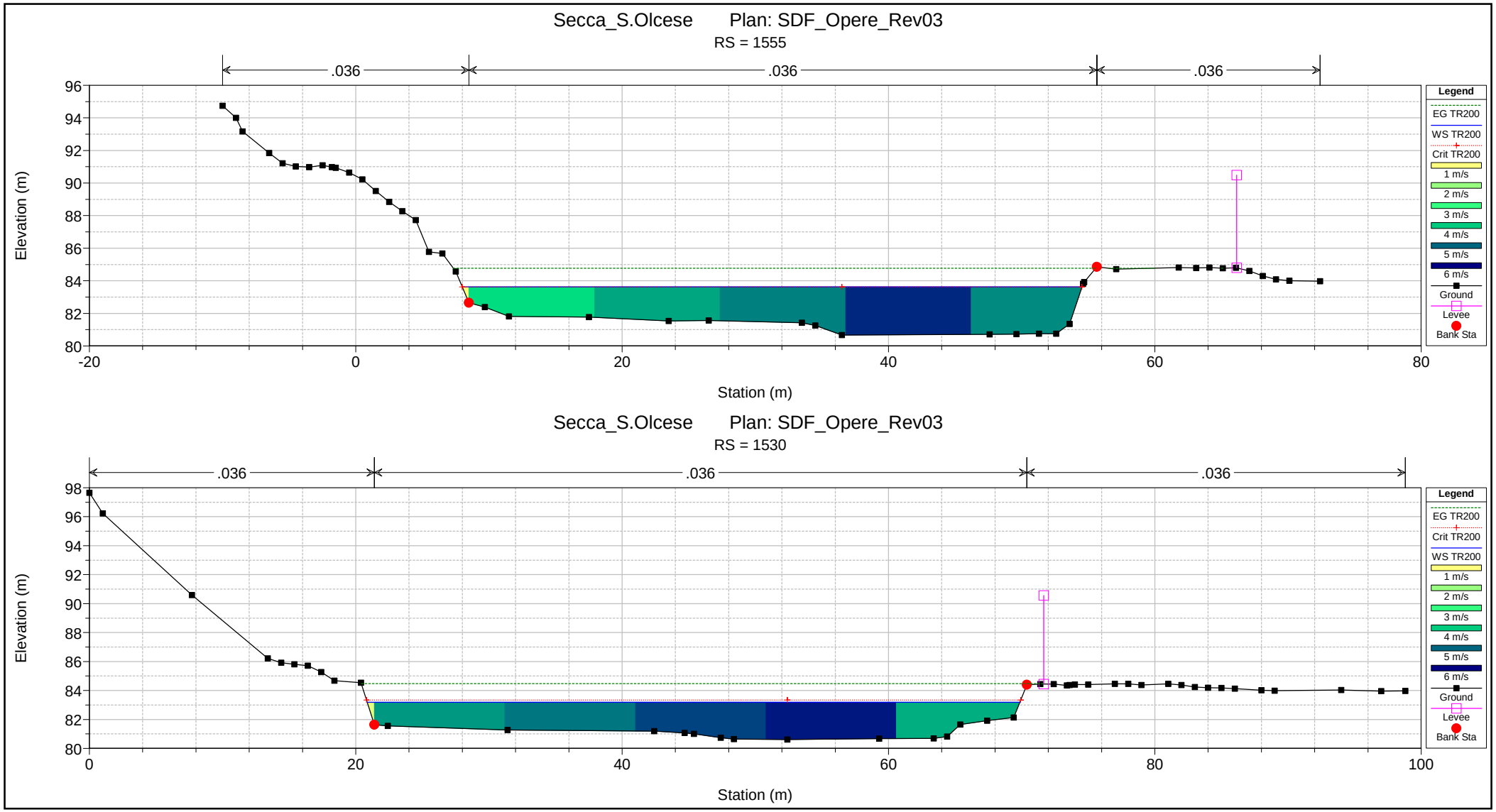

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1935
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1874
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta

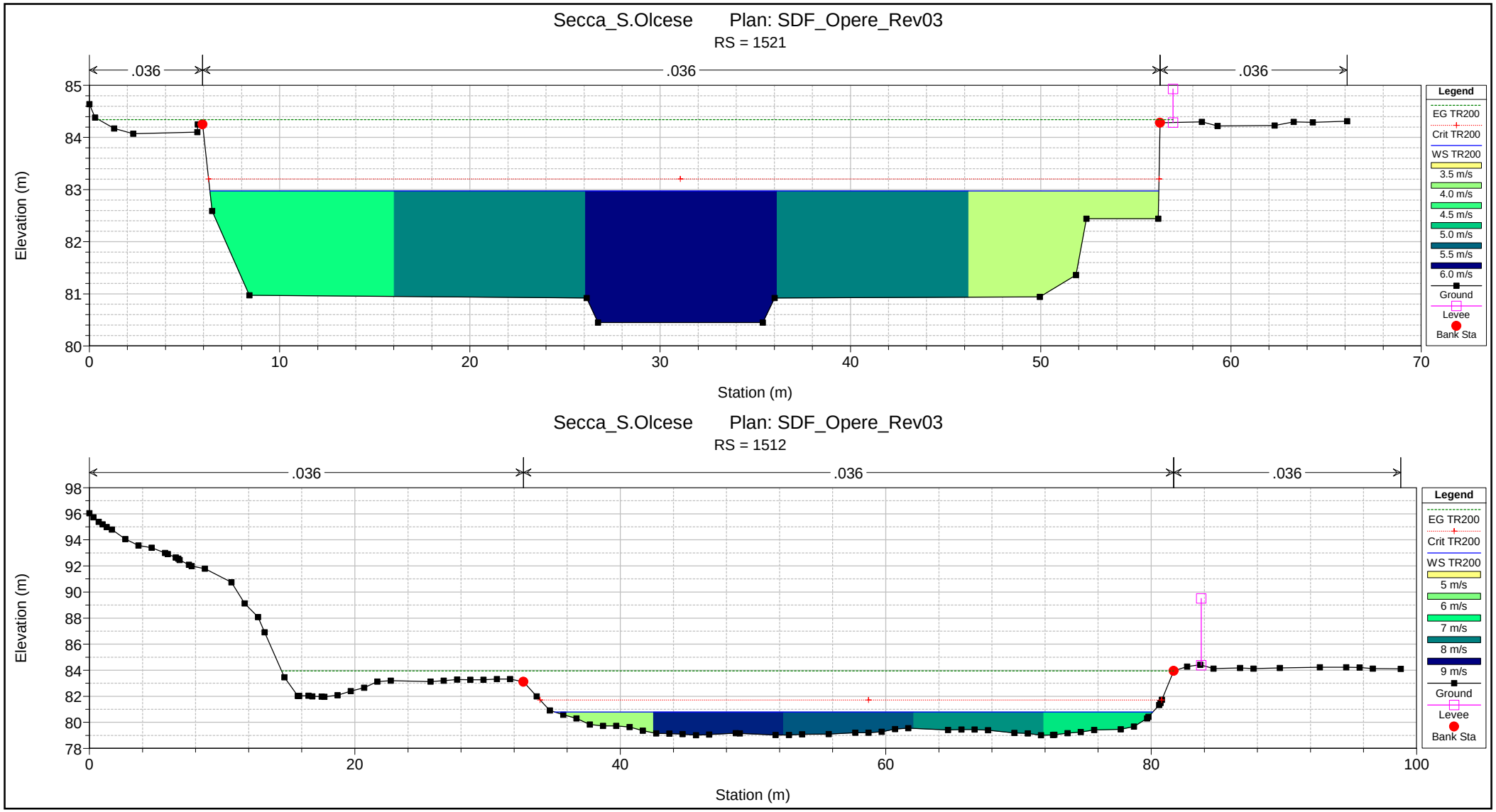

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1826
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1819
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta

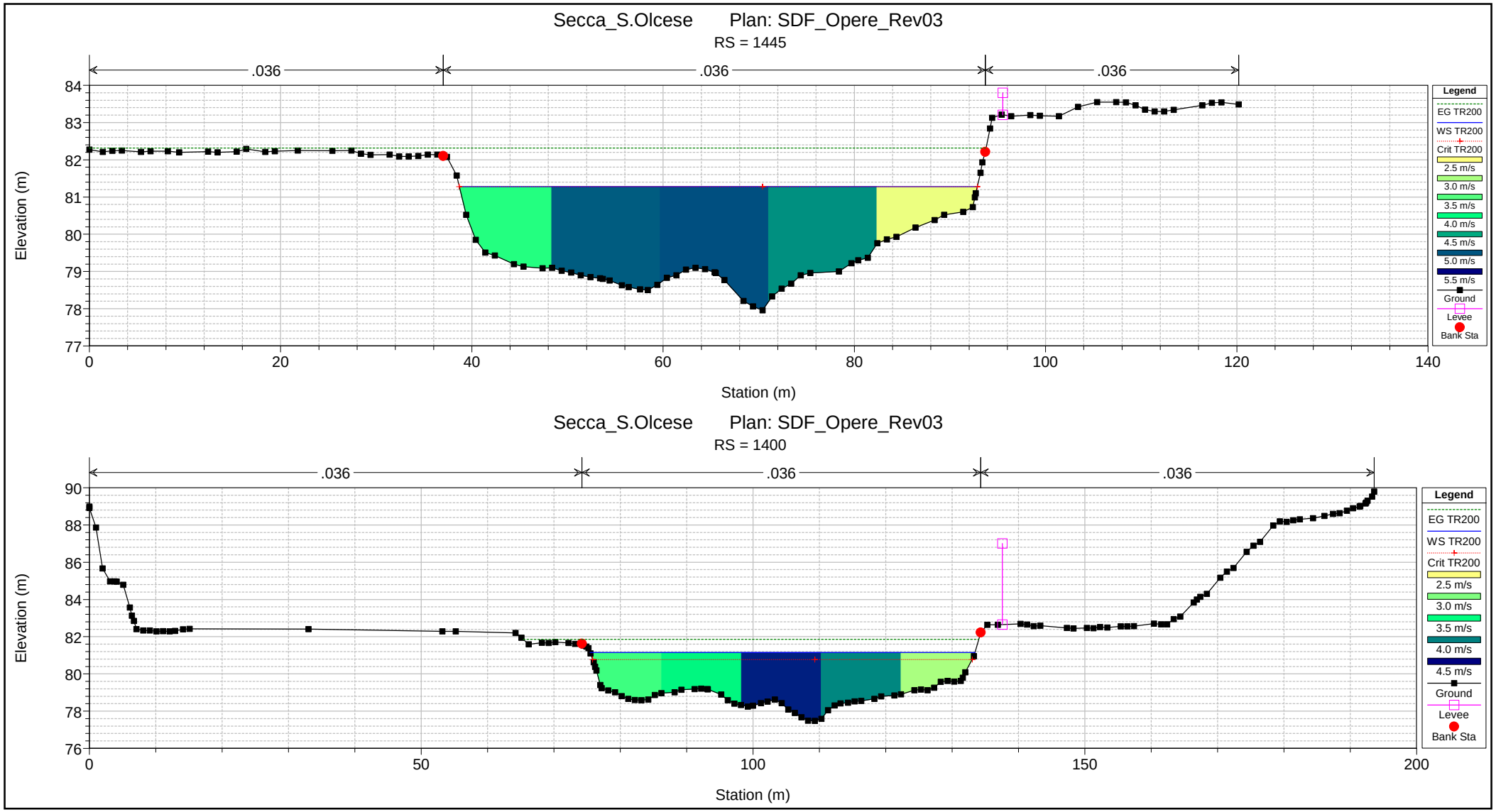

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1814
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1754
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta

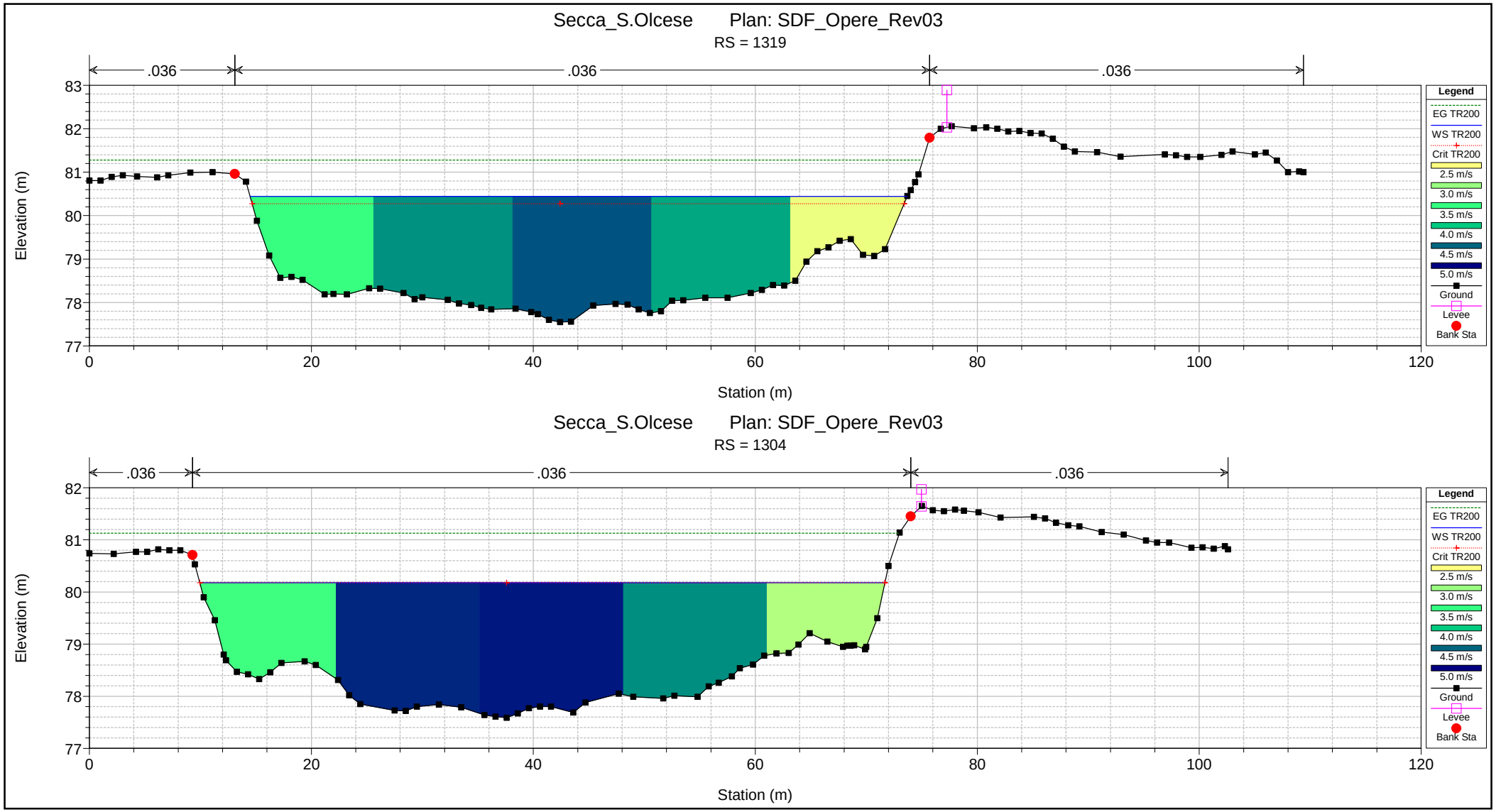

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1718
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1697
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta

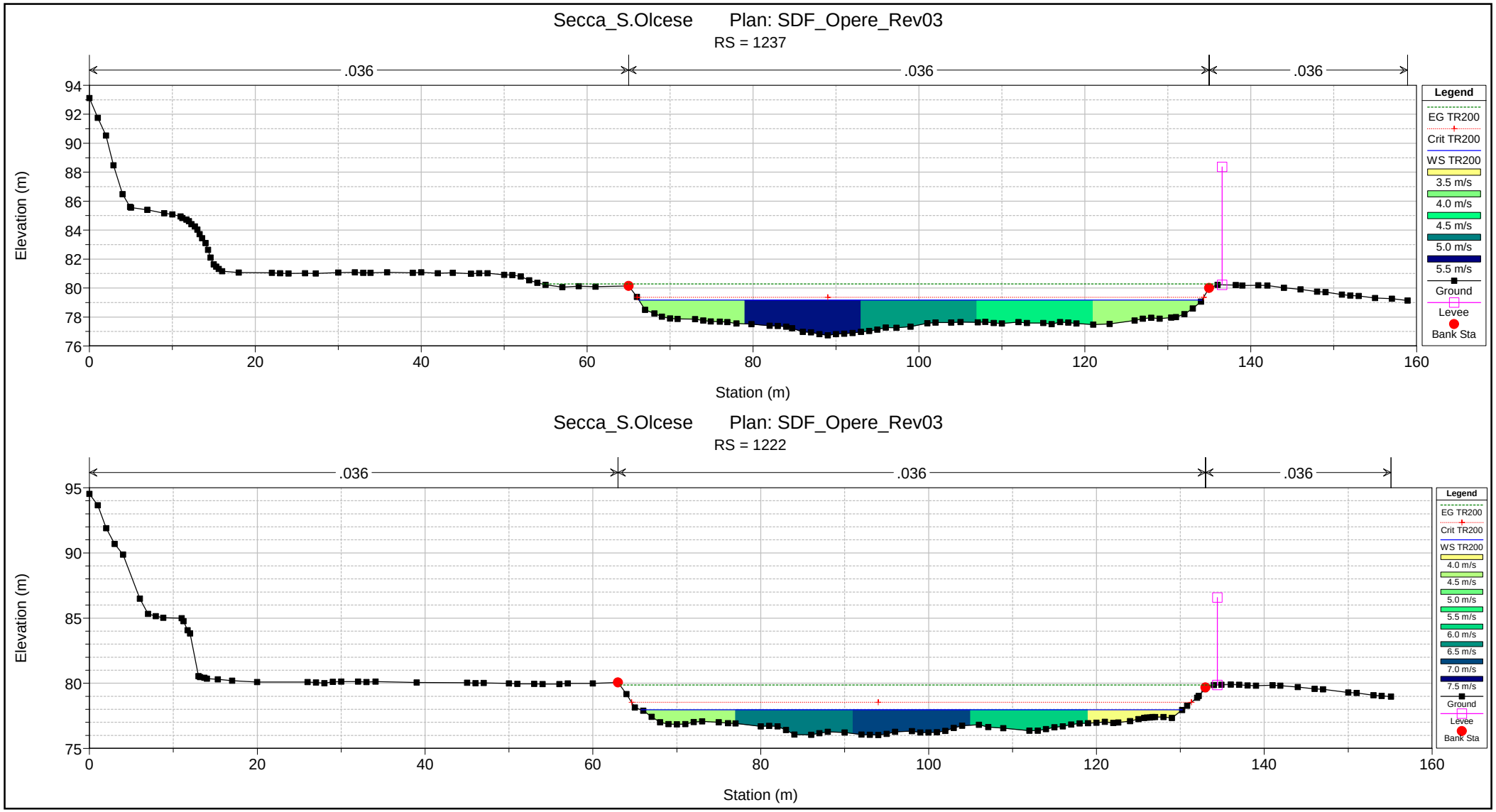

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1644
.036
.036
.036
Elevation (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Ineff
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1608
.036
.036
.036
Elevation (m)
92
90
88
86
84
82
80
0
20
40
60
80
100
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta

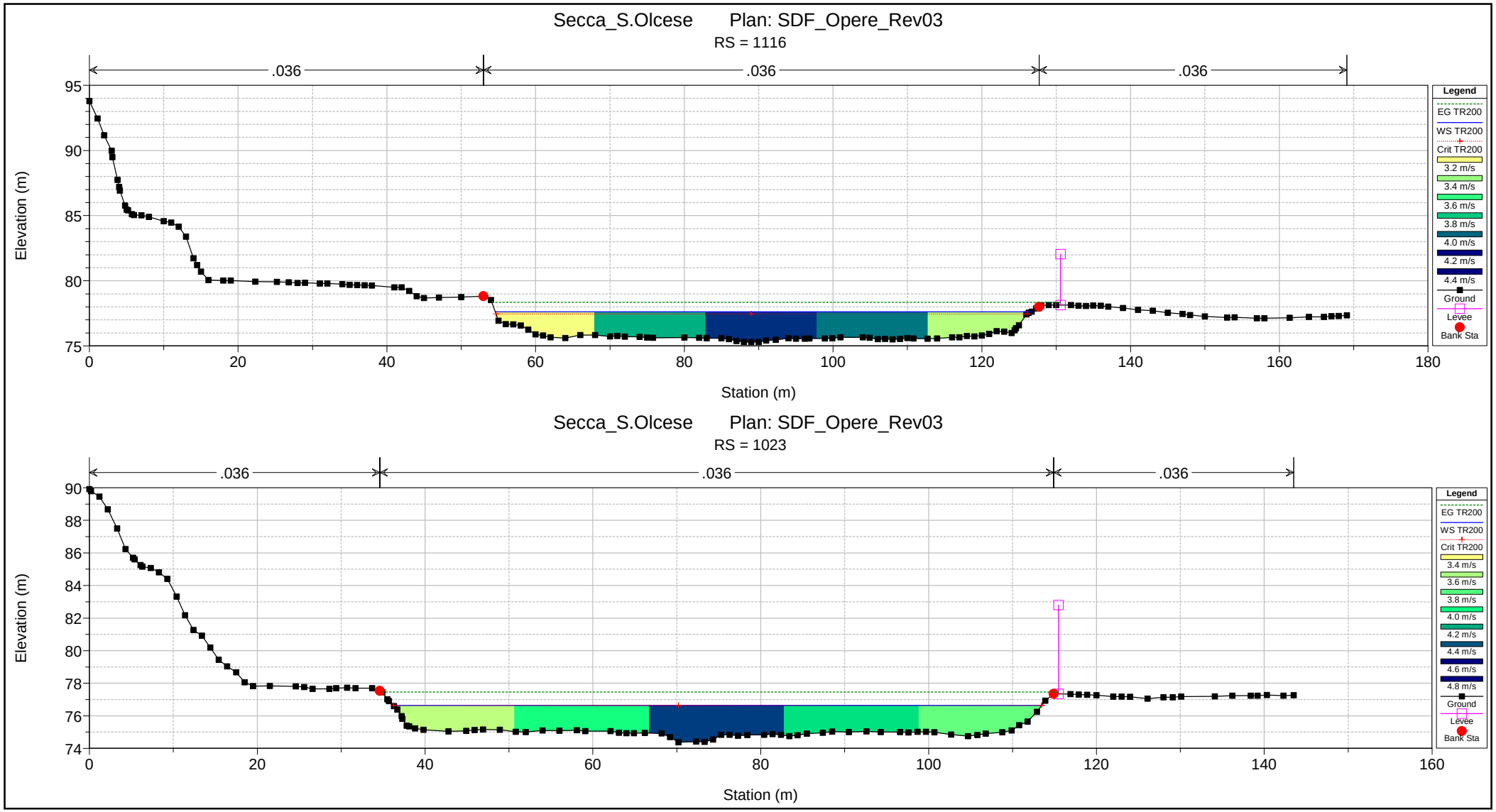

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1555
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1530
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

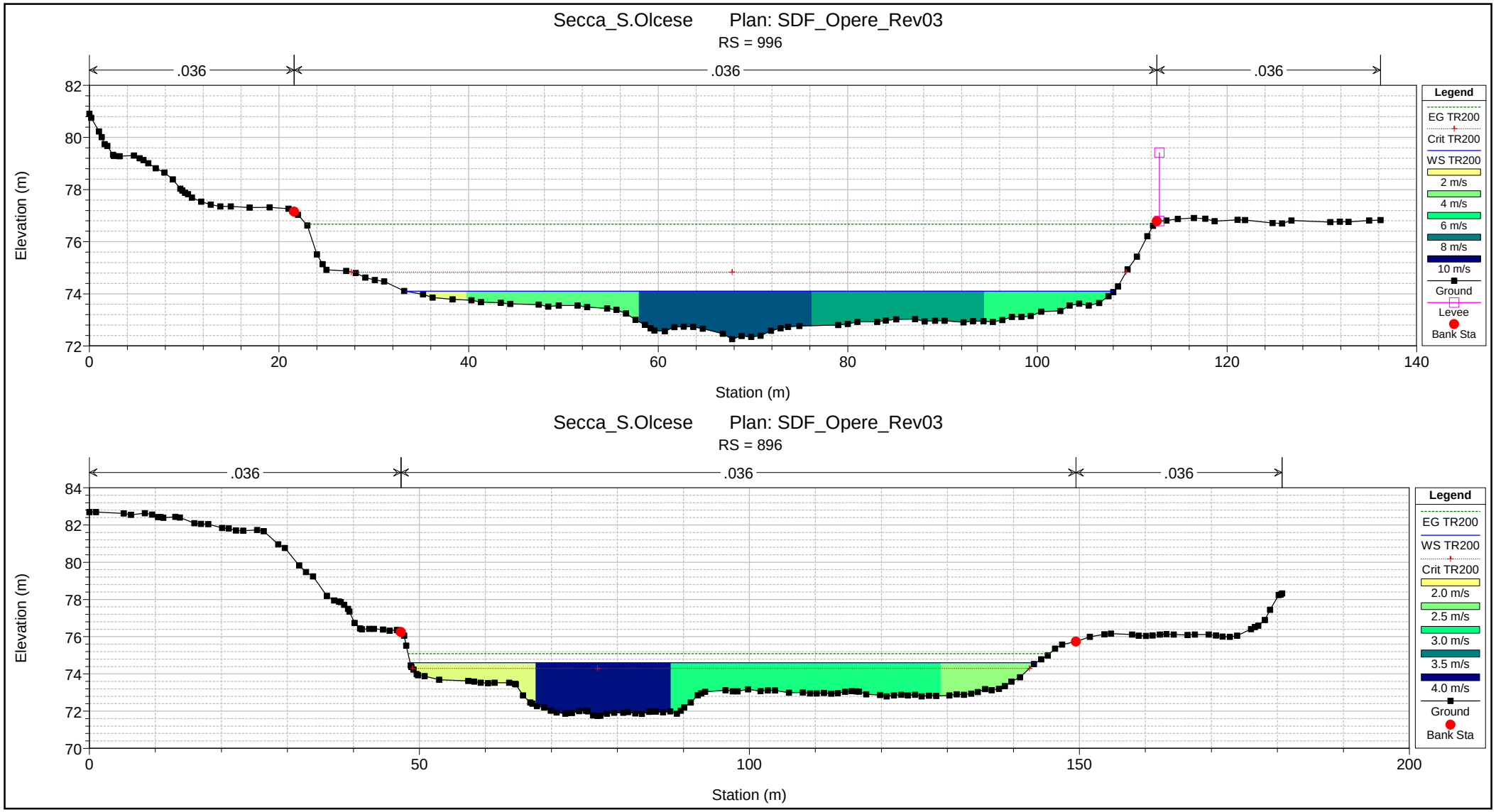

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1521
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1512
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

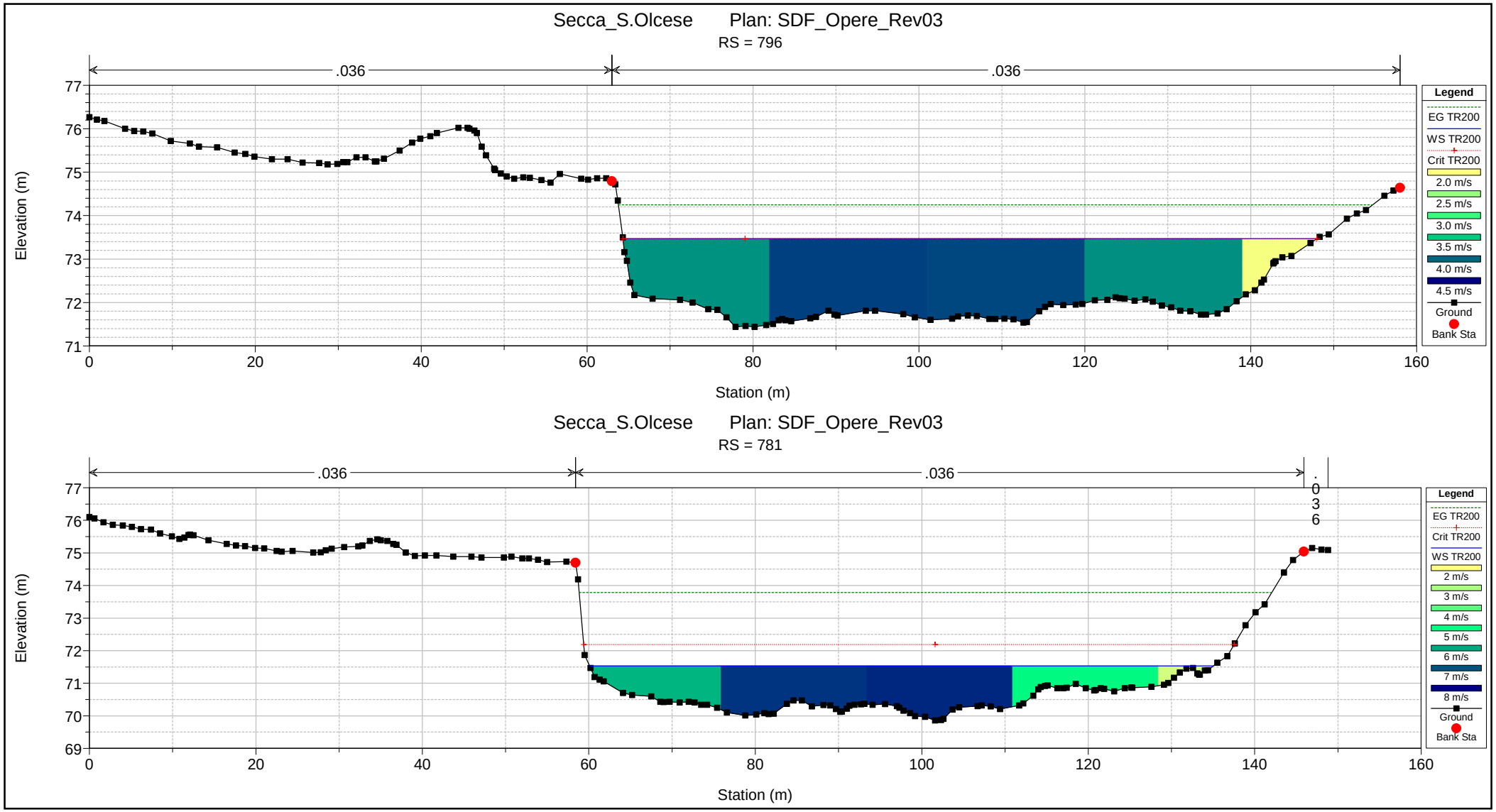

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1445
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1400
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

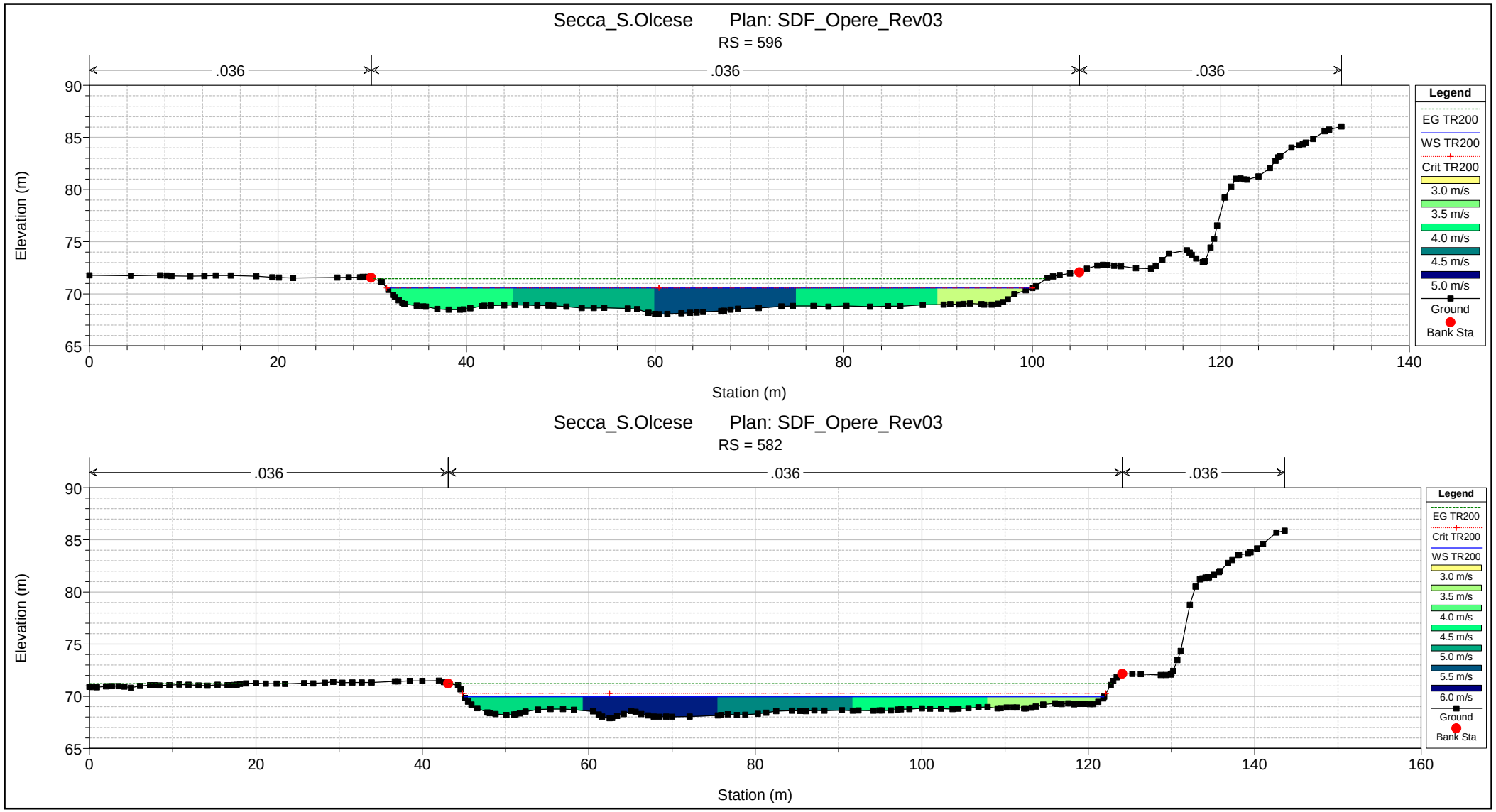

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1319
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1304
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta

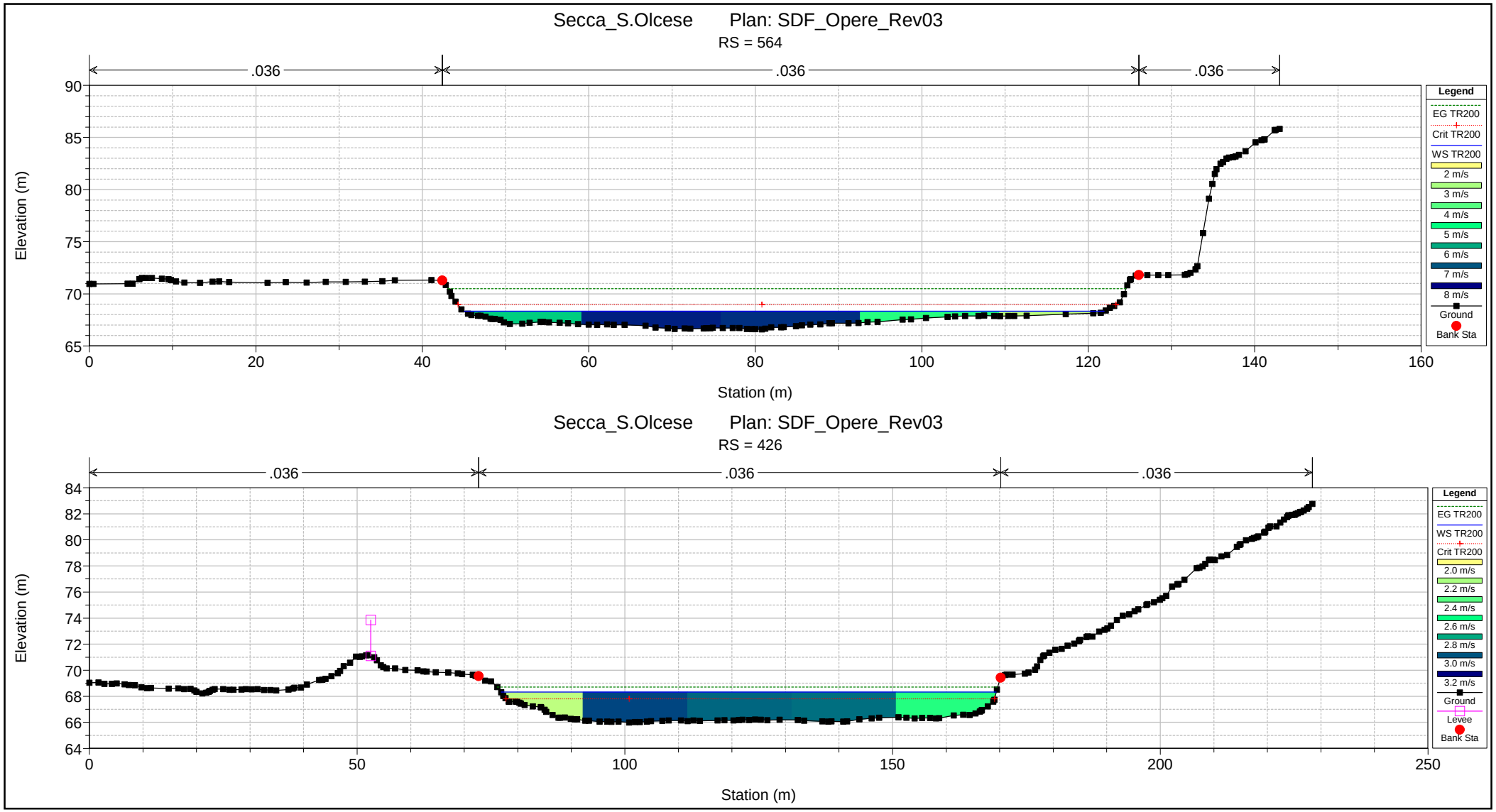

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1237
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1222
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta

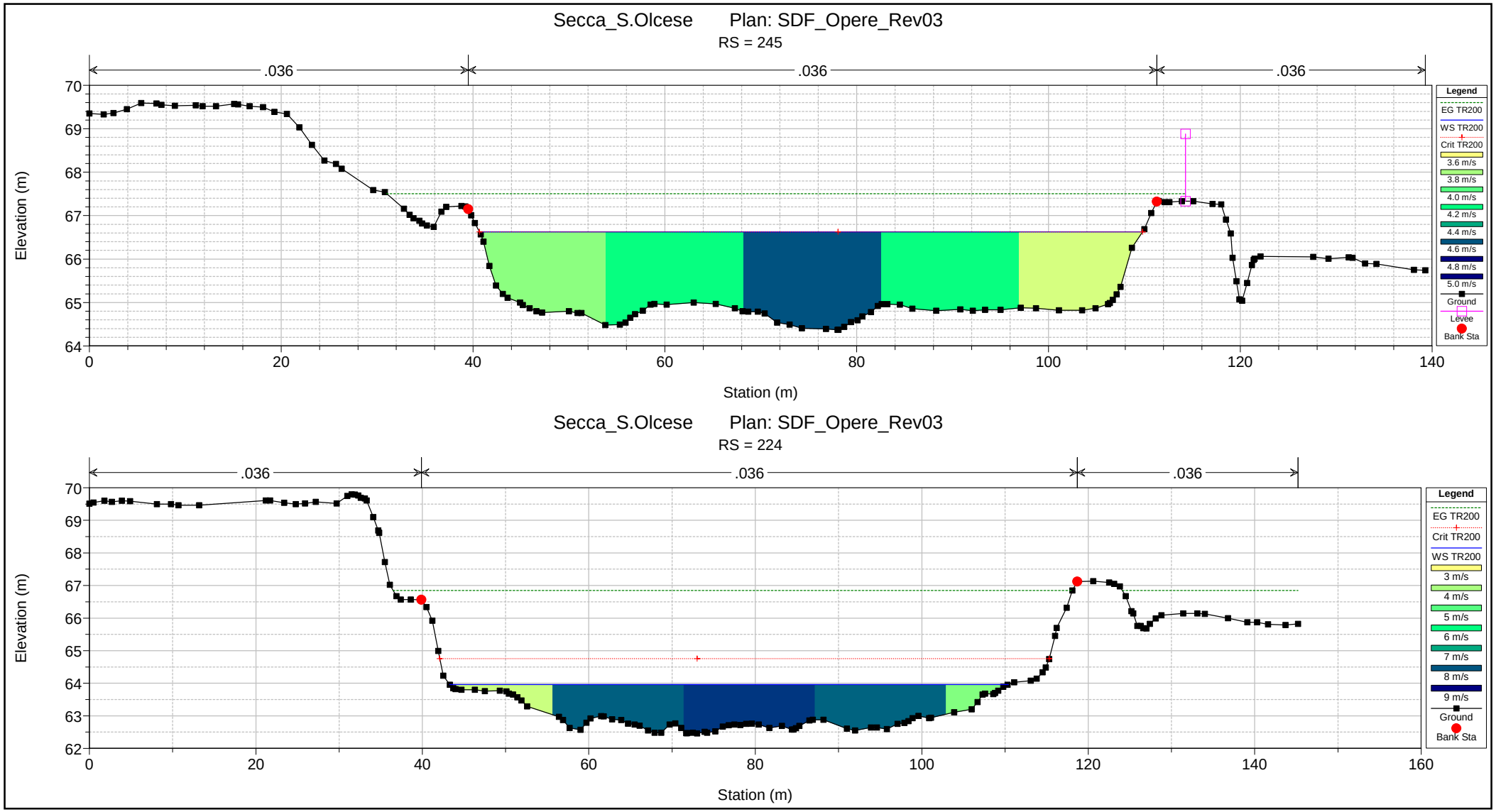

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1116
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 1023
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
Ground
Levee
Bank Sta

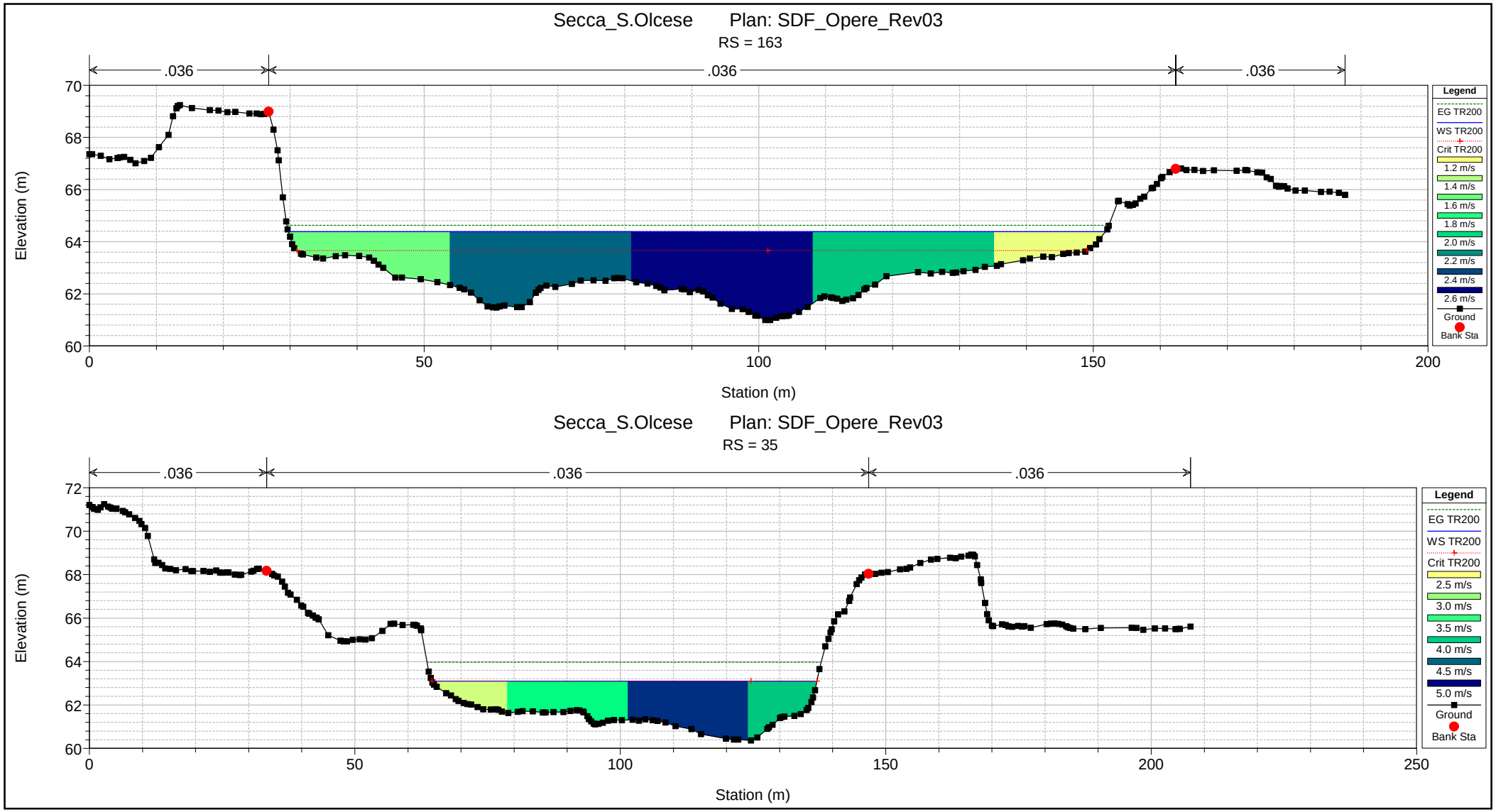

Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 996
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 896
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 796
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 781
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 596
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 582
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 564
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 426
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.2 m/s
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
Ground
Levee
Bank Sta


Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 245
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 224
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 163
.036
.036
.036
Elevation (m)
70
68
66
64
62
60
0
50
100
150
200
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
2.6 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: SDF_Opere_Rev03
RS = 35
.036
.036
.036
Elevation (m)
72
70
68
66
64
62
60
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Bank Sta

2.2 Torrente Secca – Progetto – ks=28 $m^{1/3}s^{-1}$

HEC-RAS Plan: Secca_PRJ_Ks28_Rev02 River: T_Secca Reach: T_Secca Profile: TR200

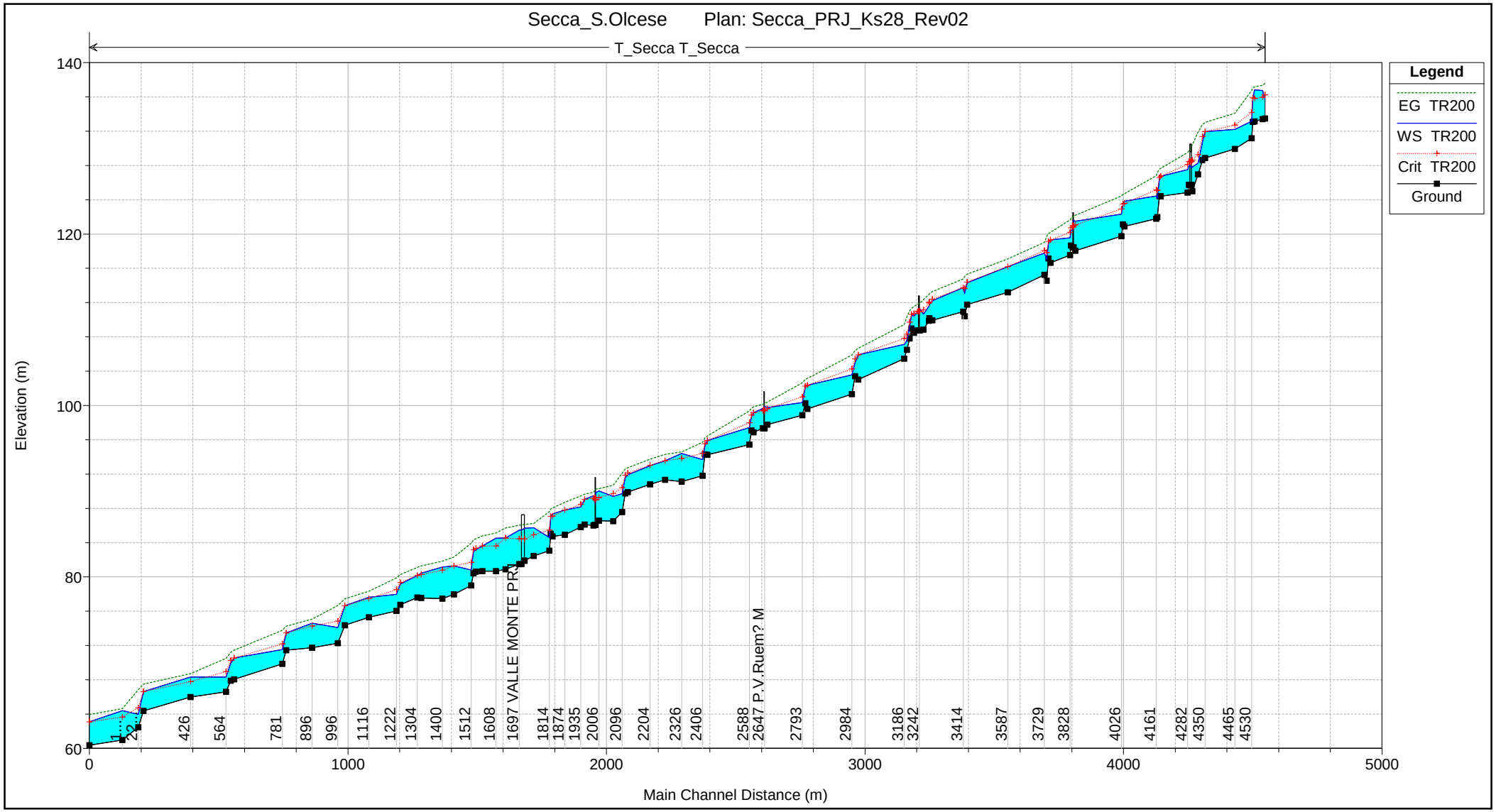
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	4582	TR200	505.00	133.48	2.25	135.73	136.24	-0.51	1.41	137.59	6.04	6.04	1.84	378.09	1.88
T_Secca	4572	TR200	505.00	133.39	3.34	136.73	135.97	0.76	0.65	137.35	3.49	3.49	2.79	110.21	2.92
T_Secca	4541	TR200	505.00	133.14	3.69	136.83	135.81	1.02	0.49	137.18	2.76	2.47	2.34	66.09	2.45
T_Secca	4534	TR200	505.00	133.07	2.83	135.90	135.90	0.00	0.99	137.07	4.79	4.78	2.22	220.78	2.30
T_Secca	4530	TR200	505.00	131.18	1.99	133.17	134.19	-1.02	2.27	136.75	8.38	8.38	1.37	803.79	1.39
T_Secca	4465	TR200	505.00	129.94	2.27	132.21	132.71	-0.50	1.41	134.10	6.08	6.08	1.86	381.85	1.91
T_Secca	4350	TR200	505.00	128.86	3.09	131.95	131.95	0.00	1.00	133.02	4.59	4.58	2.08	208.13	2.14
T_Secca	4340	TR200	505.00	128.64	2.17	130.81	131.38	-0.57	1.54	132.78	6.22	6.16	1.52	418.36	1.57
T_Secca	4323	TR200	505.00	126.96	1.30	128.26	129.26	-1.00	2.41	131.90	8.45	8.45	1.21	849.60	1.26
T_Secca	4300	TR200	505.00	124.99	2.84	127.83	128.62	-0.79	1.86	130.41	7.11	7.11	1.46	566.50	1.50
T_Secca	4297 P. carr Alpini M	TR200	505.00	125.73	1.94	127.67	128.44	-0.77	2.02	130.28	7.16	7.16	1.26	603.35	1.29
T_Secca	4295	Bridge													
T_Secca	4287 P. carr Alpini V	TR200	505.00	125.73	2.24	127.97	128.44	-0.47	1.47	129.68	5.80	5.80	1.54	370.48	1.58
T_Secca	4282	TR200	505.00	124.83	2.70	127.53	128.11	-0.58	1.63	129.51	6.24	6.24	1.47	435.66	1.50
T_Secca	4179	TR200	505.00	124.41	2.34	126.75	126.75	0.00	1.00	127.68	4.26	4.26	1.79	189.62	1.84
T_Secca	4173	TR200	505.00	124.41	1.96	126.37	126.59	-0.22	1.20	127.57	4.85	4.85	1.61	255.70	1.67
T_Secca	4165	TR200	505.00	121.97	2.24	124.21	125.12	-0.91	2.05	127.19	7.65	7.65	1.40	666.16	1.42
T_Secca	4161	TR200	505.00	121.78	2.65	124.43	125.15	-0.72	1.93	126.79	6.80	6.80	1.26	544.04	1.27
T_Secca	4038	TR200	505.00	120.88	2.96	123.84	123.56	0.28	0.84	124.70	4.11	4.11	2.39	160.67	2.47
T_Secca	4032	TR200	505.00	121.12	2.39	123.51	123.51	0.00	1.00	124.63	4.69	4.69	2.13	217.81	2.24
T_Secca	4026	TR200	505.00	119.74	2.57	122.31	122.92	-0.61	1.57	124.43	6.44	6.44	1.68	443.34	1.72
T_Secca	3848	TR200	505.00	118.04	3.47	121.51	121.08	0.43	0.75	122.20	3.68	3.68	2.35	129.08	2.42
T_Secca	3841 P.V.ChiappellaM	TR200	505.00	118.46	3.13	121.59	120.84	0.75	0.63	122.12	3.21	3.21	2.56	95.86	2.69
T_Secca	3840	Bridge													
T_Secca	3838 P.V.ChiappellaV	TR200	505.00	118.46	2.00	120.46	120.85	-0.39	1.36	121.98	5.46	5.46	1.59	324.65	1.64
T_Secca	3831	TR200	505.00	118.66	1.77	120.43	120.73	-0.30	1.27	121.80	5.20	5.20	1.64	291.17	1.70
T_Secca	3828	TR200	505.00	117.56	2.01	119.57	120.19	-0.62	1.81	121.65	6.39	6.39	1.25	480.95	1.27
T_Secca	3752	TR200	505.00	116.65	2.67	119.32	119.32	0.00	1.00	120.21	4.17	4.17	1.74	184.00	1.78
T_Secca	3744	TR200	505.00	117.15	1.77	118.92	119.15	-0.23	1.25	120.08	4.76	4.76	1.47	253.85	1.49
T_Secca	3737	TR200	505.00	114.56	2.54	117.10	117.85	-0.75	2.26	119.71	7.16	7.16	1.01	649.74	1.02
T_Secca	3729	TR200	505.00	115.23	2.56	117.79	118.09	-0.30	1.33	119.02	4.92	4.92	1.37	276.95	1.39
T_Secca	3587	TR200	505.00	113.20	2.98	116.18	116.18	0.00	1.00	117.10	4.25	4.25	1.80	188.17	1.84
T_Secca	3429	TR200	505.00	111.76	2.56	114.32	114.39	-0.07	1.05	115.32	4.43	4.43	1.76	206.21	1.80
T_Secca	3420	TR200	505.00	110.41	2.65	113.06	113.65	-0.59	1.62	115.05	6.24	6.24	1.47	435.53	1.52
T_Secca	3414	TR200	505.00	110.94	2.83	113.77	113.77	0.00	1.00	114.77	4.42	4.42	1.96	198.36	2.00
T_Secca	3295	TR200	505.00	109.94	2.28	112.22	112.40	-0.18	1.18	113.27	4.53	4.53	1.50	228.43	1.52
T_Secca	3284	TR200	505.00	110.19	1.57	111.76	112.07	-0.31	1.36	113.04	5.01	5.01	1.37	287.58	1.39
T_Secca	3281	TR200	505.00	109.88	1.71	111.59	111.97	-0.38	1.45	112.97	5.21	5.21	1.31	314.91	1.32
T_Secca	3261	TR200	505.00	108.85	1.80	110.65	111.16	-0.51	1.67	112.35	5.78	5.78	1.21	399.45	1.22
T_Secca	3246 P.carr V.Valle M	TR200	505.00	108.75	2.56	111.31	110.96	0.35	0.75	111.88	3.34	3.34	1.96	112.98	1.99
T_Secca	3242	Bridge													

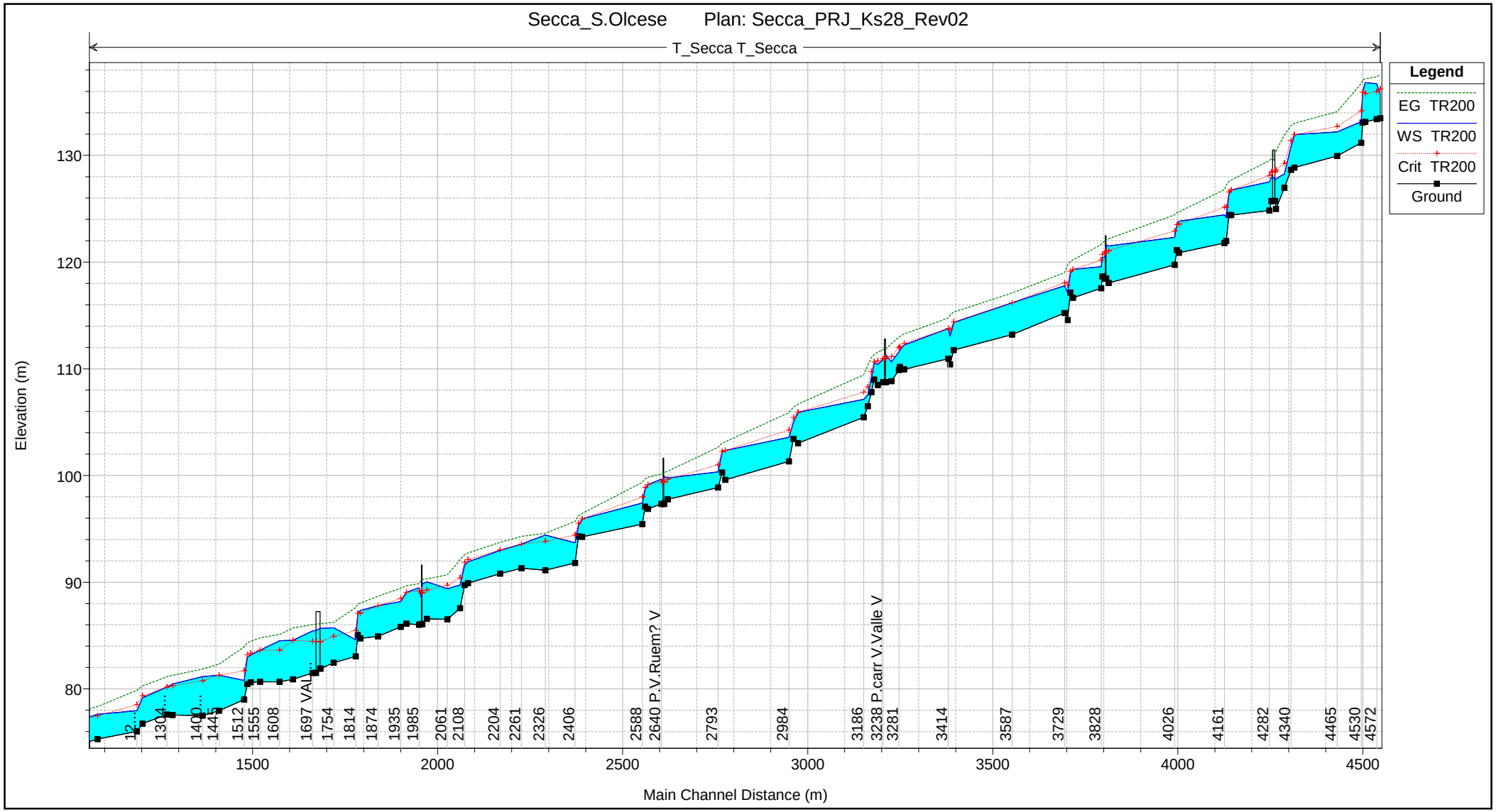
HEC-RAS Plan: Secca_PRJ_Ks28_Rev02 River: T_Secca Reach: T_Secca Profile: TR200 (Continued)

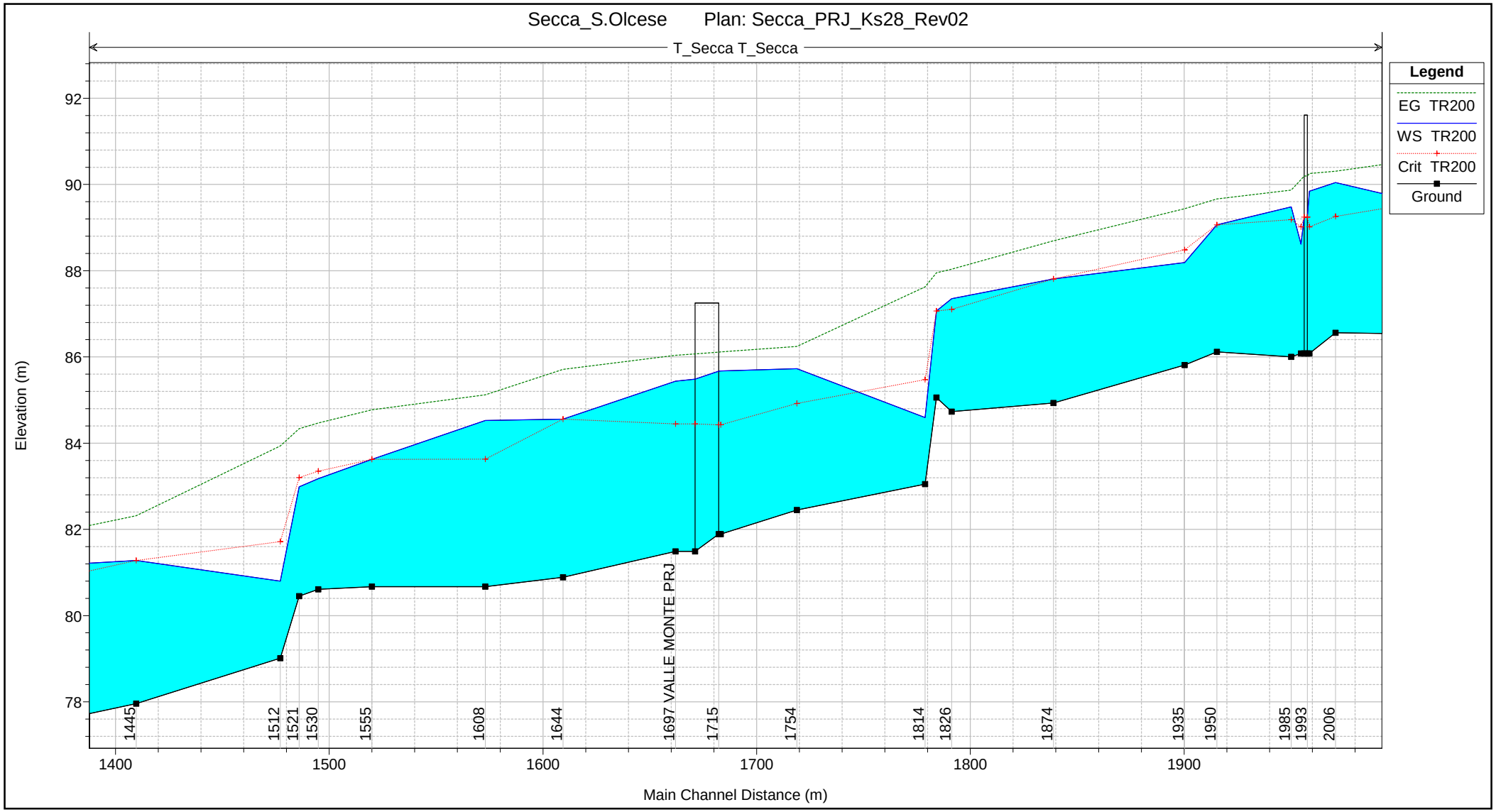
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	3238 P.carr V.Valle V	TR200	505.00	108.75	2.14	110.89	110.96	-0.07	1.06	111.80	4.22	4.22	1.59	194.28	1.61
T_Secca	3224	TR200	505.00	108.48	1.93	110.41	110.73	-0.32	1.27	111.57	4.77	4.73	1.21	256.90	1.22
T_Secca	3214	TR200	505.00	108.98	1.56	110.54	110.64	-0.10	1.05	111.32	3.98	3.81	1.25	177.67	1.26
T_Secca	3207	TR200	505.00	107.81	1.36	109.17	109.73	-0.56	1.92	111.06	6.08	6.08	1.02	467.74	1.03
T_Secca	3197	TR200	505.00	106.49	1.07	107.56	108.31	-0.75	2.52	110.35	7.39	7.39	0.88	724.92	0.88
T_Secca	3186	TR200	505.00	105.46	1.68	107.14	107.81	-0.67	2.15	109.44	6.71	6.71	0.99	573.86	1.00
T_Secca	3009	TR200	505.00	103.03	2.89	105.92	105.92	0.00	1.00	106.68	3.87	3.87	1.51	165.55	1.53
T_Secca	2996	TR200	505.00	103.42	1.59	105.01	105.45	-0.44	1.46	106.41	5.24	5.24	1.29	321.41	1.31
T_Secca	2984	TR200	505.00	101.32	2.26	103.58	104.26	-0.68	2.09	105.89	6.73	6.73	1.05	566.19	1.06
T_Secca	2812	TR200	505.00	99.59	2.76	102.35	102.35	0.00	1.00	103.15	3.96	3.96	1.58	171.24	1.60
T_Secca	2803	TR200	505.00	100.27	1.91	102.18	102.24	-0.06	1.06	103.05	4.13	4.13	1.53	188.65	1.56
T_Secca	2793	TR200	505.00	98.87	1.46	100.33	101.01	-0.68	2.16	102.65	6.74	6.74	0.99	578.66	1.00
T_Secca	2657	TR200	505.00	97.77	1.99	99.76	99.64	0.12	0.89	100.41	3.57	3.57	1.62	137.59	1.64
T_Secca	2647 P.V.Ruem? M	TR200	505.00	97.34	2.55	99.89	99.39	0.50	0.64	100.27	2.75	2.75	1.86	77.91	1.90
T_Secca	2645		Bridge												
T_Secca	2640 P.V.Ruem? V	TR200	505.00	97.34	2.32	99.66	99.39	0.27	0.77	100.16	3.12	3.12	1.65	104.37	1.68
T_Secca	2603	TR200	505.00	96.87	2.28	99.15	99.15	0.00	0.97	99.84	3.70	3.63	1.34	153.76	1.38
T_Secca	2596	TR200	505.00	97.08	1.59	98.67	98.89	-0.22	1.27	99.69	4.47	4.47	1.25	235.75	1.27
T_Secca	2588	TR200	505.00	95.45	1.97	97.42	97.99	-0.57	2.05	99.37	6.19	6.19	0.92	500.45	0.92
T_Secca	2425	TR200	505.00	94.26	1.67	95.93	95.93	0.00	1.00	96.45	3.17	3.19	1.03	126.88	1.04
T_Secca	2415	TR200	505.00	94.29	1.06	95.26	95.54	-0.28	1.58	96.21	4.22	4.30	0.74	252.53	0.75
T_Secca	2406	TR200	505.00	91.81	1.88	93.69	94.42	-0.73	2.01	95.70	6.29	6.29	0.99	504.81	1.00
T_Secca	2326	TR200	505.00	91.12	3.30	94.42	93.82	0.60	0.43	94.59	1.99	1.69	1.47	39.04	1.49
T_Secca	2261	TR200	505.00	91.32	2.25	93.57	93.57	0.00	0.94	94.30	3.89	3.63	1.32	161.44	1.35
T_Secca	2204	TR200	505.00	90.80	2.18	92.98	93.03	-0.05	0.97	93.73	4.02	3.63	1.29	172.35	1.31
T_Secca	2117	TR200	505.00	89.90	2.01	91.91	92.12	-0.21	1.10	92.74	4.17	3.80	1.05	194.95	1.06
T_Secca	2108	TR200	505.00	89.73	1.86	91.59	91.87	-0.28	1.22	92.59	4.50	4.19	0.95	232.59	0.96
T_Secca	2096	TR200	505.00	87.56	2.17	89.73	90.42	-0.69	2.11	92.10	6.82	6.82	1.06	578.97	1.07
T_Secca	2061	TR200	505.00	86.52	2.88	89.40	89.71	-0.31	1.32	90.70	5.04	5.04	1.45	285.77	1.48
T_Secca	2006	TR200	505.00	86.56	3.48	90.04	89.26	0.78	0.48	90.31	2.37	2.13	1.78	53.04	1.82
T_Secca	1994 P.V.Negrotto M	TR200	505.00	86.08	3.76	89.84	89.02	0.82	0.58	90.26	2.86	2.86	2.37	77.77	2.45
T_Secca	1993		Bridge												
T_Secca	1990 P.V.Negrotto V	TR200	505.00	86.08	2.54	88.62	89.02	-0.40	1.44	90.11	5.42	5.42	1.41	332.12	1.45
T_Secca	1985	TR200	505.00	86.00	3.48	89.48	89.18	0.30	0.64	89.87	2.90	2.58	1.44	84.62	1.46
T_Secca	1950	TR200	505.00	86.12	2.94	89.06	89.06	0.00	0.82	89.66	3.61	3.11	1.18	132.47	1.19
T_Secca	1935	TR200	505.00	85.81	2.38	88.19	88.48	-0.29	1.28	89.44	4.95	4.95	1.50	271.48	1.52
T_Secca	1874	TR200	505.00	84.93	2.88	87.81	87.81	0.00	1.00	88.70	4.17	4.17	1.72	184.65	1.76
T_Secca	1826	TR200	505.00	84.73	2.62	87.35	87.10	0.25	0.82	88.03	3.66	3.66	1.96	135.88	2.02
T_Secca	1819	TR200	505.00	85.06	2.01	87.07	87.07	0.00	1.00	87.95	4.17	4.17	1.72	184.26	1.77
T_Secca	1814	TR200	505.00	83.05	1.54	84.59	85.48	-0.89	2.15	87.63	7.71	7.71	1.29	693.83	1.31
T_Secca	1754	TR200	505.00	82.45	3.28	85.73	84.92	0.81	0.61	86.24	3.18	3.18	2.63	92.92	2.75

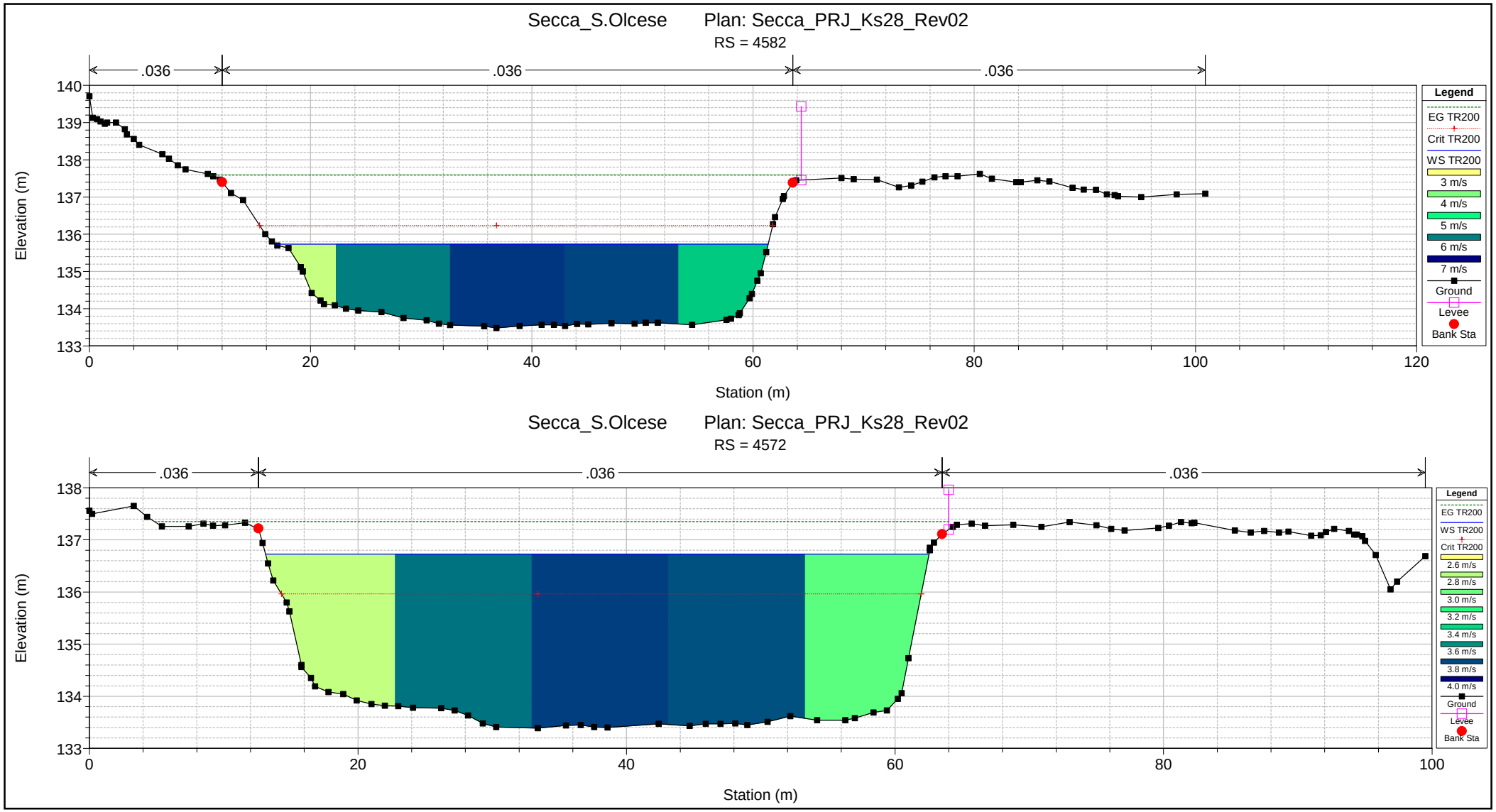
HEC-RAS Plan: Secca_PRJ_Ks28_Rev02 River: T_Secca Reach: T_Secca Profile: TR200 (Continued)

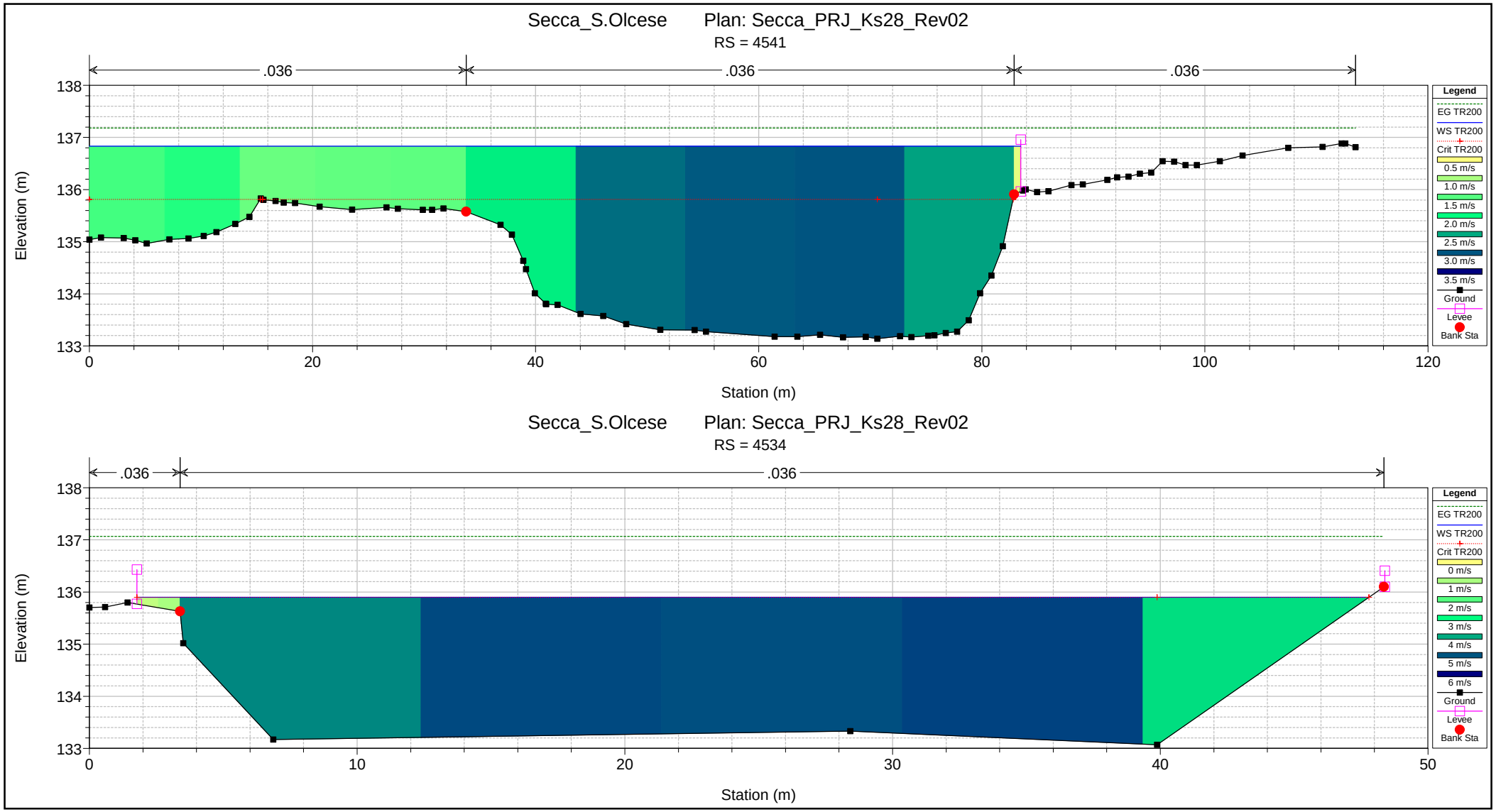
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	1718 MONTE PONTE PRJ	TR200	505.00	81.89	3.78	85.67	84.42	1.25	0.51	86.12	2.95	2.95	3.16	75.21	3.40
T_Secca	1715		Bridge												
T_Secca	1697 VALLE MONTE PRJ	TR200	505.00	81.49	3.95	85.44	84.45	0.99	0.60	86.04	3.43	3.43	3.10	102.54	3.30
T_Secca	1644	TR200	505.00	80.89	3.67	84.56	84.56	0.00	0.95	85.71	4.84	4.64	2.20	218.82	2.34
T_Secca	1608	TR200	505.00	80.67	3.86	84.53	83.63	0.90	0.61	85.12	3.45	3.38	2.91	104.14	3.13
T_Secca	1555	TR200	505.00	80.67	2.96	83.63	83.63	0.00	1.00	84.77	4.75	4.74	2.17	219.80	2.29
T_Secca	1530	TR200	505.00	80.61	2.57	83.18	83.35	-0.17	1.12	84.47	5.03	5.03	1.96	257.31	2.05
T_Secca	1521	TR200	505.00	80.45	2.53	82.98	83.20	-0.22	1.17	84.34	5.15	5.15	1.88	273.16	1.97
T_Secca	1512	TR200	505.00	79.01	1.79	80.80	81.72	-0.92	2.10	83.94	7.85	7.85	1.40	699.13	1.43
T_Secca	1445	TR200	505.00	77.96	3.32	81.28	81.28	0.00	1.00	82.32	4.51	4.51	2.02	204.72	2.07
T_Secca	1400	TR200	505.00	77.48	3.67	81.15	80.78	0.37	0.78	81.86	3.72	3.72	2.26	134.16	2.34
T_Secca	1319	TR200	505.00	77.55	2.89	80.44	80.27	0.17	0.89	81.28	4.04	4.04	2.06	163.18	2.11
T_Secca	1304	TR200	505.00	77.59	2.59	80.18	80.18	0.00	1.00	81.13	4.31	4.31	1.86	192.10	1.90
T_Secca	1237	TR200	505.00	76.74	2.43	79.17	79.36	-0.19	1.18	80.28	4.66	4.66	1.58	236.55	1.60
T_Secca	1222	TR200	505.00	76.03	1.93	77.96	78.53	-0.57	1.72	79.87	6.11	6.11	1.27	438.75	1.28
T_Secca	1116	TR200	505.00	75.29	2.33	77.62	77.46	0.16	0.88	78.34	3.76	3.76	1.84	146.44	1.86
T_Secca	1023	TR200	505.00	74.37	2.27	76.64	76.64	0.00	1.00	77.45	4.00	4.00	1.61	173.67	1.63
T_Secca	996	TR200	505.00	72.26	1.84	74.10	74.84	-0.74	2.33	76.67	7.10	7.10	0.95	652.67	0.95
T_Secca	896	TR200	505.00	71.75	2.85	74.60	74.30	0.30	0.76	75.09	3.10	3.10	1.70	102.29	1.72
T_Secca	796	TR200	505.00	71.44	2.03	73.47	73.47	0.00	1.01	74.25	3.91	3.91	1.53	169.06	1.54
T_Secca	781	TR200	505.00	69.86	1.67	71.53	72.19	-0.66	2.11	73.78	6.64	6.64	1.01	558.96	1.01
T_Secca	596	TR200	505.00	68.05	2.51	70.56	70.56	0.00	1.00	71.44	4.17	4.17	1.74	184.09	1.77
T_Secca	582	TR200	505.00	67.90	2.05	69.95	70.26	-0.31	1.38	71.20	4.97	4.97	1.30	286.75	1.32
T_Secca	564	TR200	505.00	66.60	1.74	68.34	68.96	-0.62	2.07	70.50	6.52	6.52	1.00	538.79	1.01
T_Secca	426	TR200	505.00	65.99	2.33	68.32	67.81	0.51	0.64	68.72	2.80	2.80	1.93	80.09	1.95
T_Secca	245	TR200	505.00	64.37	2.26	66.63	66.63	0.00	1.00	67.51	4.15	4.15	1.73	182.44	1.76
T_Secca	224	TR200	505.00	62.46	1.50	63.96	64.75	-0.79	2.40	66.85	7.52	7.52	0.99	721.22	1.00
T_Secca	163	TR200	505.00	60.99	3.40	64.39	63.66	0.73	0.51	64.63	2.18	2.18	1.88	48.98	1.90
T_Secca	35	TR200	505.00	60.37	2.73	63.10	63.10	0.00	1.01	63.96	4.11	4.11	1.67	181.09	1.69

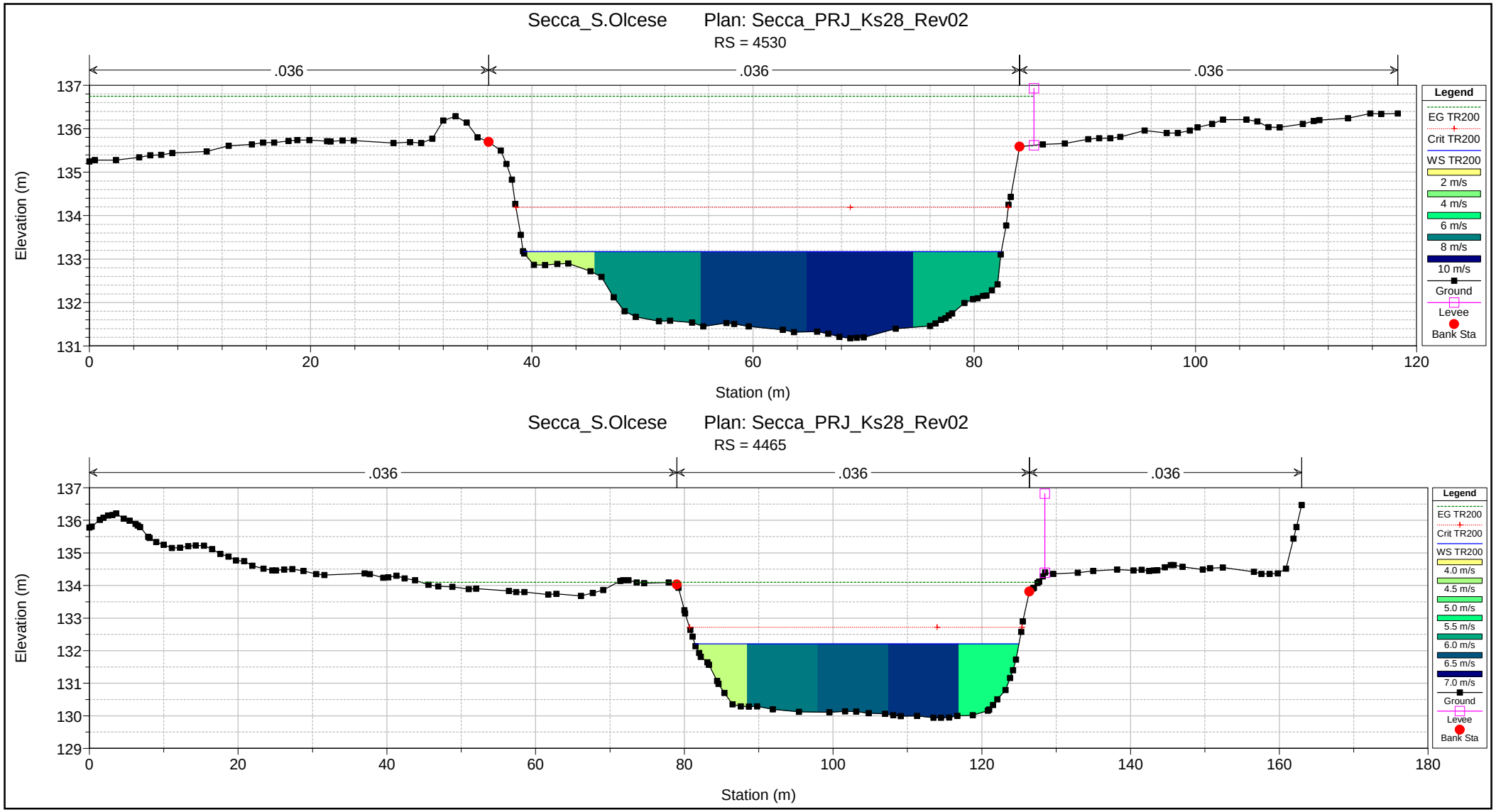

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
140
120
100
80
60
0
1000
2000
3000
4000
5000
426
564
781
896
996
1116
1222
1304
1400
1512
1608
1697 VALLE MONTE PR
1814
1874
1935
2006
2096
2204
2326
2406
2588
2647 P.V.Ruem? M
2793
2984
3186
3242
3414
3587
3729
3828
4026
4161
4282
4350
4465
4530

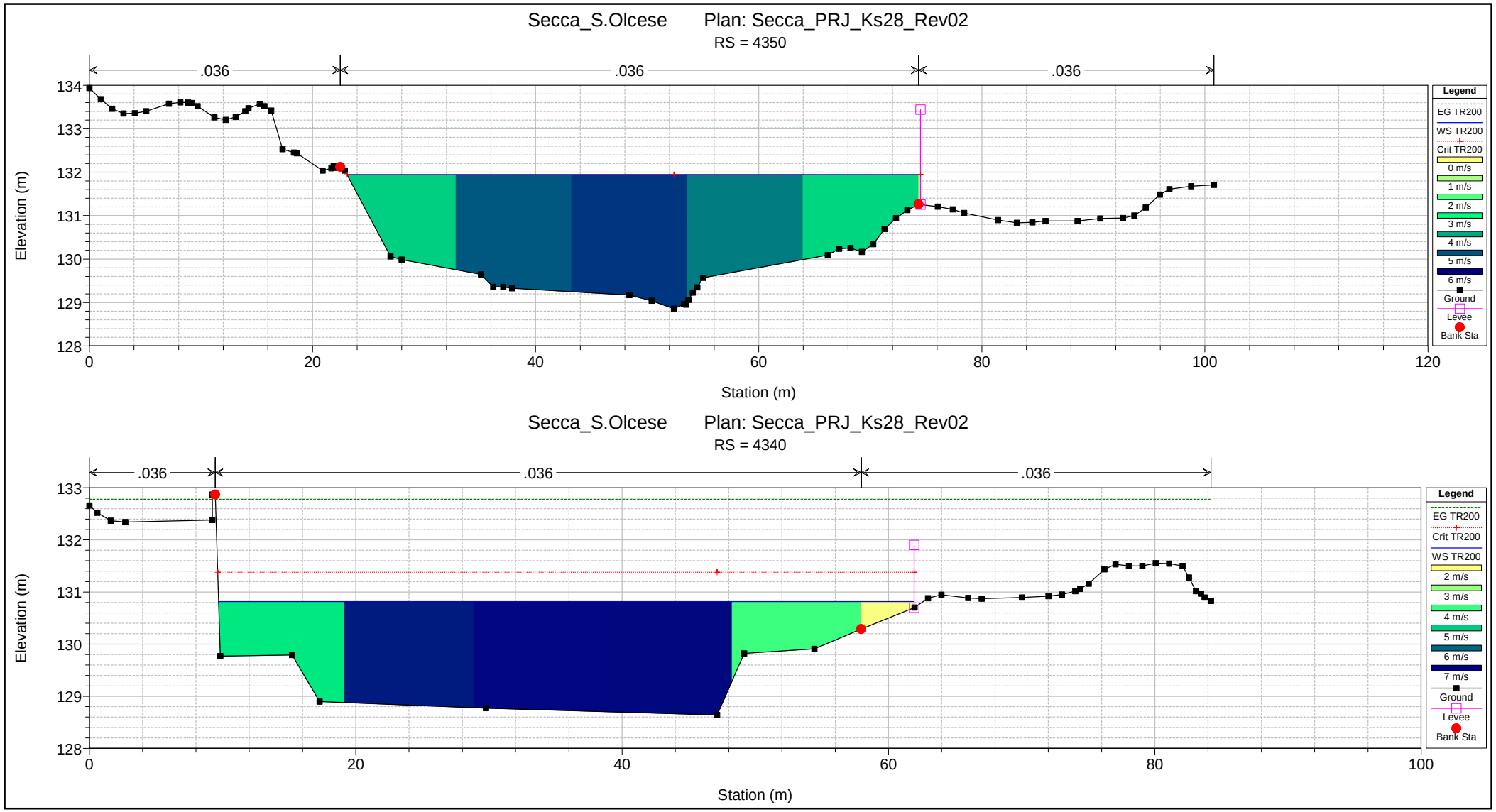

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
130
120
110
100
90
80
1500
2000
2500
3000
3500
4000
4500
Main Channel Distance (m)
12...
1304...
1400...
1445
1512
1555
1608
1697 VAL...
1754
1814
1874
1935
1985
2061
2108
2204
2261
2326
2406
2588
2640 P.V.Ruem2 V
2793
2984
3186
3238 P.carr V.Valle V
3281
3414
3587
3729
3828
4026
4161
4282
4340
4465
4530
4572

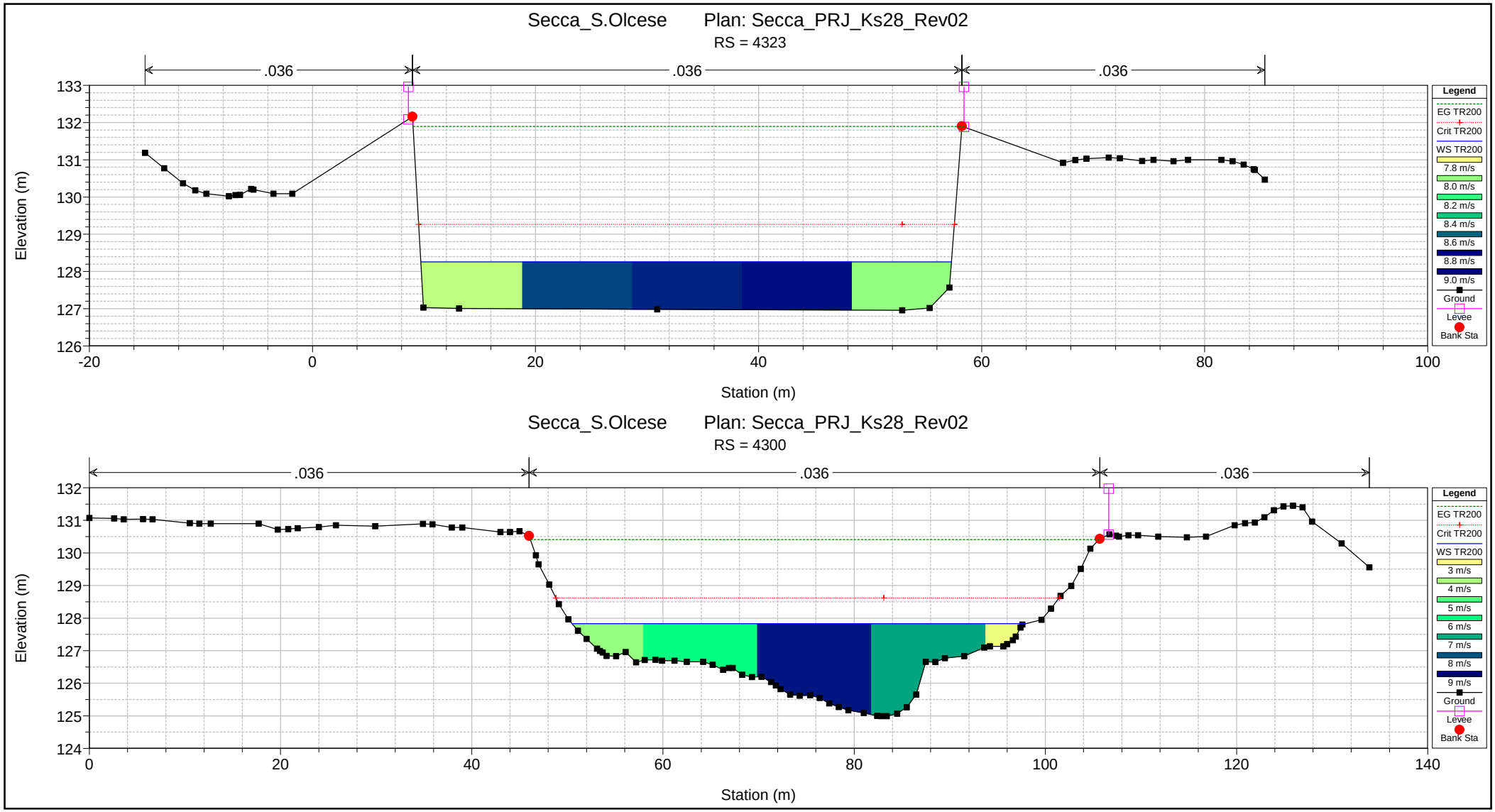

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
92
90
88
86
84
82
80
78
1445
1512
1521
1530
1555
1608
1644
1697 VALLE MONTE PRJ
1715
1754
1814
1826
1874
1935
1950
1985
1993
2006
1400
1500
1600
1700
1800
1900
Main Channel Distance (m)

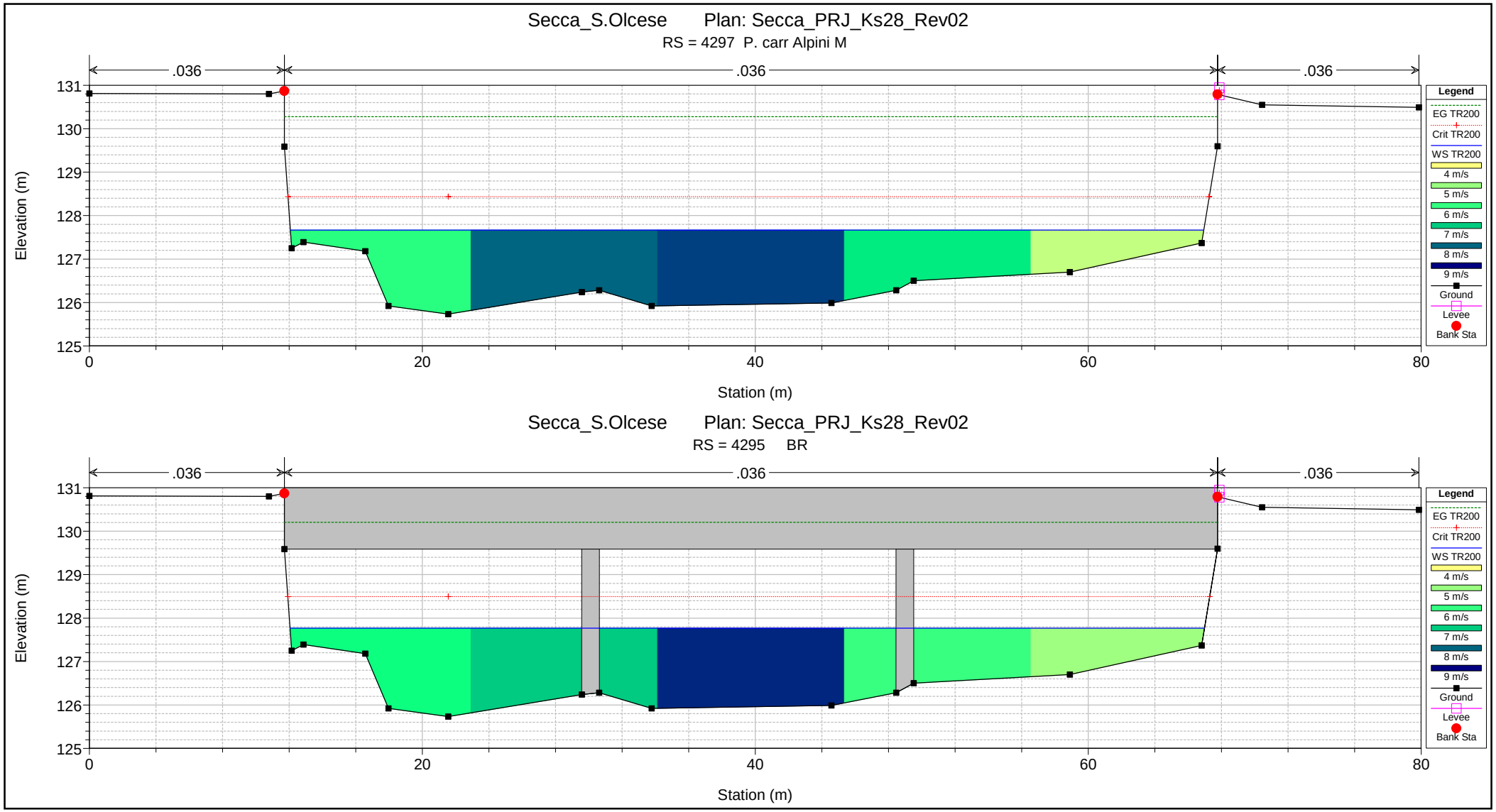

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4582
.036
.036
.036
Elevation (m)
140
139
138
137
136
135
134
133
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4572
.036
.036
.036
Elevation (m)
138
137
136
135
134
133
0
20
40
60
80
100
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
Ground
Levee
Bank Sta

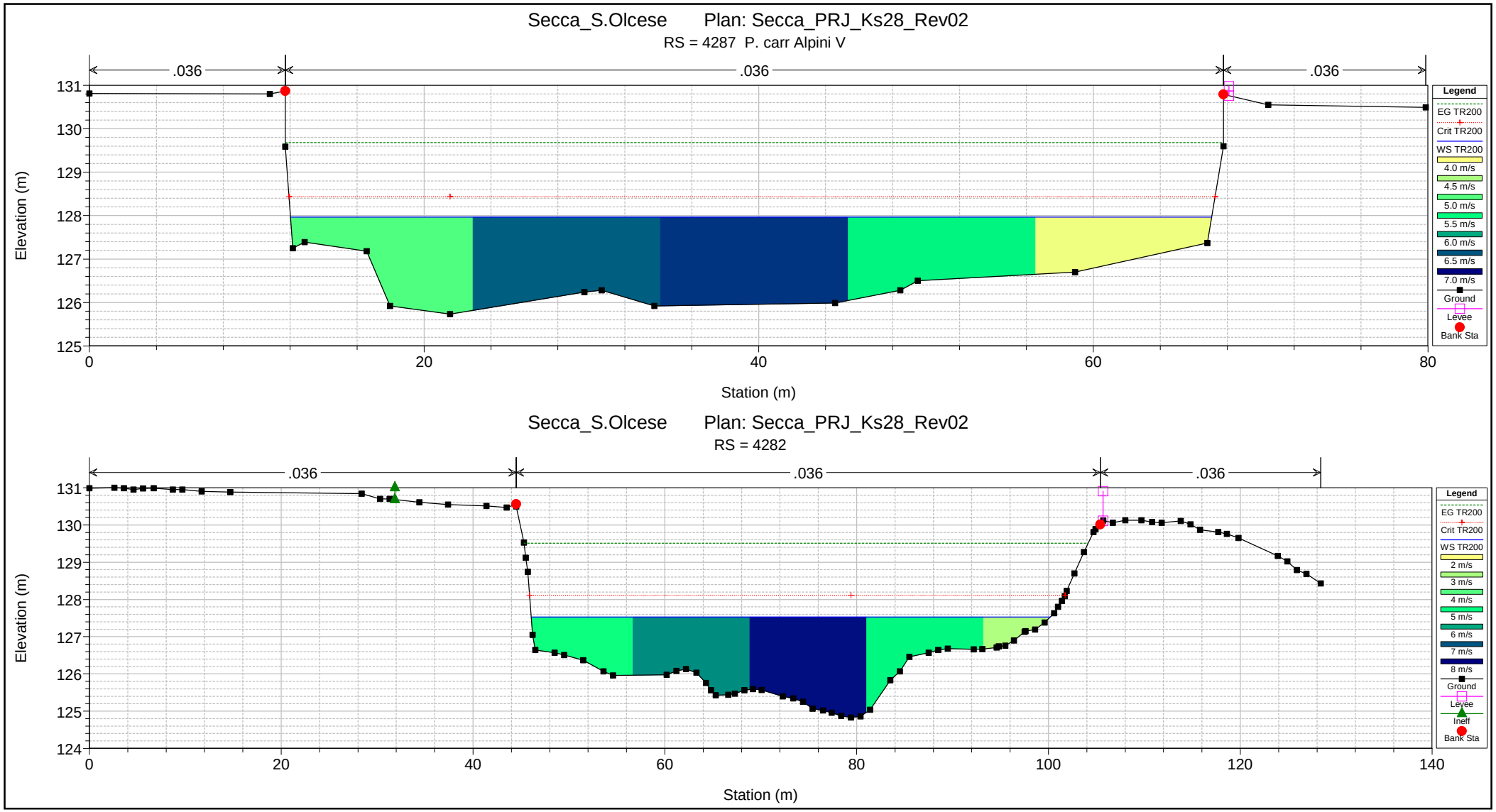

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4541
.036
.036
.036
Elevation (m)
138
137
136
135
134
133
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4534
.036
.036
Elevation (m)
138
137
136
135
134
133
0
10
20
30
40
50
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

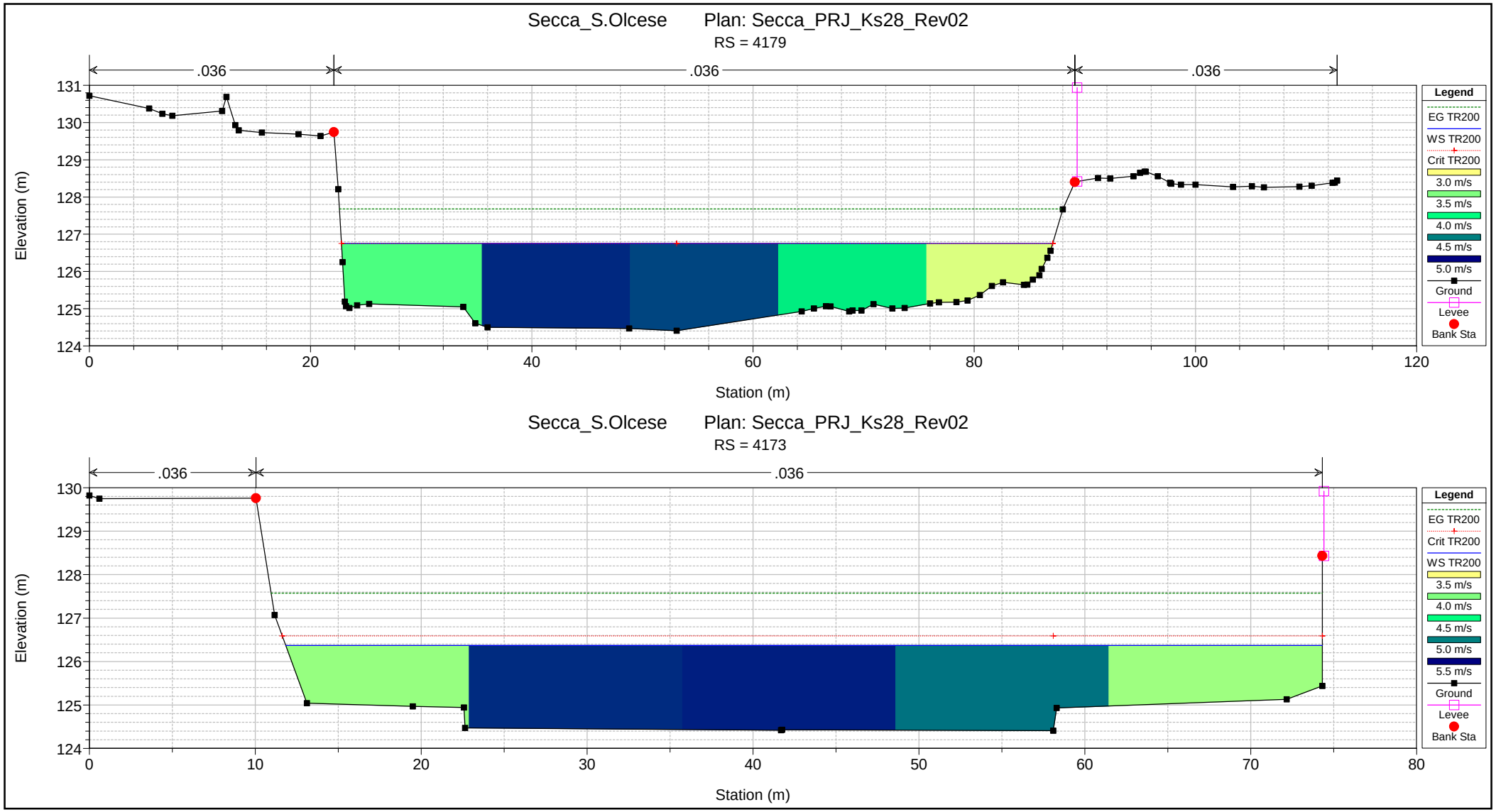

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4530
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4465
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta

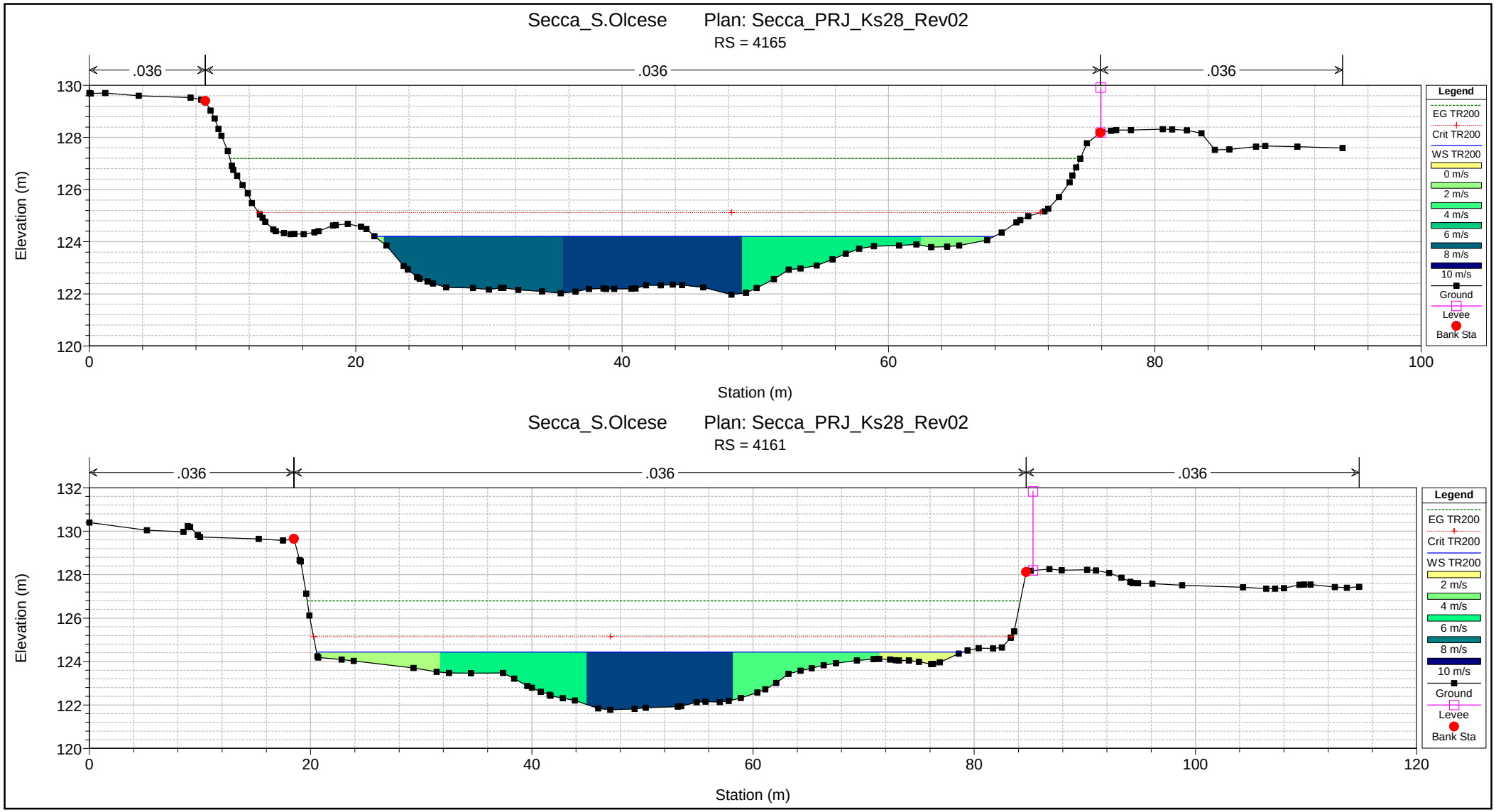

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4350
.036
.036
.036
Elevation (m)
134
133
132
131
130
129
128
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4340
.036
.036
.036
Elevation (m)
133
132
131
130
129
128
0
20
40
60
80
100
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta

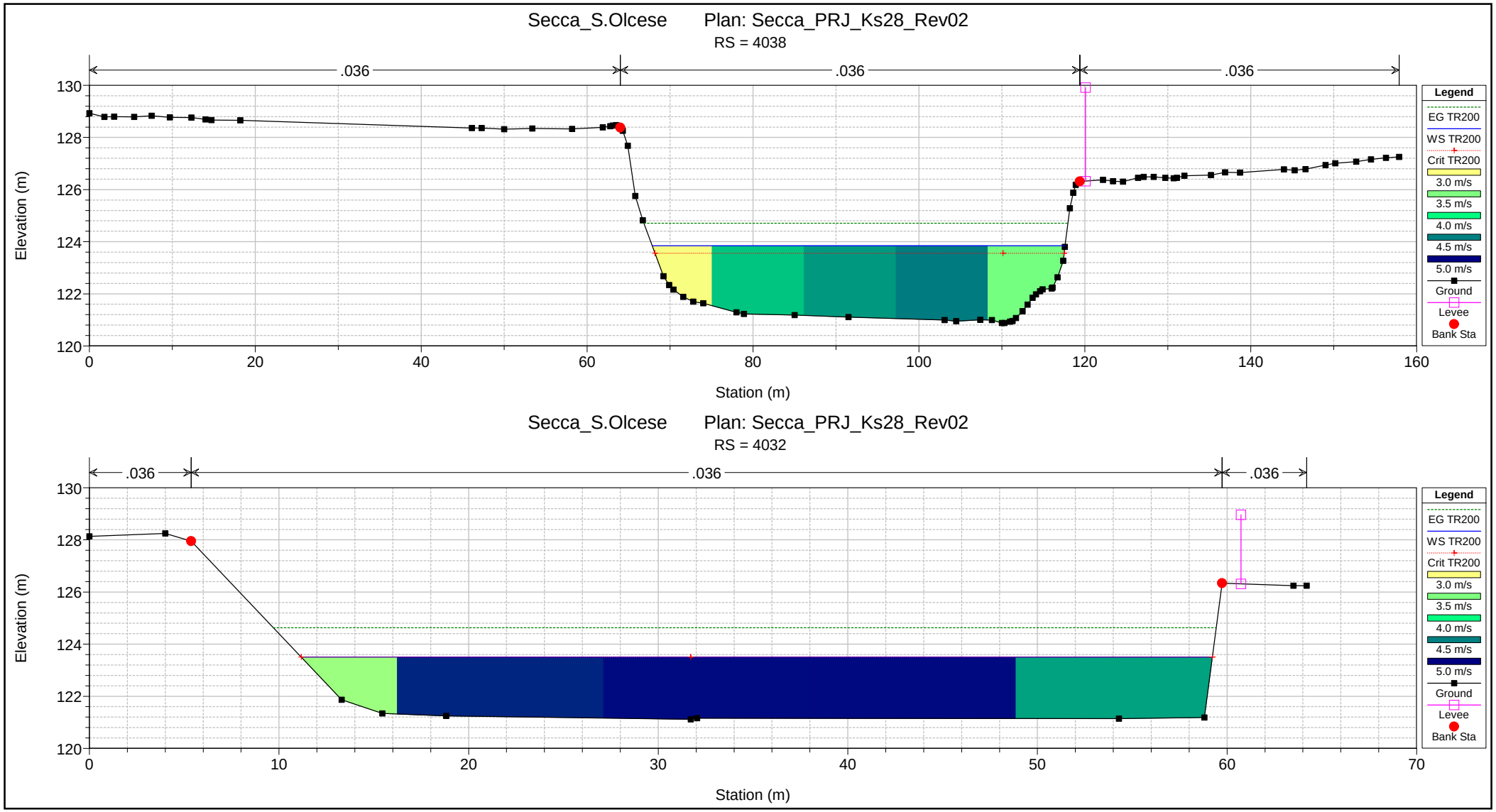

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4323
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
7.8 m/s
8.0 m/s
8.2 m/s
8.4 m/s
8.6 m/s
8.8 m/s
9.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4300
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

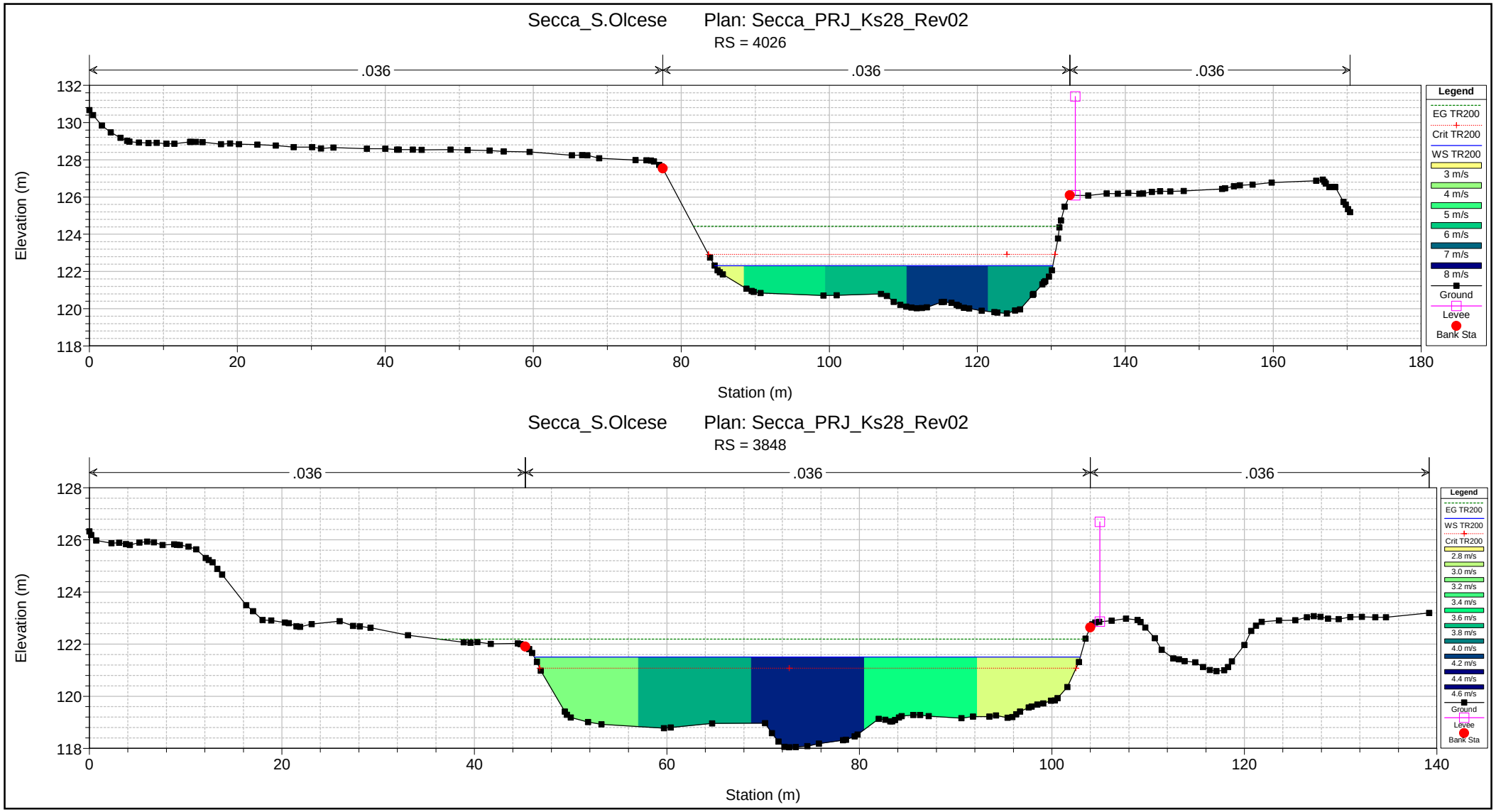

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4297 P. carr Alpini M
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4295 BR
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

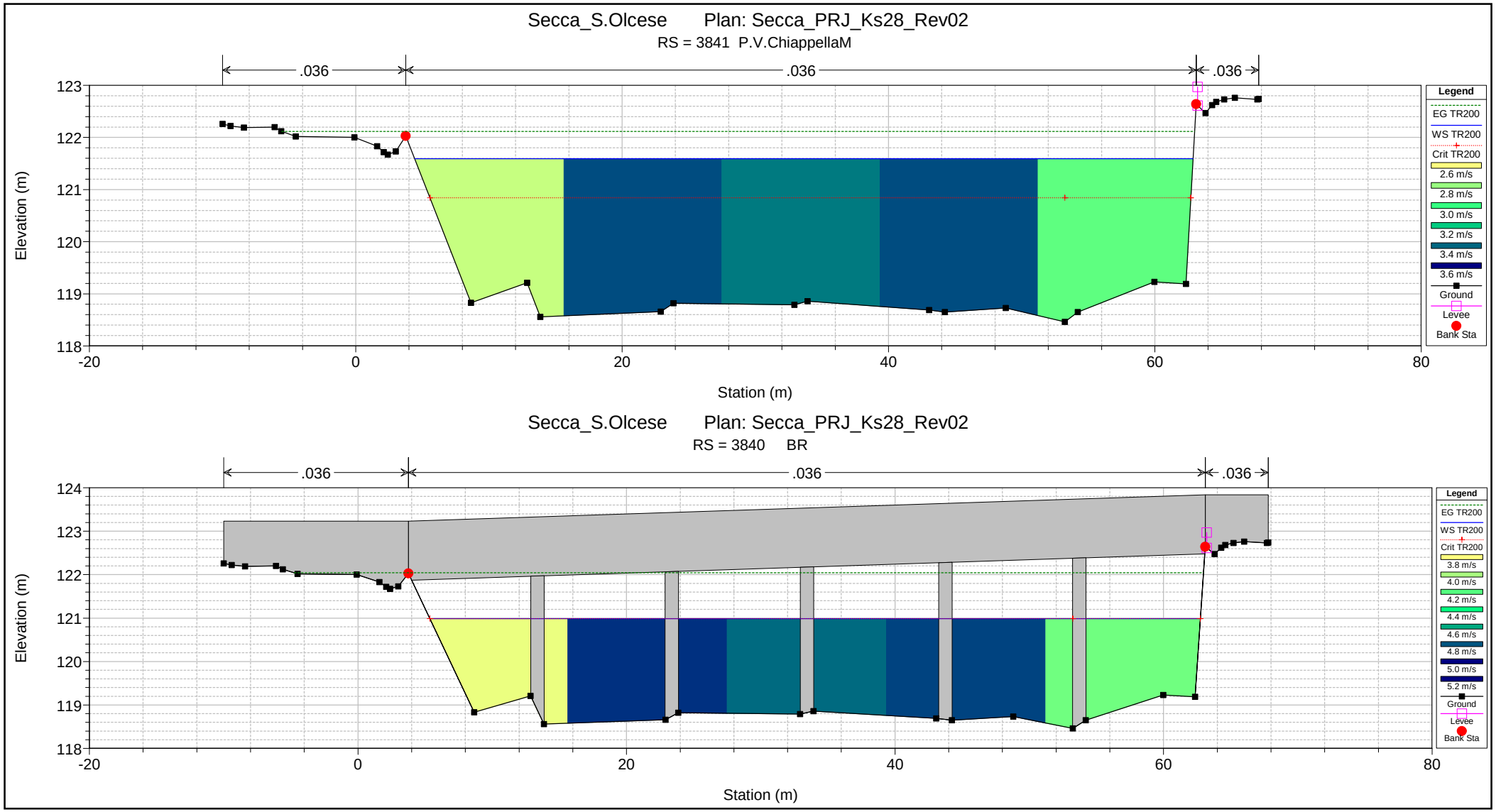

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4287 P. carr Alpini V
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4282
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
124
0
20
40
60
80
100
120
140
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Ineff
Bank Sta

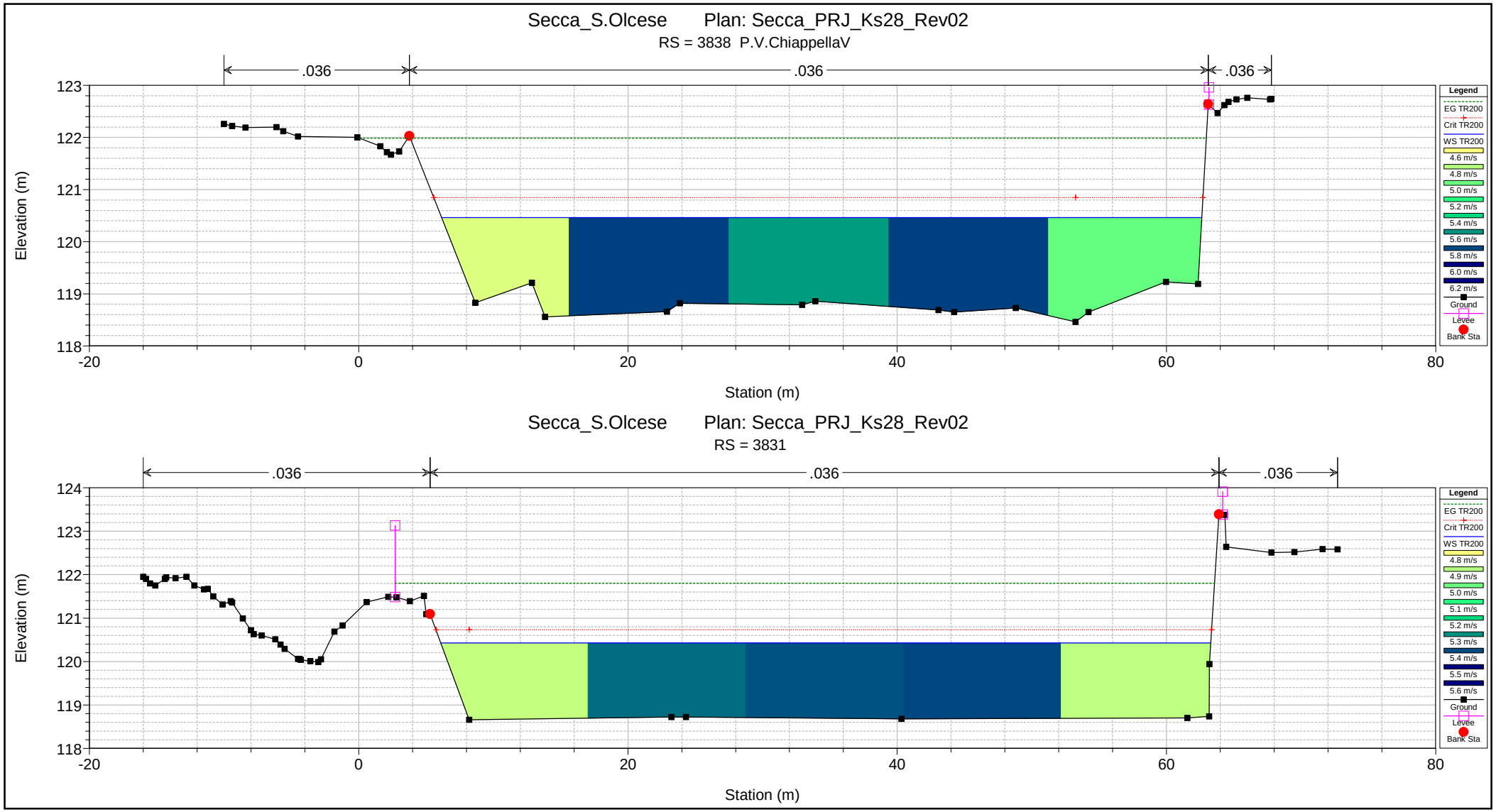

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4179
.036
.036
.036
Elevation (m)
131
130
129
128
127
126
125
124
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4173
.036
.036
Elevation (m)
130
129
128
127
126
125
124
0
10
20
30
40
50
60
70
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

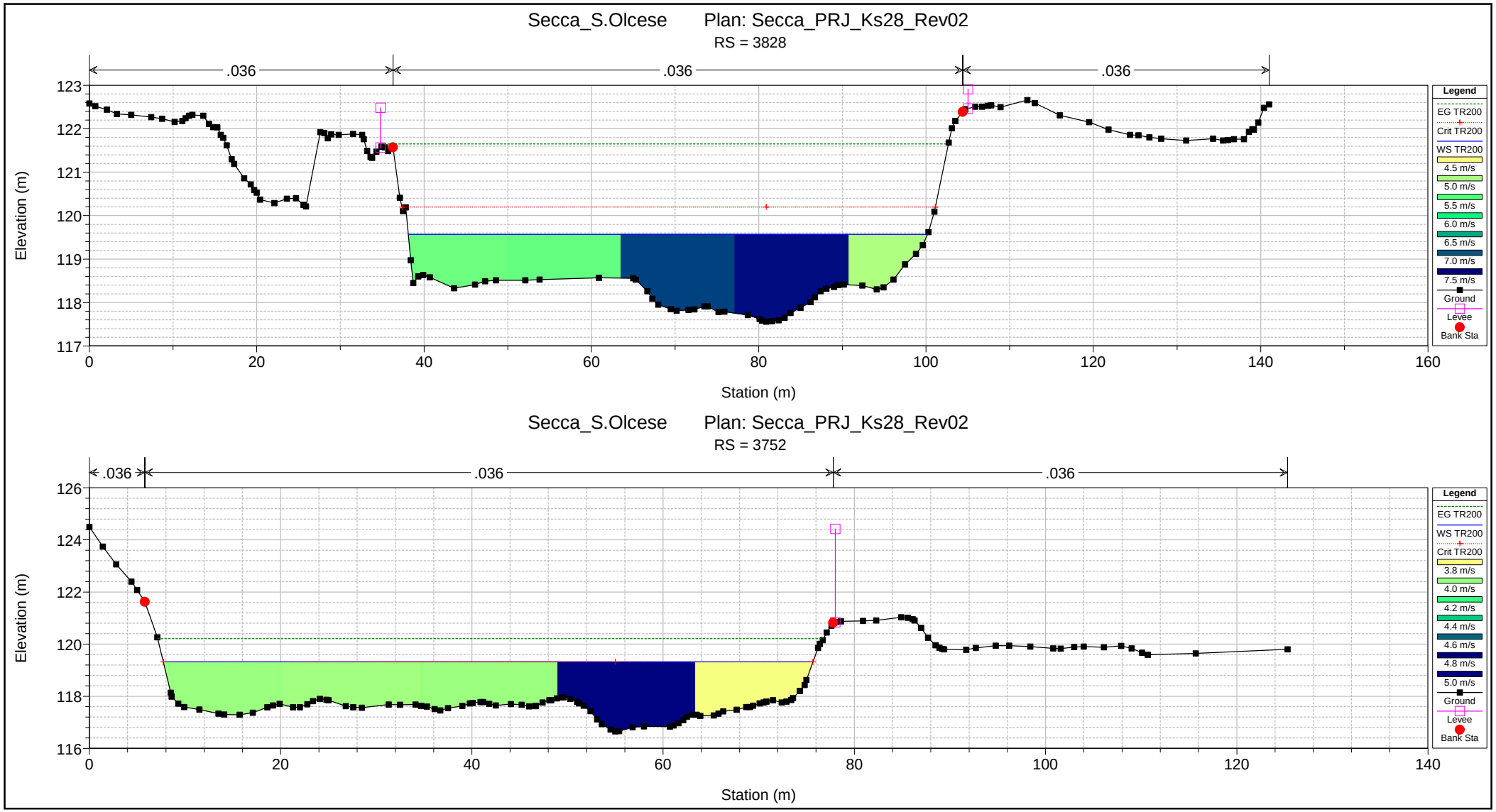

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4165
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4161
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

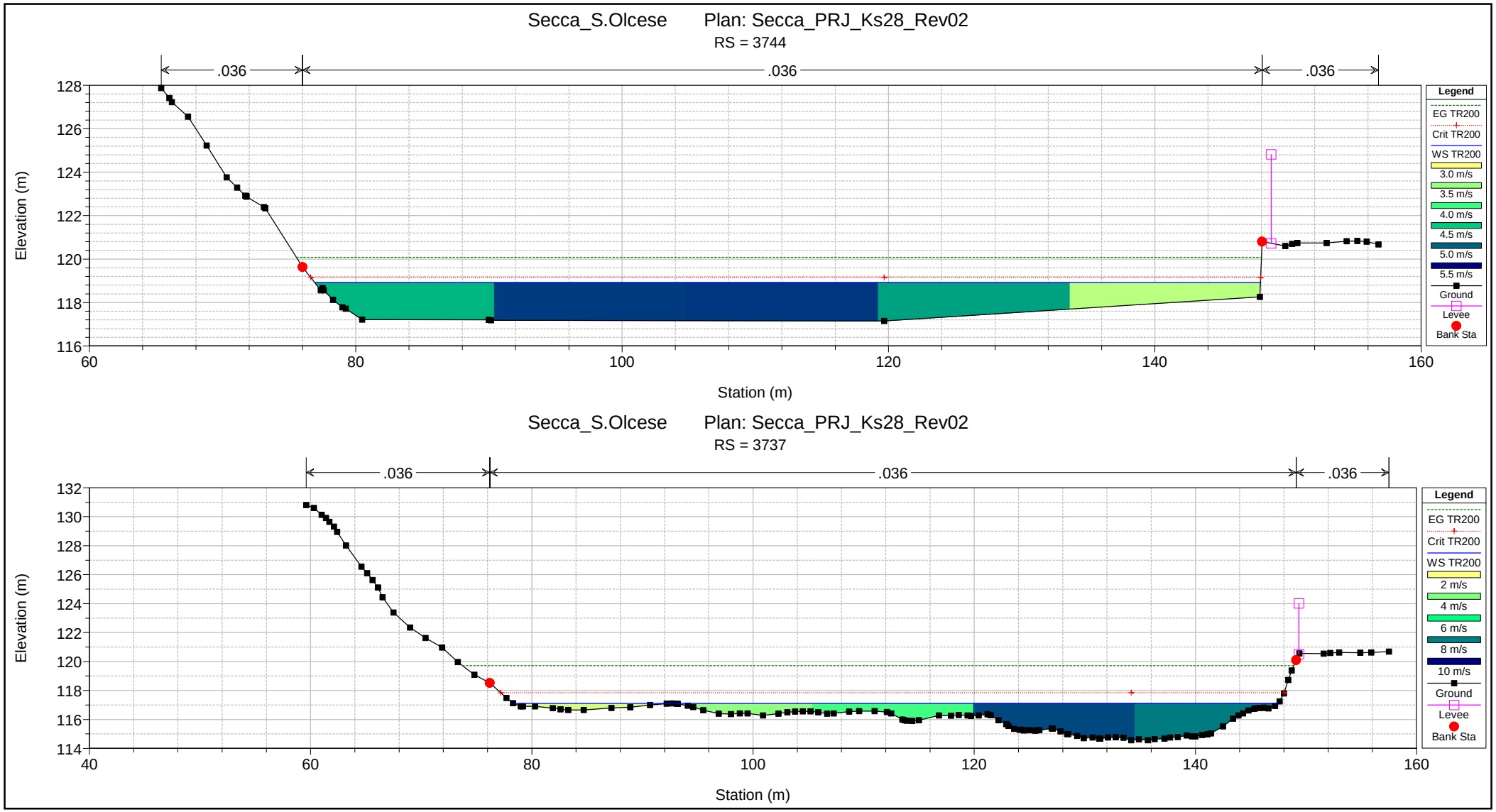

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4038
.036
.036
.036
Elevation (m)
130
128
126
124
122
120
0
20
40
60
80
100
120
140
160
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4032
.036
.036
.036
Elevation (m)
130
128
126
124
122
120
0
10
20
30
40
50
60
70
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta

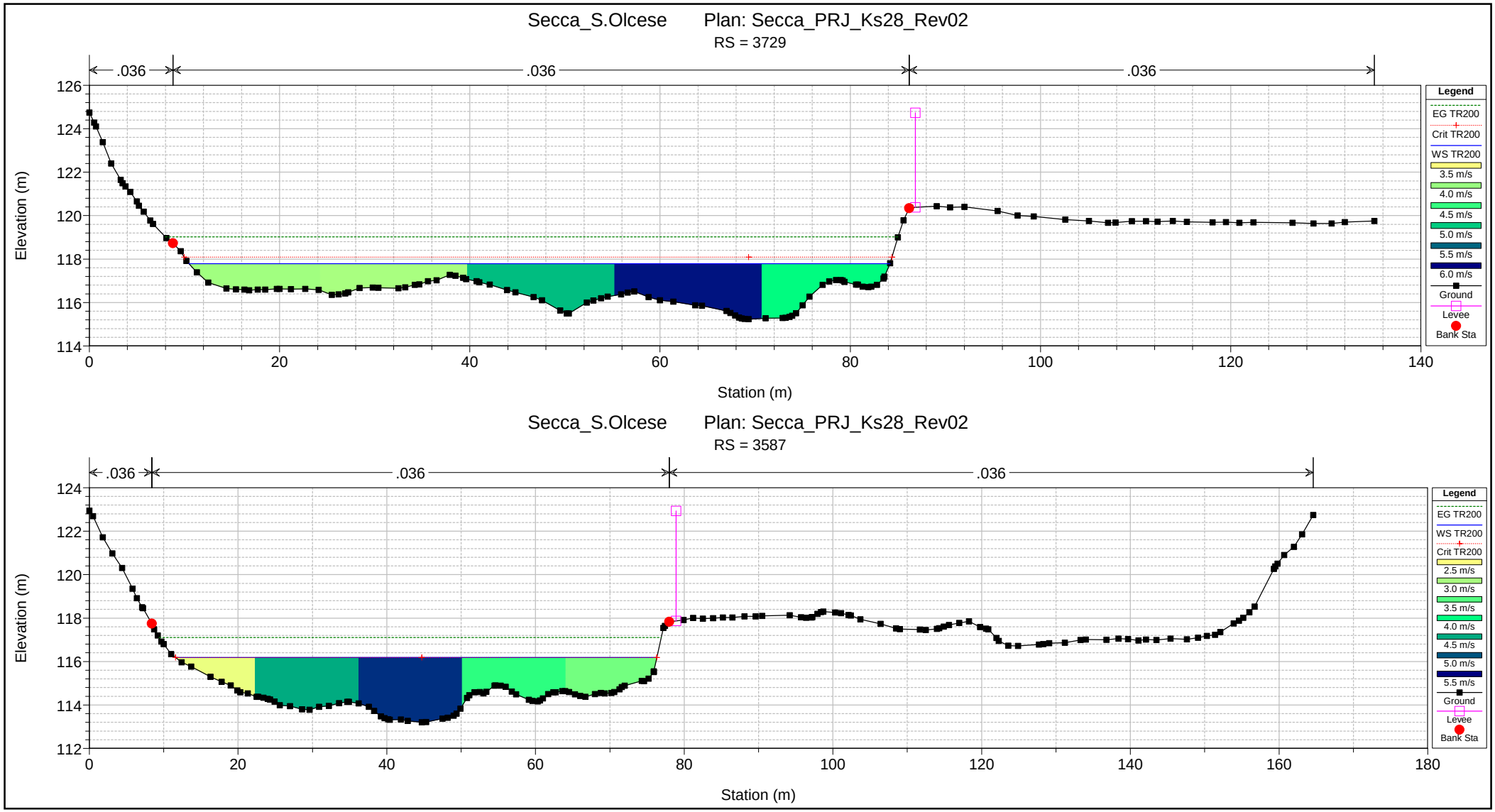

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 4026
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3848
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
Ground
Levee
Bank Sta

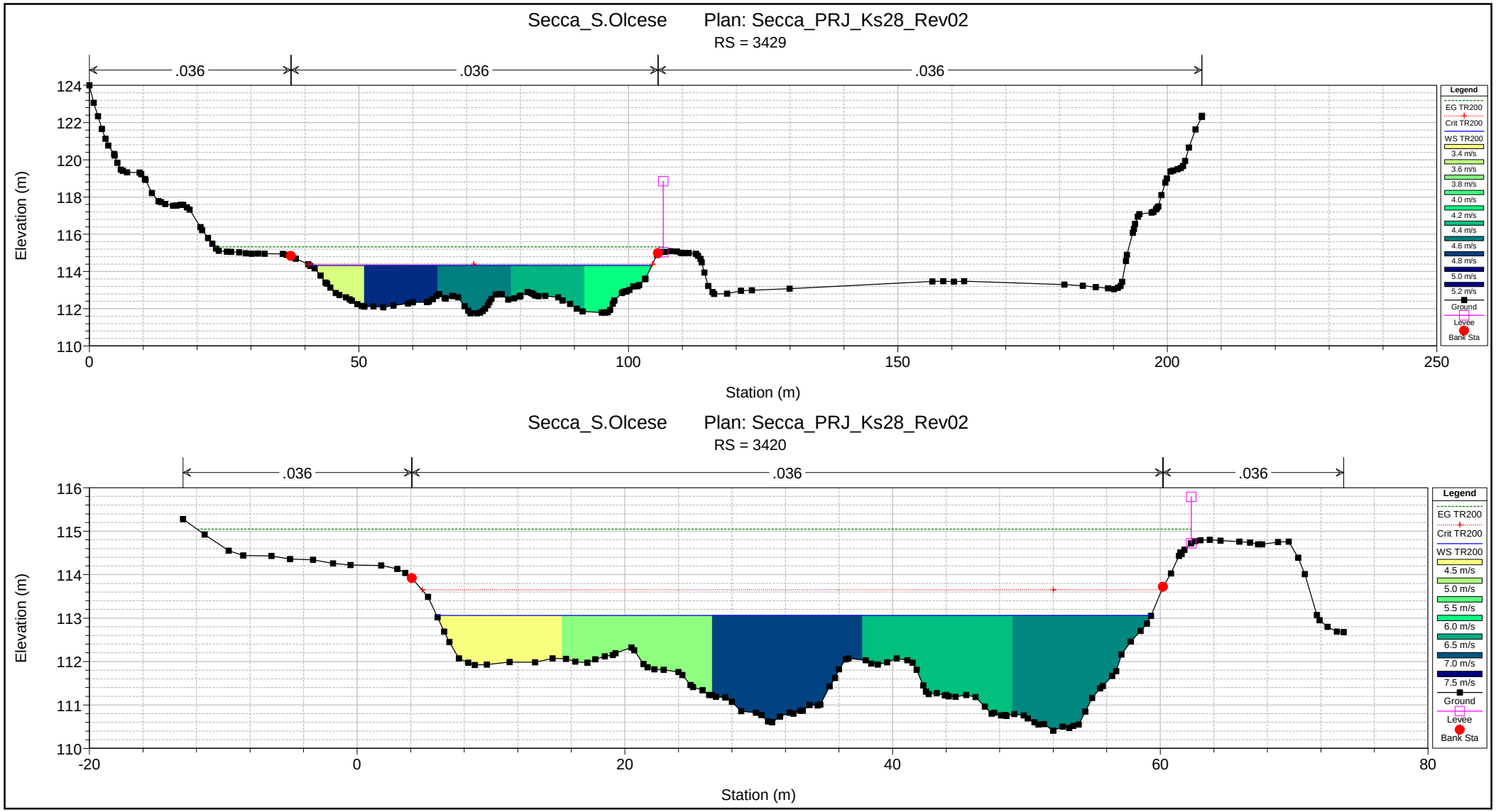

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3841 P.V.ChiappellaM
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3840 BR
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Levee
Bank Sta

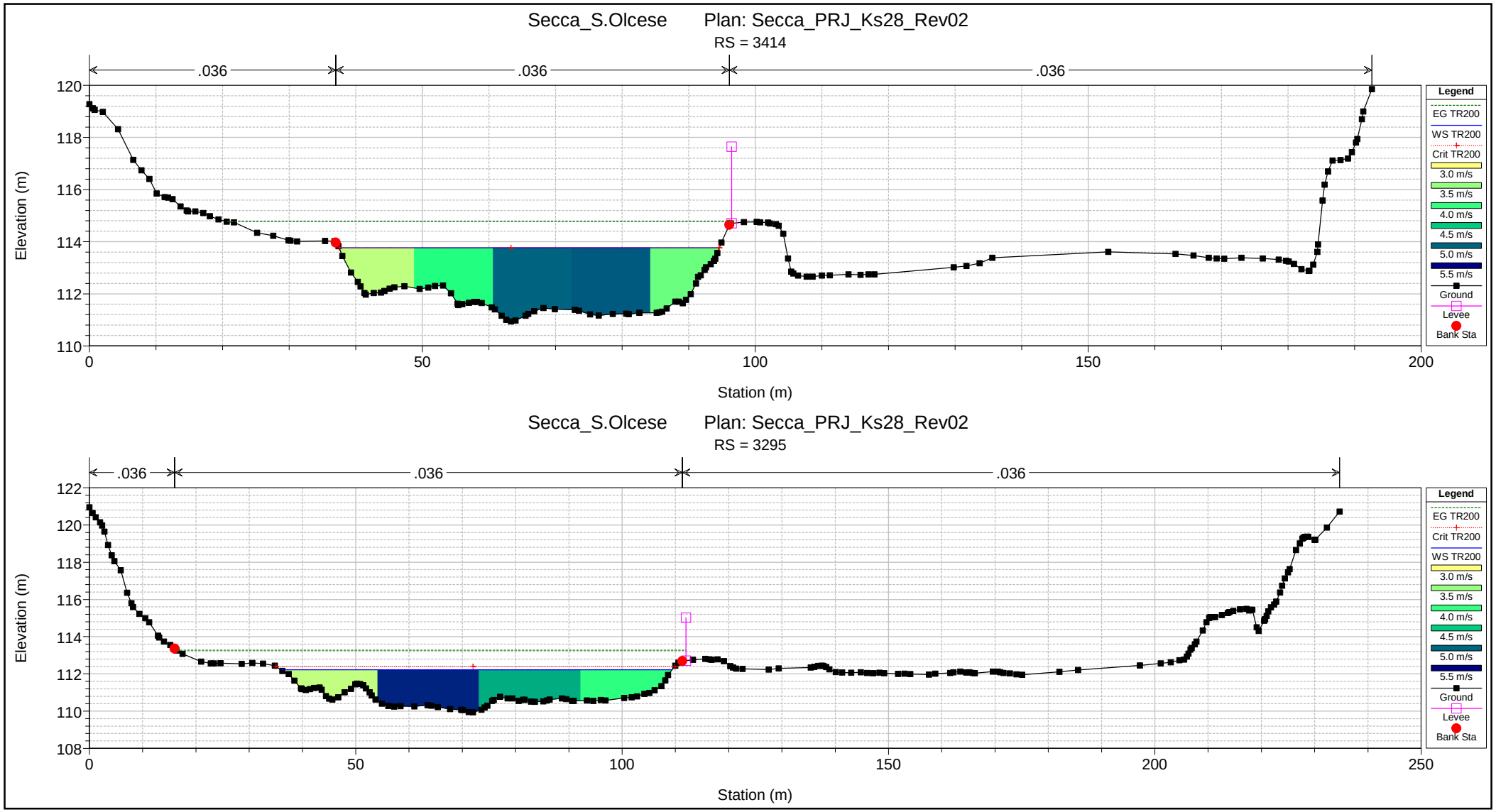

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3838 P.V.ChiappellaV
.036
.036
.036
Elevation (m)
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
5.8 m/s
6.0 m/s
6.2 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3831
.036
.036
.036
Elevation (m)
124
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.8 m/s
4.9 m/s
5.0 m/s
5.1 m/s
5.2 m/s
5.3 m/s
5.4 m/s
5.5 m/s
5.6 m/s
Ground
Levee
Bank Sta

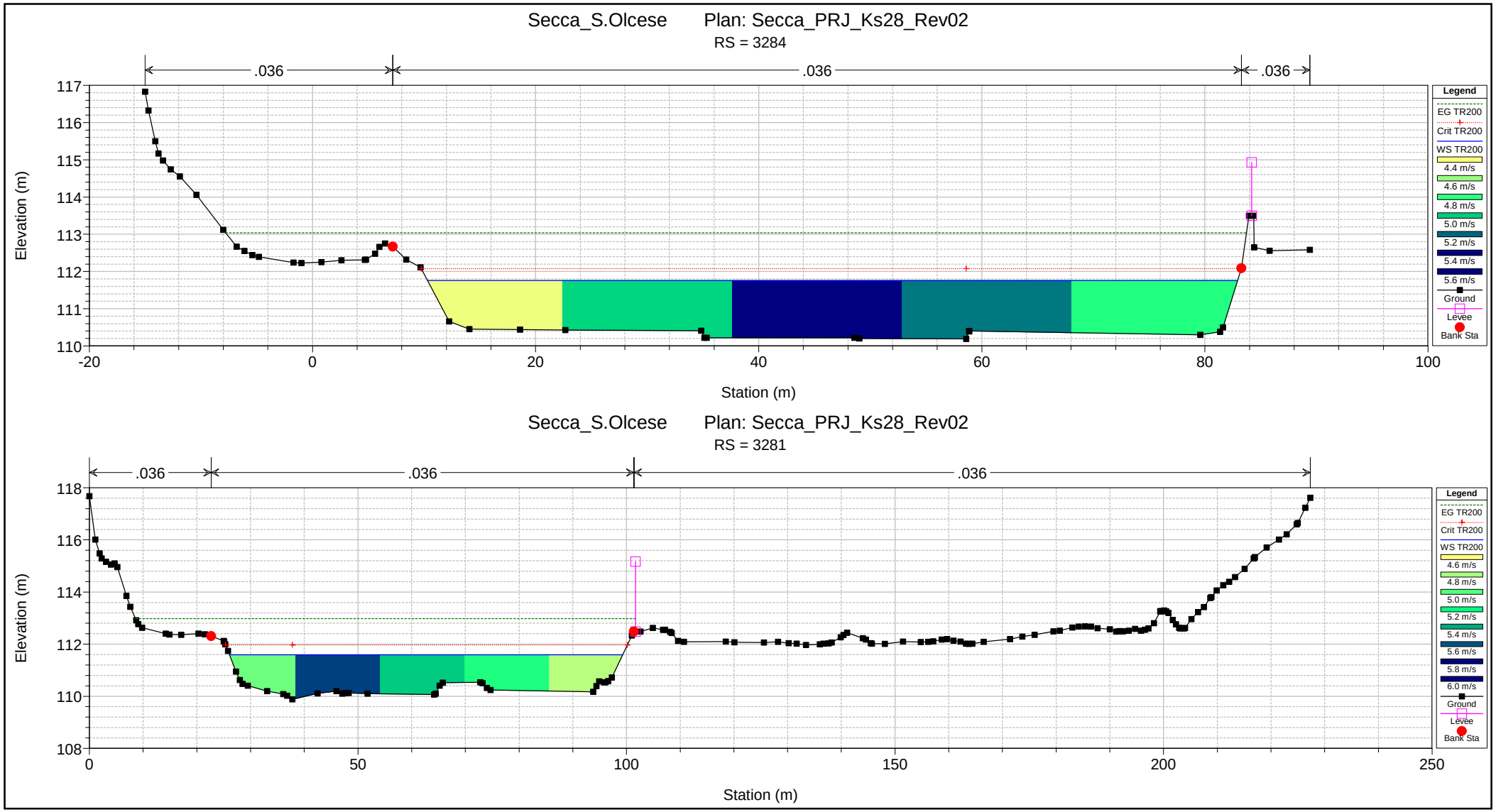

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3828
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3752
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta

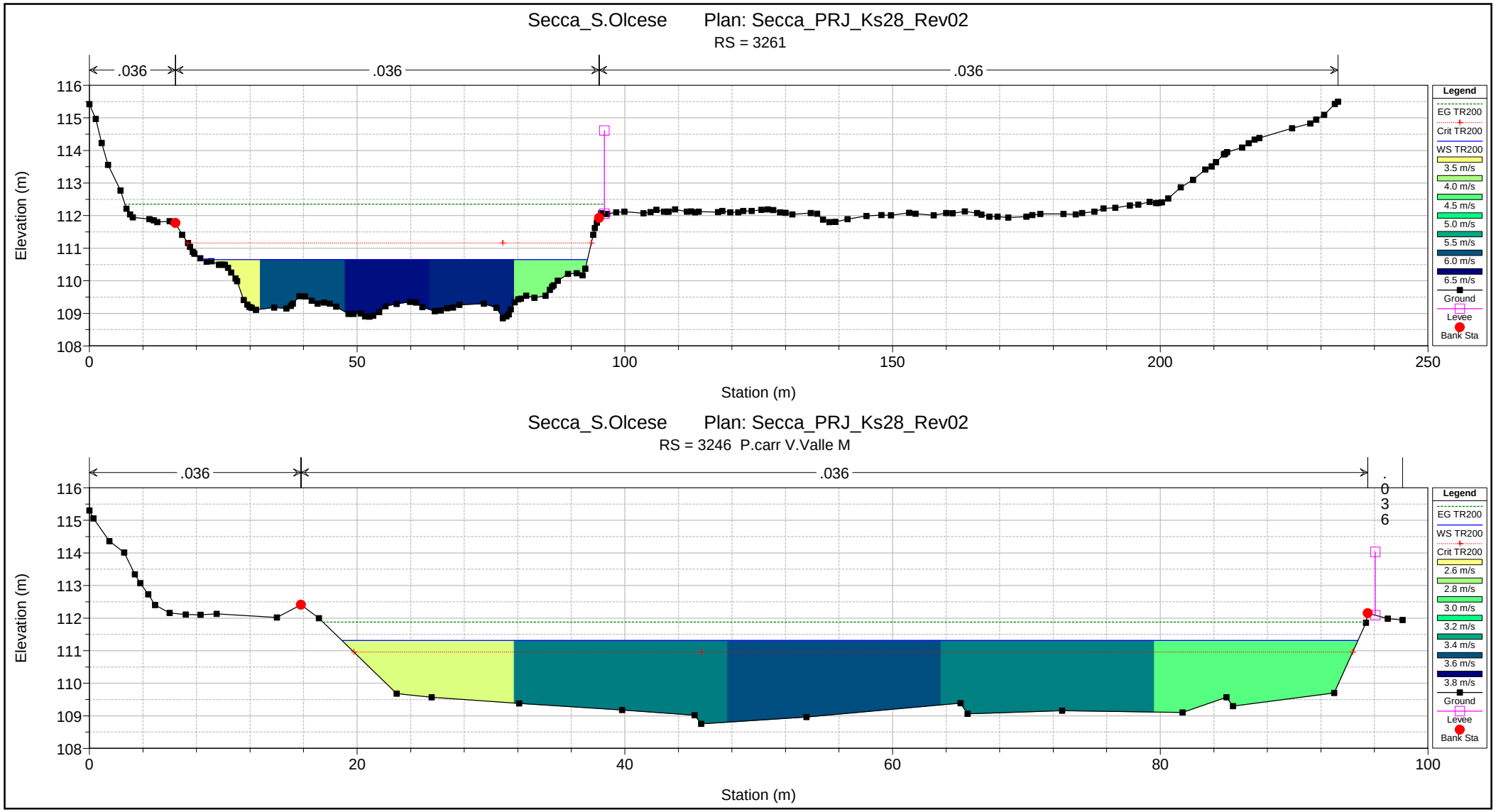

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3744
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3737
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

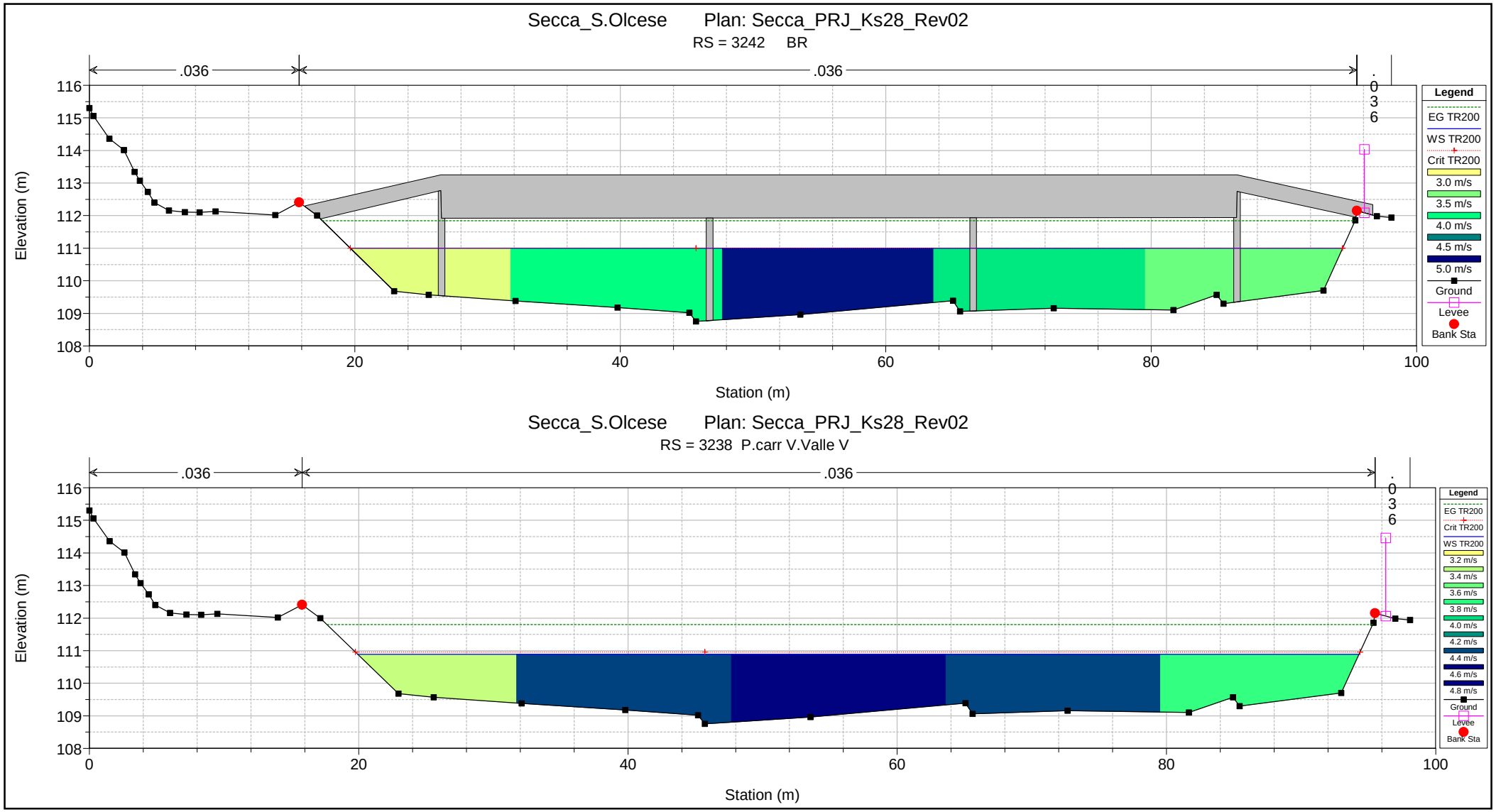

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3729
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3587
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

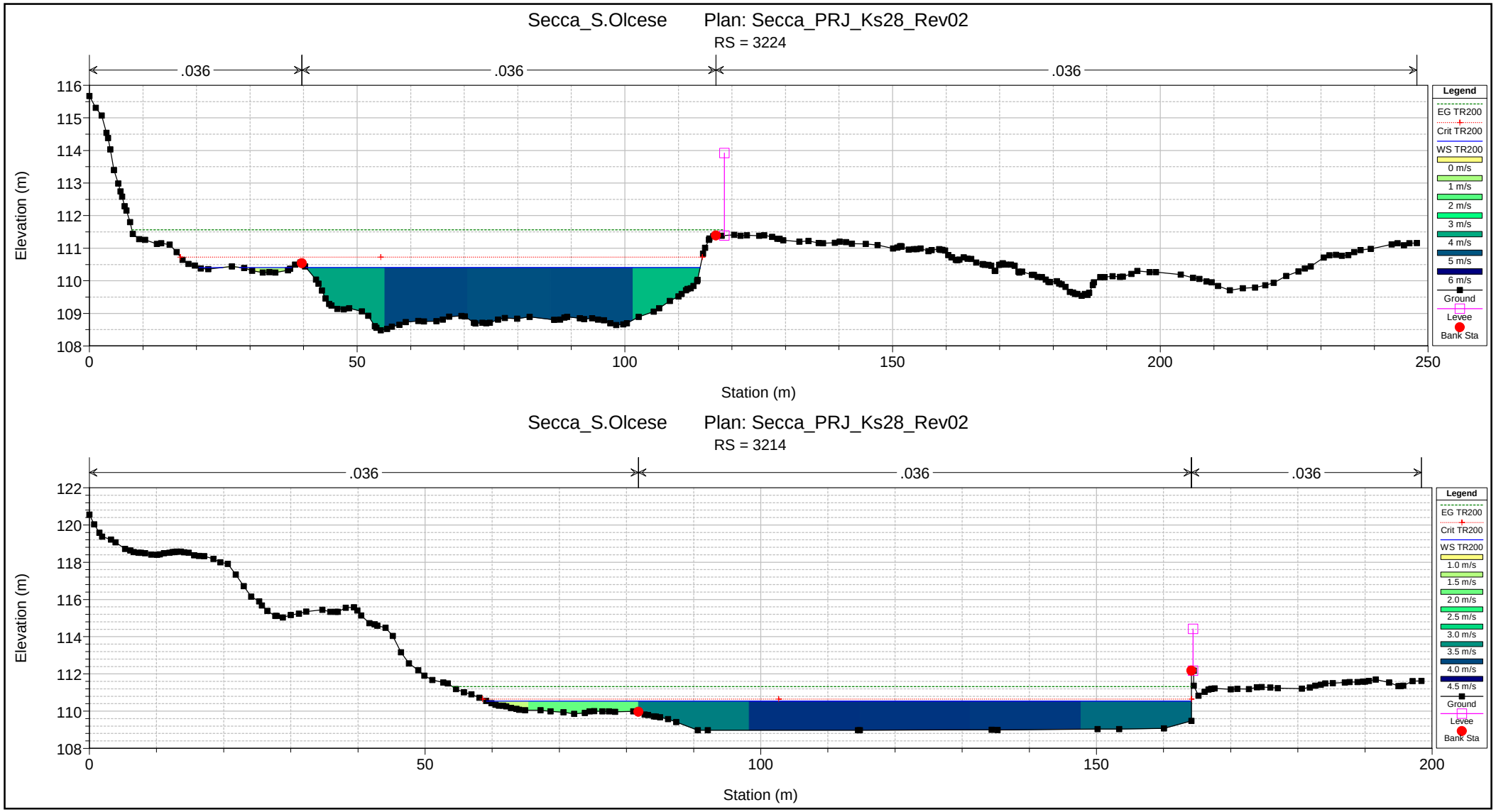

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3429
.036
.036
.036
Elevation (m)
124
122
120
118
116
114
112
110
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3420
.036
.036
.036
Elevation (m)
116
115
114
113
112
111
110
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta

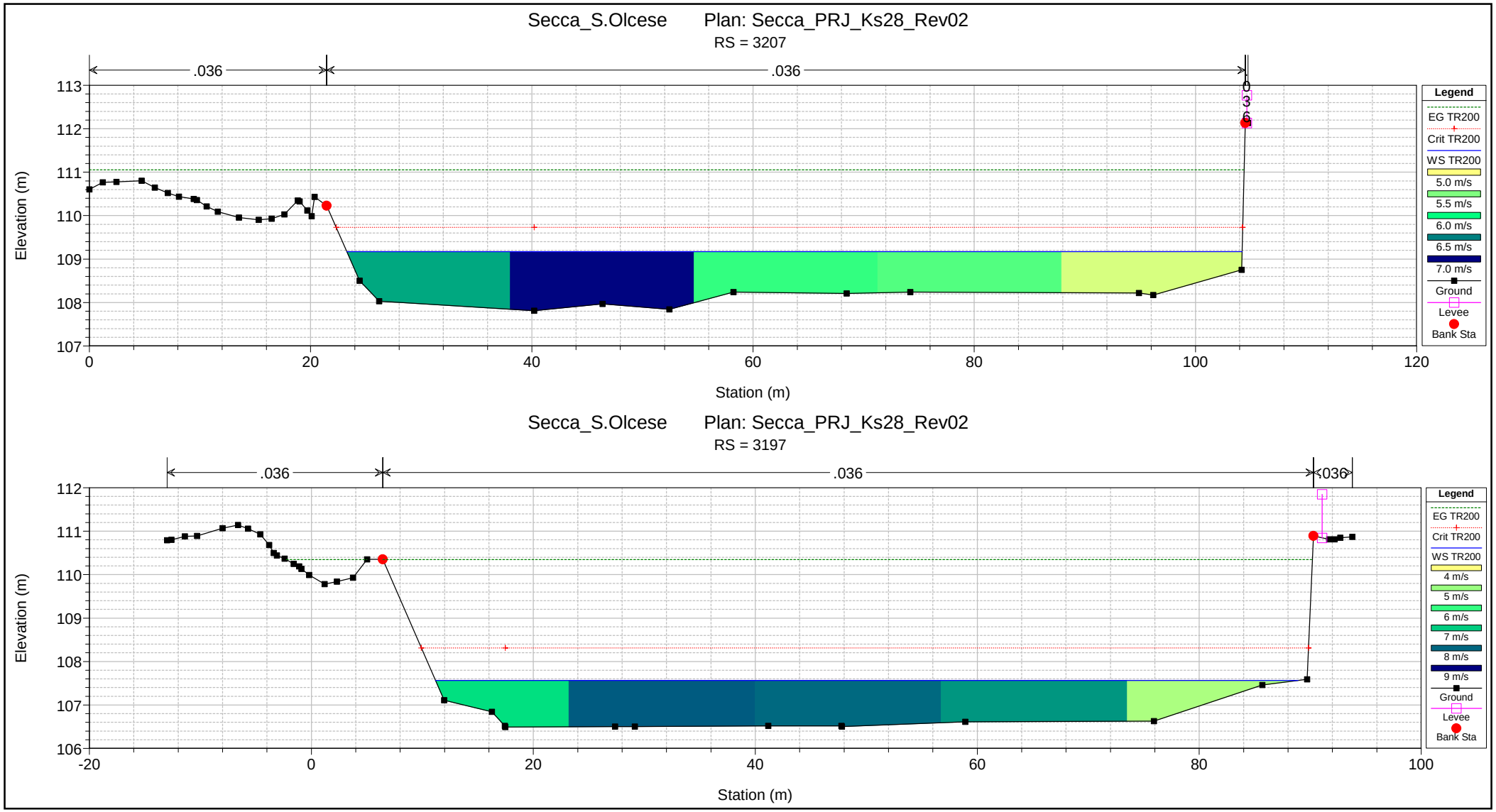

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3414
.036
.036
.036
Elevation (m)
120
118
116
114
112
110
0
50
100
150
200
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3295
.036
.036
.036
Elevation (m)
122
120
118
116
114
112
110
108
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

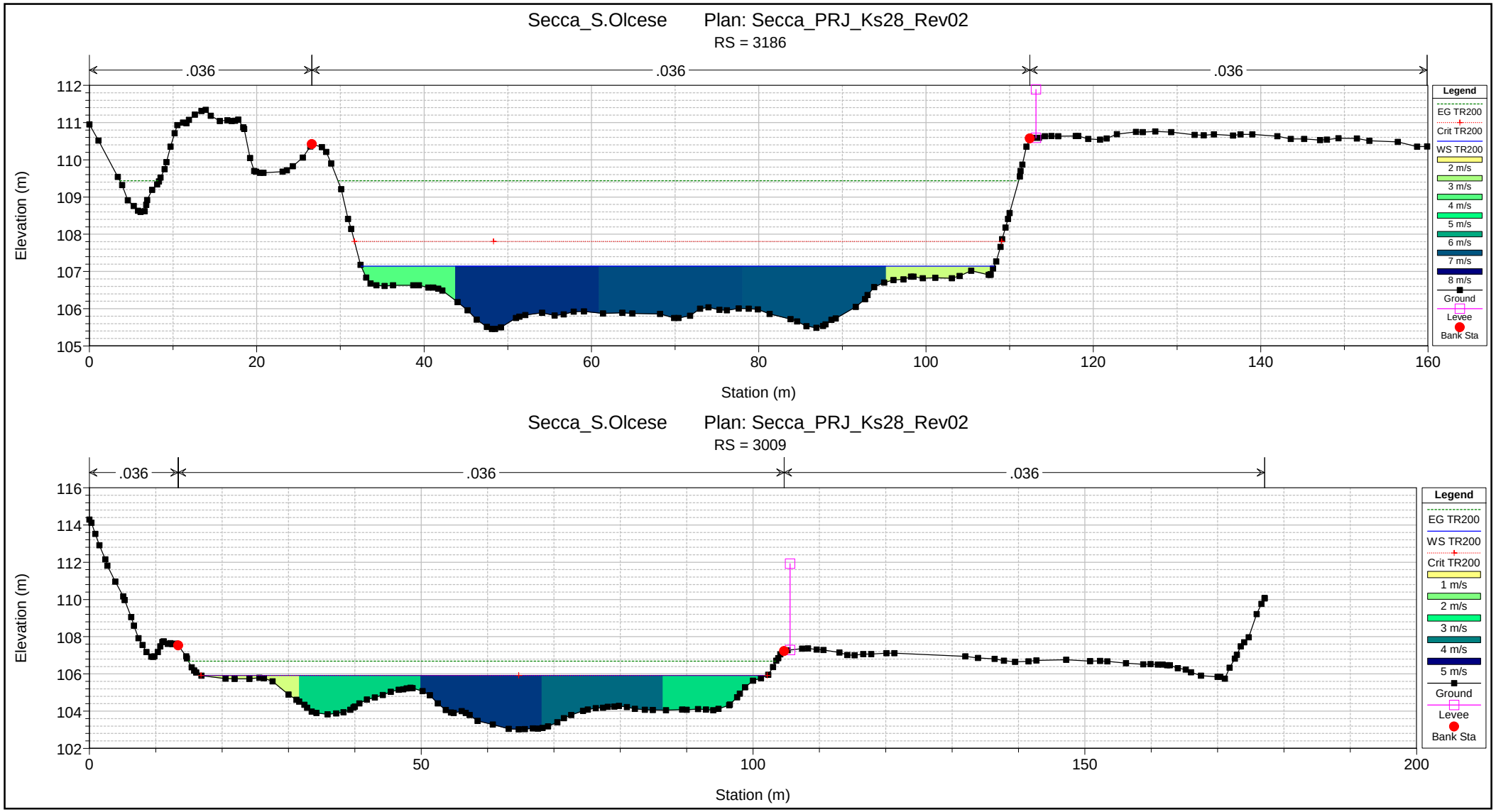

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3284
.036
.036
.036
Elevation (m)
117
116
115
114
113
112
111
110
-20
0
20
40
60
80
100
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3281
.036
.036
.036
Elevation (m)
118
116
114
112
110
108
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
5.8 m/s
6.0 m/s
Ground
Levee
Bank Sta

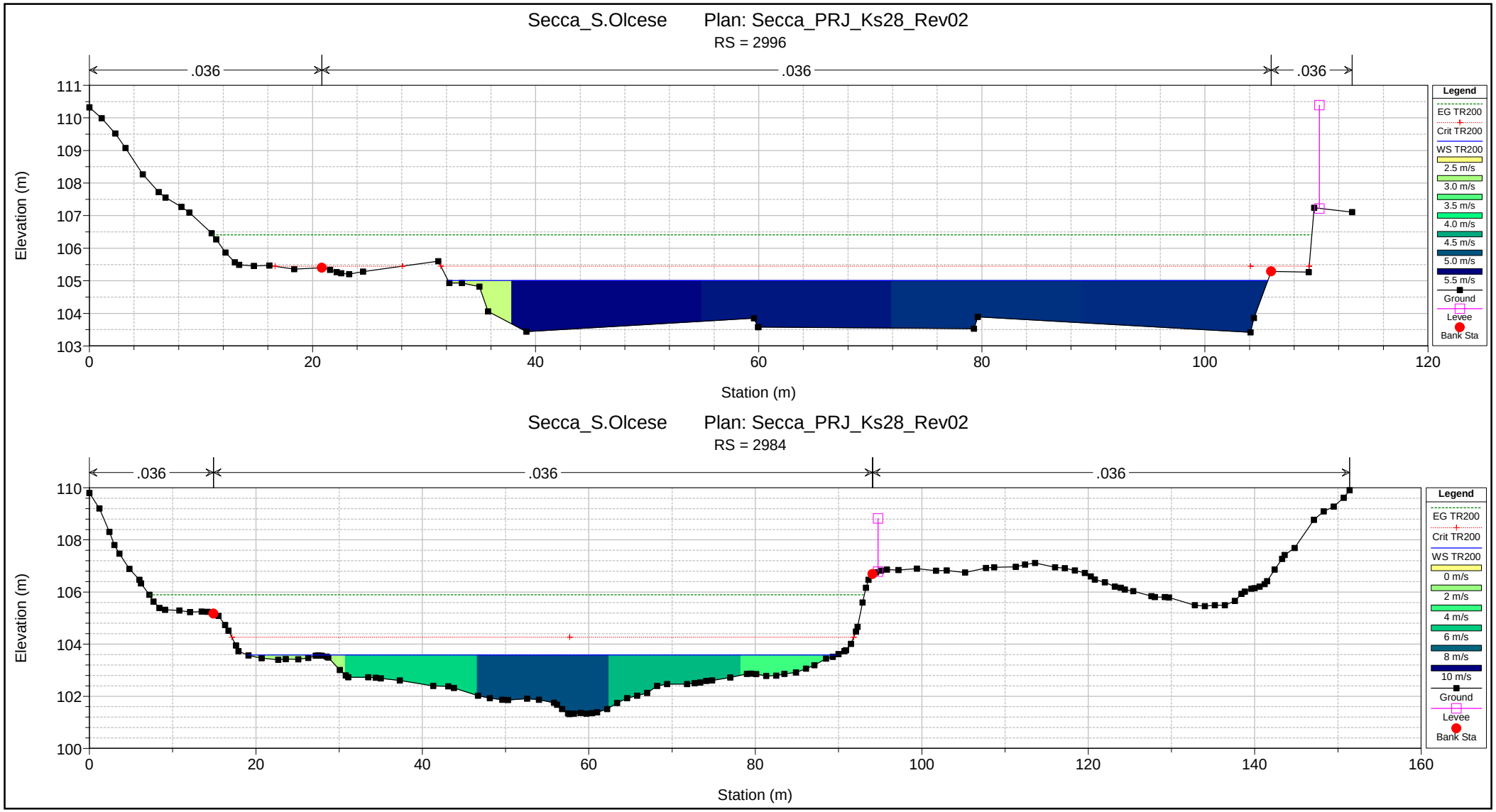

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3261
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3246 P.carr V.Valle M
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
Ground
Levee
Bank Sta

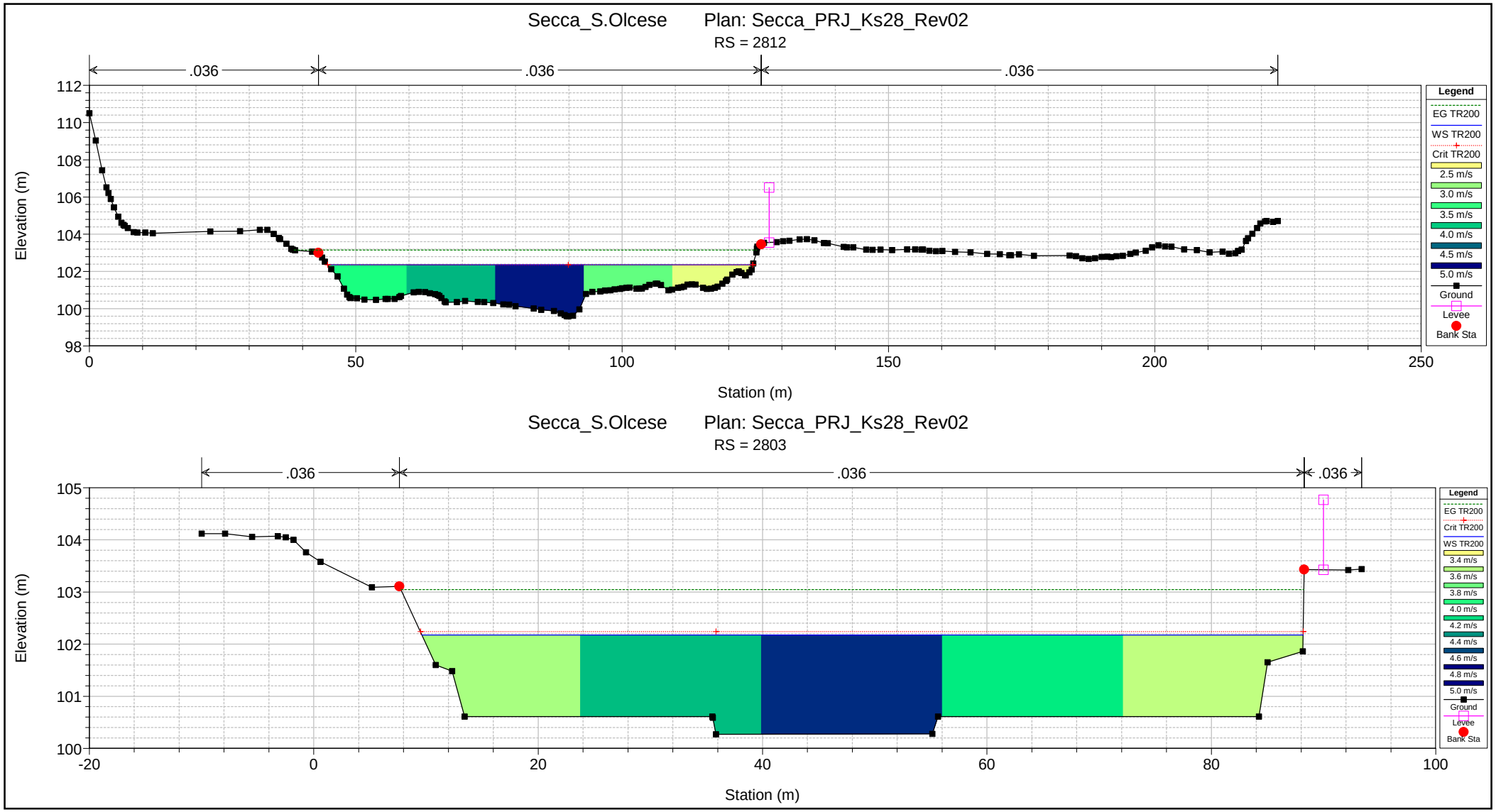

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3242 BR
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3238 P.carr V.Valle V
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
Ground
Levee
Bank Sta

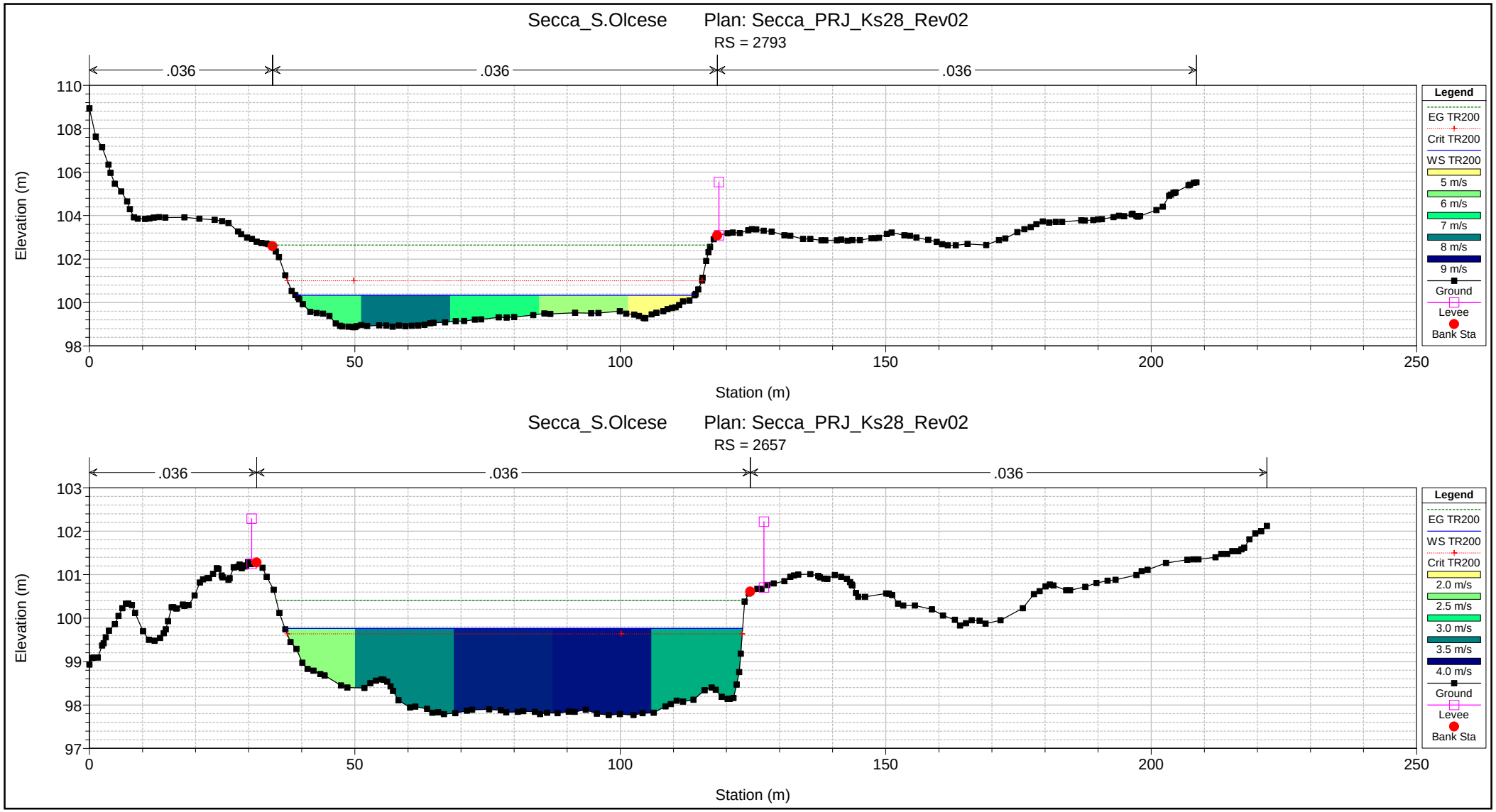

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3224
.036
.036
.036
Elevation (m)
116
115
114
113
112
111
110
109
108
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3214
.036
.036
.036
Elevation (m)
122
120
118
116
114
112
110
108
0
50
100
150
200
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

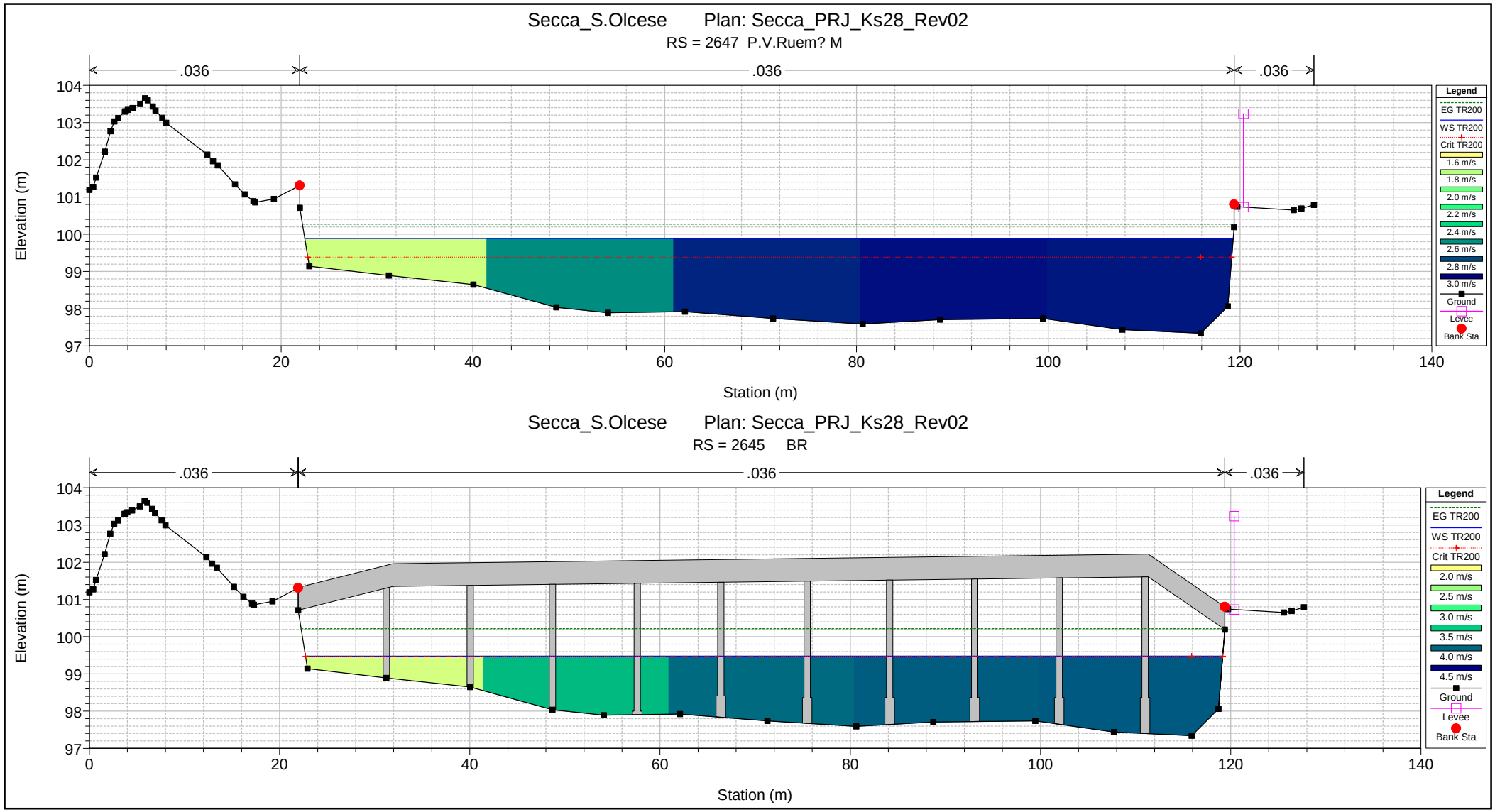

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3207
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3197
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

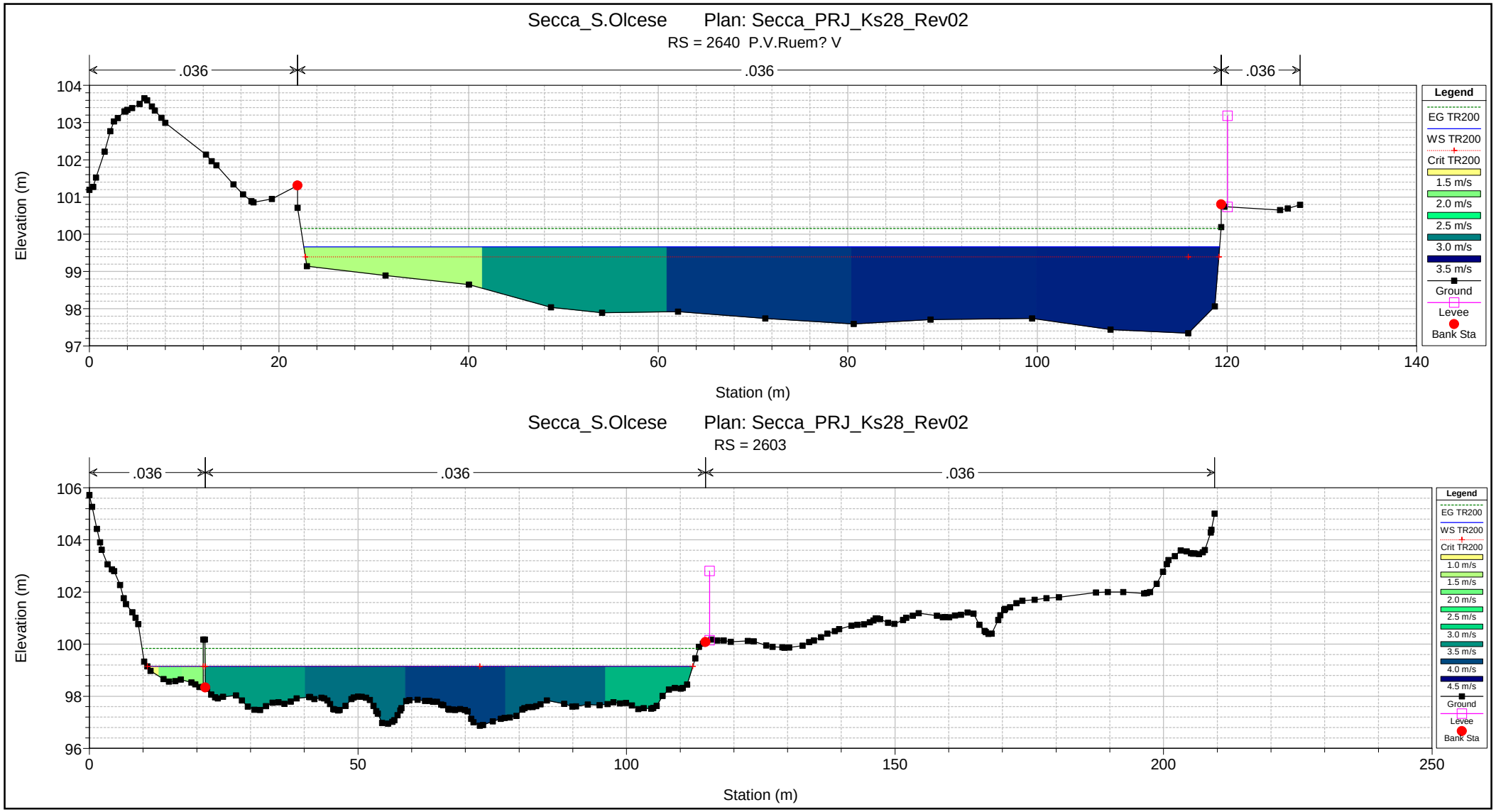

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3186
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 3009
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

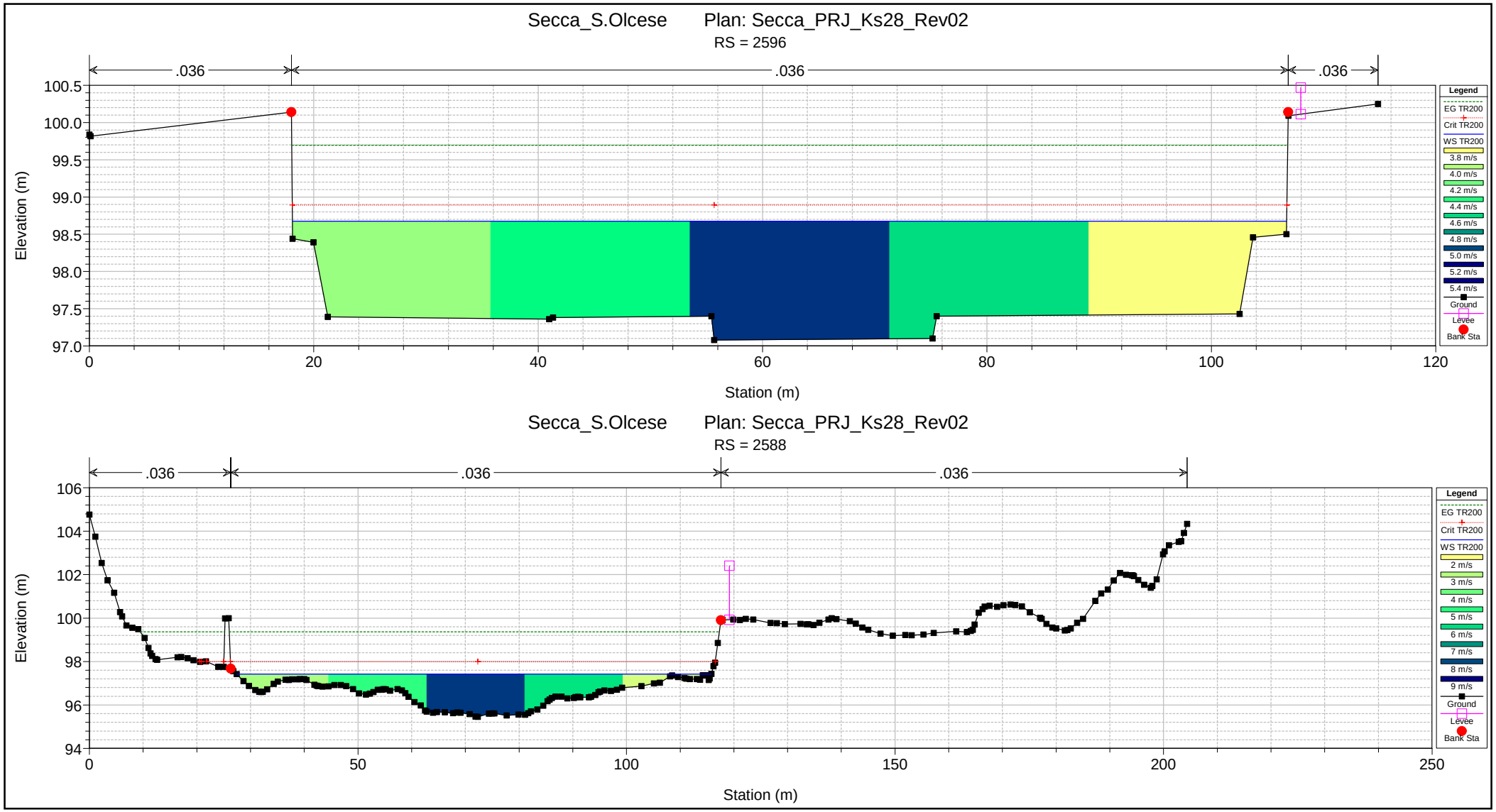

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2996
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2984
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

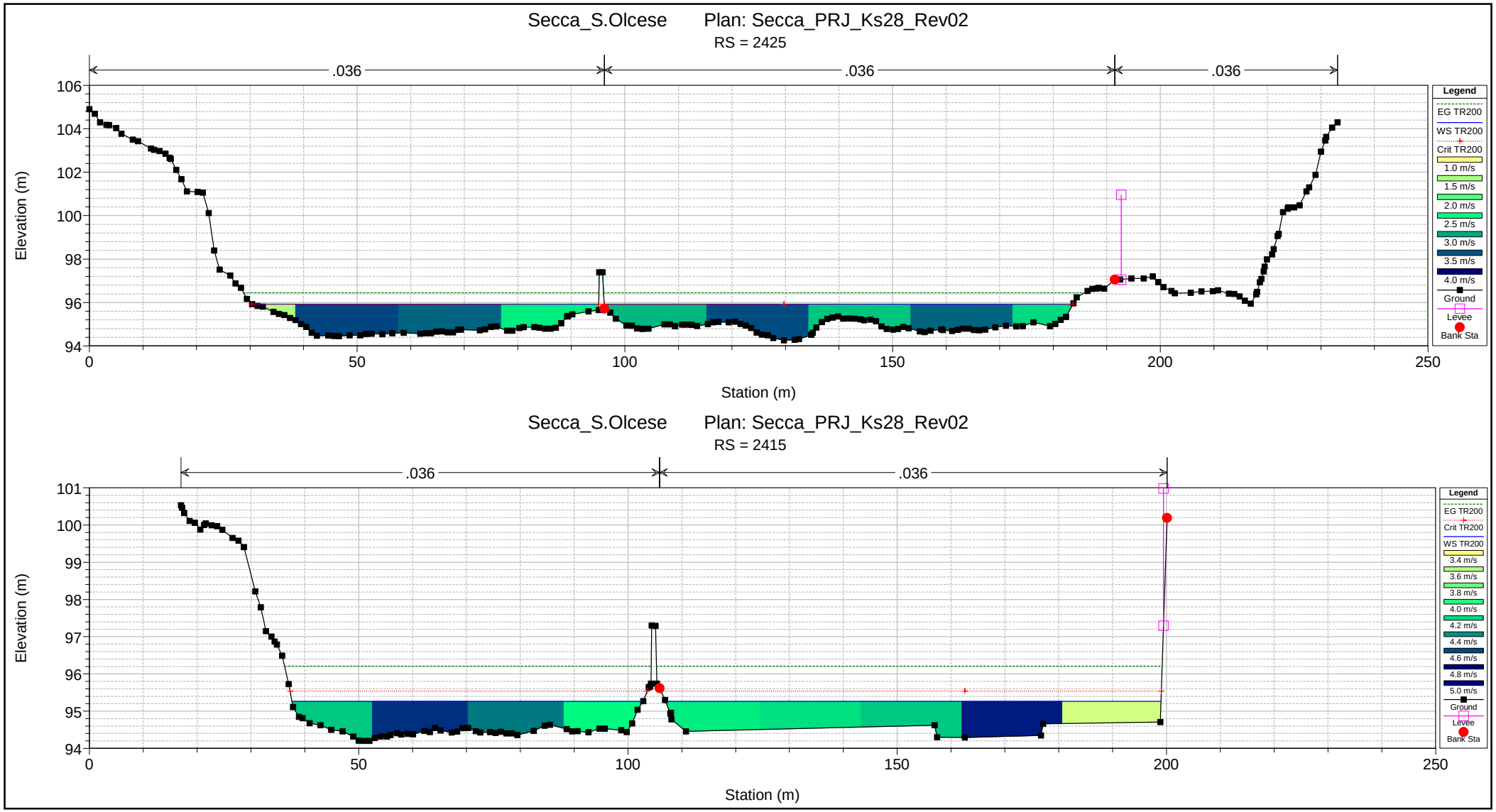

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2812
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2803
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta

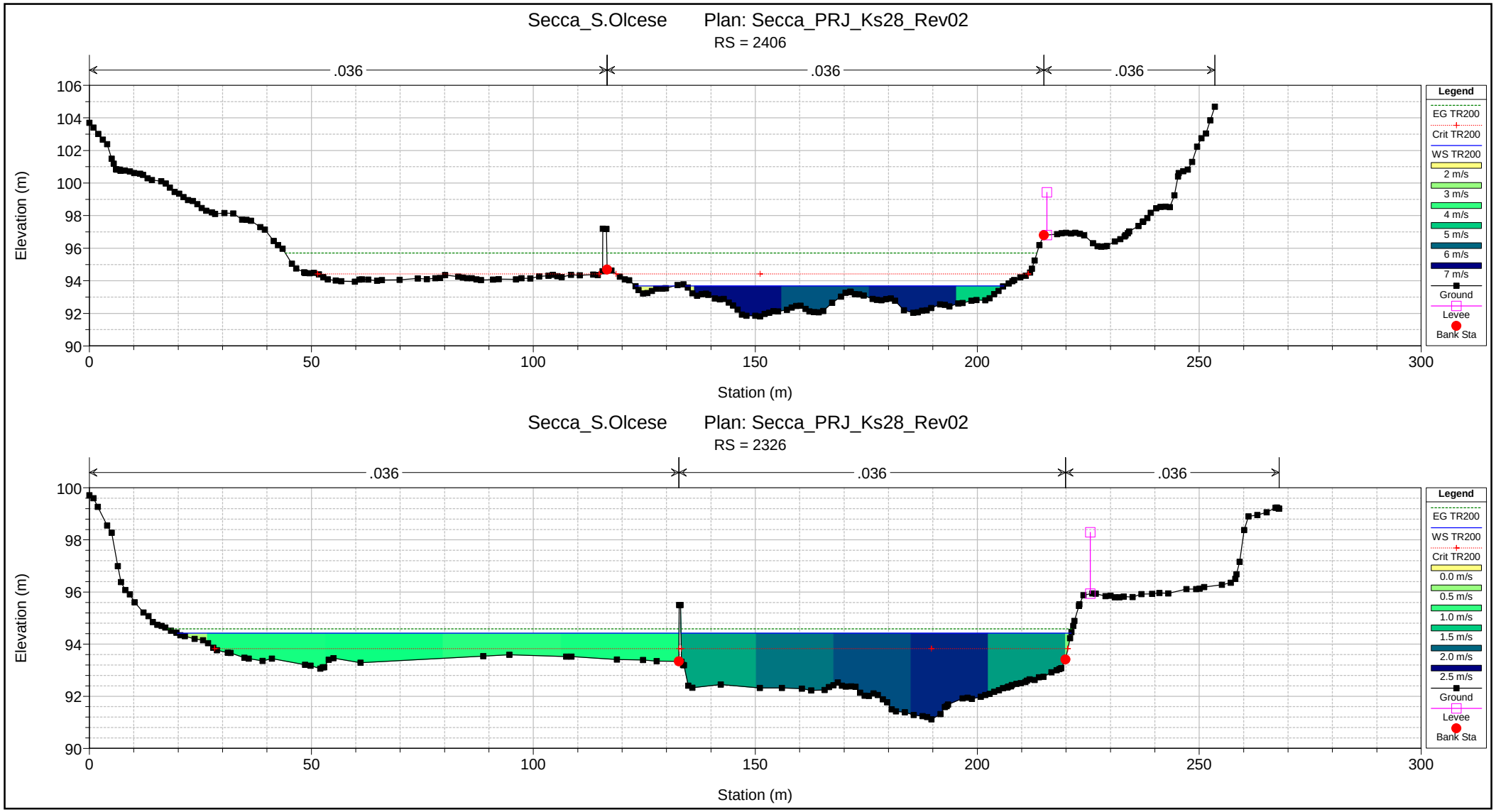

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2793
.036
.036
.036
Elevation (m)
110
108
106
104
102
100
98
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2657
.036
.036
.036
Elevation (m)
103
102
101
100
99
98
97
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta

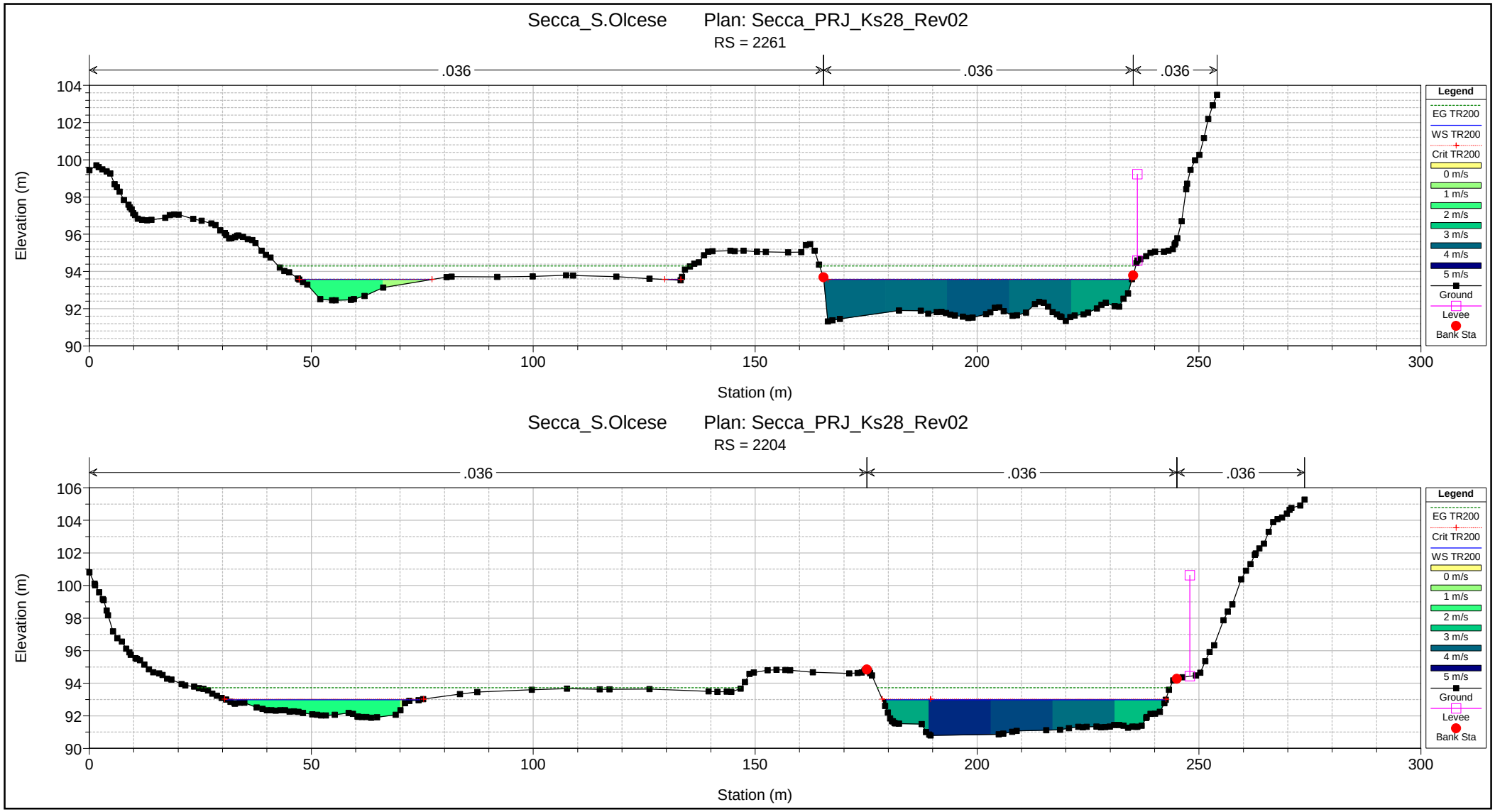

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2647 P.V.Ruem? M
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2645 BR
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

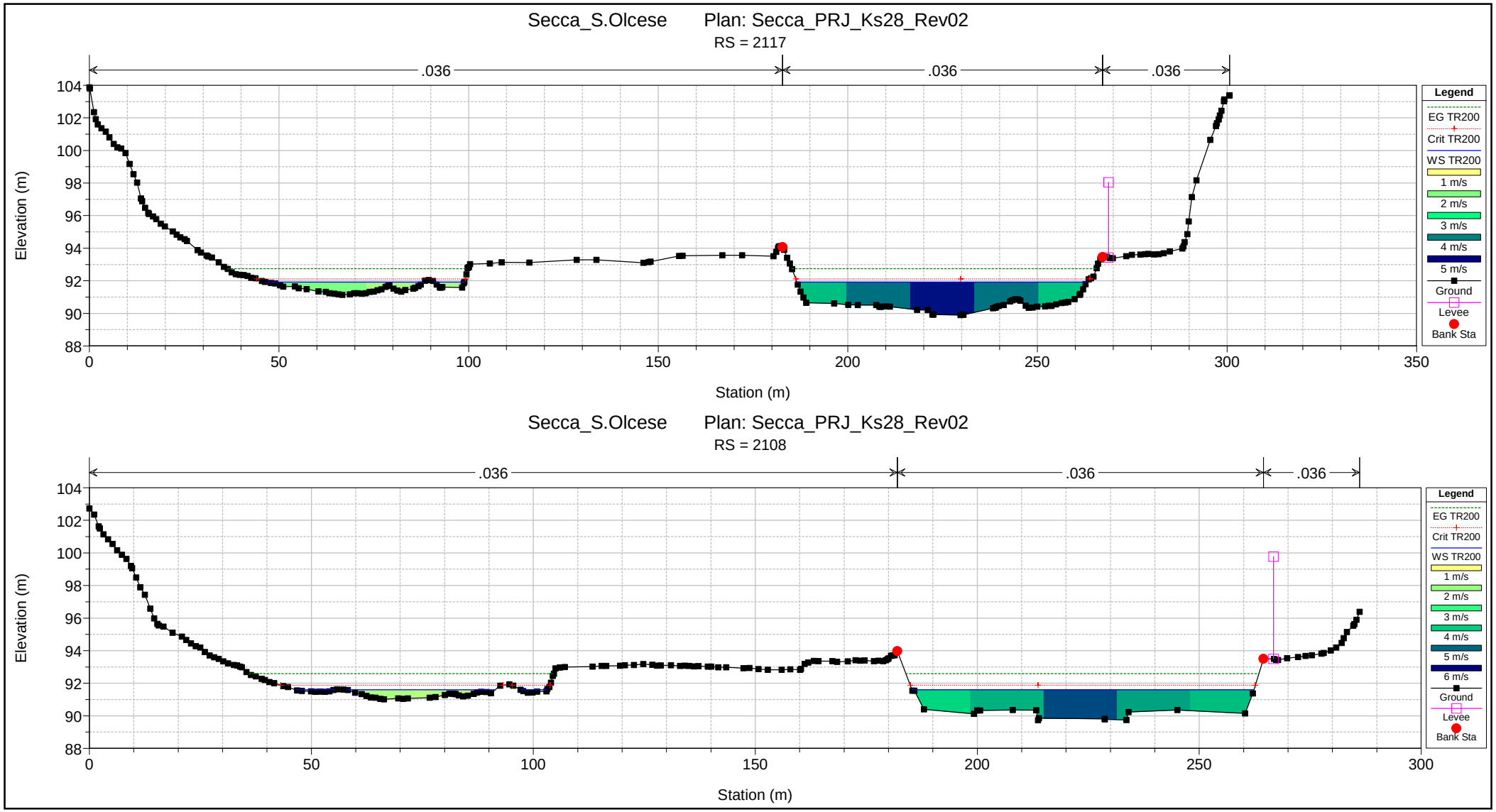

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2640 P.V.Ruem? V
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2603
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

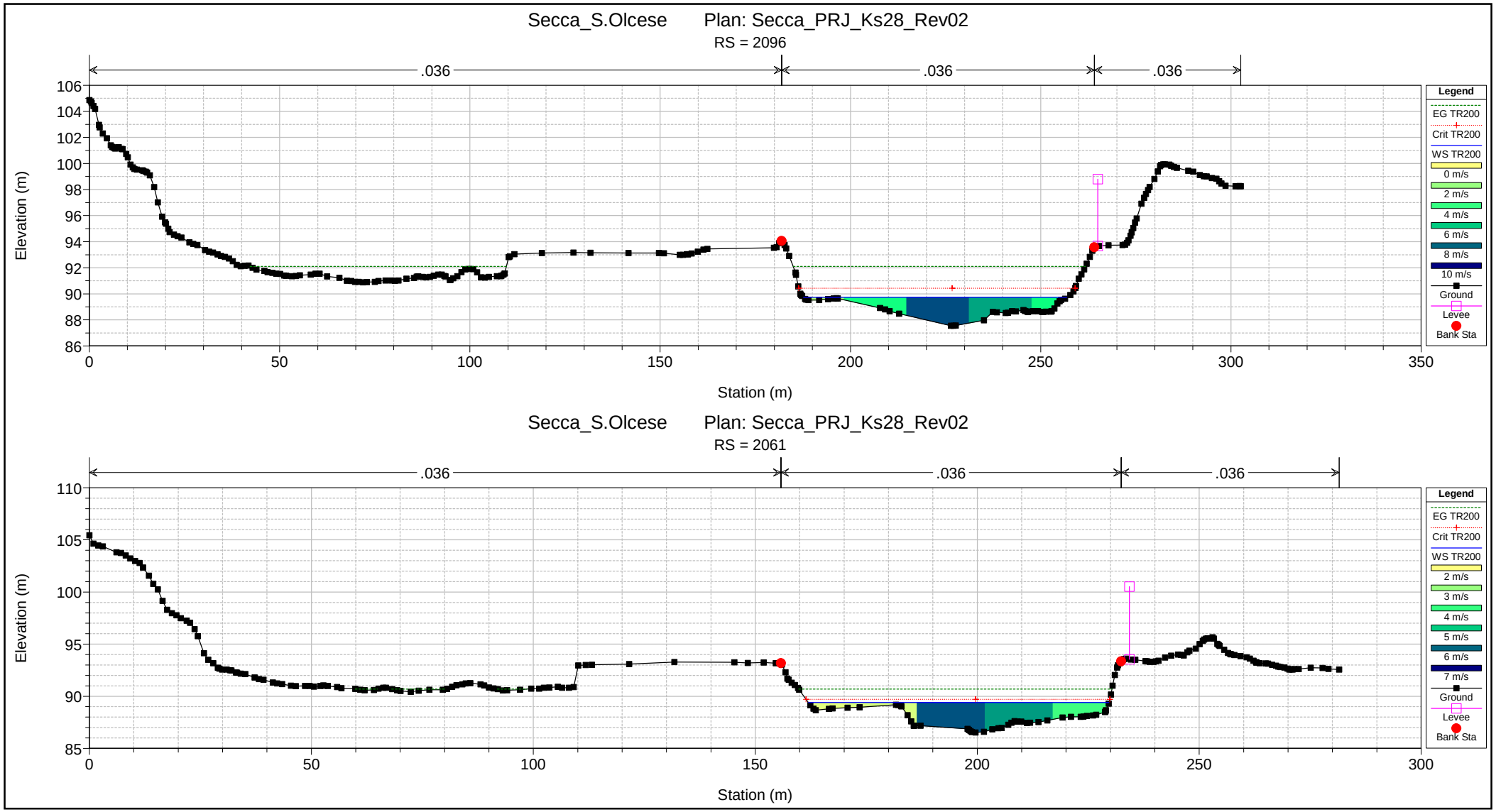

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2596
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2588
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

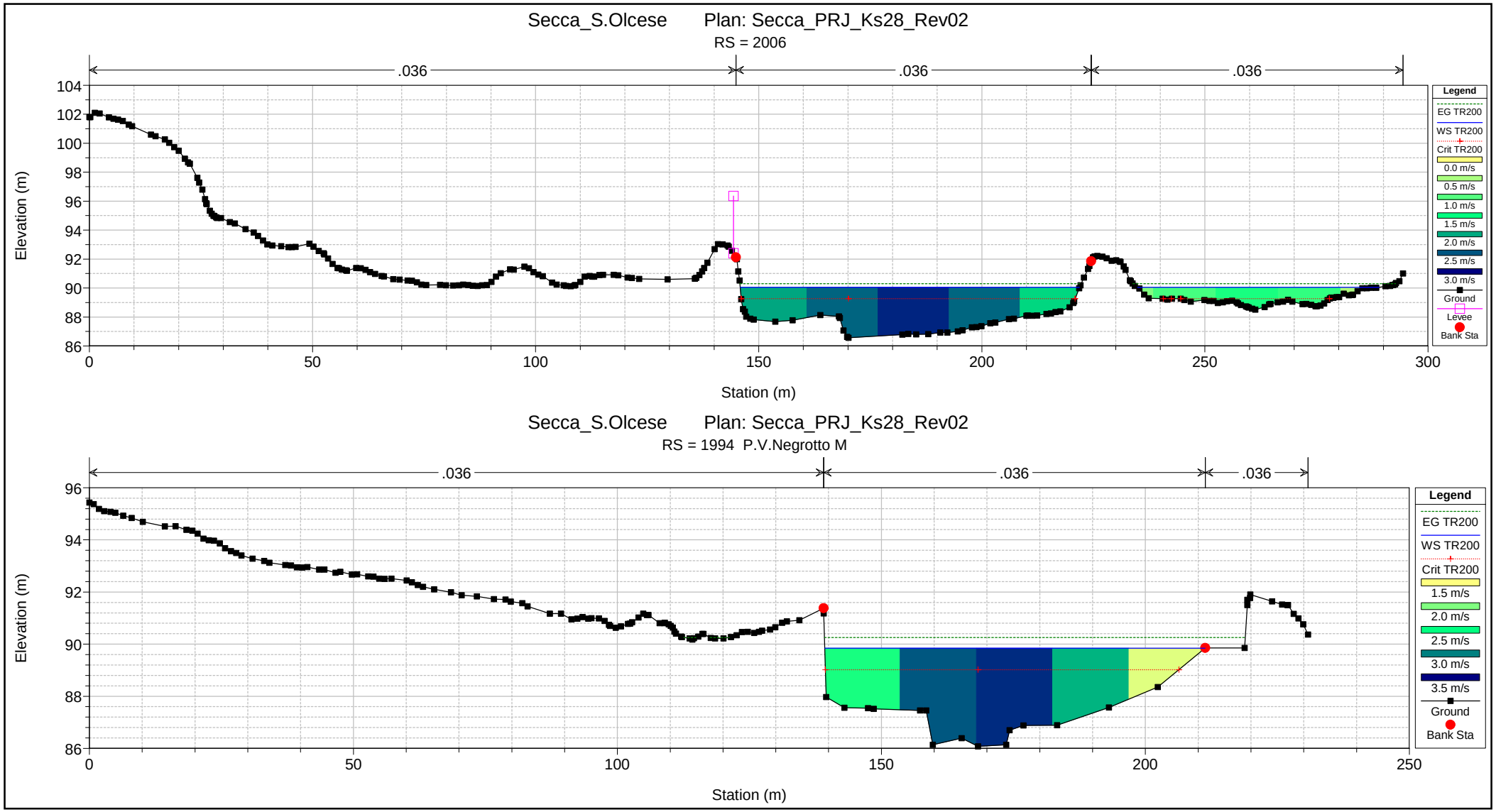

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2425
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2415
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta

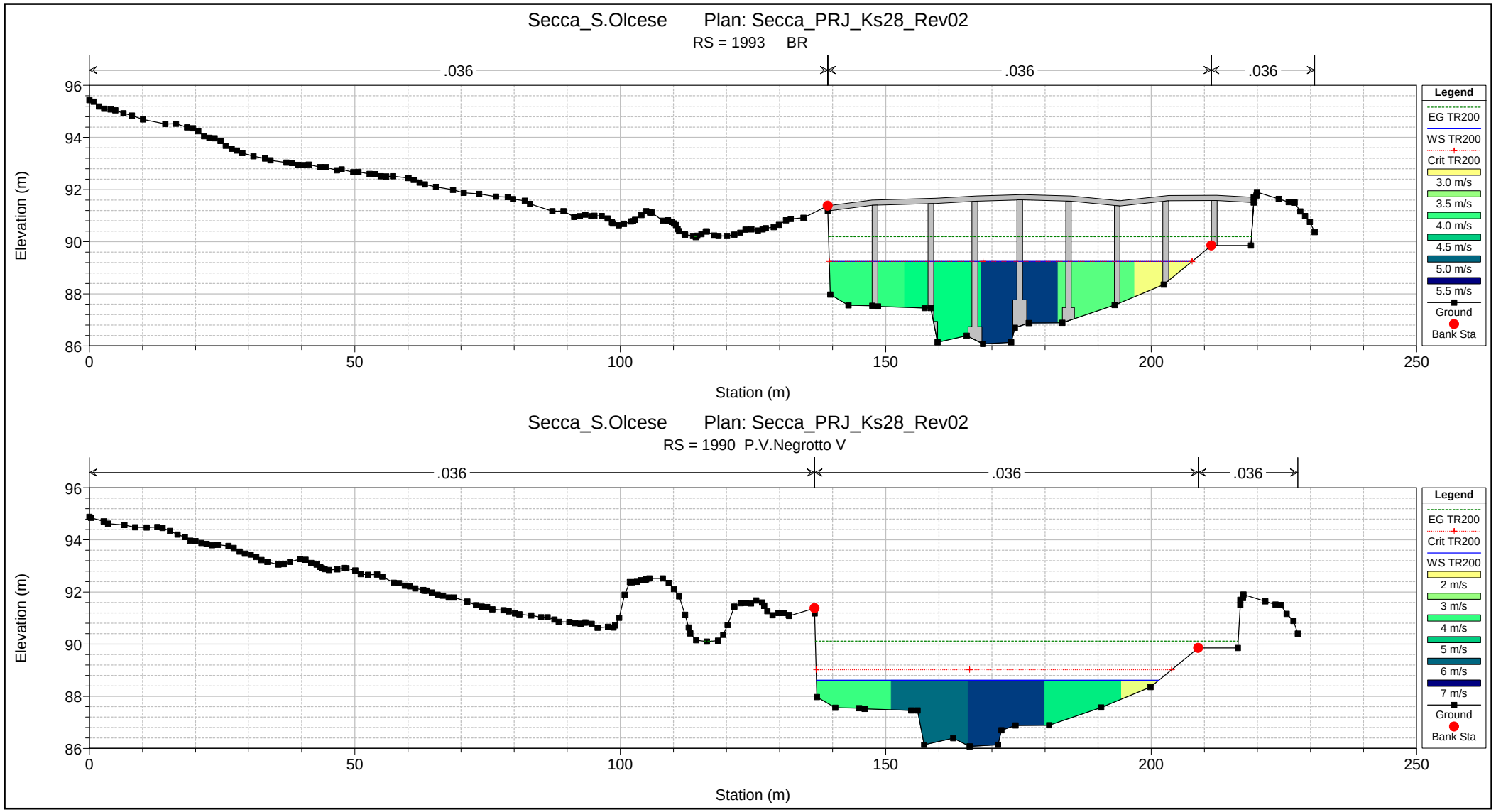

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2406
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2326
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
Ground
Levee
Bank Sta

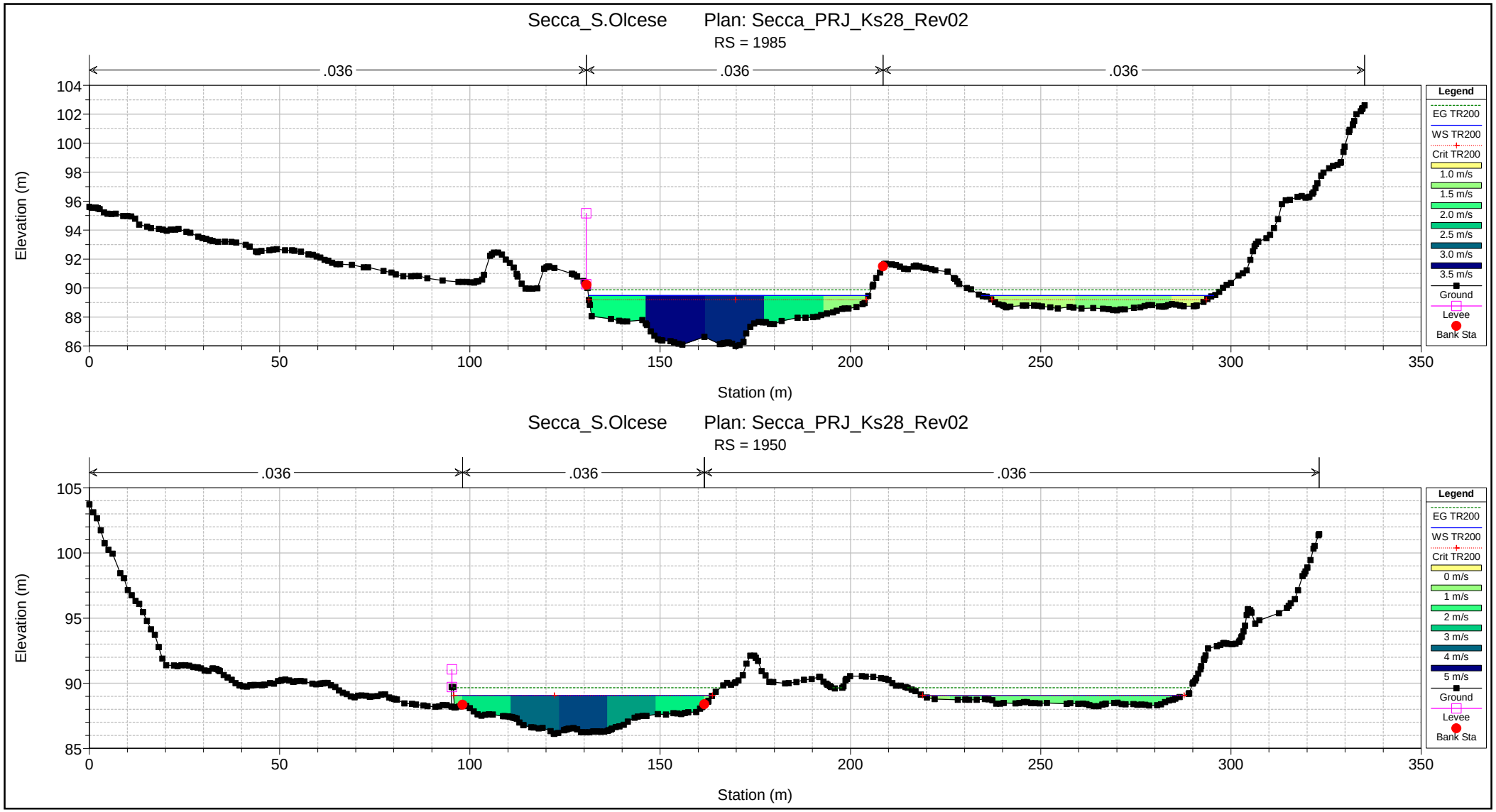

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2261
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2204
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

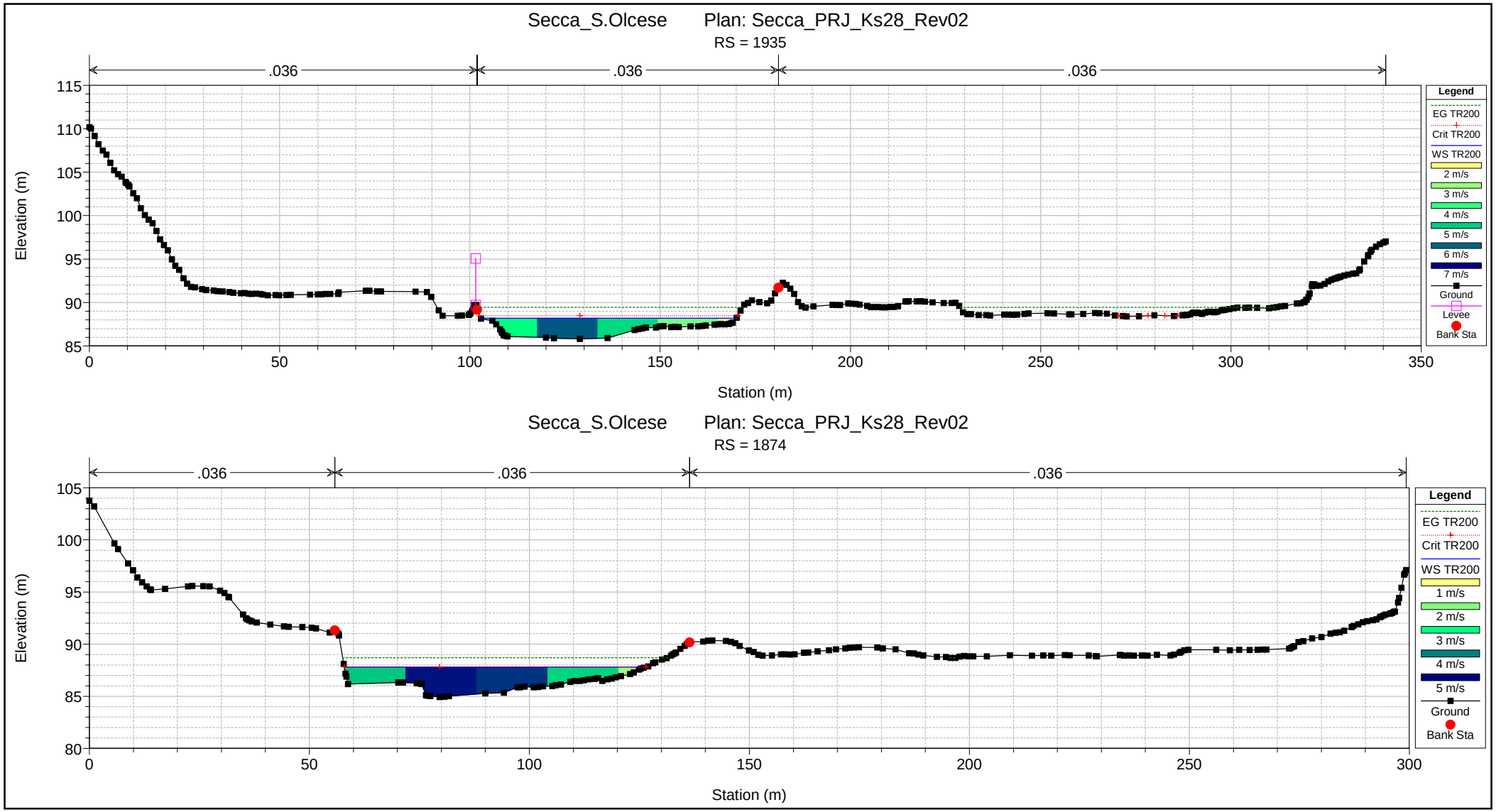

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2117
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2108
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

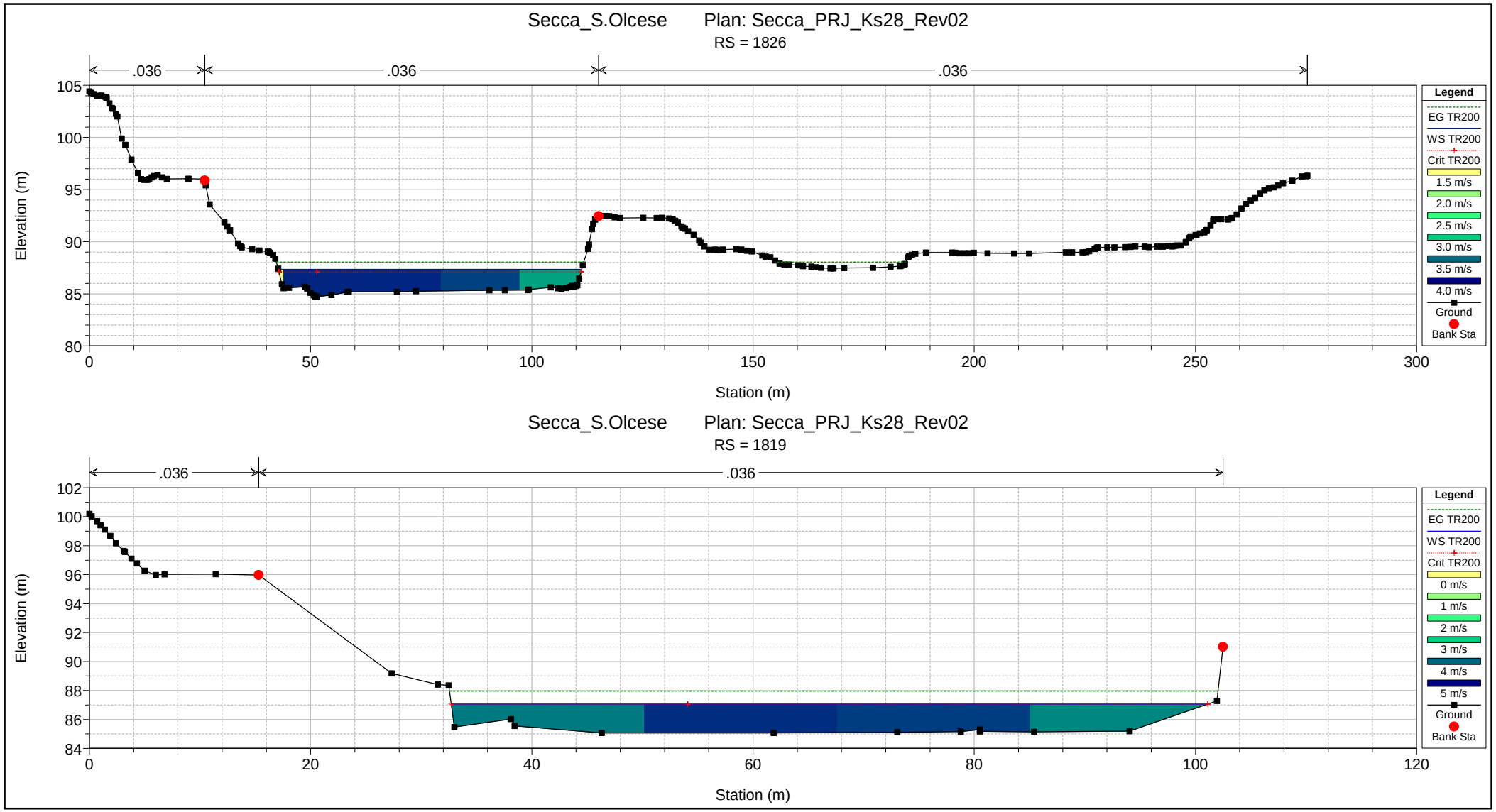

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2096
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2061
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta

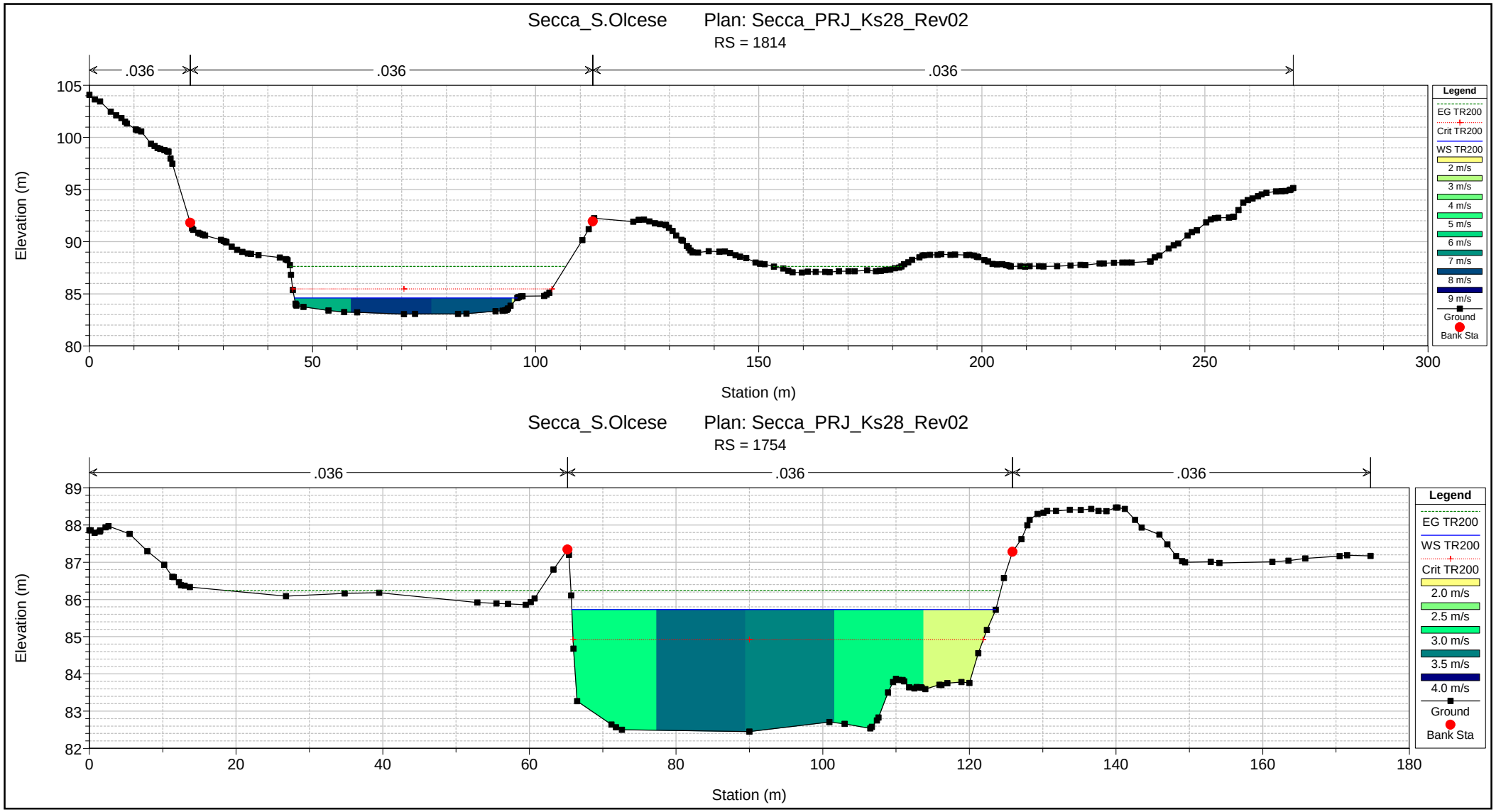

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 2006
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1994 P.V.Negrotto M
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Bank Sta

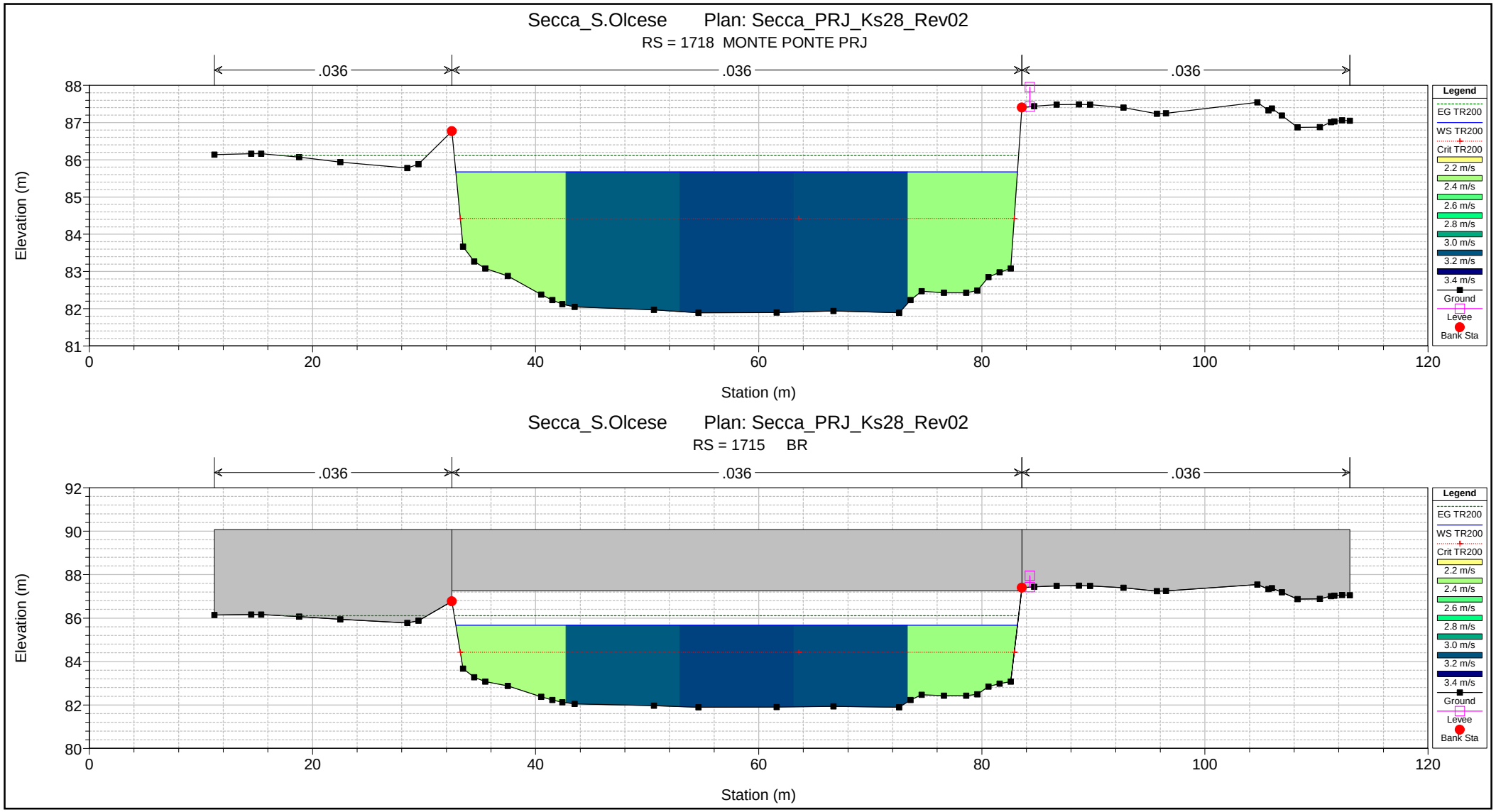

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1993 BR
.036
.036
.036
Elevation (m)
96
94
92
90
88
86
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1990 P.V.Negrotto V
.036
.036
.036
Elevation (m)
96
94
92
90
88
86
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta

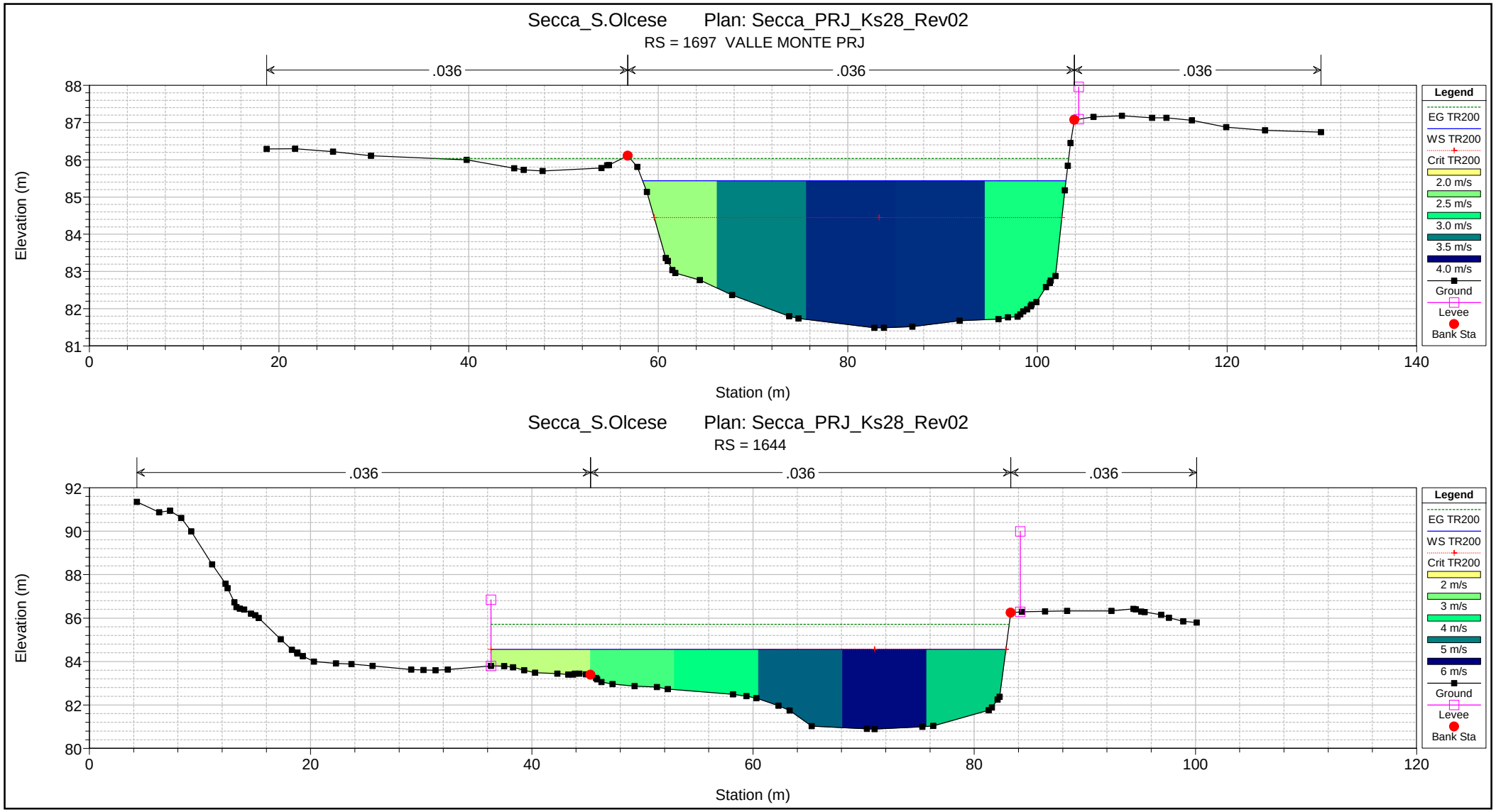

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1985
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1950
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

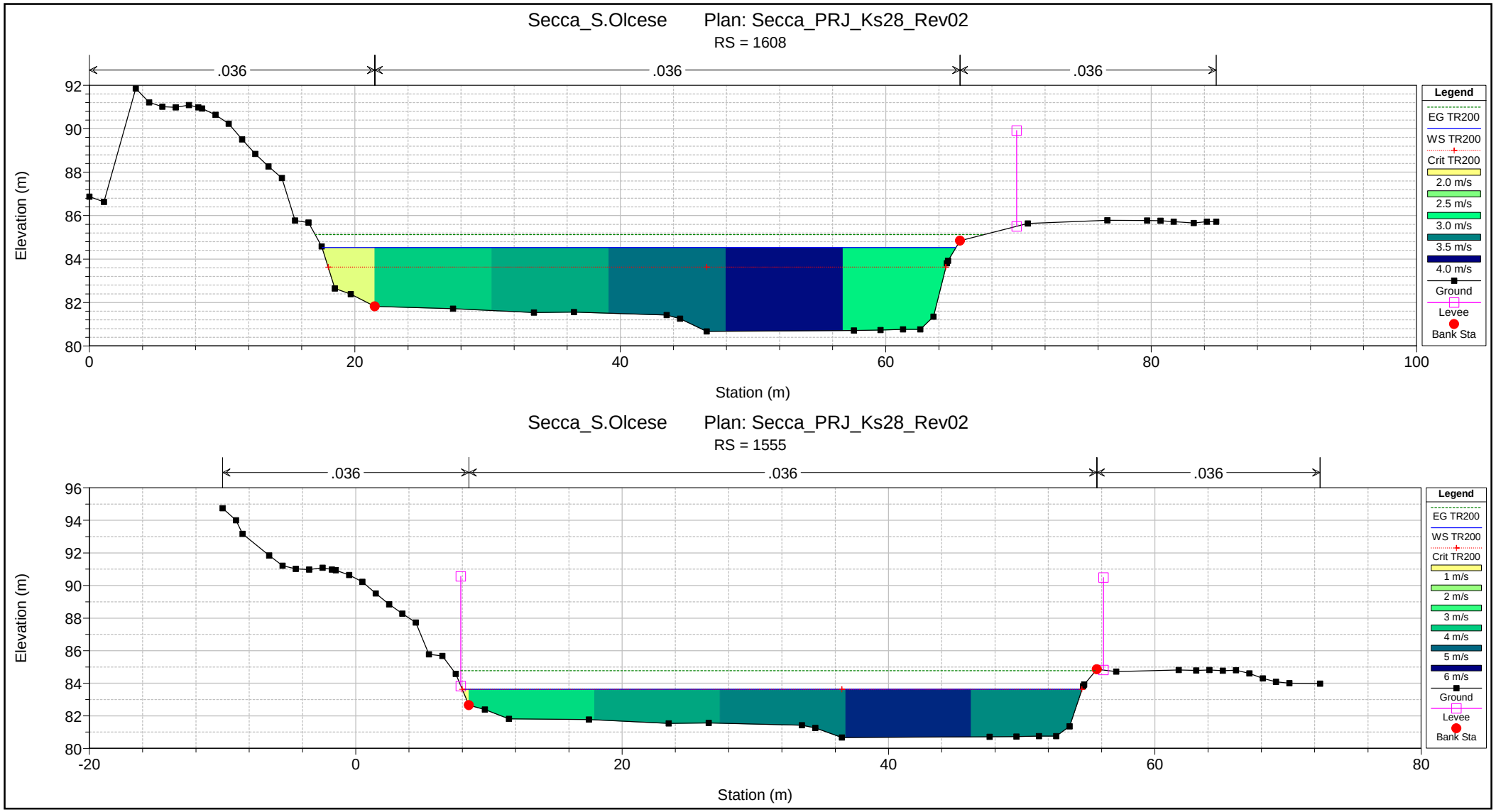

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1935
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1874
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta

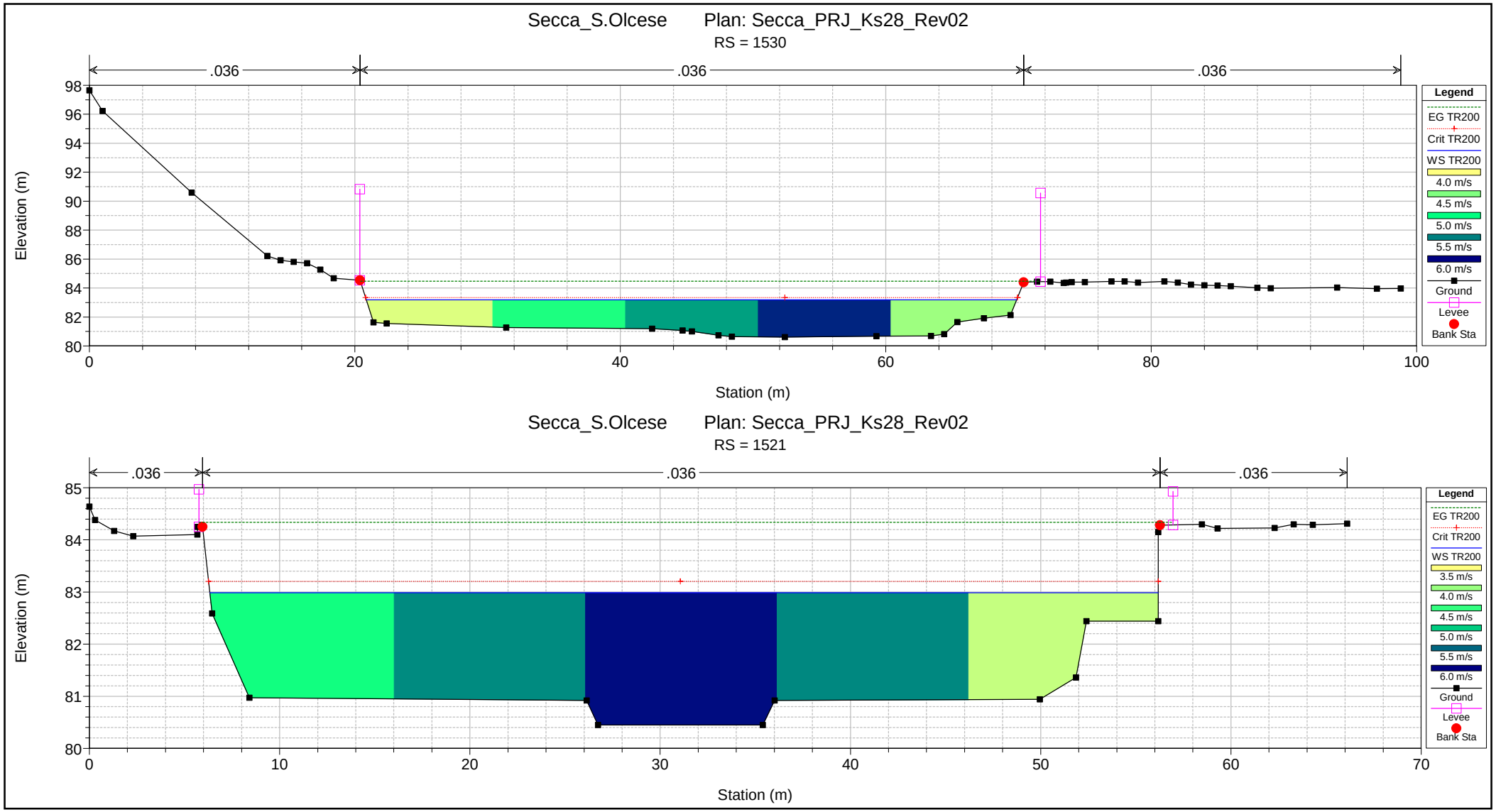

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1826
.036
.036
.036
Elevation (m)
105
100
95
90
85
80
0
50
100
150
200
250
300
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1819
.036
.036
Elevation (m)
102
100
98
96
94
92
90
88
86
84
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta

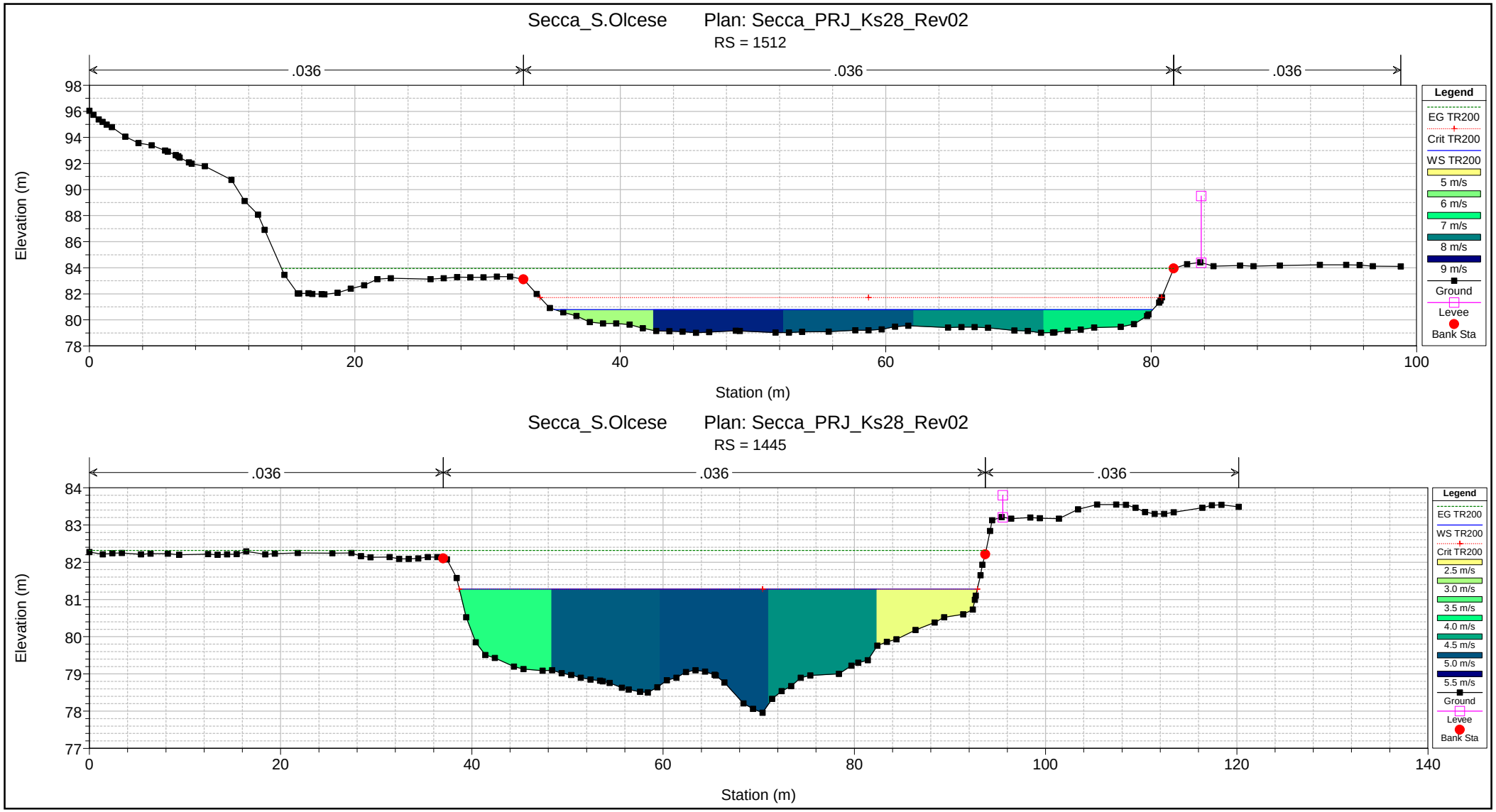

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1814
.036
.036
.036
Elevation (m)
105
100
95
90
85
80
0
50
100
150
200
250
300
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1754
.036
.036
.036
Elevation (m)
89
88
87
86
85
84
83
82
0
20
40
60
80
100
120
140
160
180
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta

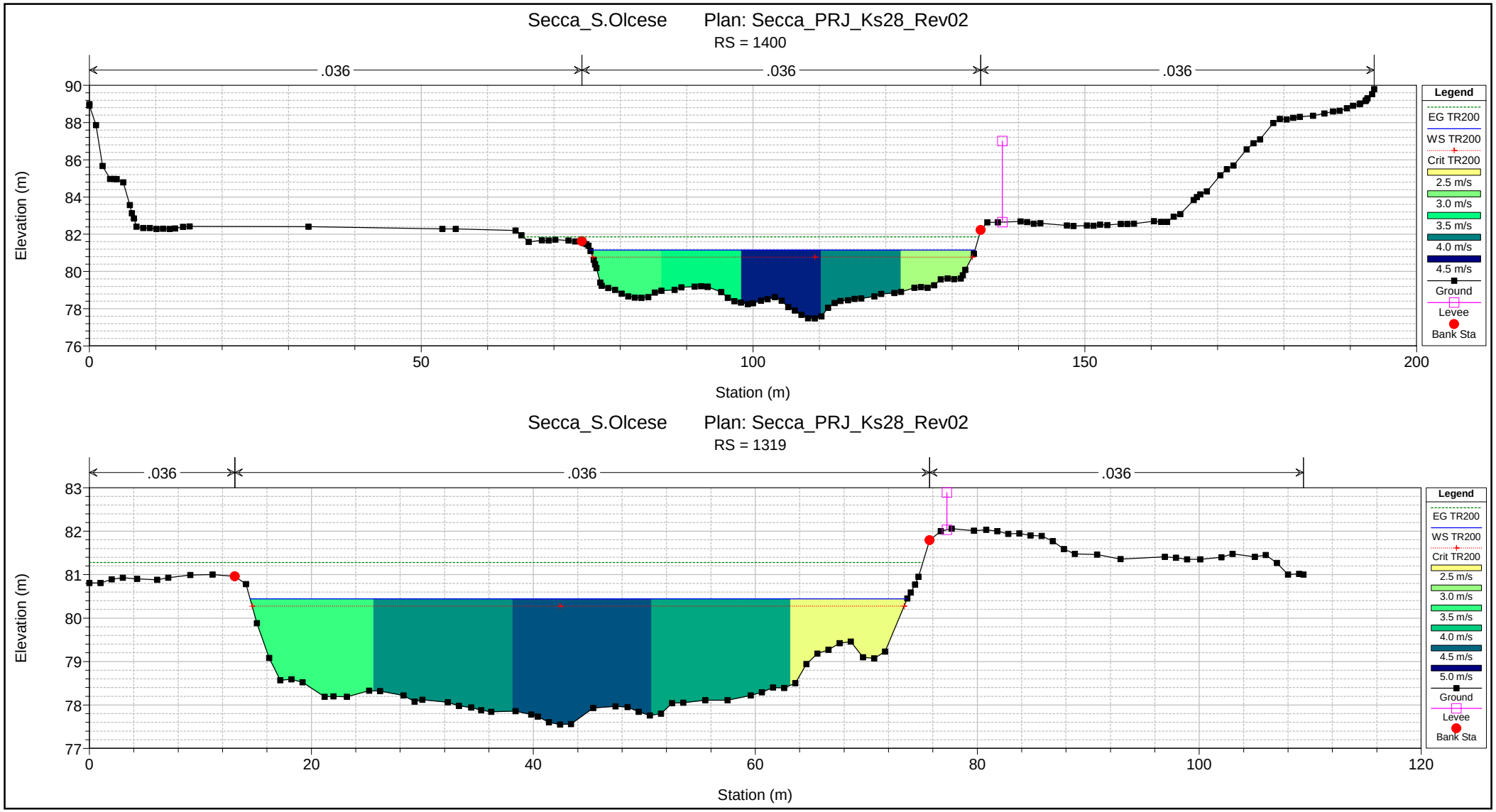

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1718 MONTE PONTE PRJ
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.2 m/s
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1715 BR
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.2 m/s
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
Ground
Levee
Bank Sta

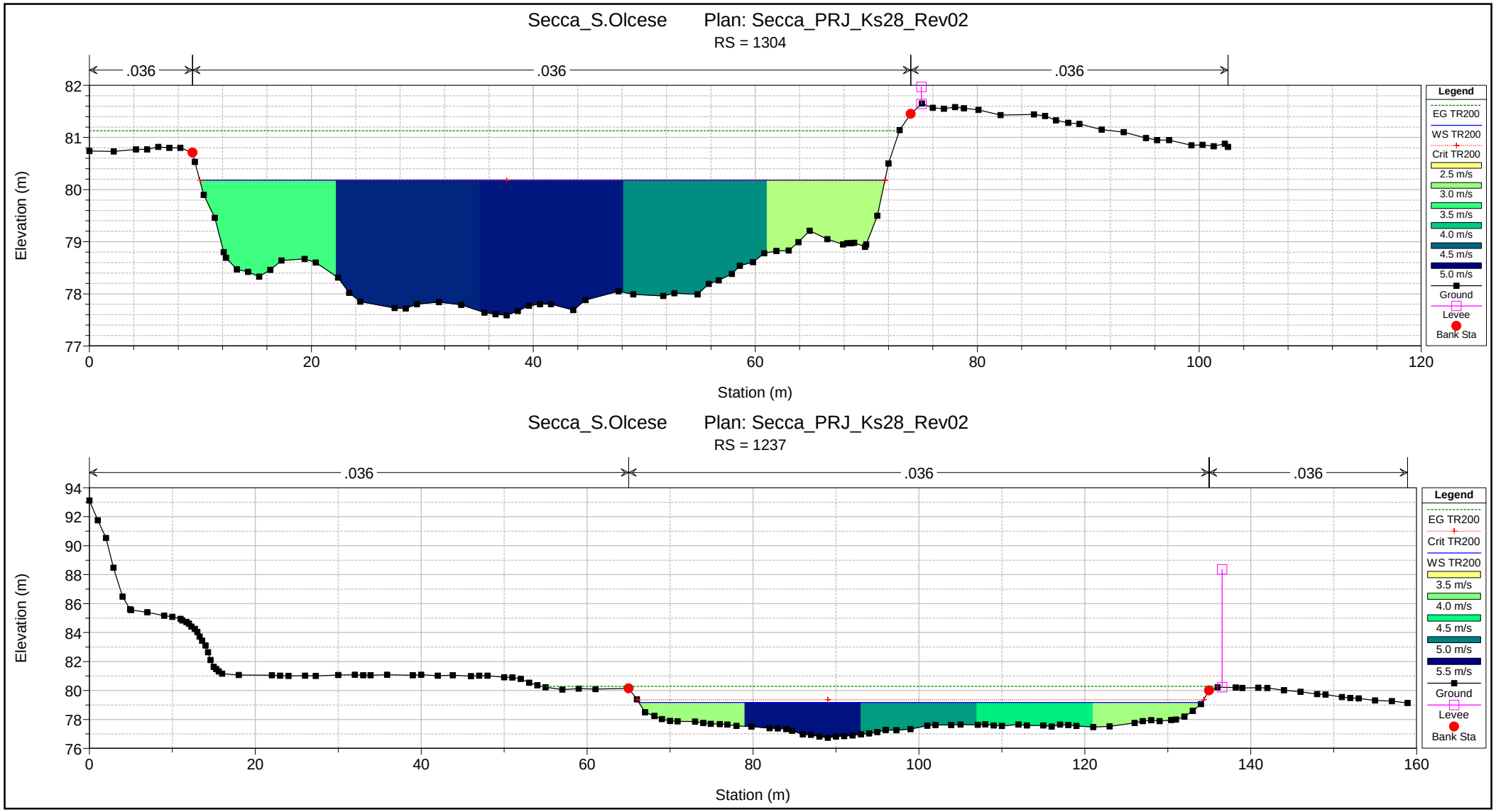

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1697 VALLE MONTE PRJ
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1644
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

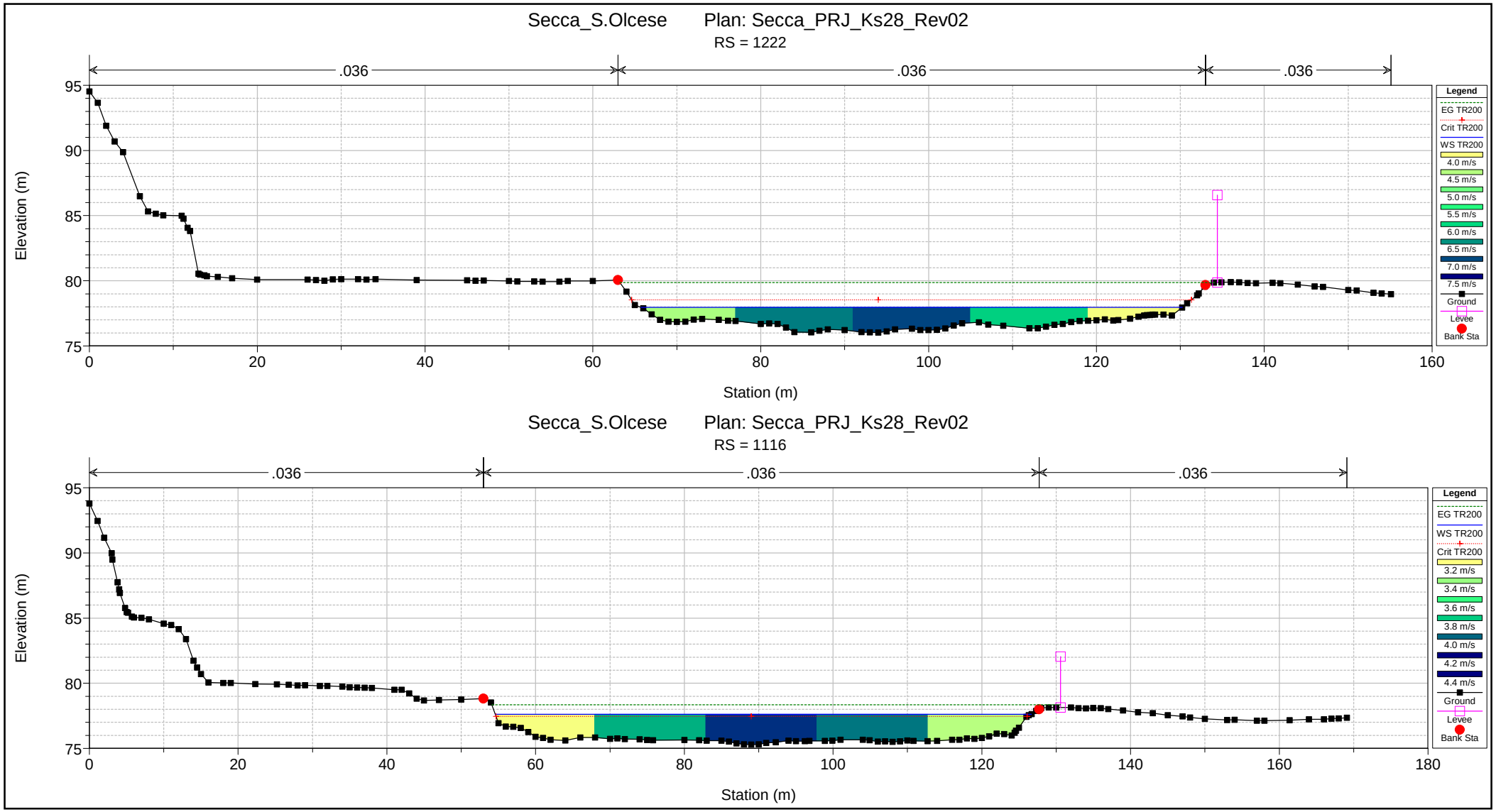

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1608
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1555
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

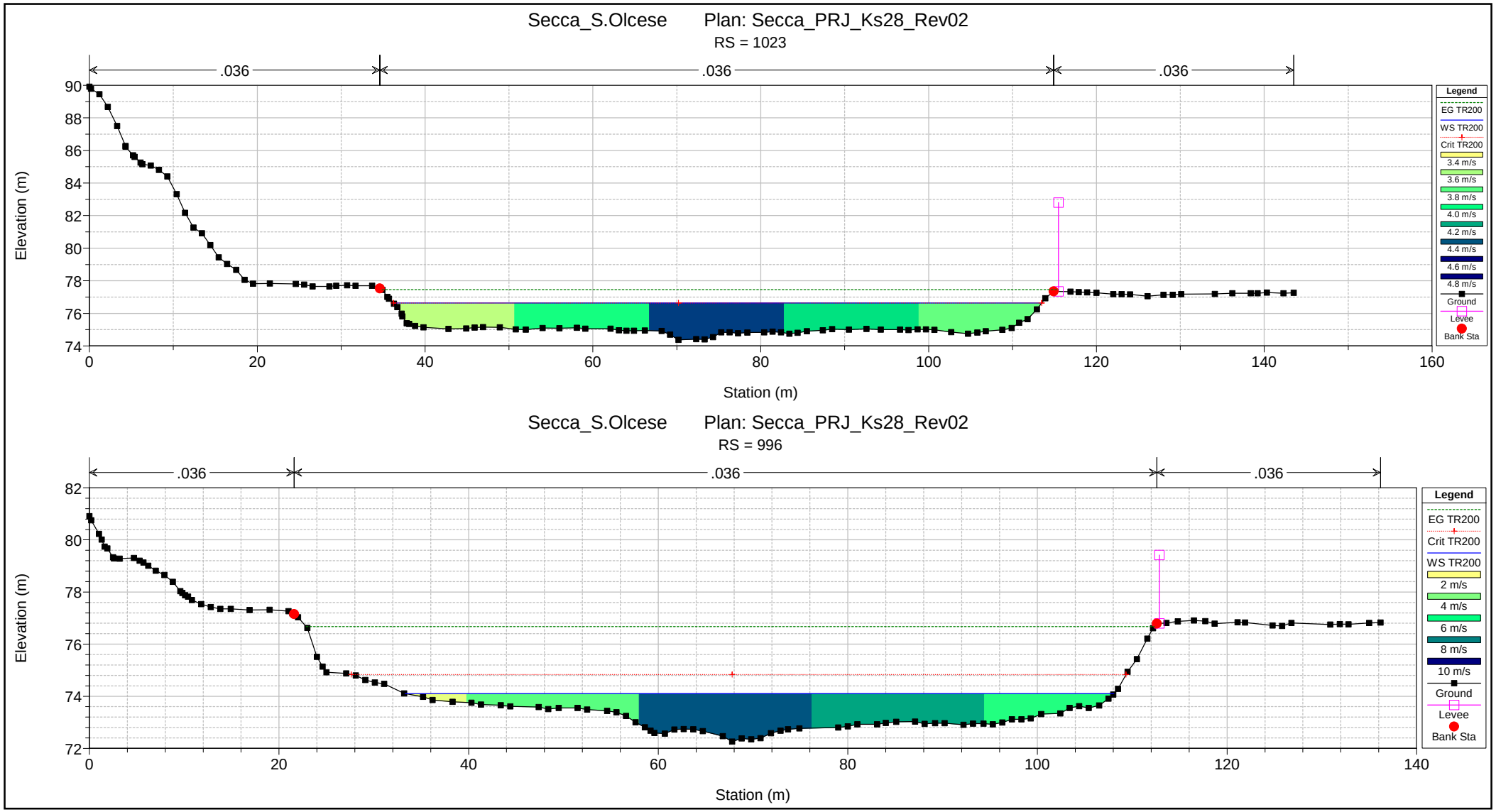

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1530
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1521
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta

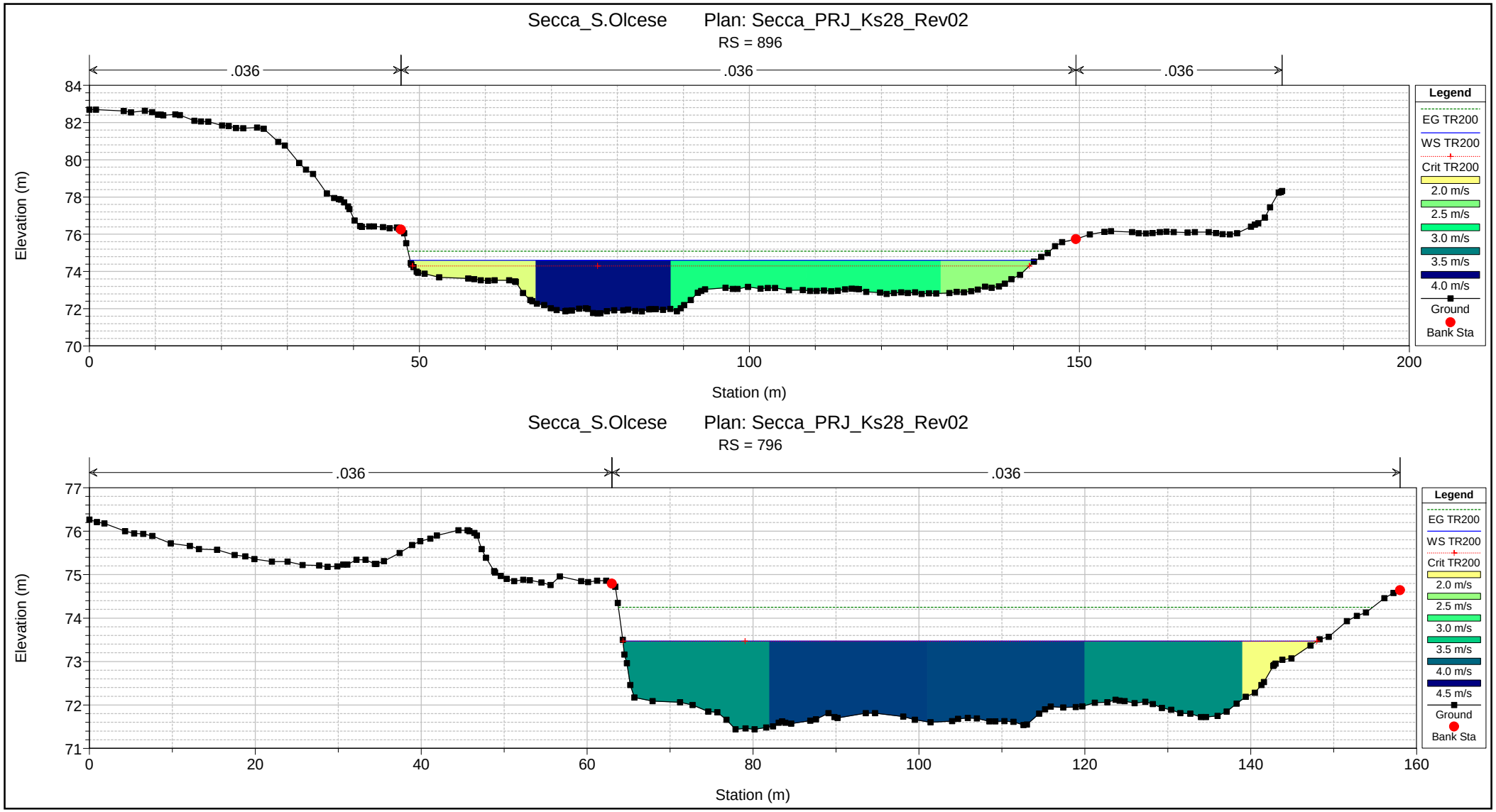

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1512
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1445
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

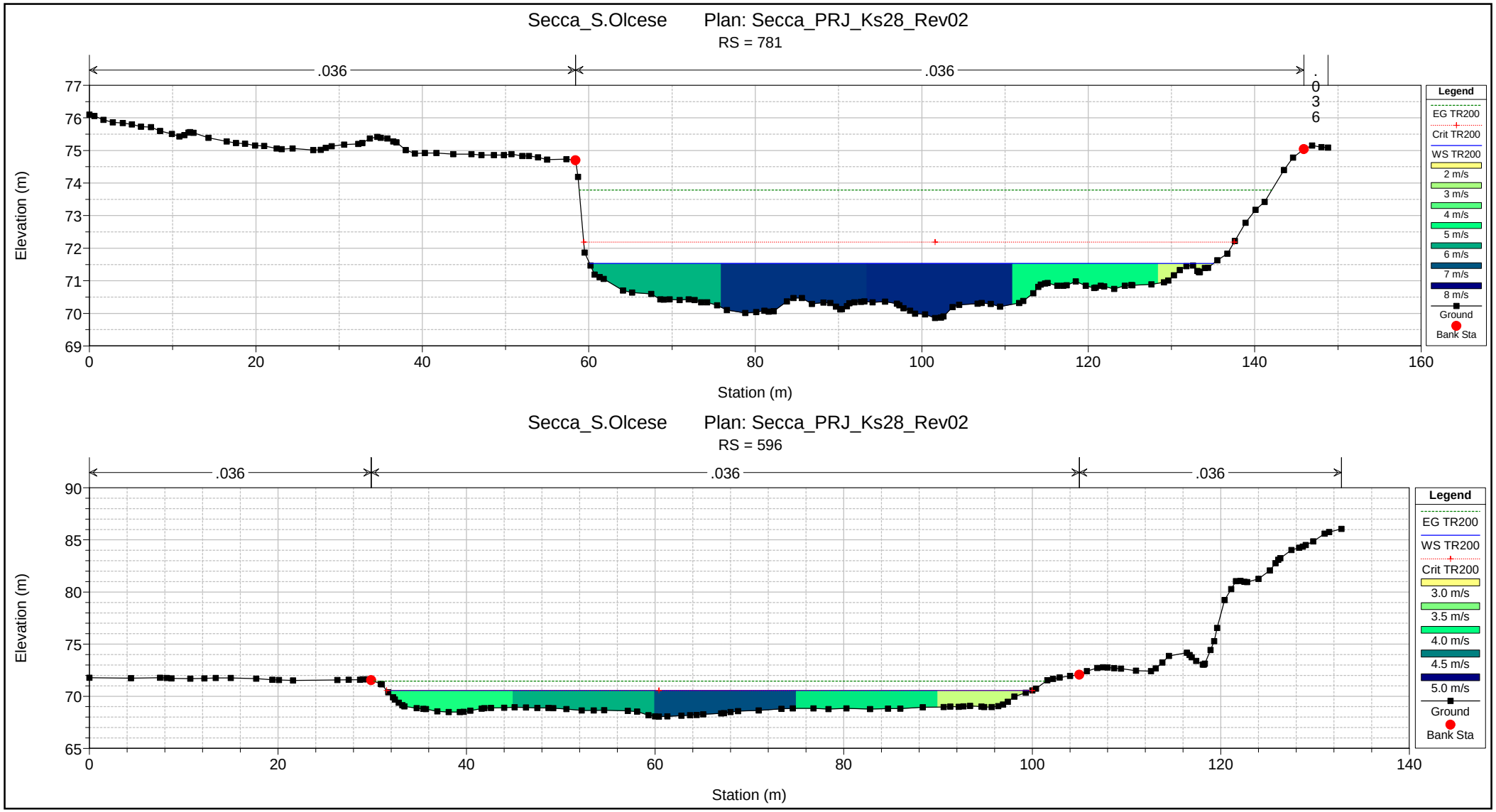

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1400
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1319
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta

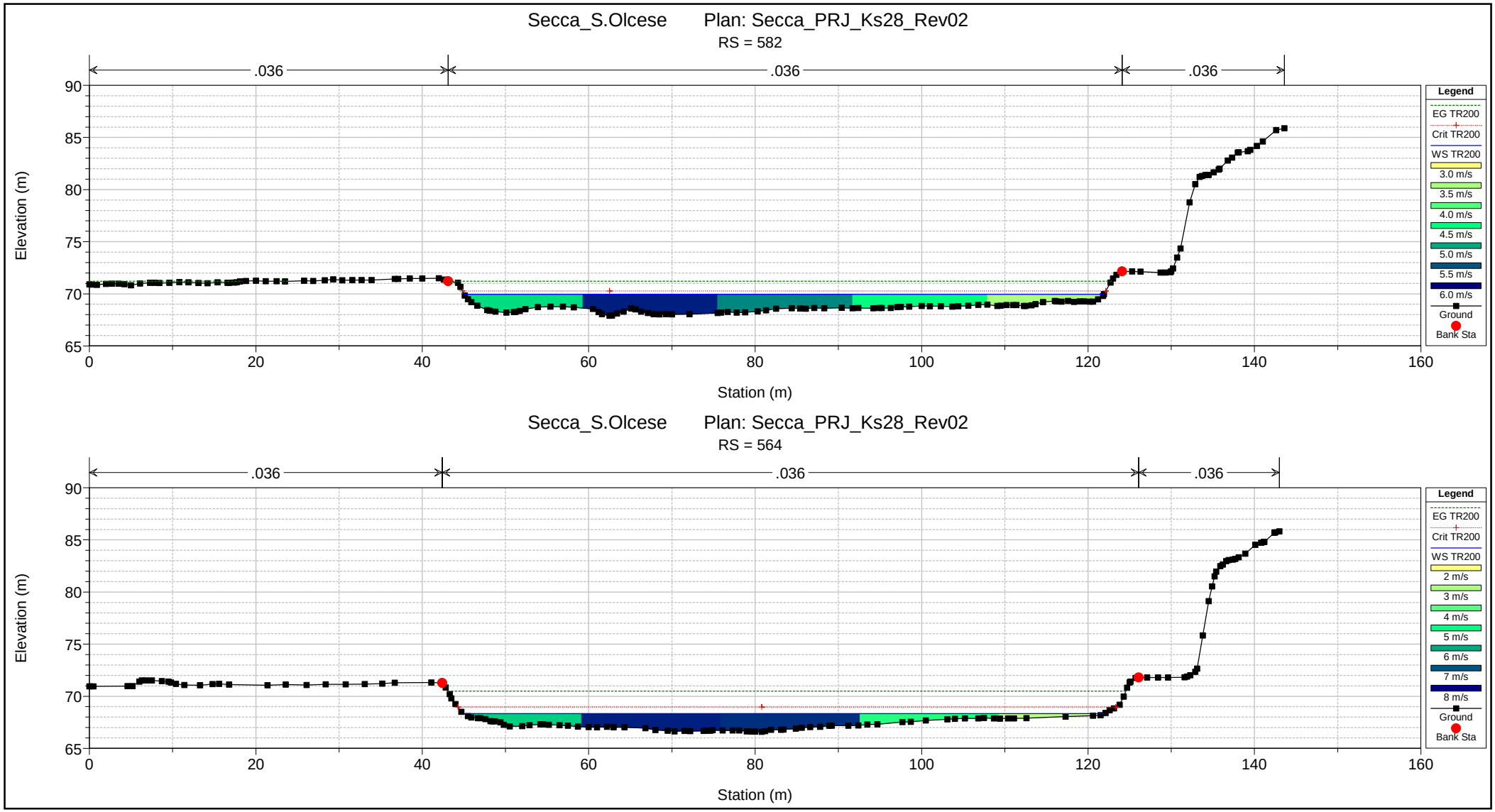

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1304
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1237
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

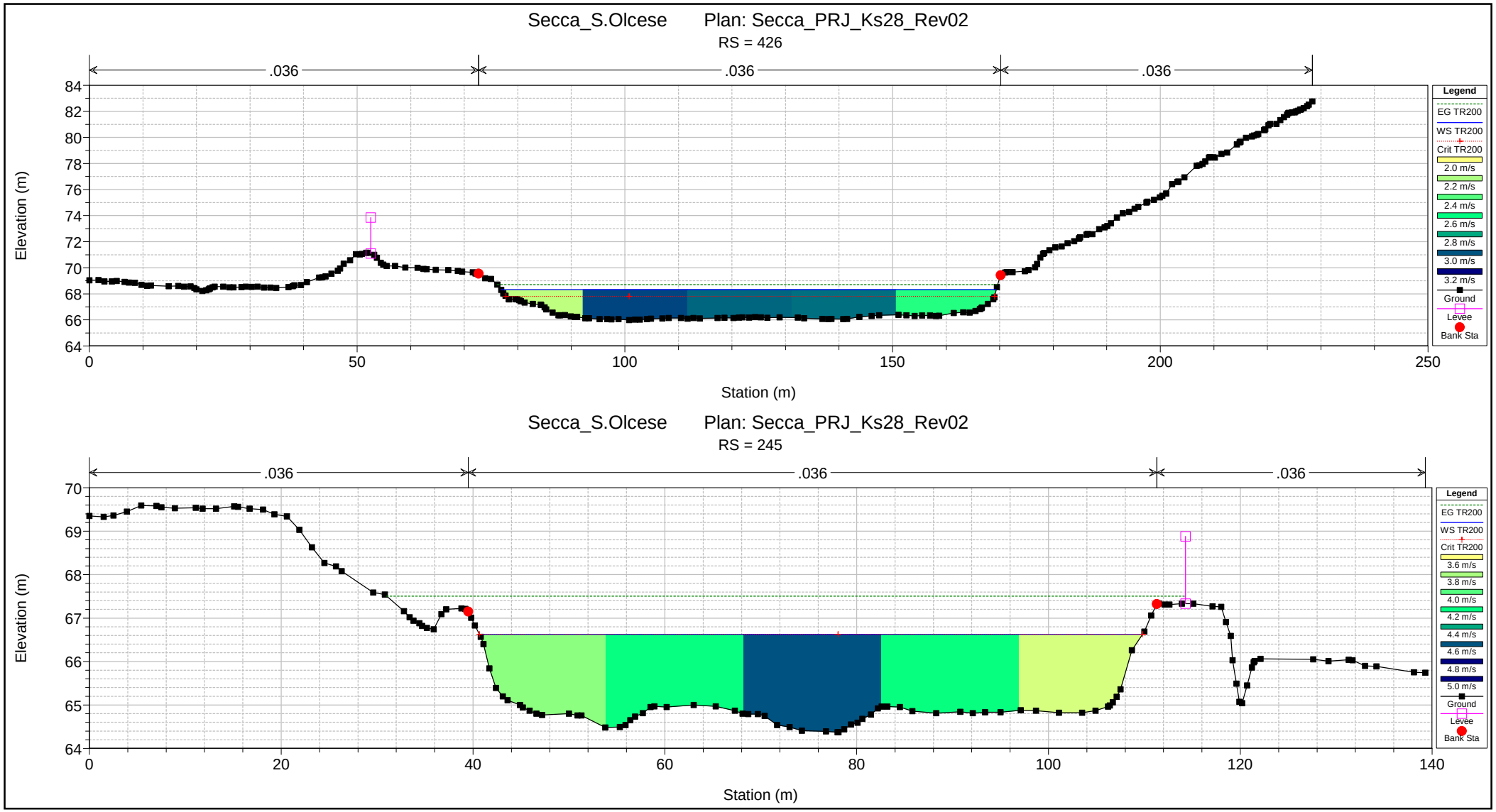

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1222
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1116
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
Ground
Levee
Bank Sta

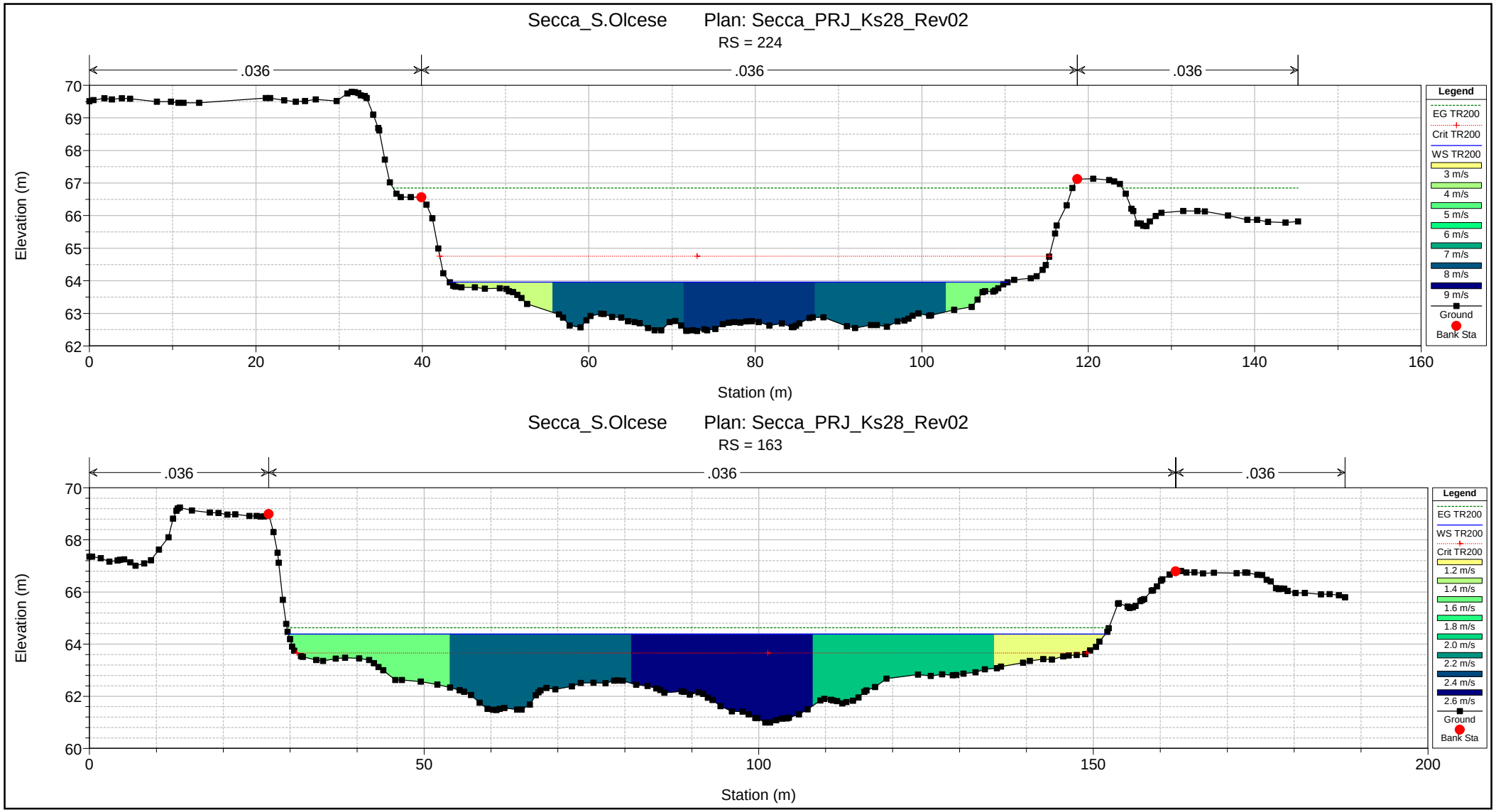

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 1023
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 996
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

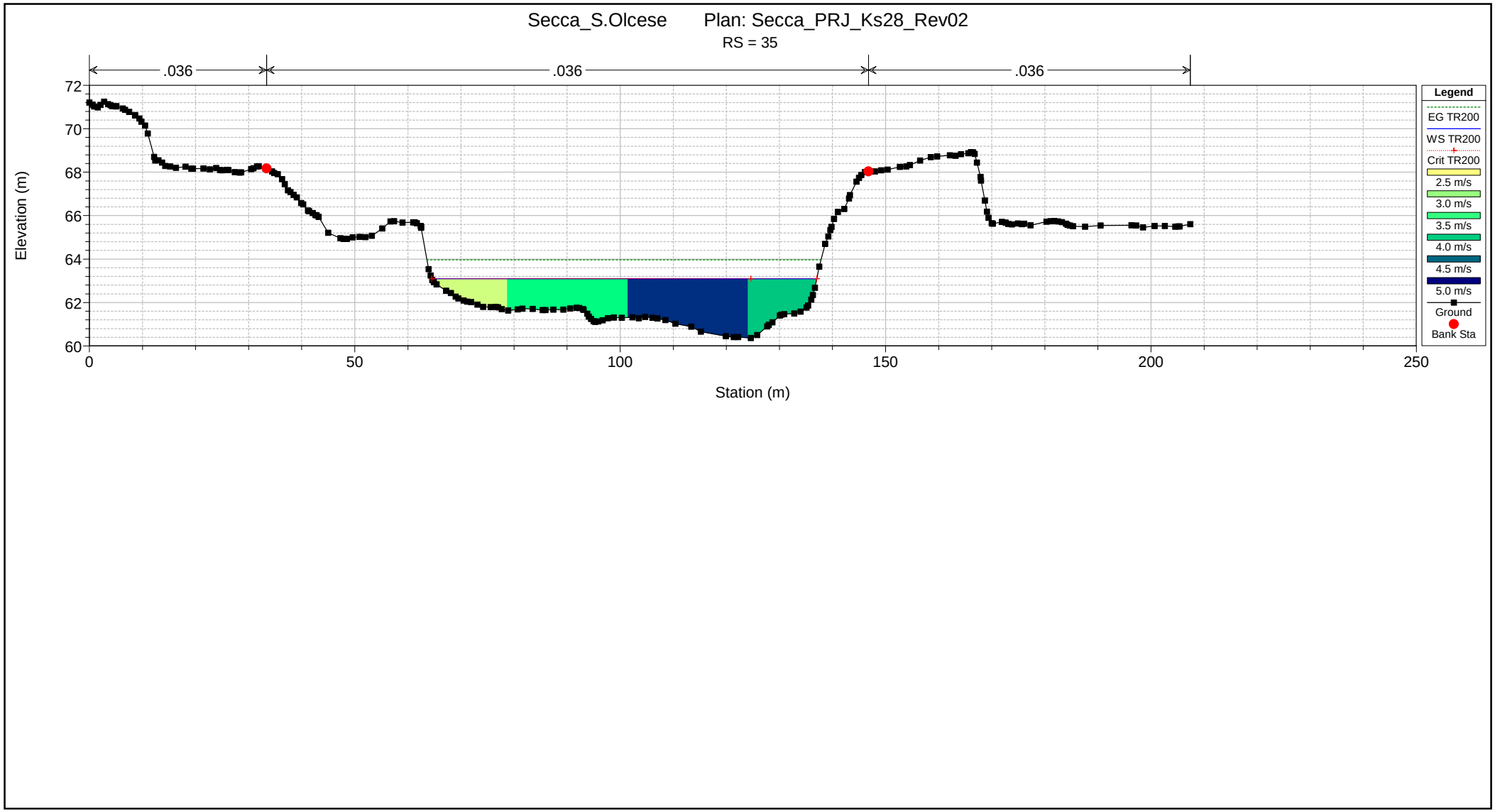

Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 896
.036
.036
.036
Elevation (m)
84
82
80
78
76
74
72
70
0
50
100
150
200
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 796
.036
.036
Elevation (m)
77
76
75
74
73
72
71
0
20
40
60
80
100
120
140
160
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 781
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 596
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 582
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 564
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 426
.036
.036
.036
Elevation (m)
84
82
80
78
76
74
72
70
68
66
64
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.2 m/s
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 245
.036
.036
.036
Elevation (m)
70
69
68
67
66
65
64
0
20
40
60
80
100
120
140
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 224
.036
.036
.036
Elevation (m)
70
69
68
67
66
65
64
63
62
0
20
40
60
80
100
120
140
160
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 163
.036
.036
.036
Elevation (m)
70
68
66
64
62
60
0
50
100
150
200
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
2.6 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks28_Rev02
RS = 35
.036
.036
.036
Elevation (m)
72
70
68
66
64
62
60
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Bank Sta

2.3 Torrente Secca – Progetto – ks=35 $m^{1/3}s^{-1}$

HEC-RAS Plan: Secca_PRJ_Ks35_Rev02 River: T_Secca Reach: T_Secca Profile: TR200

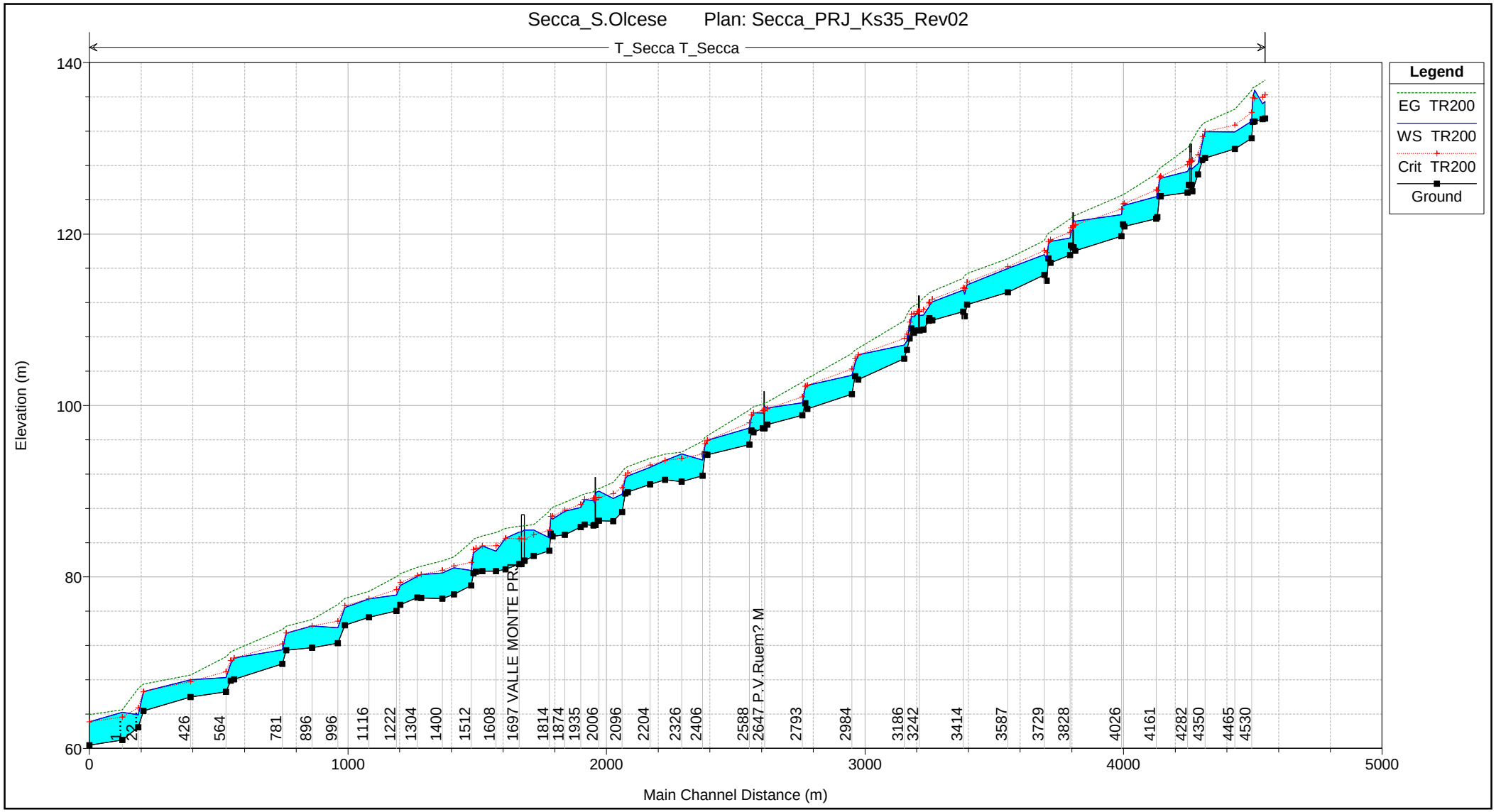
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	4582	TR200	505.00	133.48	1.99	135.47	136.24	-0.77	1.72	137.96	6.99	6.99	1.65	340.51	1.69
T_Secca	4572	TR200	505.00	133.39	1.81	135.20	135.97	-0.77	1.81	137.74	7.06	7.06	1.52	357.70	1.55
T_Secca	4541	TR200	505.00	133.14	3.64	136.78	135.81	0.97	0.52	137.17	2.89	2.52	2.29	47.50	2.40
T_Secca	4534	TR200	505.00	133.07	2.83	135.90	135.90	0.00	0.99	137.07	4.79	4.78	2.22	143.57	2.30
T_Secca	4530	TR200	505.00	131.18	1.98	133.16	134.19	-1.03	2.28	136.77	8.42	8.42	1.36	526.76	1.39
T_Secca	4465	TR200	505.00	129.94	1.97	131.91	132.71	-0.80	1.80	134.56	7.21	7.21	1.61	365.73	1.64
T_Secca	4350	TR200	505.00	128.86	3.09	131.95	131.95	0.00	1.00	133.02	4.58	4.58	2.09	134.77	2.15
T_Secca	4340	TR200	505.00	128.64	2.15	130.79	131.38	-0.59	1.57	132.82	6.33	6.26	1.50	282.10	1.55
T_Secca	4323	TR200	505.00	126.96	1.25	128.21	129.26	-1.05	2.54	132.13	8.77	8.77	1.17	600.86	1.21
T_Secca	4300	TR200	505.00	124.99	2.66	127.65	128.62	-0.97	2.21	130.96	8.06	8.06	1.33	487.26	1.35
T_Secca	4297 P. carr Alpini M	TR200	505.00	125.73	1.79	127.52	128.44	-0.92	2.41	130.84	8.07	8.07	1.12	516.37	1.14
T_Secca	4295	Bridge													
T_Secca	4287 P. carr Alpini V	TR200	505.00	125.73	1.95	127.68	128.44	-0.76	1.99	130.24	7.09	7.09	1.27	382.24	1.30
T_Secca	4282	TR200	505.00	124.83	2.47	127.30	128.11	-0.81	2.06	130.05	7.35	7.35	1.27	410.60	1.30
T_Secca	4179	TR200	505.00	124.41	2.09	126.50	126.75	-0.25	1.25	127.74	4.93	4.93	1.56	173.03	1.60
T_Secca	4173	TR200	505.00	124.41	1.83	126.24	126.59	-0.35	1.35	127.65	5.26	5.26	1.49	199.47	1.54
T_Secca	4165	TR200	505.00	121.97	2.20	124.17	125.12	-0.95	2.13	127.32	7.86	7.86	1.37	459.43	1.39
T_Secca	4161	TR200	505.00	121.78	2.58	124.36	125.15	-0.79	2.10	127.01	7.21	7.21	1.19	404.23	1.21
T_Secca	4038	TR200	505.00	120.88	2.47	123.35	123.56	-0.21	1.15	124.69	5.12	5.12	1.97	172.67	2.01
T_Secca	4032	TR200	505.00	121.12	2.20	123.32	123.51	-0.19	1.14	124.66	5.12	5.12	1.97	172.29	2.07
T_Secca	4026	TR200	505.00	119.74	2.54	122.28	122.92	-0.64	1.62	124.49	6.59	6.59	1.64	303.21	1.68
T_Secca	3848	TR200	505.00	118.04	3.45	121.49	121.08	0.41	0.76	122.19	3.71	3.71	2.34	85.34	2.40
T_Secca	3841 P.V.ChiappellaM	TR200	505.00	118.46	3.13	121.59	120.84	0.75	0.63	122.12	3.21	3.21	2.56	62.29	2.69
T_Secca	3840	Bridge													
T_Secca	3838 P.V.ChiappellaV	TR200	505.00	118.46	2.00	120.46	120.85	-0.39	1.37	121.99	5.47	5.47	1.58	211.99	1.63
T_Secca	3831	TR200	505.00	118.66	1.66	120.32	120.73	-0.41	1.40	121.89	5.53	5.53	1.54	218.64	1.60
T_Secca	3828	TR200	505.00	117.56	1.97	119.53	120.19	-0.66	1.90	121.75	6.61	6.61	1.21	337.78	1.23
T_Secca	3752	TR200	505.00	116.65	2.50	119.15	119.32	-0.17	1.16	120.24	4.62	4.62	1.58	150.85	1.62
T_Secca	3744	TR200	505.00	117.15	1.69	118.84	119.15	-0.31	1.35	120.13	5.02	5.02	1.40	186.19	1.42
T_Secca	3737	TR200	505.00	114.56	2.52	117.08	117.85	-0.77	2.33	119.82	7.34	7.34	1.00	444.54	1.01
T_Secca	3729	TR200	505.00	115.23	2.37	117.60	118.09	-0.49	1.64	119.25	5.68	5.68	1.20	250.28	1.22
T_Secca	3587	TR200	505.00	113.20	2.80	116.00	116.18	-0.18	1.17	117.14	4.72	4.72	1.64	156.00	1.67
T_Secca	3429	TR200	505.00	111.76	2.32	114.08	114.39	-0.31	1.29	115.41	5.11	5.11	1.56	185.84	1.60
T_Secca	3420	TR200	505.00	110.41	2.58	112.99	113.65	-0.66	1.73	115.17	6.54	6.54	1.41	314.36	1.45
T_Secca	3414	TR200	505.00	110.94	2.52	113.46	113.77	-0.31	1.27	114.85	5.23	5.23	1.69	189.07	1.72
T_Secca	3295	TR200	505.00	109.94	2.15	112.09	112.40	-0.31	1.34	113.34	4.96	4.96	1.39	181.79	1.41
T_Secca	3284	TR200	505.00	110.19	1.47	111.66	112.07	-0.41	1.52	113.14	5.40	5.40	1.28	221.74	1.29
T_Secca	3281	TR200	505.00	109.88	1.62	111.50	111.97	-0.47	1.60	113.09	5.58	5.58	1.23	239.11	1.24
T_Secca	3261	TR200	505.00	108.85	1.70	110.55	111.16	-0.61	1.87	112.57	6.29	6.29	1.15	311.72	1.16
T_Secca	3246 P.carr V.Valle M	TR200	505.00	108.75	1.74	110.49	110.96	-0.47	1.62	112.10	5.62	5.62	1.22	244.29	1.23
T_Secca	3242	Bridge													

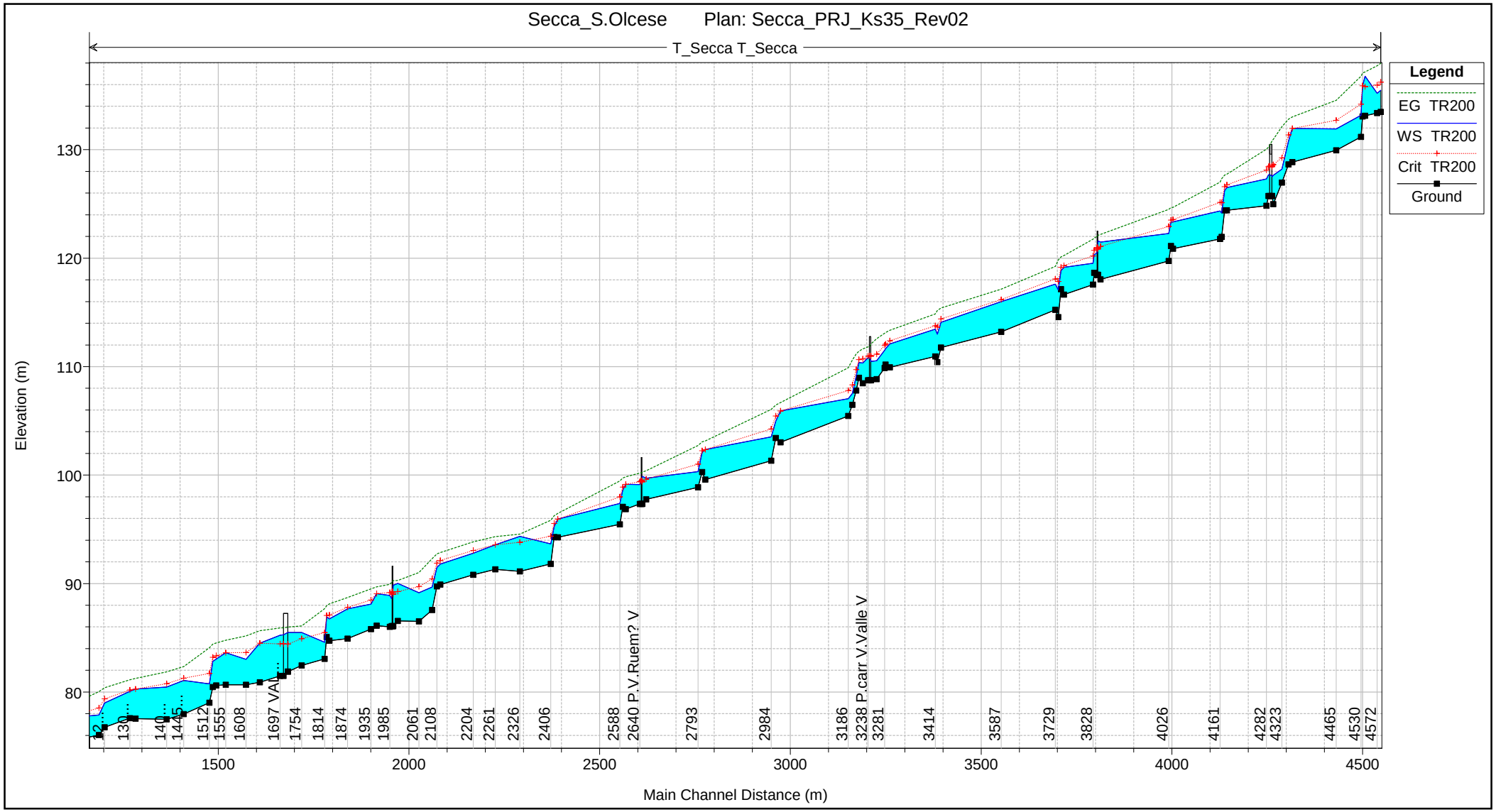
HEC-RAS Plan: Secca_PRJ_Ks35_Rev02 River: T_Secca Reach: T_Secca Profile: TR200 (Continued)

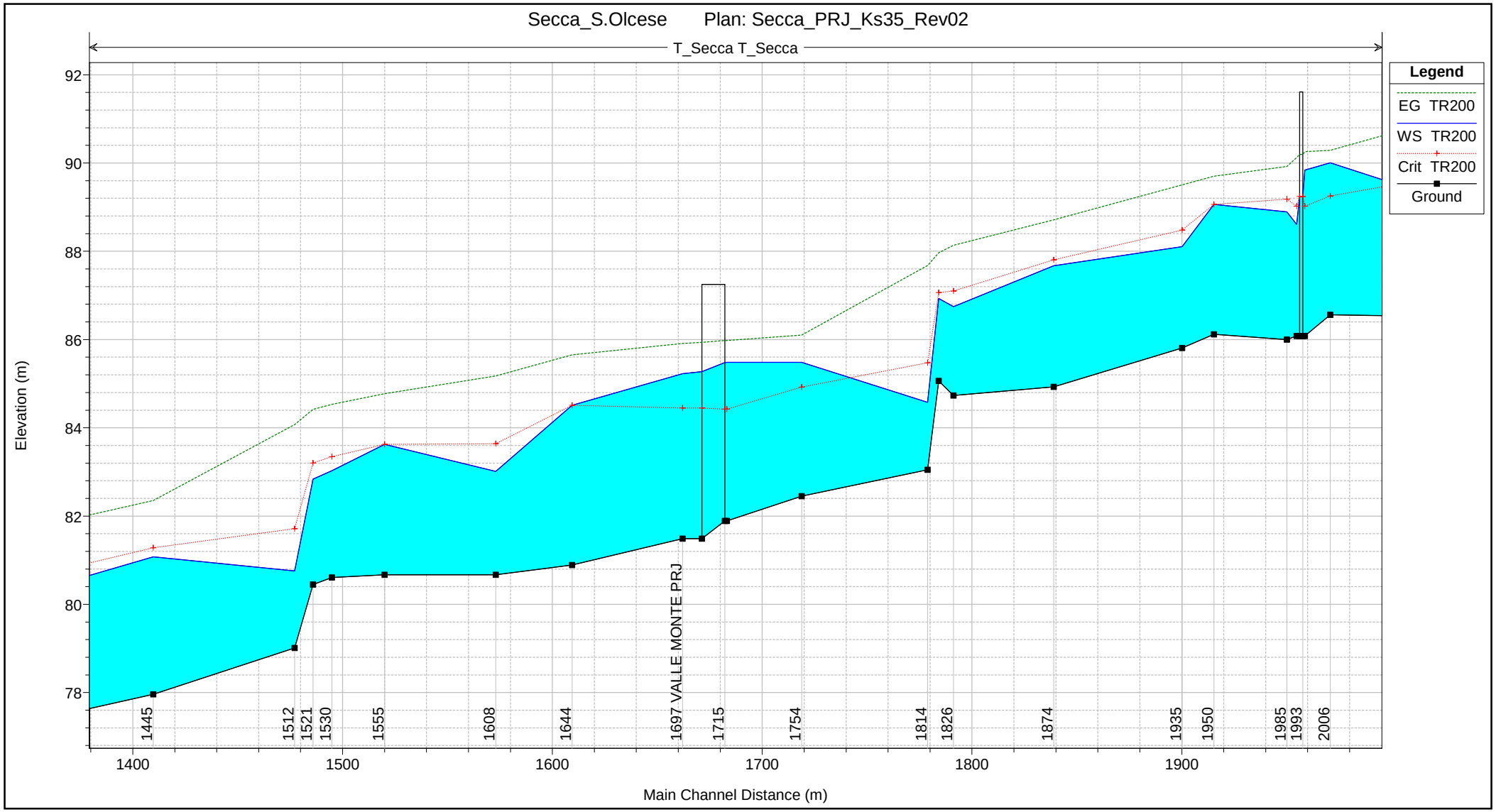
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	3238 P.carr V.Valle V	TR200	505.00	108.75	2.07	110.82	110.96	-0.14	1.14	111.81	4.42	4.42	1.52	140.19	1.54
T_Secca	3224	TR200	505.00	108.48	1.86	110.34	110.72	-0.38	1.37	111.63	5.03	5.01	1.24	188.49	1.25
T_Secca	3214	TR200	505.00	108.98	1.41	110.39	110.64	-0.25	1.26	111.42	4.54	4.34	1.11	156.01	1.12
T_Secca	3207	TR200	505.00	107.81	1.32	109.13	109.73	-0.60	2.04	111.18	6.34	6.34	0.98	334.23	0.98
T_Secca	3197	TR200	505.00	106.49	1.03	107.52	108.31	-0.79	2.70	110.61	7.79	7.79	0.85	528.25	0.85
T_Secca	3186	TR200	505.00	105.46	1.58	107.04	107.81	-0.77	2.52	109.90	7.49	7.49	0.89	480.18	0.90
T_Secca	3009	TR200	505.00	103.03	2.89	105.92	105.92	0.00	1.00	106.68	3.87	3.87	1.51	107.43	1.53
T_Secca	2996	TR200	505.00	103.42	1.55	104.97	105.45	-0.48	1.54	106.47	5.43	5.43	1.25	225.97	1.27
T_Secca	2984	TR200	505.00	101.32	2.22	103.54	104.26	-0.72	2.19	106.06	7.03	7.03	1.04	402.54	1.05
T_Secca	2812	TR200	505.00	99.59	2.76	102.35	102.35	0.00	1.00	103.15	3.96	3.96	1.58	111.12	1.60
T_Secca	2803	TR200	505.00	100.27	1.82	102.09	102.24	-0.15	1.15	103.07	4.37	4.37	1.45	139.33	1.47
T_Secca	2793	TR200	505.00	98.87	1.44	100.31	101.01	-0.70	2.22	102.73	6.89	6.89	0.97	394.78	0.98
T_Secca	2657	TR200	505.00	97.77	1.94	99.71	99.64	0.07	0.93	100.40	3.68	3.68	1.58	96.03	1.59
T_Secca	2647 P.V.Ruem? M	TR200	505.00	97.34	2.54	99.88	99.39	0.49	0.64	100.27	2.75	2.75	1.86	50.78	1.90
T_Secca	2645		Bridge												
T_Secca	2640 P.V.Ruem? V	TR200	505.00	97.34	1.79	99.13	99.39	-0.26	1.35	100.19	4.56	4.56	1.15	163.59	1.16
T_Secca	2603	TR200	505.00	96.87	2.28	99.15	99.15	0.00	0.98	99.84	3.72	3.64	1.34	100.94	1.37
T_Secca	2596	TR200	505.00	97.08	1.55	98.63	98.89	-0.26	1.34	99.73	4.65	4.65	1.21	167.11	1.23
T_Secca	2588	TR200	505.00	95.45	1.94	97.39	97.99	-0.60	2.15	99.46	6.37	6.37	0.89	348.06	0.90
T_Secca	2425	TR200	505.00	94.26	1.68	95.94	95.94	0.00	1.08	96.46	3.43	3.16	1.04	96.25	1.05
T_Secca	2415	TR200	505.00	94.29	1.04	95.24	95.54	-0.30	1.80	96.26	4.74	4.42	0.72	208.97	0.73
T_Secca	2406	TR200	505.00	91.81	1.84	93.65	94.36	-0.71	2.12	95.83	6.54	6.54	0.96	357.85	0.97
T_Secca	2326	TR200	505.00	91.12	3.23	94.35	93.81	0.54	0.48	94.55	2.19	1.77	1.40	30.88	1.42
T_Secca	2261	TR200	505.00	91.32	2.26	93.58	93.58	0.00	0.94	94.33	3.91	3.61	1.31	105.99	1.34
T_Secca	2204	TR200	505.00	90.80	2.00	92.80	93.05	-0.25	1.20	93.84	4.69	4.20	1.18	157.30	1.20
T_Secca	2117	TR200	505.00	89.90	1.89	91.79	92.12	-0.33	1.30	92.87	4.71	4.30	0.97	165.90	0.97
T_Secca	2108	TR200	505.00	89.73	1.76	91.49	91.87	-0.38	1.40	92.73	4.99	4.70	0.93	189.59	0.95
T_Secca	2096	TR200	505.00	87.56	2.12	89.68	90.42	-0.74	2.26	92.30	7.17	7.17	1.02	422.00	1.02
T_Secca	2061	TR200	505.00	86.52	2.63	89.15	89.71	-0.56	1.72	91.03	6.07	6.07	1.25	281.70	1.27
T_Secca	2006	TR200	505.00	86.56	3.44	90.00	89.26	0.74	0.50	90.29	2.46	2.18	1.77	37.43	1.81
T_Secca	1994 P.V.Negrotto M	TR200	505.00	86.08	3.76	89.84	89.02	0.82	0.58	90.26	2.86	2.86	2.37	50.64	2.45
T_Secca	1993		Bridge												
T_Secca	1990 P.V.Negrotto V	TR200	505.00	86.08	2.53	88.61	89.02	-0.41	1.45	90.12	5.45	5.45	1.41	218.71	1.44
T_Secca	1985	TR200	505.00	86.00	2.89	88.89	89.18	-0.29	1.17	89.92	4.54	4.22	0.95	148.45	0.96
T_Secca	1950	TR200	505.00	86.12	2.94	89.06	89.06	0.00	0.84	89.70	3.68	3.10	1.18	89.74	1.19
T_Secca	1935	TR200	505.00	85.81	2.29	88.10	88.48	-0.38	1.39	89.51	5.24	5.24	1.44	200.83	1.45
T_Secca	1874	TR200	505.00	84.93	2.74	87.67	87.81	-0.14	1.12	88.71	4.52	4.52	1.62	143.51	1.65
T_Secca	1826	TR200	505.00	84.73	2.01	86.74	87.10	-0.36	1.40	88.14	5.22	5.22	1.40	201.27	1.43
T_Secca	1819	TR200	505.00	85.06	1.87	86.93	87.07	-0.14	1.12	87.97	4.51	4.51	1.61	143.26	1.65
T_Secca	1814	TR200	505.00	83.05	1.53	84.58	85.48	-0.90	2.18	87.68	7.79	7.79	1.28	461.20	1.30
T_Secca	1754	TR200	505.00	82.45	3.03	85.48	84.92	0.56	0.70	86.10	3.49	3.49	2.43	74.59	2.53

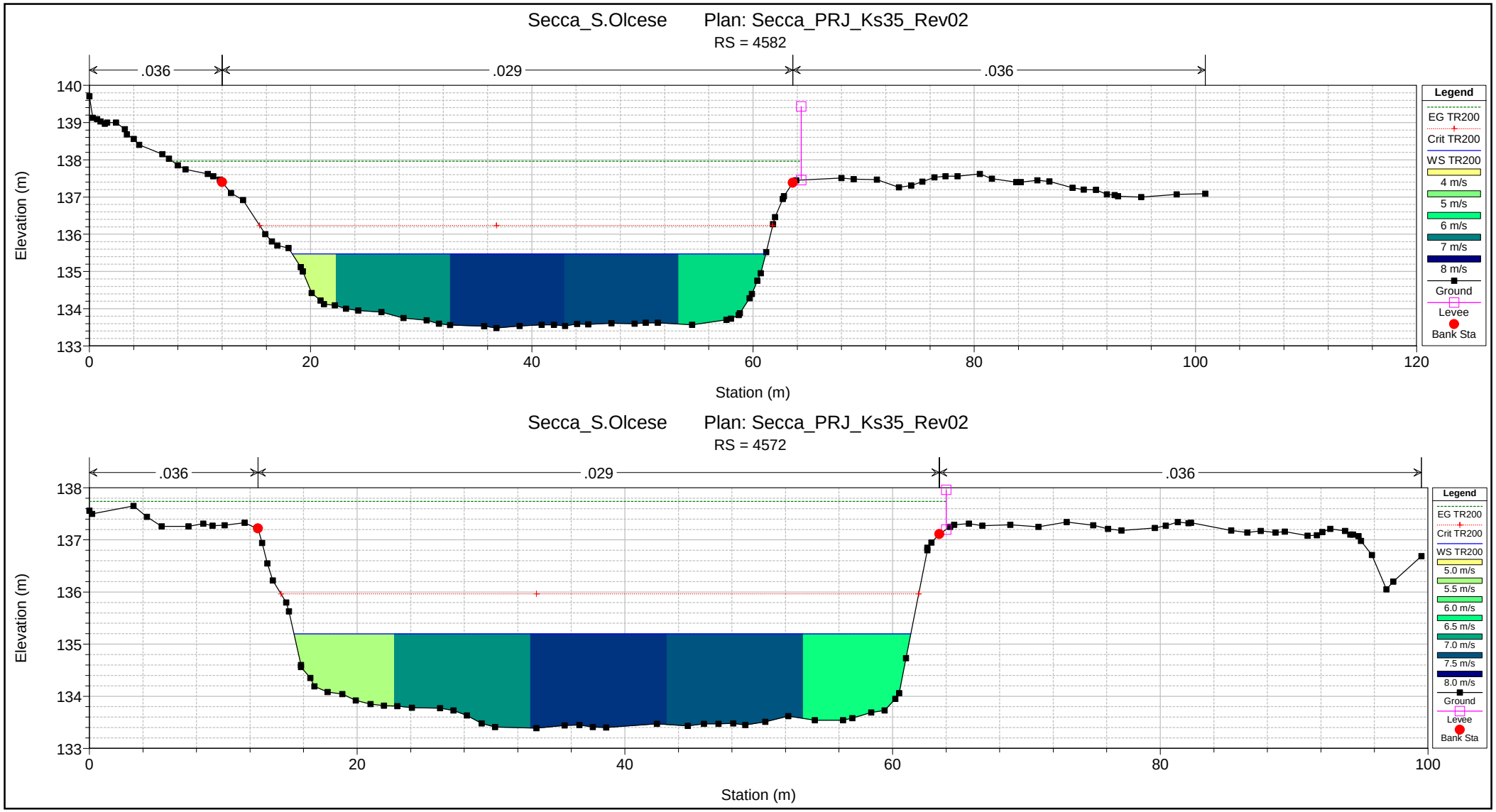
HEC-RAS Plan: Secca_PRJ_Ks35_Rev02 River: T_Secca Reach: T_Secca Profile: TR200 (Continued)

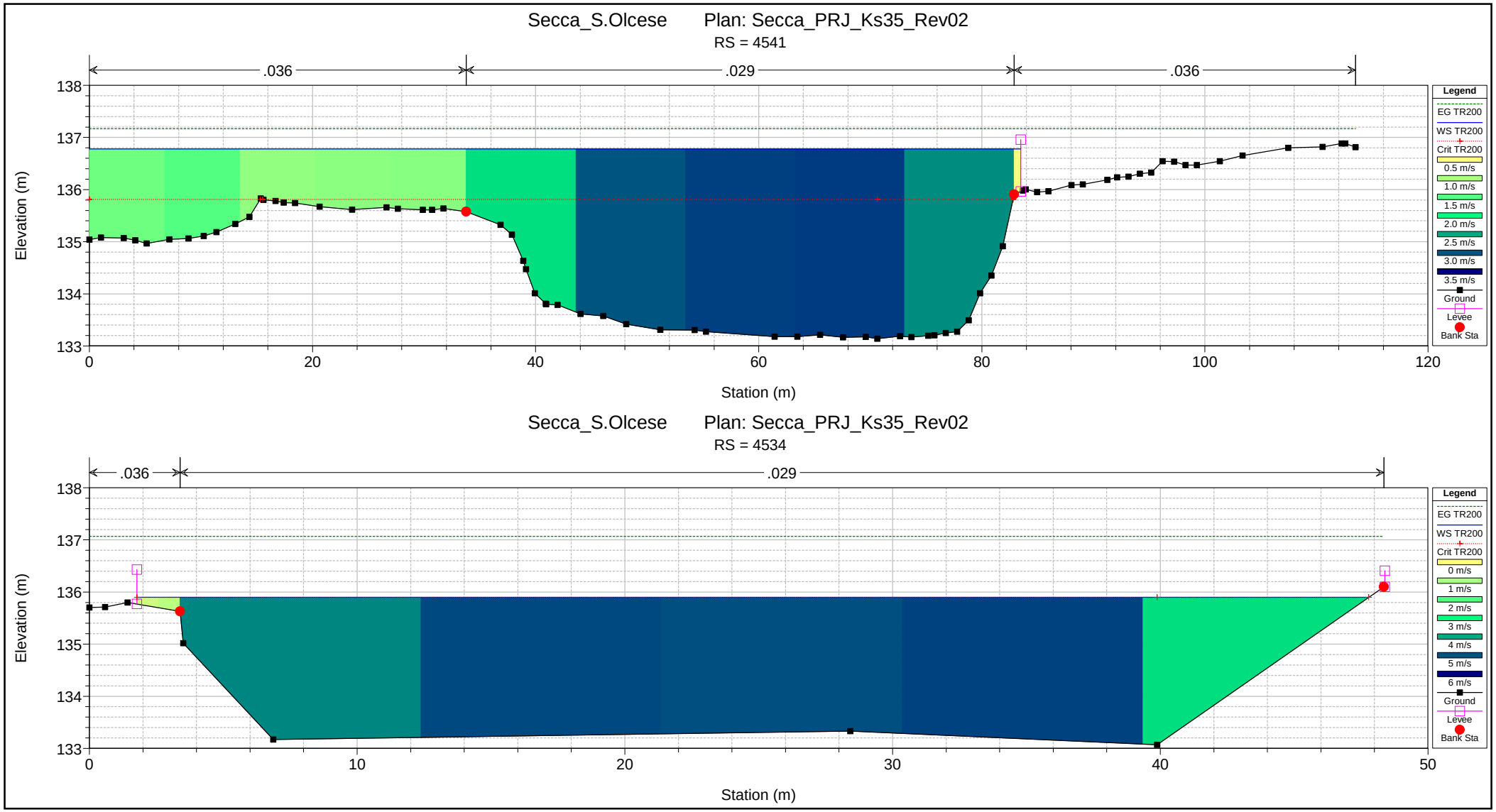
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
T_Secca	1718 MONTE PONTE PRJ	TR200	505.00	81.89	3.59	85.48	84.42	1.06	0.56	85.98	3.12	3.12	3.01	55.69	3.22
T_Secca	1715		Bridge												
T_Secca	1697 VALLE MONTE PRJ	TR200	505.00	81.49	3.74	85.23	84.45	0.78	0.66	85.91	3.66	3.66	2.95	77.17	3.12
T_Secca	1644	TR200	505.00	80.89	3.62	84.51	84.51	0.00	1.00	85.65	4.74	4.74	2.16	143.11	2.29
T_Secca	1608	TR200	505.00	80.67	2.34	83.01	83.64	-0.63	1.57	85.17	6.55	6.44	1.65	294.75	1.71
T_Secca	1555	TR200	505.00	80.67	2.96	83.63	83.63	0.00	1.00	84.78	4.75	4.74	2.17	142.58	2.29
T_Secca	1530	TR200	505.00	80.61	2.42	83.03	83.35	-0.32	1.26	84.53	5.43	5.43	1.83	198.82	1.90
T_Secca	1521	TR200	505.00	80.45	2.39	82.84	83.20	-0.36	1.32	84.42	5.57	5.57	1.74	212.79	1.82
T_Secca	1512	TR200	505.00	79.01	1.75	80.76	81.72	-0.96	2.18	84.07	8.06	8.06	1.37	482.34	1.39
T_Secca	1445	TR200	505.00	77.96	3.12	81.08	81.28	-0.20	1.17	82.35	5.01	5.01	1.84	168.77	1.88
T_Secca	1400	TR200	505.00	77.48	2.98	80.46	80.78	-0.32	1.29	81.87	5.26	5.26	1.66	192.77	1.70
T_Secca	1319	TR200	505.00	77.55	2.72	80.27	80.27	0.00	1.00	81.26	4.40	4.40	1.92	128.39	1.96
T_Secca	1304	TR200	505.00	77.59	2.47	80.06	80.18	-0.12	1.10	81.14	4.60	4.60	1.76	144.32	1.79
T_Secca	1237	TR200	505.00	76.74	2.26	79.00	79.36	-0.36	1.39	80.39	5.23	5.23	1.42	200.40	1.43
T_Secca	1222	TR200	505.00	76.03	1.86	77.89	78.53	-0.64	1.88	80.03	6.48	6.48	1.20	325.21	1.22
T_Secca	1116	TR200	505.00	75.29	2.16	77.45	77.46	-0.01	1.01	78.32	4.13	4.13	1.69	117.85	1.71
T_Secca	1023	TR200	505.00	74.37	2.07	76.44	76.64	-0.20	1.20	77.50	4.54	4.54	1.43	151.02	1.45
T_Secca	996	TR200	505.00	72.26	1.82	74.08	74.84	-0.76	2.41	76.79	7.30	7.30	0.93	450.13	0.93
T_Secca	896	TR200	505.00	71.75	2.55	74.30	74.30	0.00	1.00	75.02	3.77	3.77	1.42	103.96	1.44
T_Secca	796	TR200	505.00	71.44	2.00	73.44	73.48	-0.04	1.03	74.25	3.99	3.99	1.50	114.65	1.52
T_Secca	781	TR200	505.00	69.86	1.65	71.51	72.19	-0.68	2.18	73.87	6.81	6.81	0.98	384.17	0.99
T_Secca	596	TR200	505.00	68.05	2.51	70.56	70.56	0.00	1.00	71.44	4.17	4.17	1.74	119.46	1.77
T_Secca	582	TR200	505.00	67.90	1.99	69.89	70.26	-0.37	1.47	71.26	5.18	5.18	1.25	204.85	1.27
T_Secca	564	TR200	505.00	66.60	1.68	68.28	68.96	-0.68	2.24	70.69	6.87	6.87	0.95	395.69	0.96
T_Secca	426	TR200	505.00	65.99	2.02	68.01	67.81	0.20	0.82	68.57	3.31	3.31	1.65	76.56	1.66
T_Secca	245	TR200	505.00	64.37	2.26	66.63	66.63	0.00	1.00	67.51	4.15	4.15	1.73	118.39	1.76
T_Secca	224	TR200	505.00	62.46	1.48	63.94	64.75	-0.81	2.50	66.99	7.74	7.74	0.97	498.52	0.98
T_Secca	163	TR200	505.00	60.99	3.22	64.21	63.66	0.55	0.59	64.50	2.41	2.41	1.72	39.99	1.73
T_Secca	35	TR200	505.00	60.37	2.73	63.10	63.10	0.00	1.01	63.96	4.11	4.11	1.67	117.51	1.69

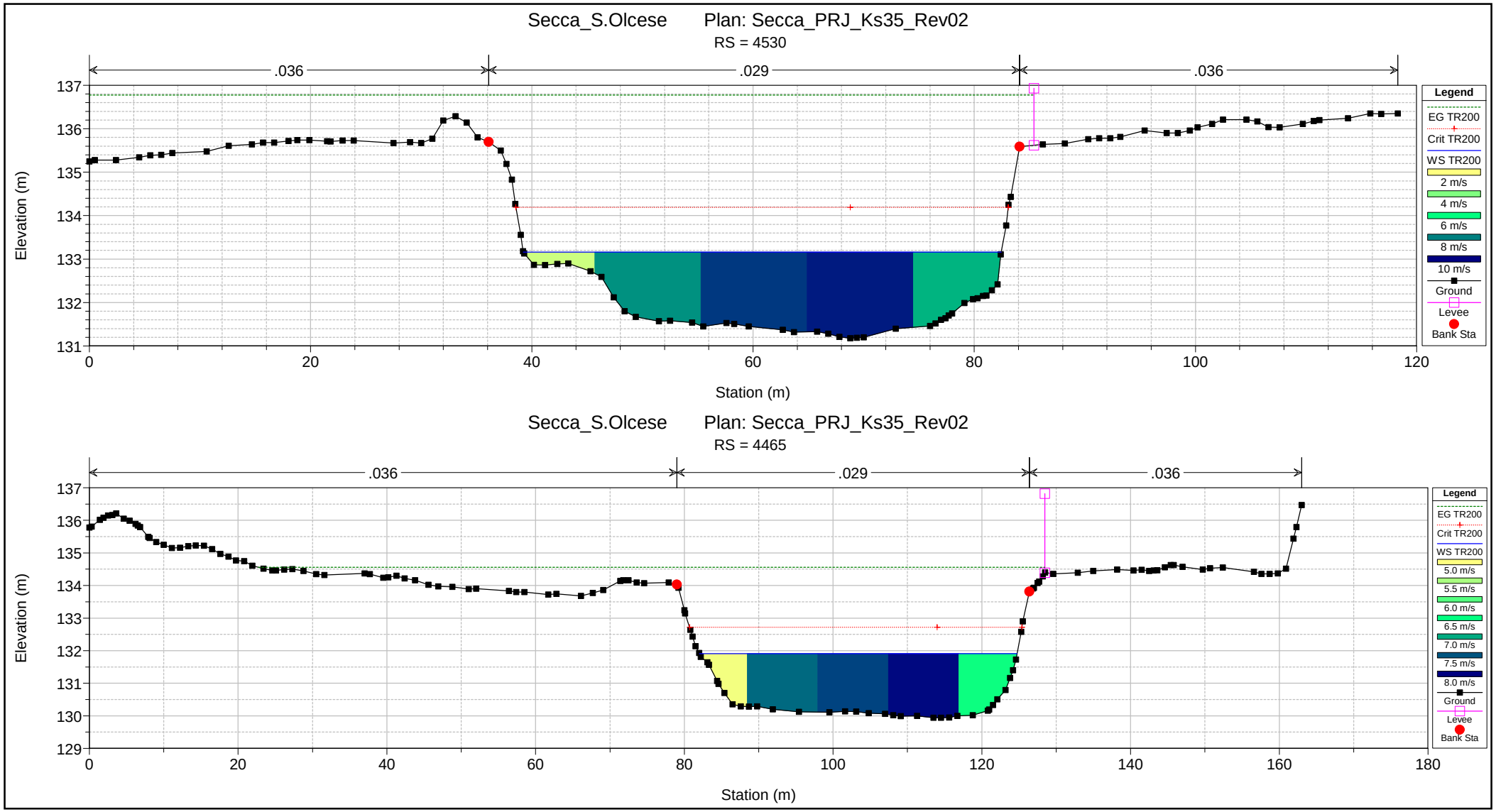

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
140
120
100
80
60
0
1000
2000
3000
4000
5000
1
2
426
564
781
896
996
1116
1222
1304
1400
1512
1608
1697 VALLE MONTE PR
1814
1874
1935
2006
2096
2204
2326
2406
2588
2647 P.V.Ruem? M
2793
2984
3186
3242
3414
3587
3729
3828
4026
4161
4282
4350
4465
4530

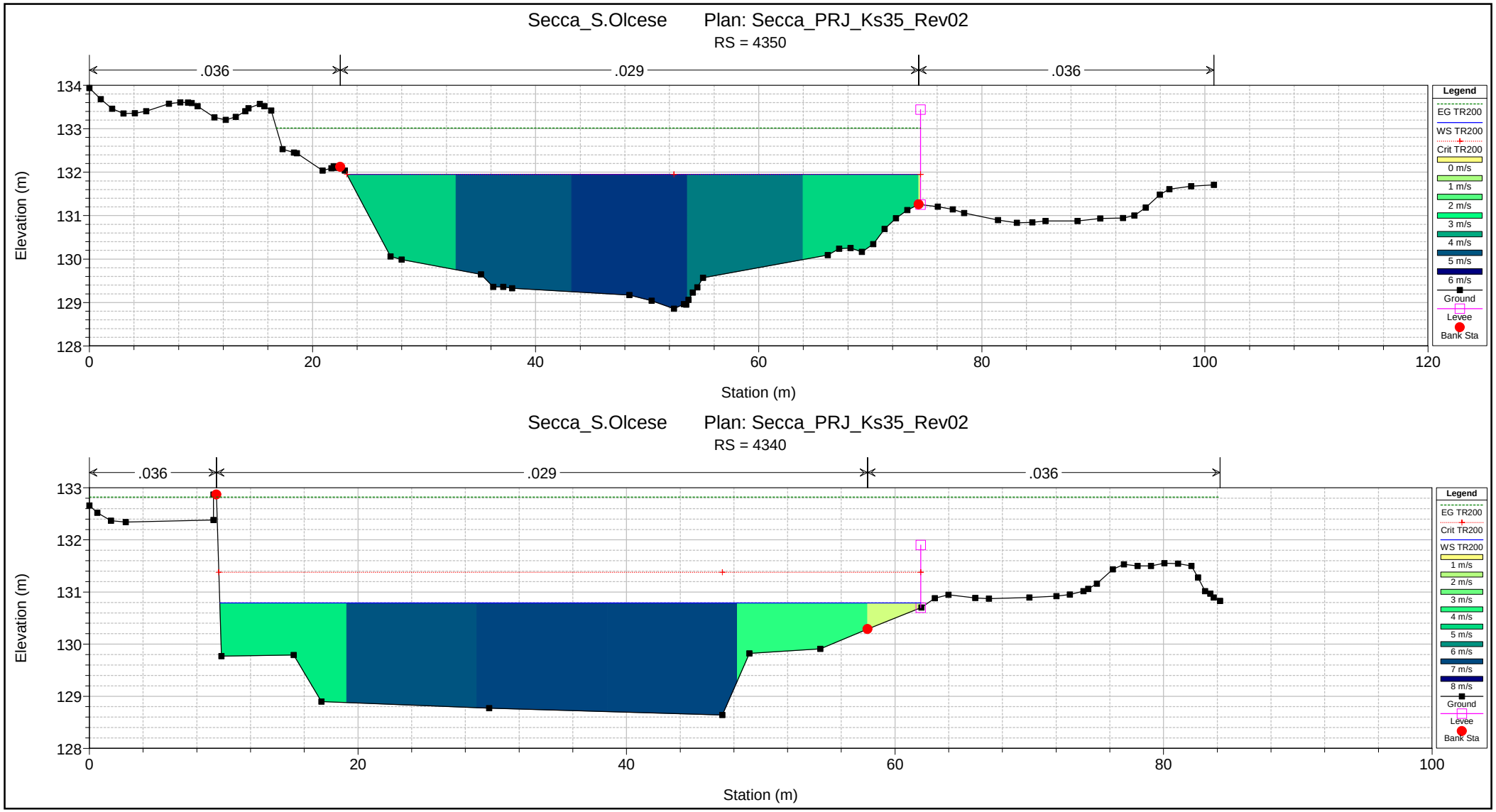

Secca_S.Olcese
Plan: Secca_PRJ_Ks35_Rev02
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
130
120
110
100
90
80
1500
2000
2500
3000
3500
4000
4500
1697 VA...
2588
2640 P.V.Ruem2 V
3238 P.carr V.Valle V

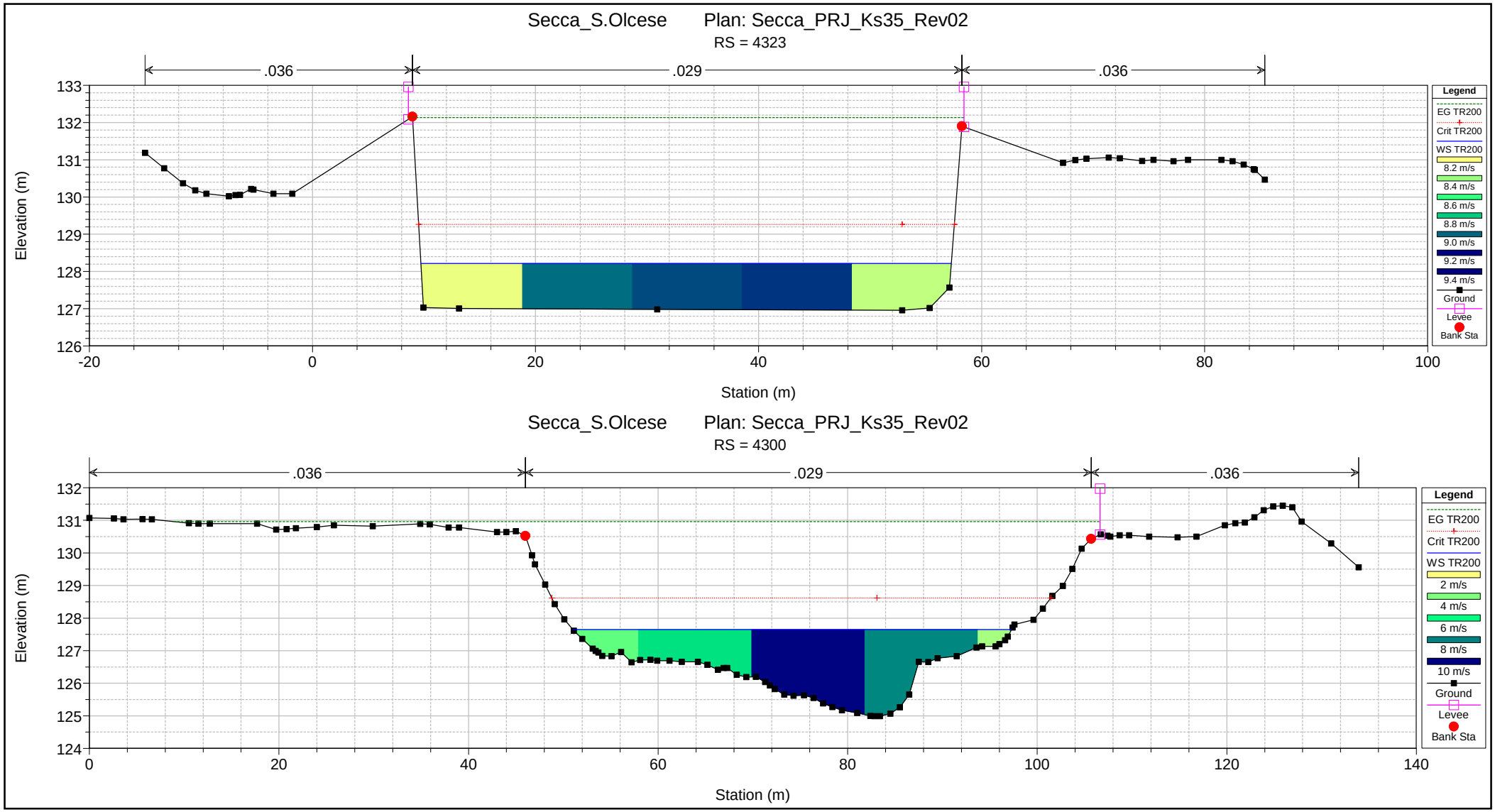

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
T_Secca T_Secca
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
92
90
88
86
84
82
80
78
1445
1512
1521
1530
1555
1608
1644
1697 VALLE MONTE PRJ
1715
1754
1814
1826
1874
1935
1950
1985
1993
2006
1400
1500
1600
1700
1800
1900
Main Channel Distance (m)

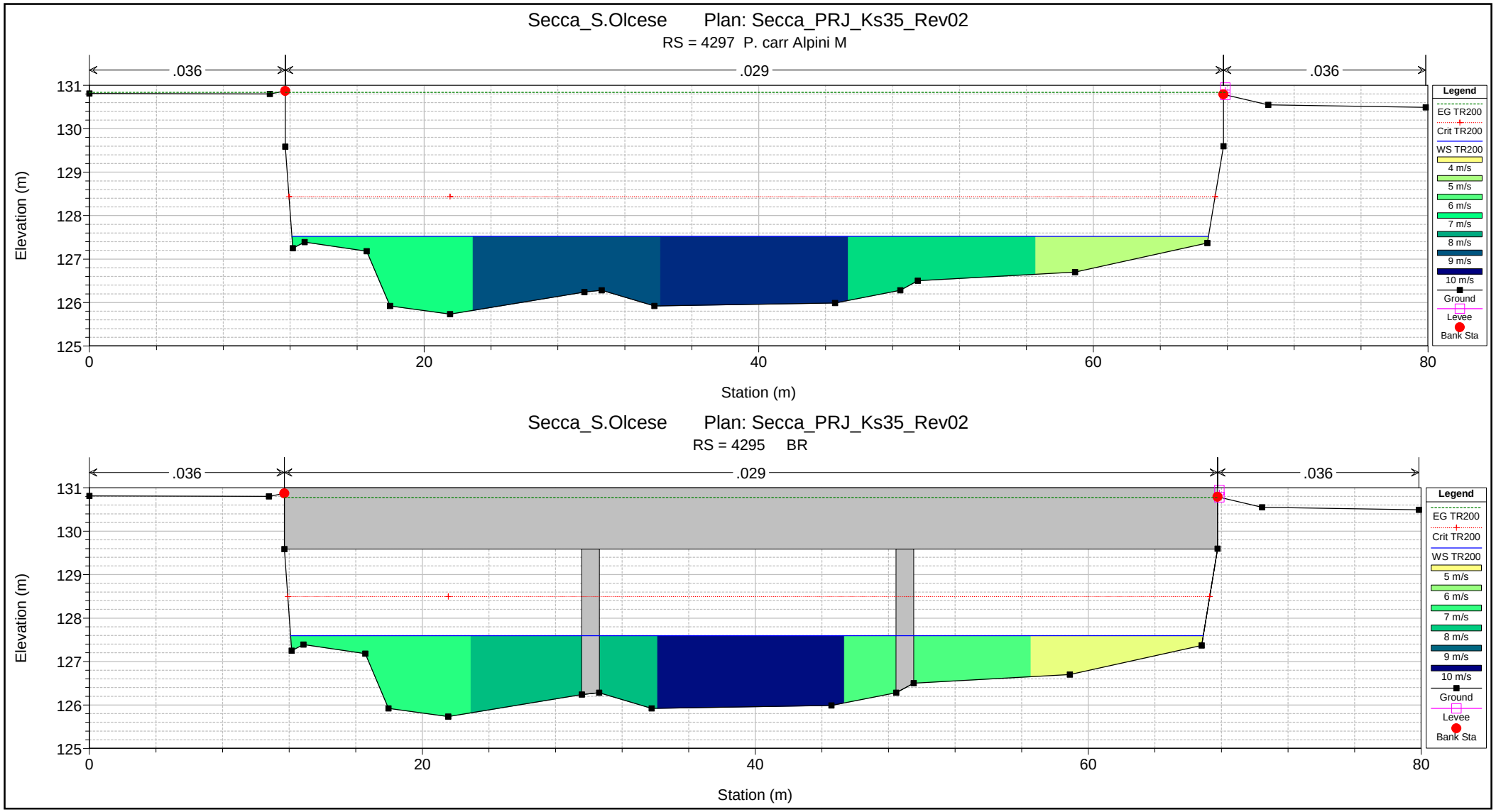

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4582
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4572
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
8.0 m/s
Ground
Levee
Bank Sta

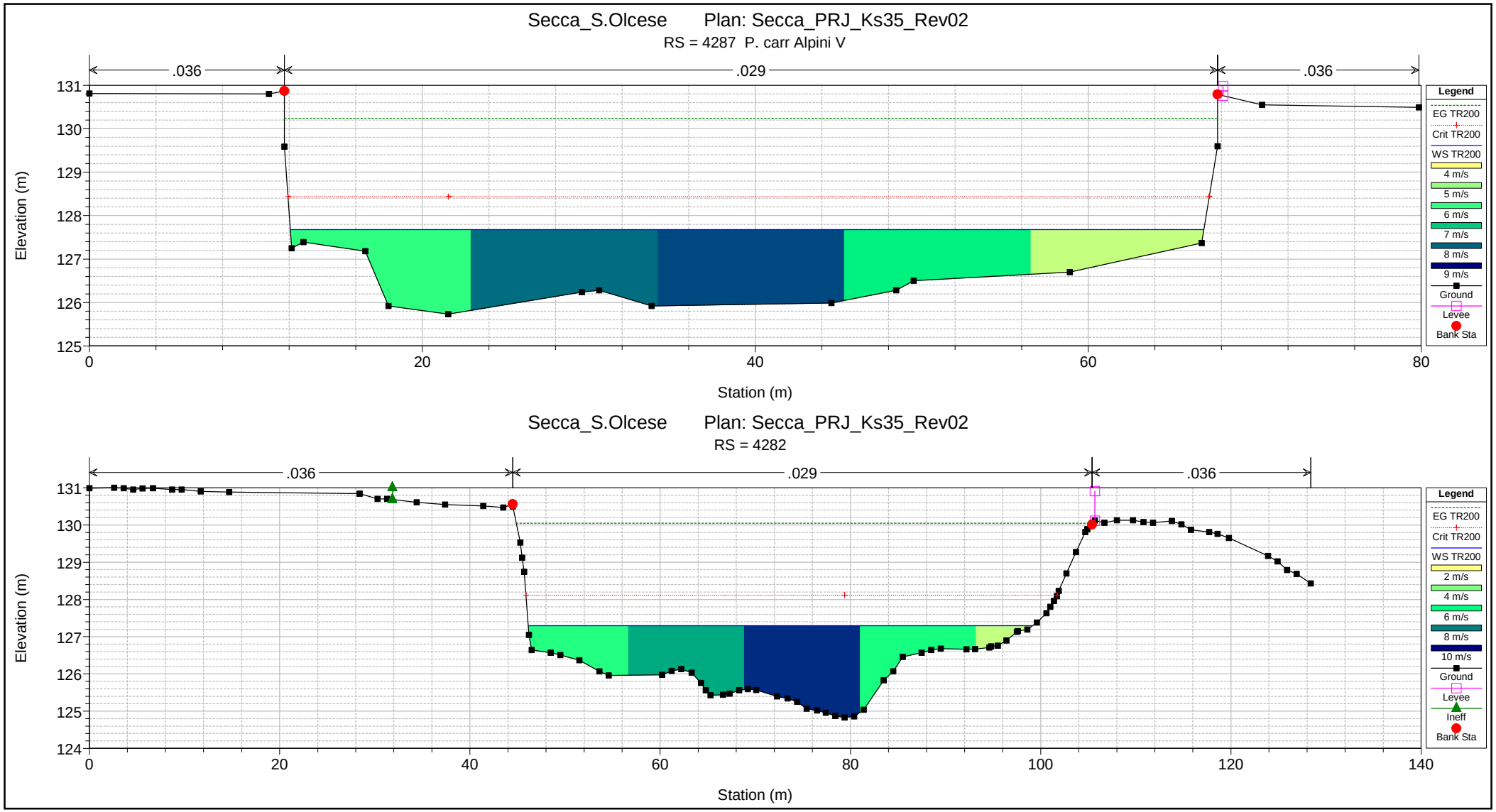

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4541
.036
.029
.036
Elevation (m)
138
137
136
135
134
133
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4534
.036
.029
Elevation (m)
138
137
136
135
134
133
0
10
20
30
40
50
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

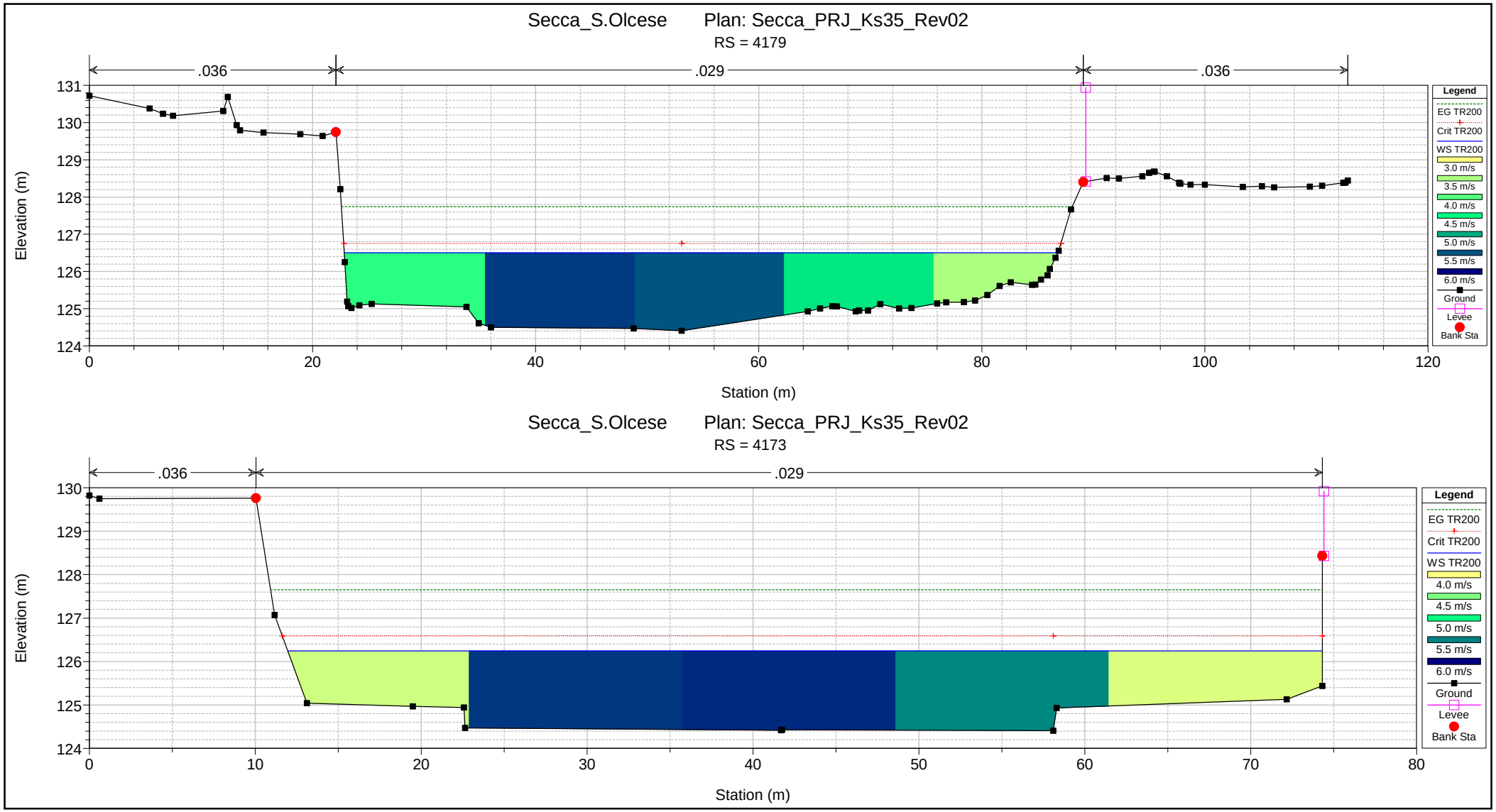

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4530
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4465
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
8.0 m/s
Ground
Levee
Bank Sta

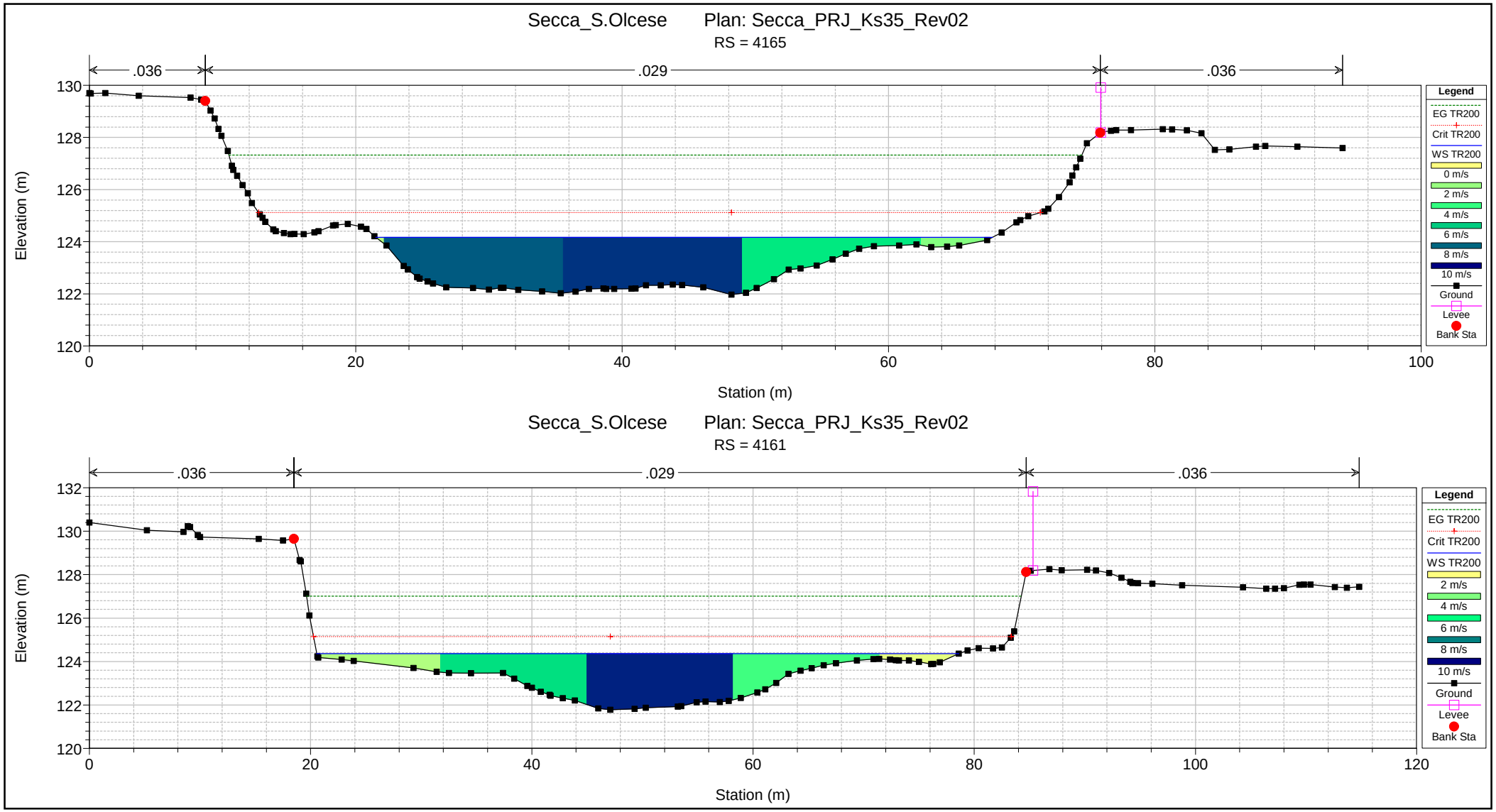

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4350
.036
.029
.036
Elevation (m)
134
133
132
131
130
129
128
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4340
.036
.029
.036
Elevation (m)
133
132
131
130
129
128
0
20
40
60
80
100
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta

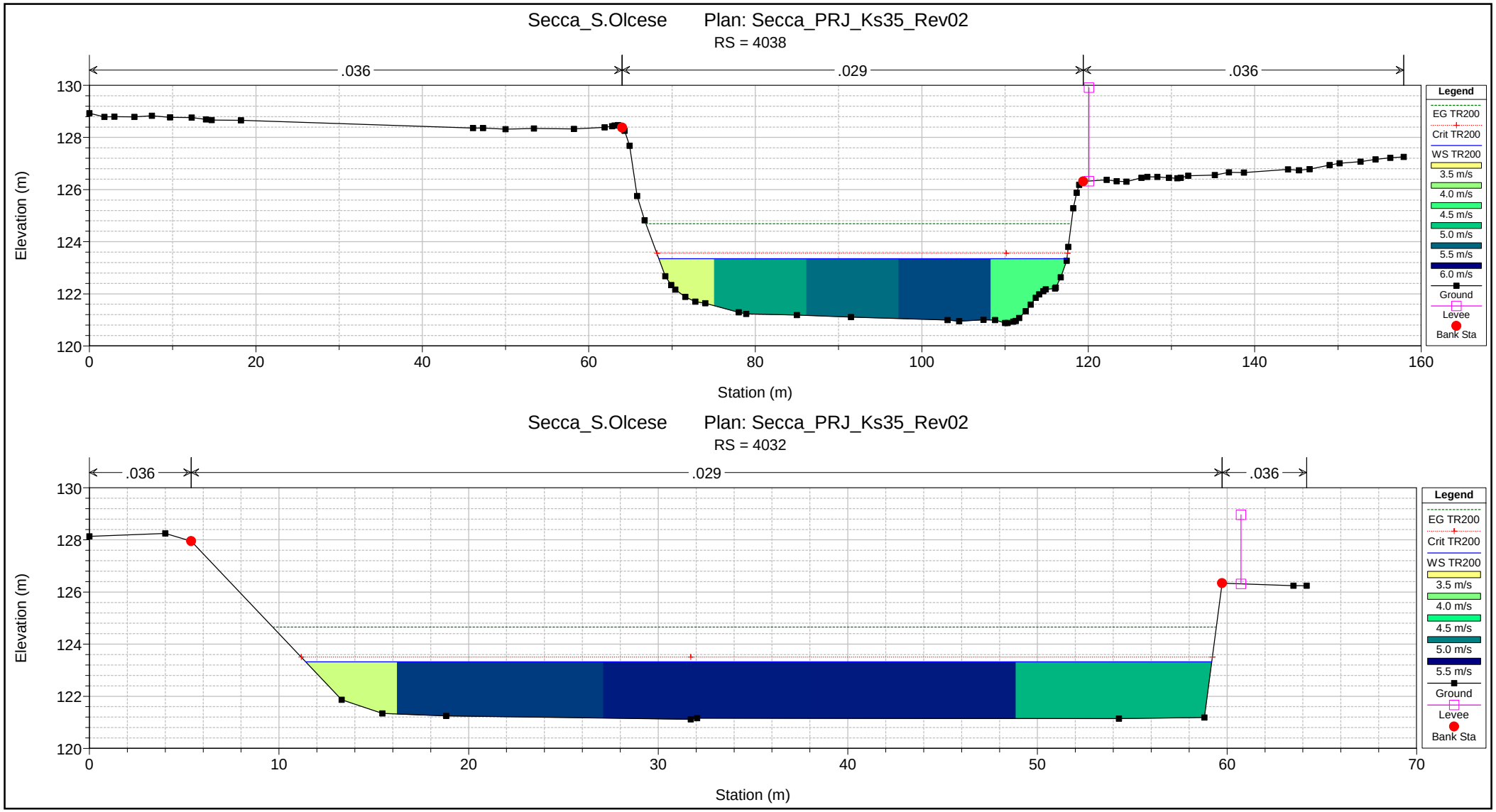

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4323
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
8.2 m/s
8.4 m/s
8.6 m/s
8.8 m/s
9.0 m/s
9.2 m/s
9.4 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4300
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

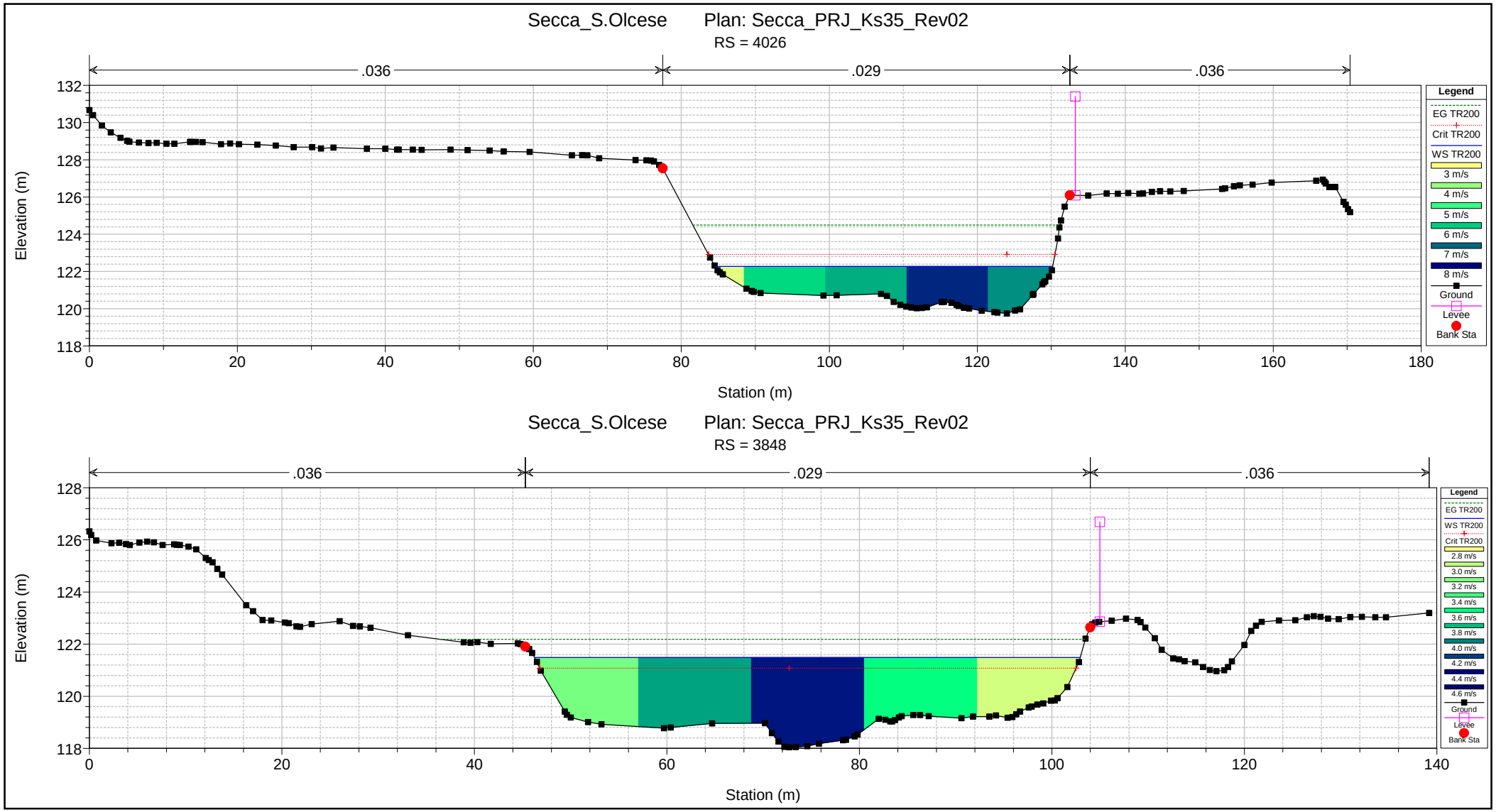

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4297 P. carr Alpini M
.036
.029
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4295 BR
.036
.029
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
10 m/s
Ground
Levee
Bank Sta

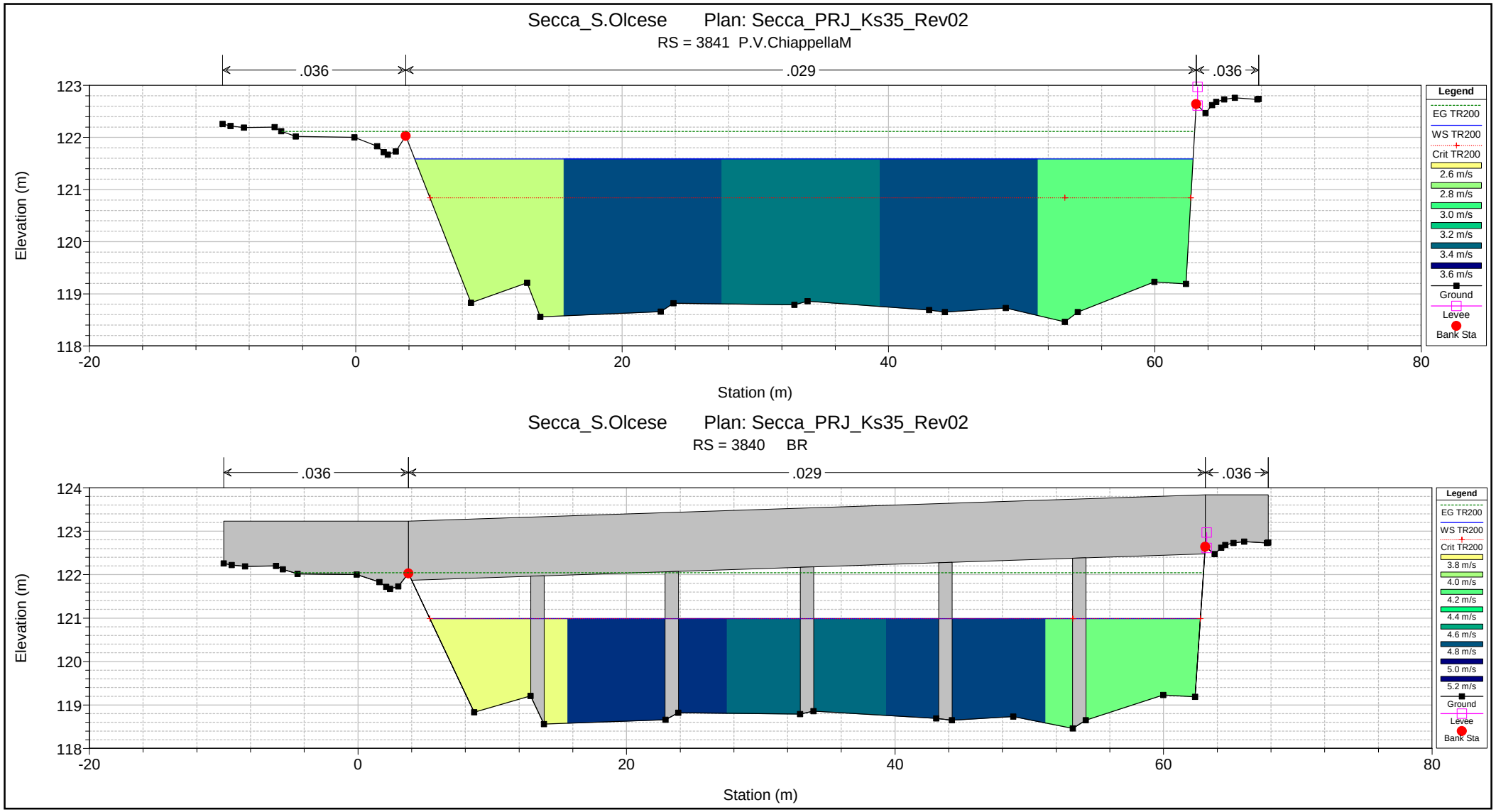

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4287 P. carr Alpini V
.036
.029
.036
Elevation (m)
131
130
129
128
127
126
125
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4282
.036
.029
.036
Elevation (m)
131
130
129
128
127
126
125
124
0
20
40
60
80
100
120
140
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Ineff
Bank Sta

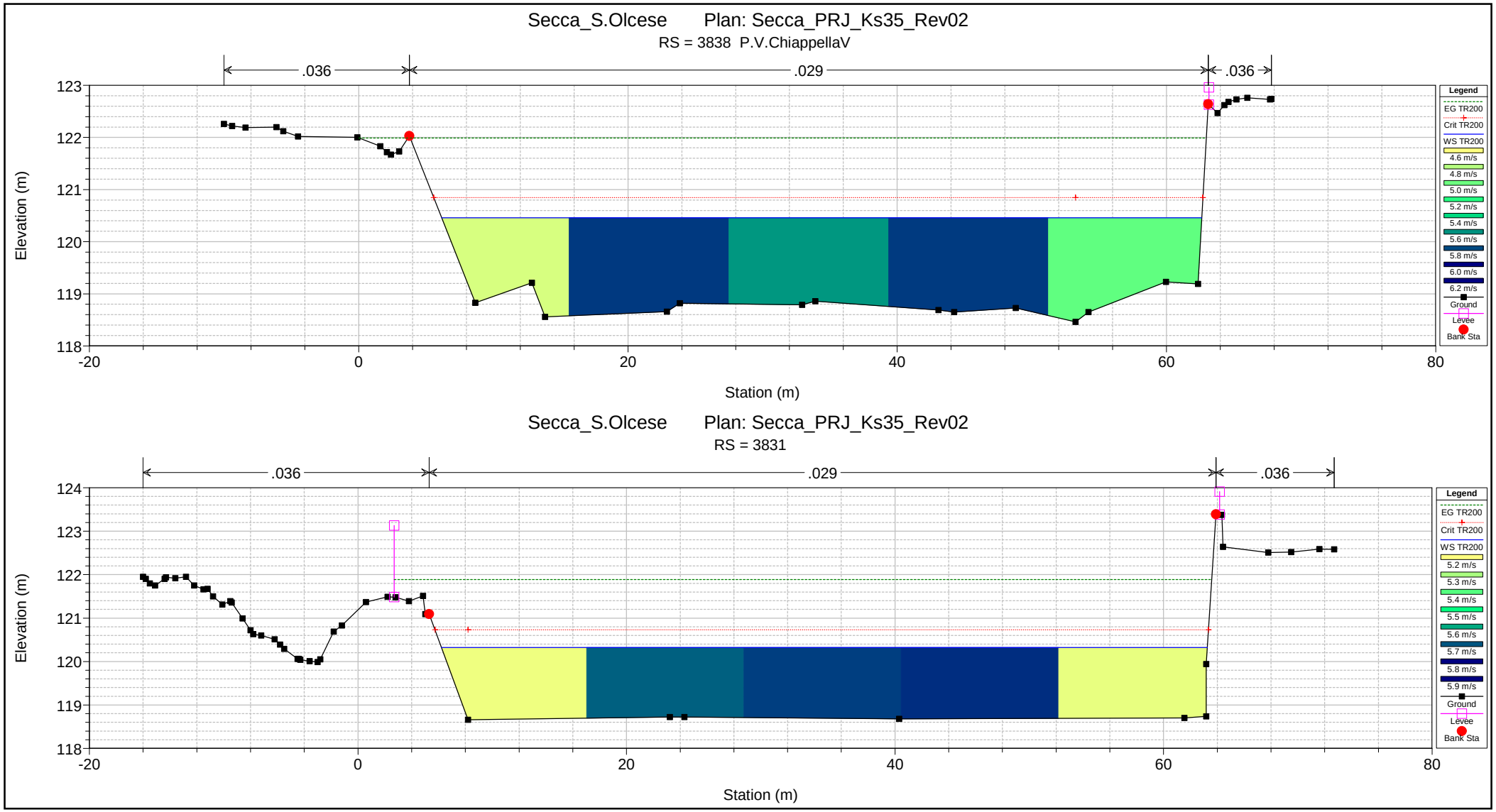

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4179
.036
.029
.036
Elevation (m)
131
130
129
128
127
126
125
124
0
20
40
60
80
100
120
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4173
.036
.029
Elevation (m)
130
129
128
127
126
125
124
0
10
20
30
40
50
60
70
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta

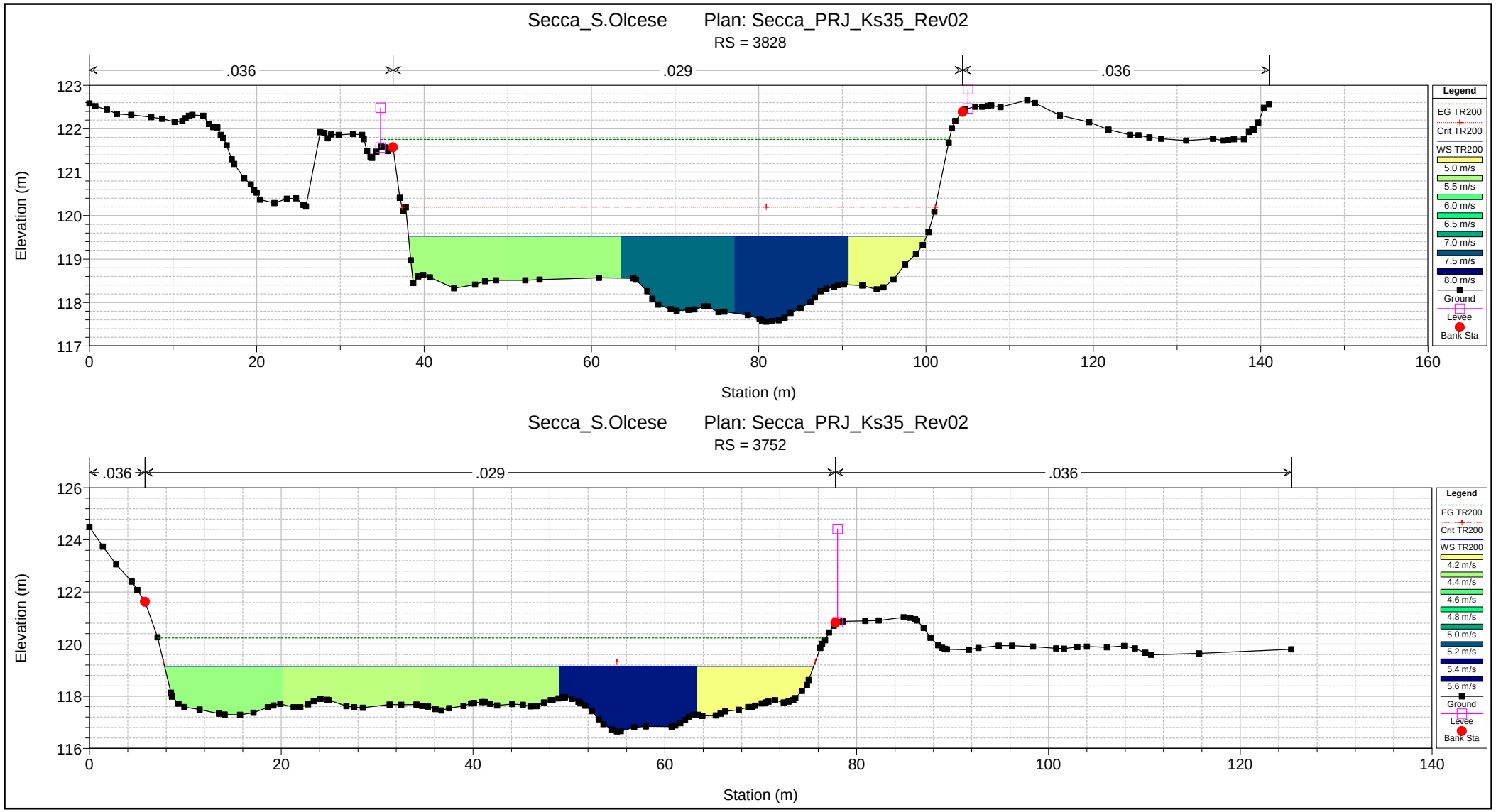

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4165
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4161
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

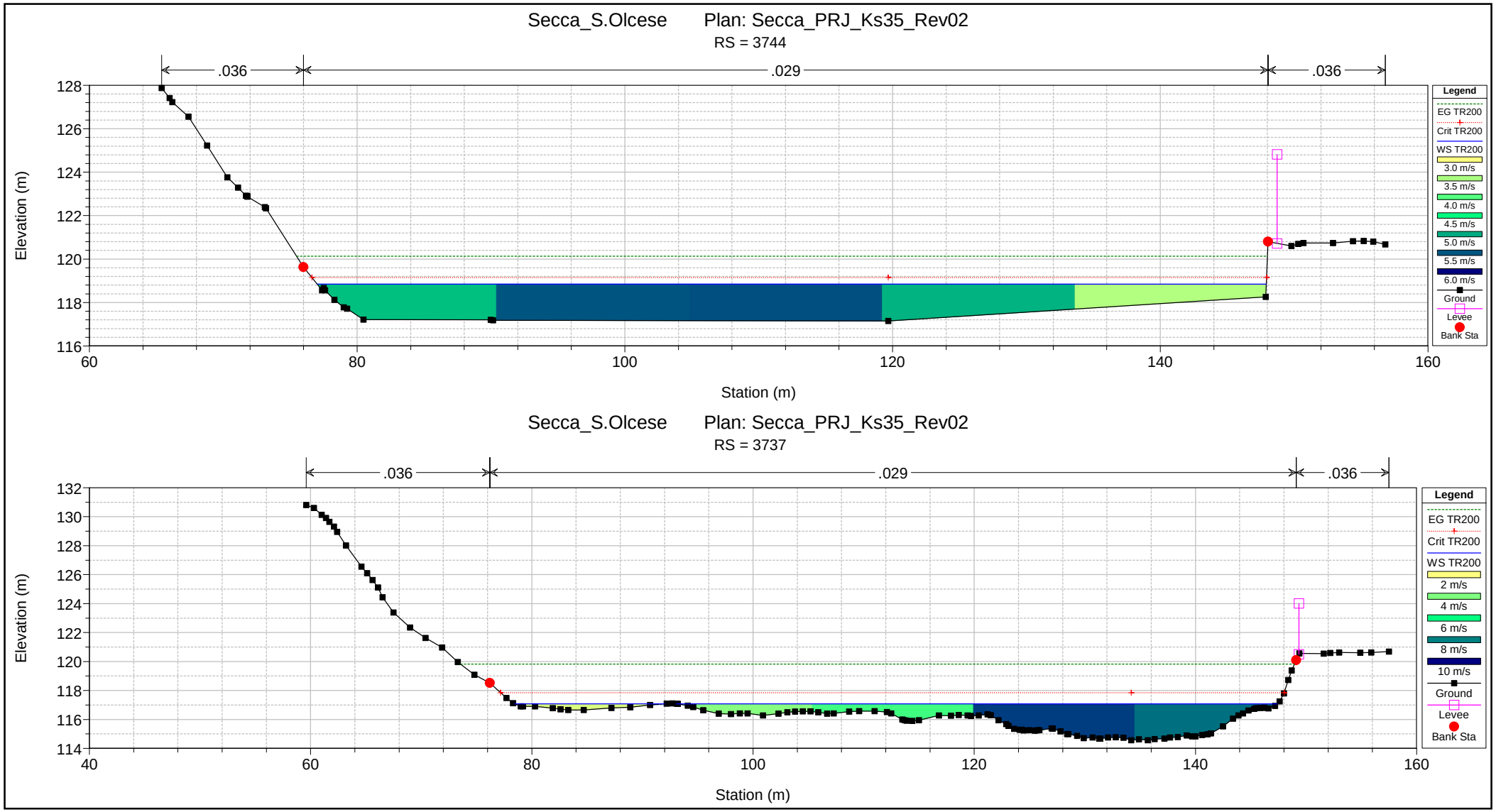

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4038
.036
.029
.036
Elevation (m)
130
128
126
124
122
120
0
20
40
60
80
100
120
140
160
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4032
.036
.029
.036
Elevation (m)
130
128
126
124
122
120
0
10
20
30
40
50
60
70
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

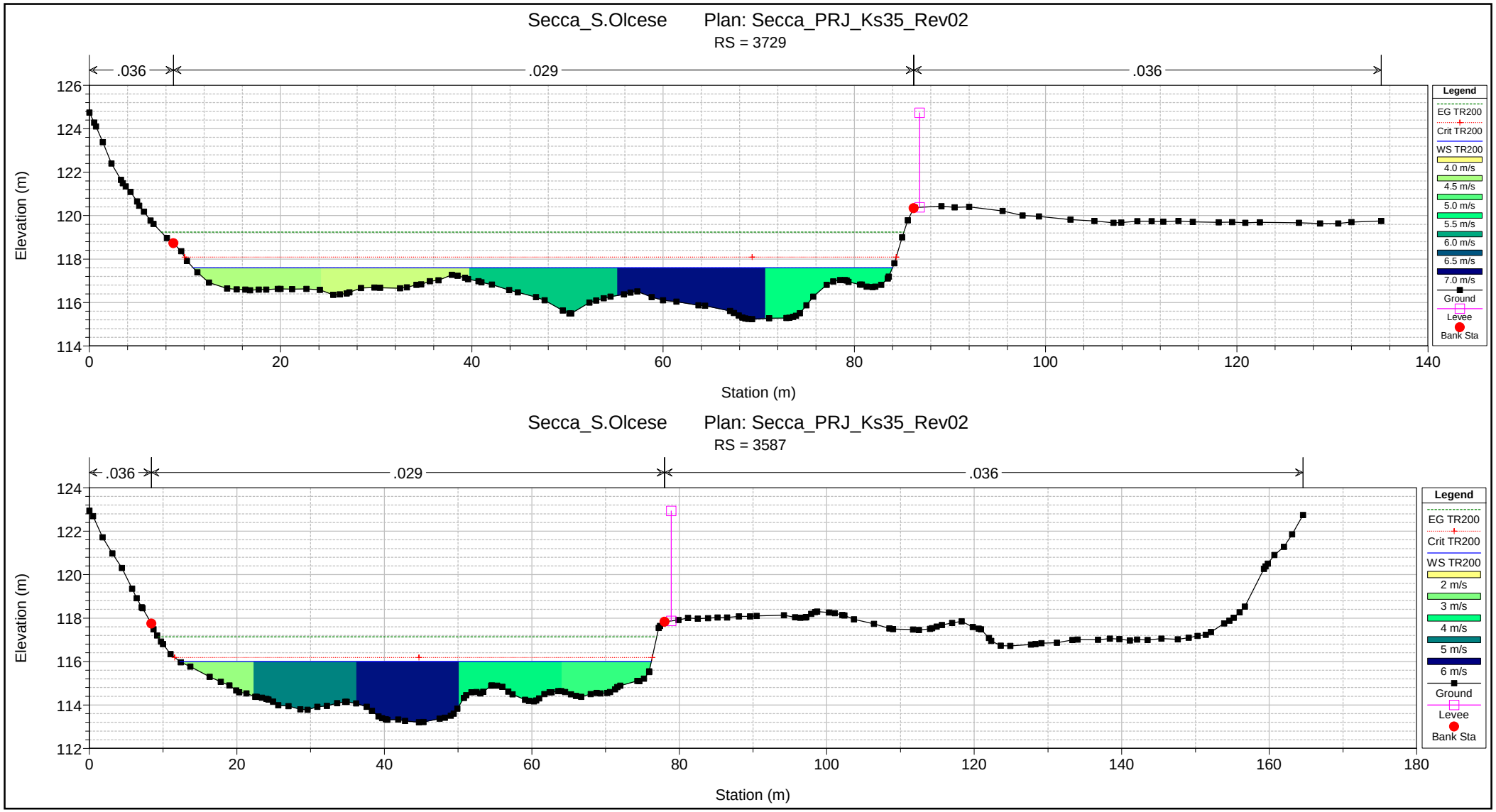

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 4026
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3848
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
Ground
Levee
Bank Sta

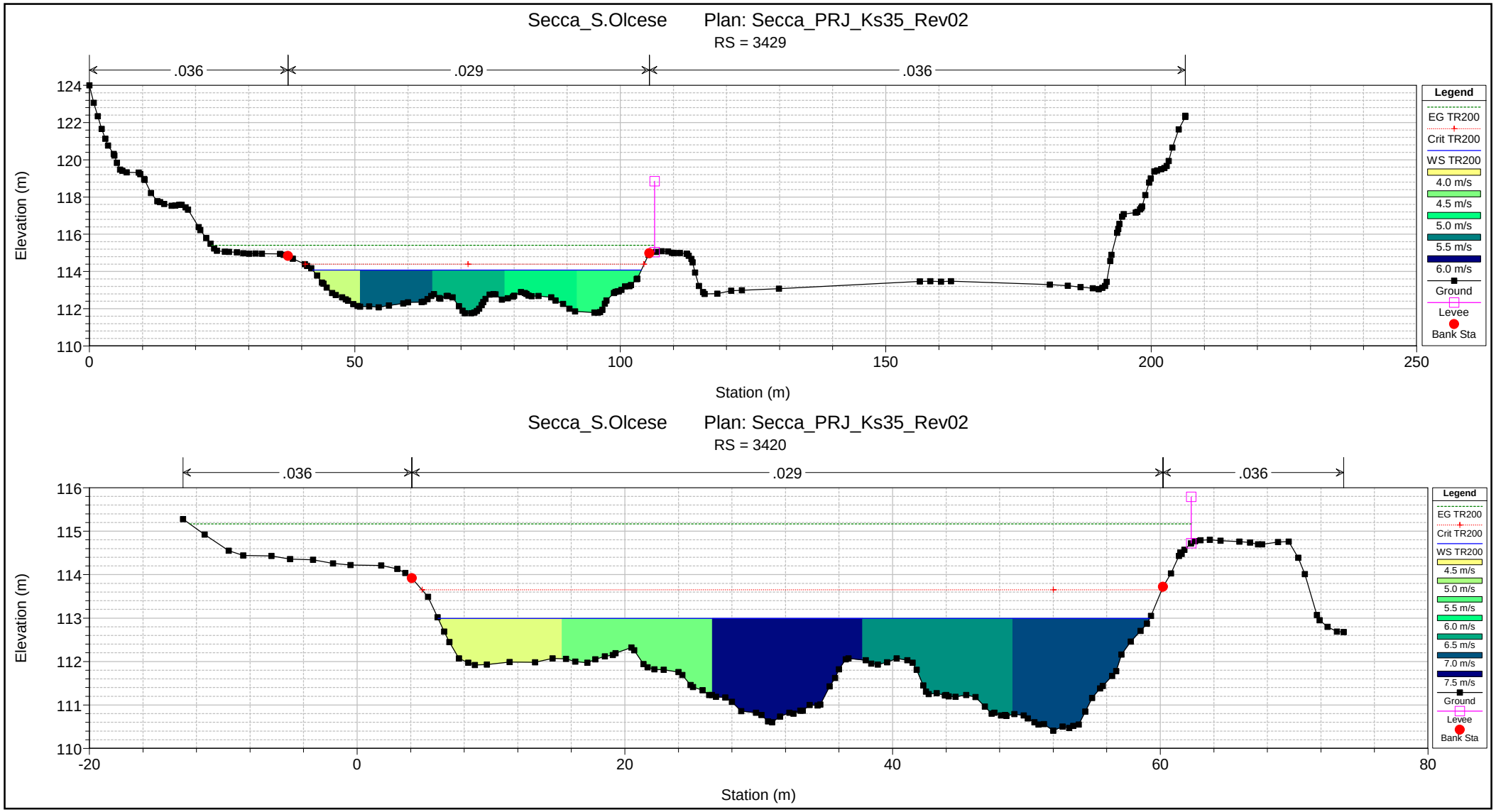

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3841 P.V.ChiappellaM
.036
.029
.036
Elevation (m)
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3840 BR
.036
.029
.036
Elevation (m)
124
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Levee
Bank Sta

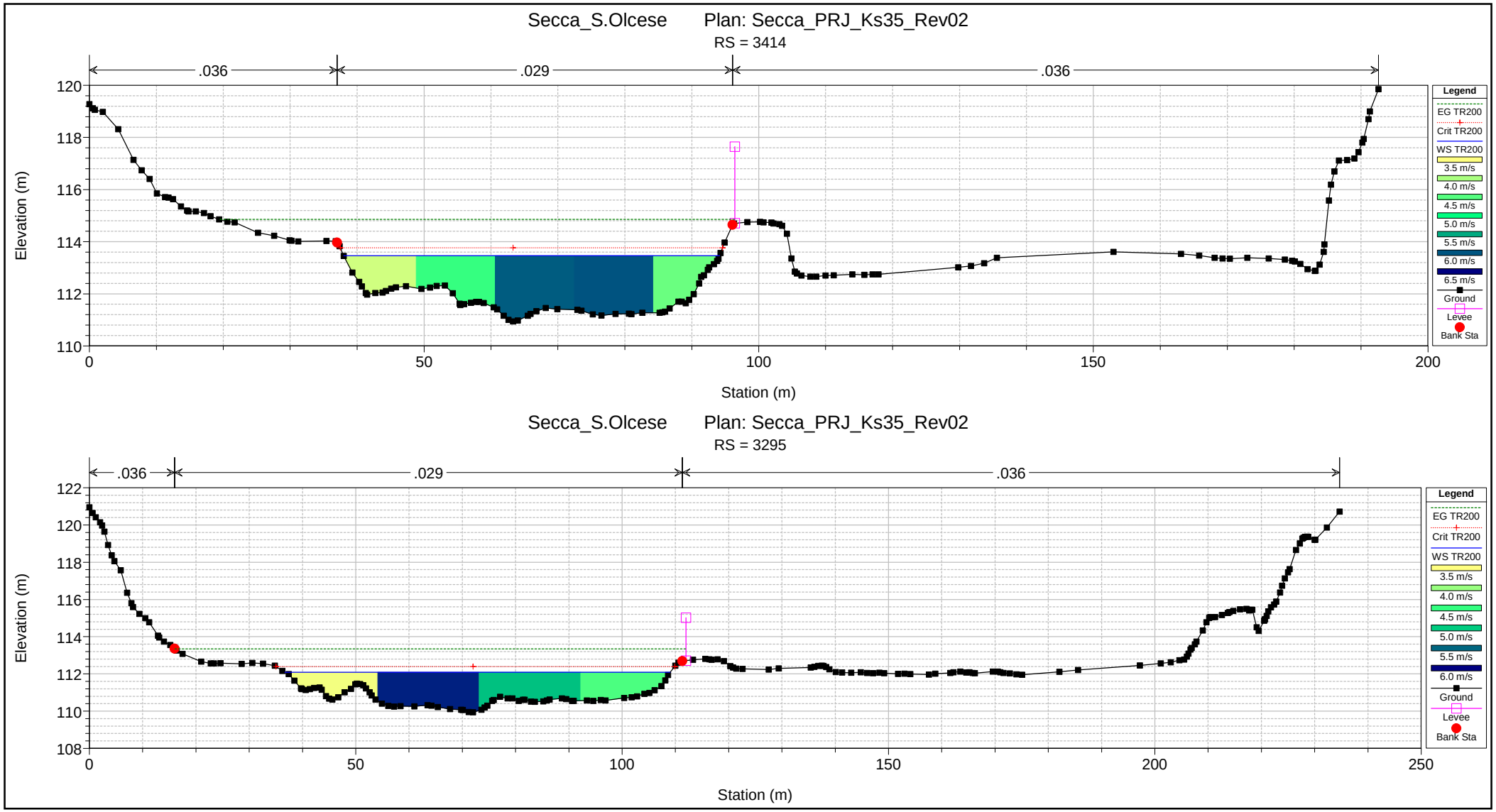

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3838 P.V.ChiappellaV
.036
.029
.036
Elevation (m)
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
5.8 m/s
6.0 m/s
6.2 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3831
.036
.029
.036
Elevation (m)
124
123
122
121
120
119
118
-20
0
20
40
60
80
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.2 m/s
5.3 m/s
5.4 m/s
5.5 m/s
5.6 m/s
5.7 m/s
5.8 m/s
5.9 m/s
Ground
Levee
Bank Sta

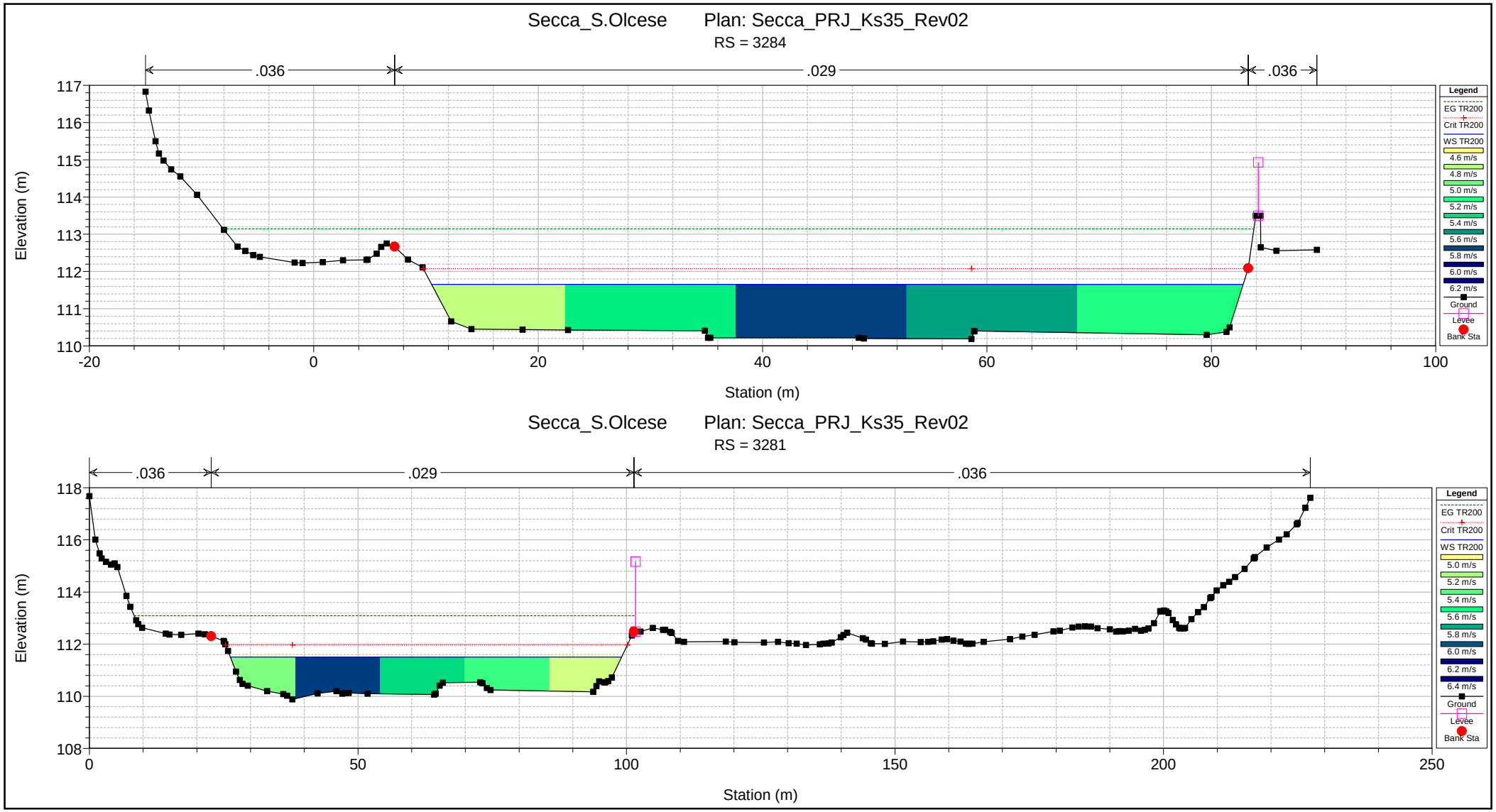

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3828
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
8.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3752
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
Ground
Levee
Bank Sta

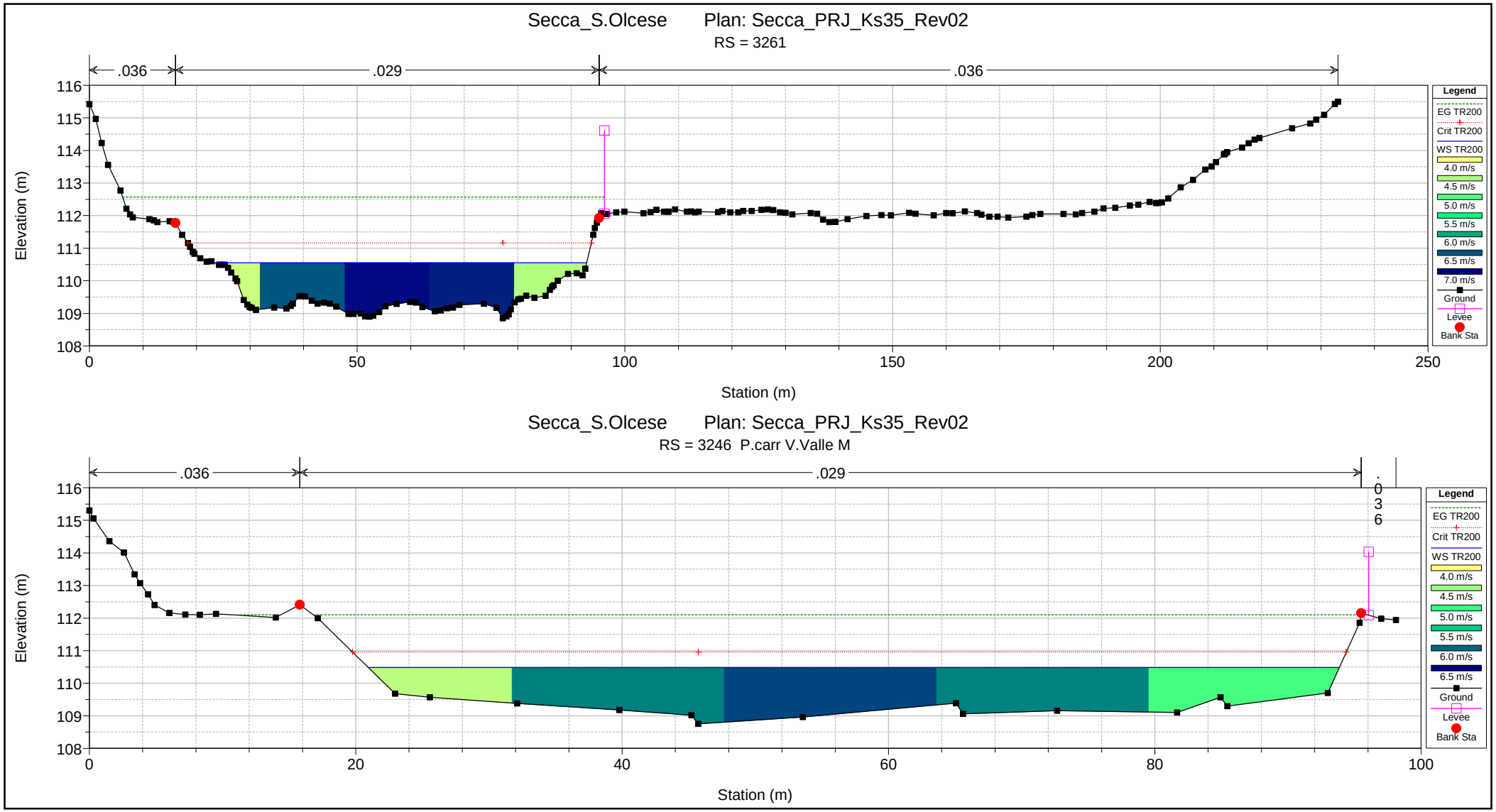

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3744
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3737
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

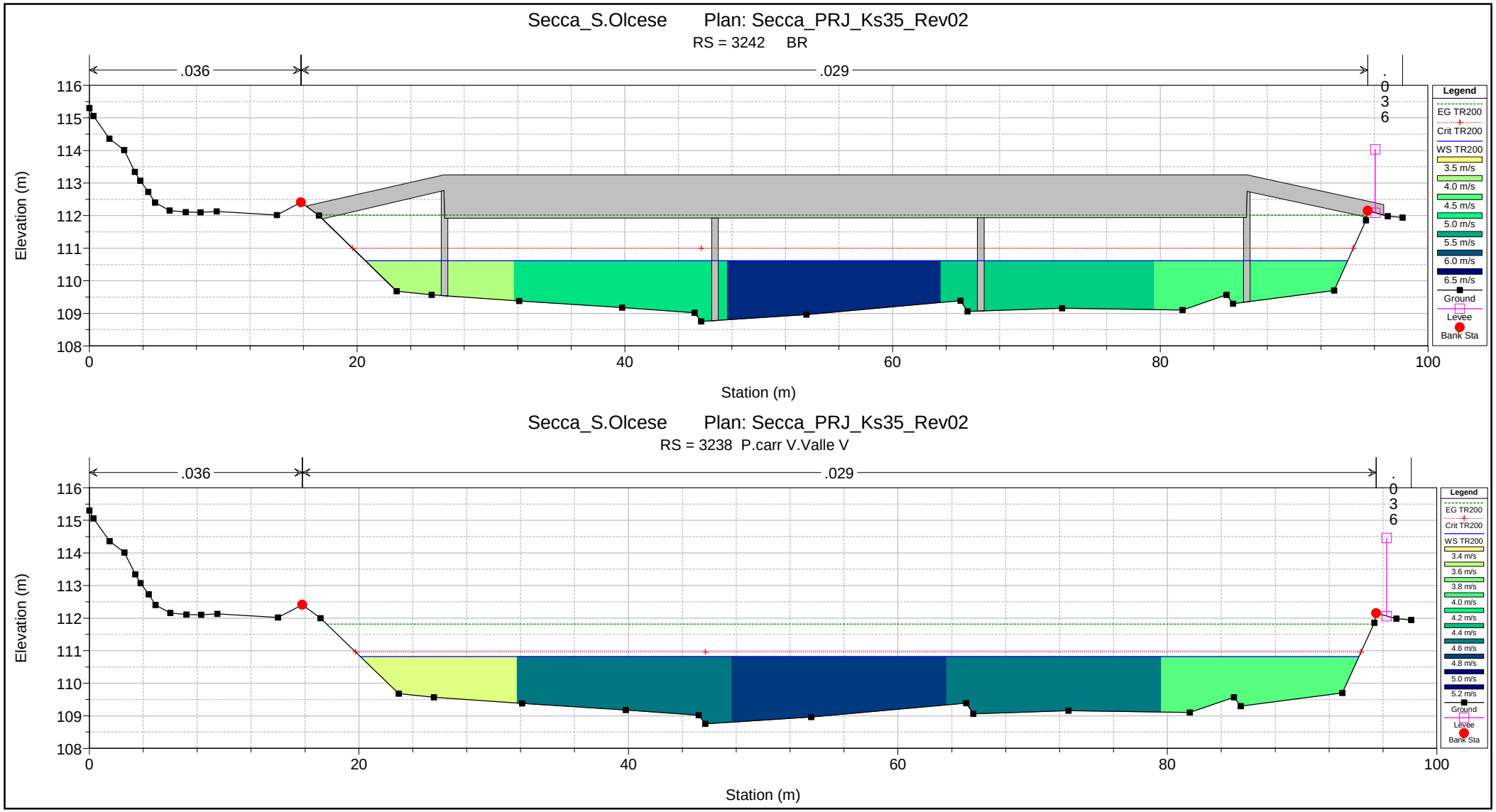

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3729
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3587
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

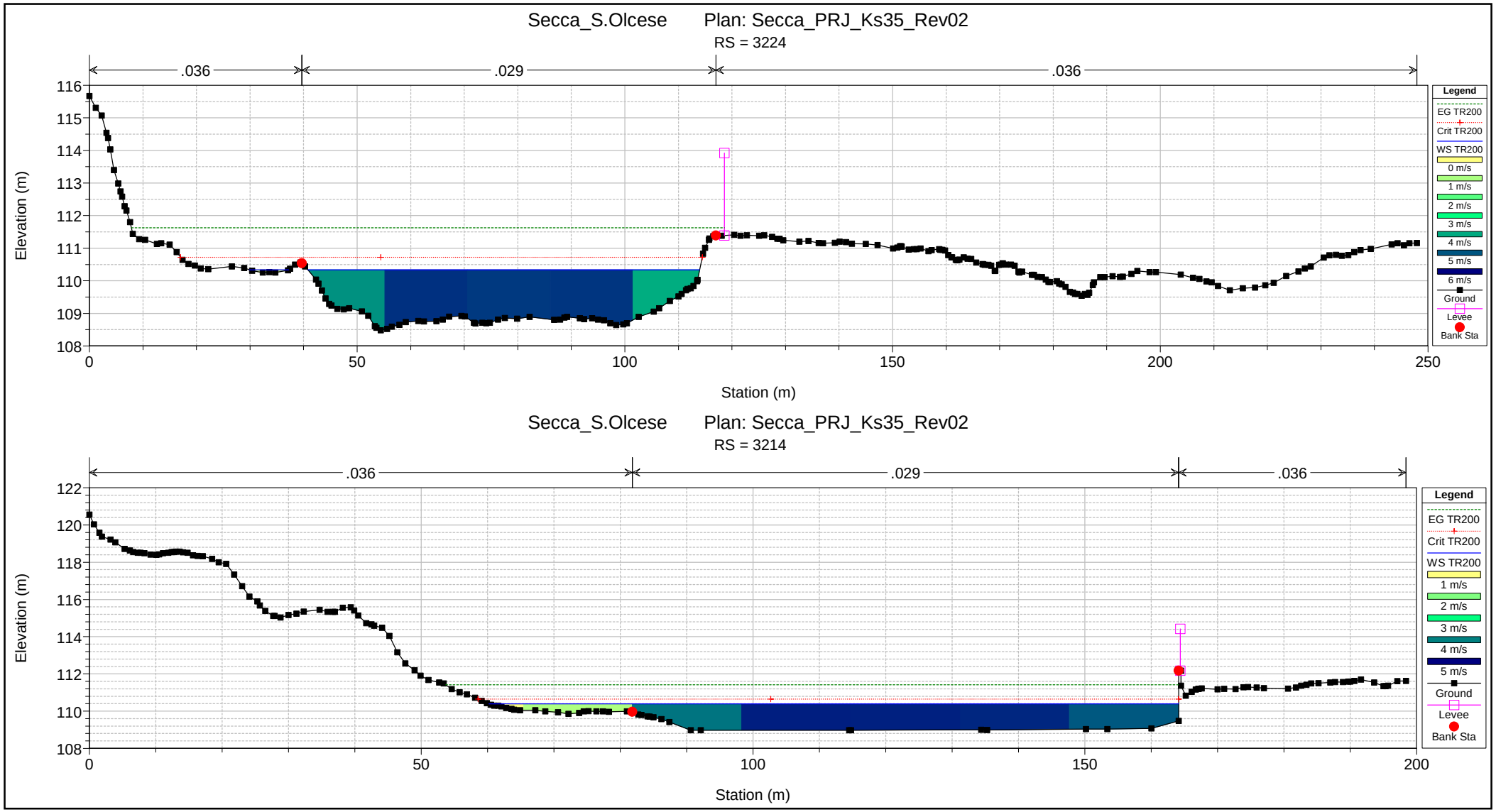

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3429
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3420
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta

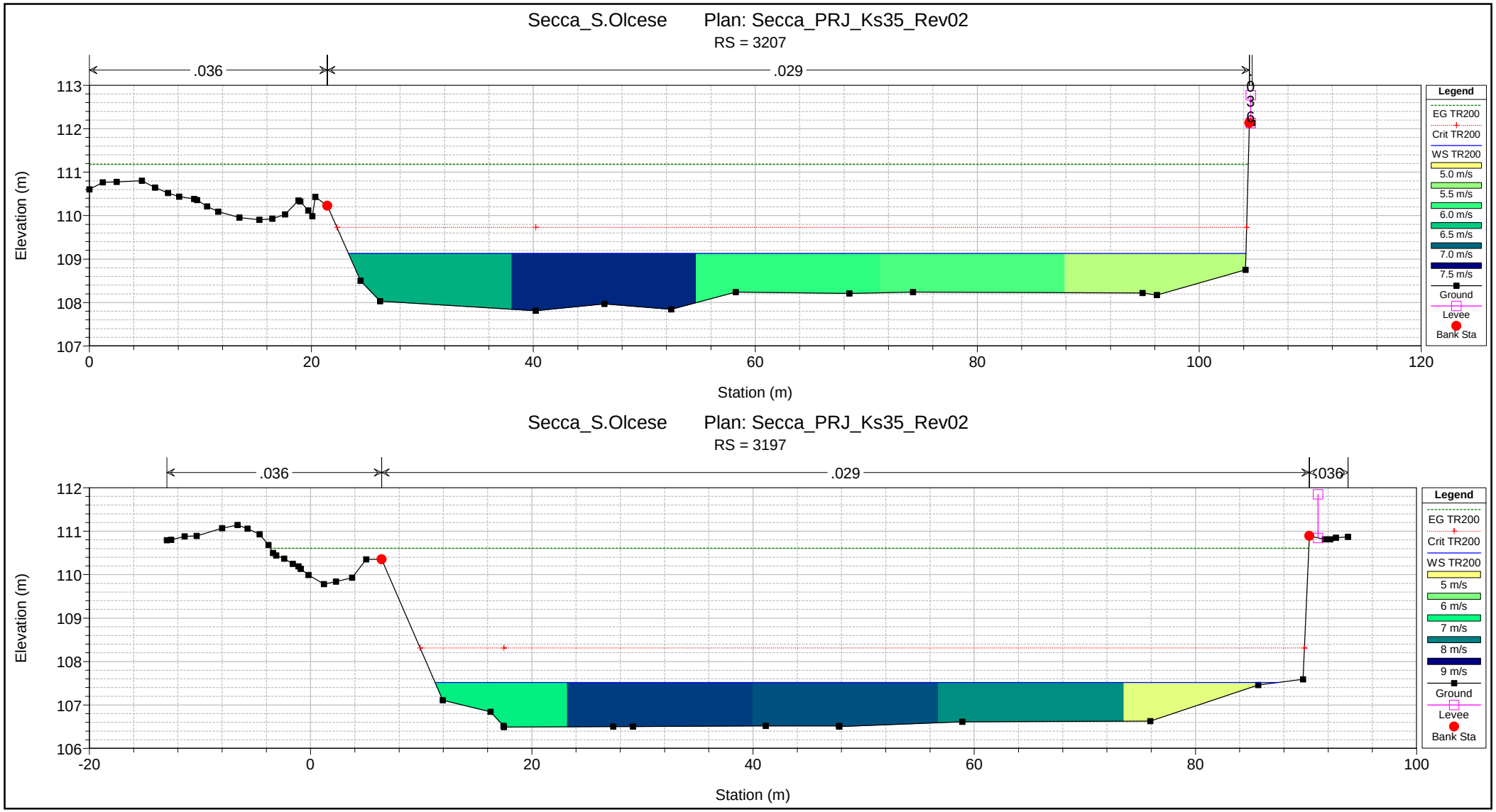

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3414
.036
.029
.036
Elevation (m)
120
118
116
114
112
110
0
50
100
150
200
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3295
.036
.029
.036
Elevation (m)
122
120
118
116
114
112
110
108
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta

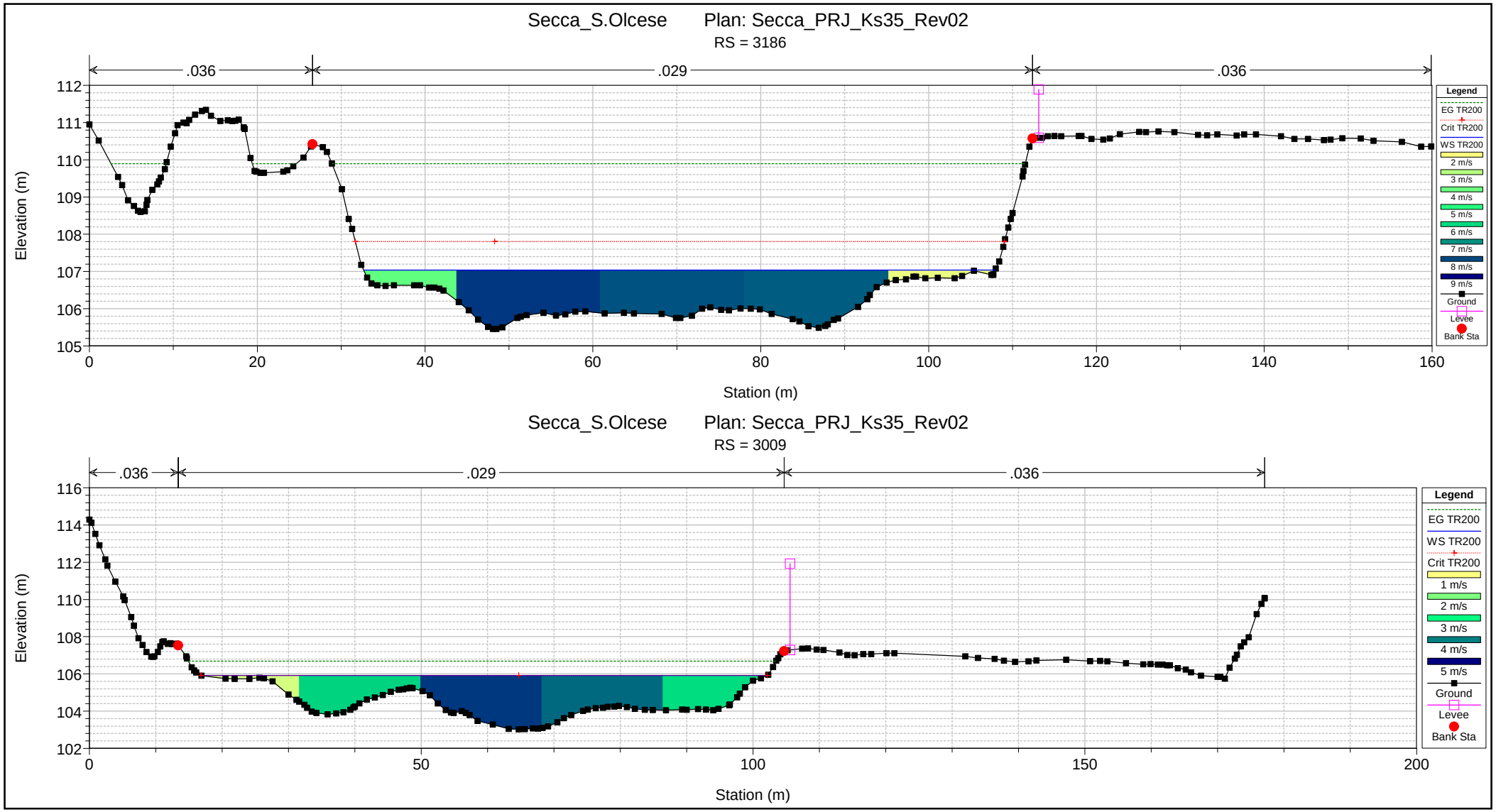

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3284
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
5.8 m/s
6.0 m/s
6.2 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3281
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
5.8 m/s
6.0 m/s
6.2 m/s
6.4 m/s
Ground
Levee
Bank Sta

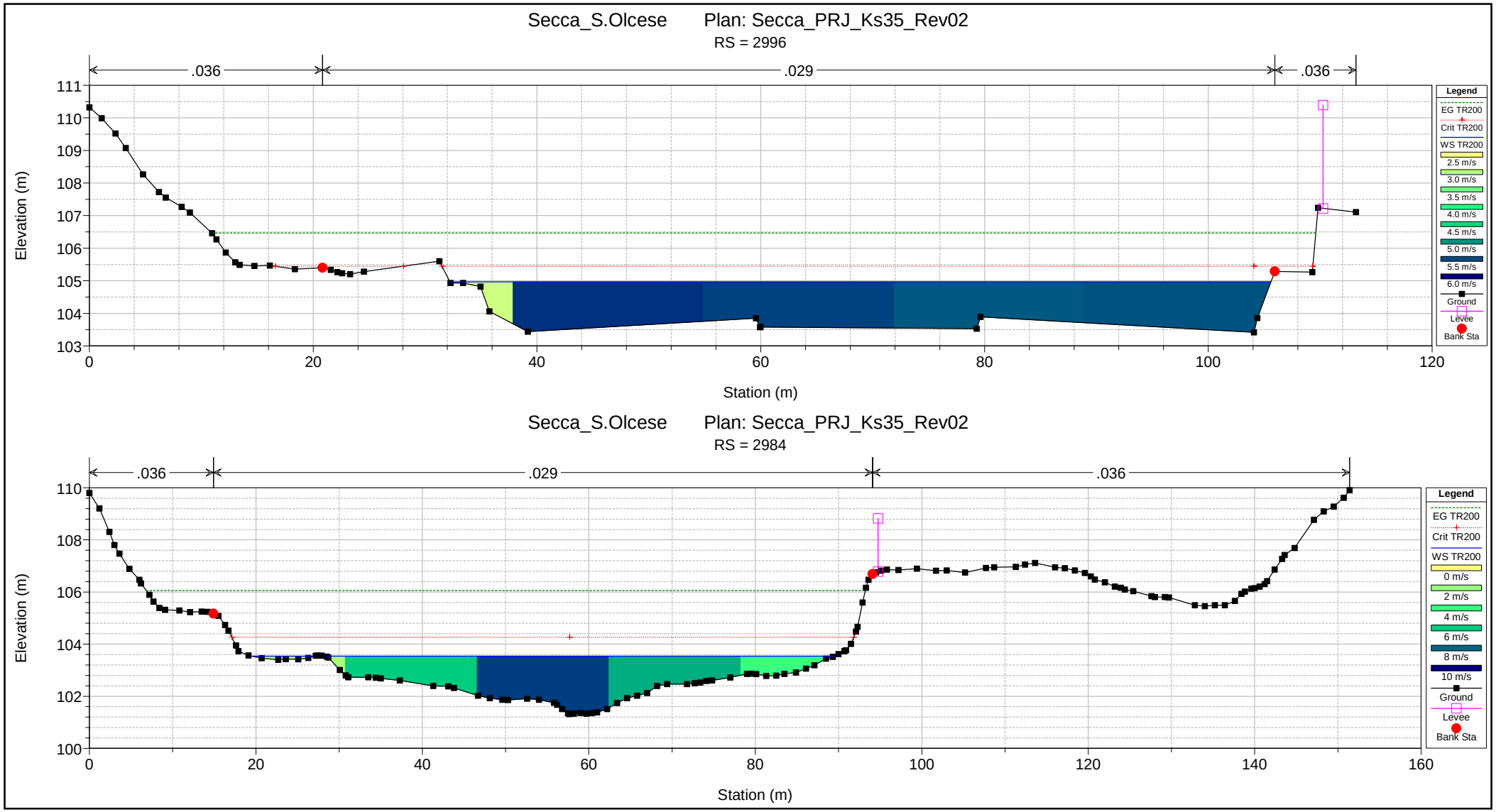

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3261
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3246 P.carr V.Valle M
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta

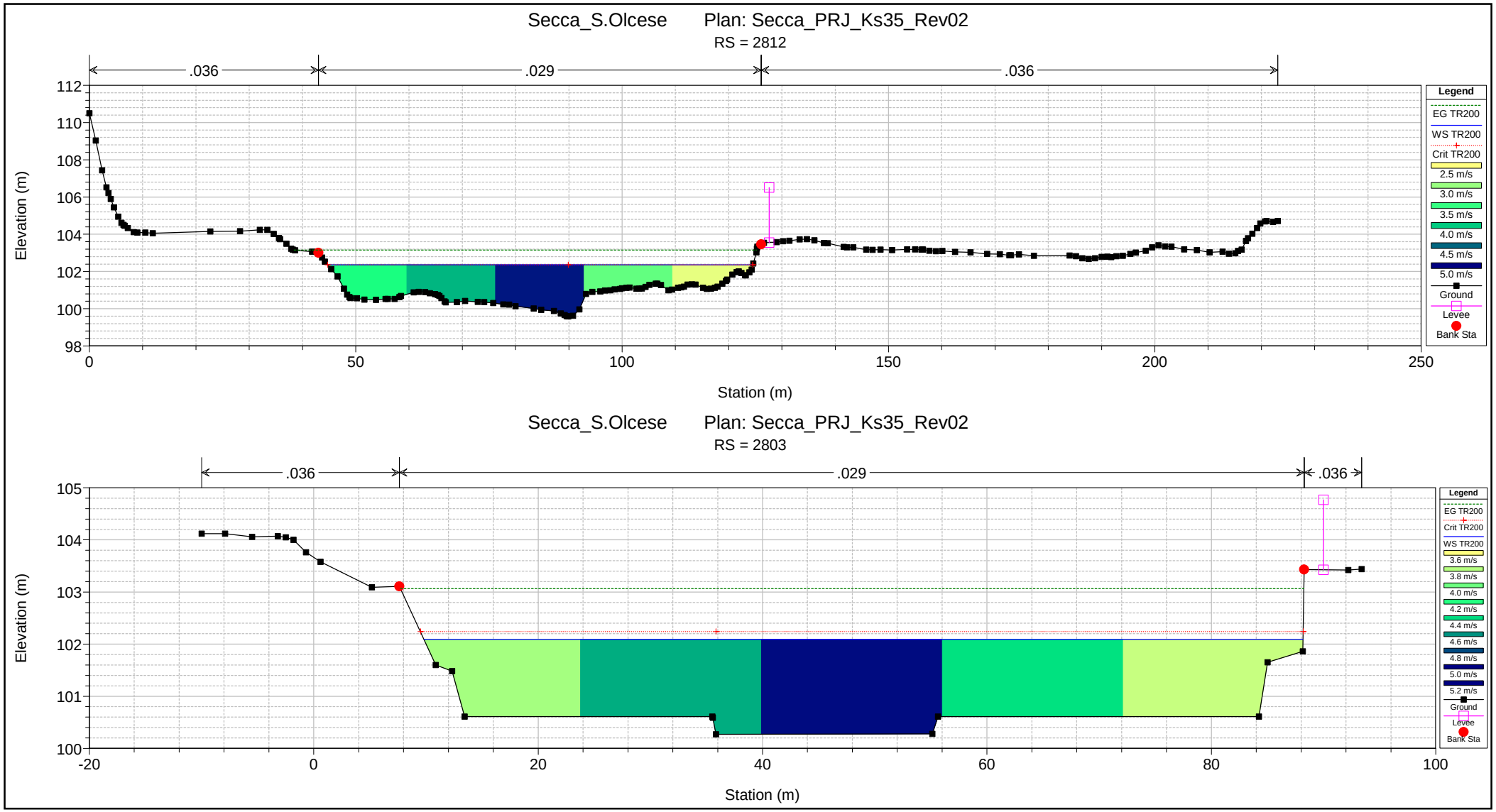

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3242 BR
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3238 P.carr V.Valle V
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Levee
Bank Sta

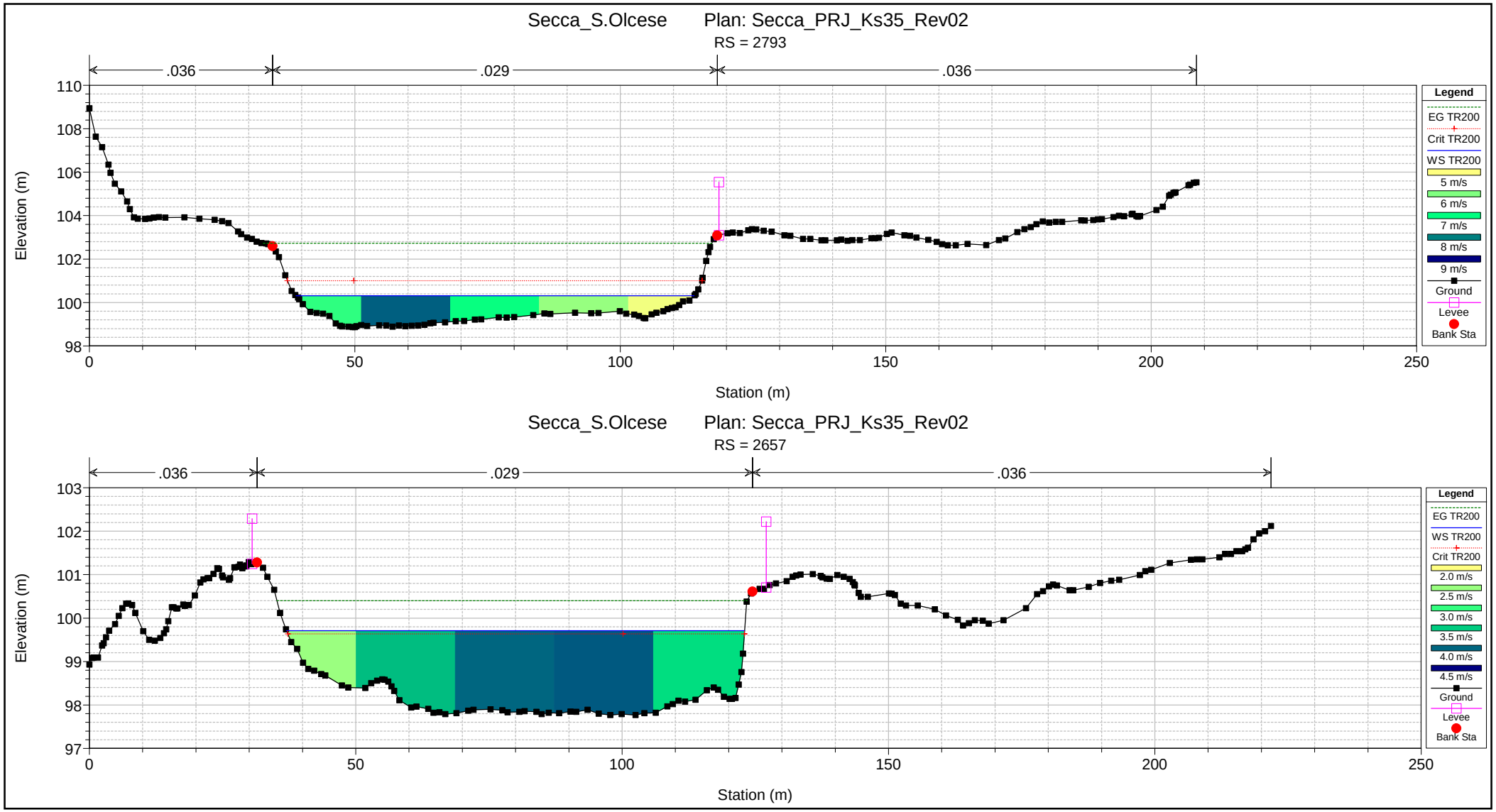

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3224
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3214
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

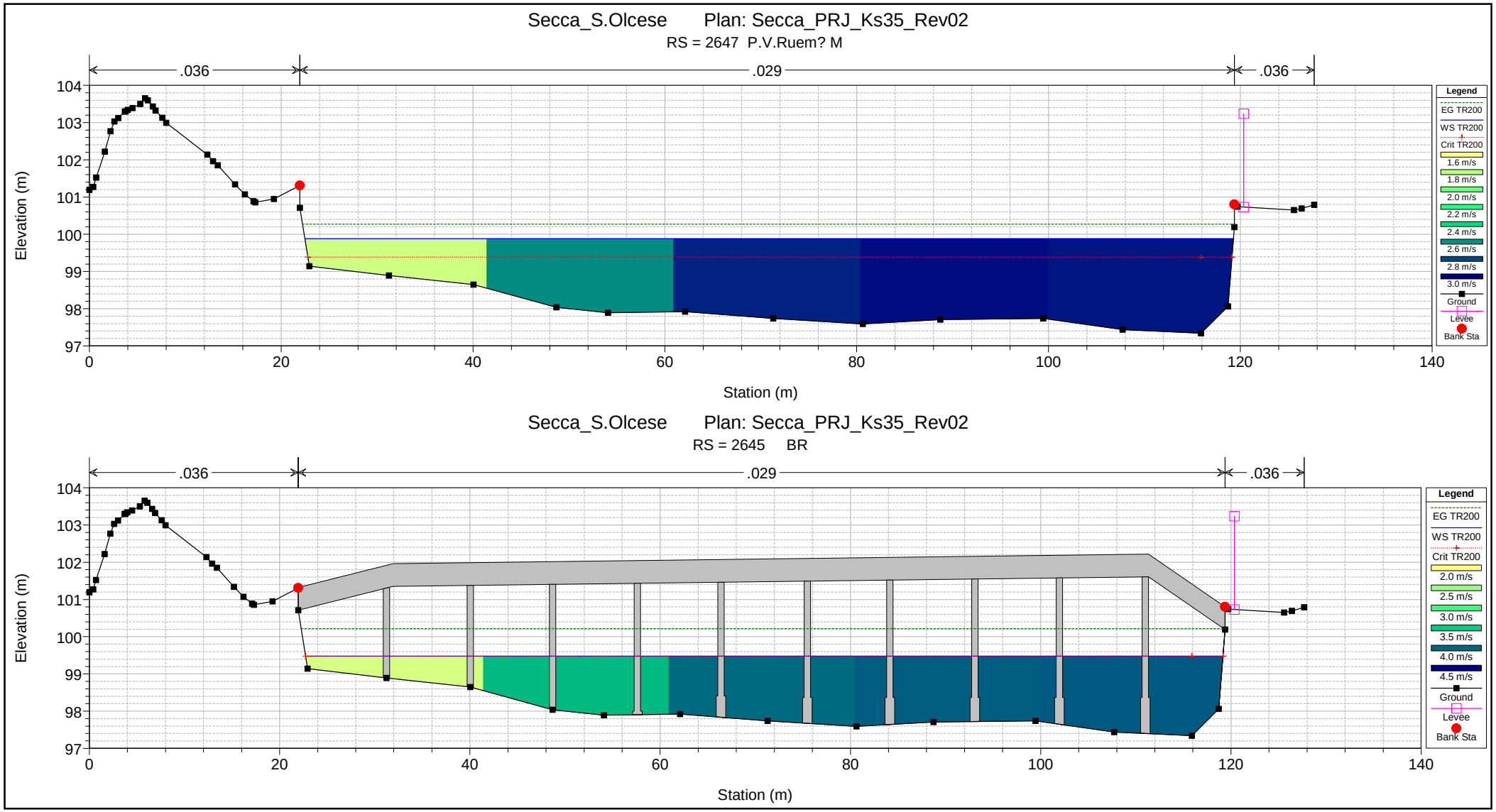

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3207
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3197
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

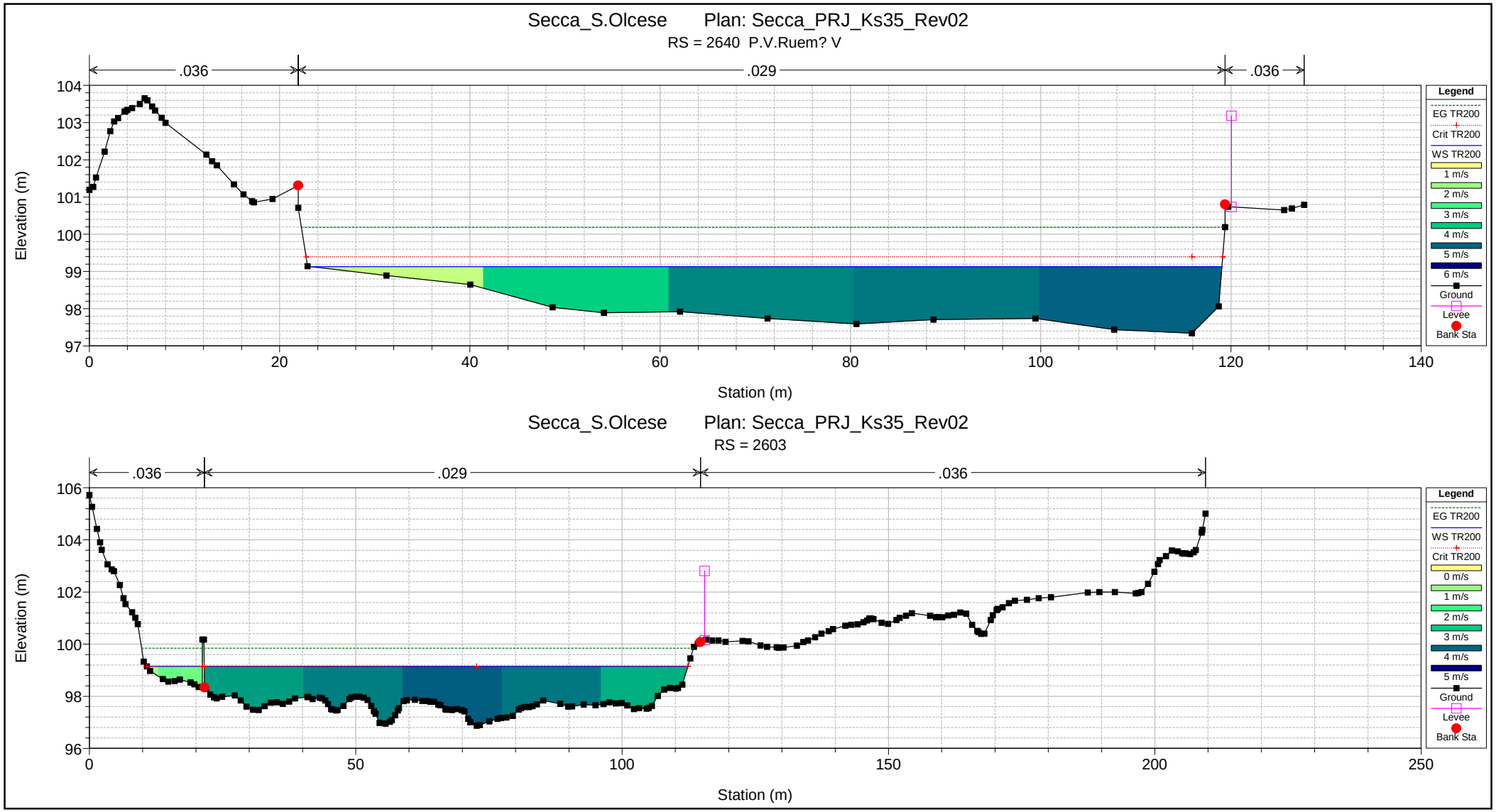

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3186
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 3009
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

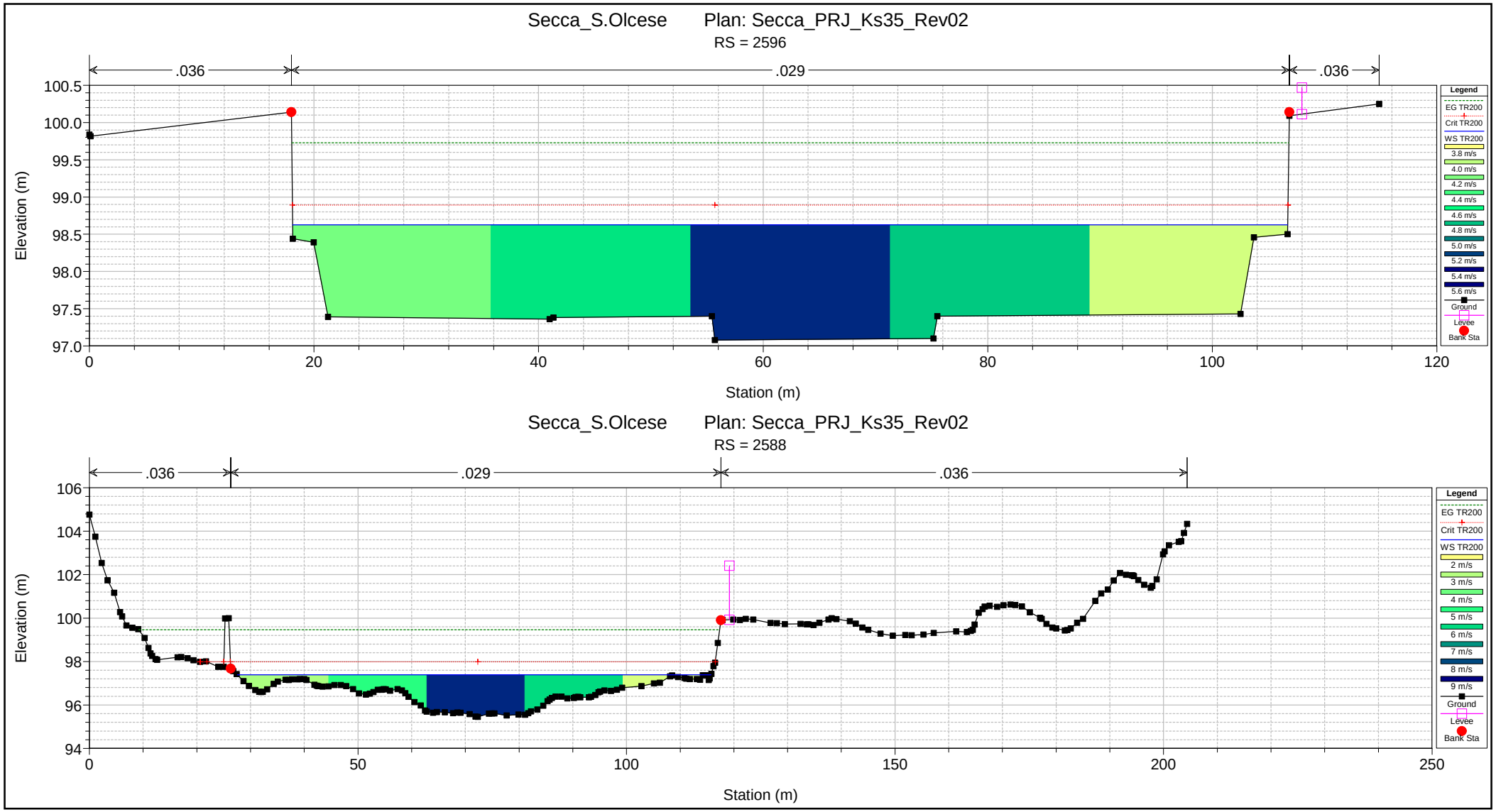

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2996
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2984
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

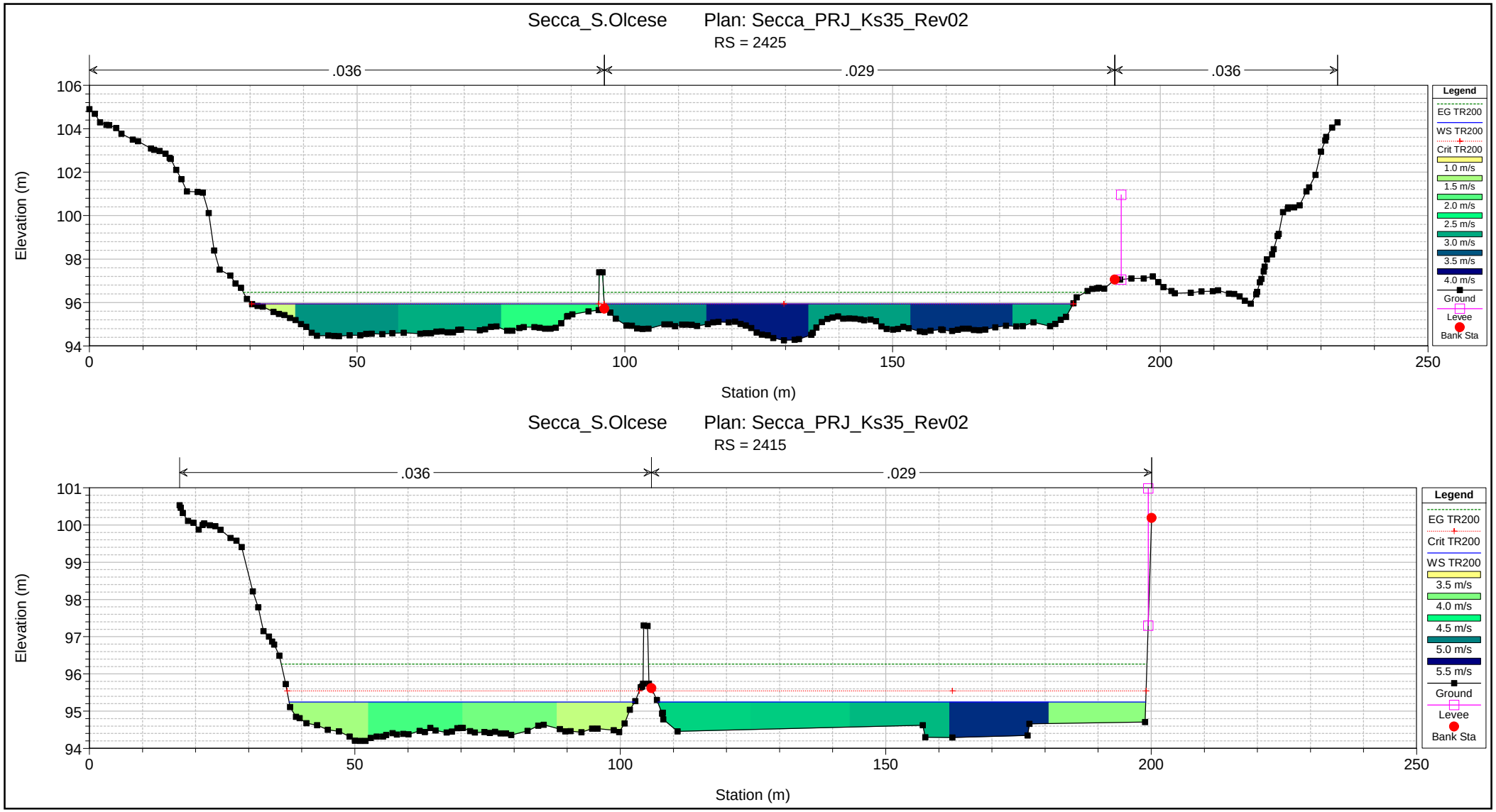

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2812
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2803
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Levee
Bank Sta

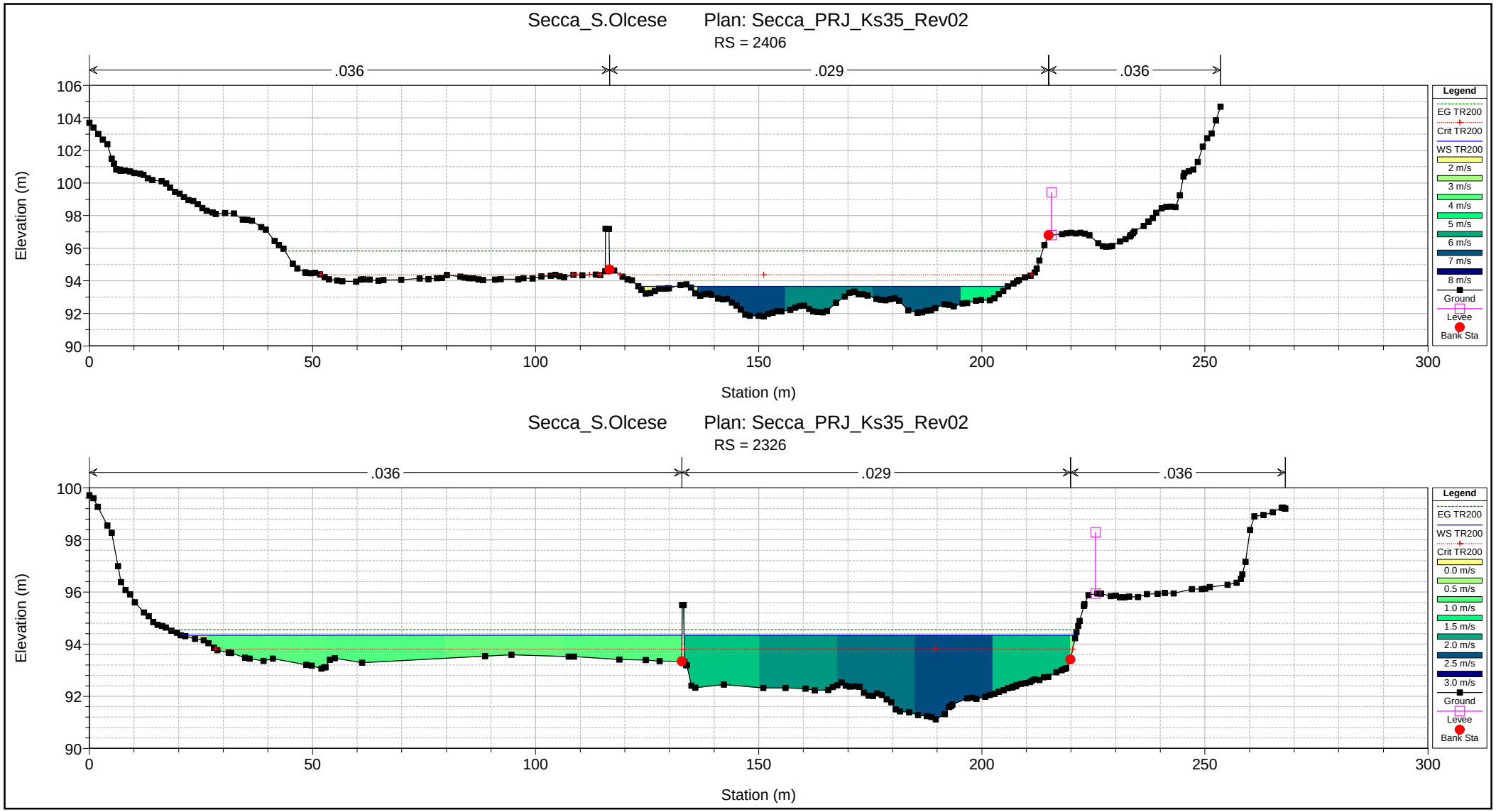

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2793
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2657
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

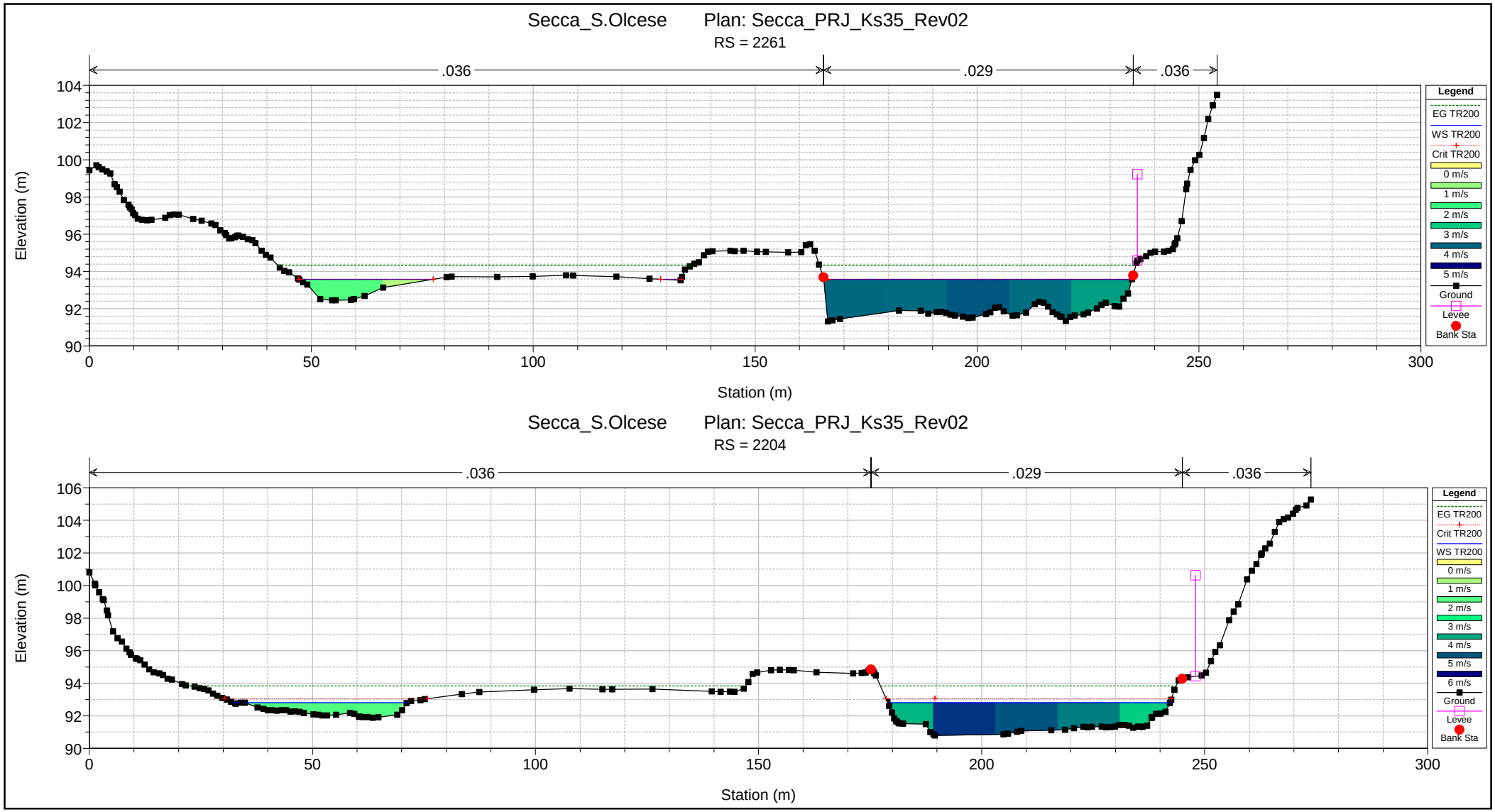

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2647 P.V.Ruem? M
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2645 BR
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta

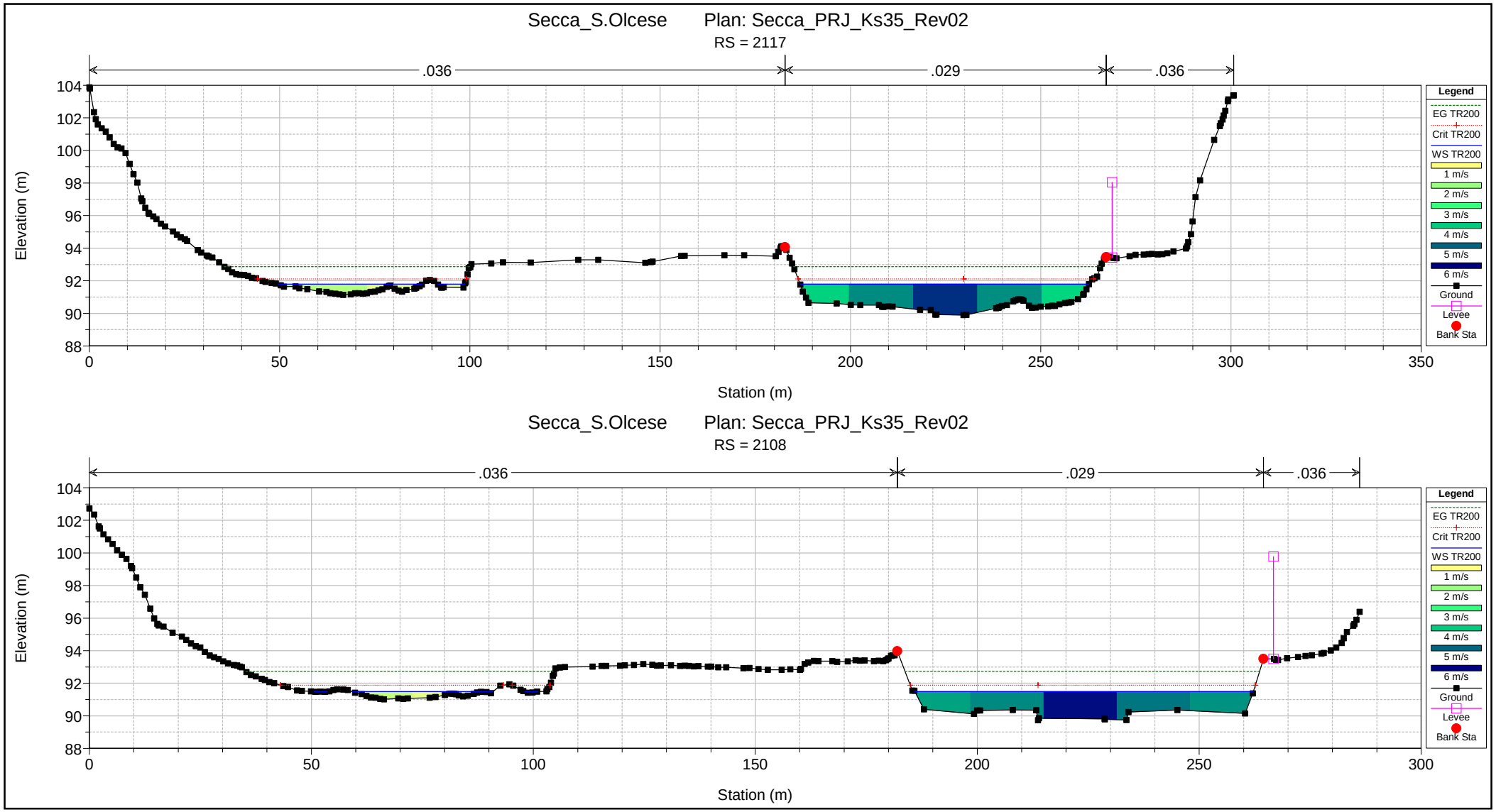

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2640 P.V.Ruem? V
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2603
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

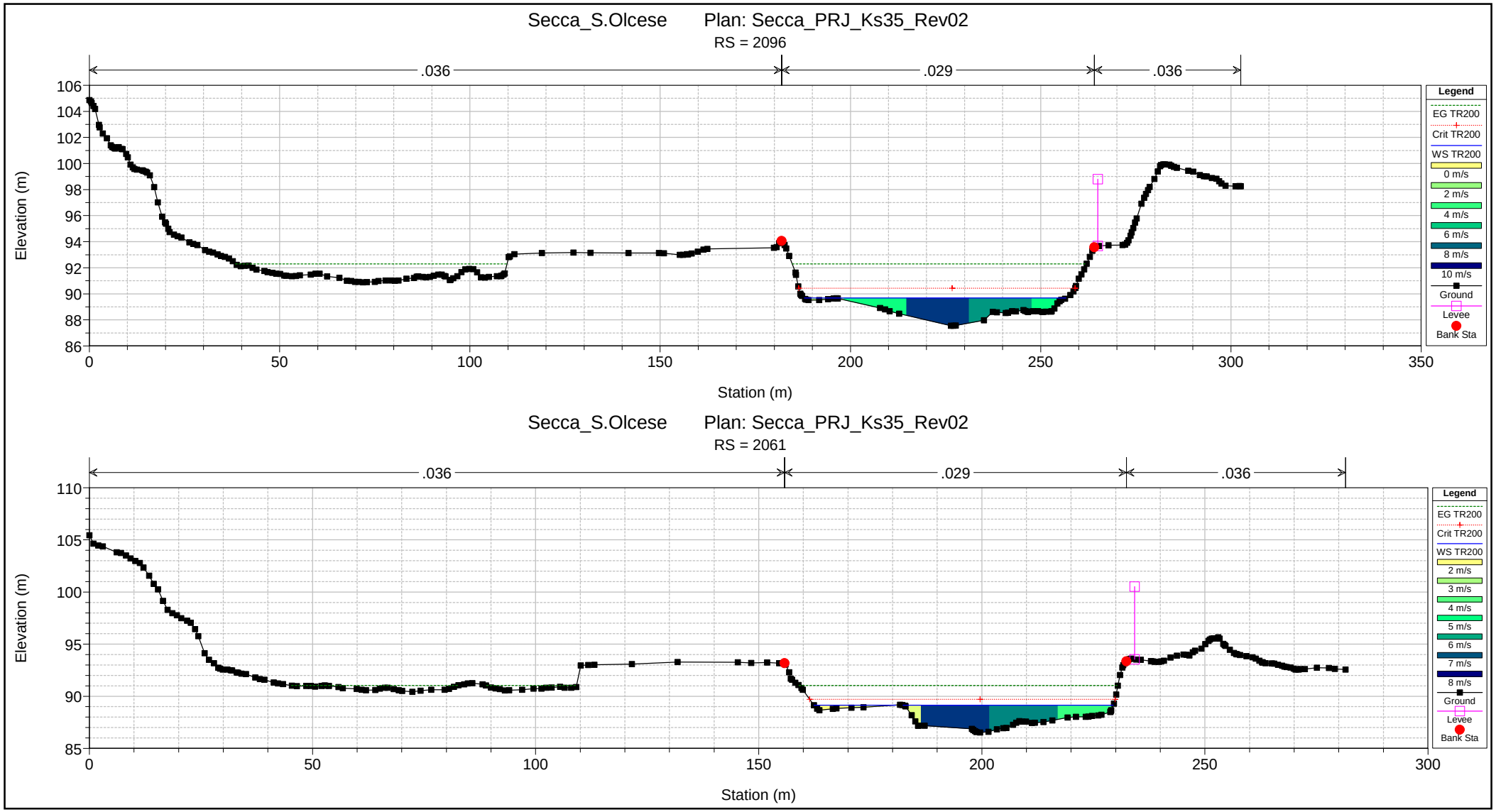

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2596
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
5.6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2588
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta

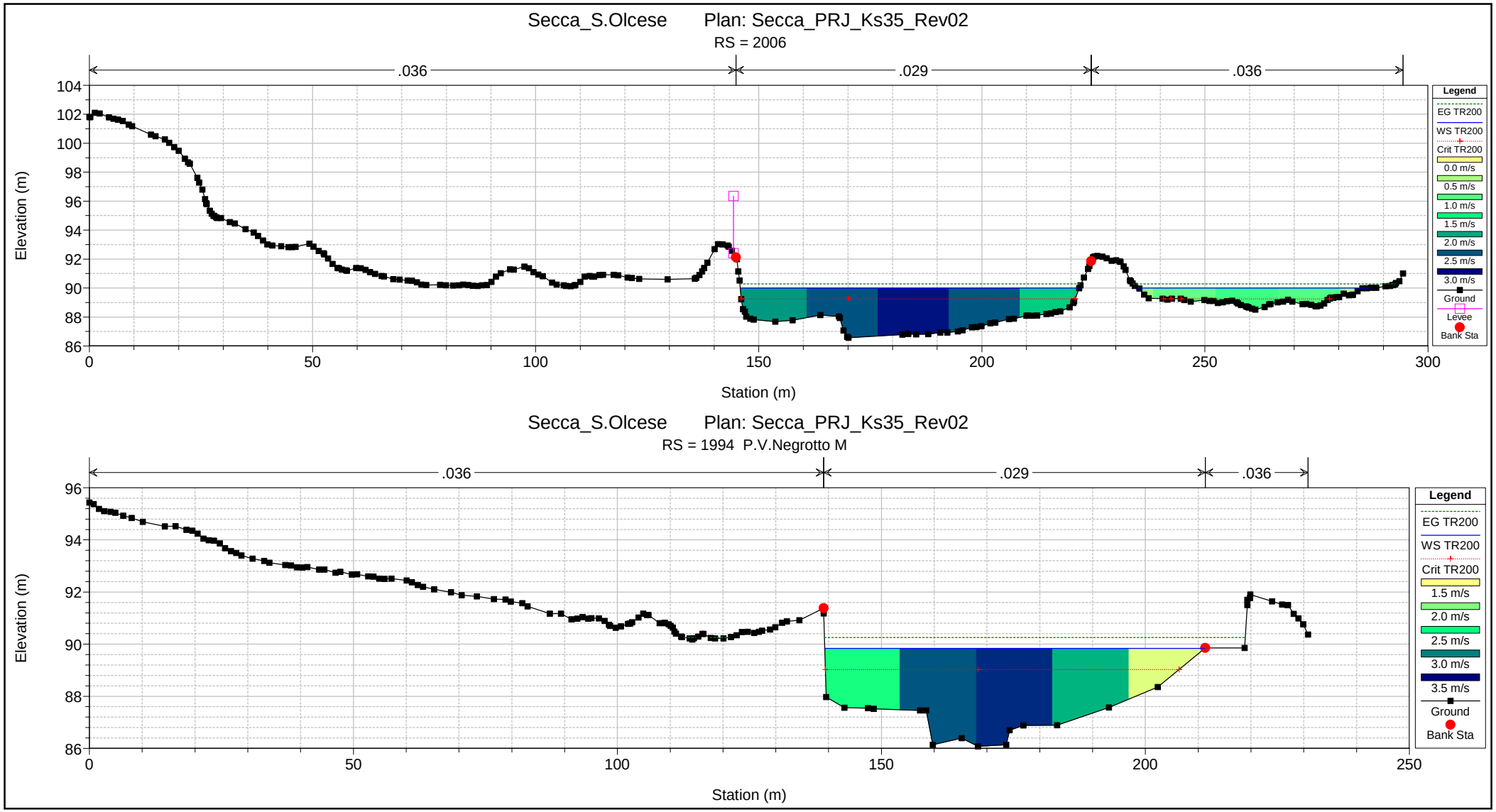

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2425
.036
.029
.036
Elevation (m)
106
104
102
100
98
96
94
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2415
.036
.029
Elevation (m)
101
100
99
98
97
96
95
94
0
50
100
150
200
250
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2406
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2326
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
Ground
Levee
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2261
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2204
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

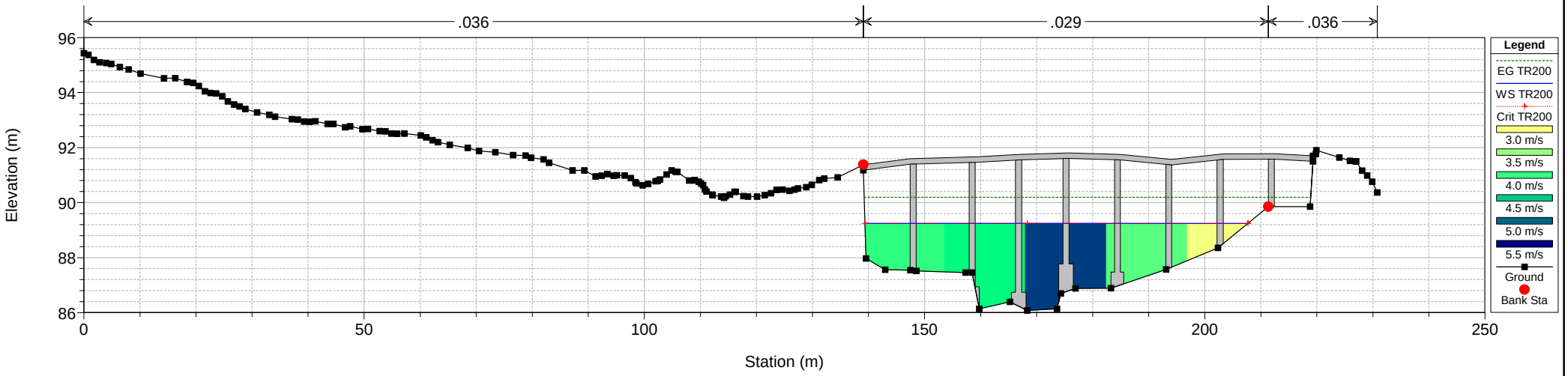

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2117
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2108
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2096
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2061
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 2006
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1994 P.V.Negrotto M
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Bank Sta

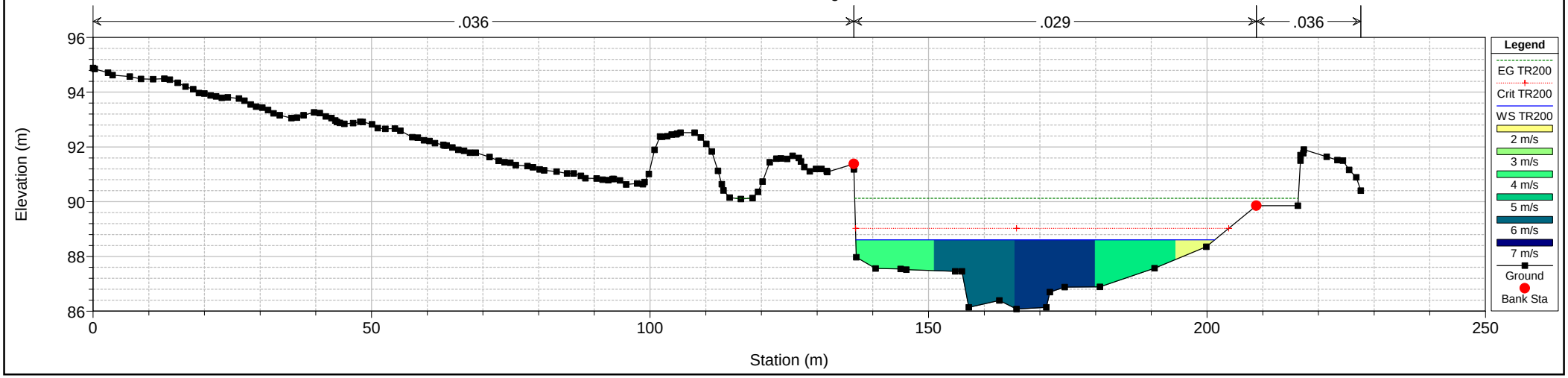
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02

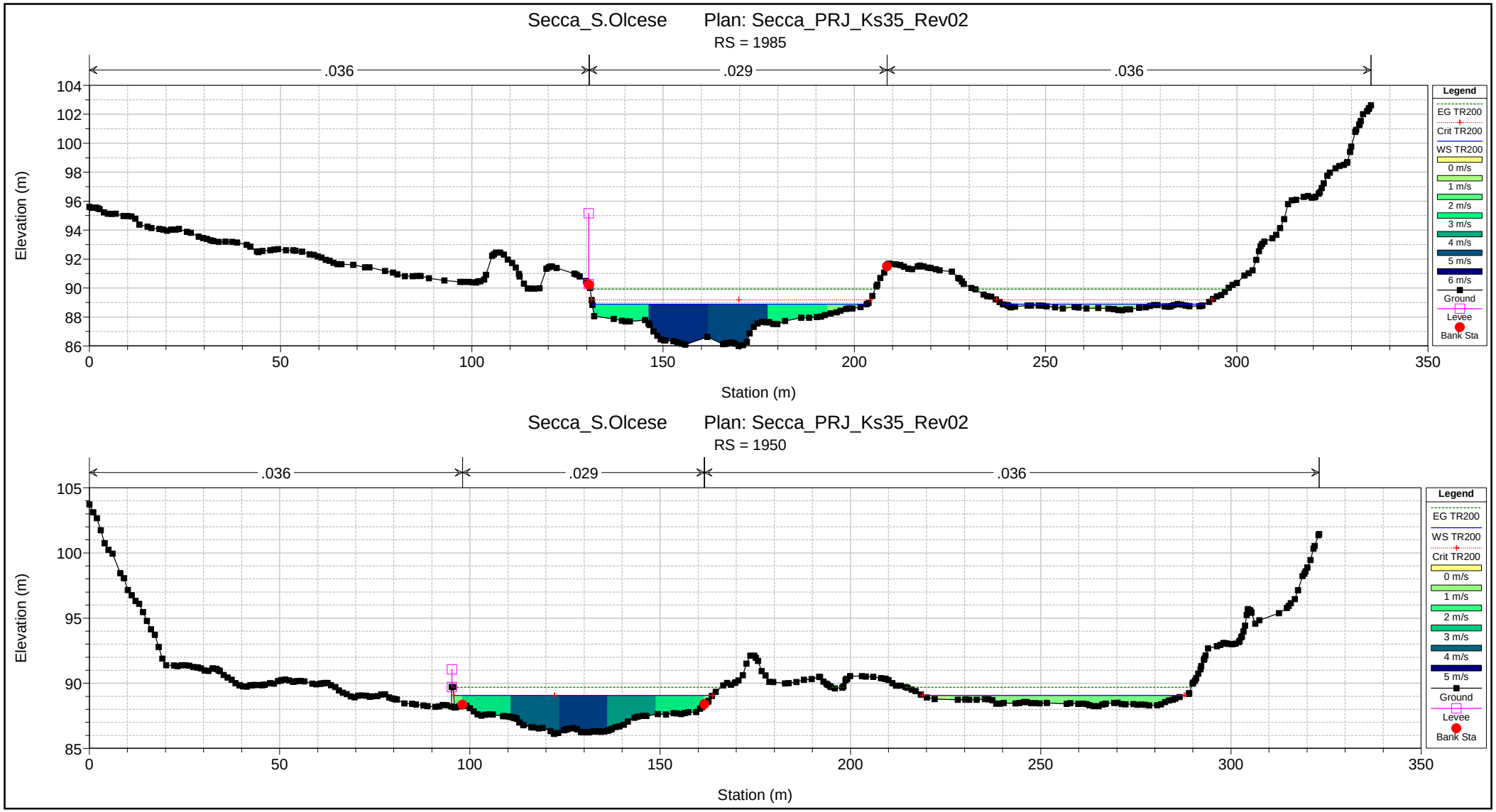
RS = 1993 BR

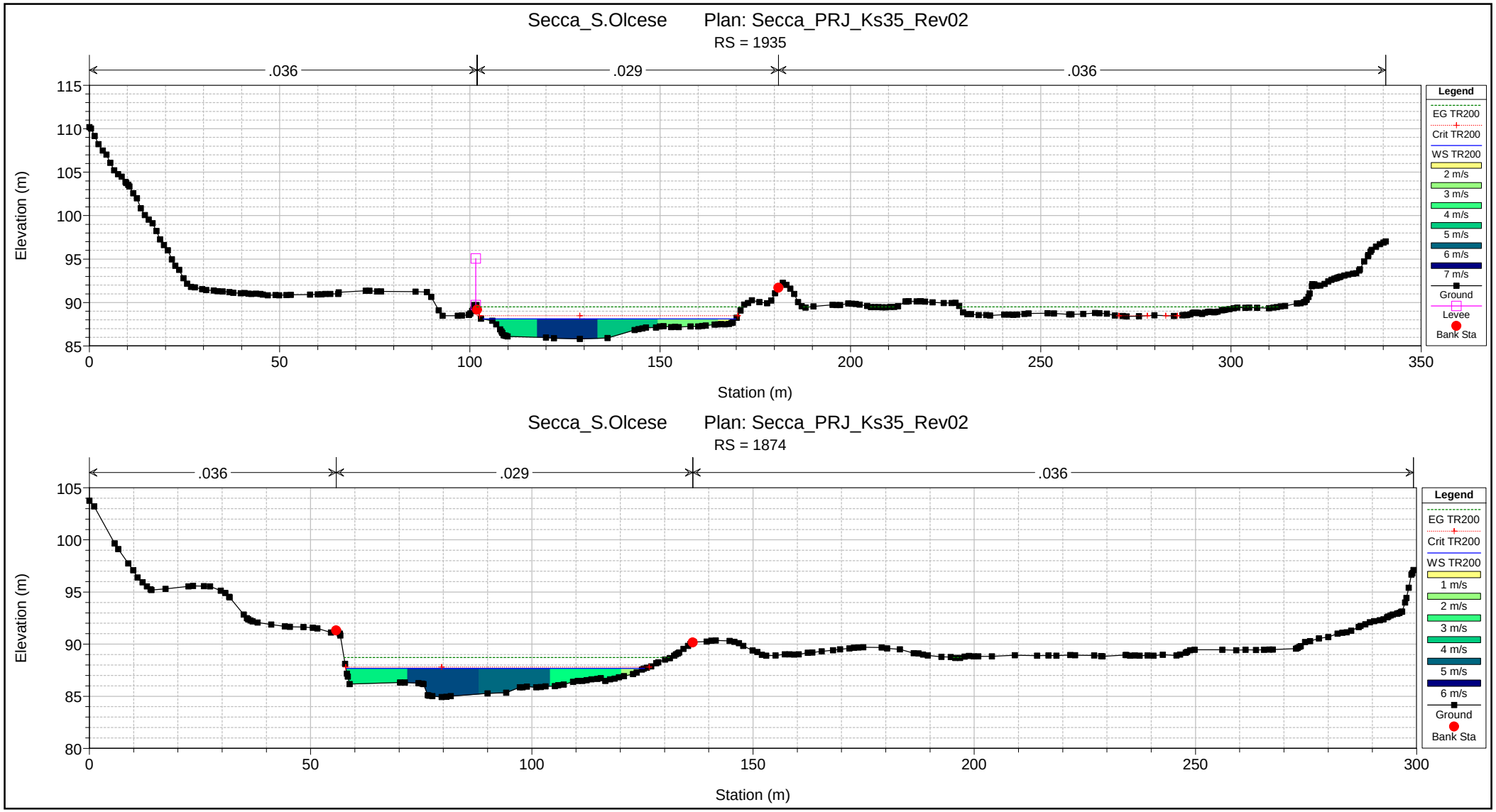


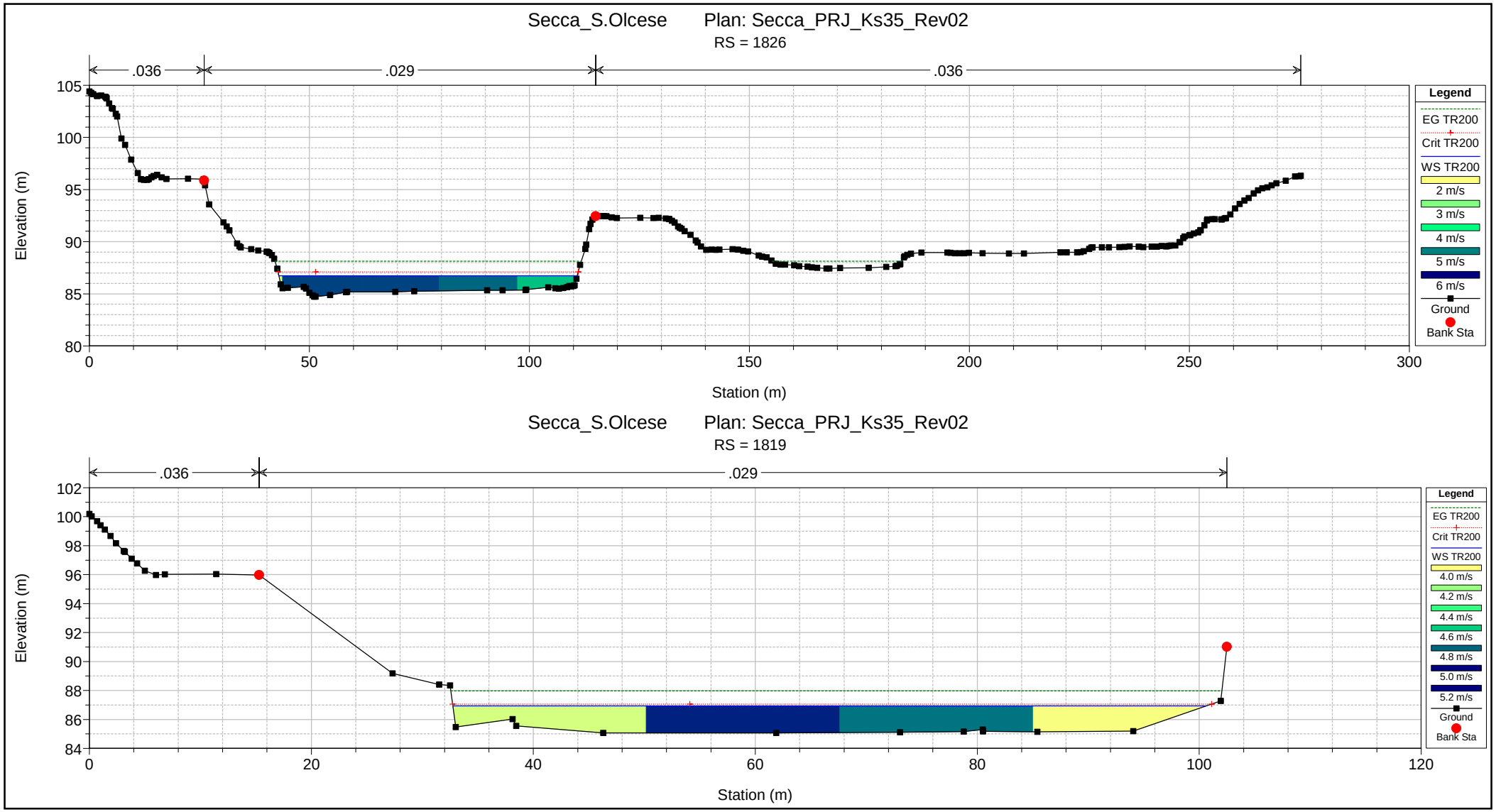
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02

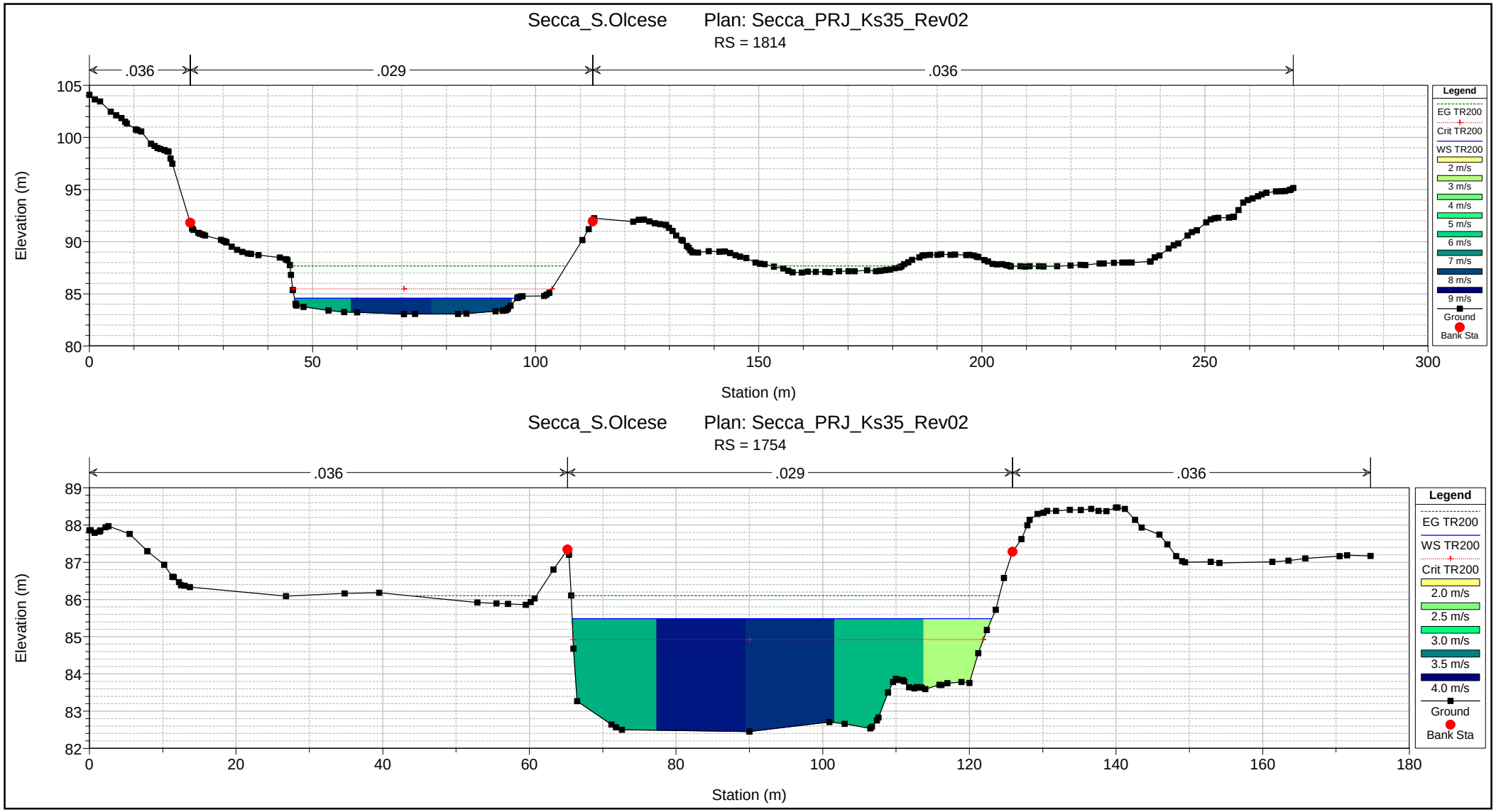
RS = 1990 P.V.Negrotto V

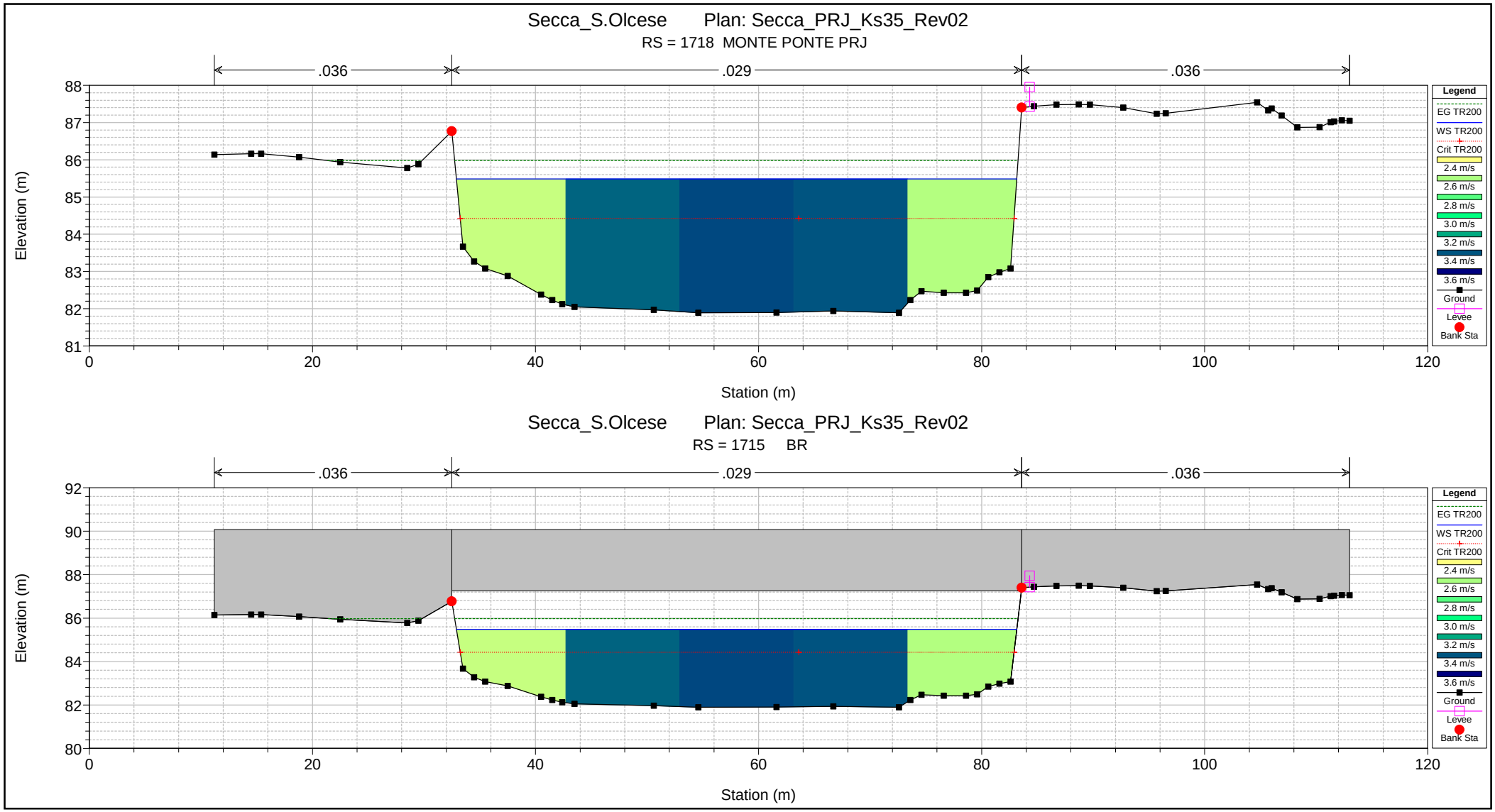


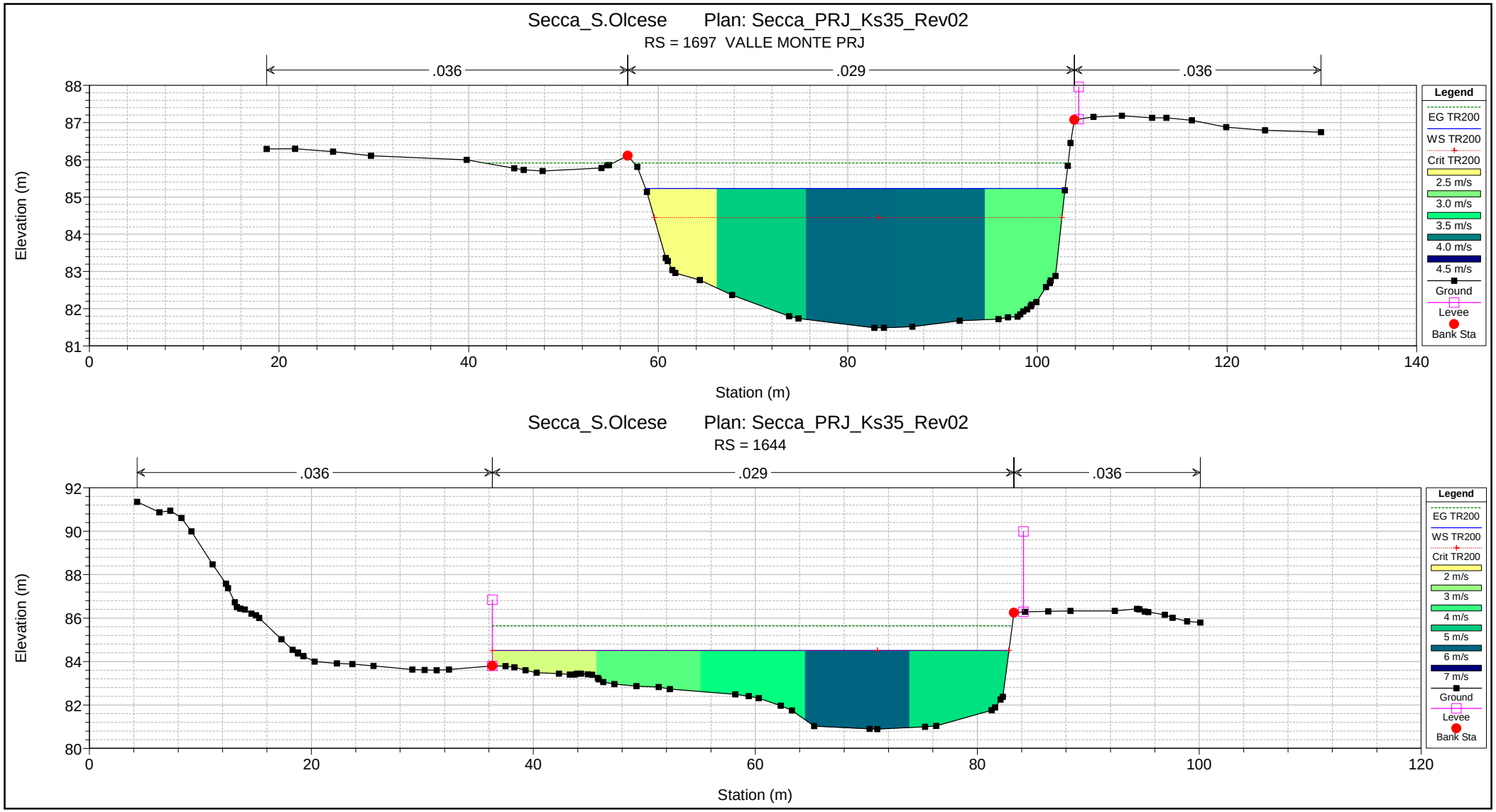

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1985
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1950
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Levee
Bank Sta

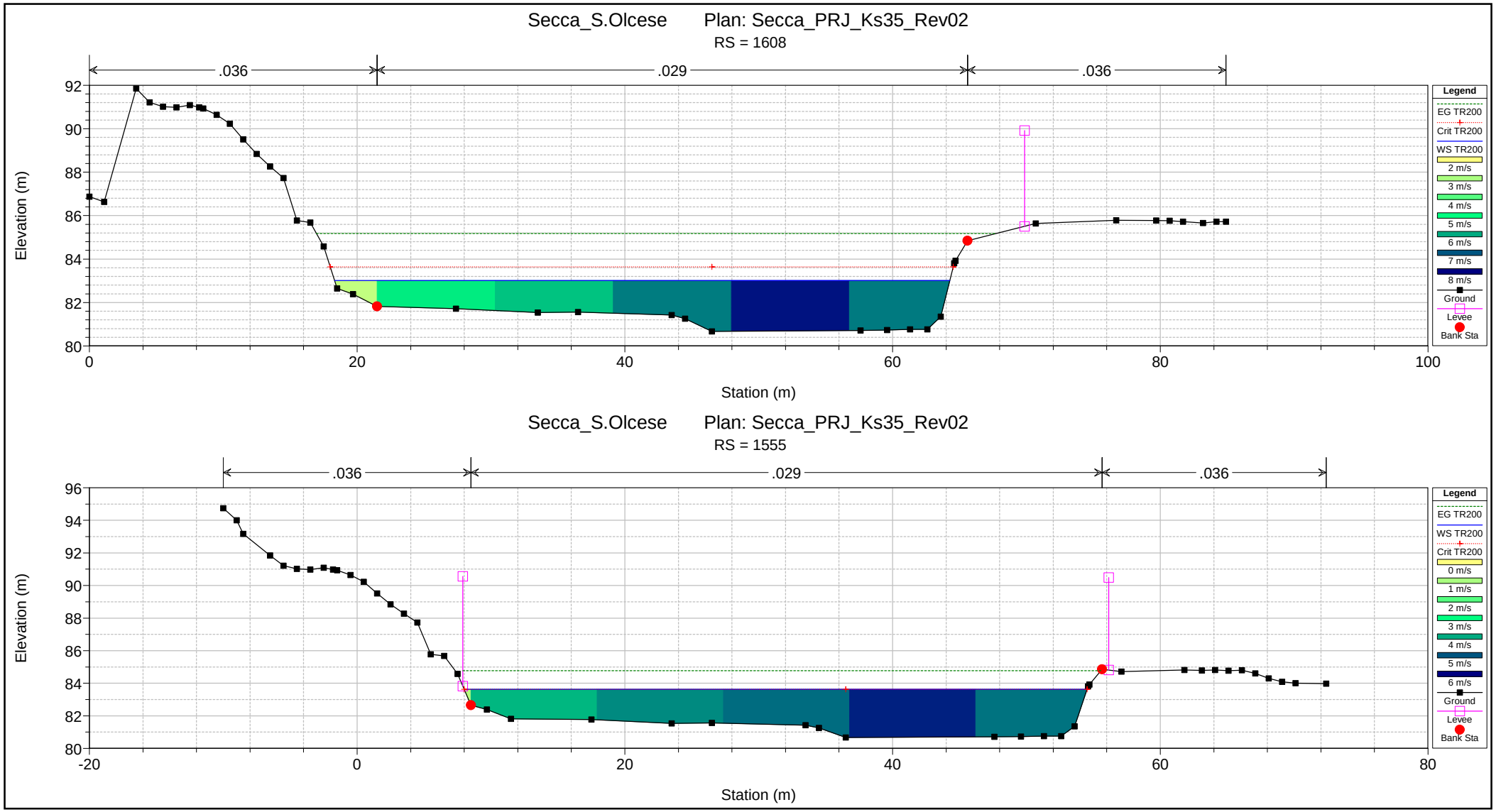

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1935
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1874
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta

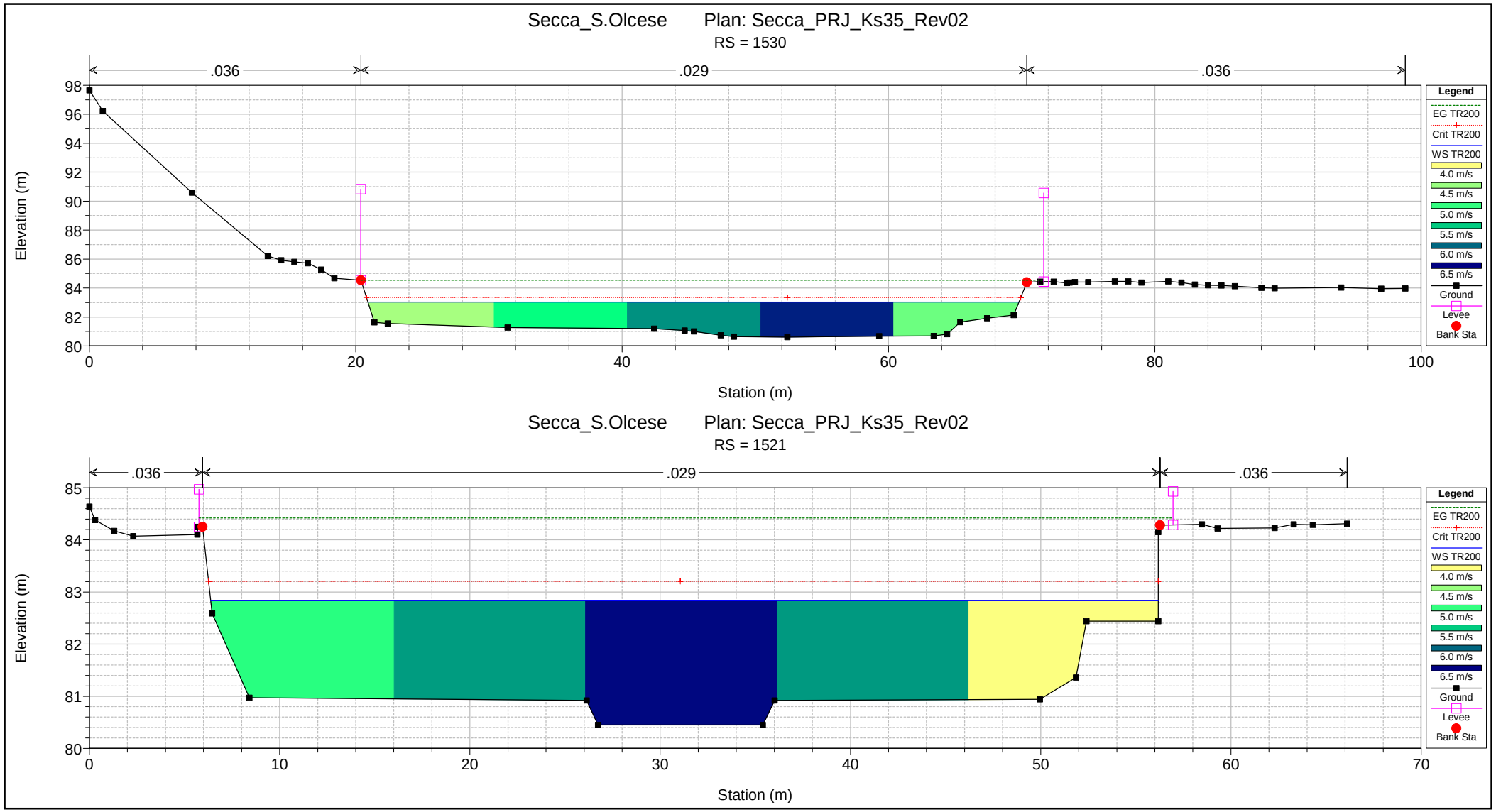

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1826
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1819
.036
.029
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
Ground
Bank Sta

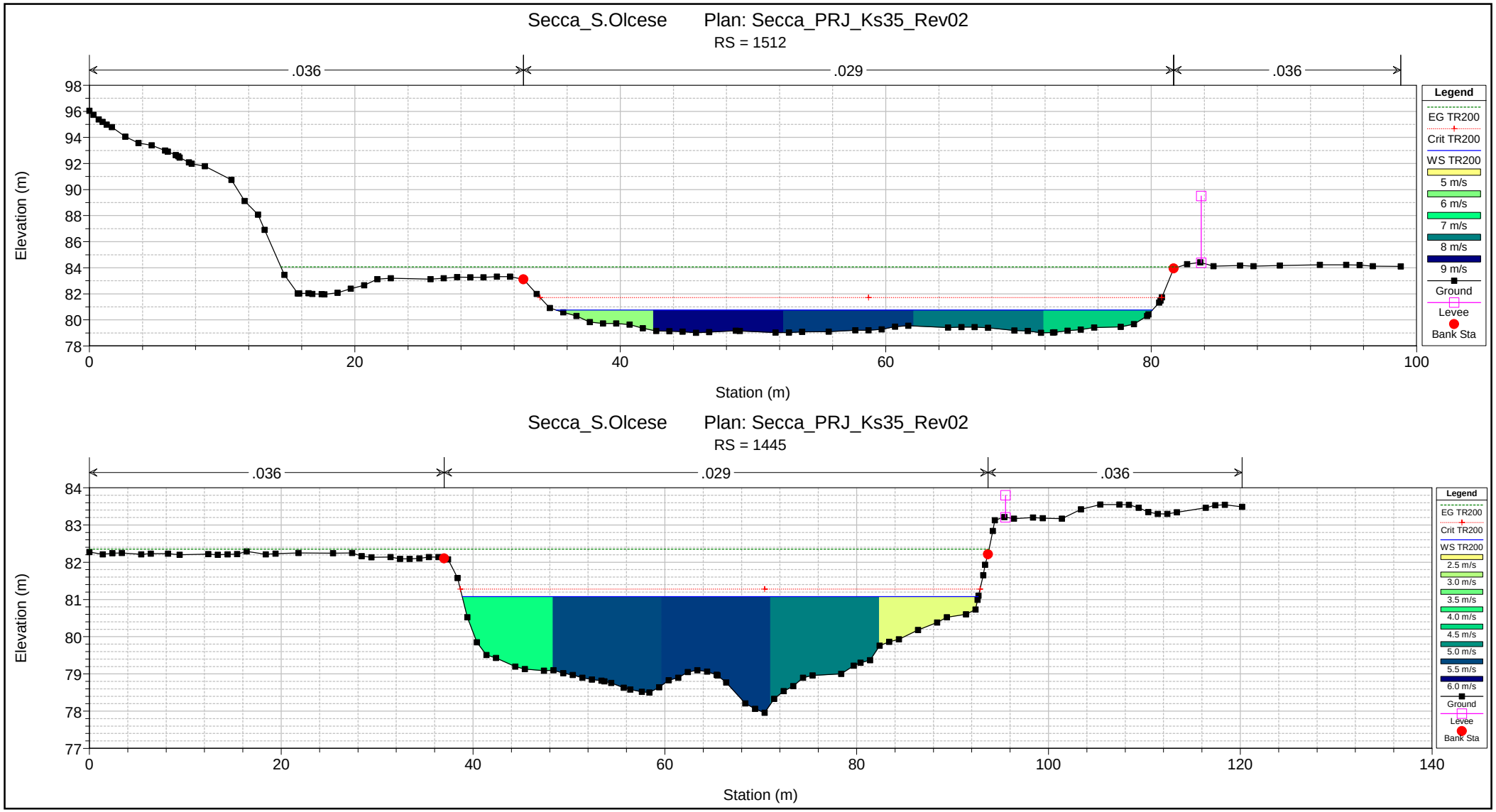

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1814
.036
.029
.036
Elevation (m)
105
100
95
90
85
80
0
50
100
150
200
250
300
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1754
.036
.029
.036
Elevation (m)
89
88
87
86
85
84
83
82
0
20
40
60
80
100
120
140
160
180
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta

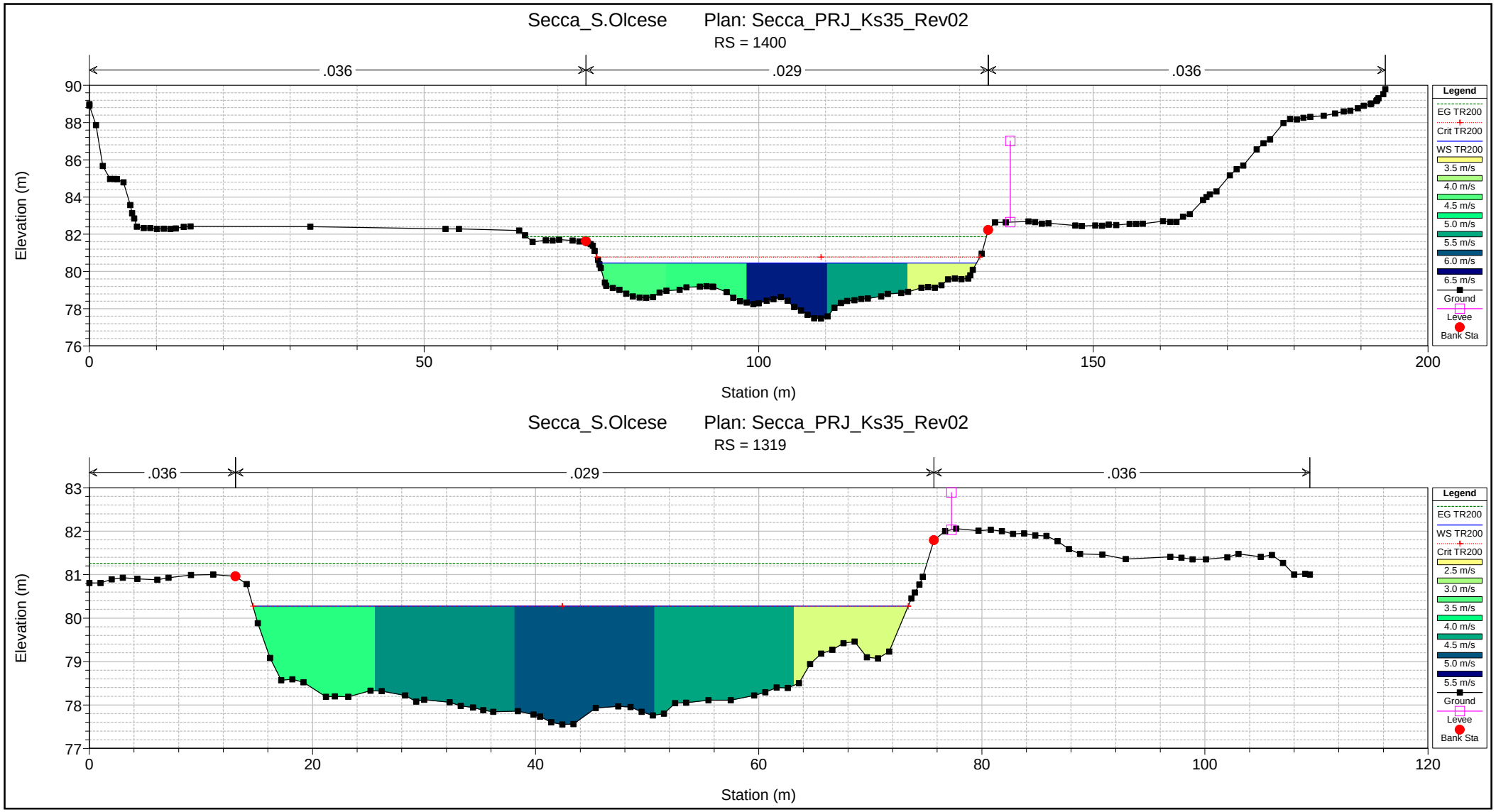

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1718 MONTE PONTE PRJ
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1715 BR
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
Ground
Levee
Bank Sta

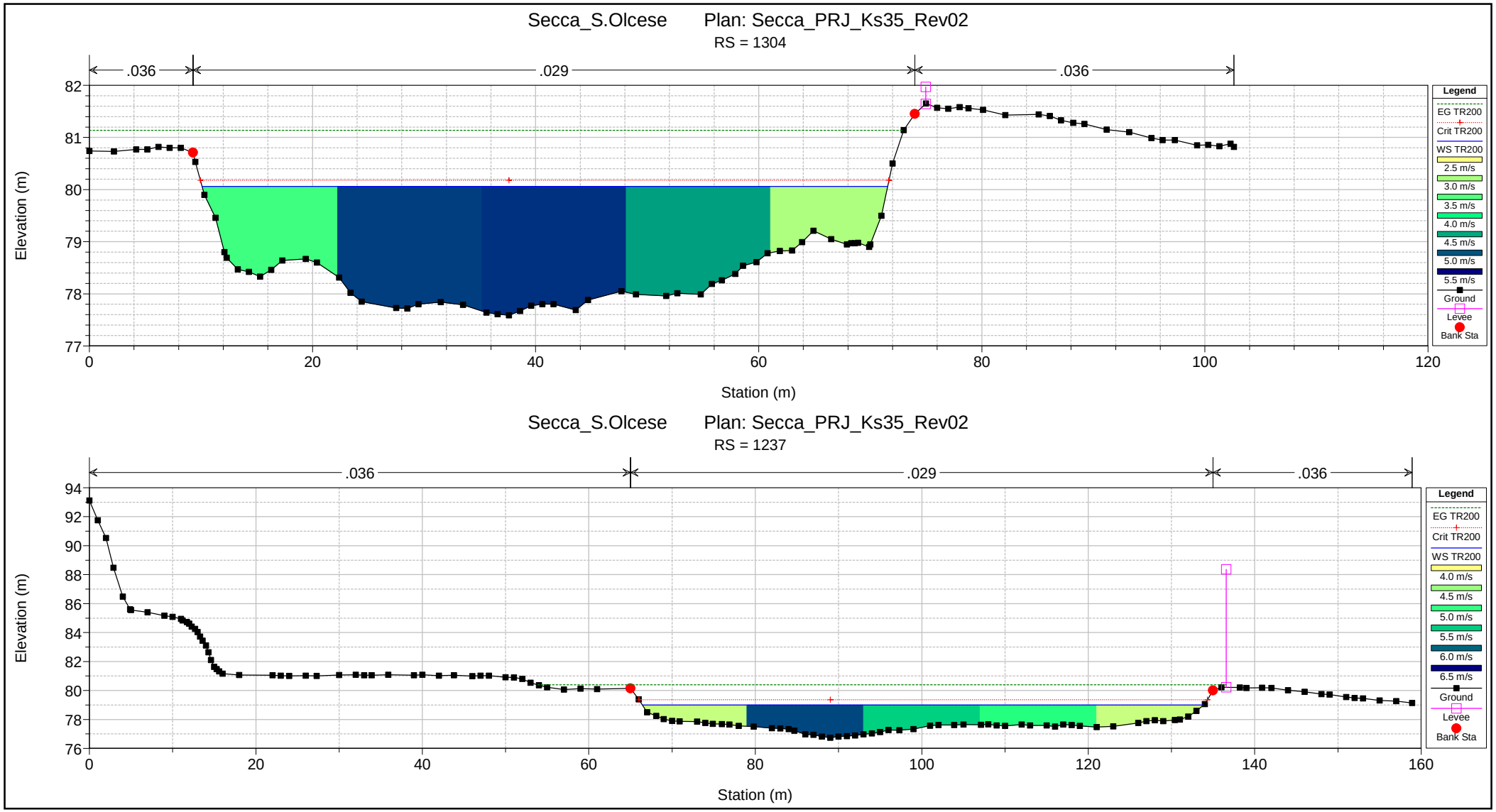

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1697 VALLE MONTE PRJ
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1644
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Levee
Bank Sta

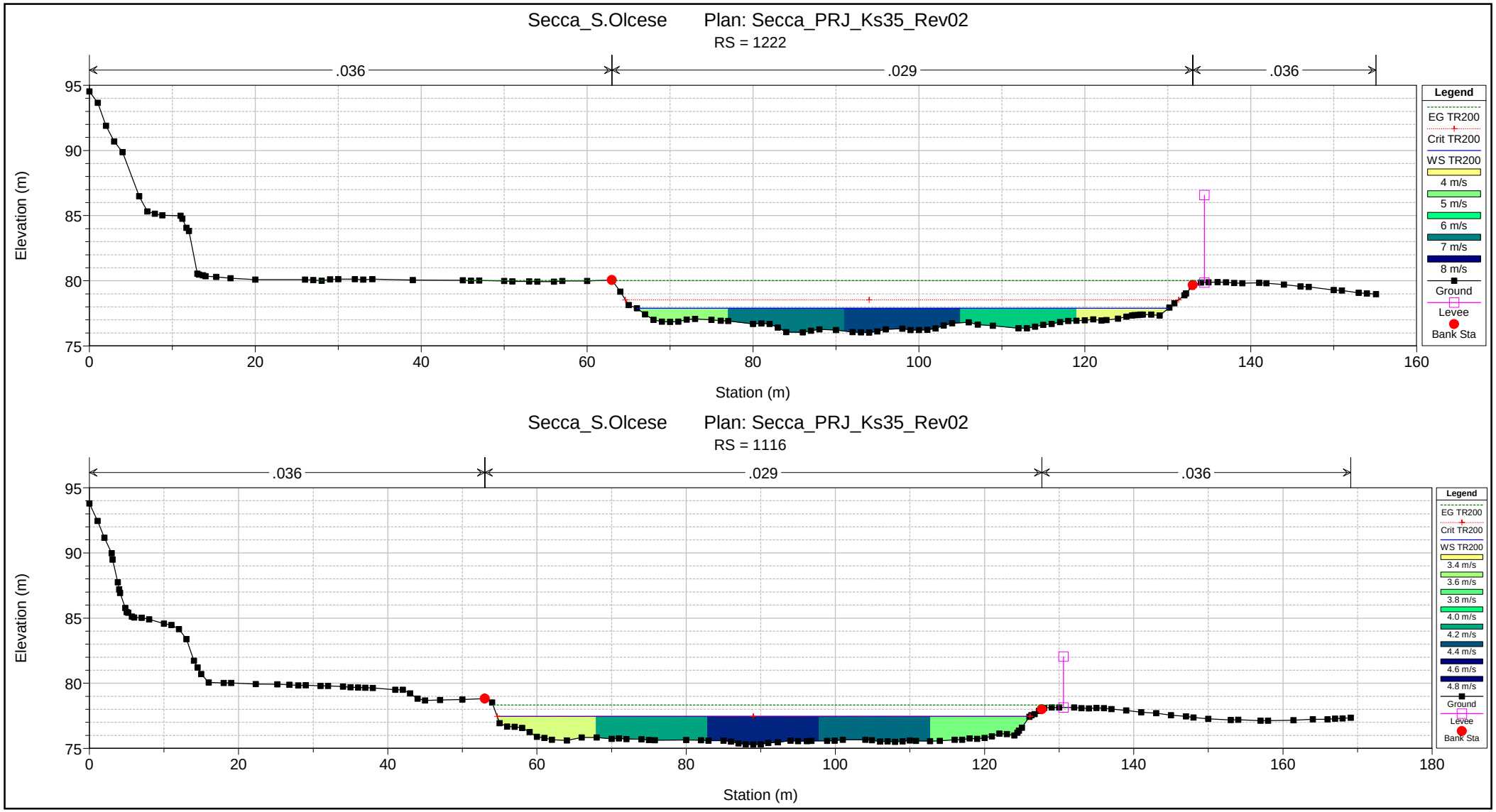

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1608
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1555
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Levee
Bank Sta

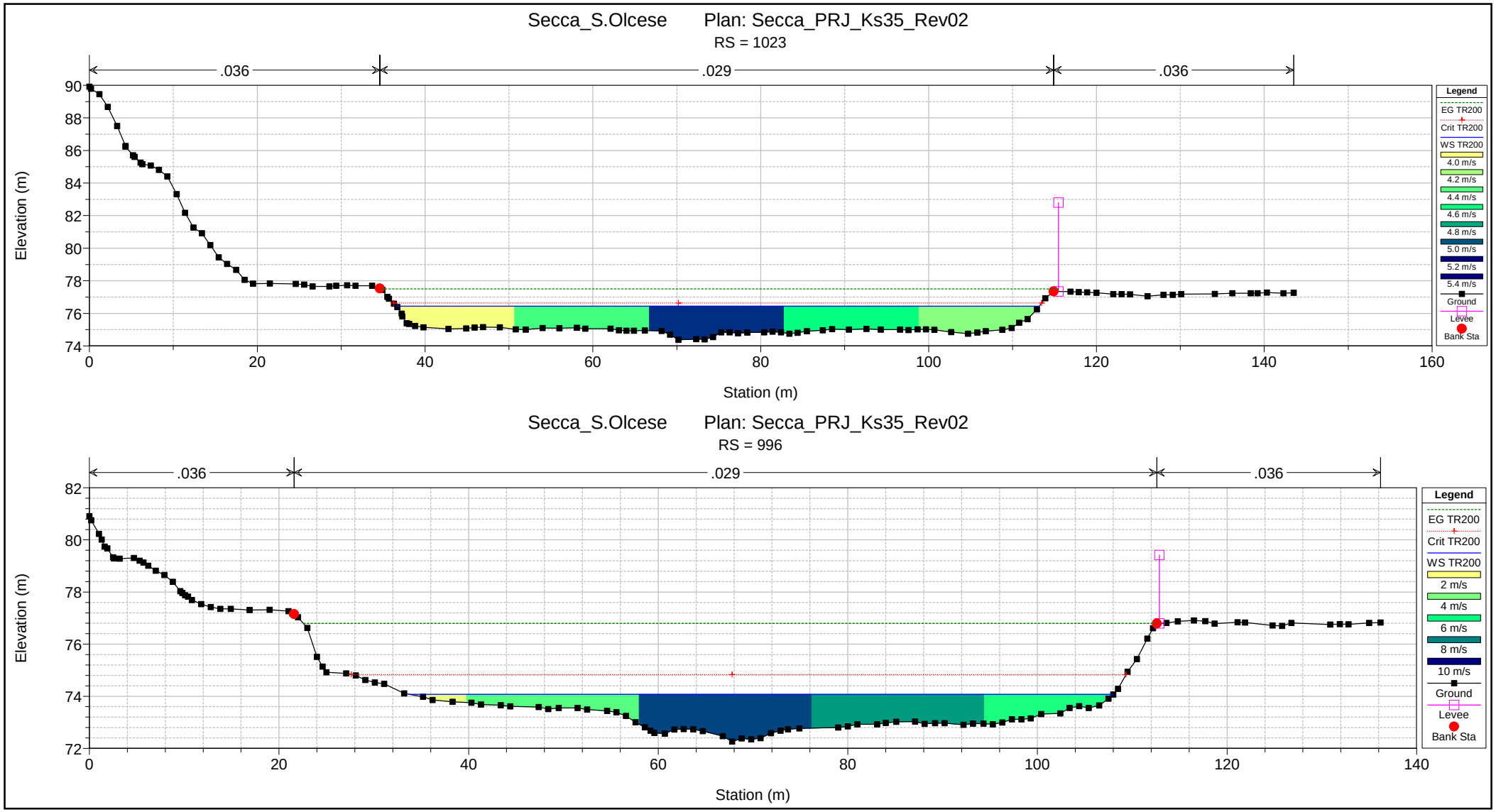

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1530
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1521
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta

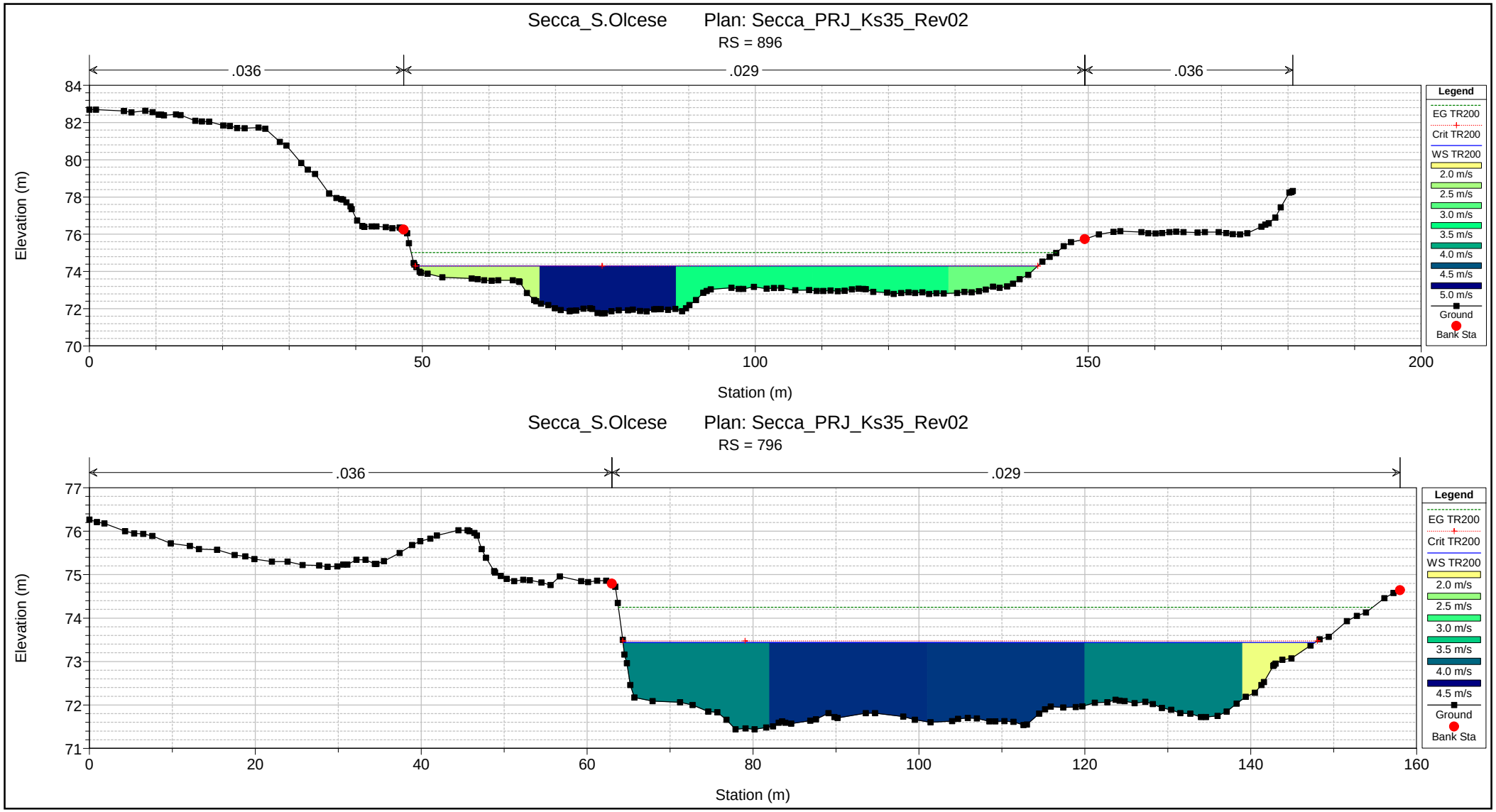

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1512
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1445
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Levee
Bank Sta

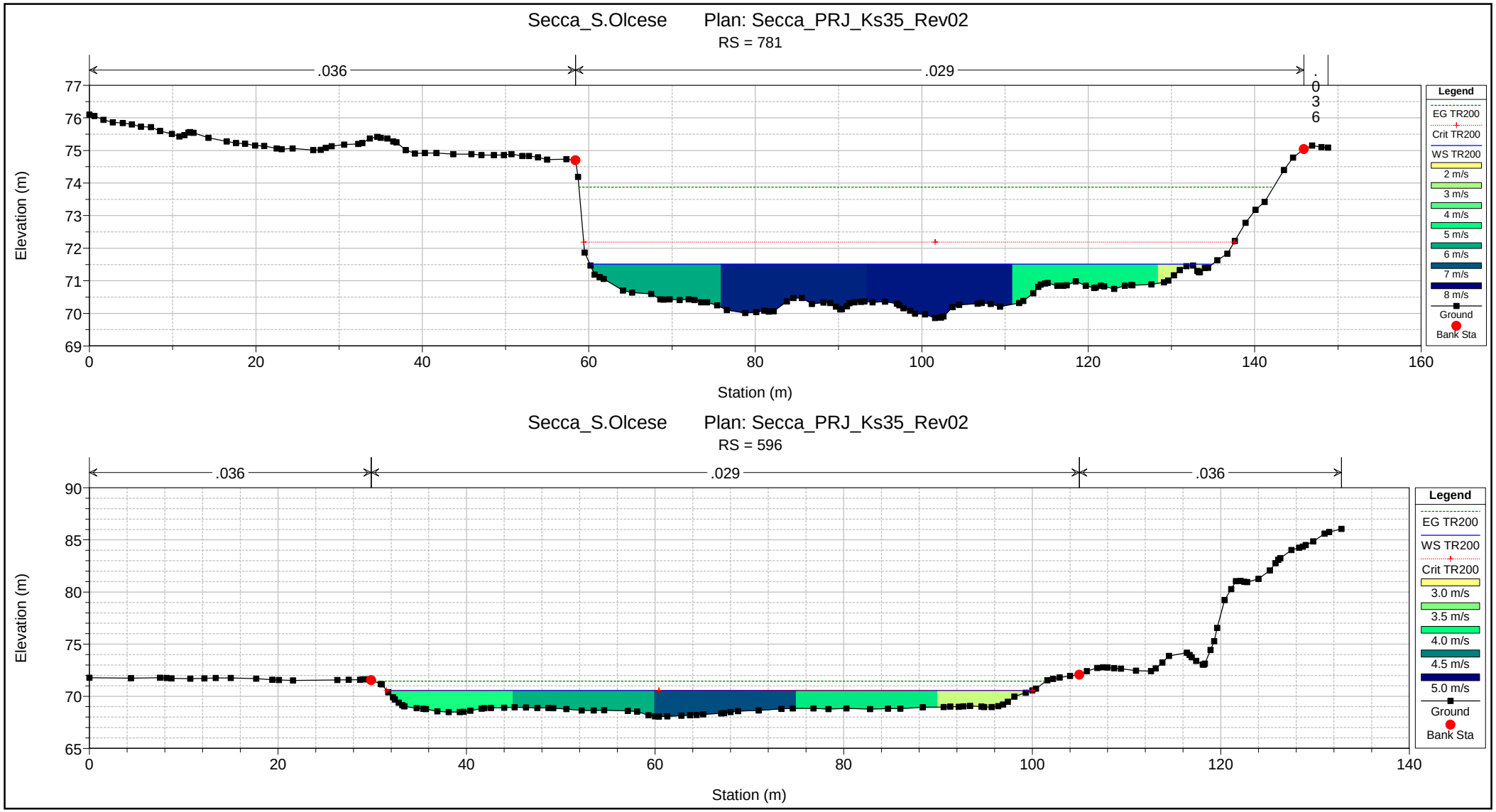

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1400
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1319
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta

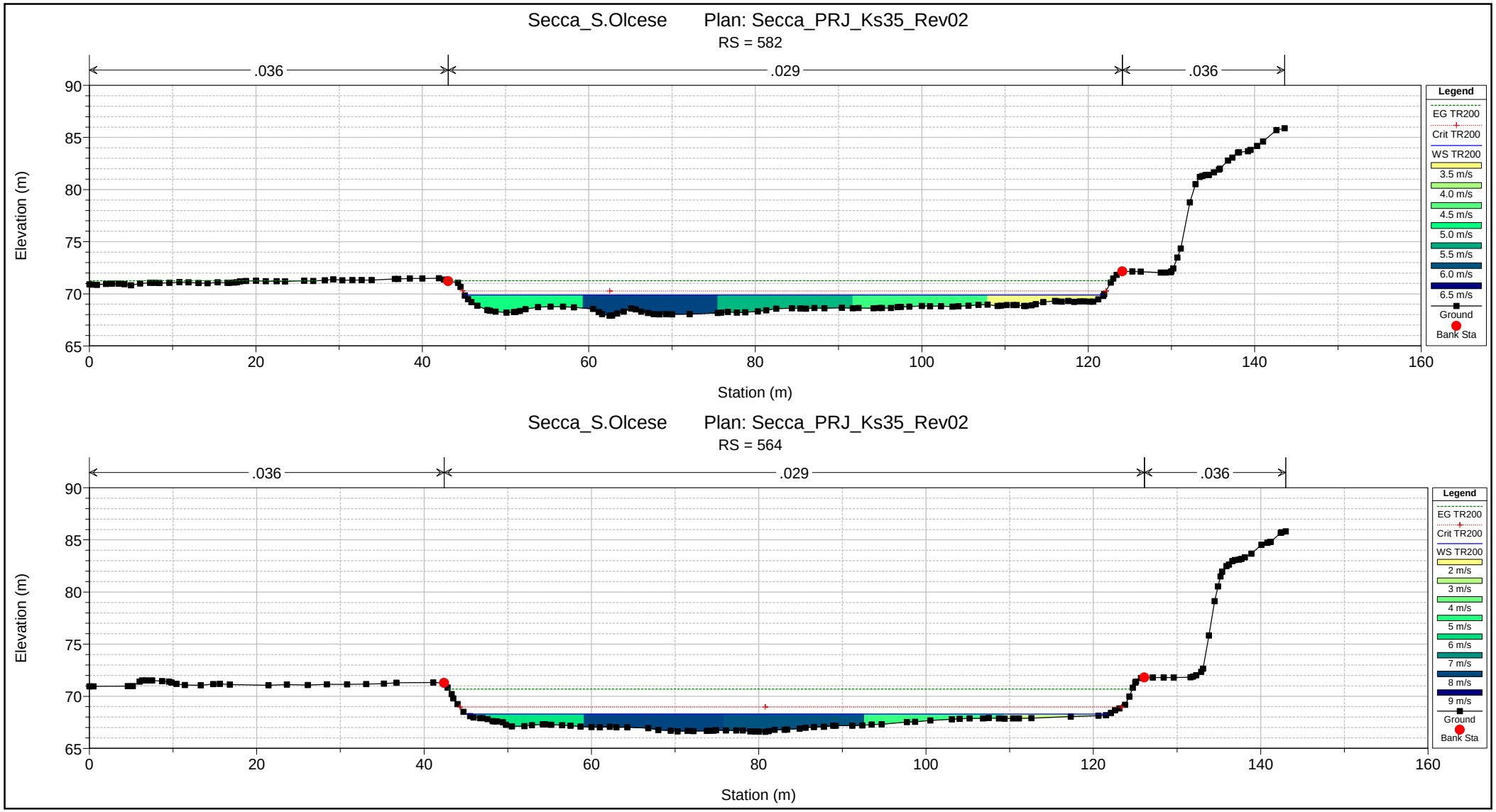

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1304
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1237
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Levee
Bank Sta

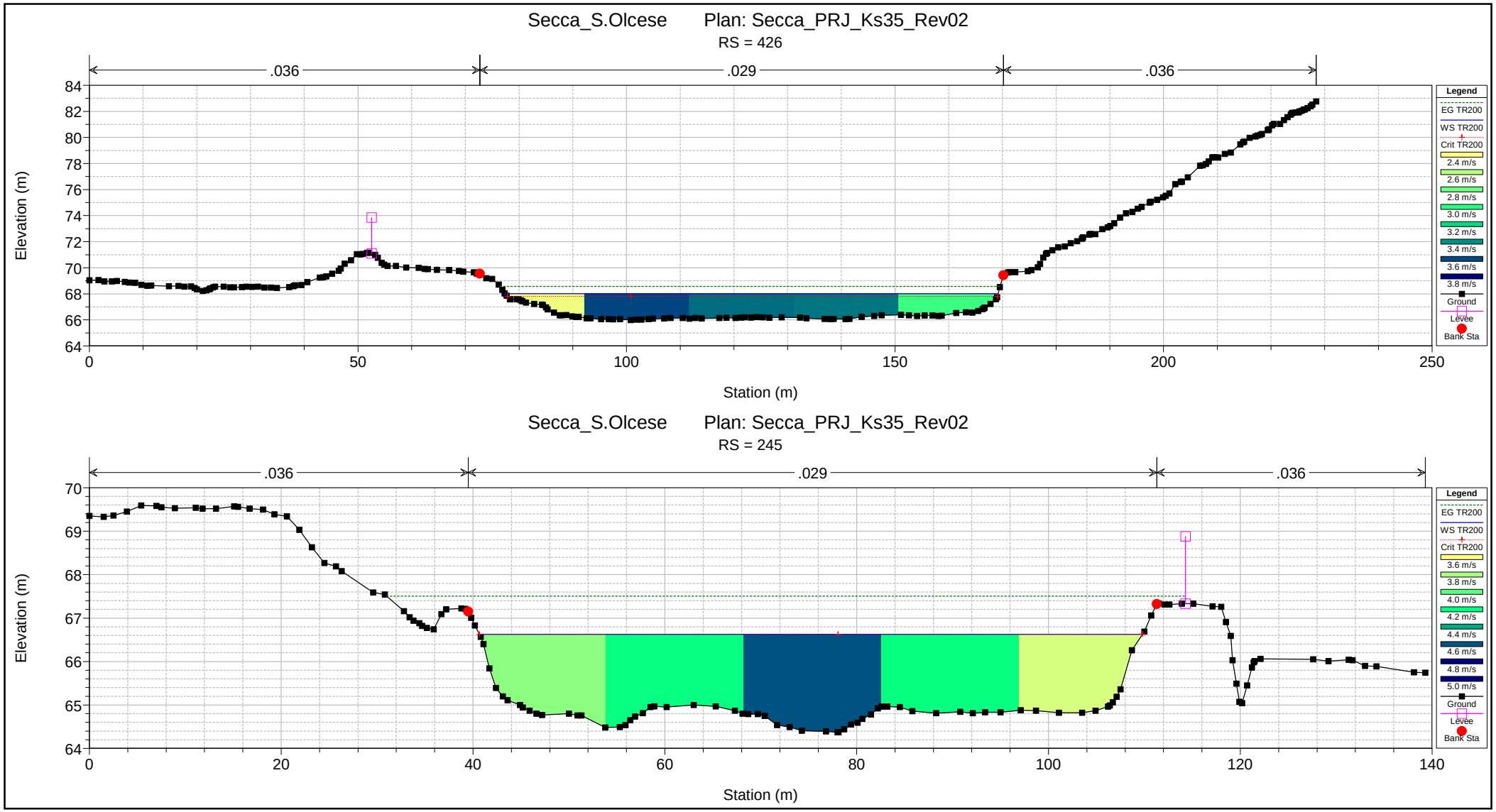

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1222
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1116
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.4 m/s
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
Ground
Levee
Bank Sta

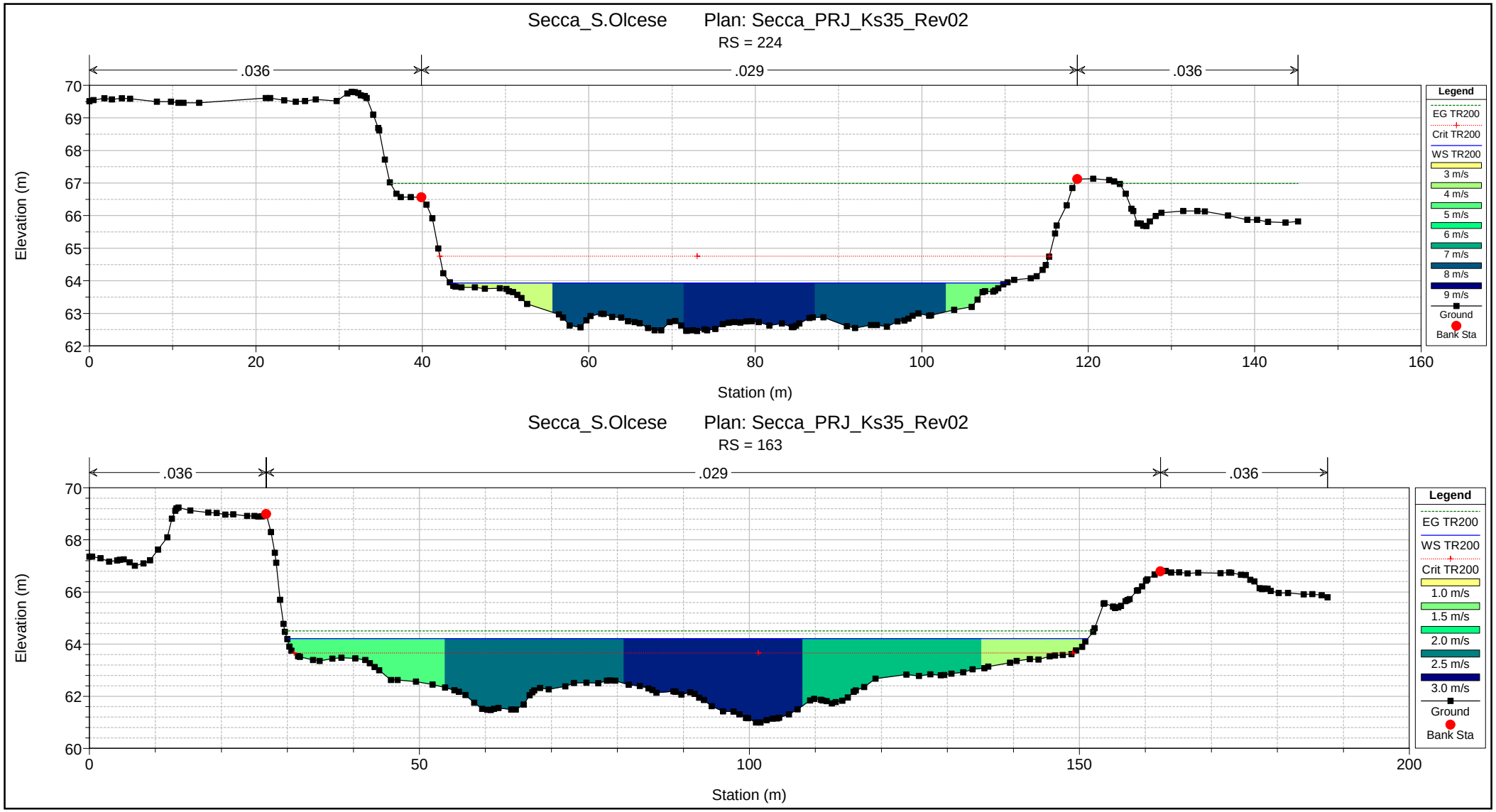

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 1023
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
5.2 m/s
5.4 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 996
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Levee
Bank Sta

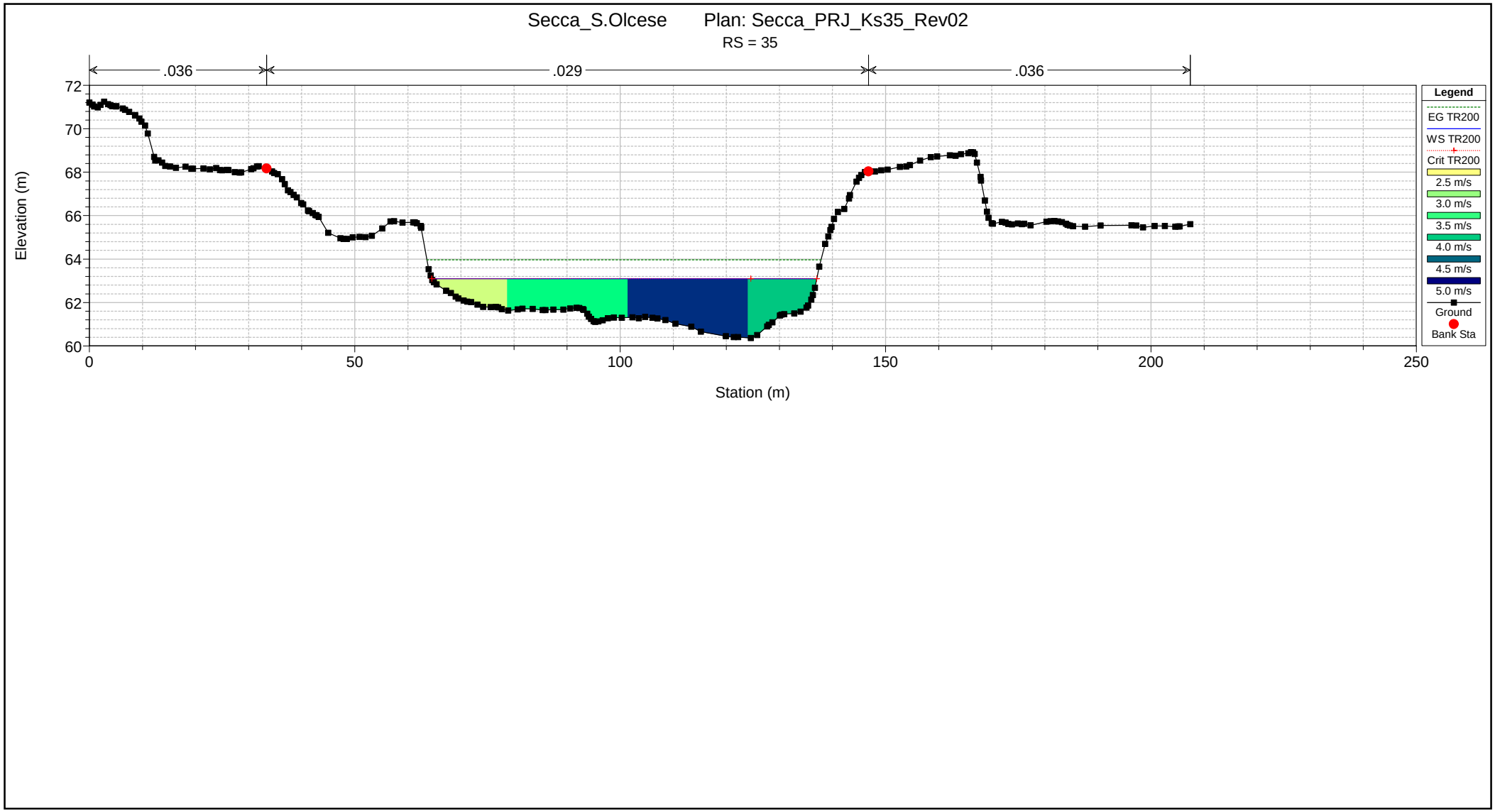

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 896
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 796
.036
.029
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 781
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 596
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 582
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 564
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta


Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 426
.036
.029
.036
Elevation (m)
84
82
80
78
76
74
72
70
68
66
64
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.4 m/s
2.6 m/s
2.8 m/s
3.0 m/s
3.2 m/s
3.4 m/s
3.6 m/s
3.8 m/s
Ground
Levee
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 245
.036
.029
.036
Elevation (m)
70
69
68
67
66
65
64
0
20
40
60
80
100
120
140
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
3.6 m/s
3.8 m/s
4.0 m/s
4.2 m/s
4.4 m/s
4.6 m/s
4.8 m/s
5.0 m/s
Ground
Levee
Bank Sta

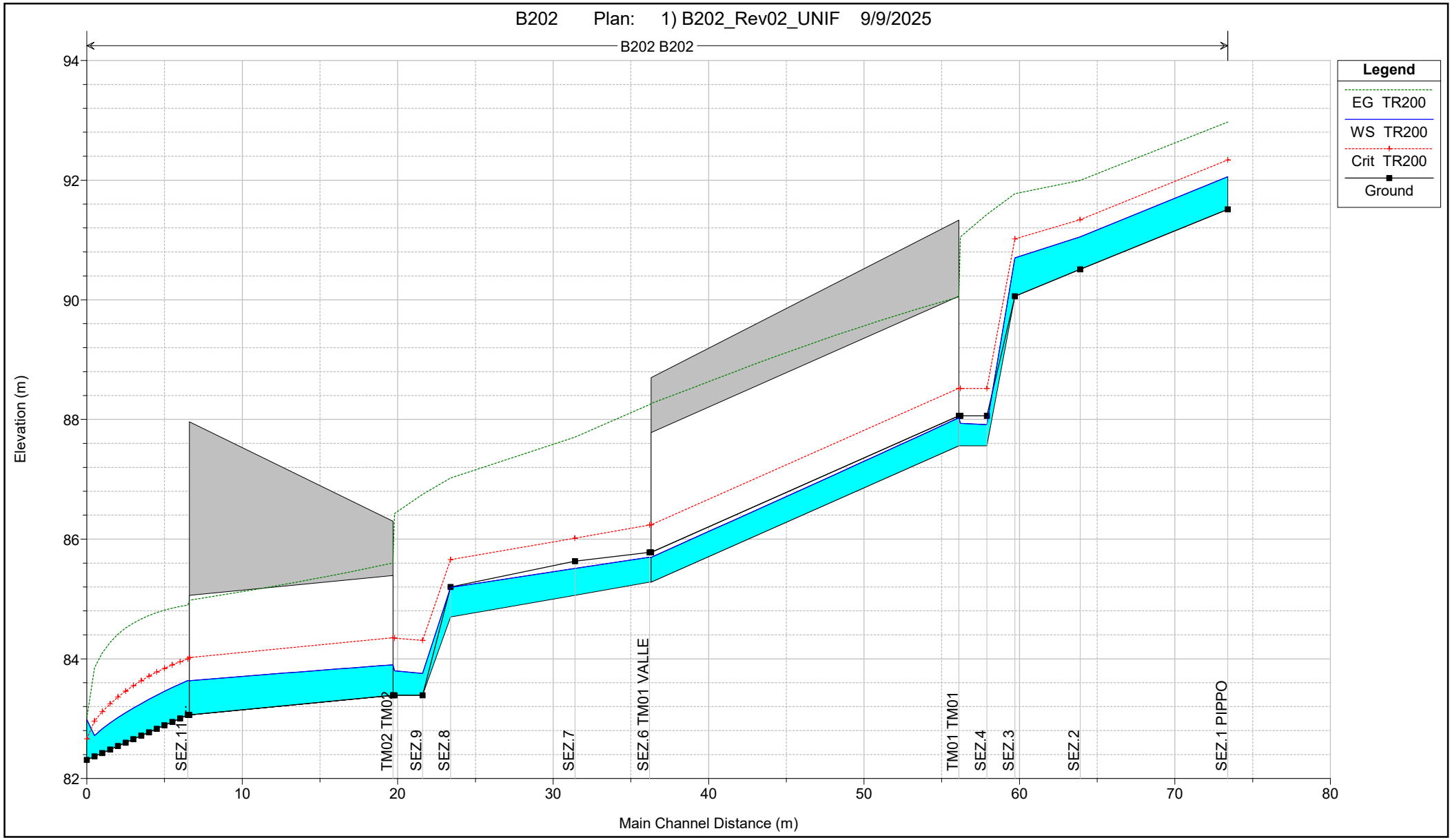

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 224
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 163
.036
.029
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
Ground
Bank Sta

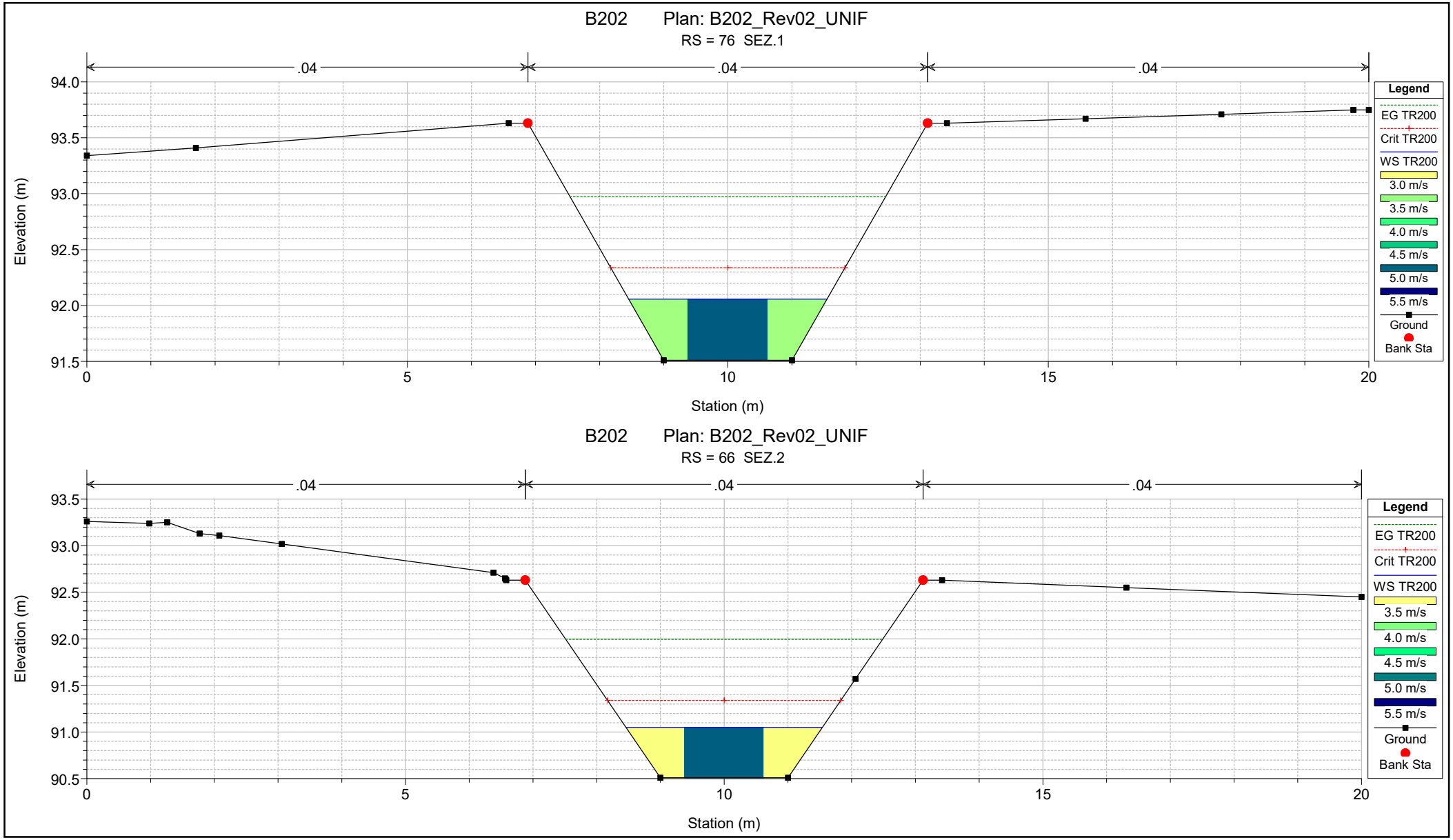

Secca_S.Olcese Plan: Secca_PRJ_Ks35_Rev02
RS = 35
.036
.029
.036
Elevation (m)
72
70
68
66
64
62
60
0
50
100
150
200
250
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
Ground
Bank Sta

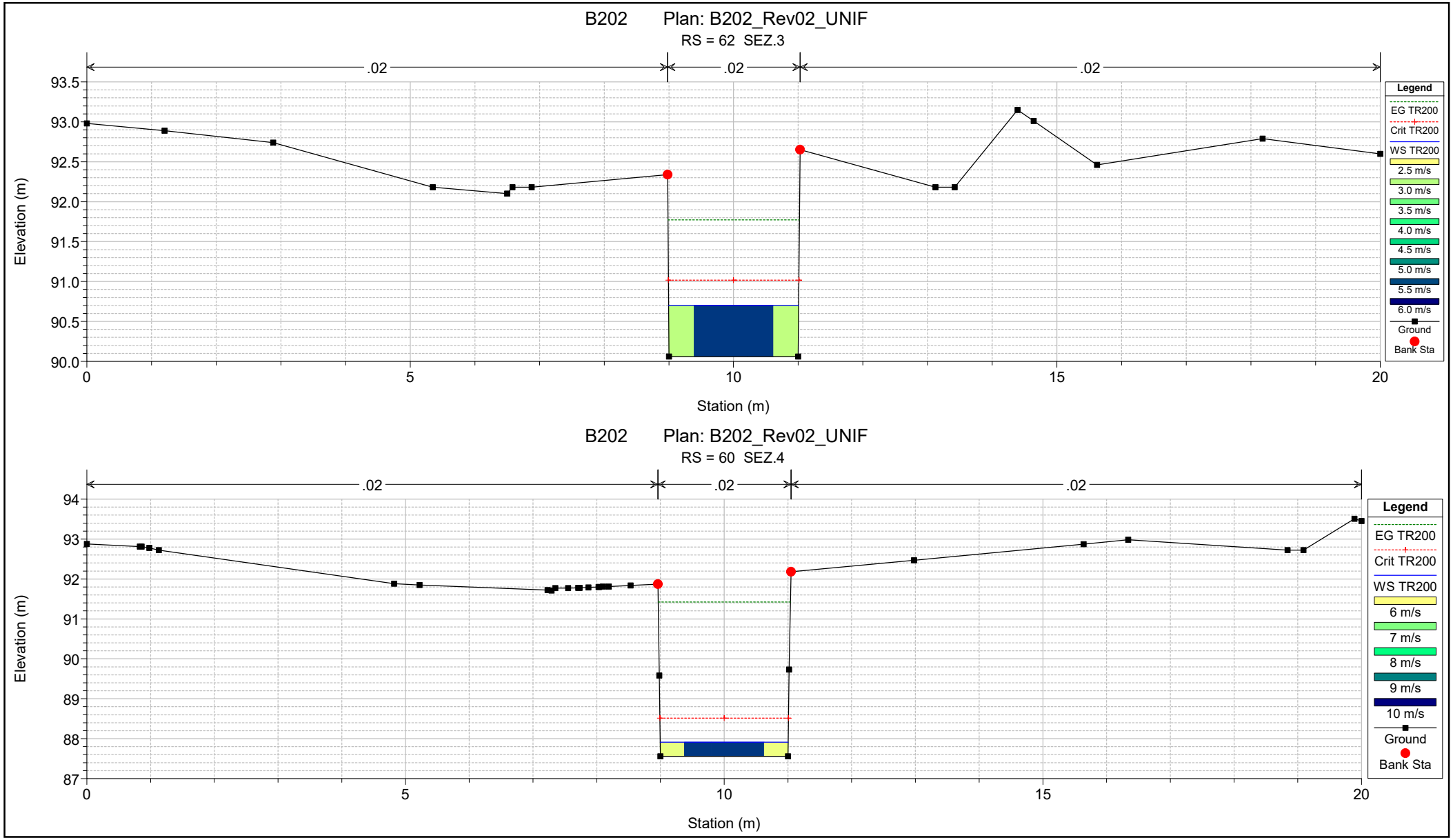
2.4 Bacino B202 – TM01-TM02 Scenario senza rigurgito

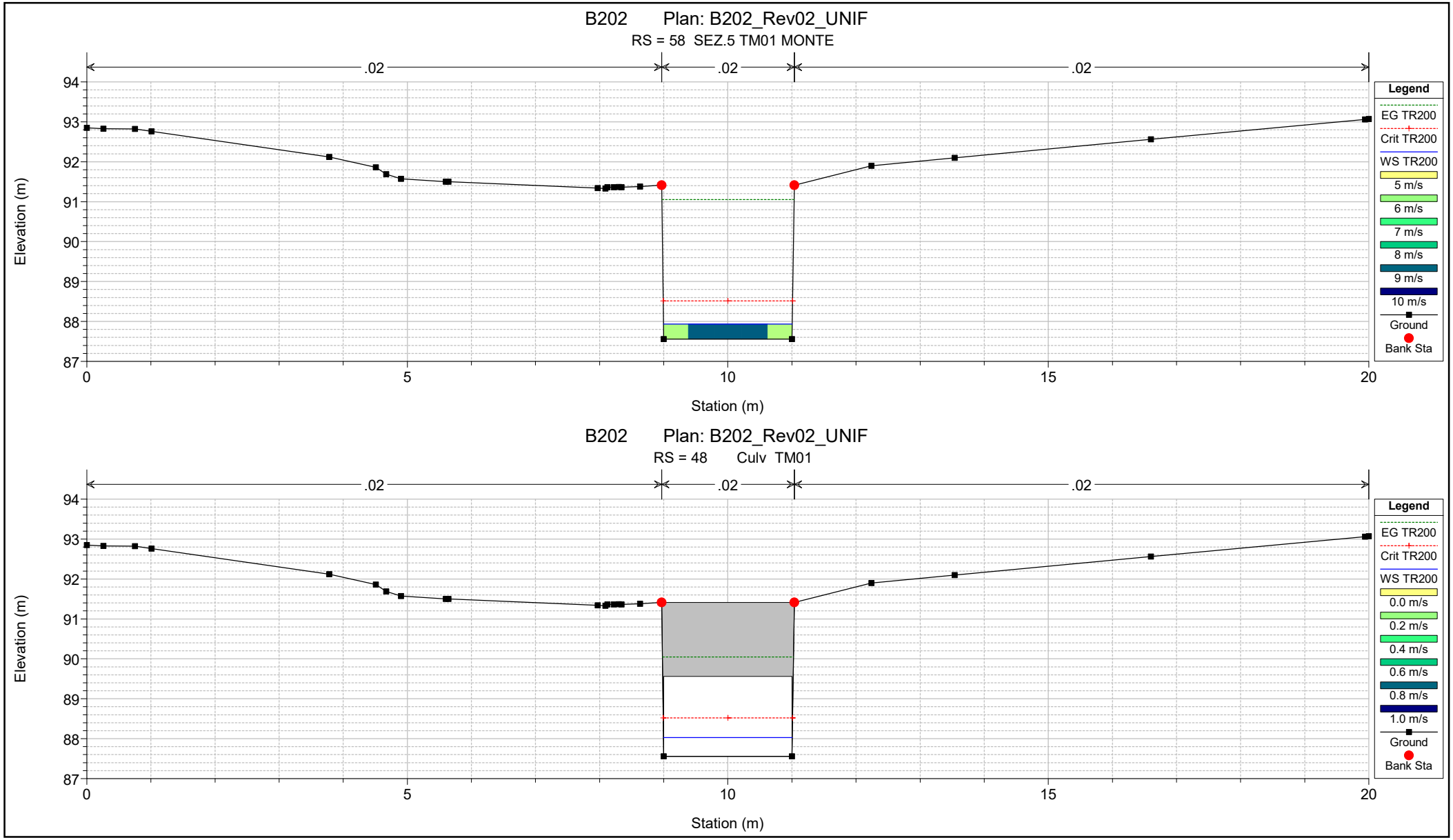
HEC-RAS Plan: B202_Rev02_UNIF River: B202 Reach: B202 Profile: TR200

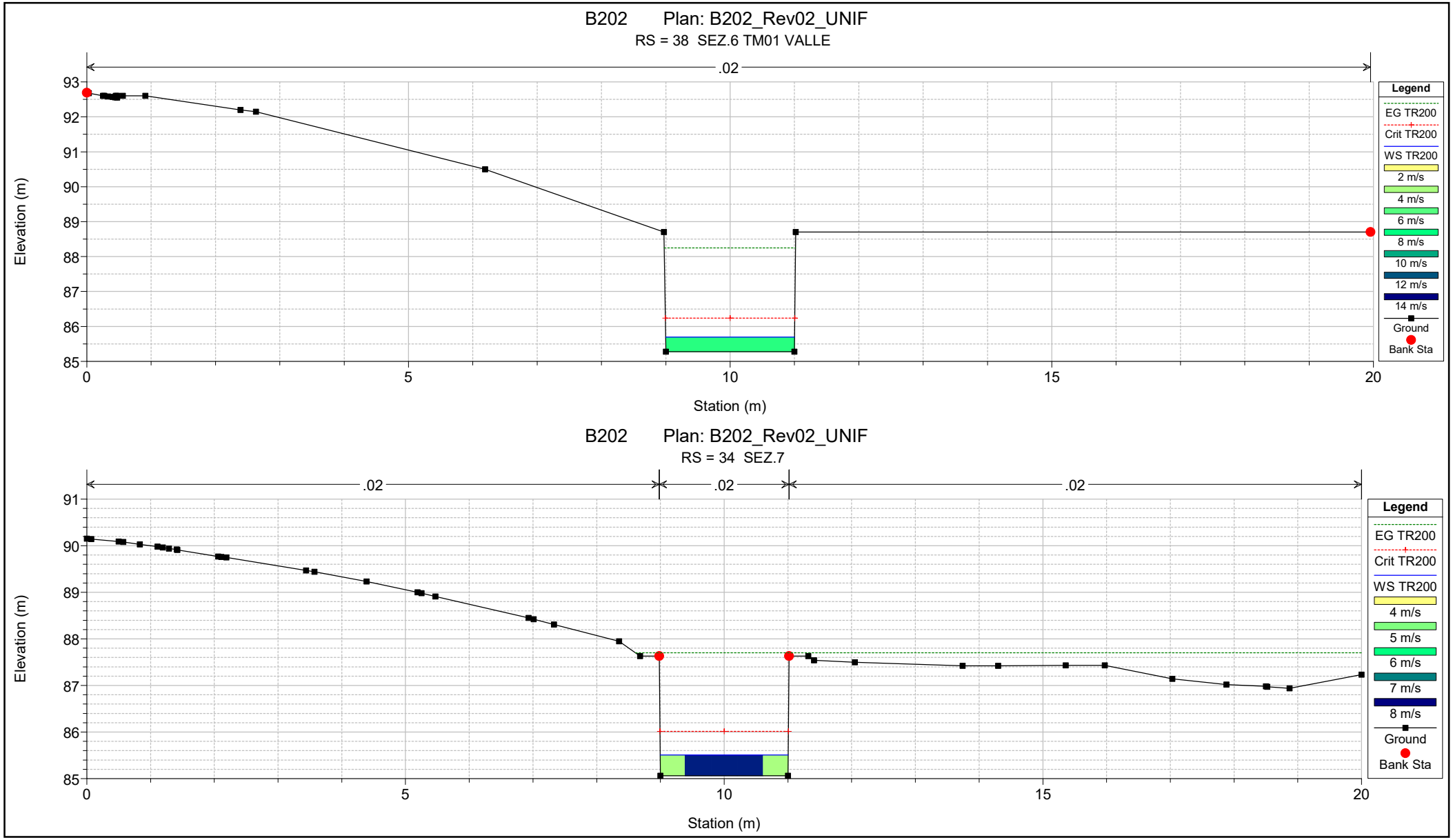
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B202	76 SEZ.1	TR200	5.90	91.51	0.55	92.06	92.34	-0.28	2.02	92.97	4.24	4.24	0.39	385.21	0.45
B202	66 SEZ.2	TR200	5.90	90.51	0.54	91.05	91.34	-0.29	2.06	92.00	4.31	4.31	0.39	399.45	0.44
B202	62 SEZ.3	TR200	5.90	90.06	0.64	90.70	91.02	-0.32	1.83	91.77	4.59	4.59	0.39	112.69	0.64
B202	60 SEZ.4	TR200	5.90	87.56	0.35	87.91	88.52	-0.61	4.45	91.42	8.30	8.30	0.26	421.80	0.35
B202	58 SEZ.5 TM01 MONTE	TR200	5.90	87.56	0.38	87.94	88.52	-0.58	4.07	91.05	7.82	7.82	0.27	368.98	0.38
B202	48 TM01		Culvert												
B202	38 SEZ.6 TM01 VALLE	TR200	5.90	85.28	0.42	85.70	86.24	-0.54	3.50	88.25	7.08	7.08	0.29	295.21	0.42
B202	34 SEZ.7	TR200	5.90	85.06	0.45	85.51	86.02	-0.51	3.13	87.70	6.56	6.56	0.31	249.10	0.45
B202	26 SEZ.8	TR200	5.90	84.70	0.49	85.19	85.66	-0.47	2.73	87.02	5.99	5.99	0.33	203.63	0.49
B202	24 SEZ.9	TR200	5.90	83.39	0.36	83.75	84.31	-0.56	4.09	86.75	7.66	7.66	0.28	352.97	0.36
B202	22 SEZ.10 TM02 MONT	TR200	5.90	83.39	0.41	83.80	84.35	-0.55	3.58	86.43	7.18	7.18	0.29	304.79	0.41
B202	20 TM02		Culvert												
B202	9 SEZ.11 TM02 VALL	TR200	5.90	83.06	0.58	83.64	84.00	-0.36	2.12	84.90	4.98	4.98	0.38	134.81	0.56
B202	8.3	TR200	5.90	83.00	0.58	83.58	83.95	-0.37	2.19	84.88	5.05	5.05	0.38	166.49	0.54
B202	8	TR200	5.90	82.94	0.57	83.52	83.90	-0.38	2.26	84.85	5.11	5.11	0.39	219.34	0.52
B202	7.3	TR200	5.90	82.89	0.57	83.46	83.84	-0.38	2.34	84.81	5.16	5.16	0.39	261.31	0.50
B202	7	TR200	5.90	82.83	0.56	83.39	83.78	-0.39	2.42	84.77	5.21	5.21	0.38	308.20	0.47
B202	6.4	TR200	5.90	82.77	0.55	83.32	83.71	-0.39	2.50	84.72	5.24	5.24	0.38	382.34	0.45
B202	6	TR200	5.90	82.71	0.54	83.25	83.63	-0.38	2.60	84.66	5.26	5.26	0.36	439.62	0.42
B202	5.4	TR200	5.90	82.66	0.52	83.18	83.55	-0.37	2.70	84.60	5.28	5.28	0.35	502.17	0.39
B202	5	TR200	5.90	82.60	0.50	83.10	83.46	-0.36	2.82	84.52	5.27	5.27	0.33	569.87	0.36
B202	4.4	TR200	5.90	82.54	0.47	83.02	83.36	-0.34	2.94	84.41	5.23	5.23	0.31	670.07	0.32
B202	4	TR200	5.90	82.48	0.45	82.93	83.25	-0.32	3.08	84.28	5.14	5.14	0.27	737.66	0.28
B202	3.4	TR200	5.90	82.42	0.41	82.83	83.12	-0.29	3.26	84.10	4.98	4.98	0.23	799.28	0.24
B202	3	TR200	5.90	82.37	0.35	82.72	82.96	-0.24	3.53	83.85	4.71	4.71	0.18	888.66	0.18
B202	2 SEZ.12	TR200	5.90	82.31	0.68	82.99	82.66	0.33	0.26	83.00	0.60	0.58	0.51	10.81	0.54

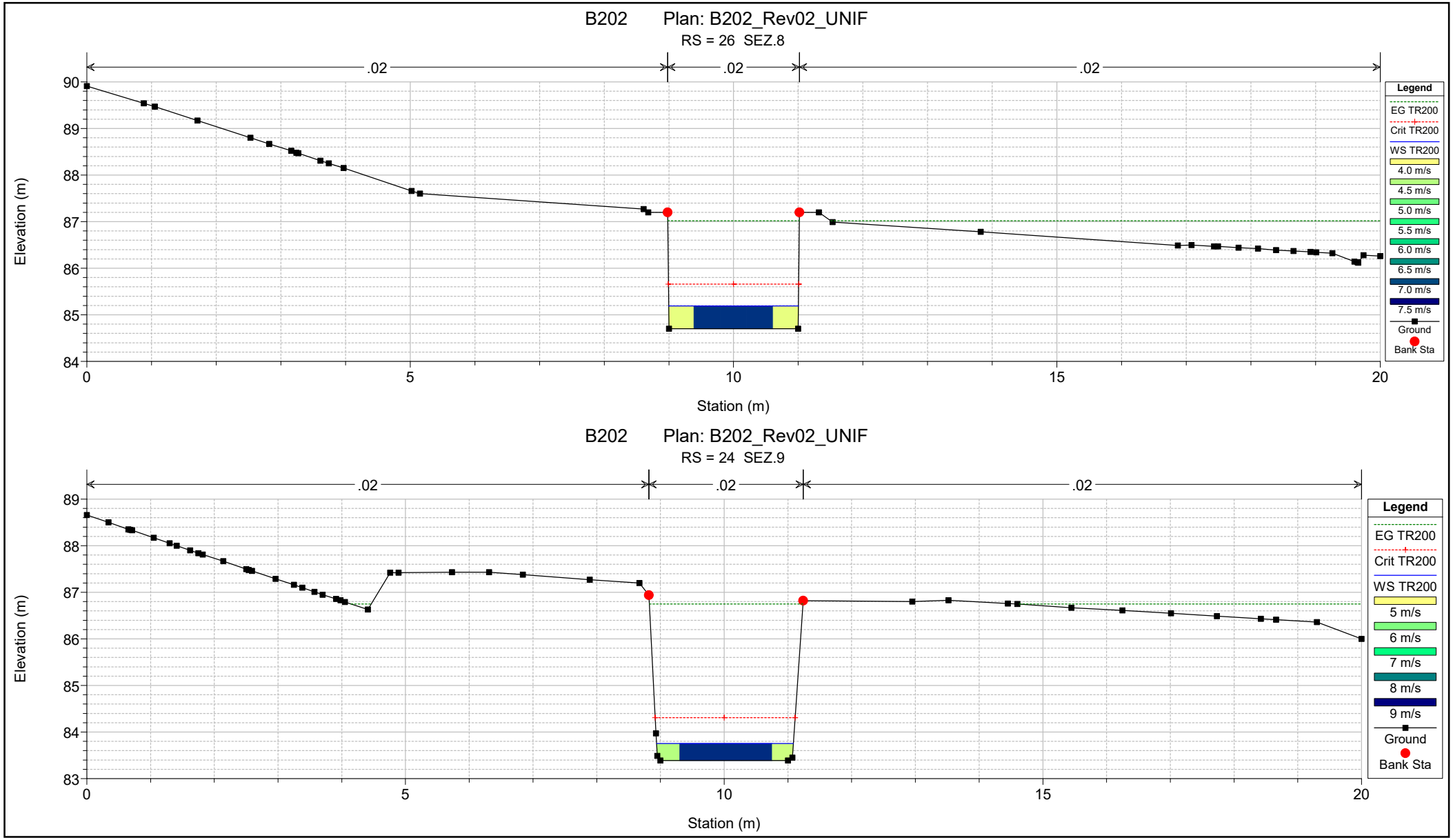

B202 Plan: 1) B202_Rev02_UNIF 9/9/2025
B202 B202
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
94
92
90
88
86
84
82
0
10
20
30
40
50
60
70
80
SEZ.11
TM02 TM02
SEZ.9
SEZ.8
SEZ.7
SEZ.6 TM01 VALLE
TM01 TM01
SEZ.4
SEZ.3
SEZ.2
SEZ.1 PIPPO

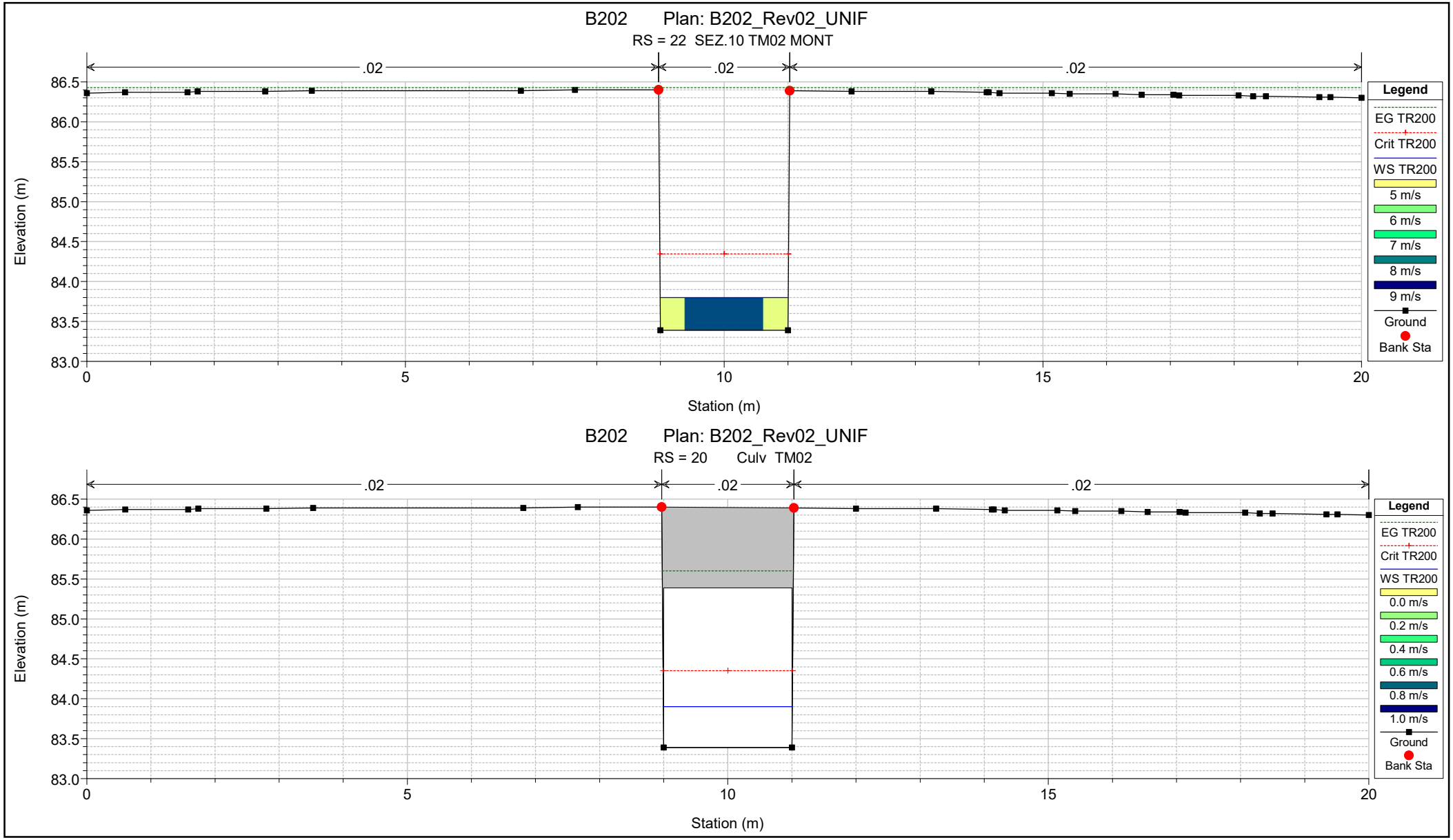

B202 Plan: B202_Rev02_UNIF
RS = 76 SEZ.1
.04
.04
.04
94.0
93.5
93.0
92.5
92.0
91.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 66 SEZ.2
.04
.04
.04
93.5
93.0
92.5
92.0
91.5
91.0
90.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta

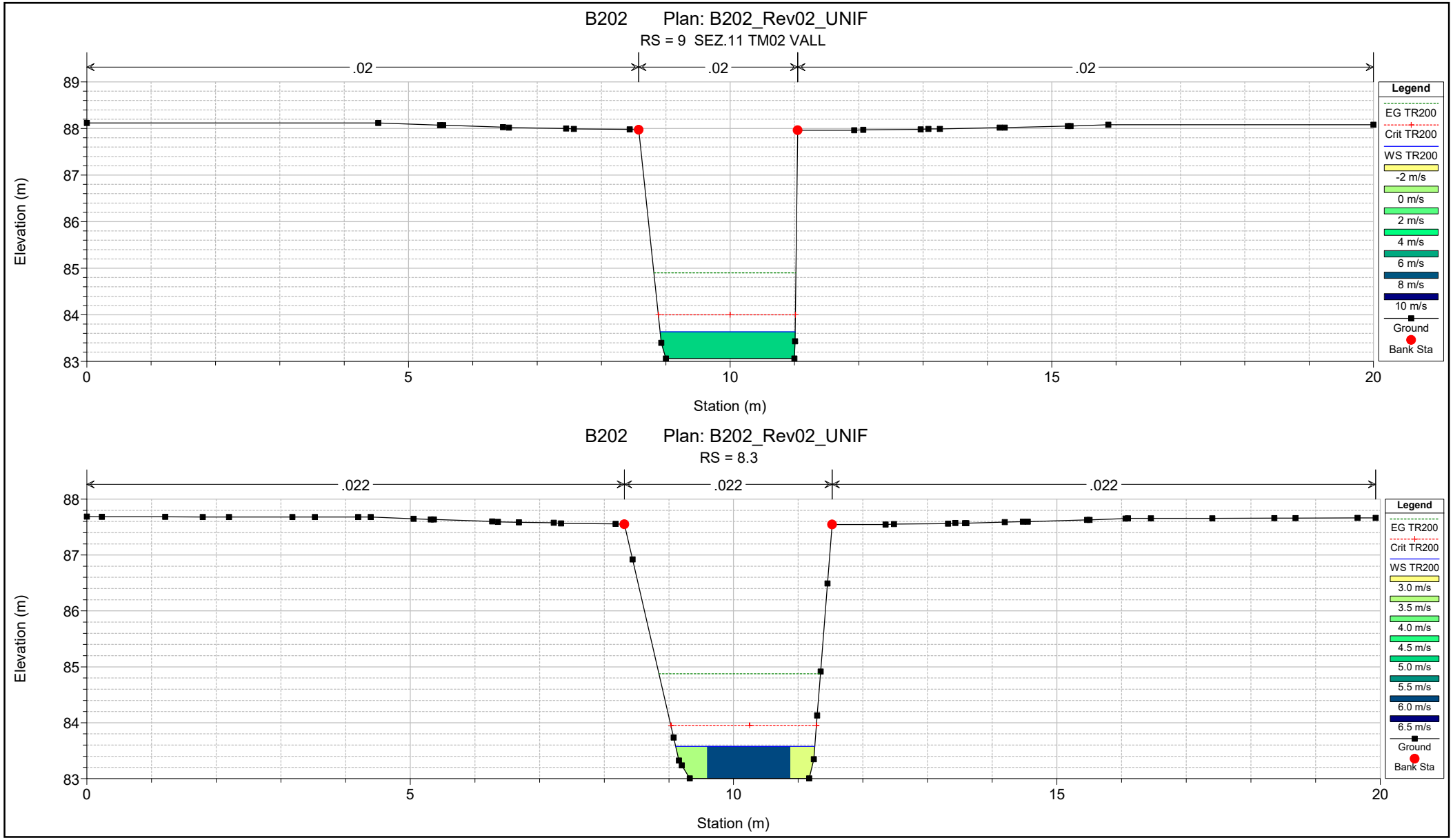

B202 Plan: B202_Rev02_UNIF
RS = 62 SEZ.3
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 60 SEZ.4
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
6 m/s
7 m/s
8 m/s
9 m/s
10 m/s
Ground
Bank Sta

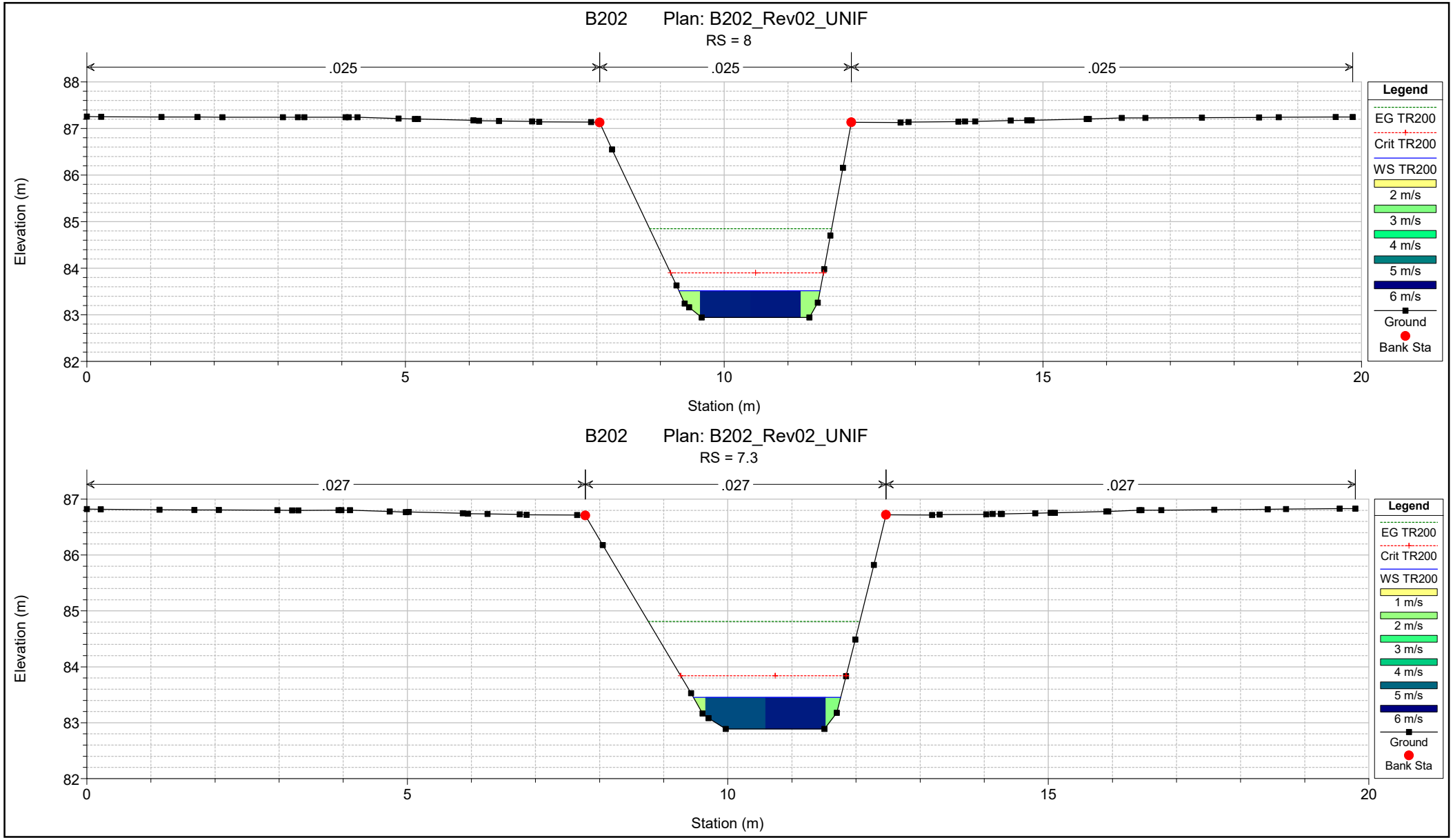

B202 Plan: B202_Rev02_UNIF
RS = 58 SEZ.5 TM01 MONTE
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
10 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 48 Culv TM01
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

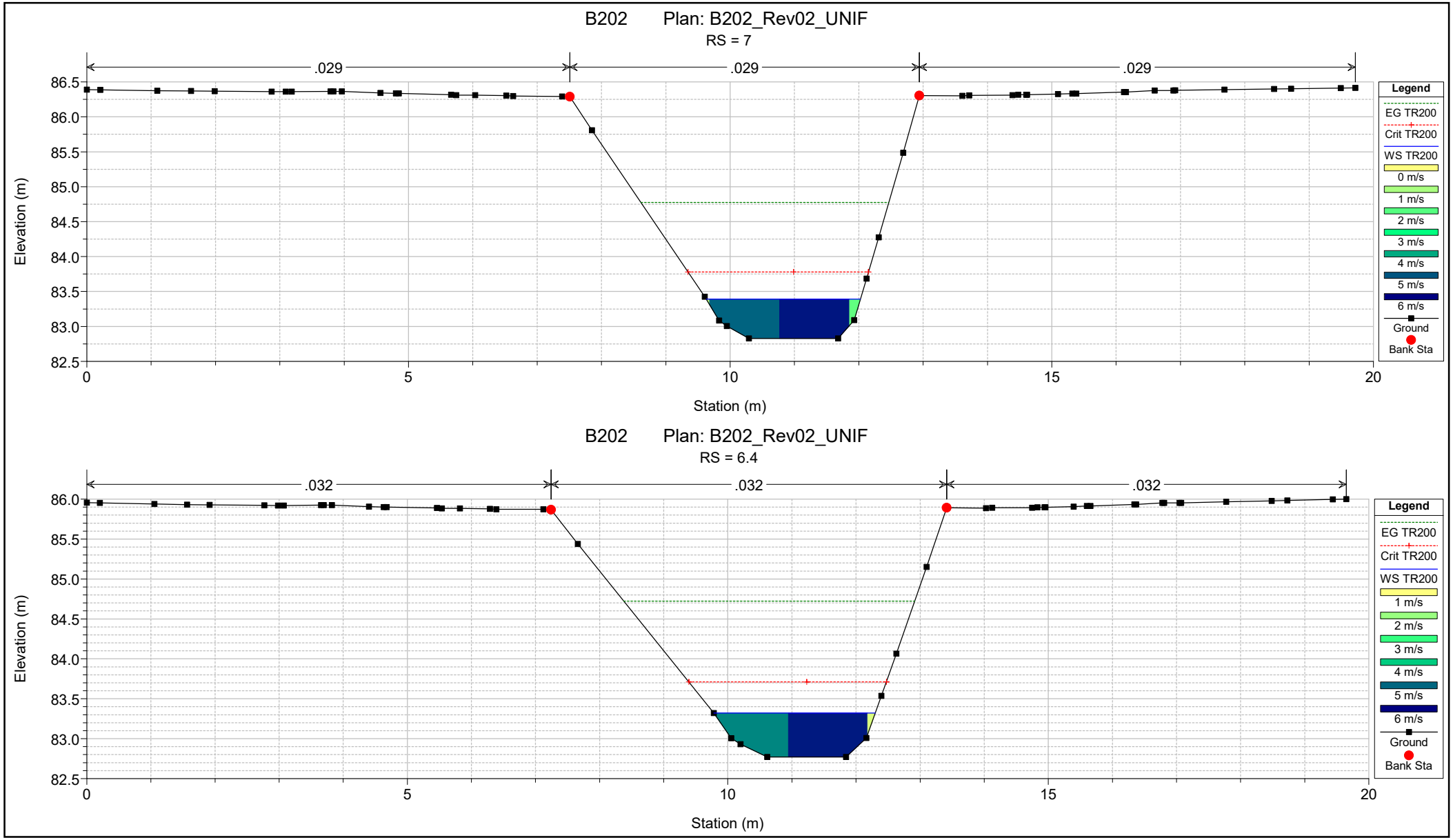

B202 Plan: B202_Rev02_UNIF
RS = 38 SEZ.6 TM01 VALLE
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
12 m/s
14 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 34 SEZ.7
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Bank Sta

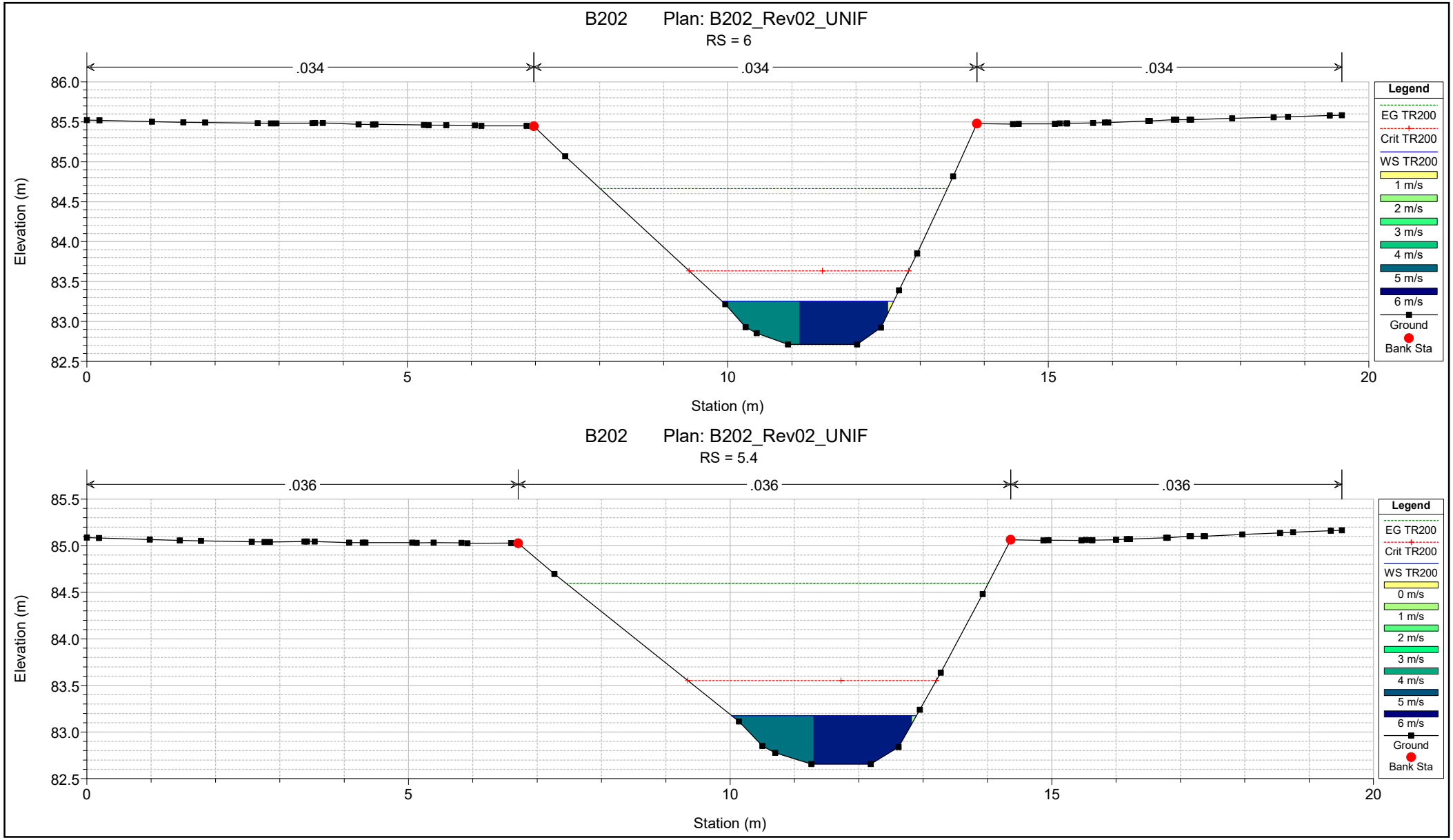

B202 Plan: B202_Rev02_UNIF
RS = 26 SEZ.8
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 24 SEZ.9
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta

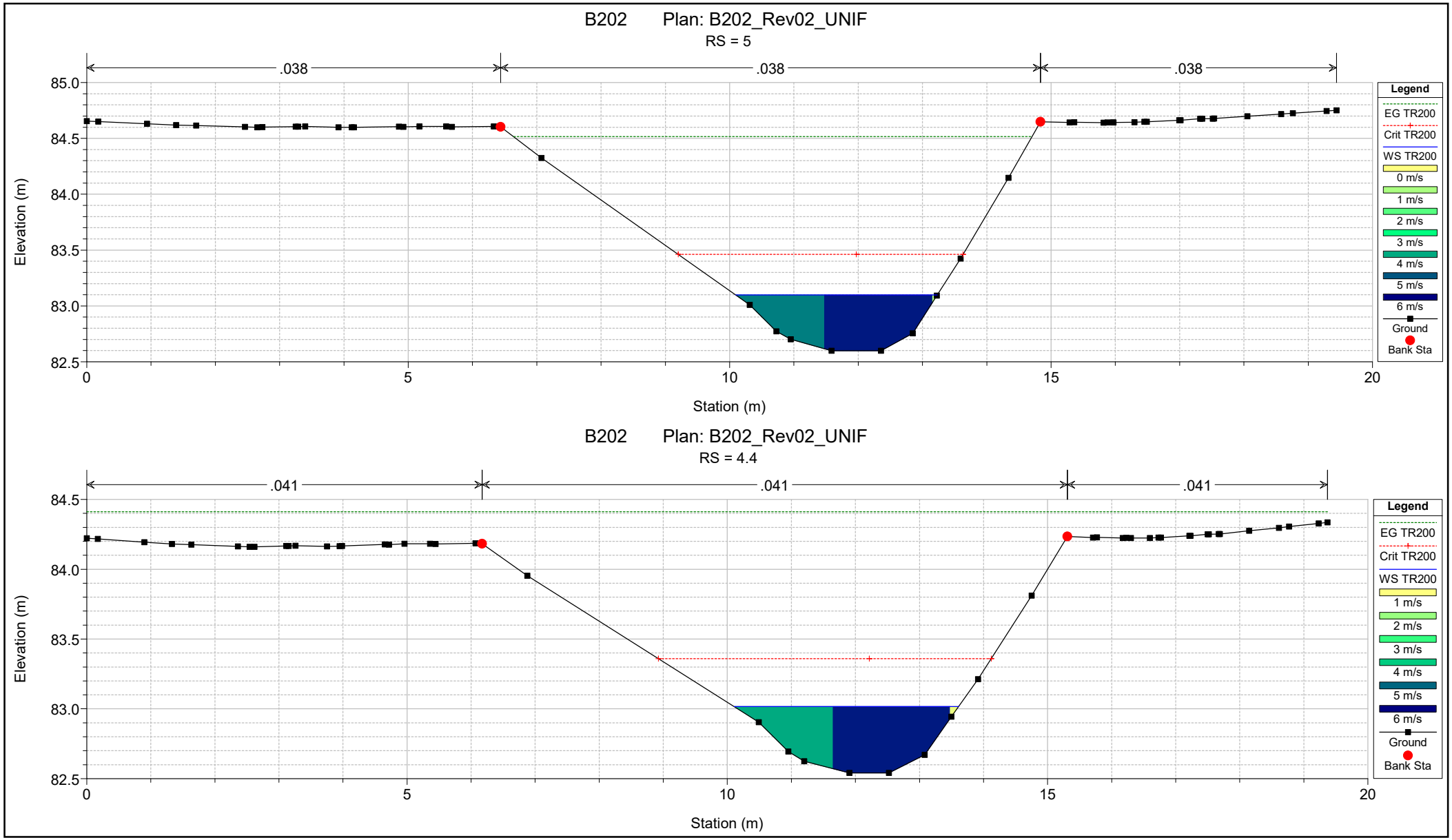

B202 Plan: B202_Rev02_UNIF
RS = 22 SEZ.10 TM02 MONT
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 20 Culv TM02
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

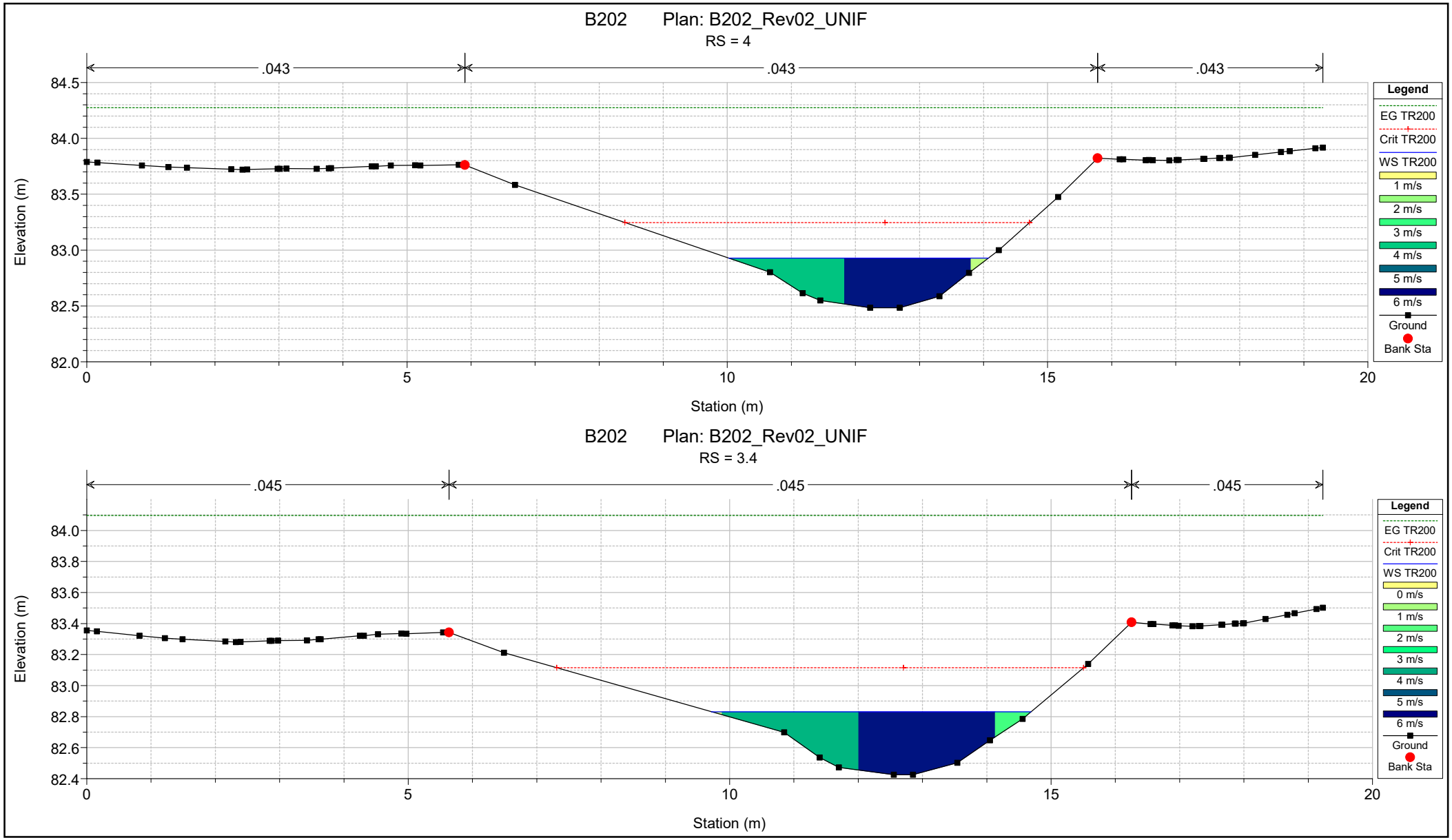

B202 Plan: B202_Rev02_UNIF
RS = 9 SEZ.11 TM02 VALL
.02
.02
.02
Elevation (m)
89
88
87
86
85
84
83
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
-2 m/s
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 8.3
.022
.022
.022
Elevation (m)
88
87
86
85
84
83
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Bank Sta

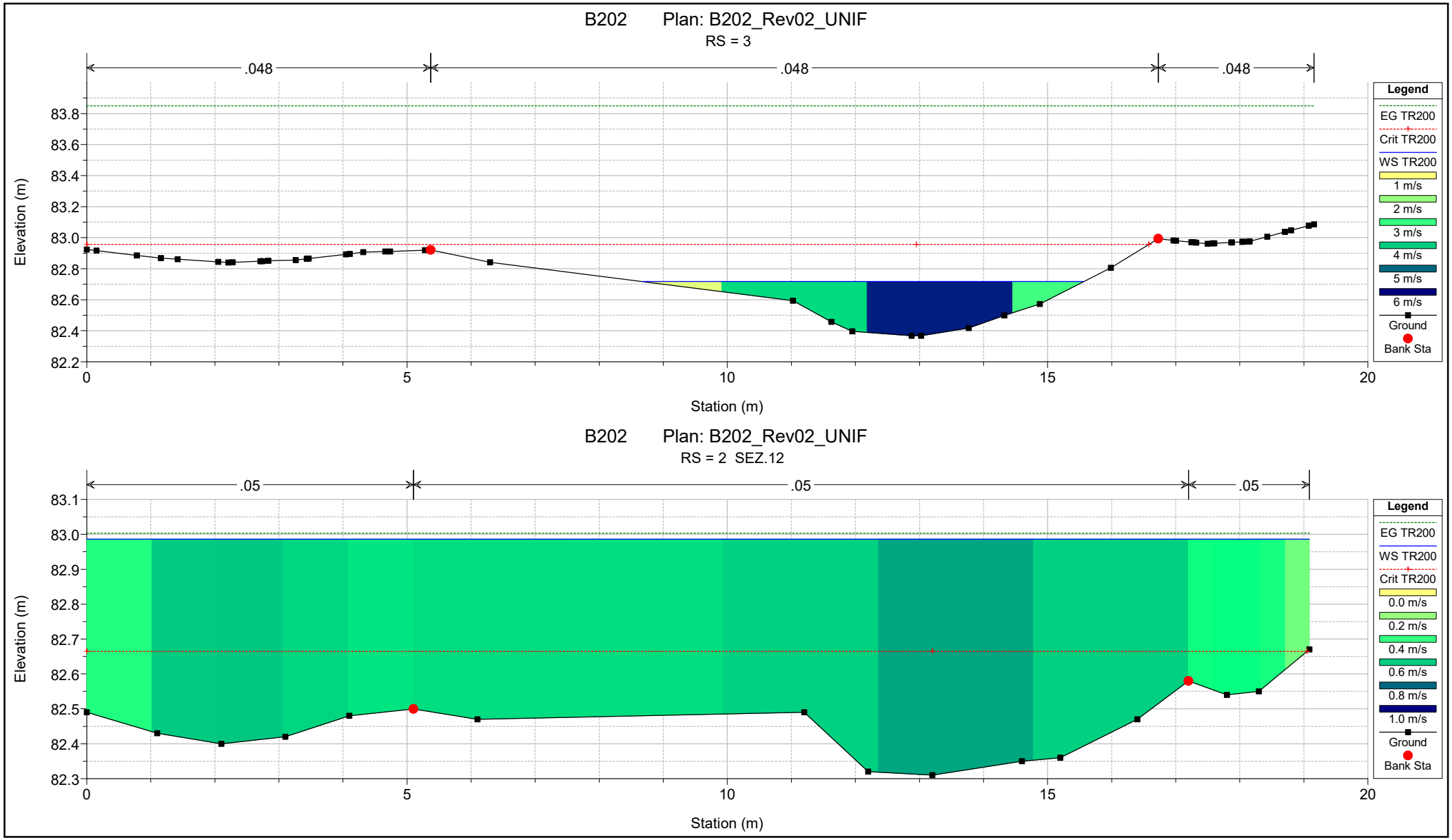

B202 Plan: B202_Rev02_UNIF
RS = 8
.025
.025
.025
Elevation (m)
88
87
86
85
84
83
82
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 7.3
.027
.027
.027
Elevation (m)
87
86
85
84
83
82
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: B202_Rev02_UNIF
RS = 7
.029
.029
.029
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 6.4
.032
.032
.032
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: B202_Rev02_UNIF
RS = 6
.034
.034
.034
Elevation (m)
86.0
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 5.4
.036
.036
.036
Elevation (m)
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: B202_Rev02_UNIF
RS = 5
.038
.038
.038
Elevation (m)
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 4.4
.041
.041
.041
Elevation (m)
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta

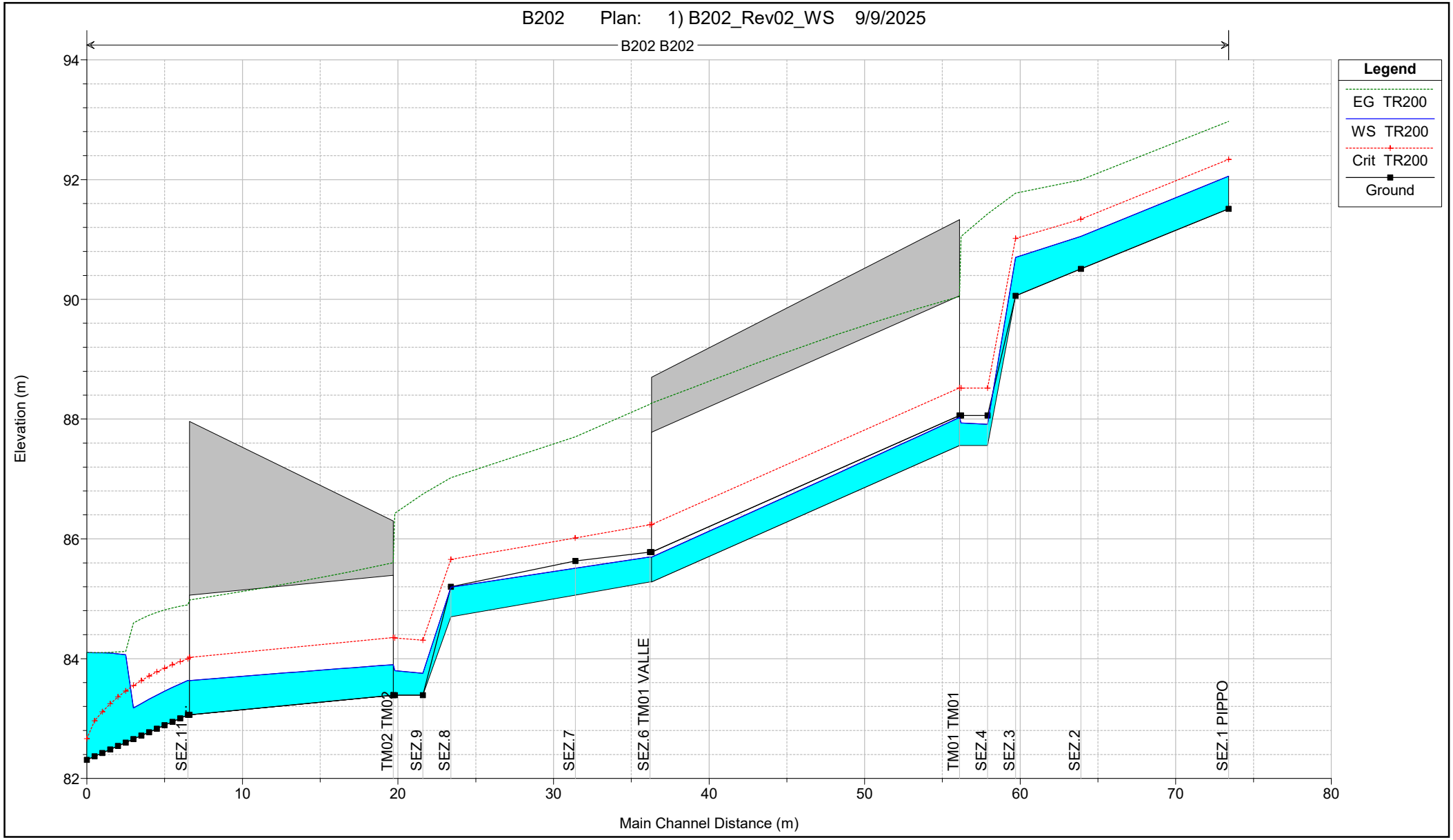

B202 Plan: B202_Rev02_UNIF
RS = 4
.043
.043
.043
Elevation (m)
84.5
84.0
83.5
83.0
82.5
82.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 3.4
.045
.045
.045
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta

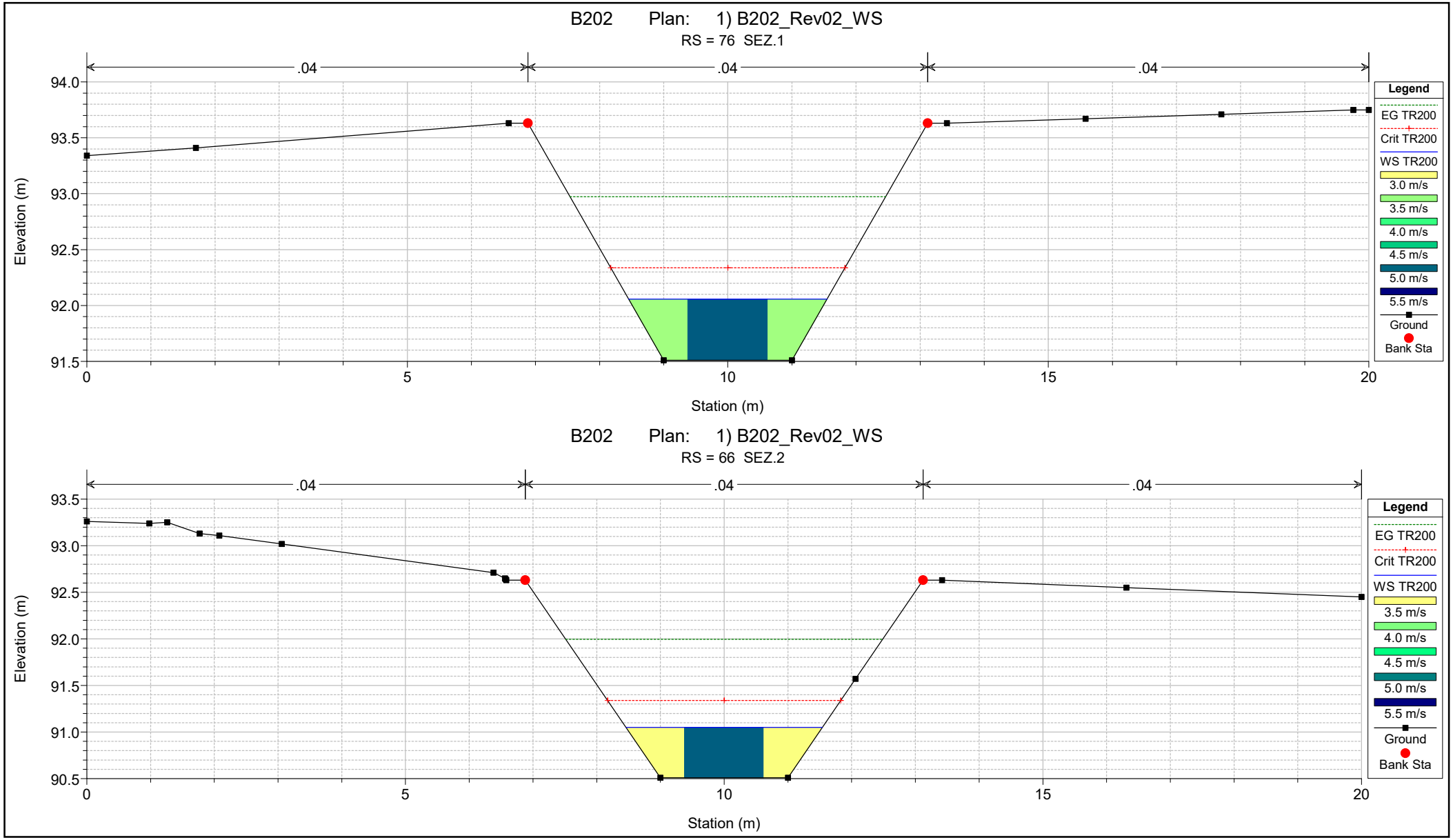

B202 Plan: B202_Rev02_UNIF
RS = 3
.048
.048
.048
Elevation (m)
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
82.2
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_UNIF
RS = 2 SEZ.12
.05
.05
.05
Elevation (m)
83.1
83.0
82.9
82.8
82.7
82.6
82.5
82.4
82.3
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

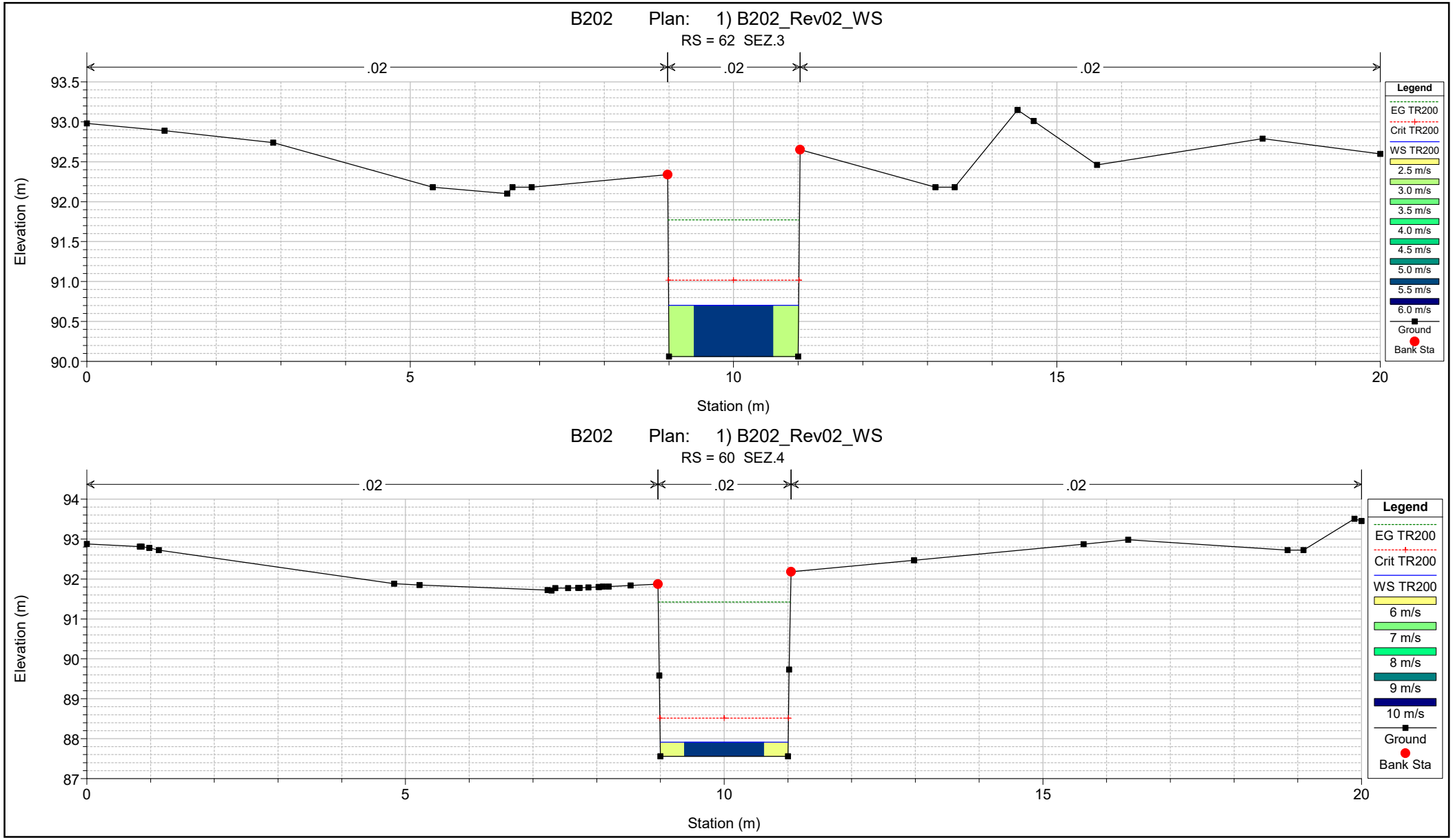
2.5 Bacino B202 – TM01-TM02 Scenario con rigurgito

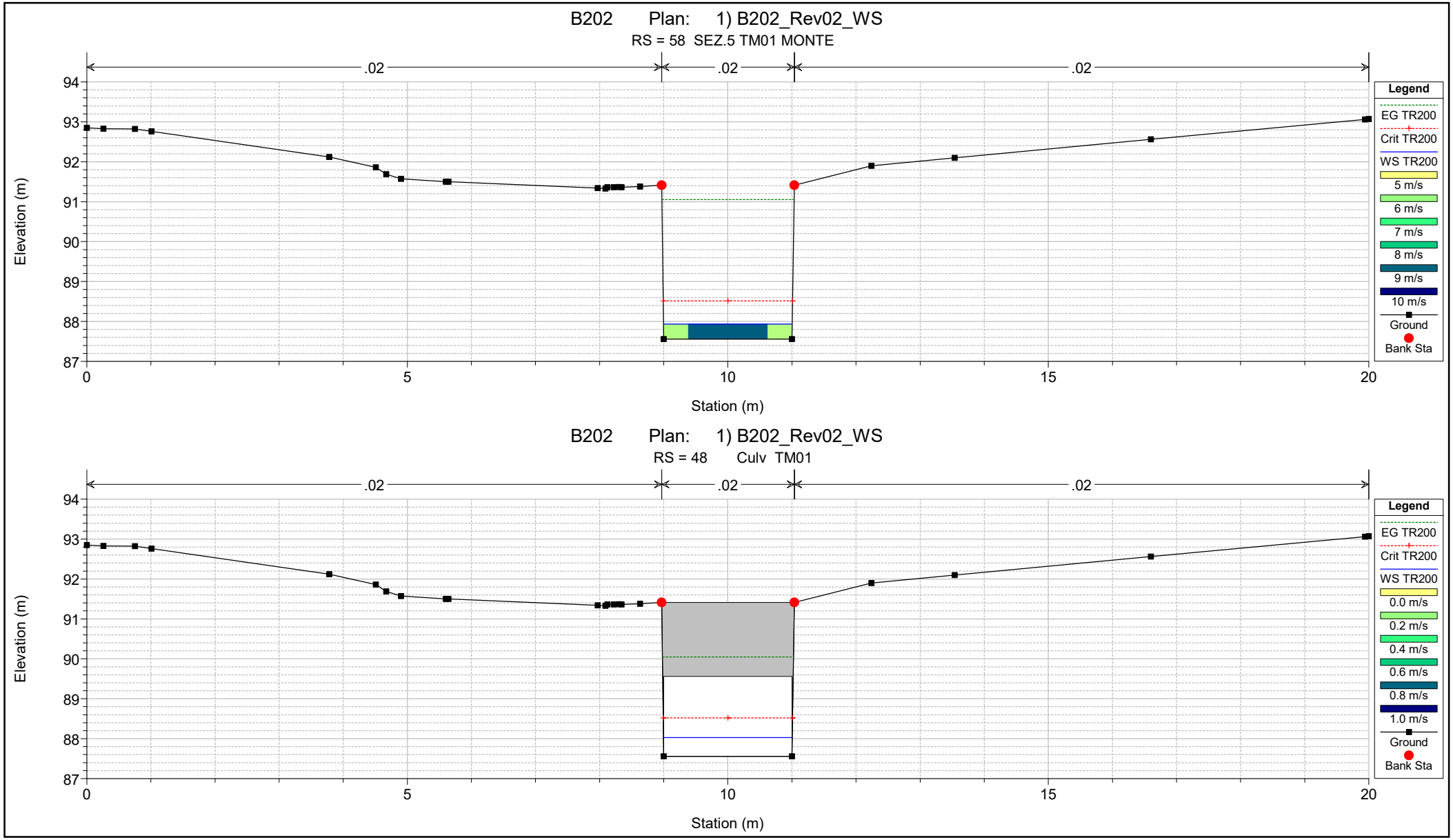
HEC-RAS Plan: B202_Rev02_WS River: B202 Reach: B202 Profile: TR200

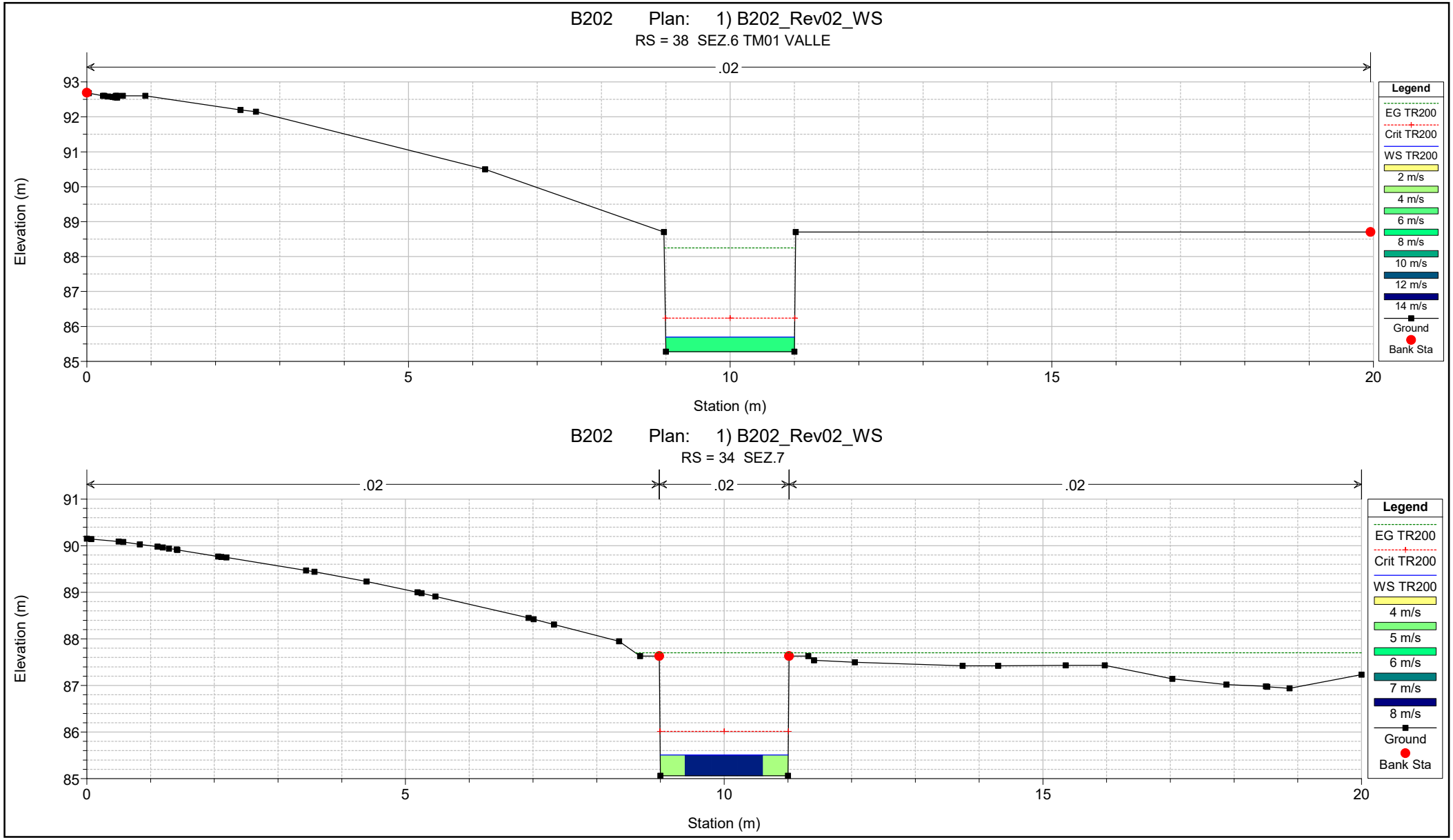
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B202	76 SEZ.1	TR200	5.90	91.51	0.55	92.06	92.34	-0.28	2.02	92.97	4.24	4.24	0.39	385.21	0.45
B202	66 SEZ.2	TR200	5.90	90.51	0.54	91.05	91.34	-0.29	2.06	92.00	4.31	4.31	0.39	399.45	0.44
B202	62 SEZ.3	TR200	5.90	90.06	0.64	90.70	91.02	-0.32	1.83	91.77	4.59	4.59	0.39	112.69	0.64
B202	60 SEZ.4	TR200	5.90	87.56	0.35	87.91	88.52	-0.61	4.45	91.42	8.30	8.30	0.26	421.80	0.35
B202	58 SEZ.5 TM01 MONTE	TR200	5.90	87.56	0.38	87.94	88.52	-0.58	4.07	91.05	7.82	7.82	0.27	368.98	0.38
B202	48 TM01		Culvert												
B202	38 SEZ.6 TM01 VALLE	TR200	5.90	85.28	0.42	85.70	86.24	-0.54	3.50	88.25	7.08	7.08	0.29	295.21	0.42
B202	34 SEZ.7	TR200	5.90	85.06	0.45	85.51	86.02	-0.51	3.13	87.70	6.56	6.56	0.31	249.10	0.45
B202	26 SEZ.8	TR200	5.90	84.70	0.49	85.19	85.66	-0.47	2.73	87.02	5.99	5.99	0.33	203.63	0.49
B202	24 SEZ.9	TR200	5.90	83.39	0.36	83.75	84.31	-0.56	4.09	86.75	7.66	7.66	0.28	352.97	0.36
B202	22 SEZ.10 TM02 MONT	TR200	5.90	83.39	0.41	83.80	84.35	-0.55	3.58	86.43	7.18	7.18	0.29	304.79	0.41
B202	20 TM02		Culvert												
B202	9 SEZ.11 TM02 VALL	TR200	5.90	83.06	0.58	83.64	84.00	-0.36	2.12	84.90	4.98	4.98	0.38	134.81	0.56
B202	8.3	TR200	5.90	83.00	0.58	83.58	83.95	-0.37	2.19	84.88	5.05	5.05	0.38	166.49	0.54
B202	8	TR200	5.90	82.94	0.57	83.52	83.90	-0.38	2.26	84.85	5.11	5.11	0.39	219.34	0.52
B202	7.3	TR200	5.90	82.89	0.57	83.46	83.84	-0.38	2.34	84.81	5.16	5.16	0.39	261.31	0.50
B202	7	TR200	5.90	82.83	0.56	83.39	83.78	-0.39	2.42	84.77	5.21	5.21	0.38	308.20	0.47
B202	6.4	TR200	5.90	82.77	0.55	83.32	83.71	-0.39	2.50	84.72	5.24	5.24	0.38	382.34	0.45
B202	6	TR200	5.90	82.71	0.54	83.25	83.63	-0.38	2.60	84.66	5.26	5.26	0.36	439.62	0.42
B202	5.4	TR200	5.90	82.66	0.52	83.18	83.55	-0.37	2.70	84.60	5.28	5.28	0.35	502.17	0.39
B202	5	TR200	5.90	82.60	1.47	84.07	83.46	0.61	0.34	84.12	1.02	1.02	0.79	15.79	0.89
B202	4.4	TR200	5.90	82.54	1.54	84.08	83.36	0.72	0.26	84.11	0.77	0.77	0.82	10.55	0.88
B202	4	TR200	5.90	82.48	1.61	84.09	83.25	0.84	0.16	84.11	0.51	0.45	0.65	4.72	0.68
B202	3.4	TR200	5.90	82.42	1.67	84.10	83.12	0.98	0.10	84.10	0.34	0.30	0.95	2.12	1.02
B202	3	TR200	5.90	82.37	1.73	84.10	82.96	1.14	0.07	84.10	0.25	0.23	1.20	1.27	1.34
B202	2 SEZ.12	TR200	5.90	82.31	1.79	84.10	82.66	1.44	0.05	84.10	0.20	0.19	1.42	0.85	1.65

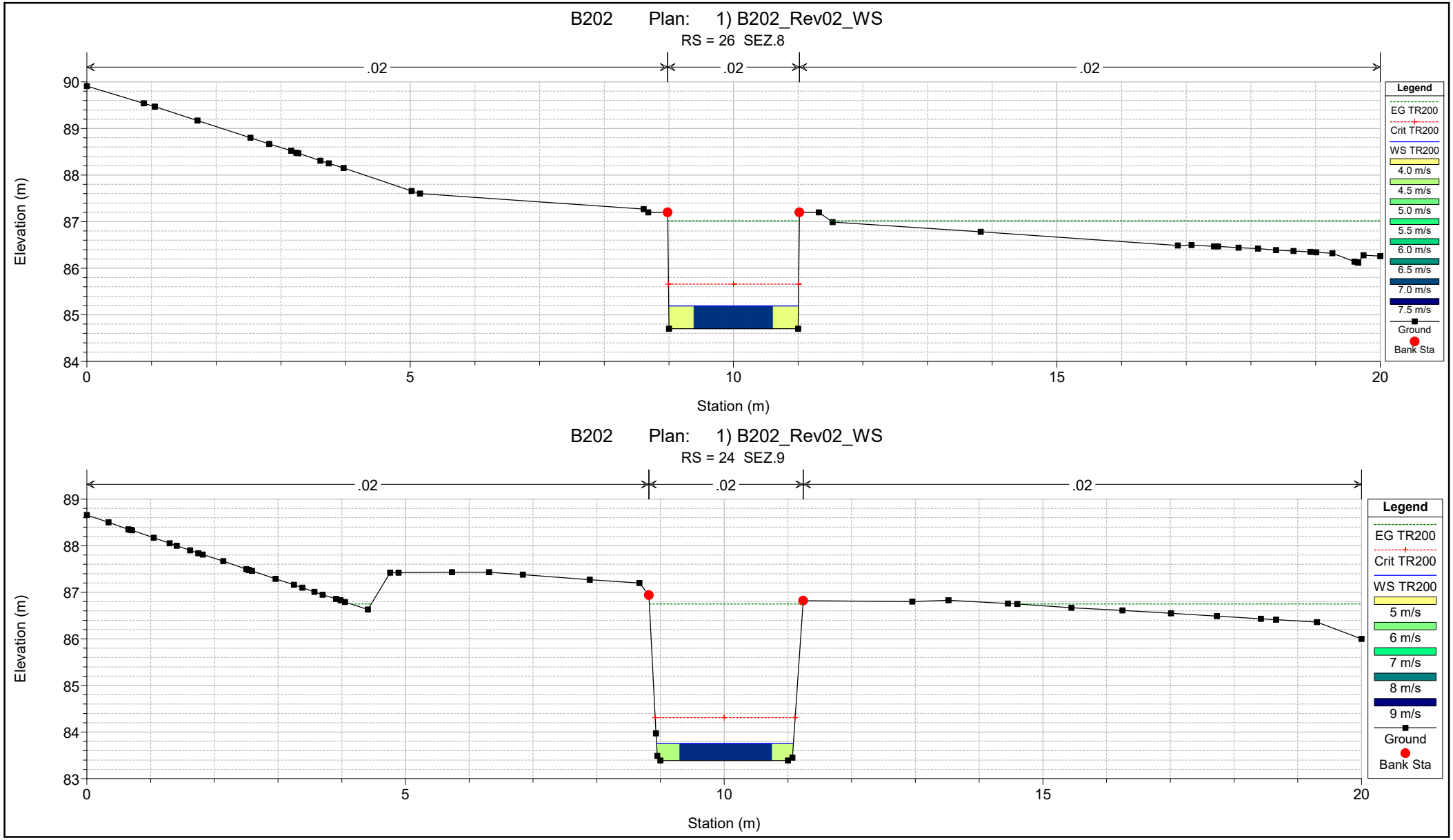

B202 Plan: 1) B202_Rev02_WS 9/9/2025
B202 B202
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
94
92
90
88
86
84
82
0
10
20
30
40
50
60
70
80
SEZ.11
TM02 TM02
SEZ.9
SEZ.8
SEZ.7
SEZ.6 TM01 VALLE
TM01 TM01
SEZ.4
SEZ.3
SEZ.2
SEZ.1 PIPPO

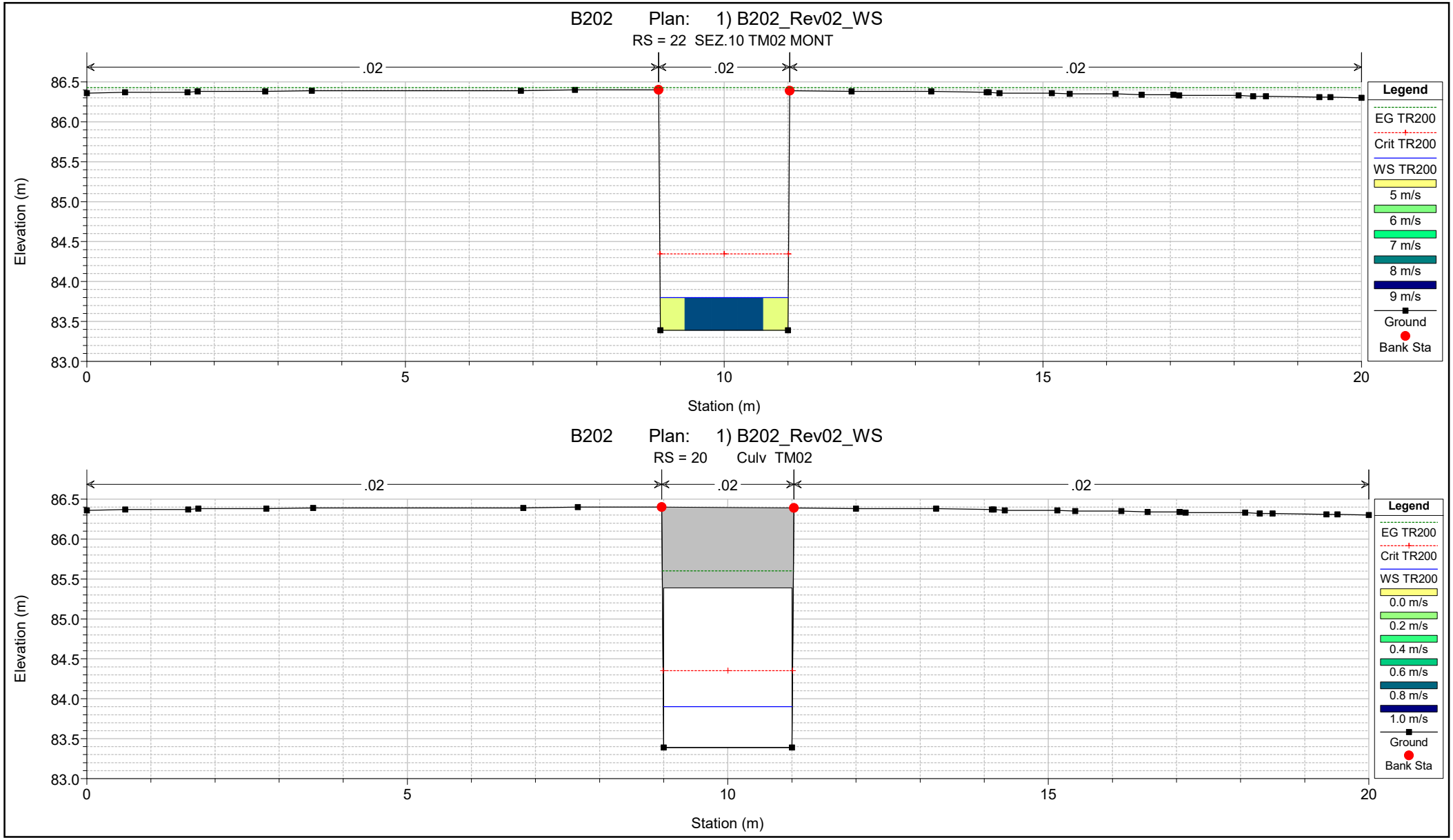

B202 Plan: 1) B202_Rev02_WS
RS = 76 SEZ.1
.04
.04
.04
94.0
93.5
93.0
92.5
92.0
91.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 66 SEZ.2
.04
.04
.04
93.5
93.0
92.5
92.0
91.5
91.0
90.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta

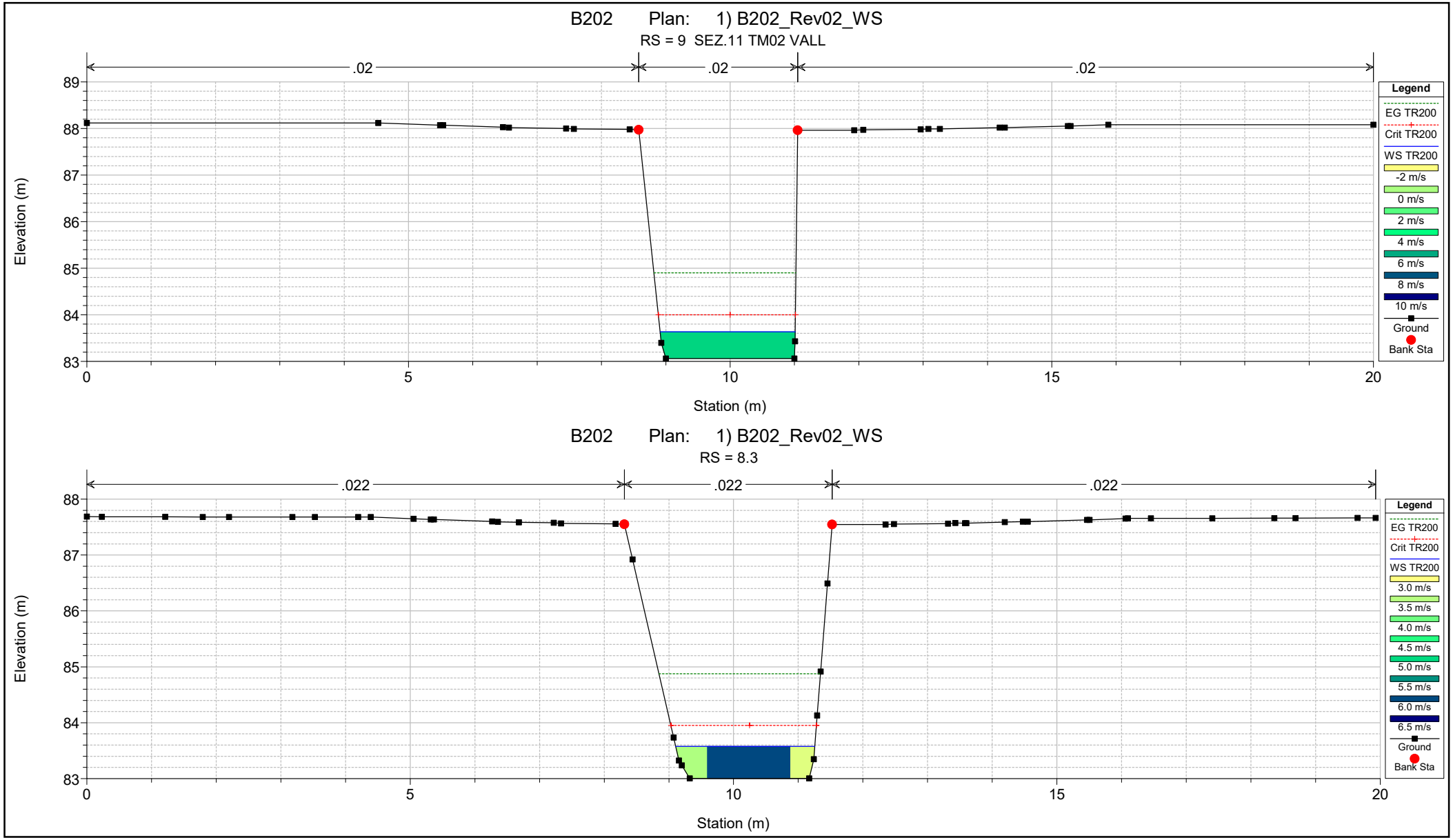

B202 Plan: 1) B202_Rev02_WS
RS = 62 SEZ.3
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 60 SEZ.4
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
6 m/s
7 m/s
8 m/s
9 m/s
10 m/s
Ground
Bank Sta

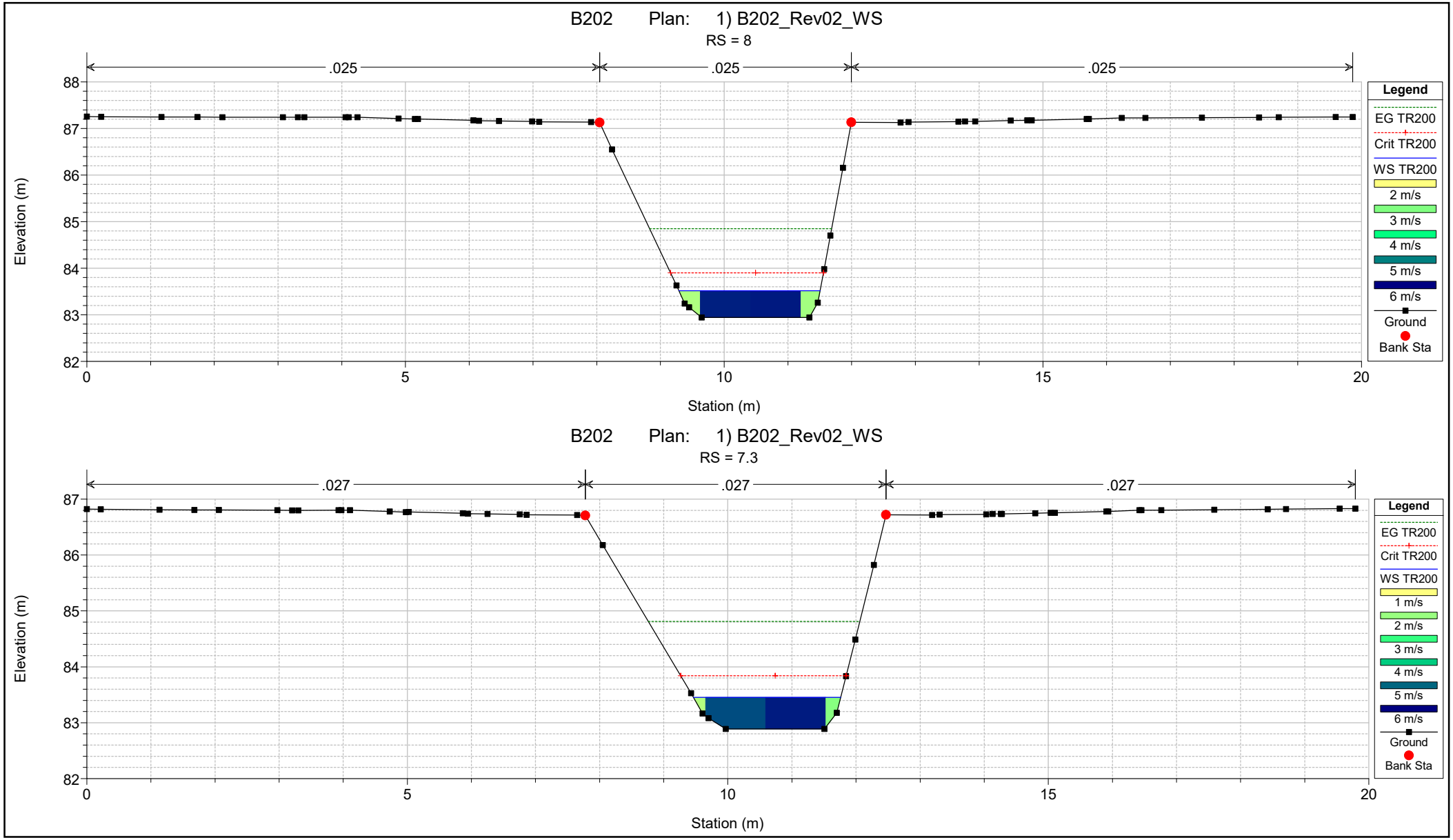

B202 Plan: 1) B202_Rev02_WS
RS = 58 SEZ.5 TM01 MONTE
.02
.02
.02
Elevation (m)
94
93
92
91
90
89
88
87
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
10 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 48 Culv TM01
.02
.02
.02
Elevation (m)
94
93
92
91
90
89
88
87
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

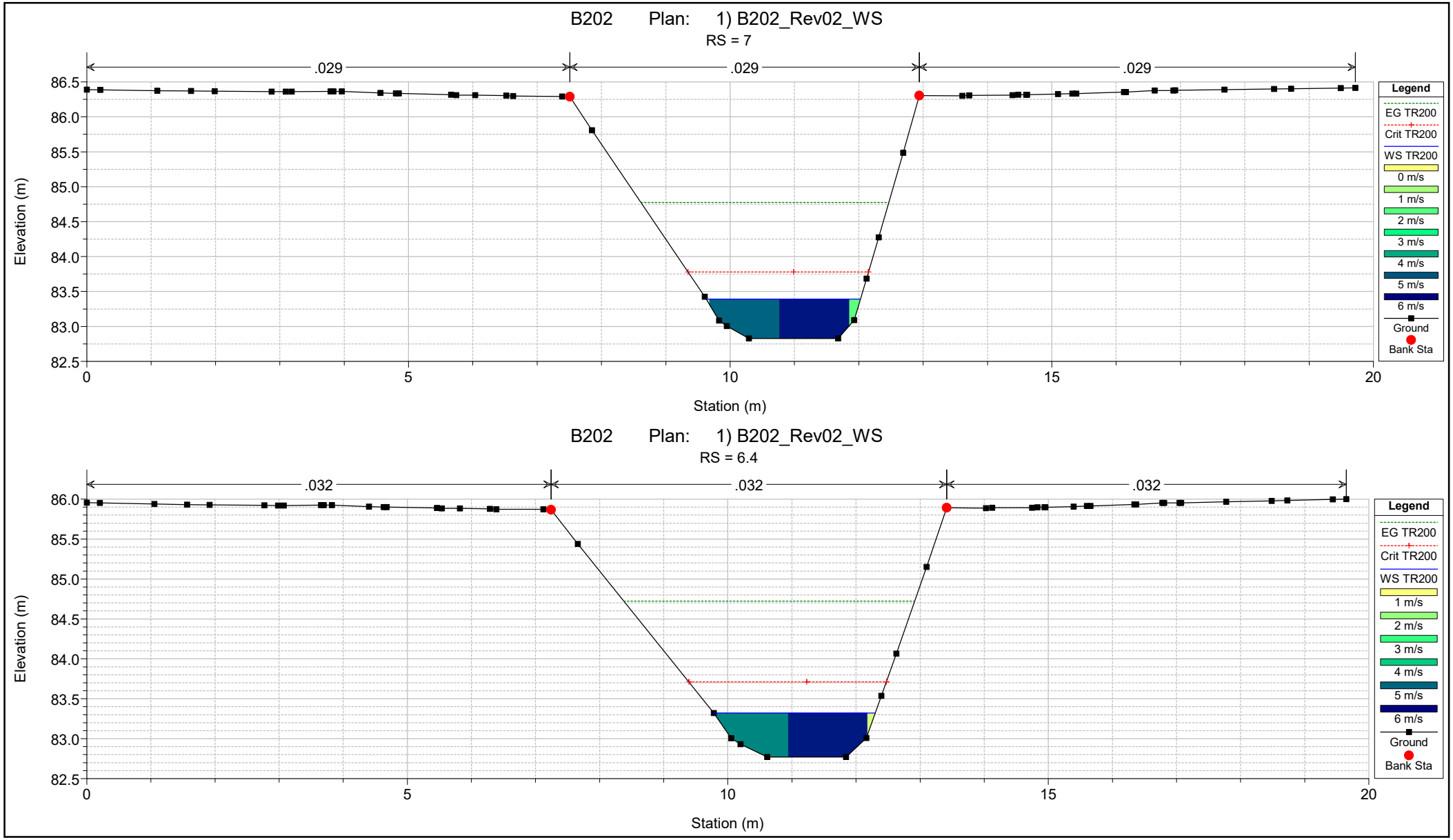

B202 Plan: 1) B202_Rev02_WS
RS = 38 SEZ.6 TM01 VALLE
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
12 m/s
14 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 34 SEZ.7
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4 m/s
5 m/s
6 m/s
7 m/s
8 m/s
Ground
Bank Sta

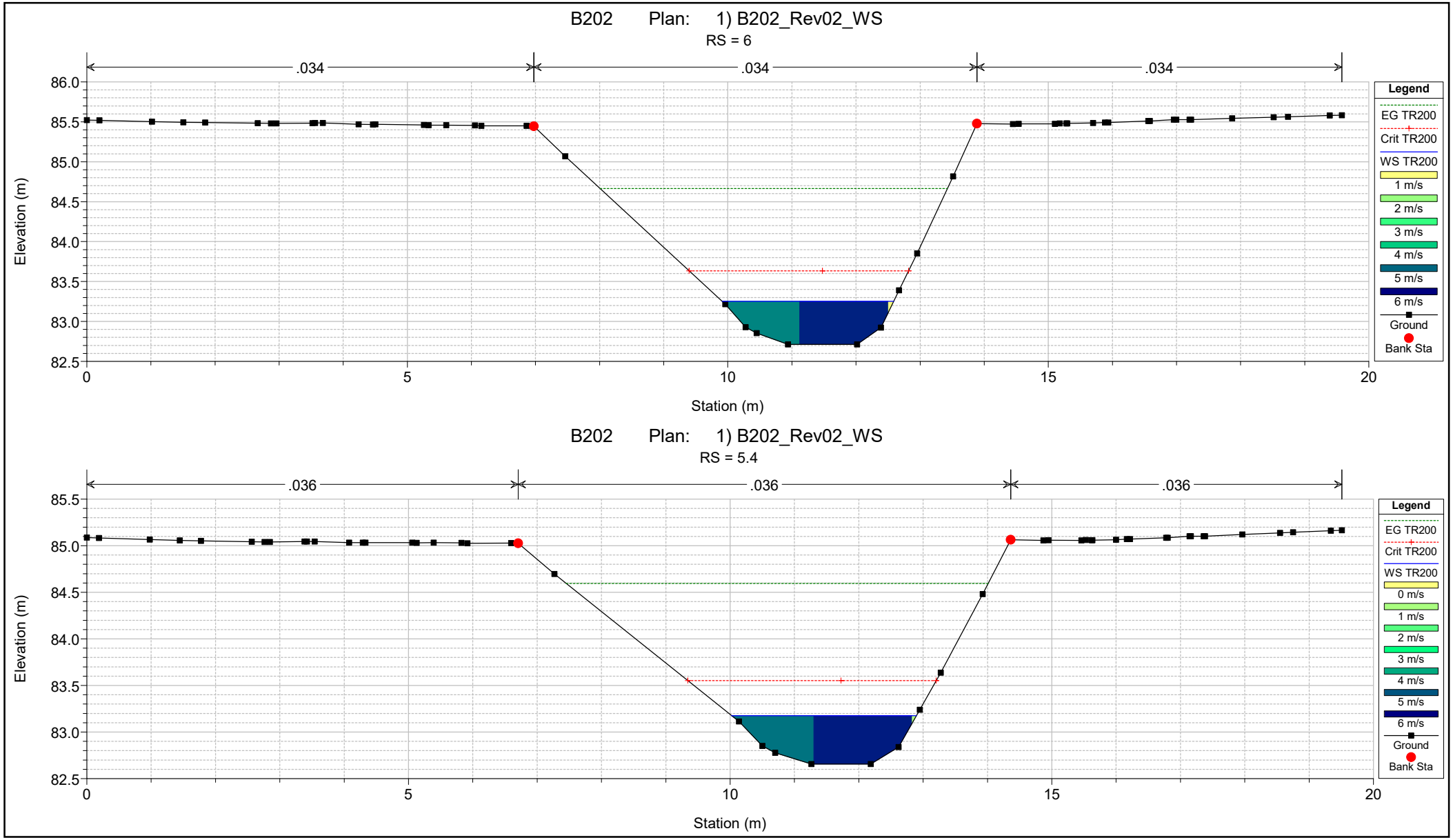

B202 Plan: 1) B202_Rev02_WS
RS = 26 SEZ.8
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 24 SEZ.9
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta

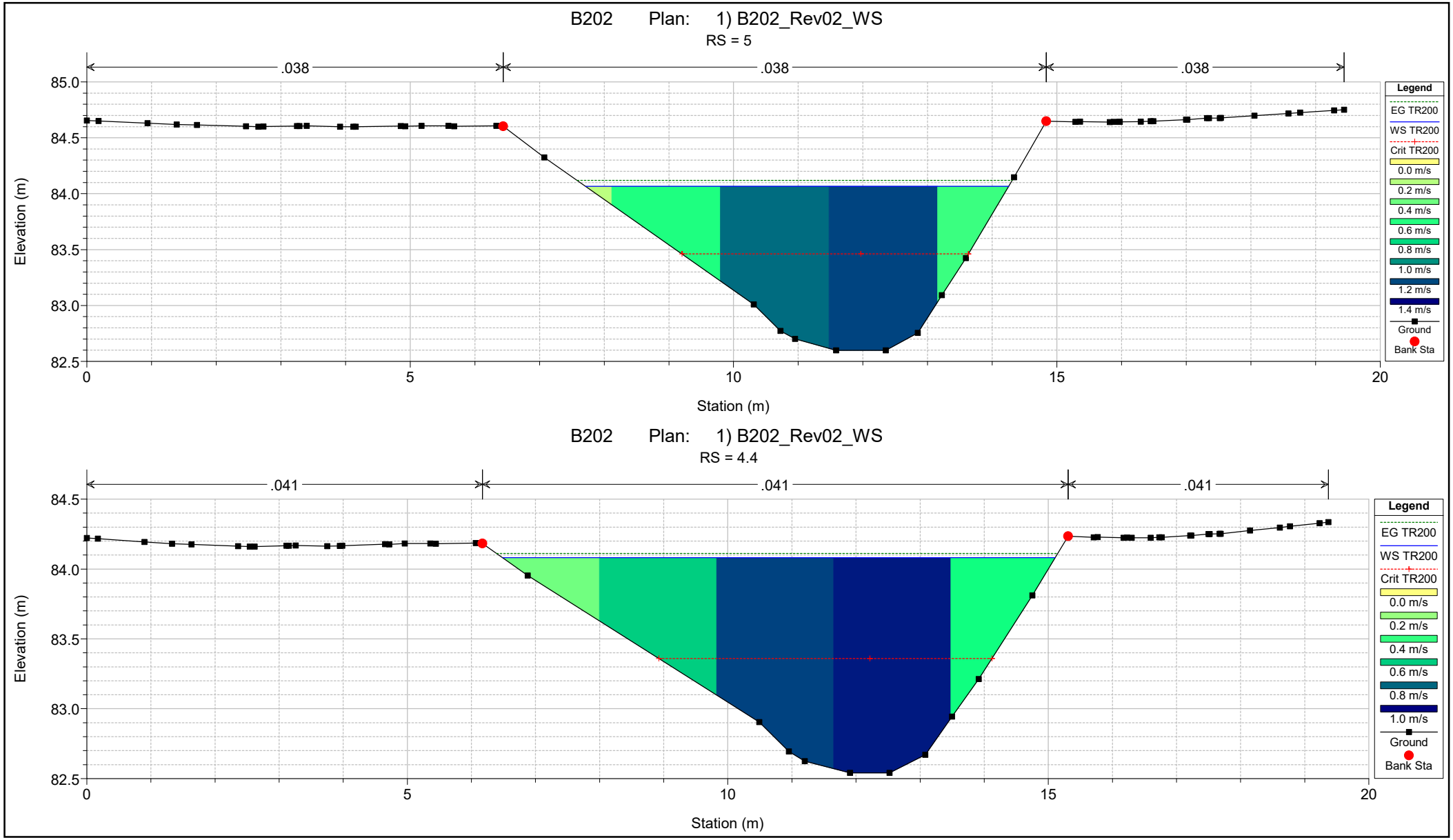

B202 Plan: 1) B202_Rev02_WS
RS = 22 SEZ.10 TM02 MONT
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 20 Culv TM02
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

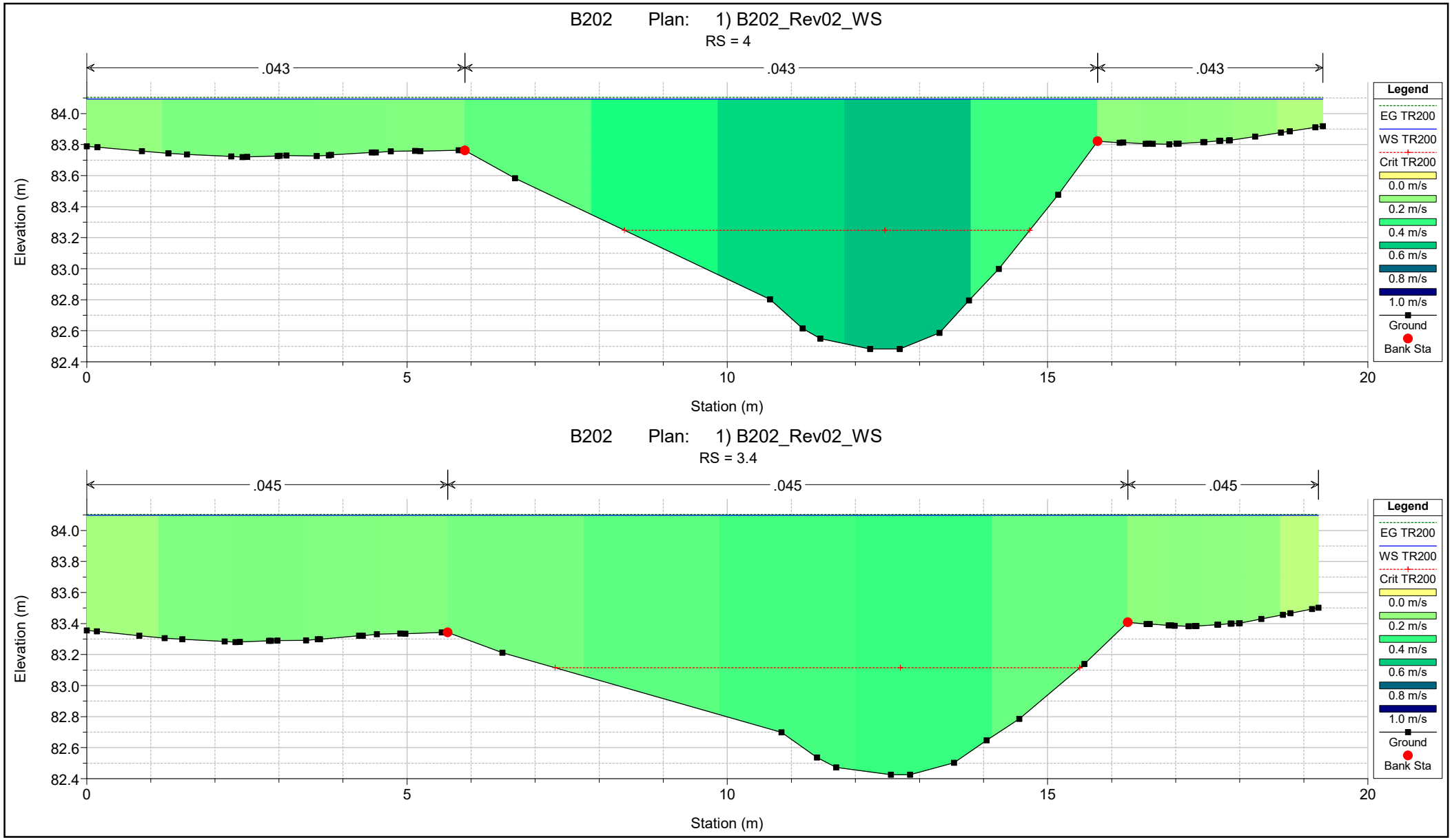

B202 Plan: 1) B202_Rev02_WS
RS = 9 SEZ.11 TM02 VALL
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
-2 m/s
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 8.3
.022
.022
.022
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Bank Sta

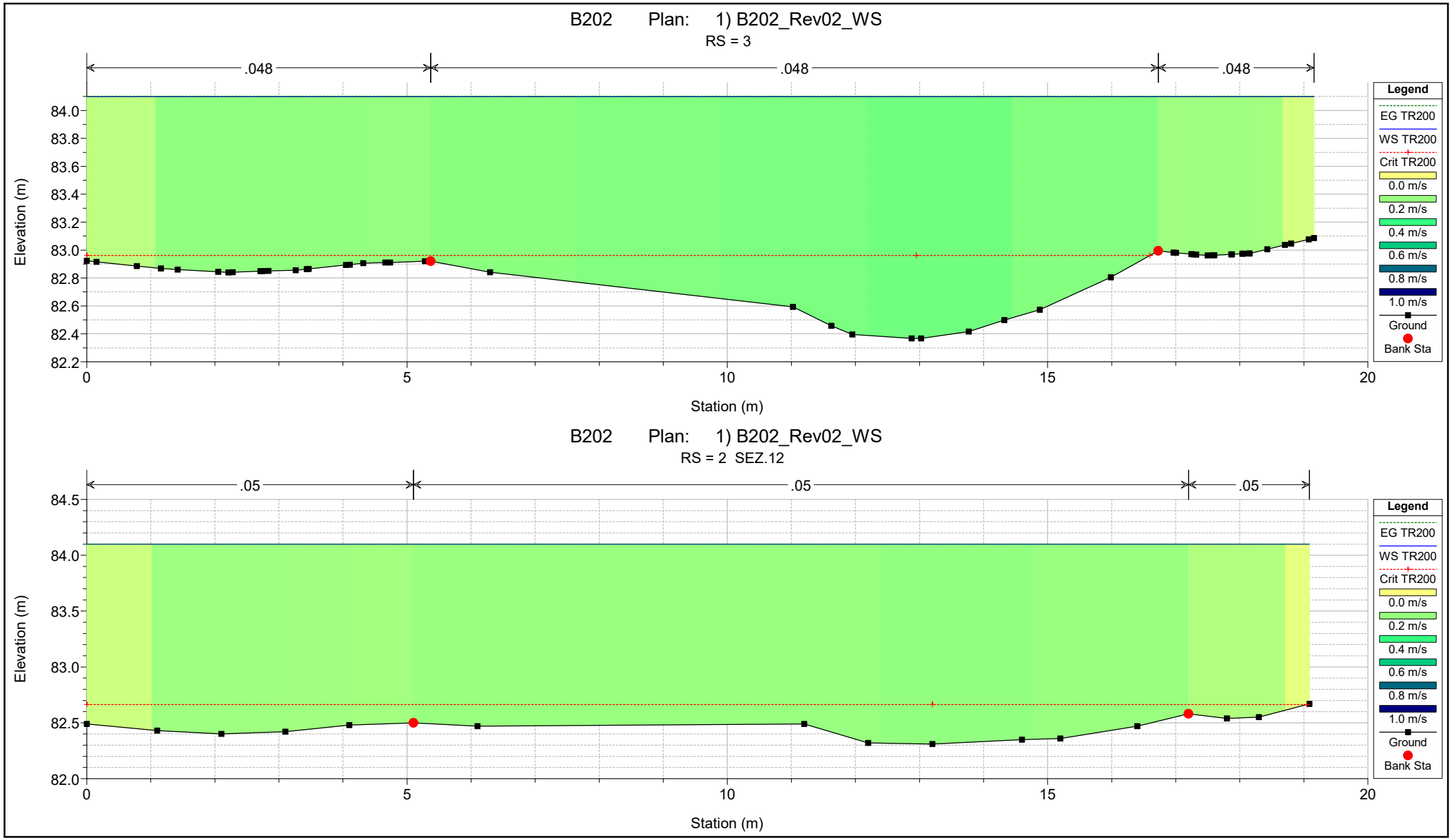

B202 Plan: 1) B202_Rev02_WS
RS = 8
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 7.3
.027
.027
.027
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: 1) B202_Rev02_WS
RS = 7
.029
.029
.029
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 6.4
.032
.032
.032
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: 1) B202_Rev02_WS
RS = 6
.034
.034
.034
Elevation (m)
86.0
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 5.4
.036
.036
.036
Elevation (m)
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: 1) B202_Rev02_WS
RS = 5
.038
.038
.038
Elevation (m)
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 4.4
.041
.041
.041
Elevation (m)
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

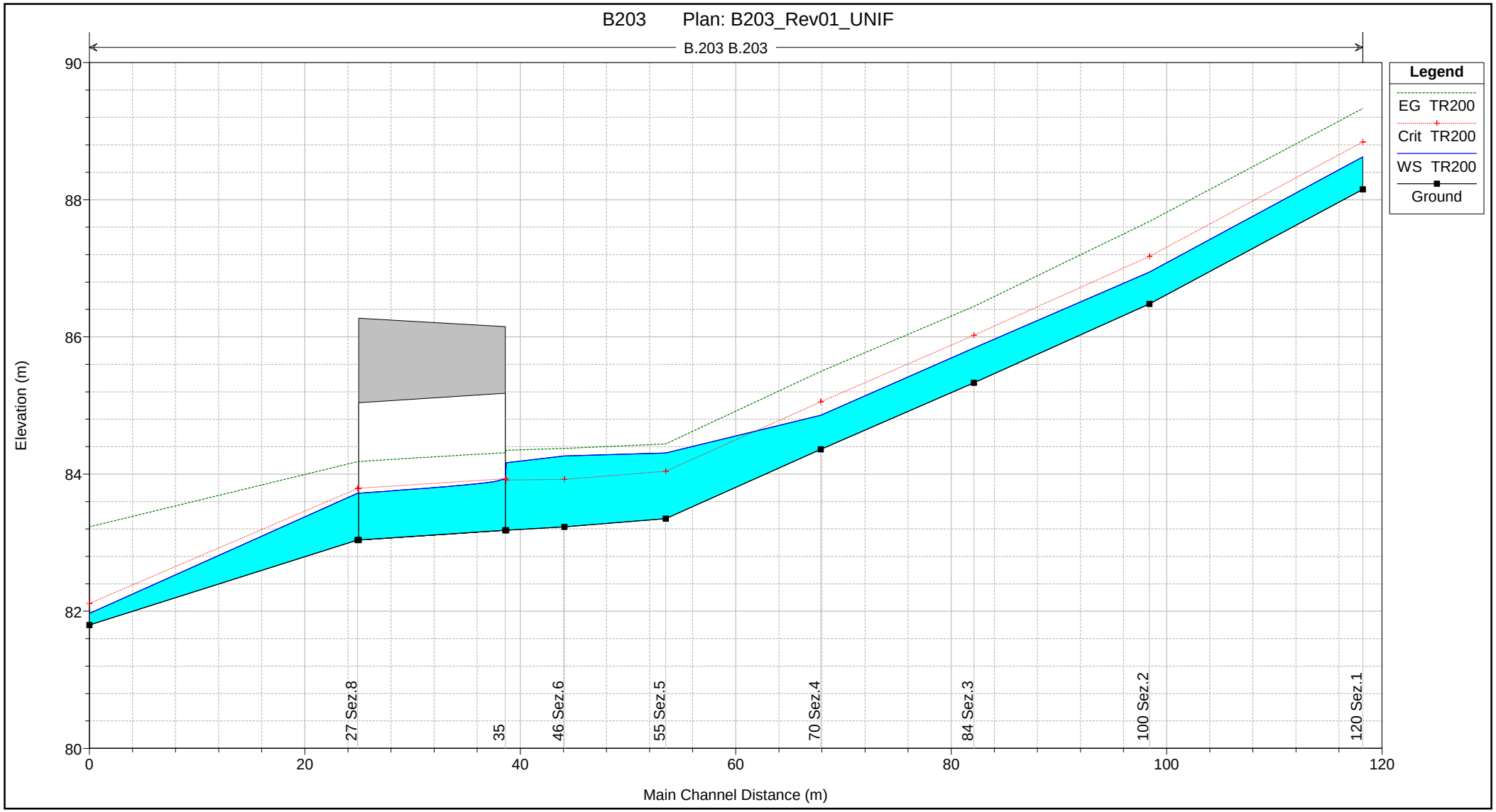

B202 Plan: 1) B202_Rev02_WS
RS = 4
.043
.043
.043
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 3.4
.045
.045
.045
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

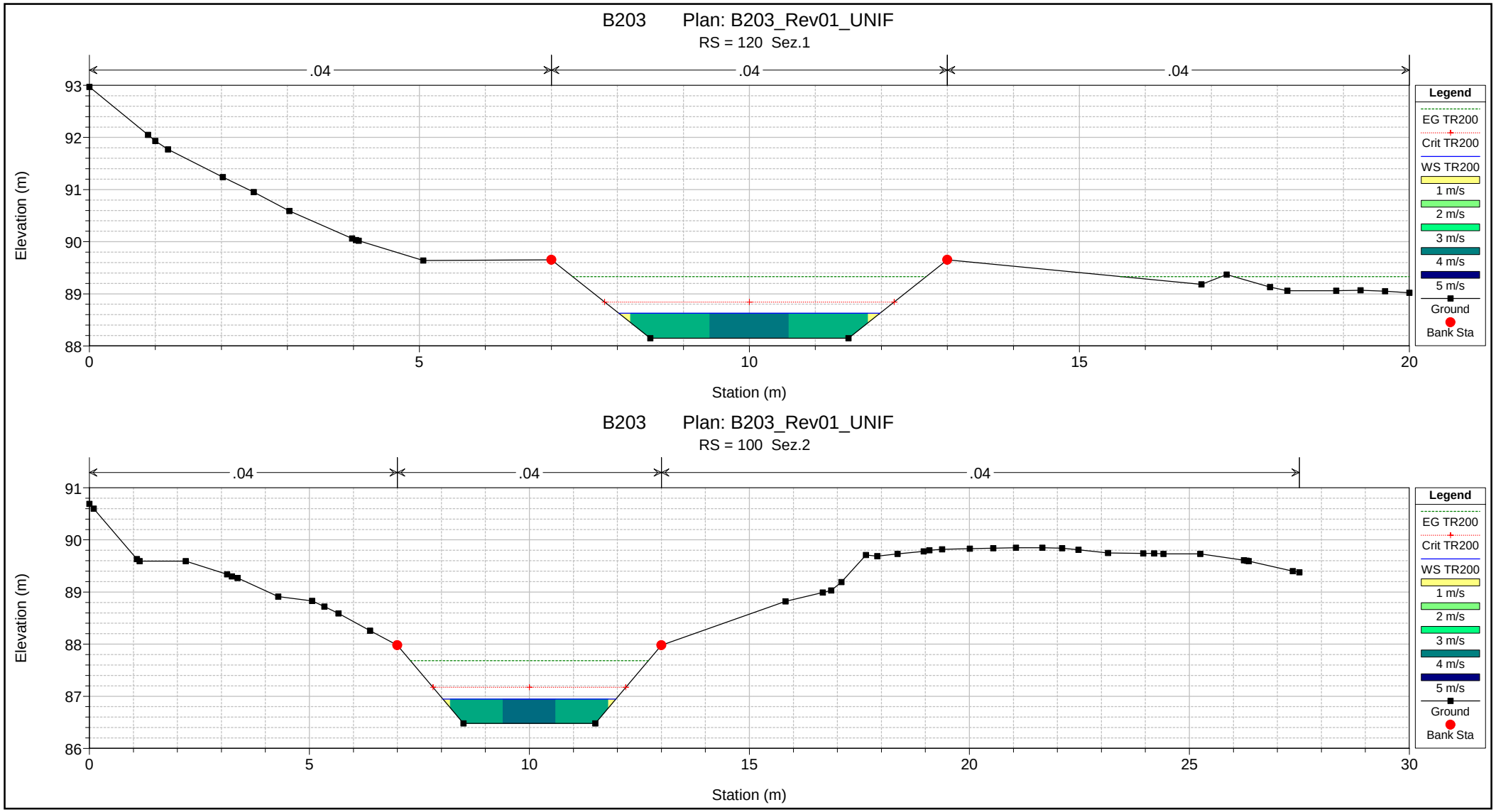

B202 Plan: 1) B202_Rev02_WS
RS = 3
.048
.048
.048
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
82.2
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_WS
RS = 2 SEZ.12
.05
.05
.05
Elevation (m)
84.5
84.0
83.5
83.0
82.5
82.0
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

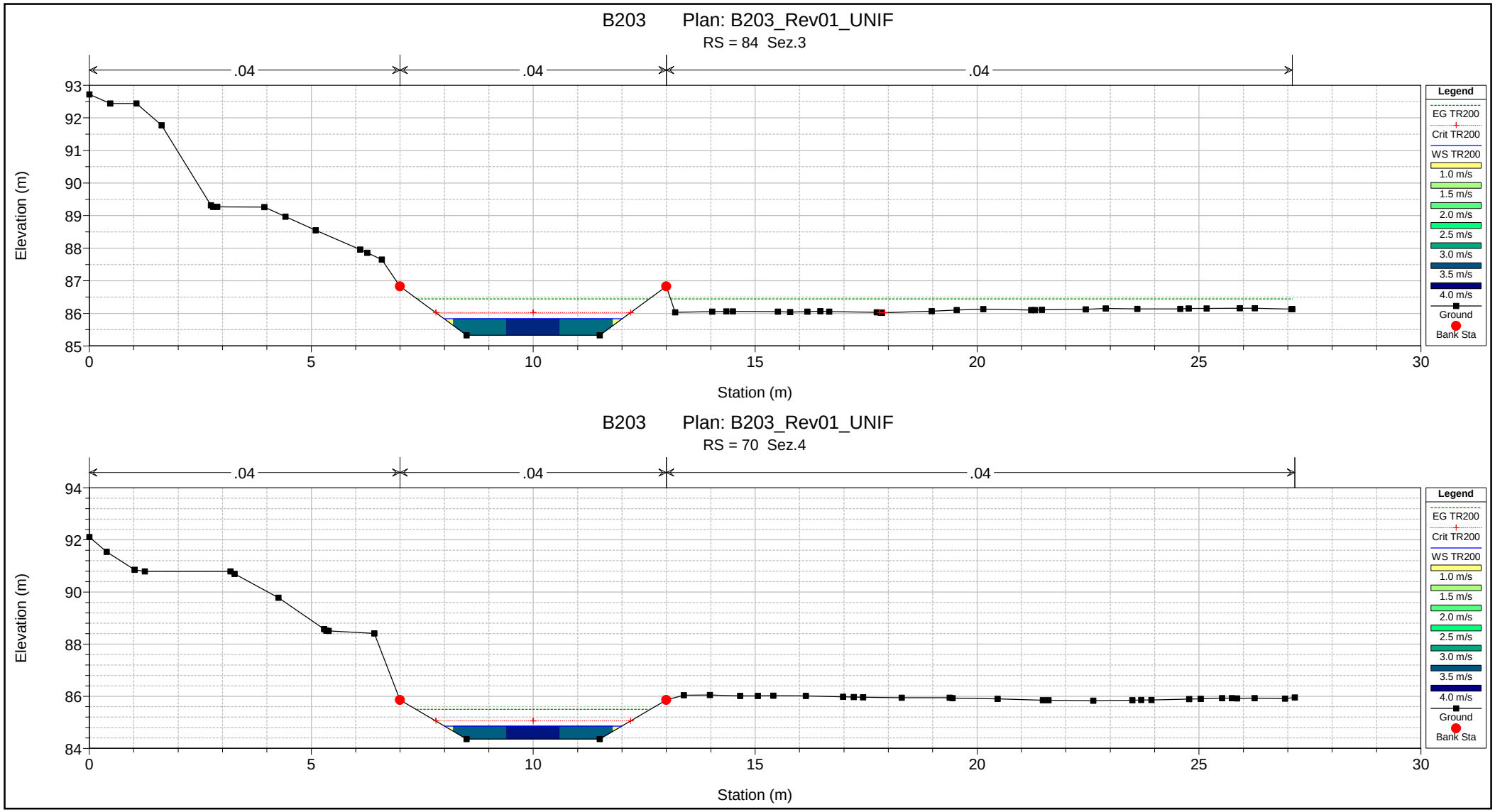
2.6 Bacino B203 – TM03 Scenario senza rigurgito

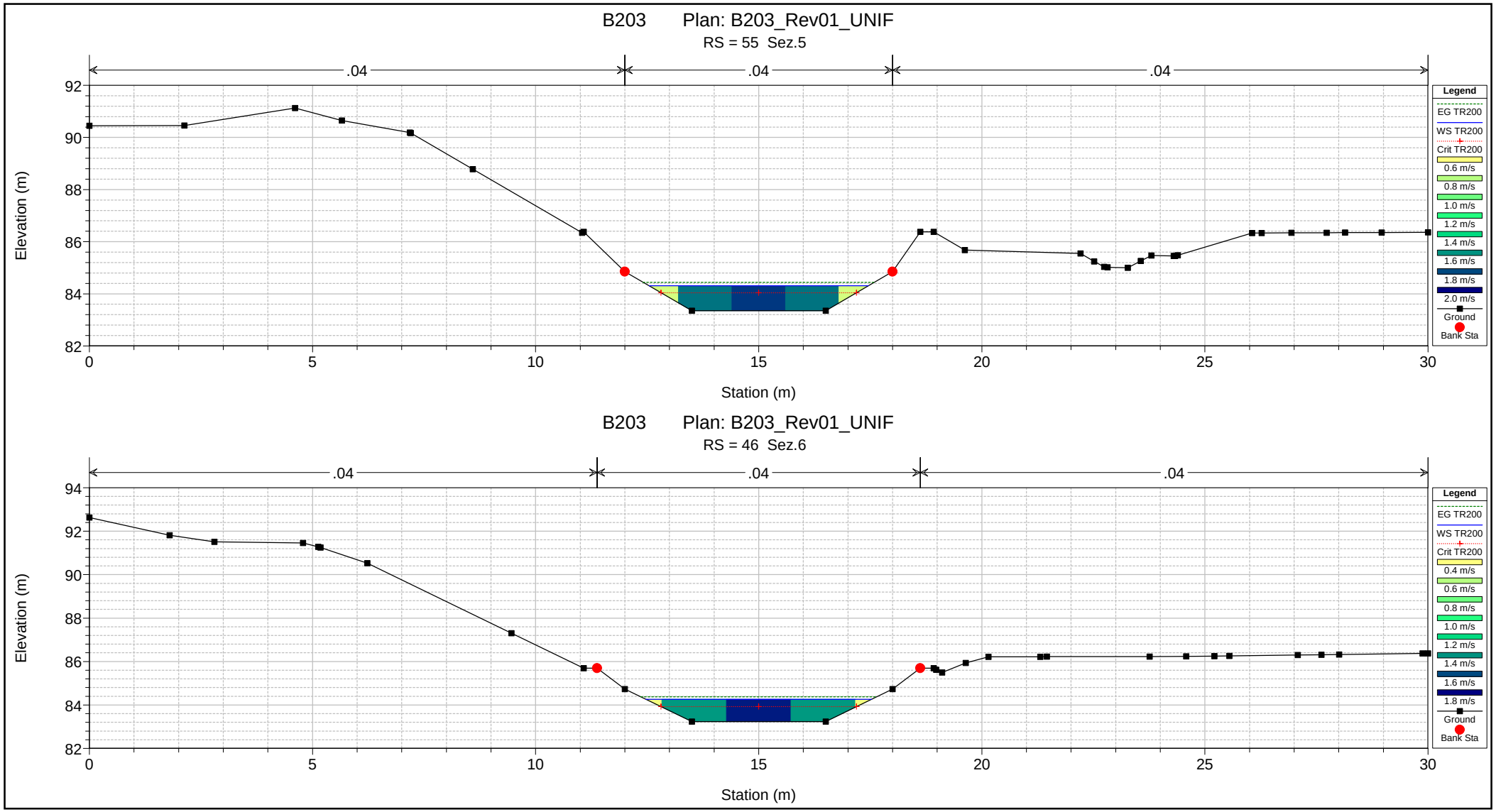
HEC-RAS Plan: B203_Rev01_UNIF River: B.203 Reach: B.203 Profile: TR200

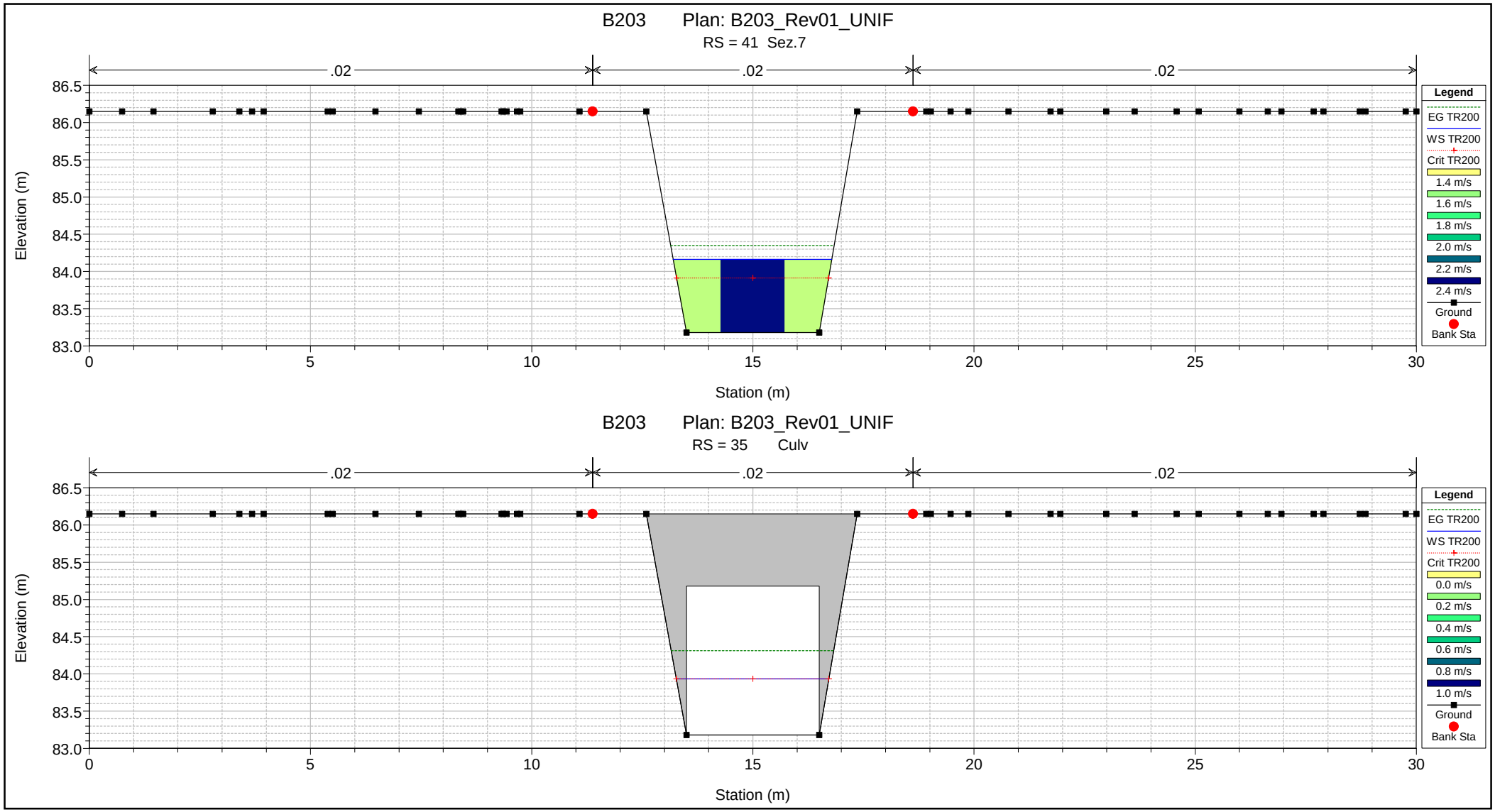
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B.203	120 Sez.1	TR200	6.15	88.15	0.48	88.63	88.84	-0.21	1.83	89.33	3.72	3.72	0.38	298.84	0.42
B.203	100 Sez.2	TR200	6.15	86.48	0.47	86.95	87.17	-0.22	1.90	87.68	3.81	3.81	0.37	315.38	0.41
B.203	84 Sez.3	TR200	6.15	85.33	0.51	85.84	86.02	-0.18	1.65	86.44	3.45	3.45	0.40	252.38	0.44
B.203	70 Sez.4	TR200	6.15	84.36	0.50	84.86	85.05	-0.19	1.71	85.50	3.54	3.54	0.39	267.88	0.44
B.203	55 Sez.5	TR200	6.15	83.35	0.96	84.31	84.04	0.27	0.59	84.44	1.62	1.62	0.66	47.48	0.77
B.203	46 Sez.6	TR200	6.15	83.23	1.03	84.26	83.92	0.34	0.52	84.37	1.47	1.47	0.70	38.37	0.82
B.203	41 Sez.7	TR200	6.15	83.18	0.98	84.16	83.91	0.25	0.64	84.35	1.90	1.90	0.64	16.40	0.90
B.203	35		Culvert												
B.203	27 Sez.8	TR200	6.15	83.04	0.68	83.72	83.79	-0.07	1.17	84.18	3.01	3.01	0.47	45.64	0.68
B.203	2 Sez.9	TR200	6.15	81.80	0.17	81.97	82.11	-0.14	6.23	83.23	4.98	4.98	0.06	1512.49	0.07

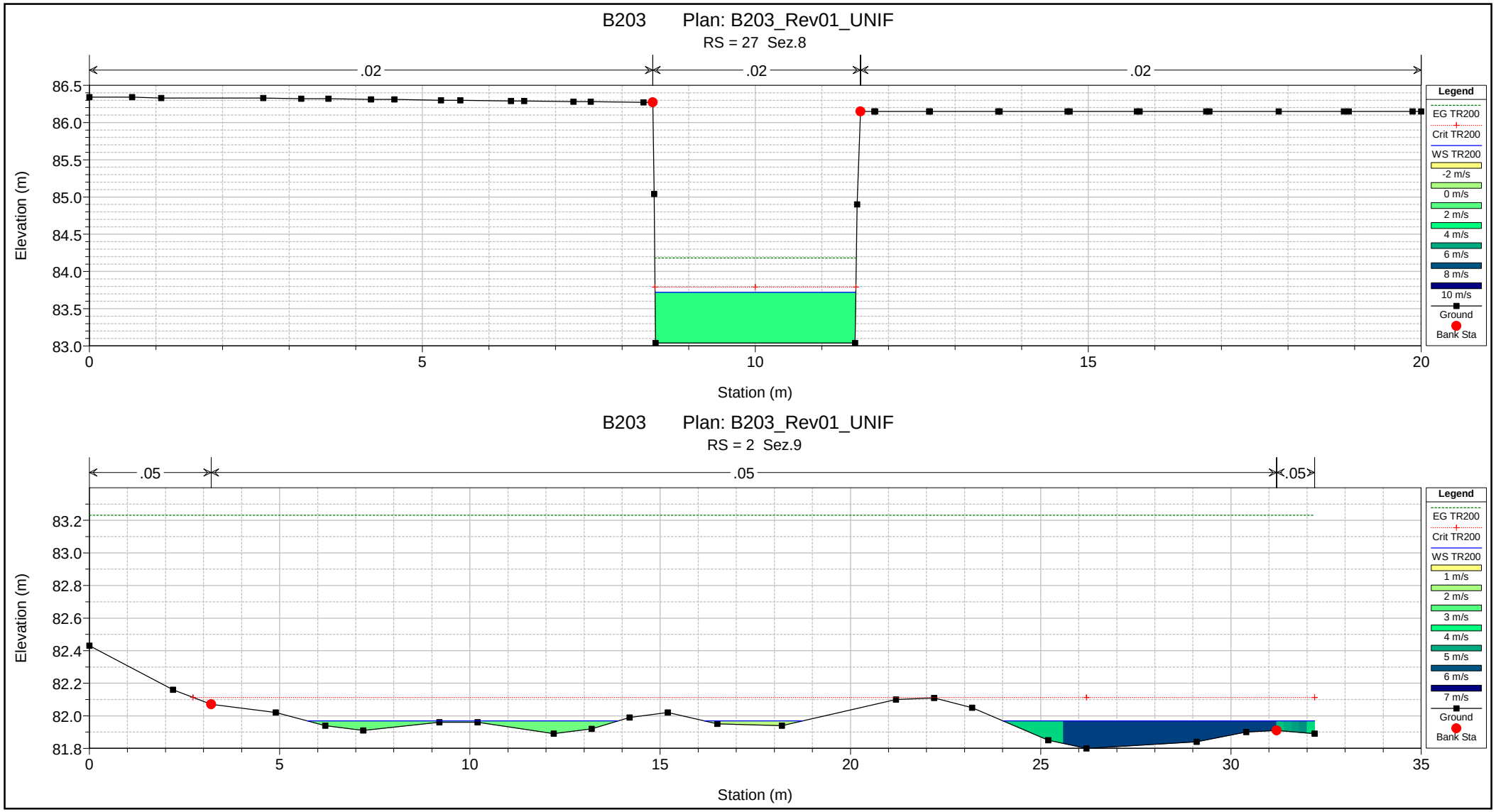

B203 Plan: B203_Rev01_UNIF
B.203 B.203
Legend
EG TR200
Crit TR200
WS TR200
Ground
Elevation (m)
Main Channel Distance (m)
90
88
86
84
82
80
0
20
40
60
80
100
120
27 Sez.8
35
46 Sez.6
55 Sez.5
70 Sez.4
84 Sez.3
100 Sez.2
120 Sez.1


B203 Plan: B203_Rev01_UNIF
RS = 120 Sez.1
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_UNIF
RS = 100 Sez.2
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta


B203 Plan: B203_Rev01_UNIF
RS = 84 Sez.3
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_UNIF
RS = 70 Sez.4
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta


B203 Plan: B203_Rev01_UNIF
RS = 55 Sez.5
.04
.04
.04
Elevation (m)
92
90
88
86
84
82
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_UNIF
RS = 46 Sez.6
.04
.04
.04
Elevation (m)
94
92
90
88
86
84
82
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
Ground
Bank Sta

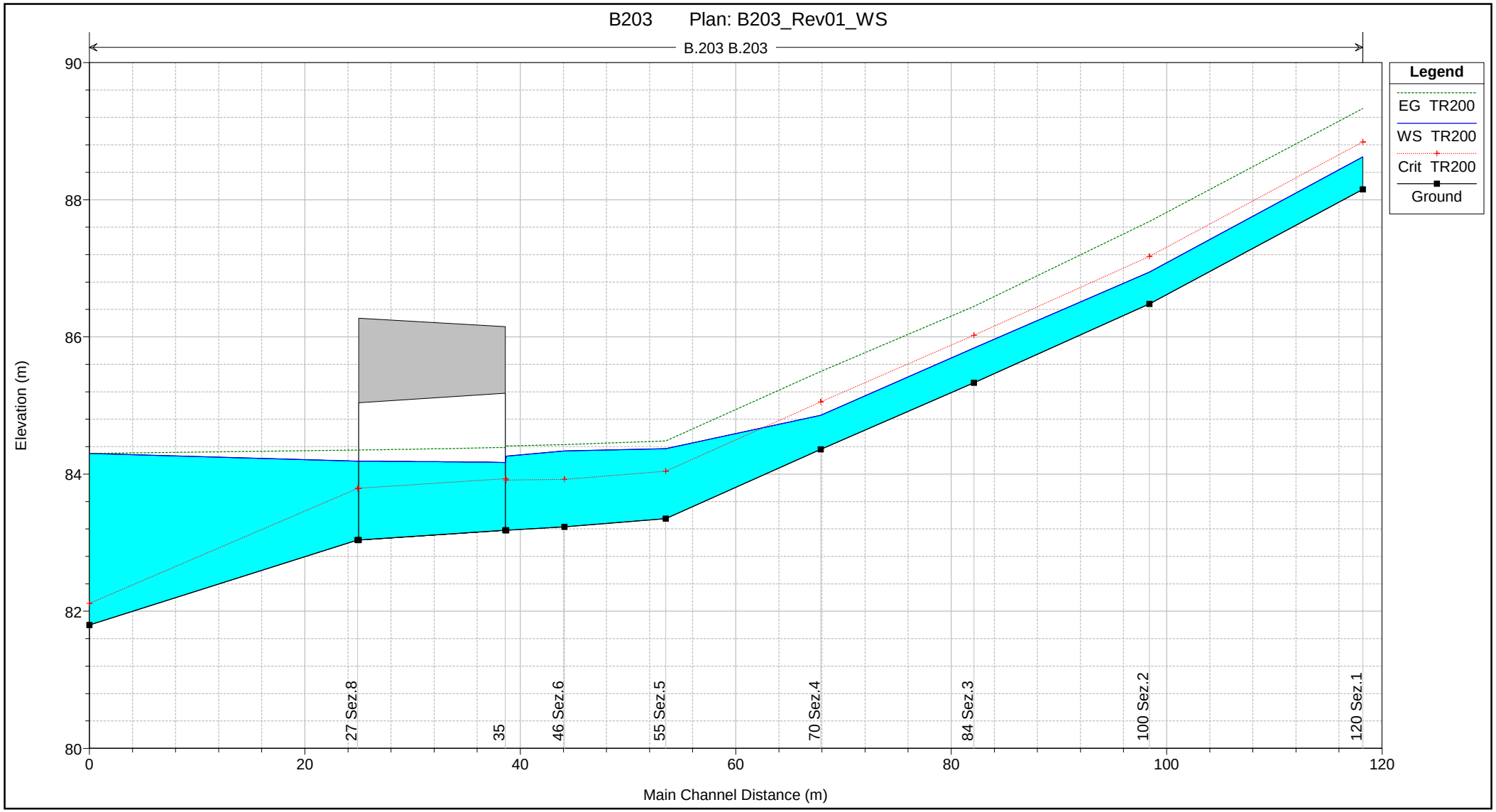

B203 Plan: B203_Rev01_UNIF
RS = 41 Sez.7
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_UNIF
RS = 35 Culv
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

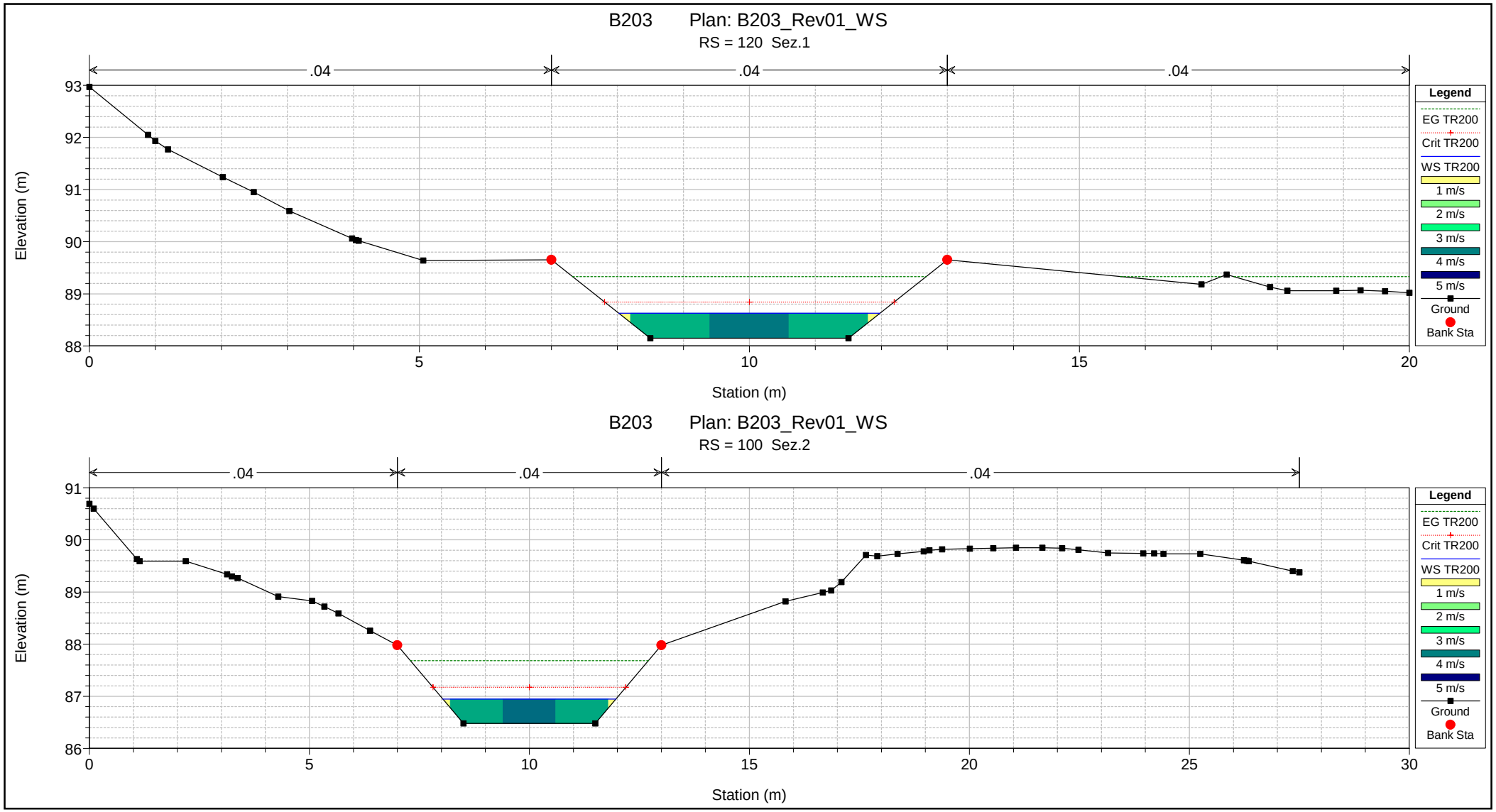

B203 Plan: B203_Rev01_UNIF
RS = 27 Sez.8
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
-2 m/s
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_UNIF
RS = 2 Sez.9
.05
.05
.05
Elevation (m)
83.2
83.0
82.8
82.6
82.4
82.2
82.0
81.8
0
5
10
15
20
25
30
35
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta

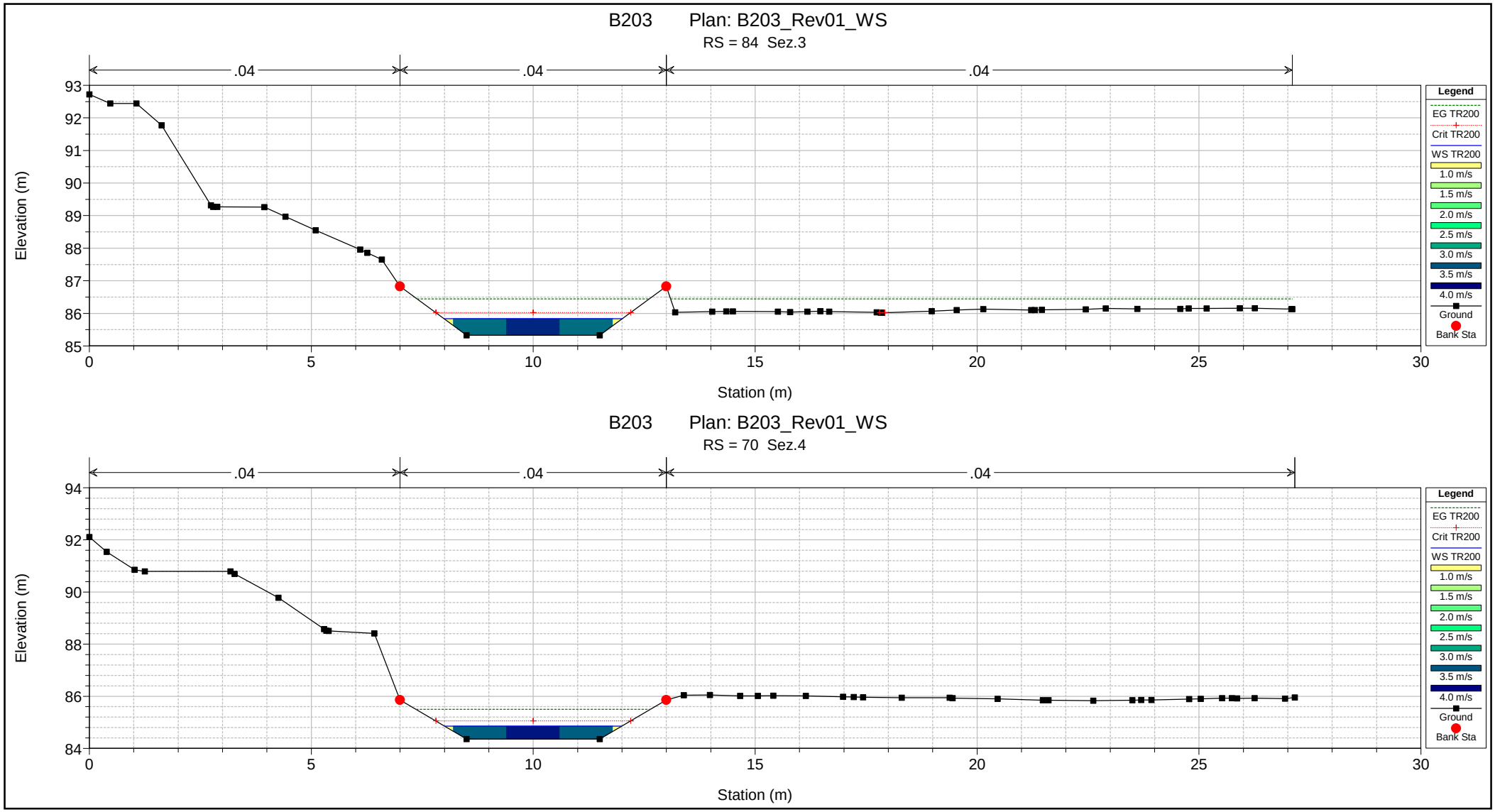
2.7 Bacino B203 – TM03 Scenario con rigurgito

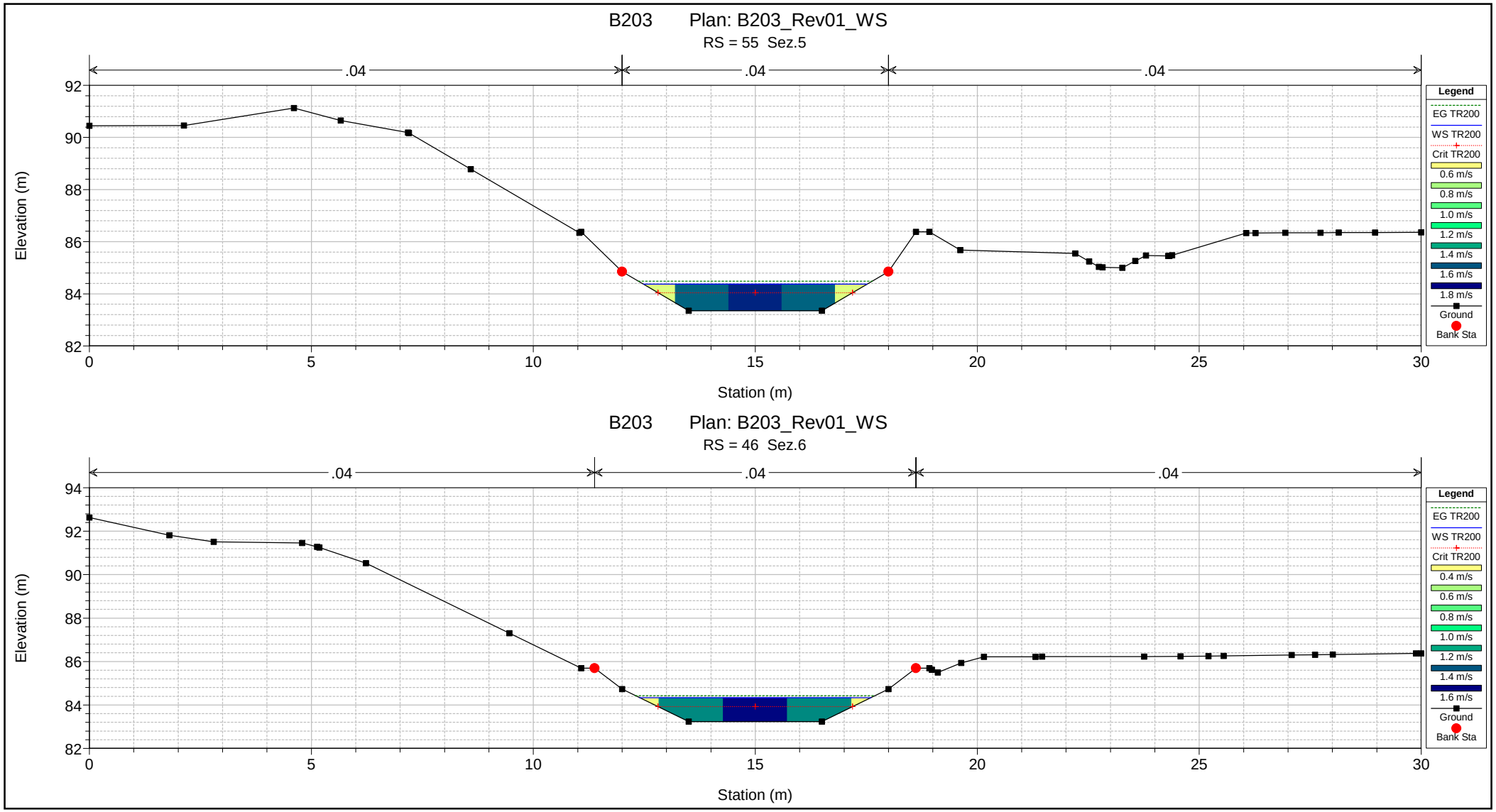
HEC-RAS Plan: B203_Rev01_WS River: B.203 Reach: B.203 Profile: TR200

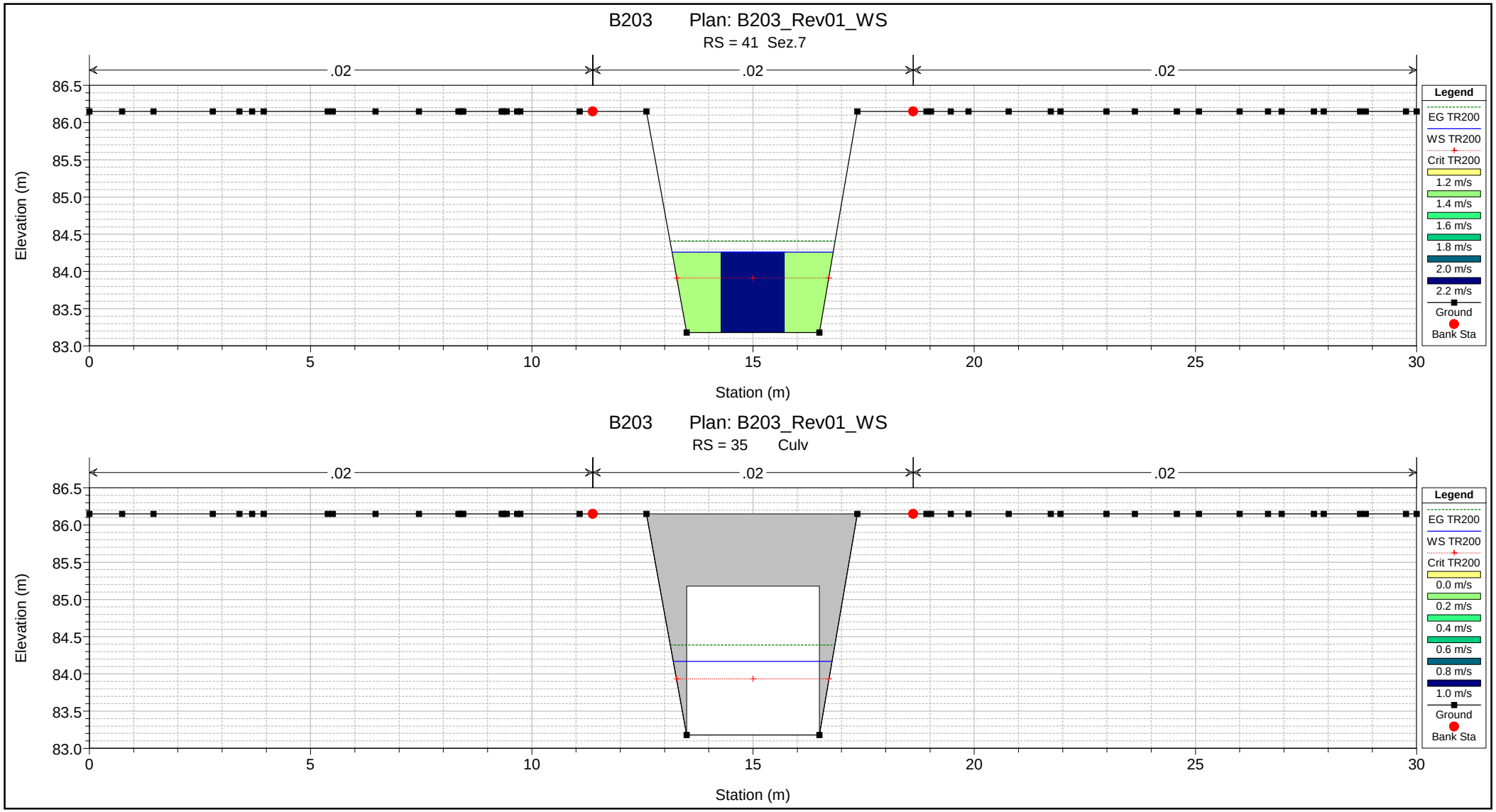
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B.203	120 Sez.1	TR200	6.15	88.15	0.48	88.63	88.84	-0.21	1.83	89.33	3.72	3.72	0.38	298.84	0.42
B.203	100 Sez.2	TR200	6.15	86.48	0.47	86.95	87.17	-0.22	1.90	87.68	3.81	3.81	0.37	315.38	0.41
B.203	84 Sez.3	TR200	6.15	85.33	0.51	85.84	86.02	-0.18	1.65	86.44	3.45	3.45	0.40	252.38	0.44
B.203	70 Sez.4	TR200	6.15	84.36	0.50	84.86	85.05	-0.19	1.71	85.50	3.54	3.54	0.39	267.88	0.44
B.203	55 Sez.5	TR200	6.15	83.35	1.02	84.37	84.04	0.33	0.53	84.48	1.50	1.50	0.70	39.84	0.81
B.203	46 Sez.6	TR200	6.15	83.23	1.11	84.34	83.92	0.42	0.46	84.43	1.35	1.35	0.74	31.65	0.87
B.203	41 Sez.7	TR200	6.15	83.18	1.08	84.26	83.91	0.35	0.55	84.41	1.71	1.71	0.68	13.08	0.98
B.203	35		Culvert												
B.203	27 Sez.8	TR200	6.15	83.04	1.15	84.19	83.79	0.40	0.53	84.35	1.78	1.78	0.65	14.26	1.14
B.203	2 Sez.9	TR200	6.15	81.80	2.50	84.30	82.11	2.19	0.02	84.30	0.09	0.08	2.05	0.14	2.32

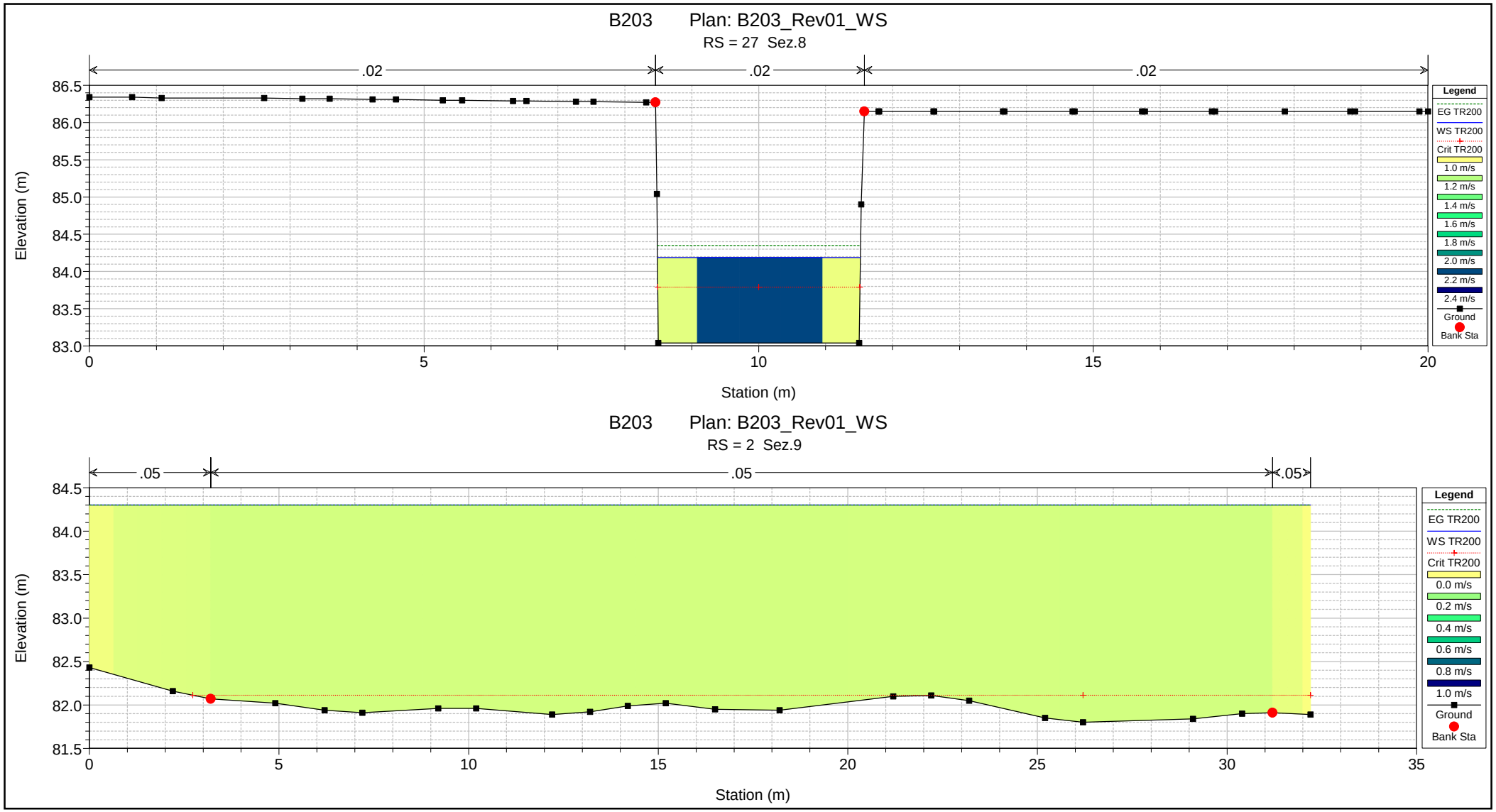

B203 Plan: B203_Rev01_WS
B.203 B.203
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
90
88
86
84
82
80
0
20
40
60
80
100
120
27 Sez.8
35
46 Sez.6
55 Sez.5
70 Sez.4
84 Sez.3
100 Sez.2
120 Sez.1


B203 Plan: B203_Rev01_WS
RS = 120 Sez.1
.04
.04
.04
Elevation (m)
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_WS
RS = 100 Sez.2
.04
.04
.04
Elevation (m)
91
90
89
88
87
86
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta


B203 Plan: B203_Rev01_WS
RS = 84 Sez.3
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_WS
RS = 70 Sez.4
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta


B203 Plan: B203_Rev01_WS
RS = 55 Sez.5
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_WS
RS = 46 Sez.6
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
Ground
Bank Sta

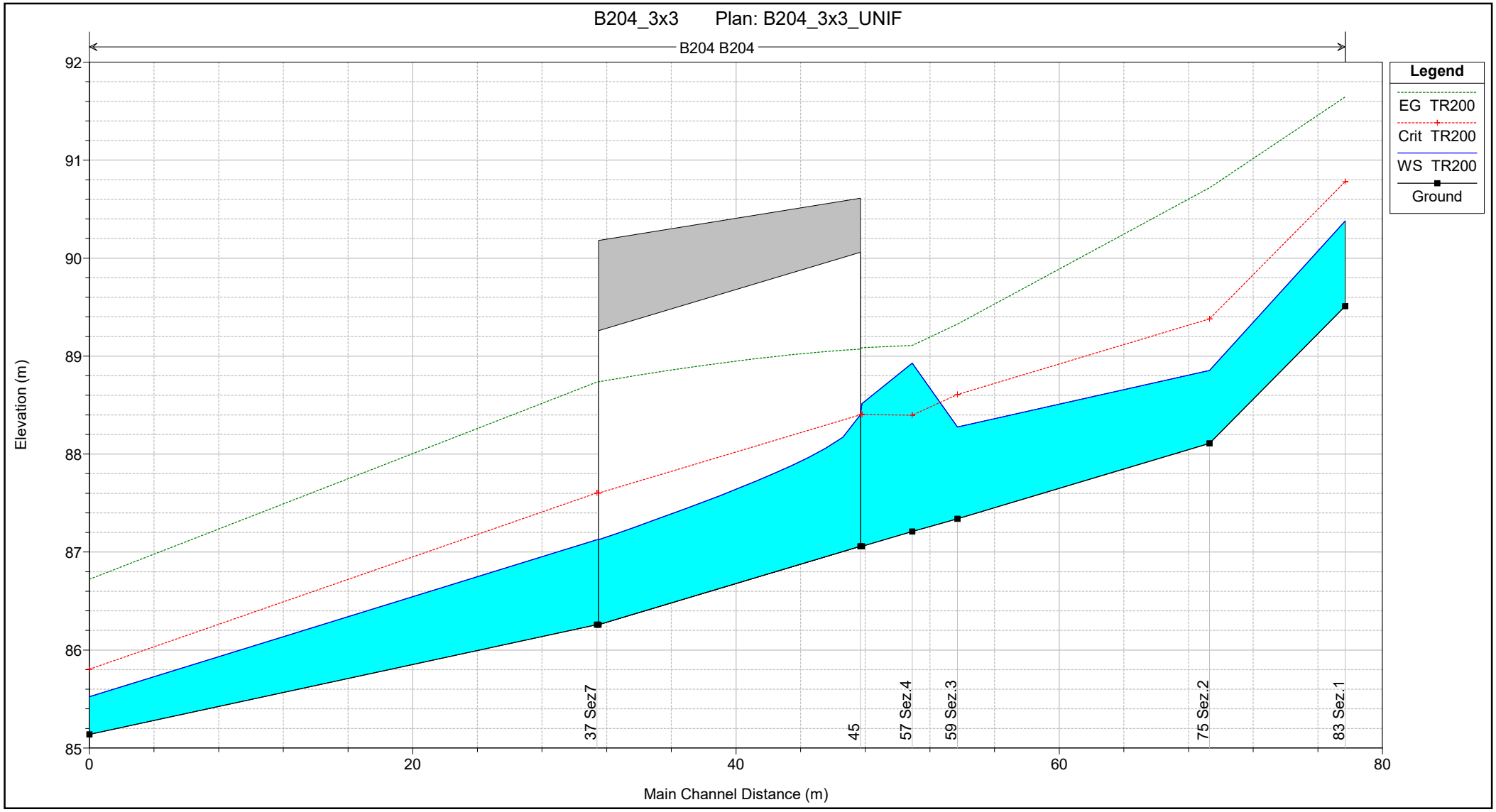

B203 Plan: B203_Rev01_WS
RS = 41 Sez.7
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_WS
RS = 35 Culv
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

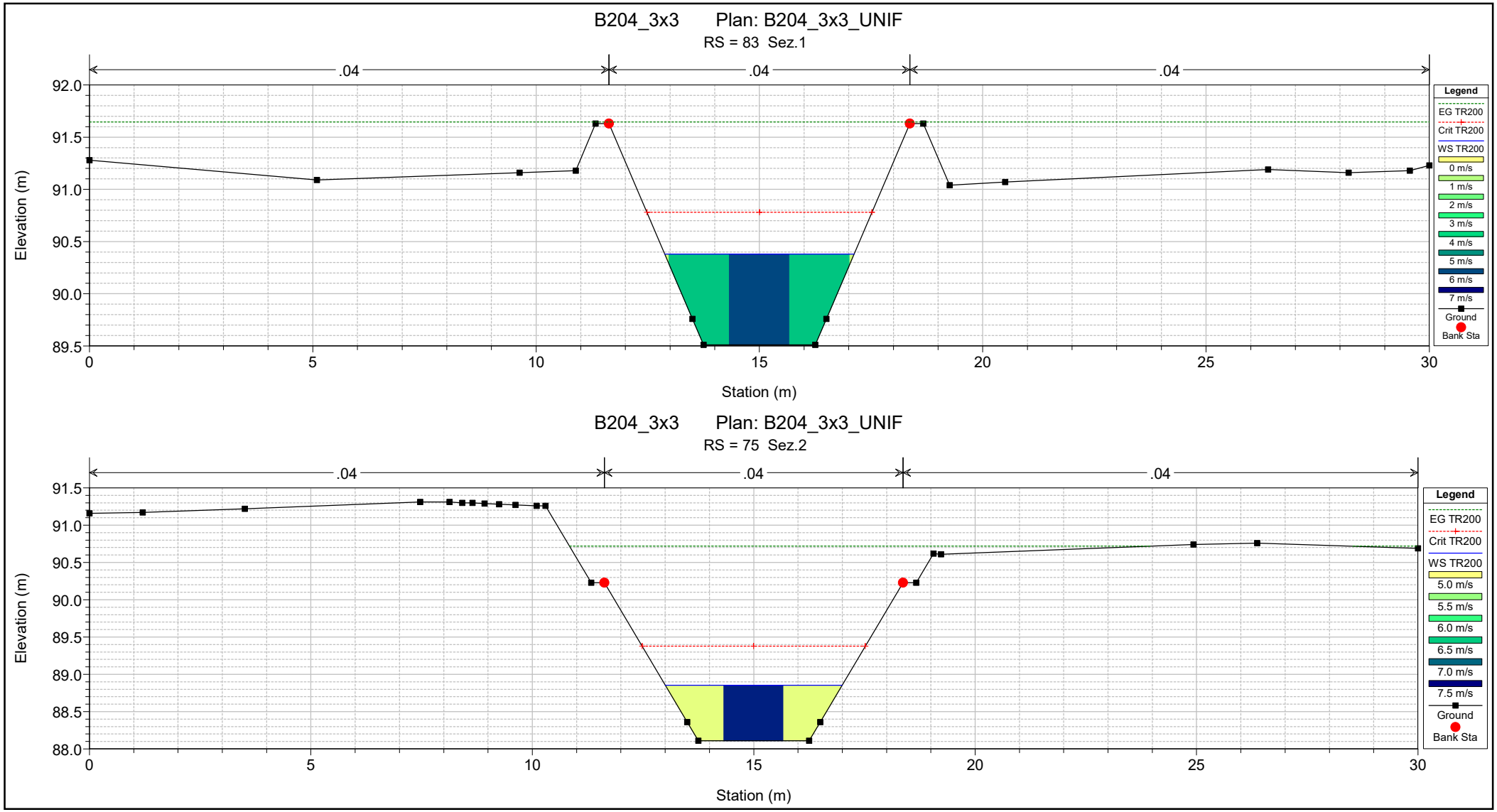

B203 Plan: B203_Rev01_WS
RS = 27 Sez.8
.02
.02
.02
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
Ground
Bank Sta
B203 Plan: B203_Rev01_WS
RS = 2 Sez.9
.05
.05
.05
Elevation (m)
84.5
84.0
83.5
83.0
82.5
82.0
81.5
0
5
10
15
20
25
30
35
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

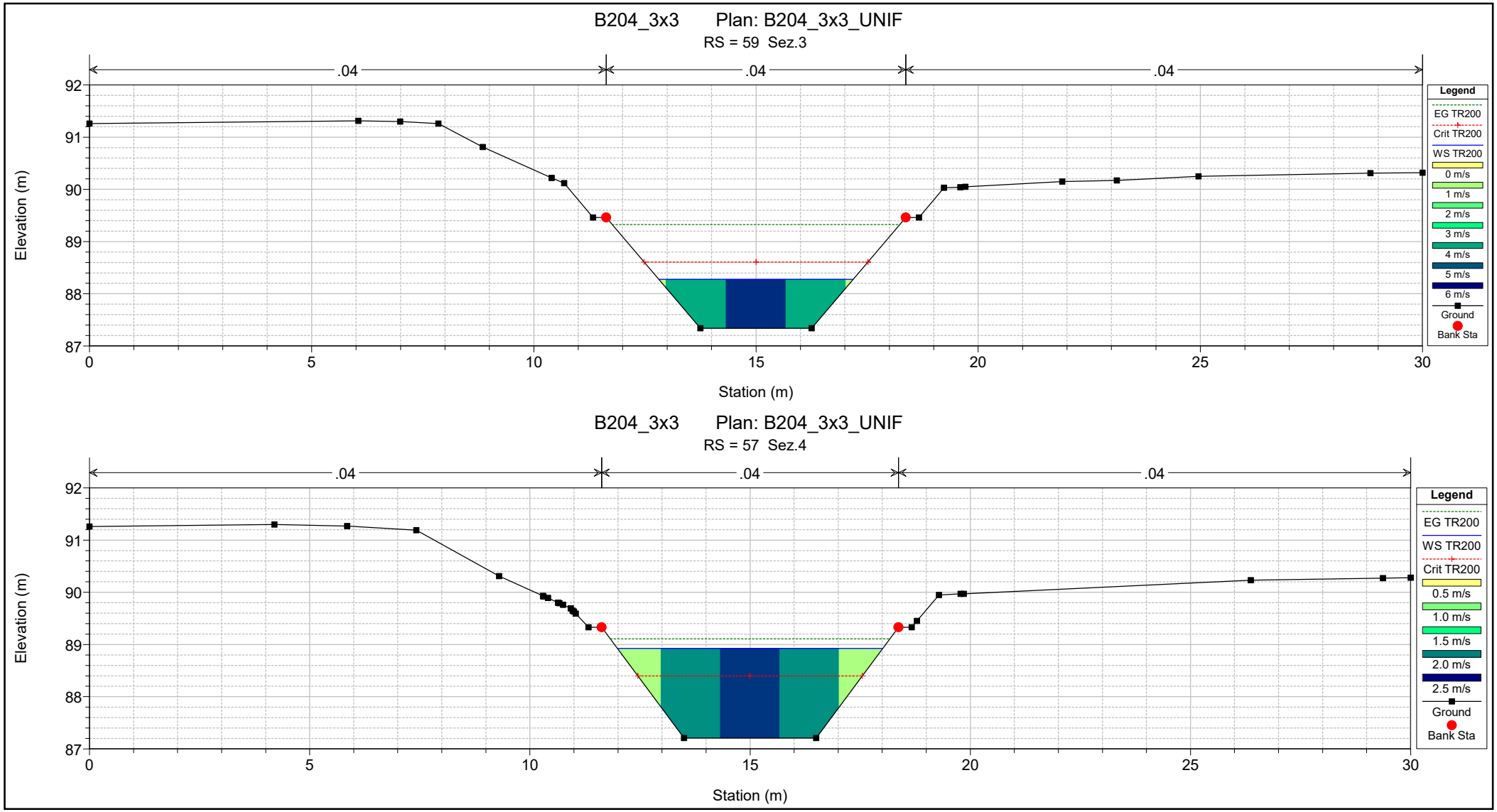
2.8 Bacino B204 – TM04 Scenario senza rigurgito

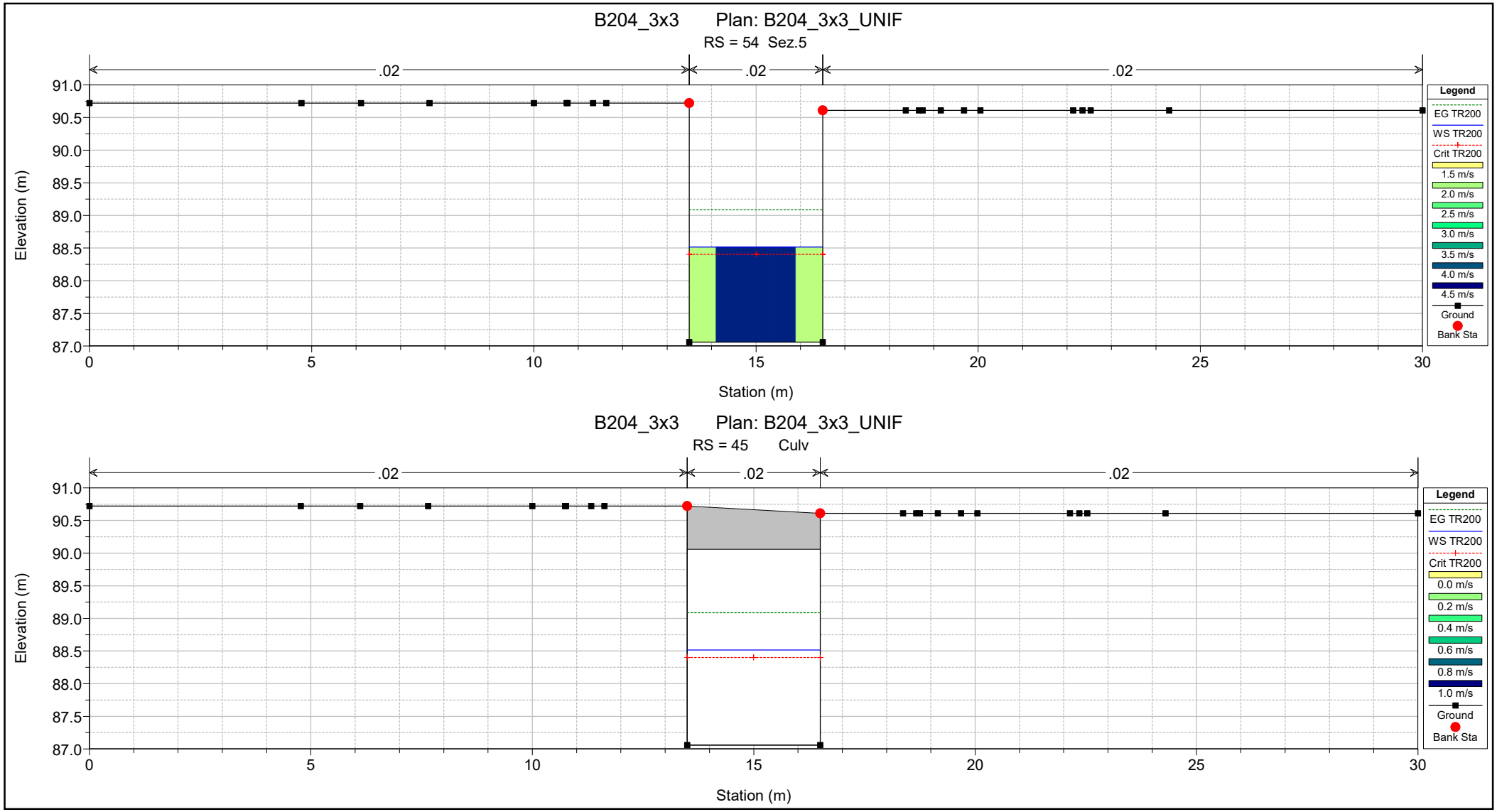
HEC-RAS Plan: B204_3x3_UNIF River: B204 Reach: B204 Profile: TR200

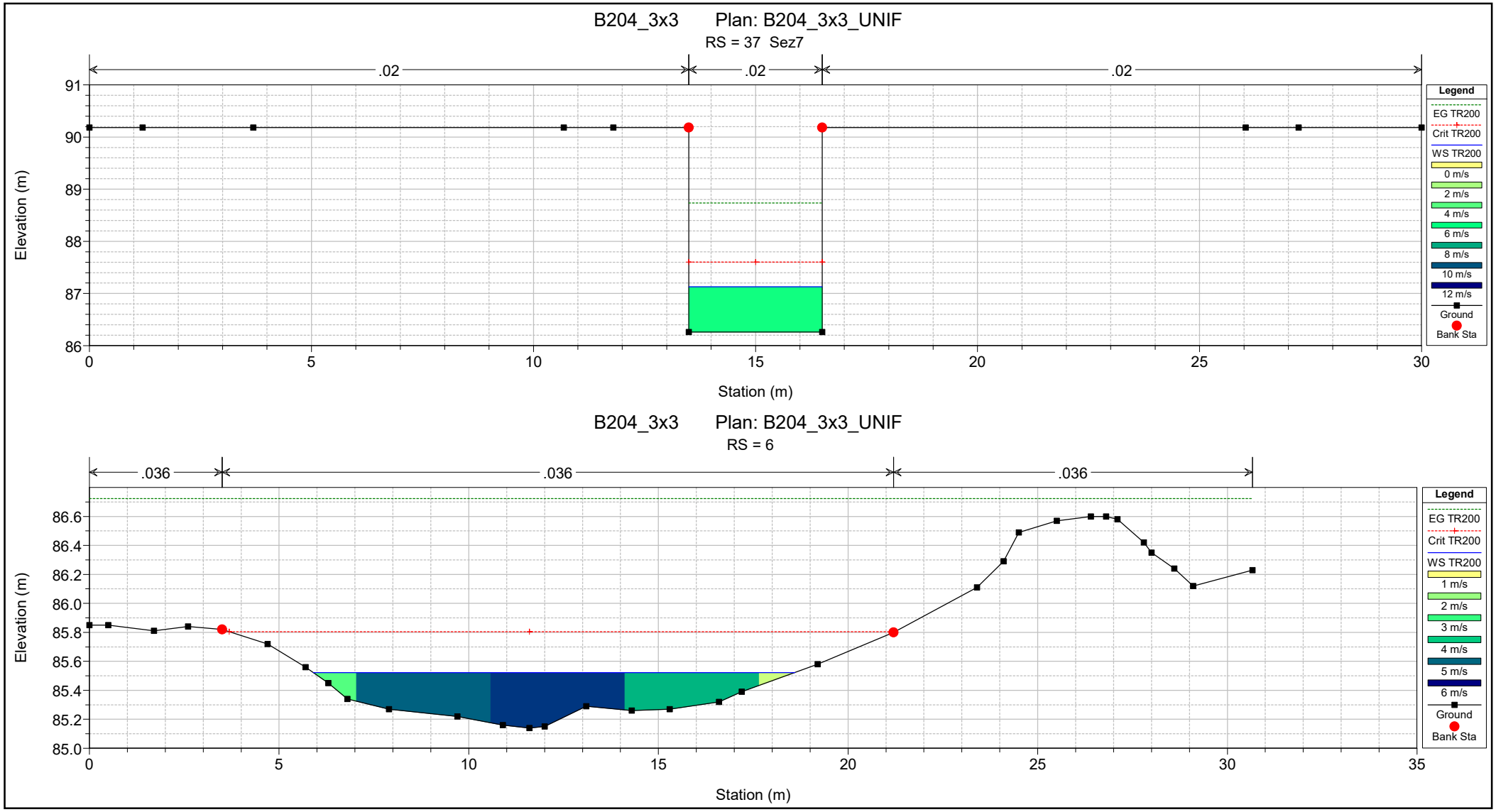
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B204	83 Sez.1	TR200	14.60	89.51	0.87	90.38	90.78	-0.40	1.91	91.64	4.98	4.98	0.59	463.96	0.69
B204	75 Sez.2	TR200	14.60	88.11	0.74	88.85	89.38	-0.53	2.48	90.72	6.05	6.05	0.52	711.37	0.61
B204	59 Sez.3	TR200	14.60	87.34	0.94	88.28	88.61	-0.33	1.69	89.33	4.54	4.54	0.62	378.34	0.74
B204	57 Sez.4	TR200	14.60	87.21	1.72	88.93	88.40	0.53	0.53	89.11	1.88	1.88	1.02	55.25	1.29
B204	54 Sez.5	TR200	14.60	87.06	1.46	88.52	88.40	0.12	0.89	89.09	3.34	3.34	0.74	48.51	1.46
B204	45		Culvert												
B204	37 Sez7	TR200	14.60	86.26	0.87	87.13	87.60	-0.47	1.93	88.74	5.62	5.62	0.55	151.25	0.87
B204	6	TR200	14.60	85.14	0.38	85.52	85.80	-0.28	3.18	86.72	4.85	4.85	0.24	484.29	0.24


B204_3x3 Plan: B204_3x3_UNIF
B204 B204
Legend
EG TR200
Crit TR200
WS TR200
Ground
Elevation (m)
Main Channel Distance (m)
92
91
90
89
88
87
86
85
0
20
40
60
80
37 Sez7
45
57 Sez.4
59 Sez.3
75 Sez.2
83 Sez.1


B204_3x3 Plan: B204_3x3_UNIF
RS = 83 Sez.1
.04
.04
.04
92.0
91.5
91.0
90.5
90.0
89.5
Elevation (m)
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF
RS = 75 Sez.2
.04
.04
.04
91.5
91.0
90.5
90.0
89.5
89.0
88.5
88.0
Elevation (m)
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta


B204_3x3 Plan: B204_3x3_UNIF
RS = 59 Sez.3
.04
.04
.04
Elevation (m)
92
91
90
89
88
87
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF
RS = 57 Sez.4
.04
.04
.04
Elevation (m)
92
91
90
89
88
87
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
Ground
Bank Sta

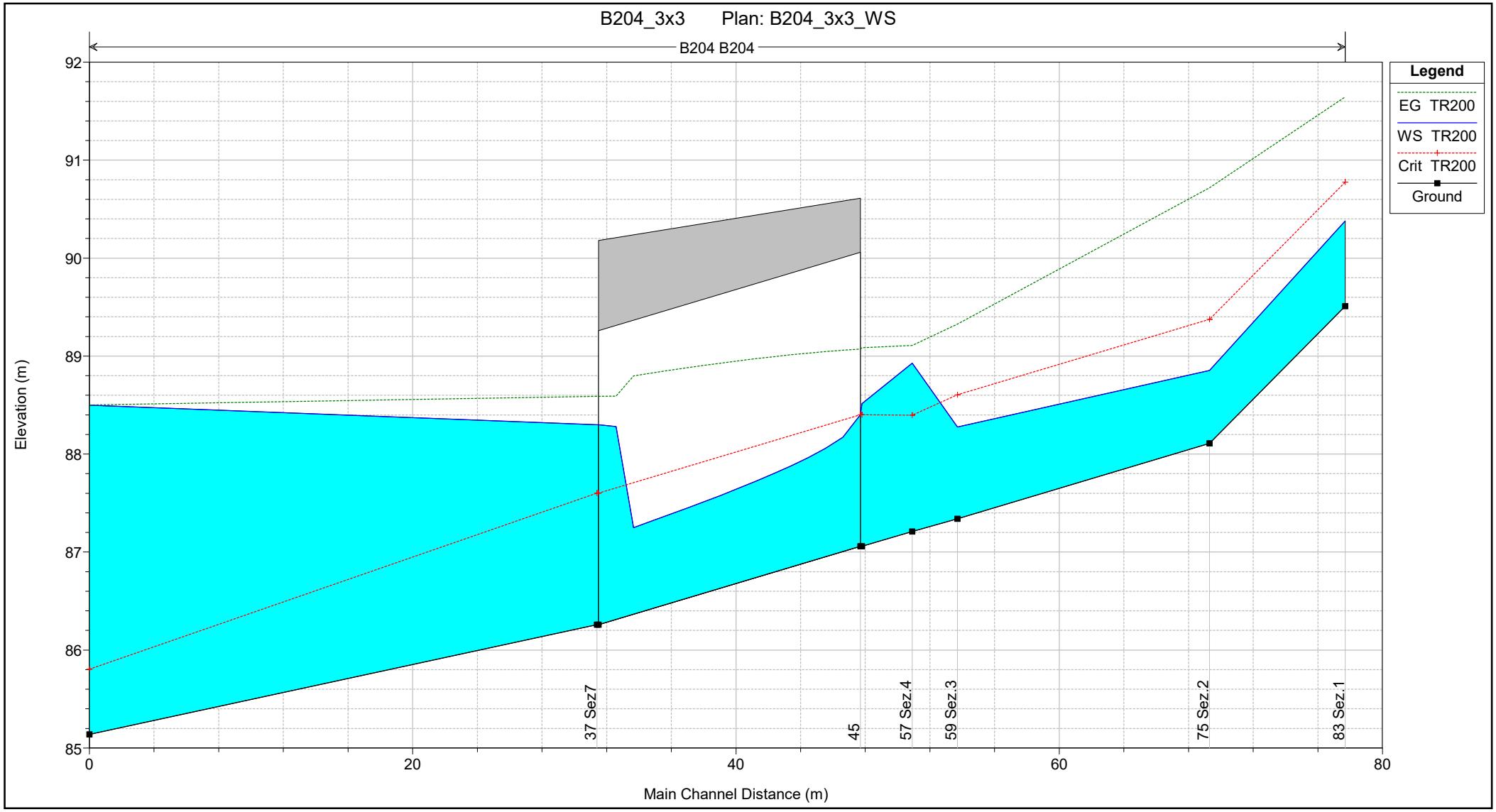

B204_3x3 Plan: B204_3x3_UNIF
RS = 54 Sez.5
.02
.02
.02
Elevation (m)
91.0
90.5
90.0
89.5
89.0
88.5
88.0
87.5
87.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF
RS = 45 Culv
.02
.02
.02
Elevation (m)
91.0
90.5
90.0
89.5
89.0
88.5
88.0
87.5
87.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

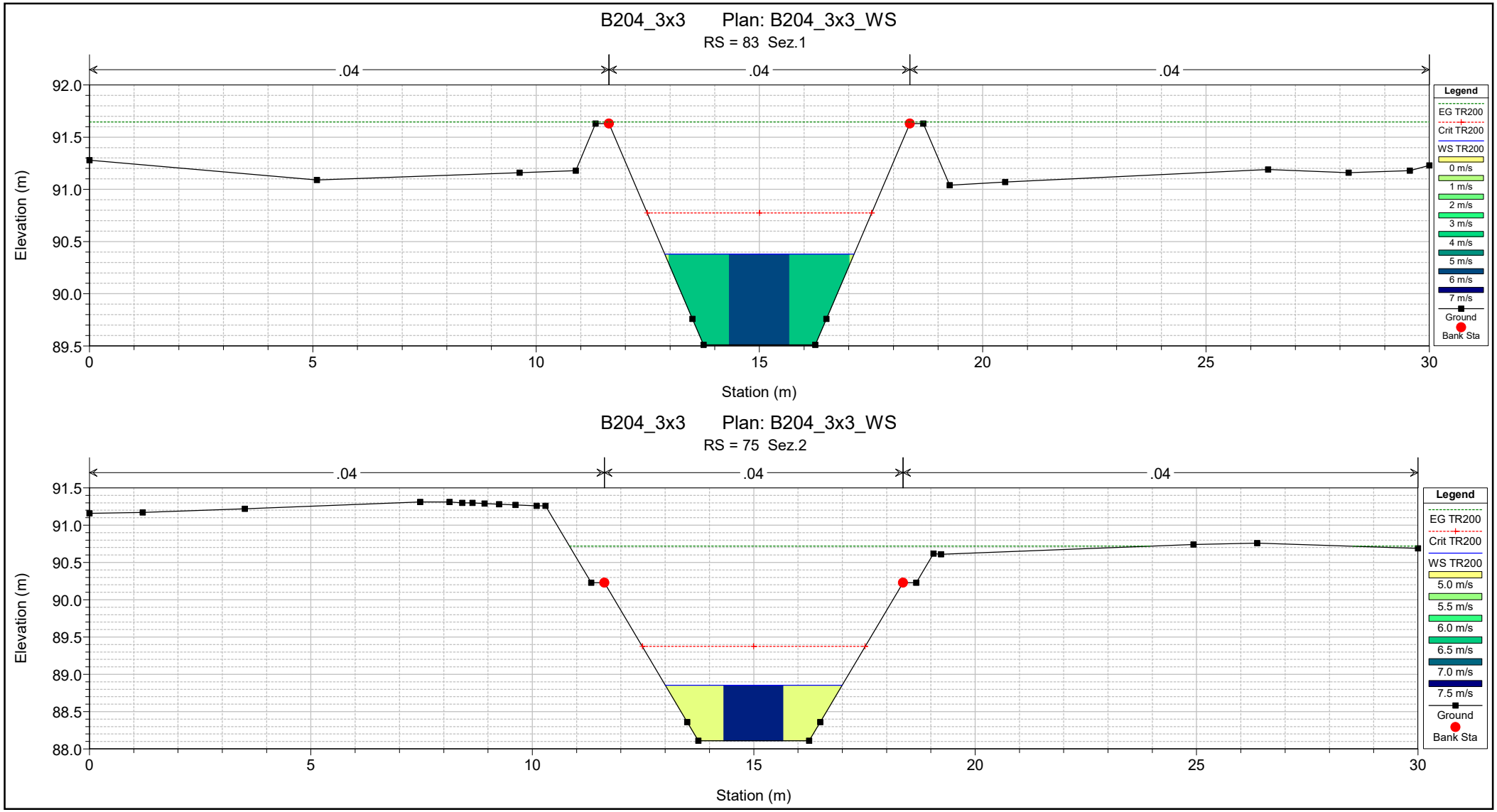

B204_3x3 Plan: B204_3x3_UNIF
RS = 37 Sez7
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
12 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF
RS = 6
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta

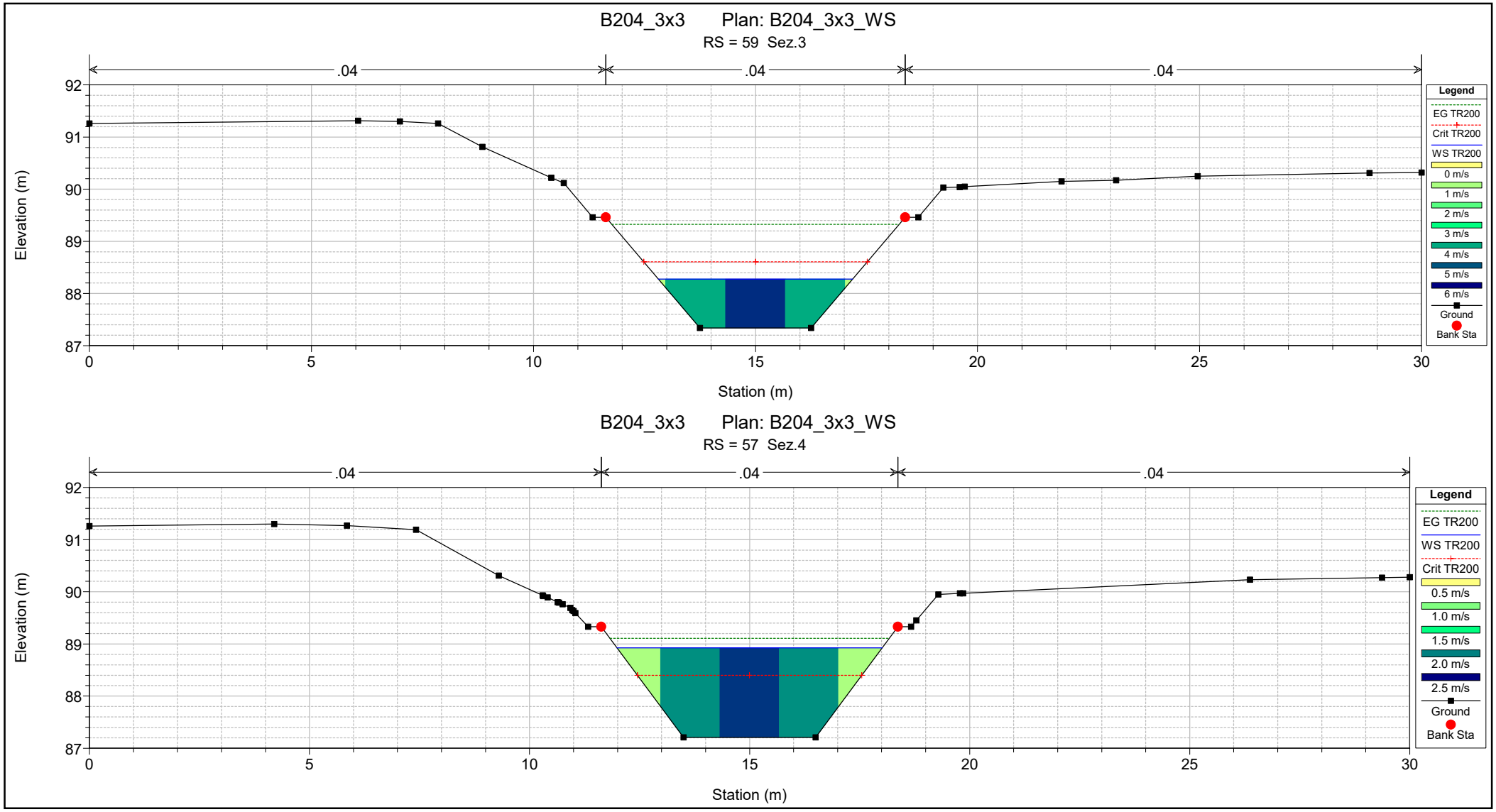
2.9 Bacino B204 – TM04 Scenario con rigurgito

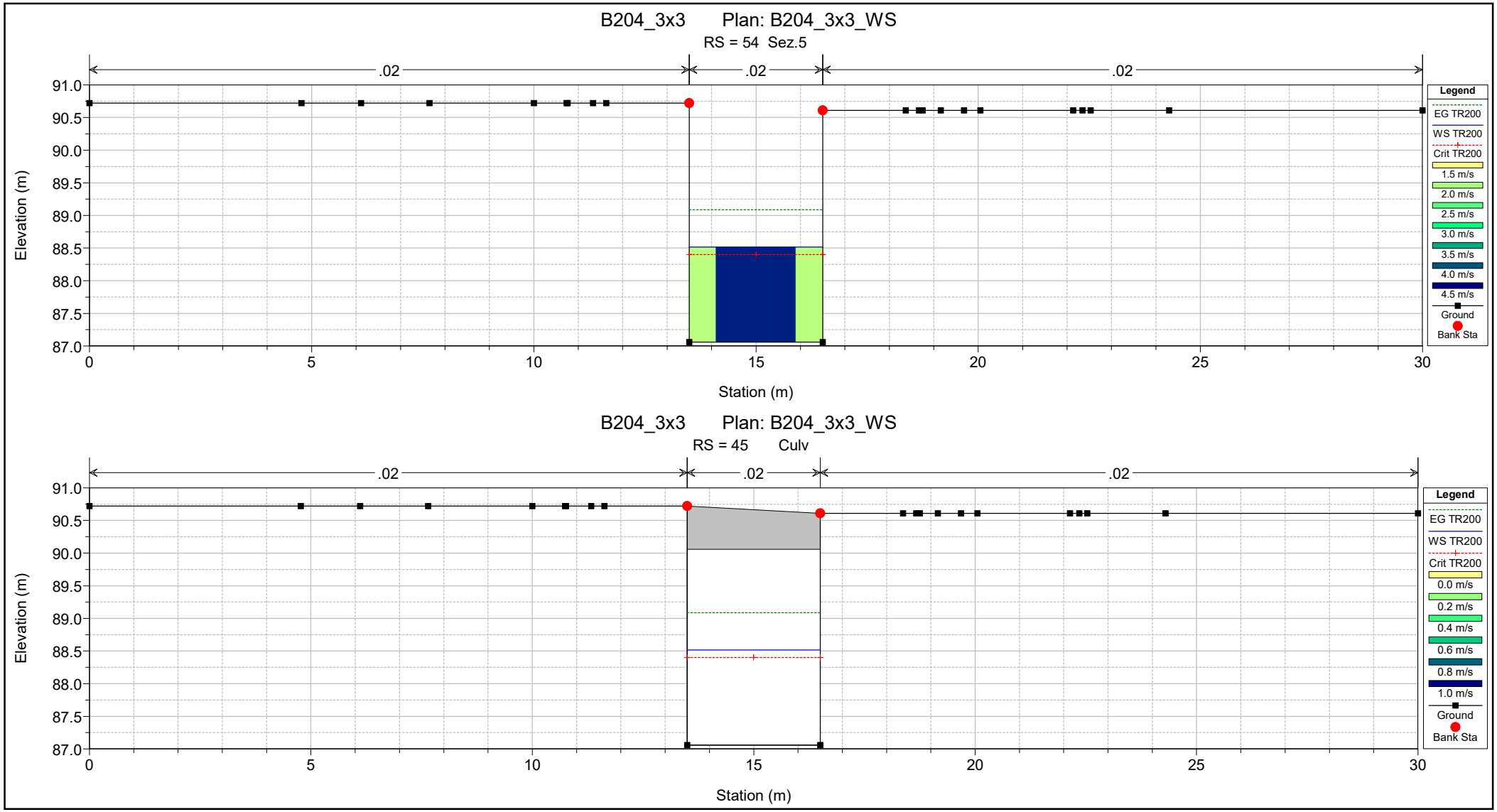
HEC-RAS Plan: B204_3x3_WS River: B204 Reach: B204 Profile: TR200

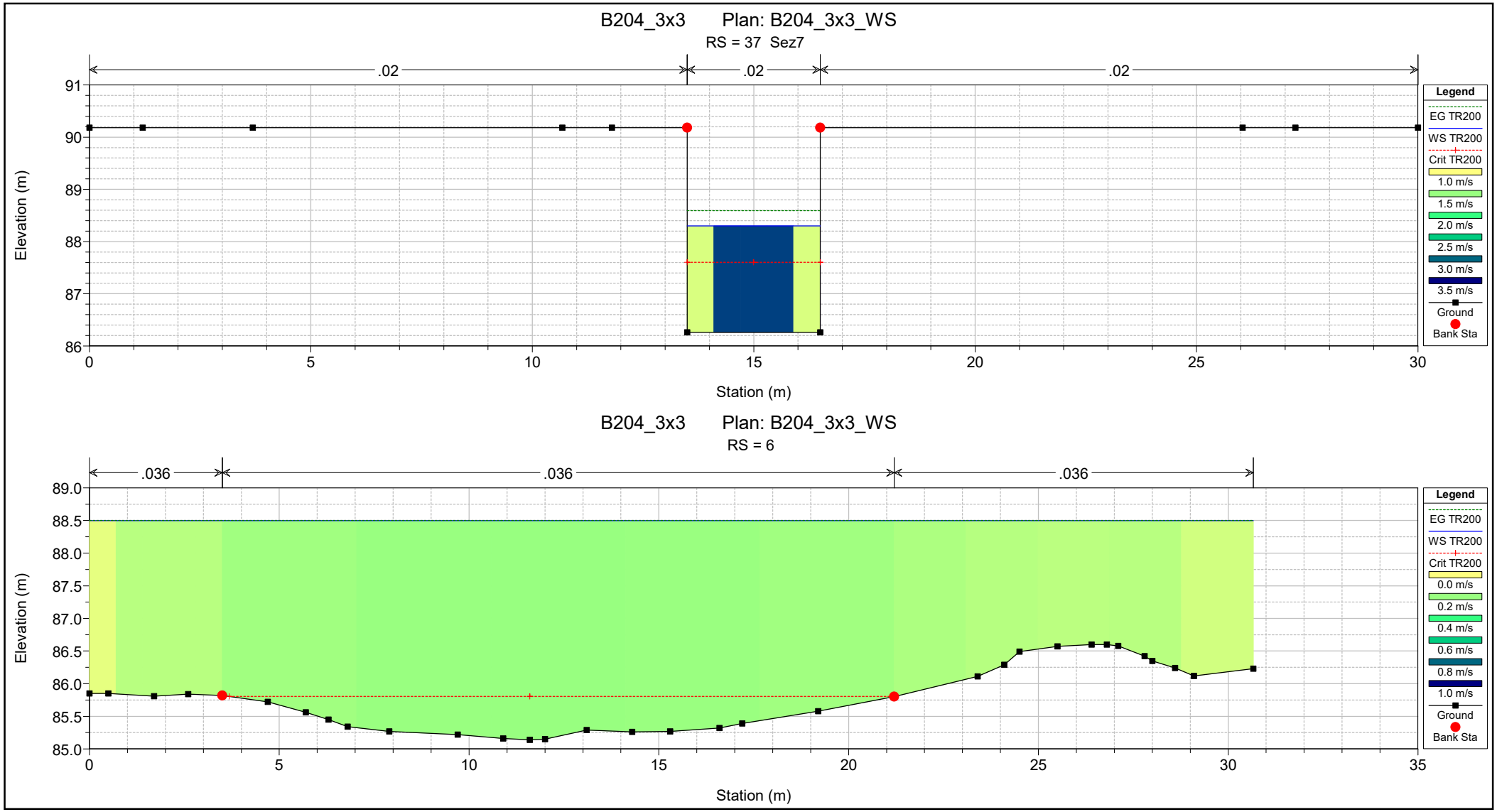
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B204	83 Sez.1	TR200	14.60	89.51	0.87	90.38	90.77	-0.39	1.91	91.64	4.98	4.98	0.59	463.94	0.69
B204	75 Sez.2	TR200	14.60	88.11	0.74	88.85	89.38	-0.53	2.48	90.72	6.05	6.05	0.52	711.40	0.61
B204	59 Sez.3	TR200	14.60	87.34	0.94	88.28	88.61	-0.33	1.69	89.33	4.54	4.54	0.62	378.35	0.74
B204	57 Sez.4	TR200	14.60	87.21	1.72	88.93	88.40	0.53	0.53	89.11	1.88	1.88	1.02	55.25	1.29
B204	54 Sez.5	TR200	14.60	87.06	1.46	88.52	88.40	0.12	0.89	89.09	3.34	3.34	0.74	48.53	1.46
B204	45		Culvert												
B204	37 Sez7	TR200	14.60	86.26	2.04	88.30	87.60	0.70	0.53	88.59	2.39	2.39	0.86	23.46	2.04
B204	6	TR200	14.60	85.14	3.36	88.50	85.81	2.69	0.04	88.50	0.19	0.17	2.38	0.33	2.78


B204_3x3 Plan: B204_3x3_WS
B204 B204
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
Main Channel Distance (m)
92
91
90
89
88
87
86
85
0
20
40
60
80
37 Sez7
45
57 Sez.4
59 Sez.3
75 Sez.2
83 Sez.1


B204_3x3 Plan: B204_3x3_WS
RS = 83 Sez.1
.04
.04
.04
Elevation (m)
92.0
91.5
91.0
90.5
90.0
89.5
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS
RS = 75 Sez.2
.04
.04
.04
Elevation (m)
91.5
91.0
90.5
90.0
89.5
89.0
88.5
88.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta


B204_3x3 Plan: B204_3x3_WS
RS = 59 Sez.3
.04
.04
.04
Elevation (m)
92
91
90
89
88
87
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS
RS = 57 Sez.4
.04
.04
.04
Elevation (m)
92
91
90
89
88
87
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
Ground
Bank Sta


B204_3x3 Plan: B204_3x3_WS
RS = 54 Sez.5
.02
.02
.02
Elevation (m)
91.0
90.5
90.0
89.5
89.0
88.5
88.0
87.5
87.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS
RS = 45 Culv
.02
.02
.02
Elevation (m)
91.0
90.5
90.0
89.5
89.0
88.5
88.0
87.5
87.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

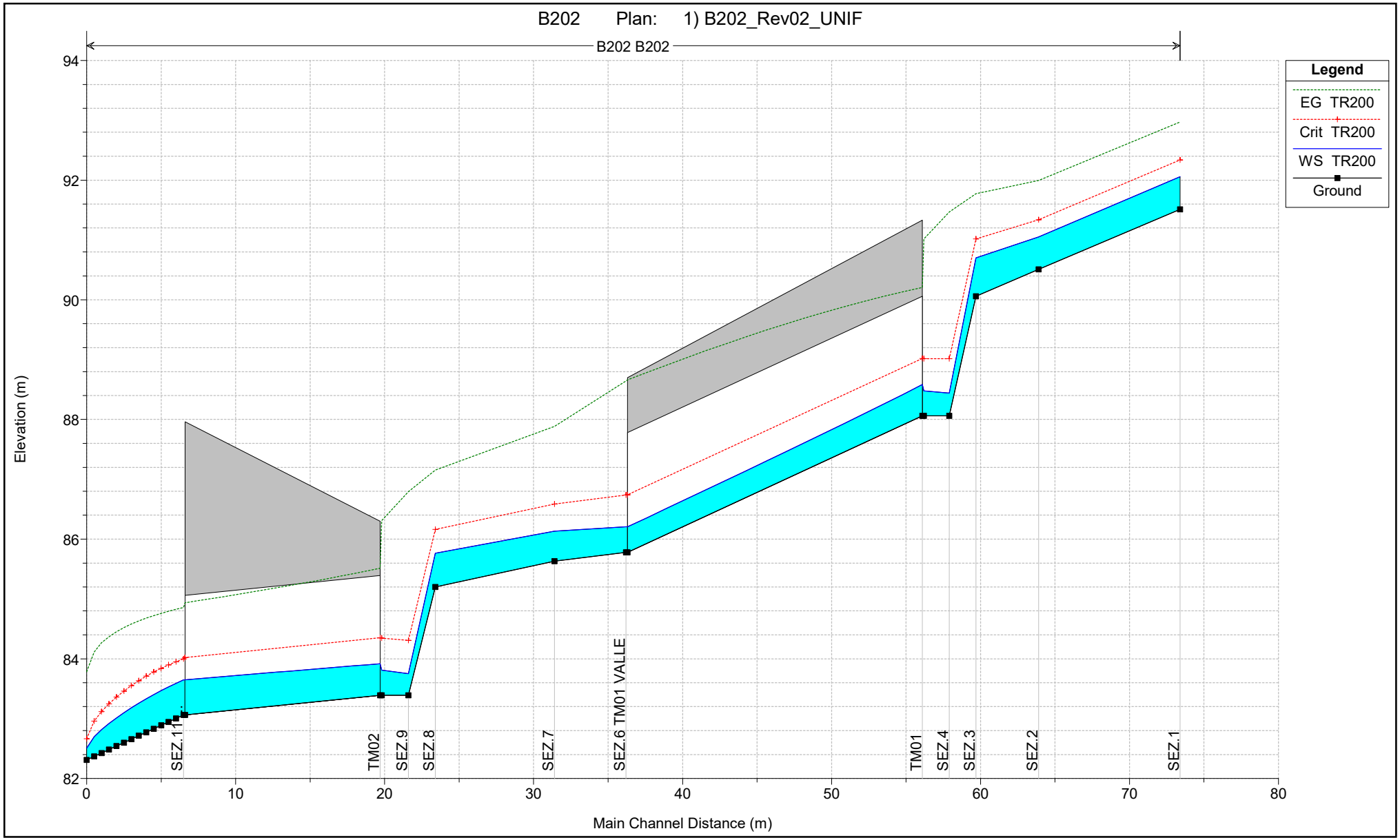

B204_3x3 Plan: B204_3x3_WS
RS = 37 Sez7
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS
RS = 6
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

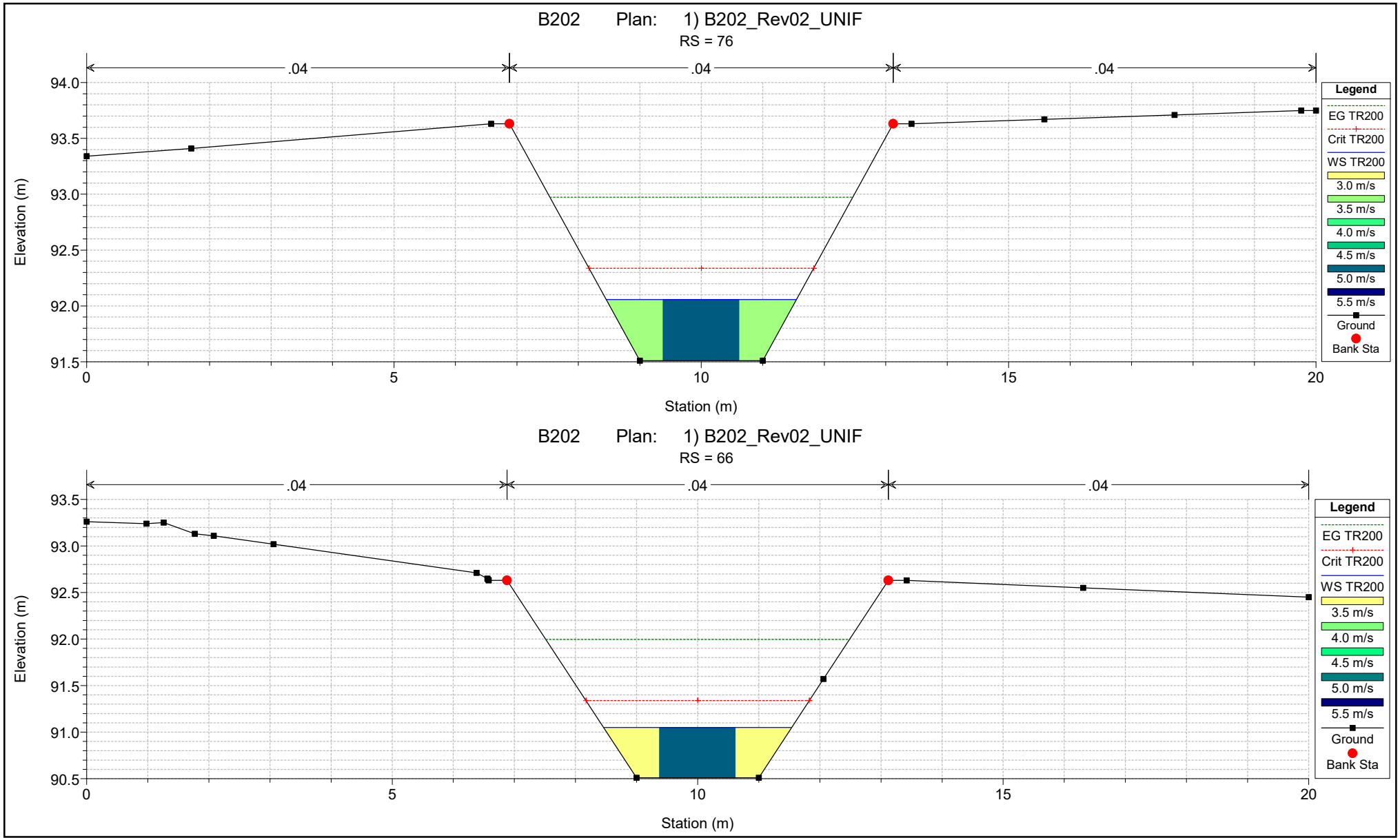
3 ALLEGATO - RISULTATI SIMULAZIONI IDRODINAMICHE TR200 – Ks da RR 3/2011

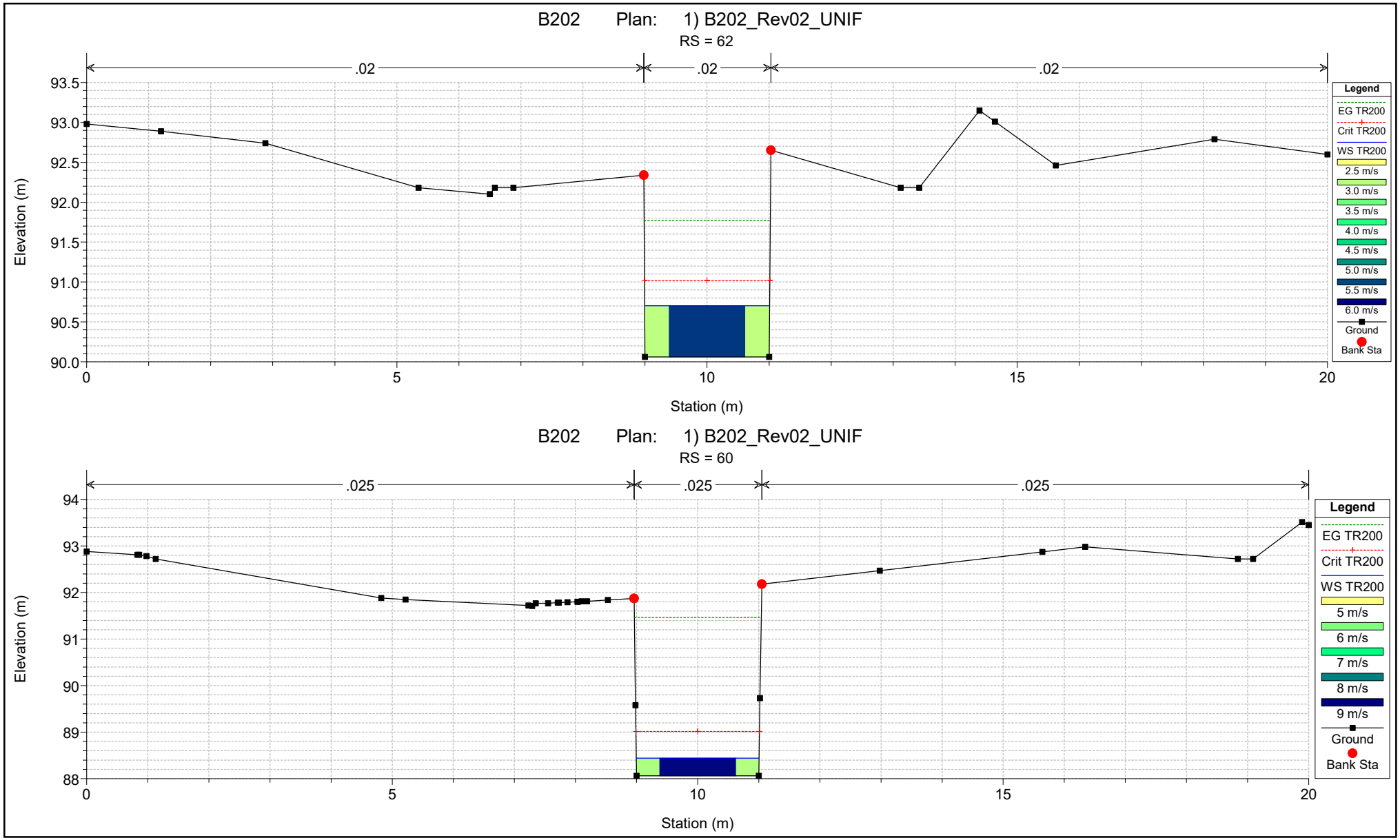
3.1 Bacino B202 – TM01-TM02 Scenario senza rigurgito

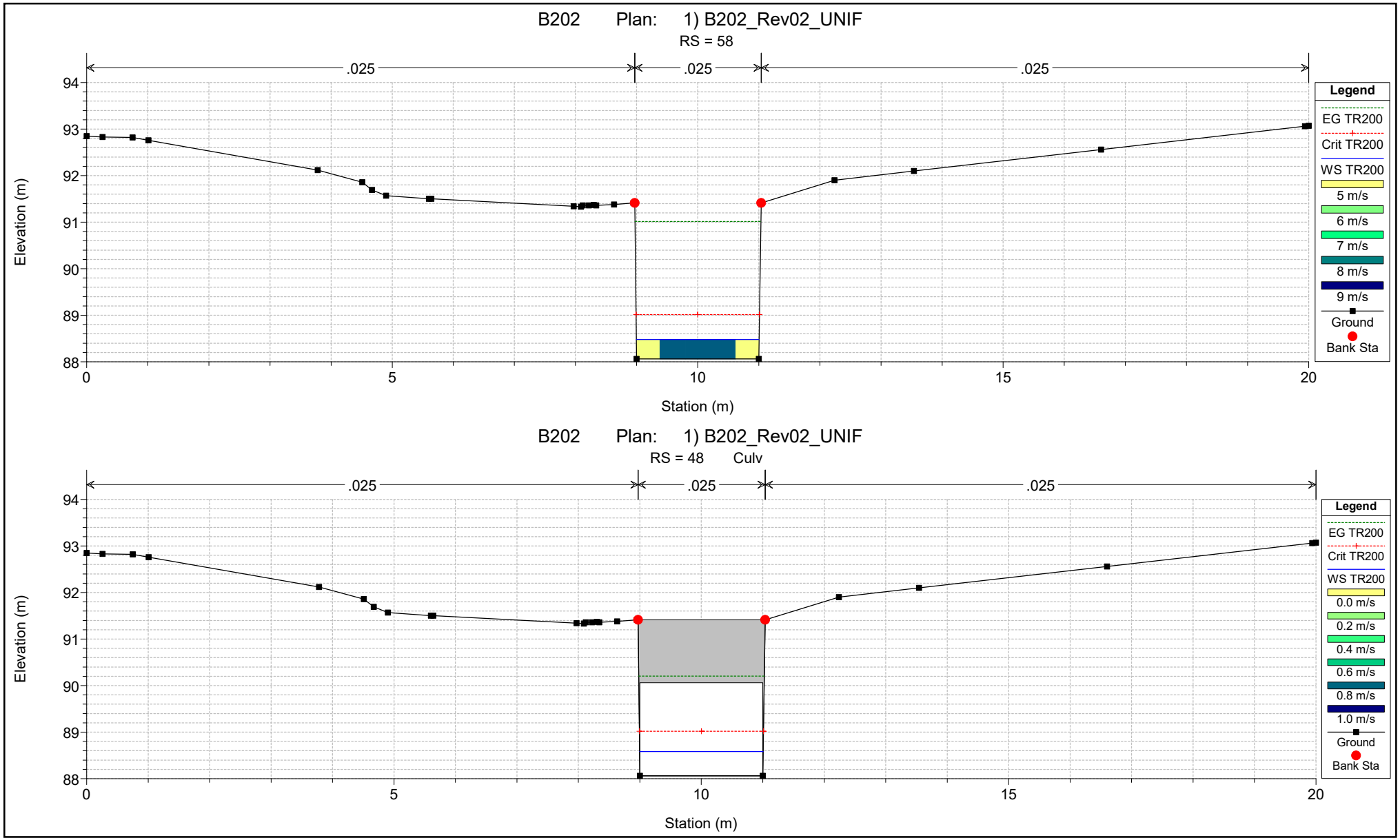
HEC-RAS Plan: B202_Rev02_UNIF River: B202 Reach: B202 Profile: TR200

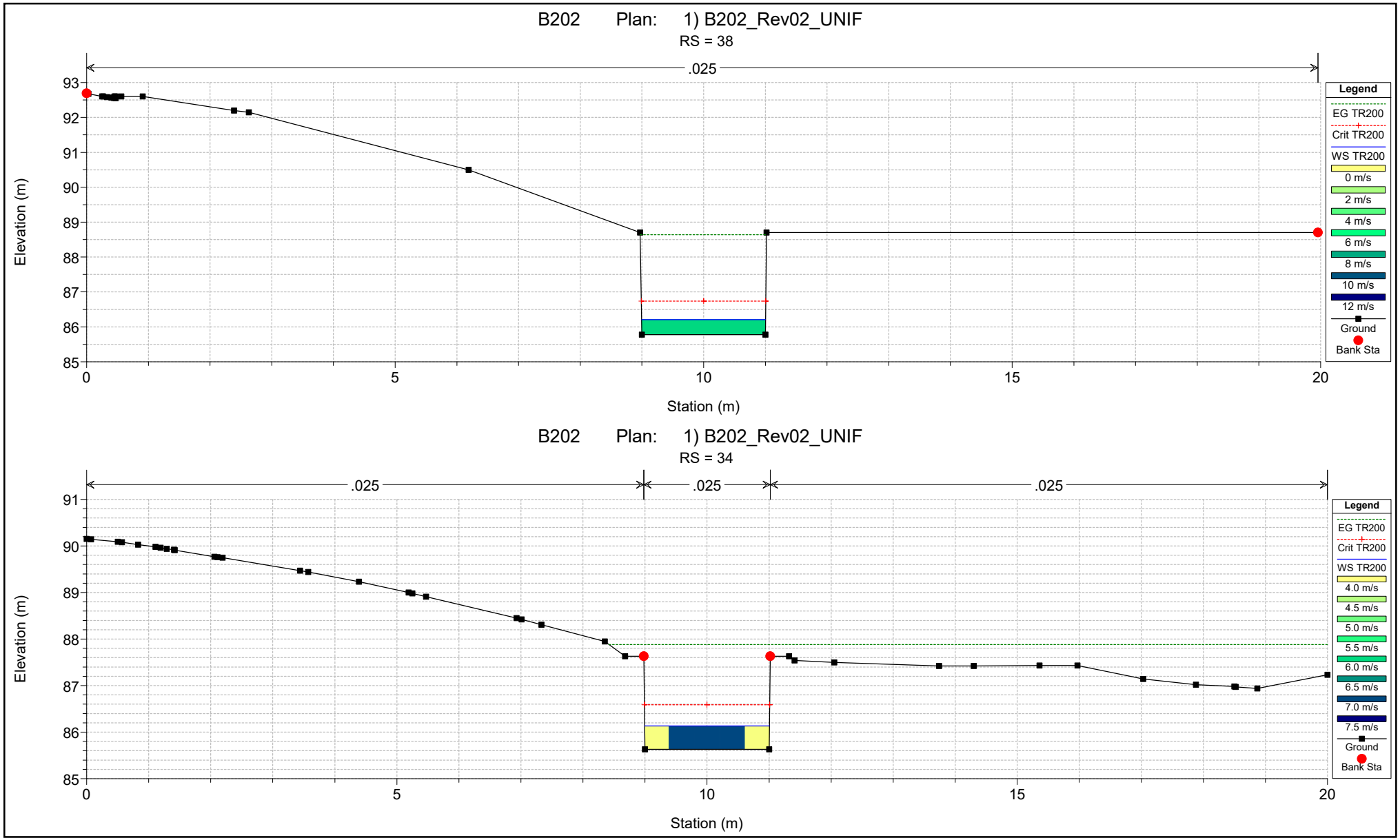
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B202	76 SEZ.1	TR200	5.90	91.51	0.55	92.06	92.34	-0.28	2.02	92.97	4.24	4.24	0.39	385.21	0.45
B202	66 SEZ.2	TR200	5.90	90.51	0.54	91.05	91.34	-0.29	2.06	92.00	4.31	4.31	0.39	399.45	0.44
B202	62 SEZ.3	TR200	5.90	90.06	0.64	90.70	91.02	-0.32	1.83	91.77	4.59	4.59	0.39	112.69	0.64
B202	60 SEZ.4	TR200	5.90	88.06	0.38	88.44	89.02	-0.58	3.98	91.47	7.70	7.70	0.28	557.60	0.38
B202	58 SEZ.5 TM01 MONTE	TR200	5.90	88.06	0.42	88.48	89.02	-0.54	3.49	91.02	7.06	7.06	0.30	458.42	0.42
B202	48 TM01		Culvert												
B202	38 SEZ.6 TM01 VALLE	TR200	5.90	85.78	0.43	86.21	86.74	-0.53	3.39	88.64	6.91	6.91	0.30	437.90	0.43
B202	34 SEZ.7	TR200	5.90	85.63	0.50	86.13	86.59	-0.46	2.64	87.88	5.86	5.86	0.34	303.07	0.50
B202	26 SEZ.8	TR200	5.90	85.20	0.56	85.76	86.16	-0.40	2.23	87.15	5.22	5.22	0.36	234.78	0.56
B202	24 SEZ.9	TR200	5.90	83.39	0.36	83.75	84.31	-0.56	4.13	86.79	7.72	7.72	0.28	561.54	0.36
B202	22 SEZ.10 TM02 MONT	TR200	5.90	83.39	0.42	83.81	84.35	-0.54	3.45	86.31	7.00	7.00	0.30	450.68	0.42
B202	20 TM02		Culvert												
B202	9 SEZ.11 TM02 VALL	TR200	5.90	83.06	0.59	83.65	84.00	-0.35	2.05	84.86	4.87	4.87	0.38	200.90	0.58
B202	8.3	TR200	5.90	83.00	0.59	83.59	83.95	-0.36	2.11	84.83	4.93	4.93	0.39	220.40	0.56
B202	8	TR200	5.90	82.94	0.59	83.53	83.90	-0.37	2.18	84.80	4.98	4.98	0.39	241.82	0.53
B202	7.3	TR200	5.90	82.89	0.58	83.47	83.84	-0.37	2.25	84.76	5.03	5.03	0.39	265.71	0.51
B202	7	TR200	5.90	82.83	0.57	83.40	83.78	-0.38	2.34	84.72	5.08	5.08	0.39	272.30	0.48
B202	6.4	TR200	5.90	82.77	0.56	83.33	83.71	-0.38	2.44	84.68	5.14	5.14	0.38	300.80	0.45
B202	6	TR200	5.90	82.71	0.54	83.26	83.63	-0.37	2.55	84.63	5.19	5.19	0.37	332.36	0.42
B202	5.4	TR200	5.90	82.66	0.52	83.18	83.55	-0.37	2.68	84.58	5.24	5.24	0.35	367.23	0.39
B202	5	TR200	5.90	82.60	0.50	83.10	83.46	-0.36	2.82	84.52	5.28	5.28	0.33	405.76	0.36
B202	4.4	TR200	5.90	82.54	0.47	83.01	83.36	-0.35	3.00	84.45	5.31	5.31	0.30	448.93	0.32
B202	4	TR200	5.90	82.48	0.43	82.92	83.25	-0.33	3.23	84.37	5.33	5.33	0.27	470.11	0.28
B202	3.4	TR200	5.90	82.42	0.39	82.82	83.12	-0.30	3.54	84.27	5.33	5.33	0.23	528.77	0.23
B202	3	TR200	5.90	82.37	0.33	82.70	82.96	-0.26	4.03	84.11	5.27	5.27	0.17	597.99	0.17
B202	2 SEZ.12	TR200	5.90	82.31	0.19	82.50	82.66	-0.16	5.98	83.78	5.18	4.97	0.07	804.19	0.07

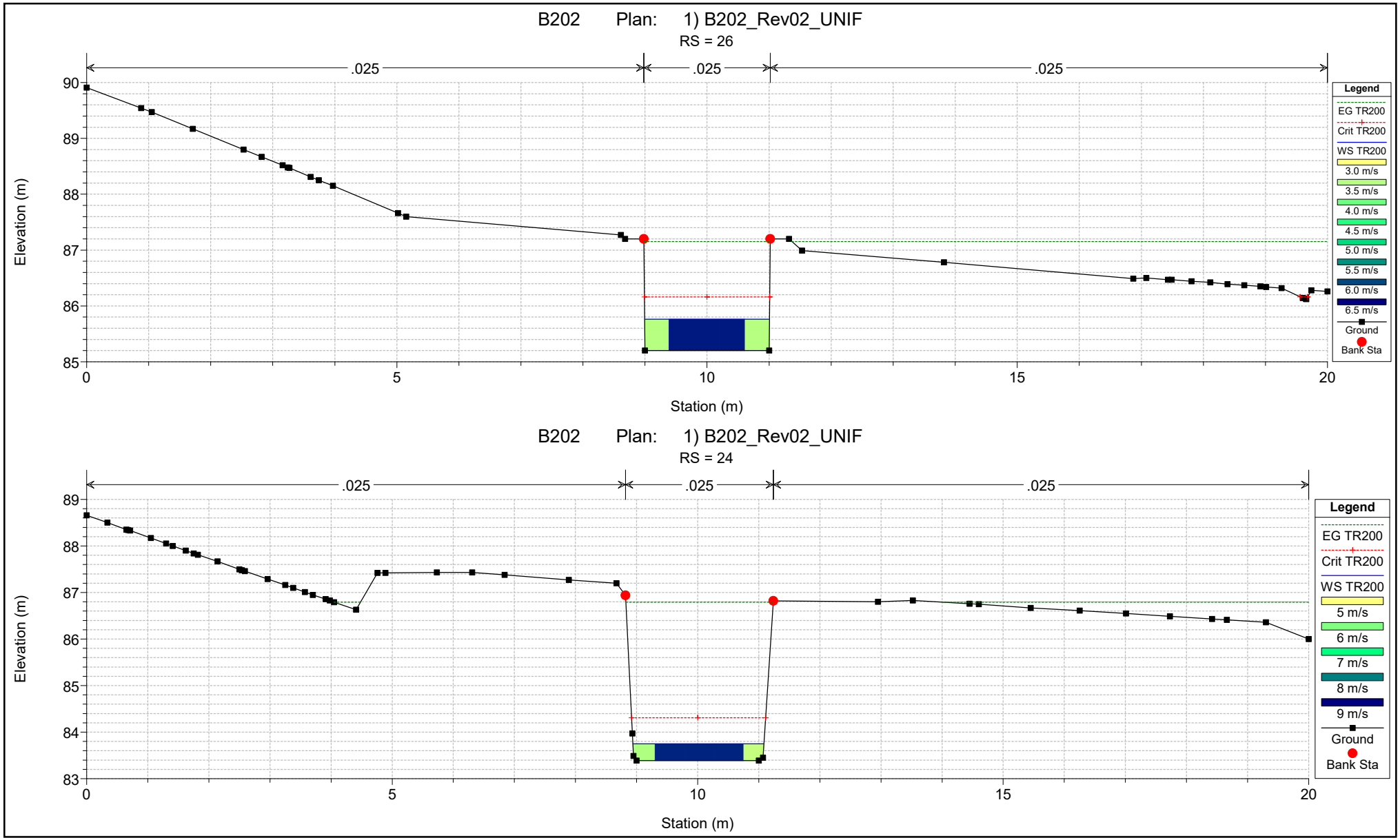

B202 Plan: 1) B202_Rev02_UNIF
B202 B202
Legend
EG TR200
Crit TR200
WS TR200
Ground
Elevation (m)
Main Channel Distance (m)
94
92
90
88
86
84
82
0
10
20
30
40
50
60
70
80
SEZ.11
TM02
SEZ.9
SEZ.8
SEZ.7
SEZ.6 TM01 VALLE
TM01
SEZ.4
SEZ.3
SEZ.2
SEZ.1

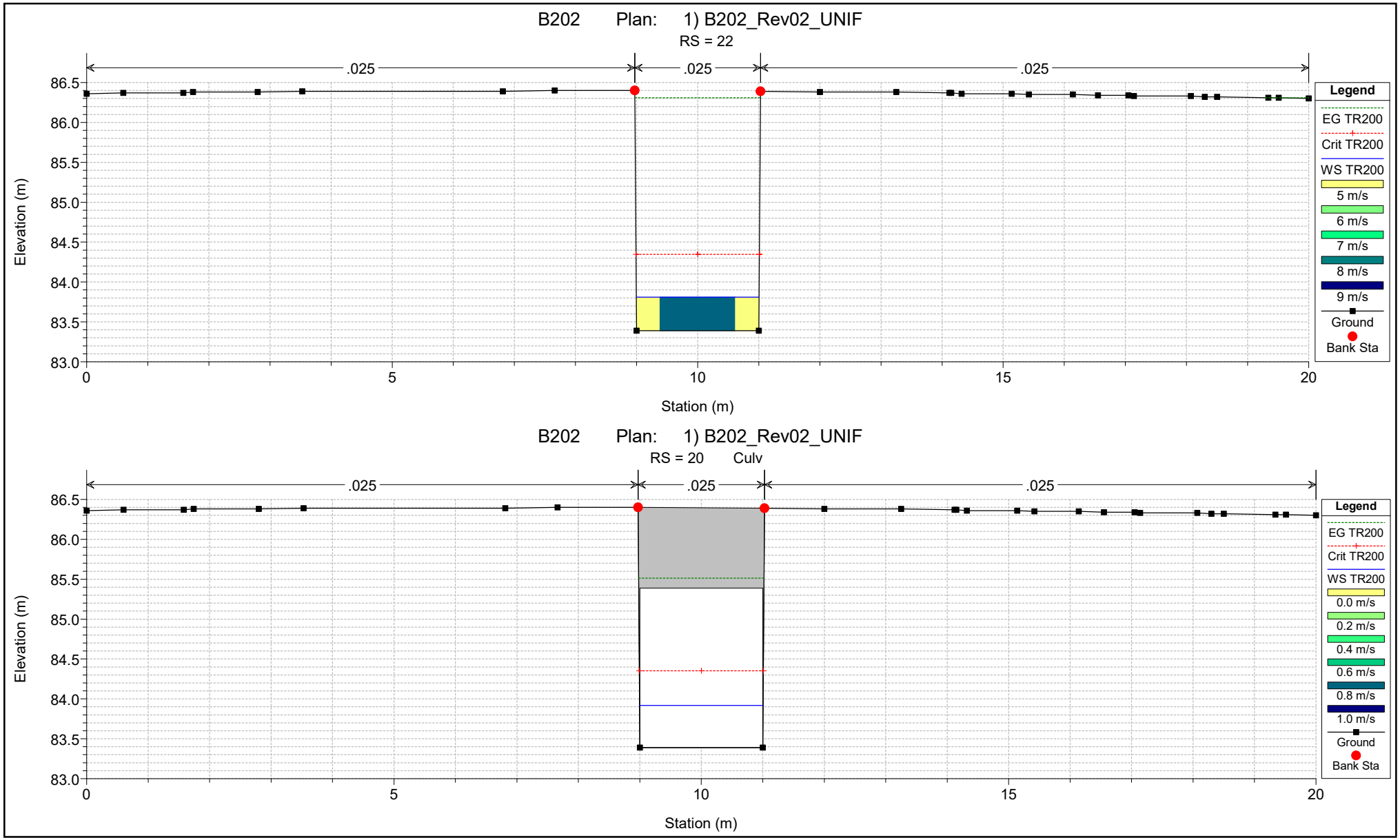

B202 Plan: 1) B202_Rev02_UNIF
RS = 76
.04
.04
.04
94.0
93.5
93.0
92.5
92.0
91.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 66
.04
.04
.04
93.5
93.0
92.5
92.0
91.5
91.0
90.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta

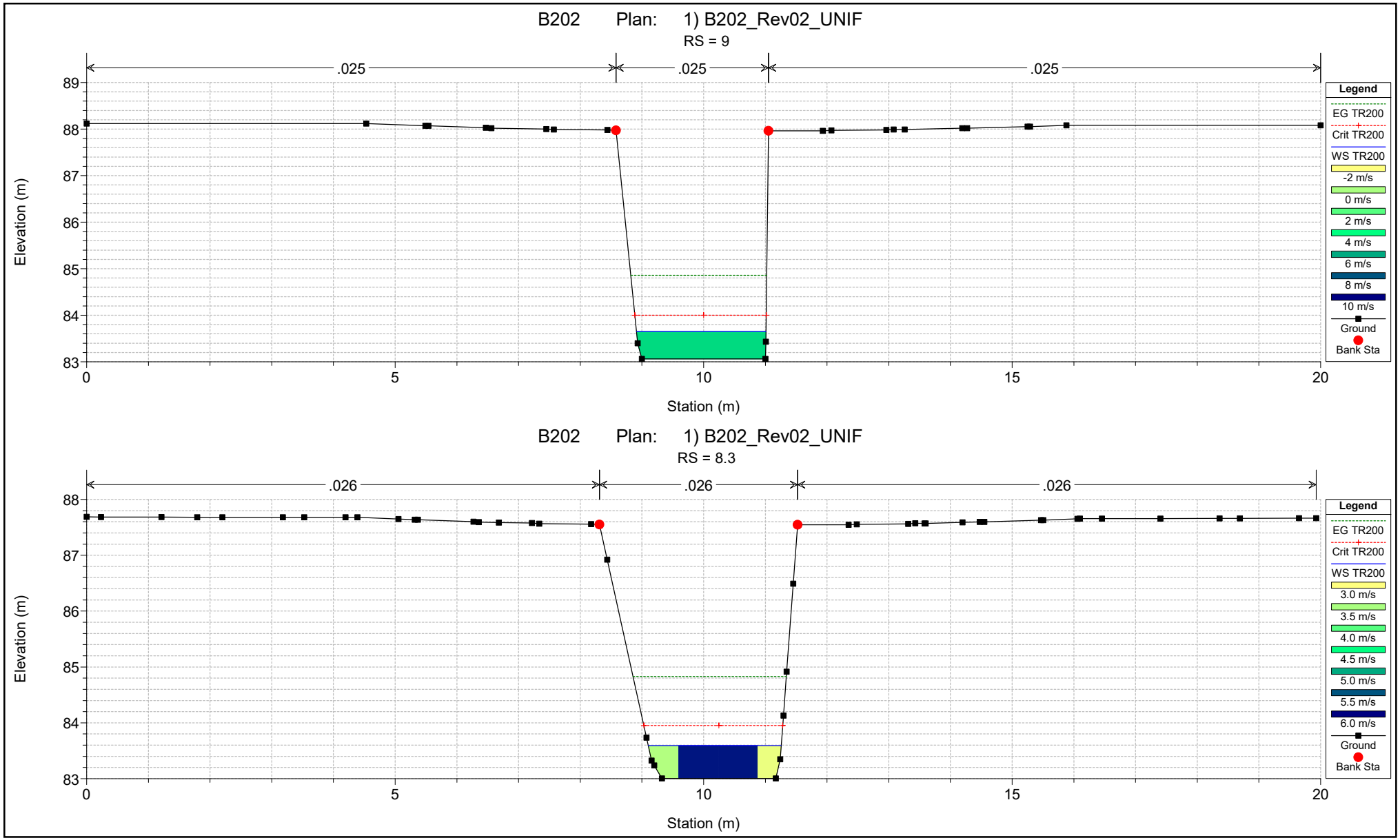

B202 Plan: 1) B202_Rev02_UNIF
RS = 62
.02
.02
.02
Elevation (m)
93.5
93.0
92.5
92.0
91.5
91.0
90.5
90.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 60
.025
.025
.025
Elevation (m)
94
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta

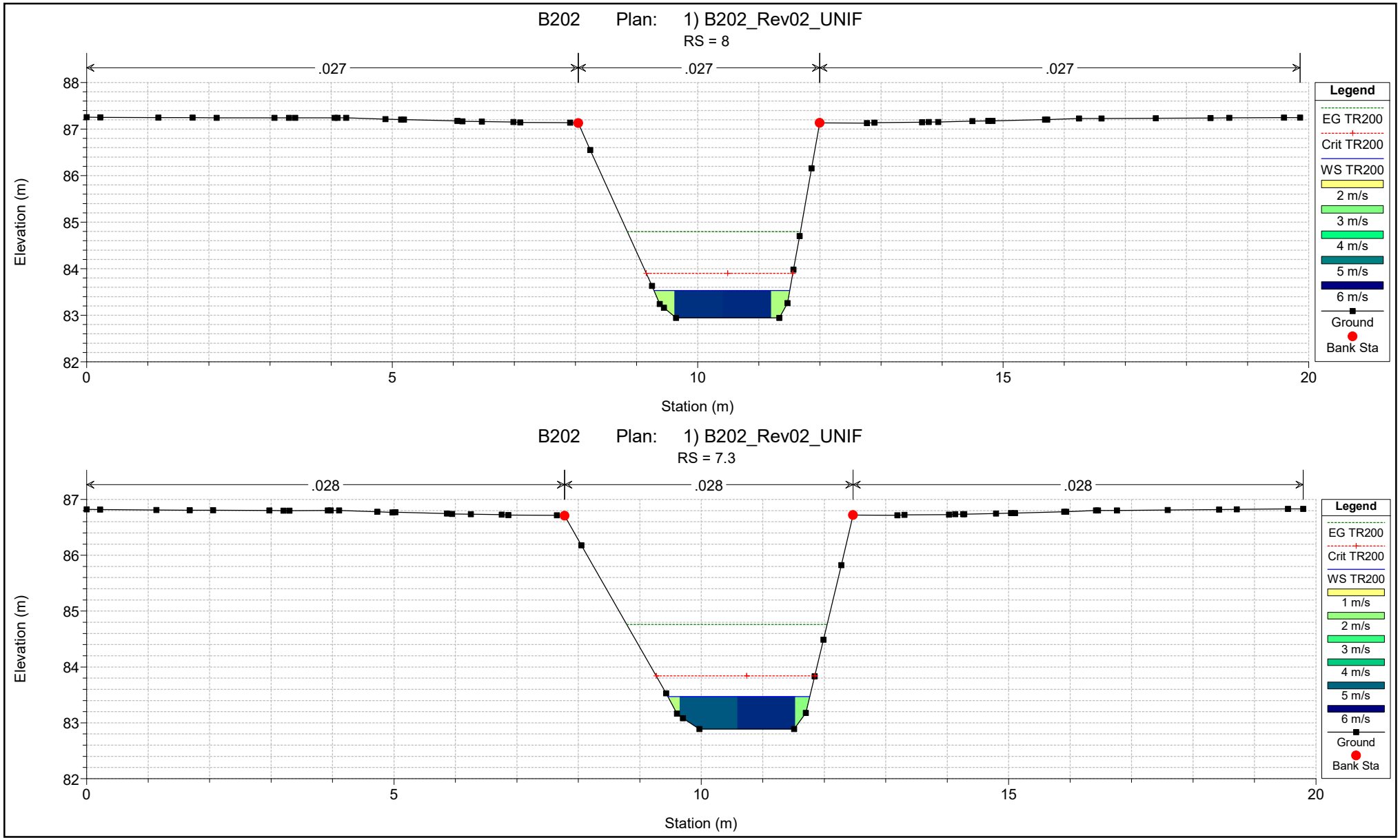

B202 Plan: 1) B202_Rev02_UNIF
RS = 58
.025
.025
.025
Elevation (m)
94
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 48 Culv
.025
.025
.025
Elevation (m)
94
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

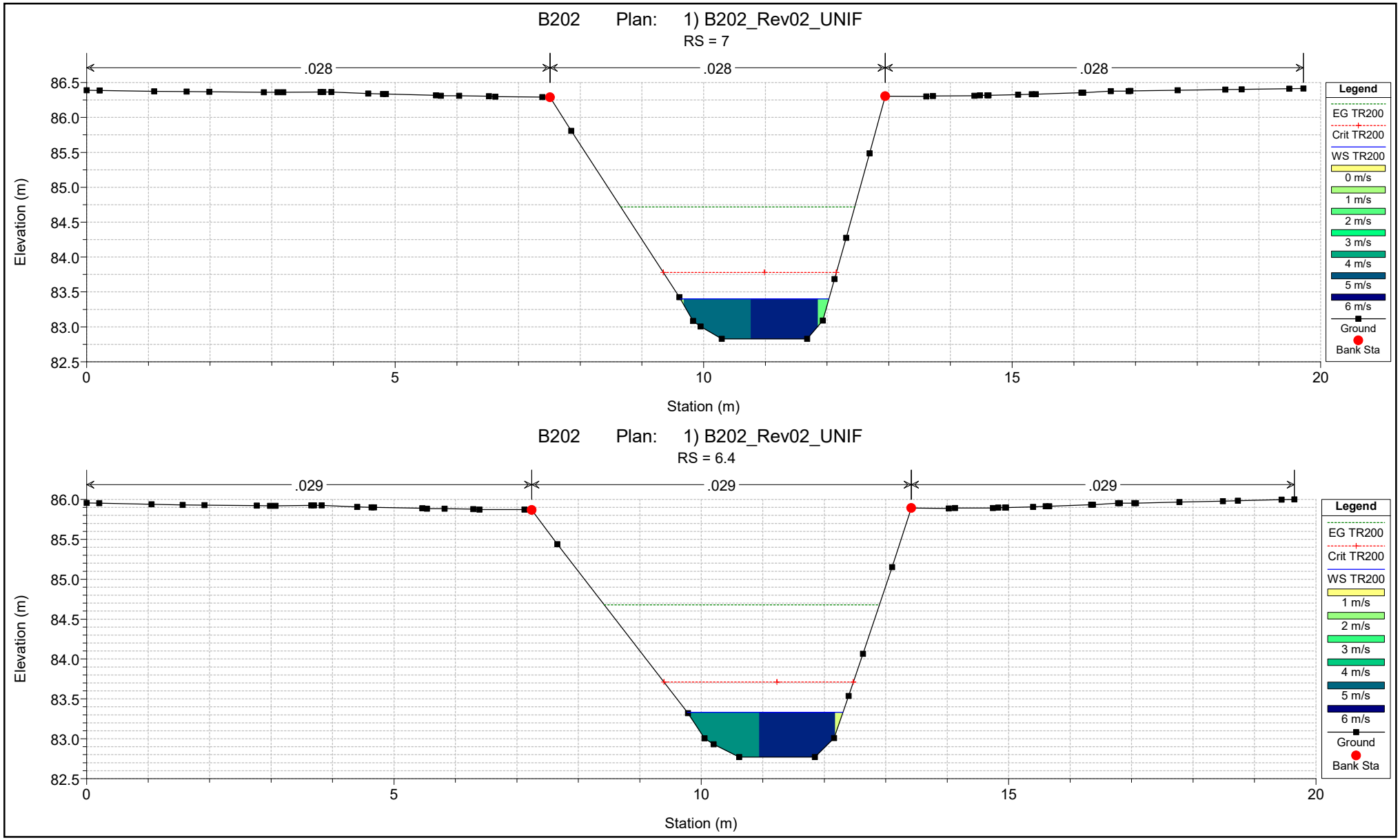

B202 Plan: 1) B202_Rev02_UNIF
RS = 38
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
12 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 34
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta

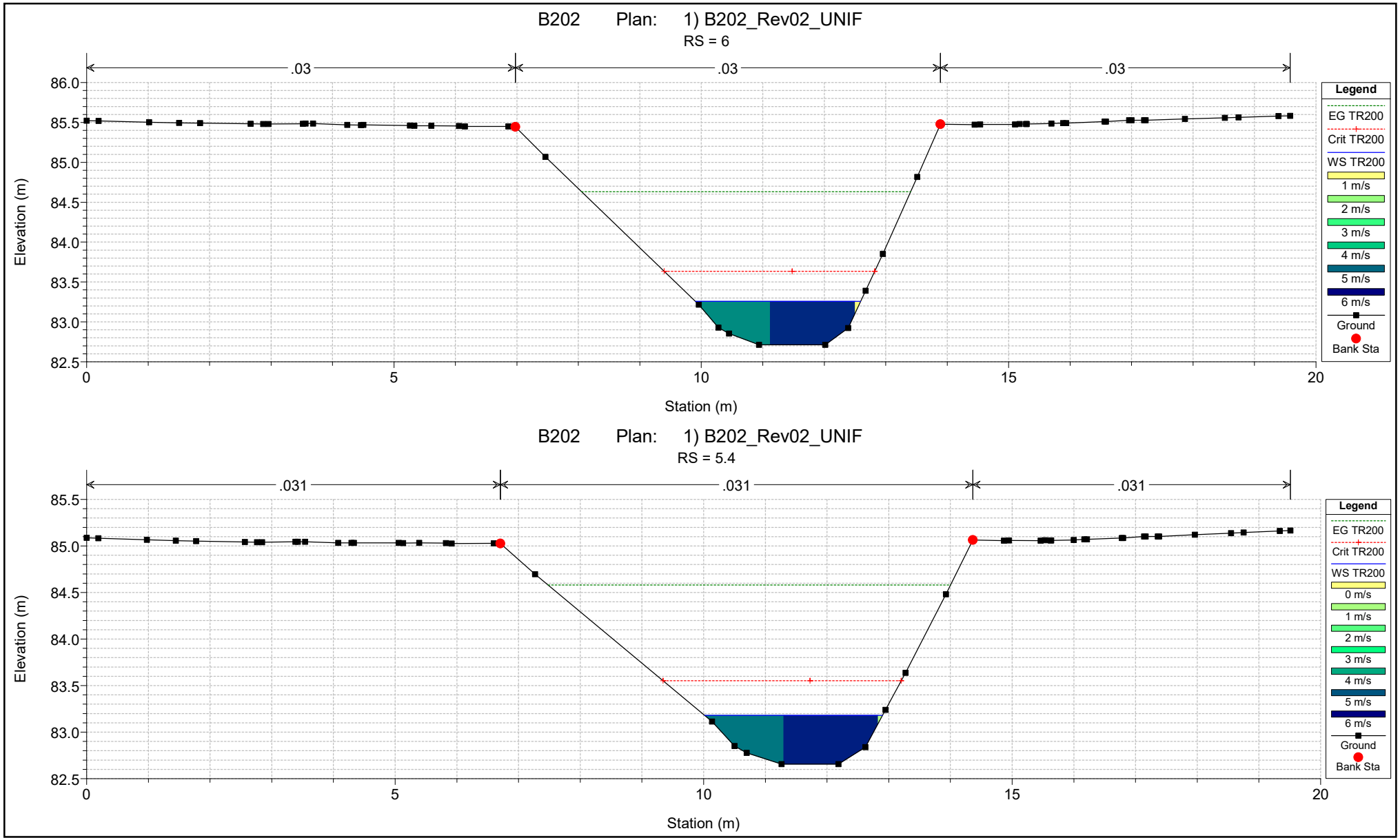

B202 Plan: 1) B202_Rev02_UNIF
RS = 26
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 24
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta

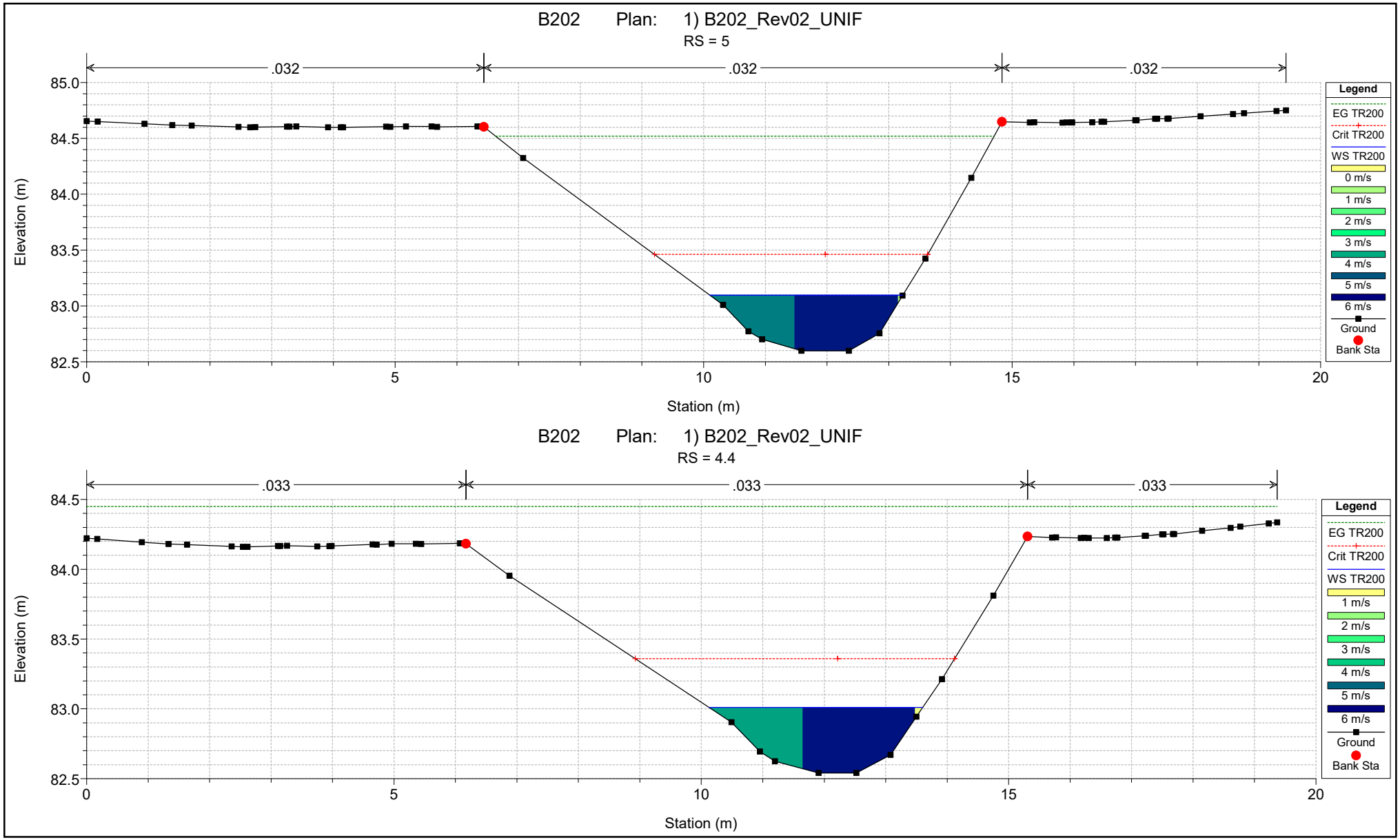

B202 Plan: 1) B202_Rev02_UNIF
RS = 22
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 20 Culv
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

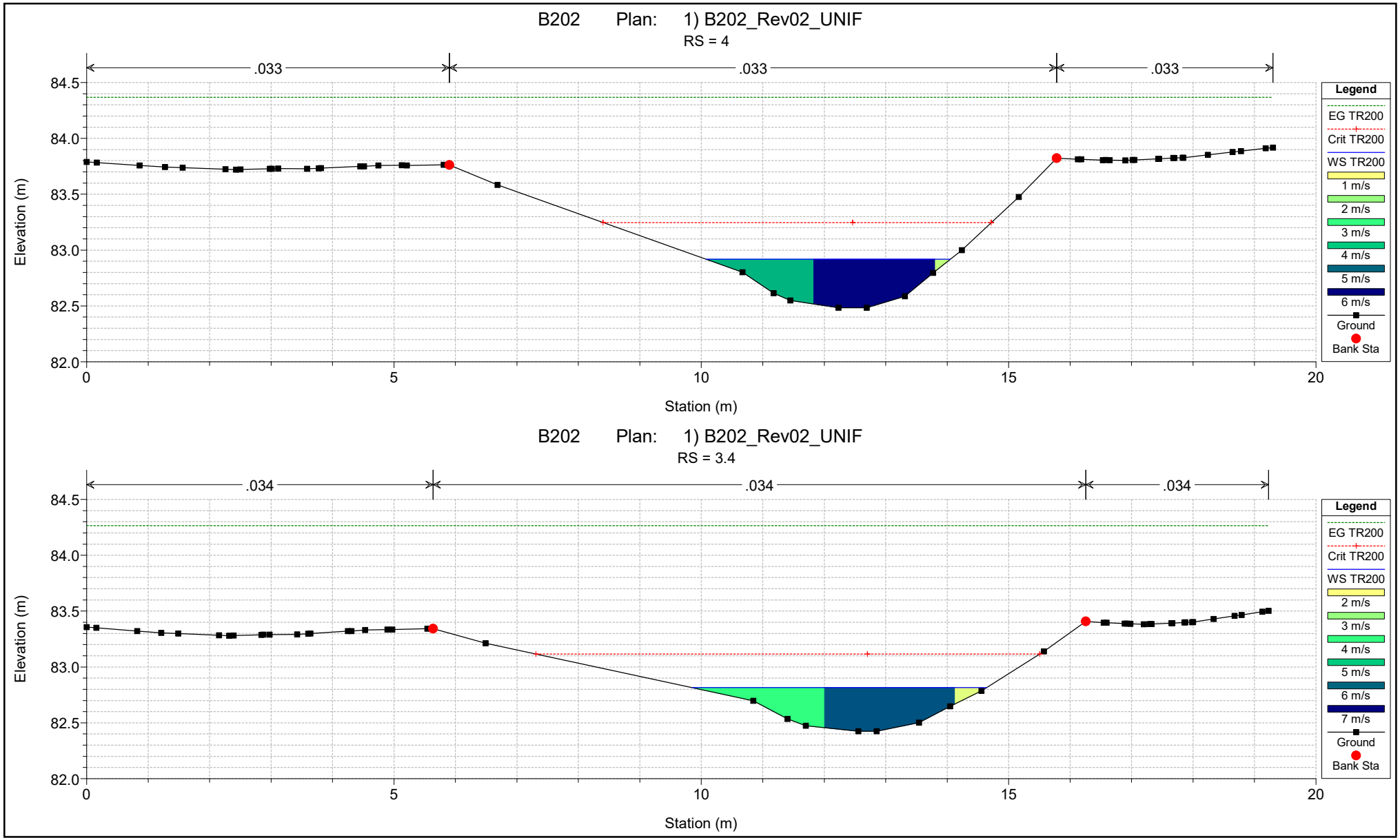

B202 Plan: 1) B202_Rev02_UNIF
RS = 9
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
-2 m/s
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 8.3
.026
.026
.026
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta

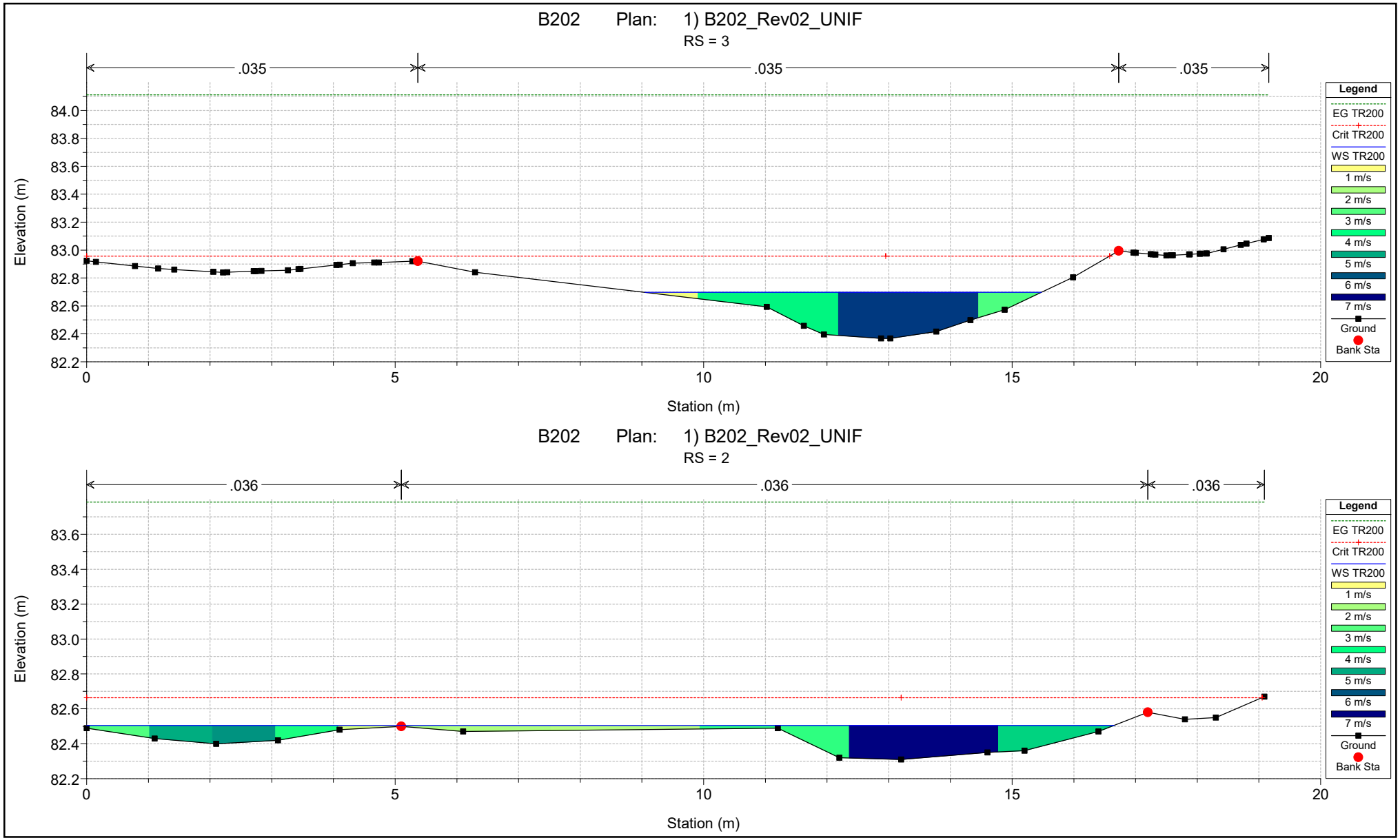

B202 Plan: 1) B202_Rev02_UNIF
RS = 8
.027
.027
.027
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 7.3
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: 1) B202_Rev02_UNIF
RS = 7
.028
.028
.028
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 6.4
.029
.029
.029
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: 1) B202_Rev02_UNIF
RS = 6
.03
.03
.03
Elevation (m)
86.0
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 5.4
.031
.031
.031
Elevation (m)
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: 1) B202_Rev02_UNIF
RS = 5
.032
.032
.032
Elevation (m)
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 4.4
.033
.033
.033
Elevation (m)
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta

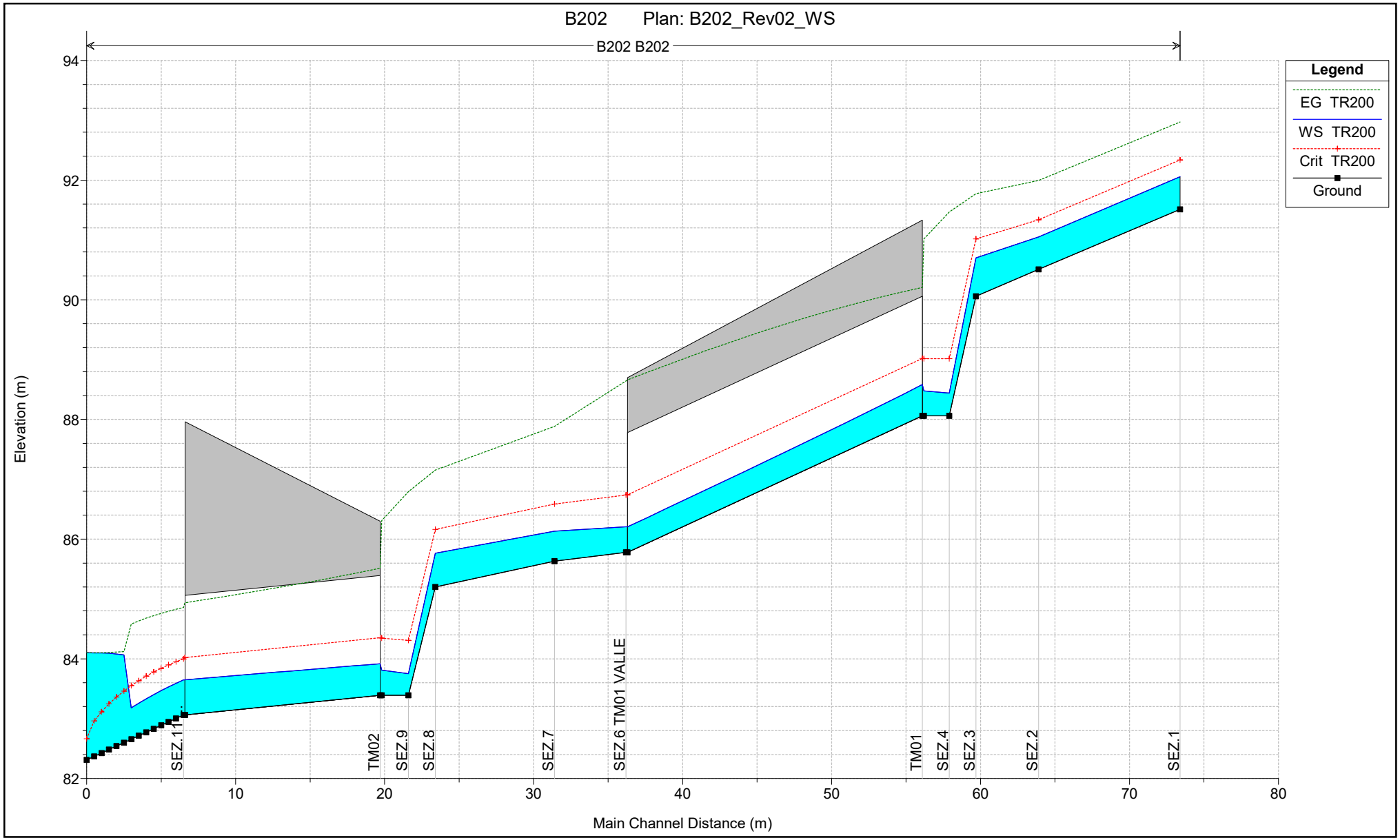

B202 Plan: 1) B202_Rev02_UNIF
RS = 4
.033
.033
.033
Elevation (m)
84.5
84.0
83.5
83.0
82.5
82.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 3.4
.034
.034
.034
Elevation (m)
84.5
84.0
83.5
83.0
82.5
82.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta

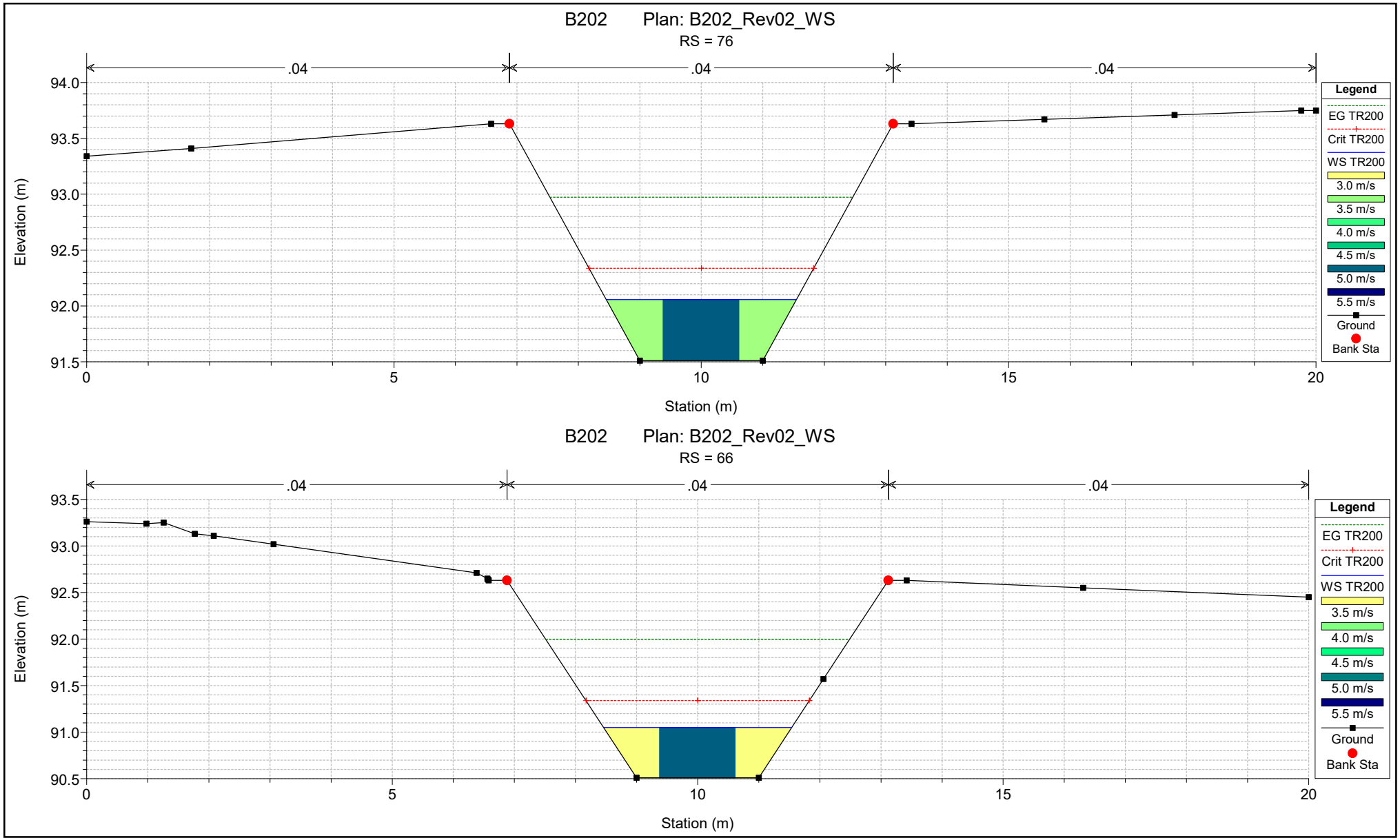

B202 Plan: 1) B202_Rev02_UNIF
RS = 3
.035
.035
.035
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
82.2
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta
B202 Plan: 1) B202_Rev02_UNIF
RS = 2
.036
.036
.036
Elevation (m)
83.6
83.4
83.2
83.0
82.8
82.6
82.4
82.2
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta

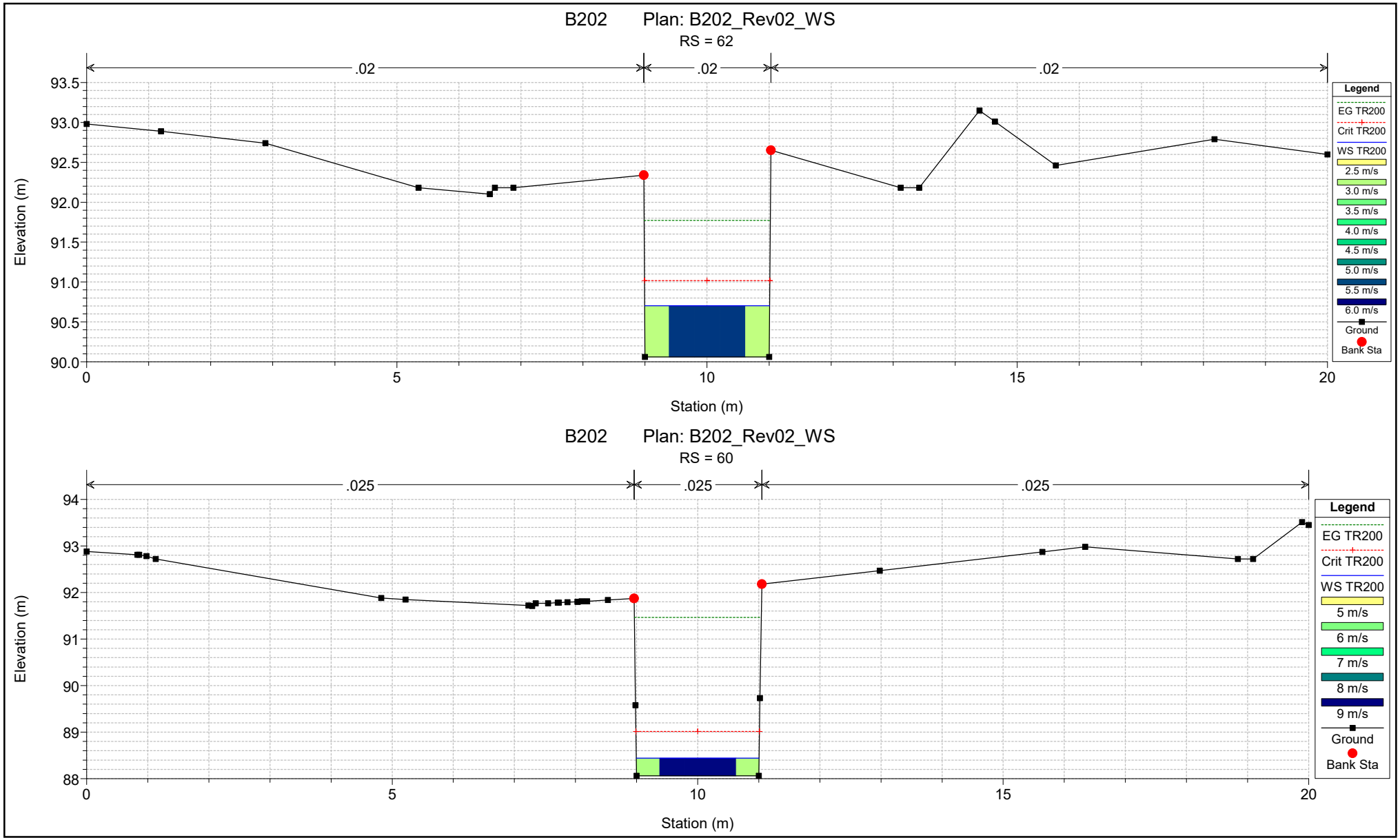
3.2 Bacino B202 – TM01-TM02 Scenario con rigurgito

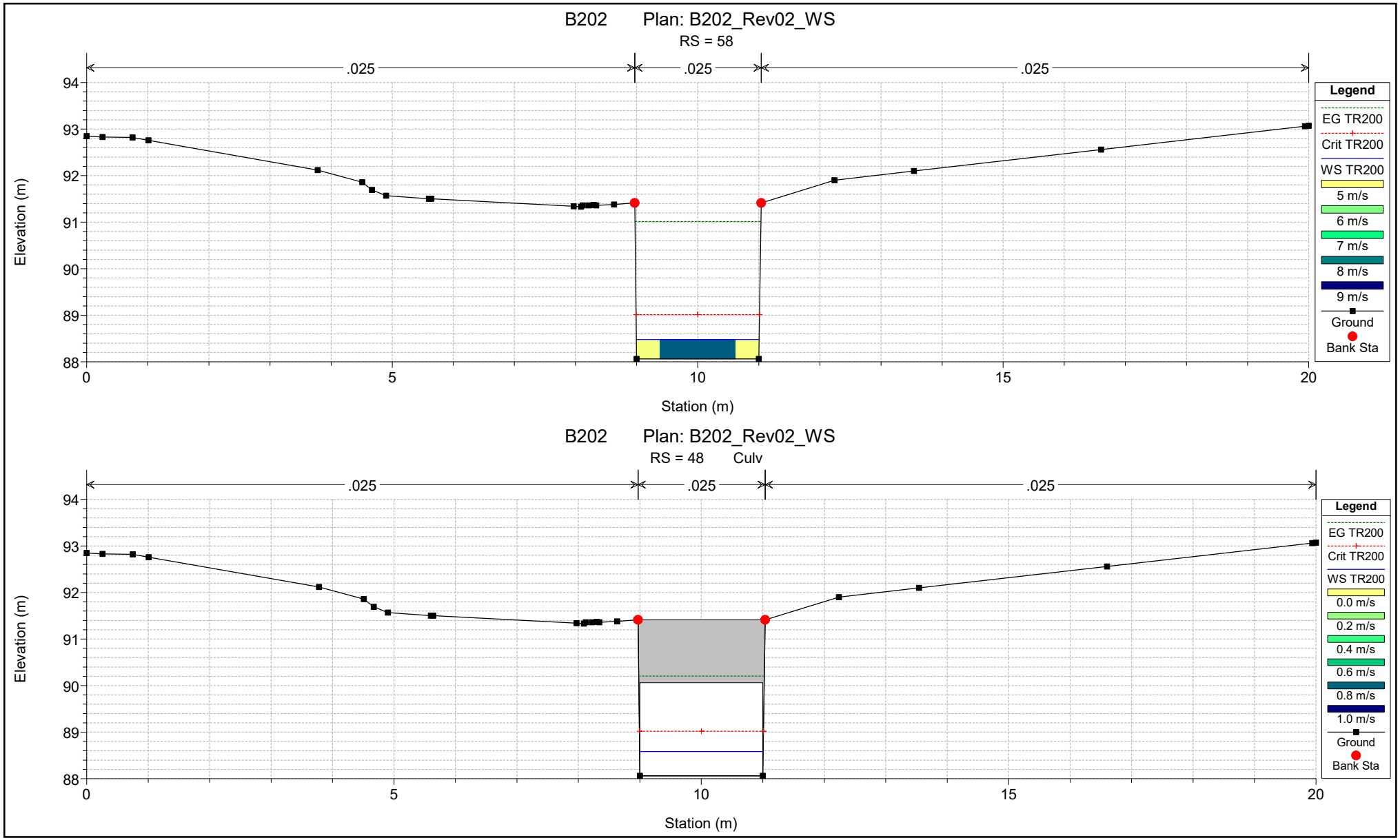
HEC-RAS Plan: B202_Rev02_WS River: B202 Reach: B202 Profile: TR200

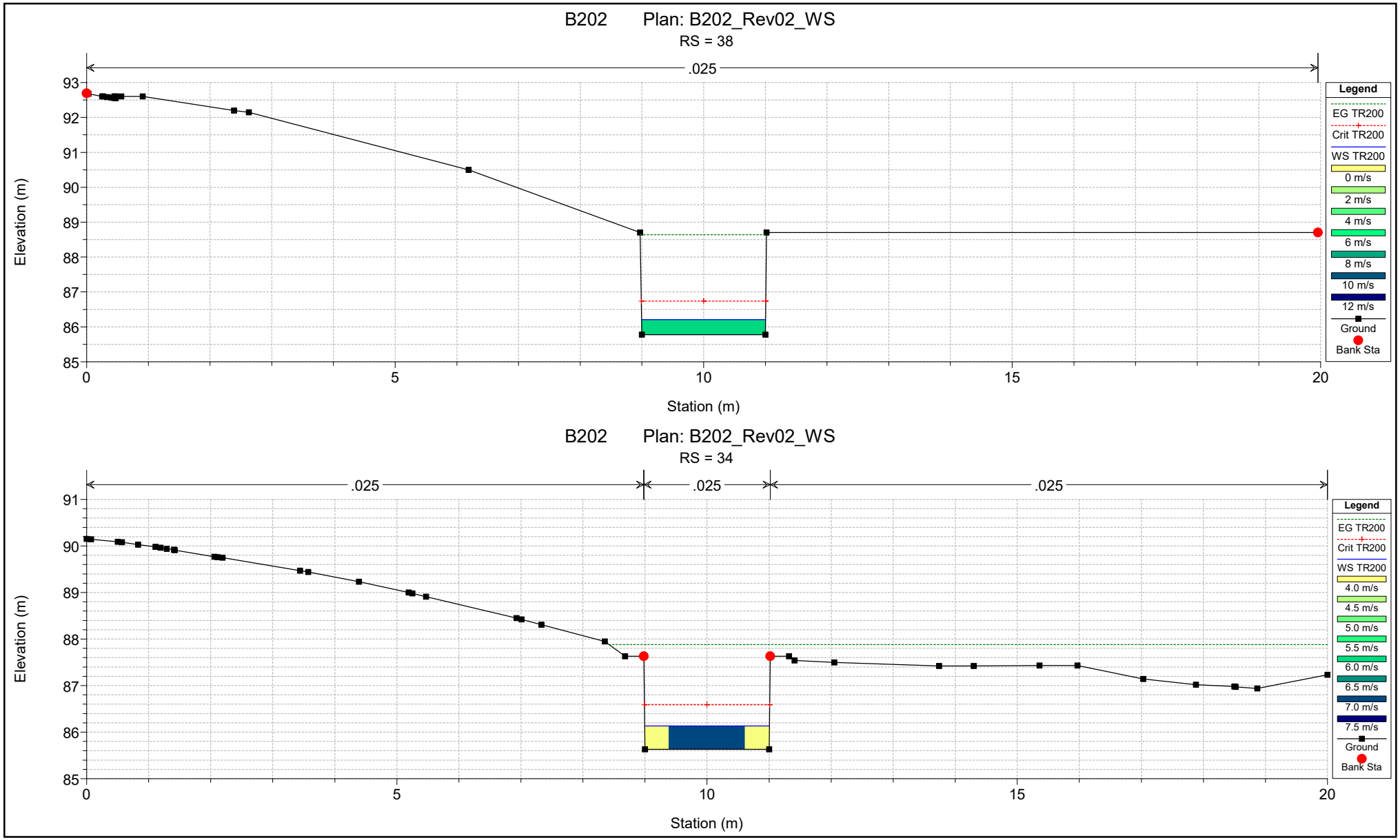
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B202	76 SEZ.1	TR200	5.90	91.51	0.55	92.06	92.34	-0.28	2.02	92.97	4.24	4.24	0.39	385.21	0.45
B202	66 SEZ.2	TR200	5.90	90.51	0.54	91.05	91.34	-0.29	2.06	92.00	4.31	4.31	0.39	399.45	0.44
B202	62 SEZ.3	TR200	5.90	90.06	0.64	90.70	91.02	-0.32	1.83	91.77	4.59	4.59	0.39	112.69	0.64
B202	60 SEZ.4	TR200	5.90	88.06	0.38	88.44	89.02	-0.58	3.98	91.47	7.70	7.70	0.28	557.60	0.38
B202	58 SEZ.5 TM01 MONTE	TR200	5.90	88.06	0.42	88.48	89.02	-0.54	3.49	91.02	7.06	7.06	0.30	458.42	0.42
B202	48 TM01		Culvert												
B202	38 SEZ.6 TM01 VALLE	TR200	5.90	85.78	0.43	86.21	86.74	-0.53	3.39	88.64	6.91	6.91	0.30	437.90	0.43
B202	34 SEZ.7	TR200	5.90	85.63	0.50	86.13	86.59	-0.46	2.64	87.88	5.86	5.86	0.34	303.07	0.50
B202	26 SEZ.8	TR200	5.90	85.20	0.56	85.76	86.16	-0.40	2.23	87.15	5.22	5.22	0.36	234.78	0.56
B202	24 SEZ.9	TR200	5.90	83.39	0.36	83.75	84.31	-0.56	4.13	86.79	7.72	7.72	0.28	561.54	0.36
B202	22 SEZ.10 TM02 MONT	TR200	5.90	83.39	0.42	83.81	84.35	-0.54	3.45	86.31	7.00	7.00	0.30	450.68	0.42
B202	20 TM02		Culvert												
B202	9 SEZ.11 TM02 VALL	TR200	5.90	83.06	0.59	83.65	84.00	-0.35	2.05	84.86	4.87	4.87	0.38	200.90	0.58
B202	8.3	TR200	5.90	83.00	0.59	83.59	83.95	-0.36	2.11	84.83	4.93	4.93	0.39	220.40	0.56
B202	8	TR200	5.90	82.94	0.59	83.53	83.90	-0.37	2.18	84.80	4.98	4.98	0.39	241.82	0.53
B202	7.3	TR200	5.90	82.89	0.58	83.47	83.84	-0.37	2.25	84.76	5.03	5.03	0.39	265.71	0.51
B202	7	TR200	5.90	82.83	0.57	83.40	83.78	-0.38	2.34	84.72	5.08	5.08	0.39	272.30	0.48
B202	6.4	TR200	5.90	82.77	0.56	83.33	83.71	-0.38	2.44	84.68	5.14	5.14	0.38	300.80	0.45
B202	6	TR200	5.90	82.71	0.54	83.26	83.63	-0.37	2.55	84.63	5.19	5.19	0.37	332.36	0.42
B202	5.4	TR200	5.90	82.66	0.52	83.18	83.55	-0.37	2.68	84.58	5.24	5.24	0.35	367.23	0.39
B202	5	TR200	5.90	82.60	1.47	84.07	83.46	0.61	0.34	84.12	1.02	1.02	0.79	11.21	0.89
B202	4.4	TR200	5.90	82.54	1.54	84.08	83.36	0.72	0.26	84.11	0.77	0.77	0.82	6.84	0.88
B202	4	TR200	5.90	82.48	1.61	84.09	83.25	0.84	0.16	84.11	0.51	0.45	0.65	2.78	0.68
B202	3.4	TR200	5.90	82.42	1.67	84.10	83.12	0.98	0.10	84.10	0.34	0.30	0.95	1.21	1.02
B202	3	TR200	5.90	82.37	1.73	84.10	82.96	1.14	0.07	84.10	0.25	0.23	1.20	0.68	1.34
B202	2 SEZ.12	TR200	5.90	82.31	1.79	84.10	82.66	1.44	0.05	84.10	0.20	0.19	1.42	0.44	1.65

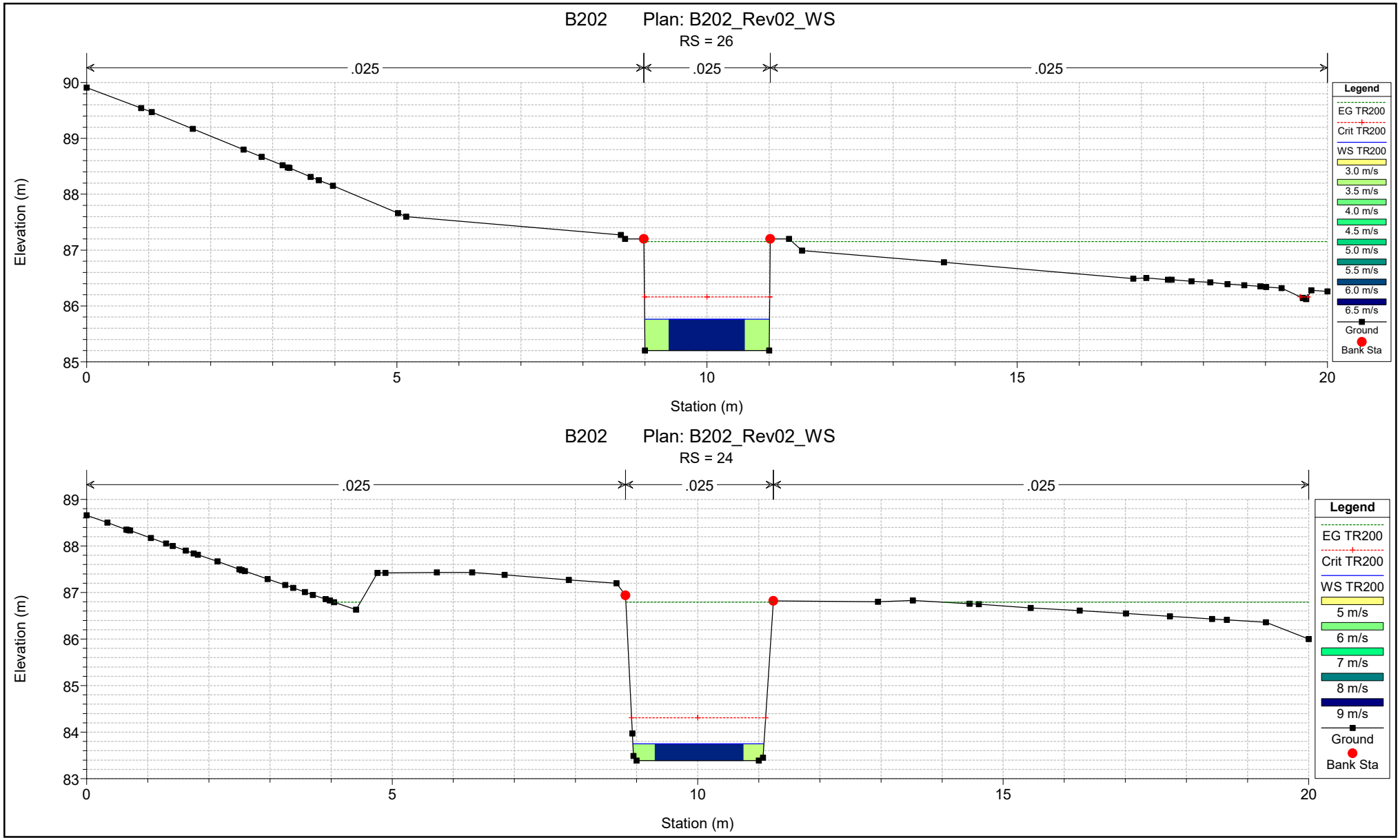

B202 Plan: B202_Rev02_WS
B202 B202
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
94
92
90
88
86
84
82
0
10
20
30
40
50
60
70
80
Main Channel Distance (m)
SEZ.11
TM02
SEZ.9
SEZ.8
SEZ.7
SEZ.6 TM01 VALLE
TM01
SEZ.4
SEZ.3
SEZ.2
SEZ.1

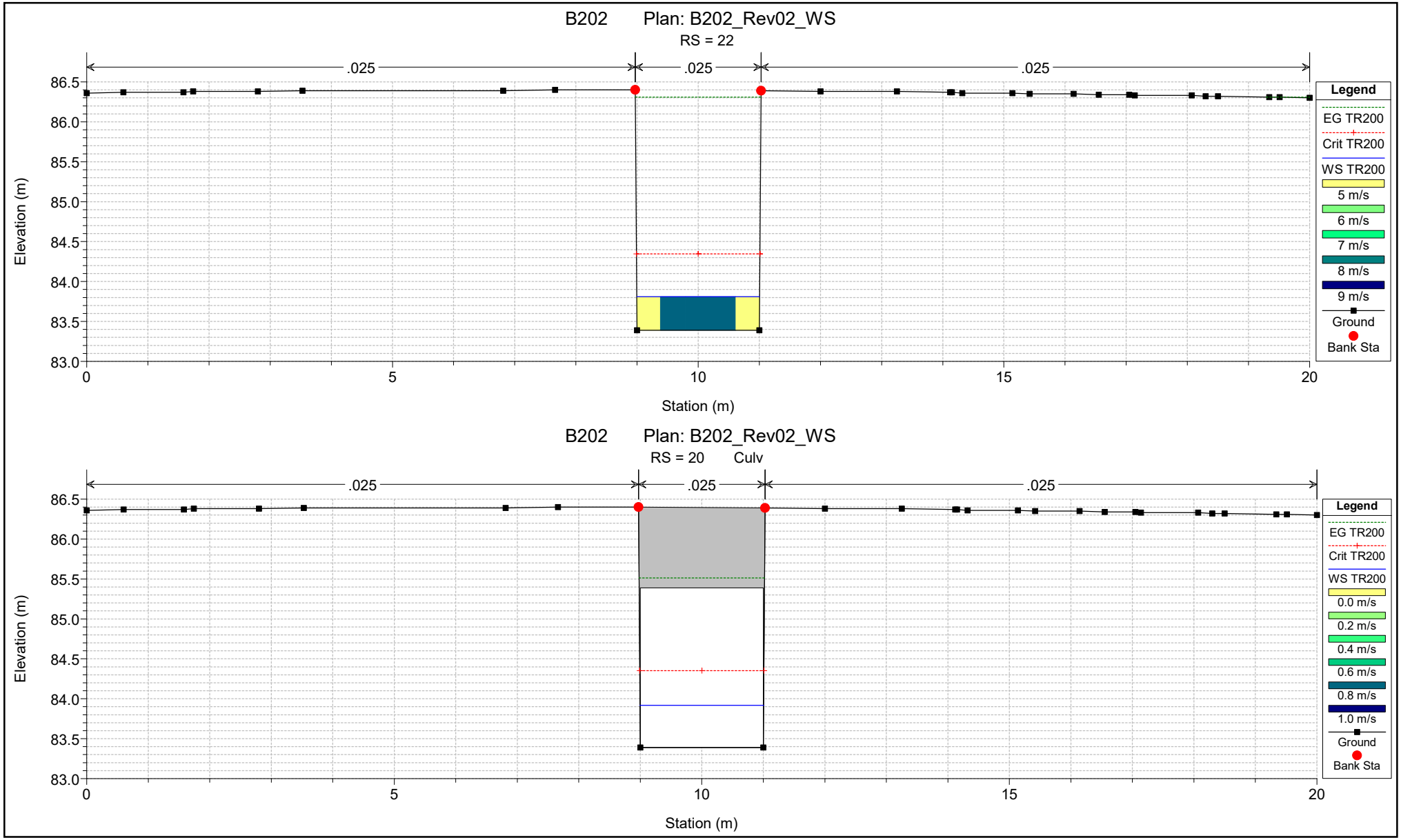

B202 Plan: B202_Rev02_WS
RS = 76
.04
.04
.04
94.0
93.5
93.0
92.5
92.0
91.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 66
.04
.04
.04
93.5
93.0
92.5
92.0
91.5
91.0
90.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
Ground
Bank Sta

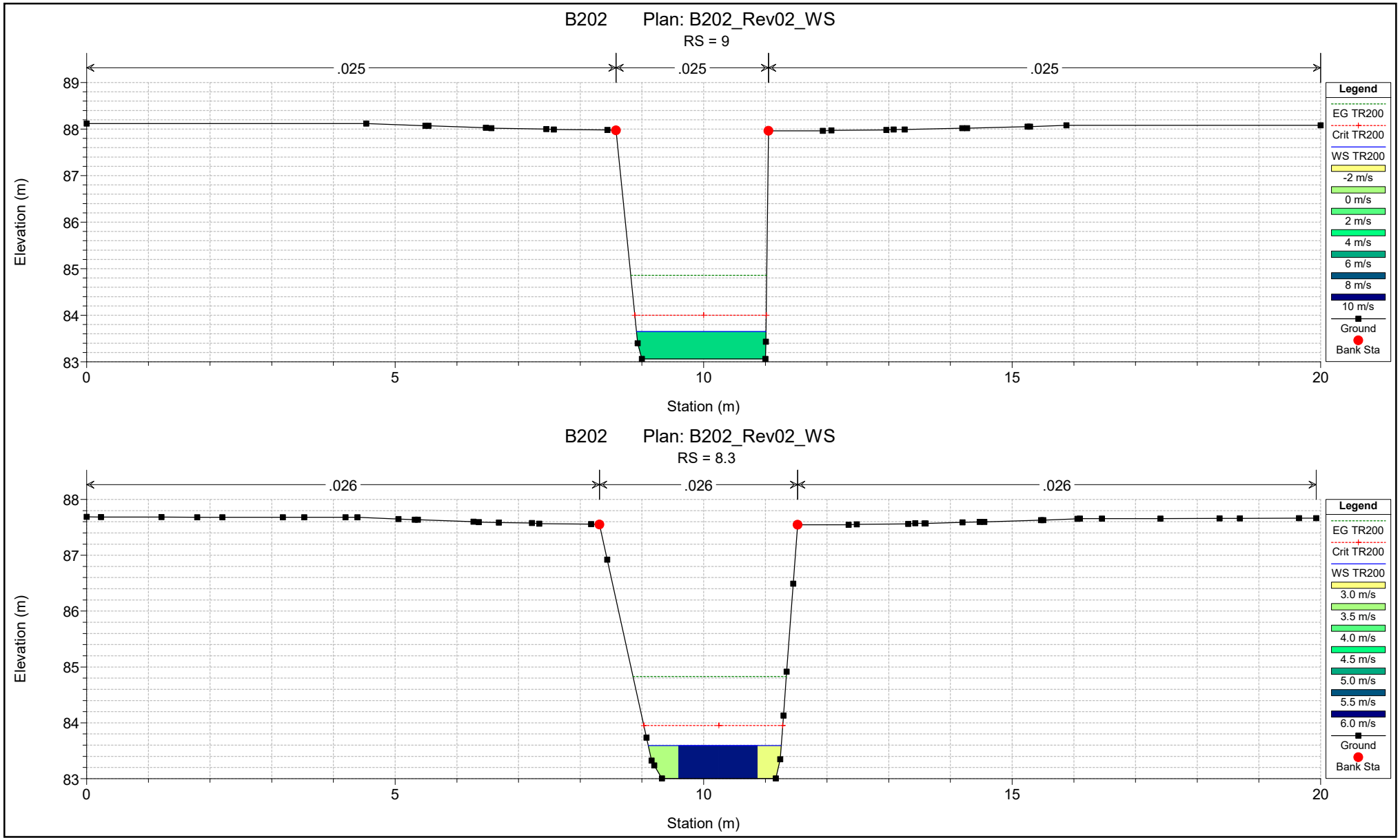

B202 Plan: B202_Rev02_WS
RS = 62
.02
.02
.02
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 60
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta

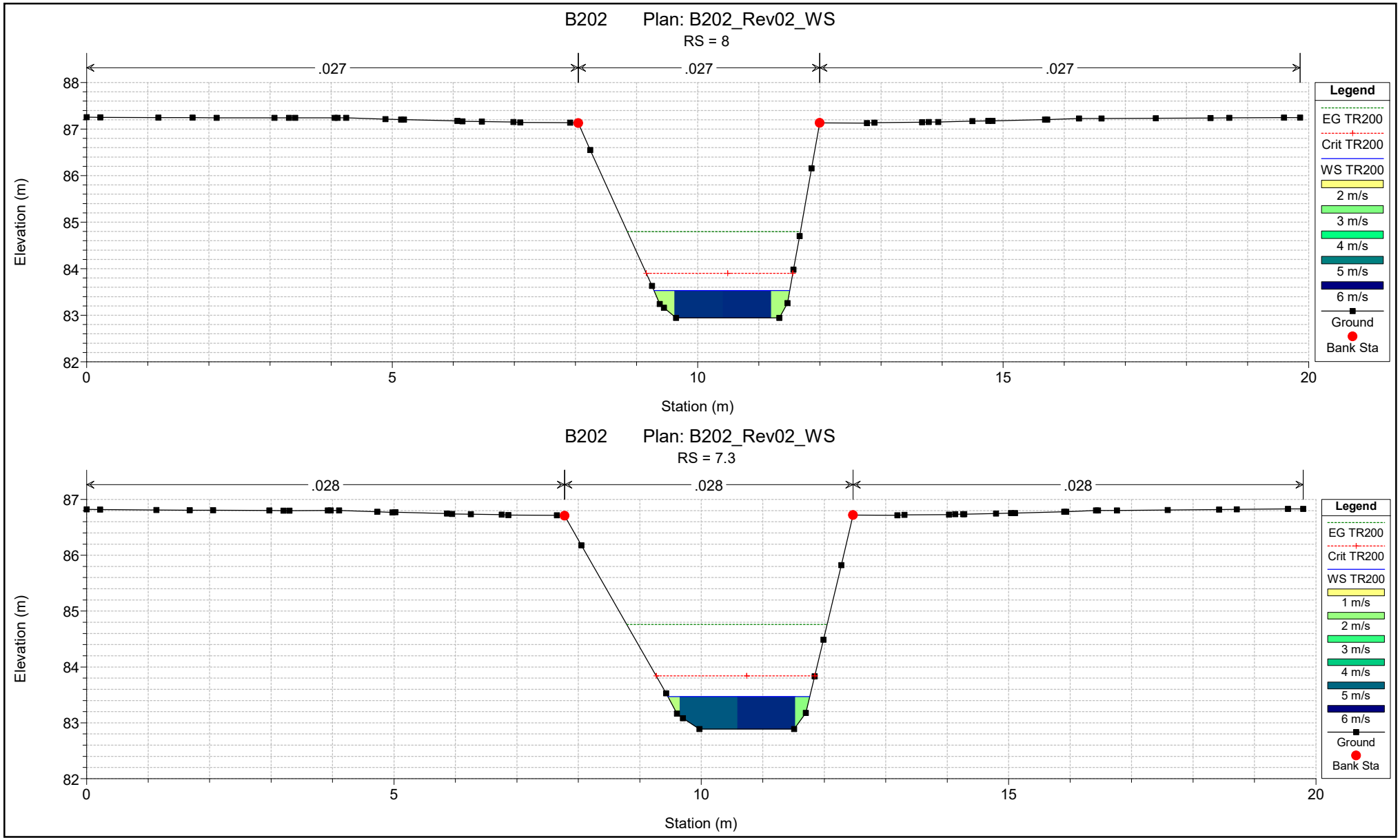

B202 Plan: B202_Rev02_WS
RS = 58
.025
.025
.025
Elevation (m)
94
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 48 Culv
.025
.025
.025
Elevation (m)
94
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

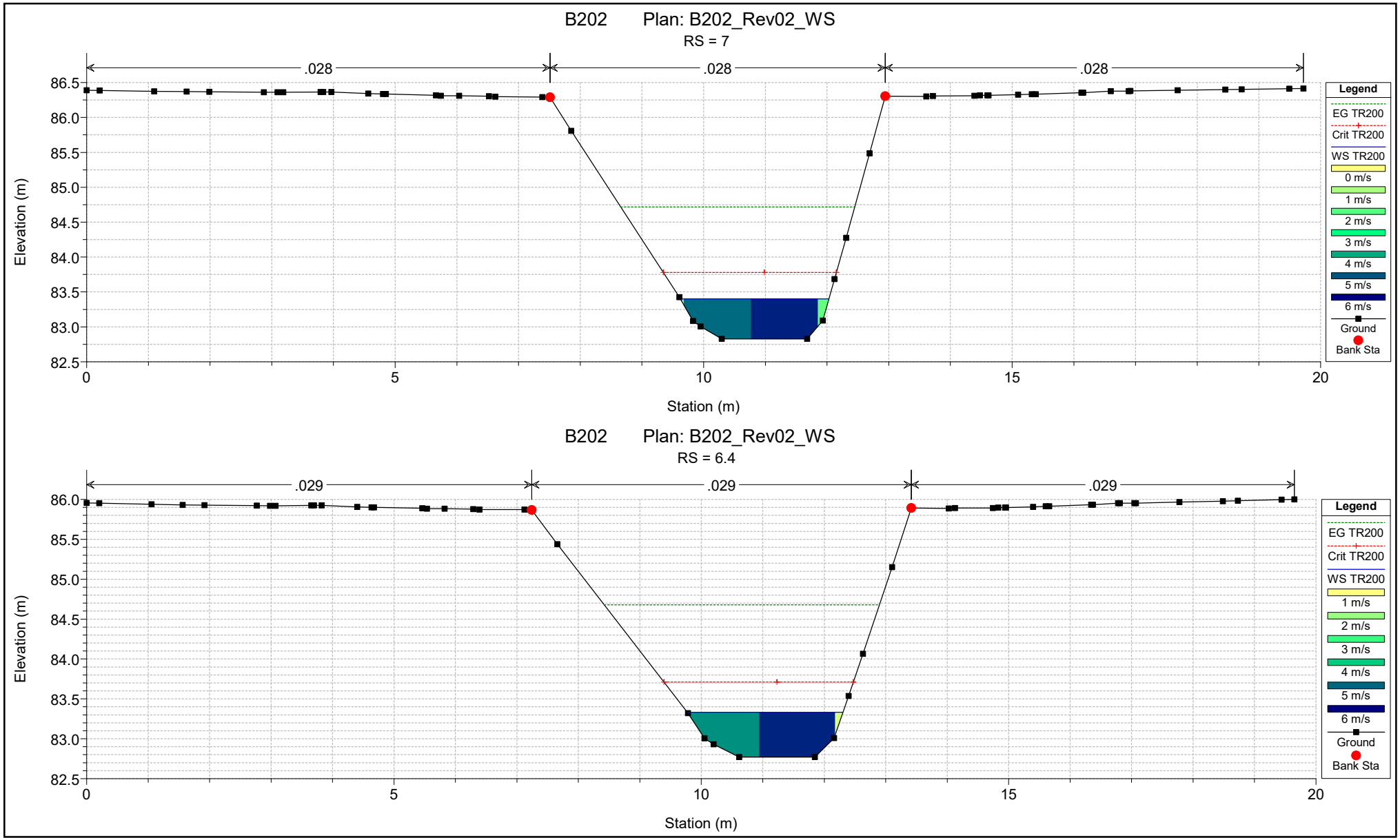

B202 Plan: B202_Rev02_WS
RS = 38
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
12 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 34
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta

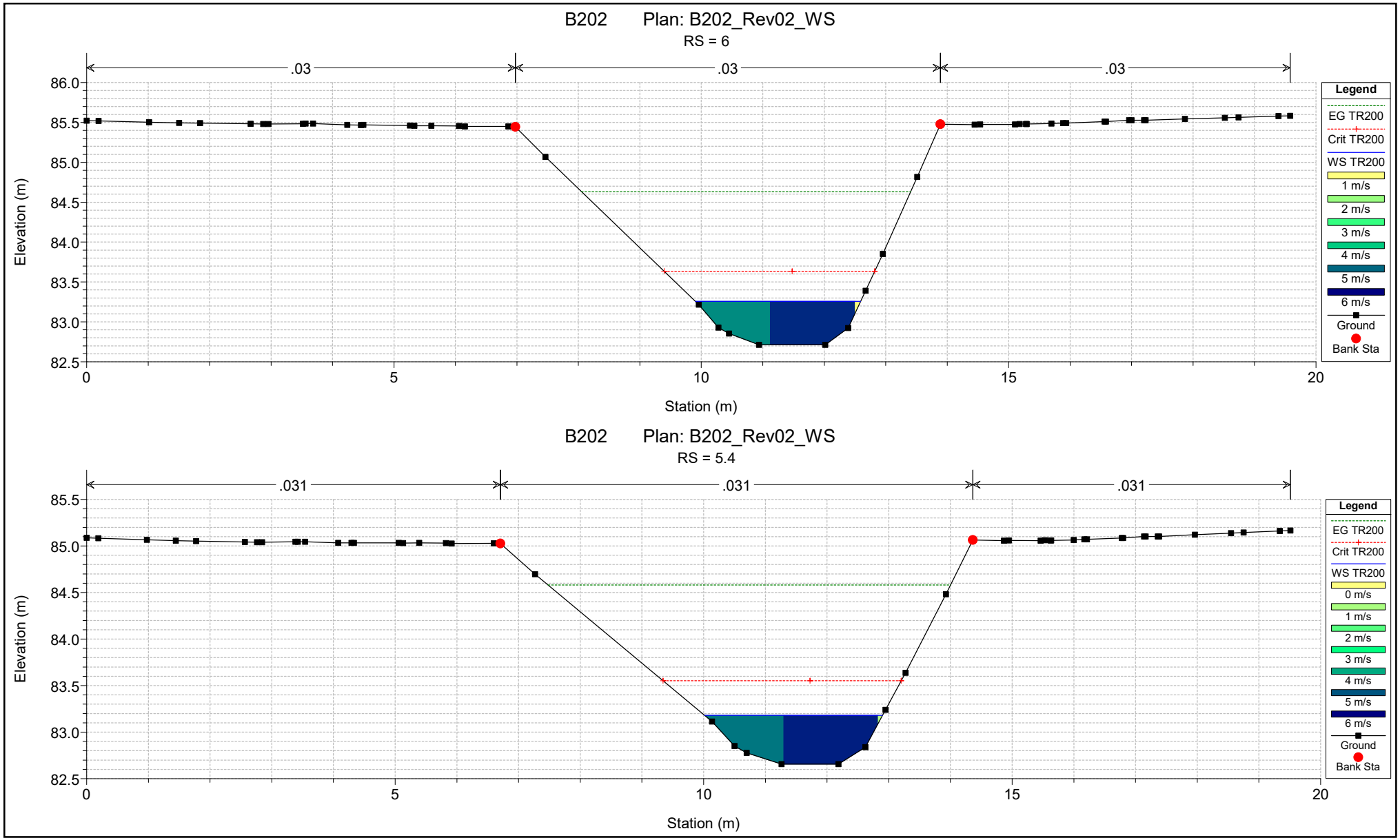

B202 Plan: B202_Rev02_WS
RS = 26
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 24
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta

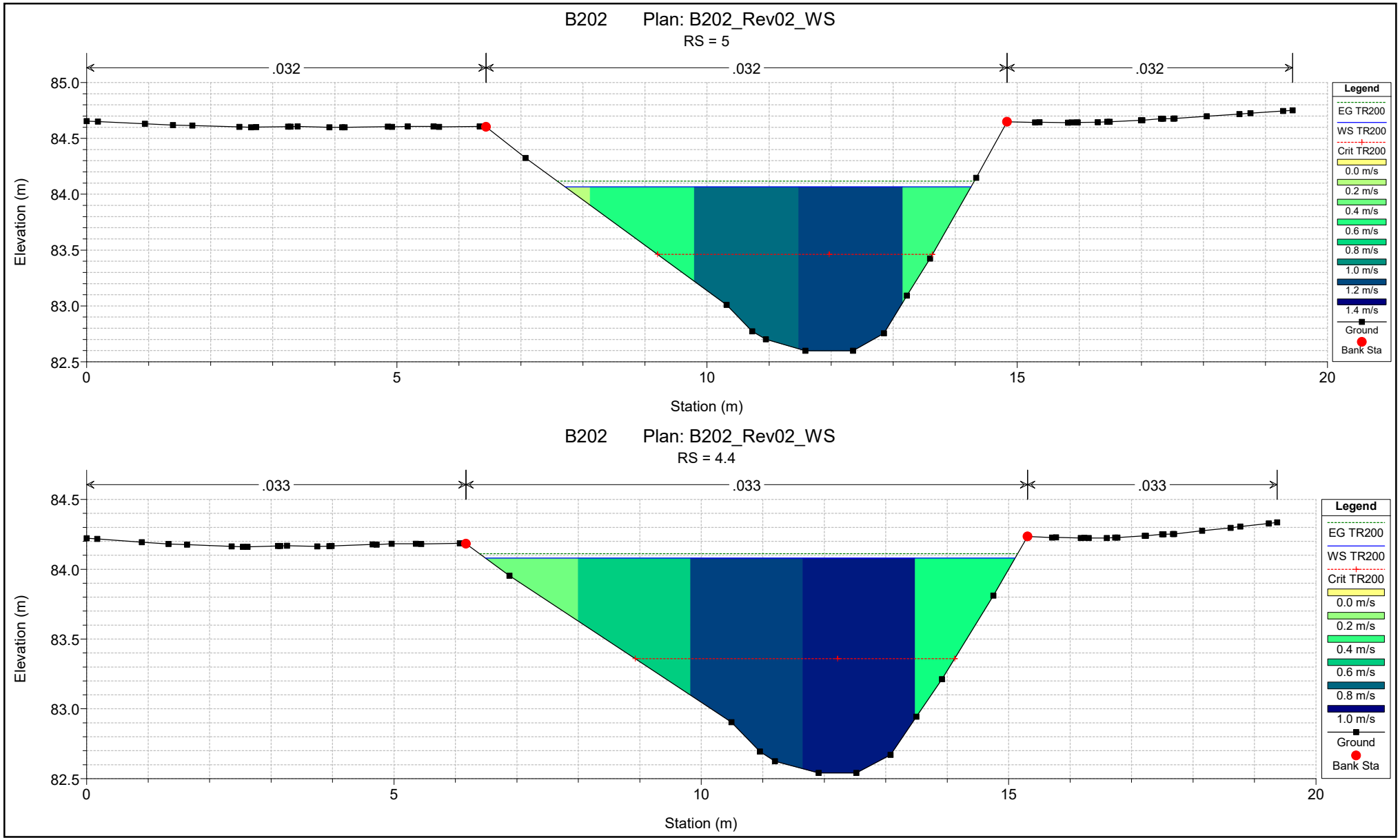

B202 Plan: B202_Rev02_WS
RS = 22
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5 m/s
6 m/s
7 m/s
8 m/s
9 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 20 Culv
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

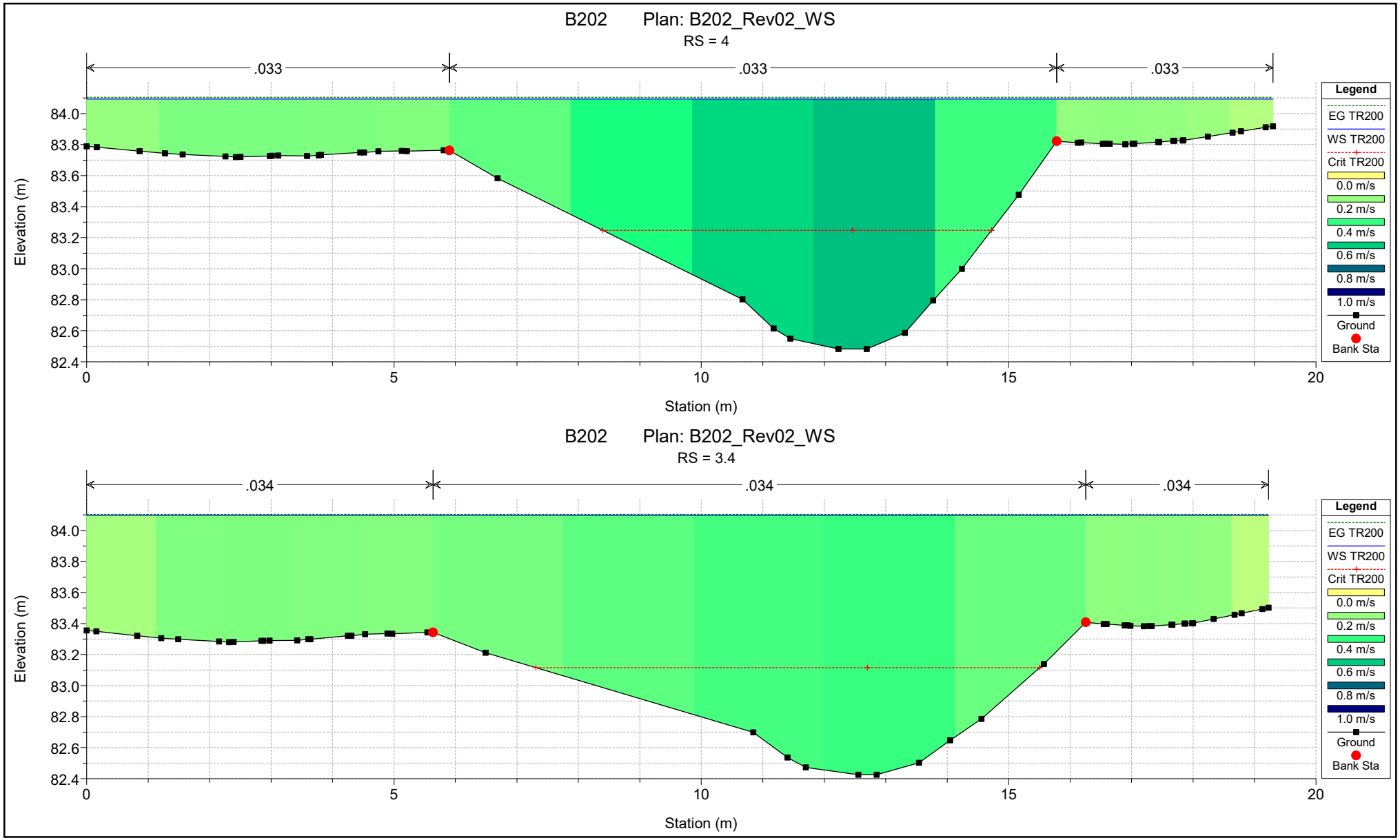

B202 Plan: B202_Rev02_WS
RS = 9
.025
.025
.025
Elevation (m)
89
88
87
86
85
84
83
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
-2 m/s
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 8.3
.026
.026
.026
Elevation (m)
88
87
86
85
84
83
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
5.0 m/s
5.5 m/s
6.0 m/s
Ground
Bank Sta

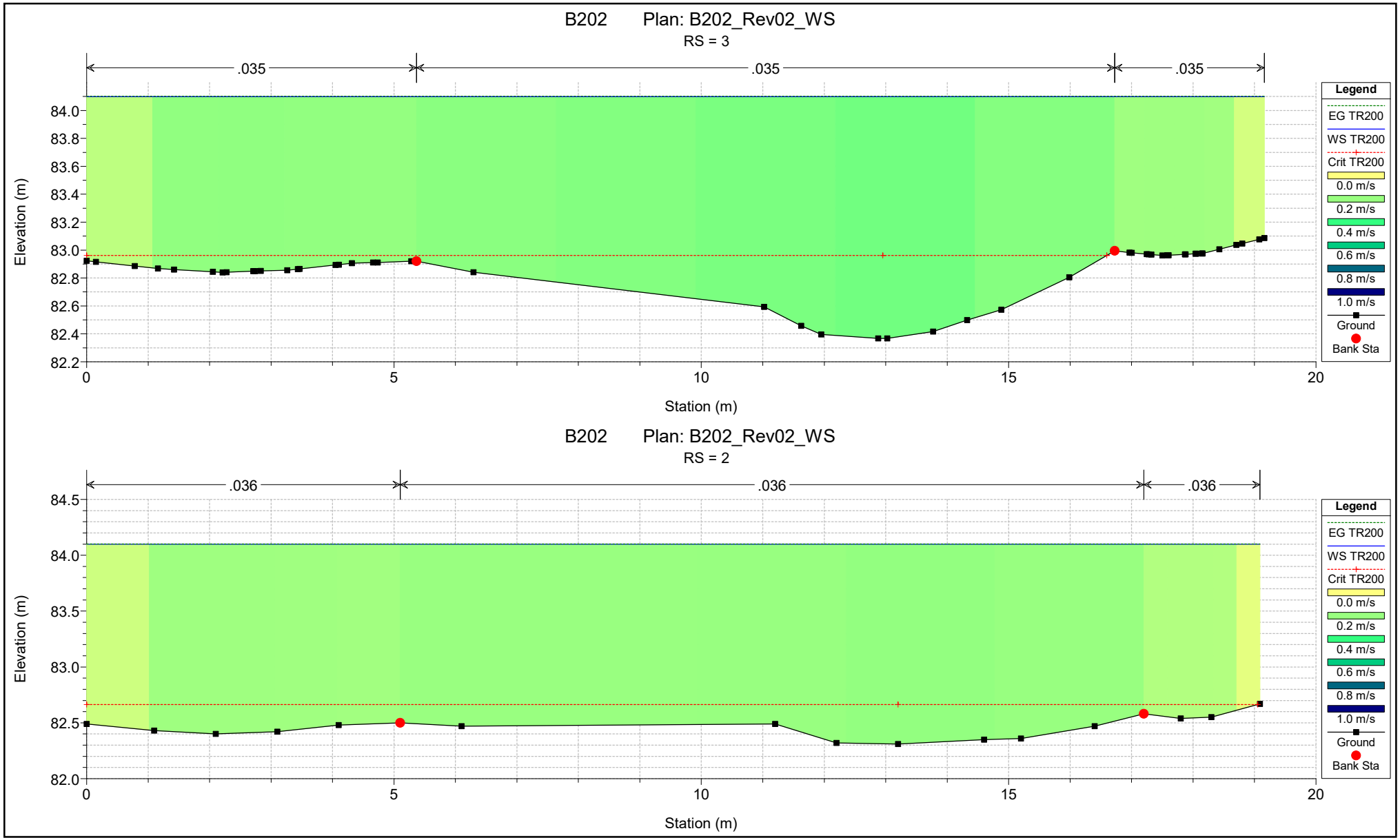

B202 Plan: B202_Rev02_WS
RS = 8
.027
.027
.027
Elevation (m)
88
87
86
85
84
83
82
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 7.3
.028
.028
.028
Elevation (m)
87
86
85
84
83
82
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: B202_Rev02_WS
RS = 7
.028
.028
.028
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 6.4
.029
.029
.029
Elevation (m)
86.0
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: B202_Rev02_WS
RS = 6
.03
.03
.03
Elevation (m)
86.0
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 5.4
.031
.031
.031
Elevation (m)
85.5
85.0
84.5
84.0
83.5
83.0
82.5
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta


B202 Plan: B202_Rev02_WS
RS = 5
.032
.032
.032
85.0
84.5
84.0
83.5
83.0
82.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 4.4
.033
.033
.033
84.5
84.0
83.5
83.0
82.5
Elevation (m)
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

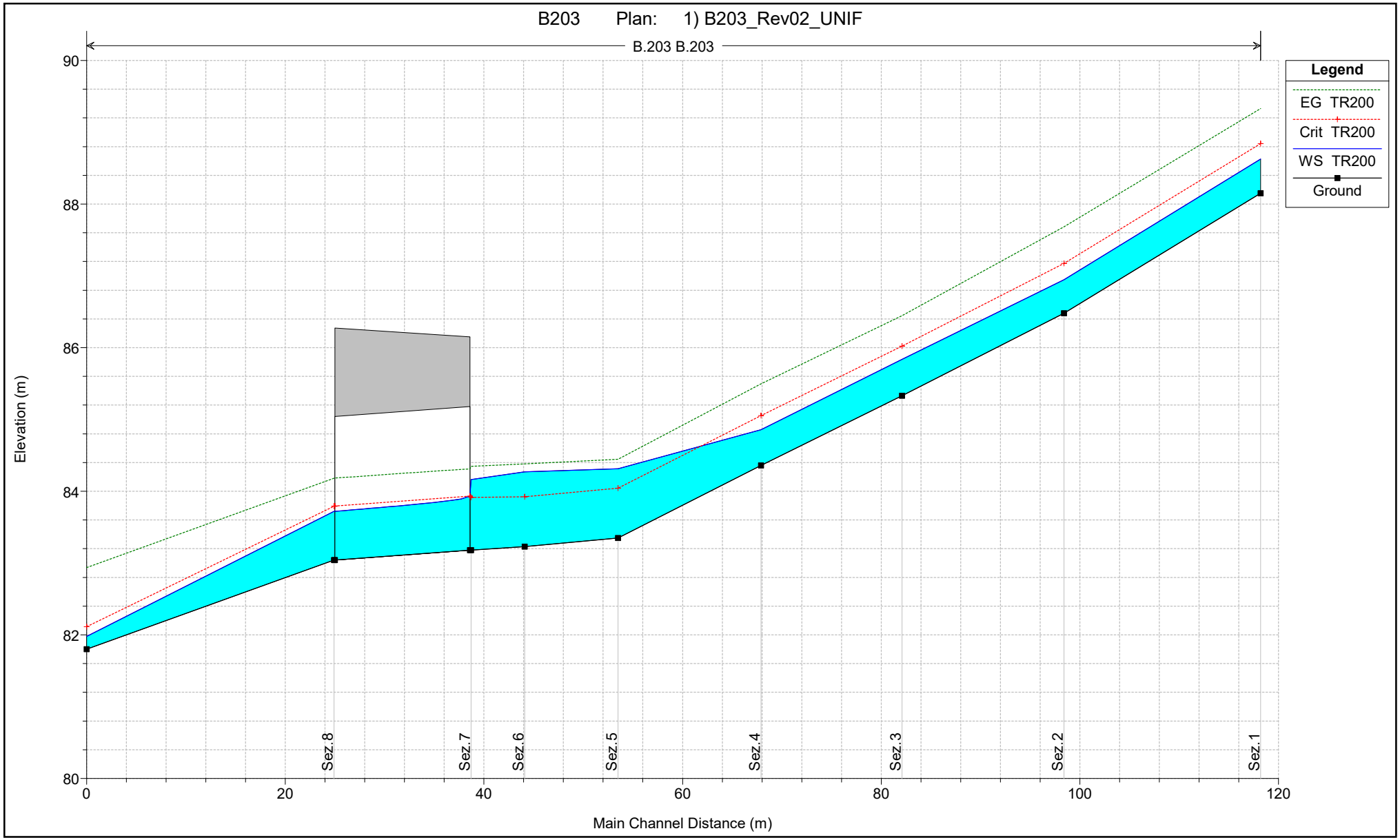

B202 Plan: B202_Rev02_WS
RS = 4
.033
.033
.033
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 3.4
.034
.034
.034
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

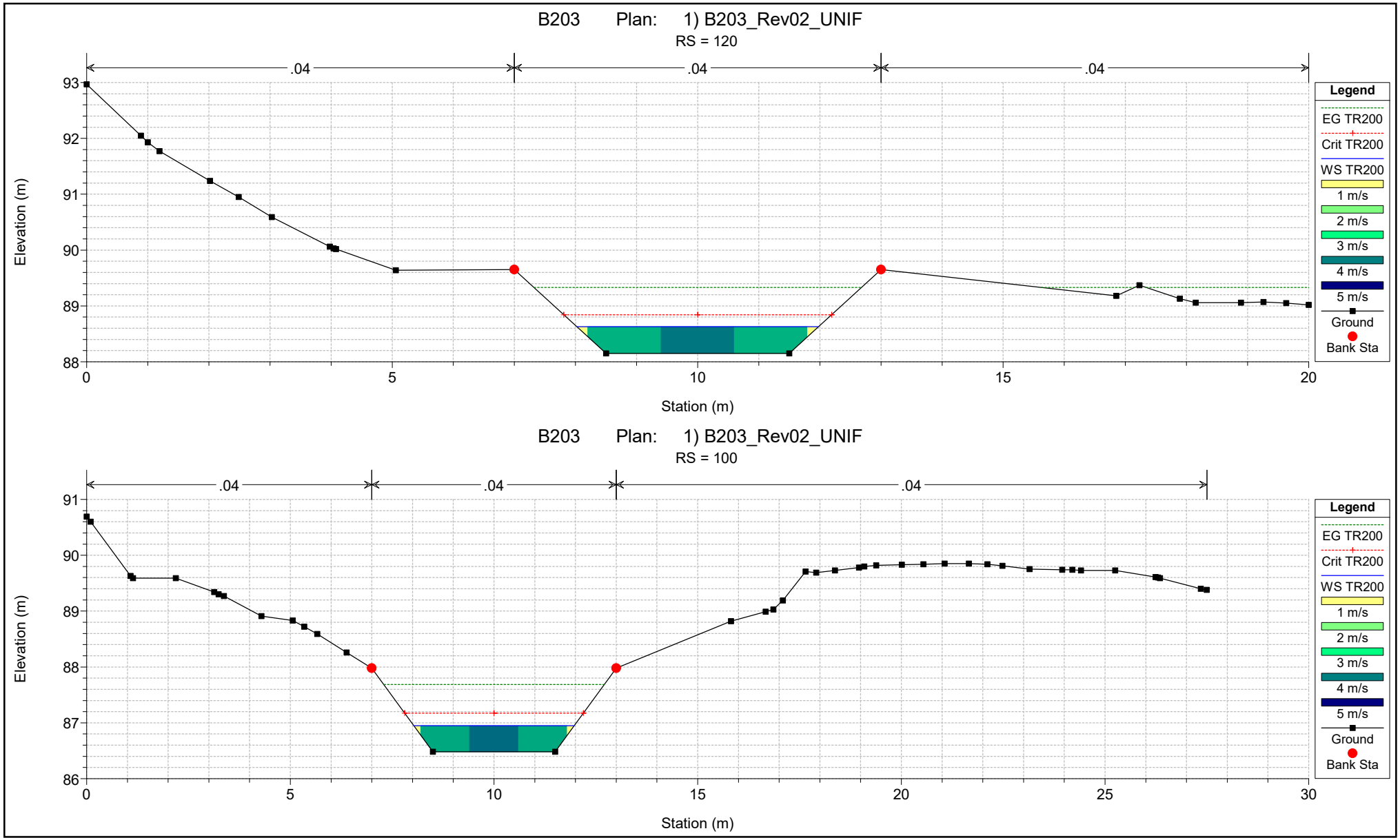

B202 Plan: B202_Rev02_WS
RS = 3
.035
.035
.035
Elevation (m)
84.0
83.8
83.6
83.4
83.2
83.0
82.8
82.6
82.4
82.2
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta
B202 Plan: B202_Rev02_WS
RS = 2
.036
.036
.036
Elevation (m)
84.5
84.0
83.5
83.0
82.5
82.0
0
5
10
15
20
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

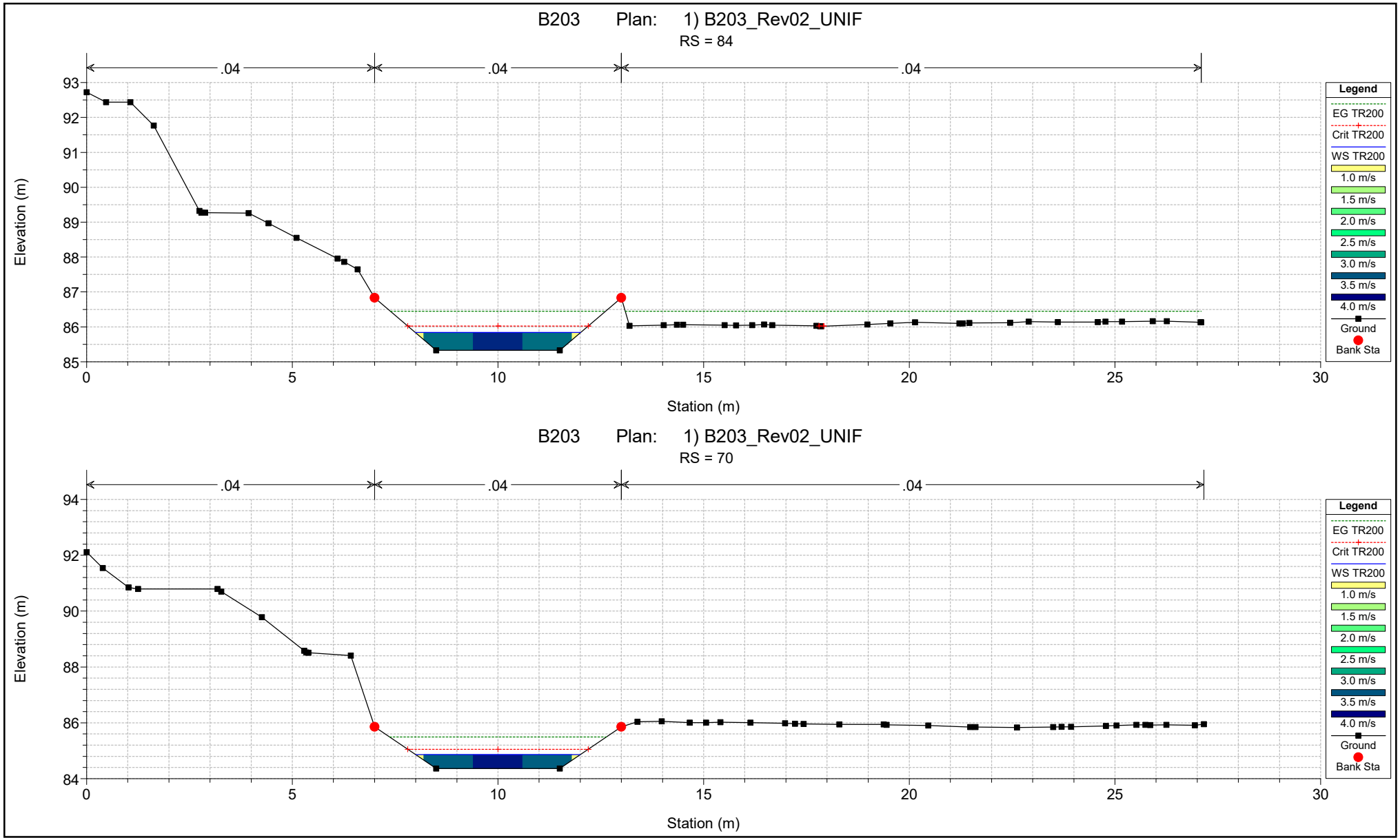
3.3 Bacino B203 – TM03 Scenario senza rigurgito

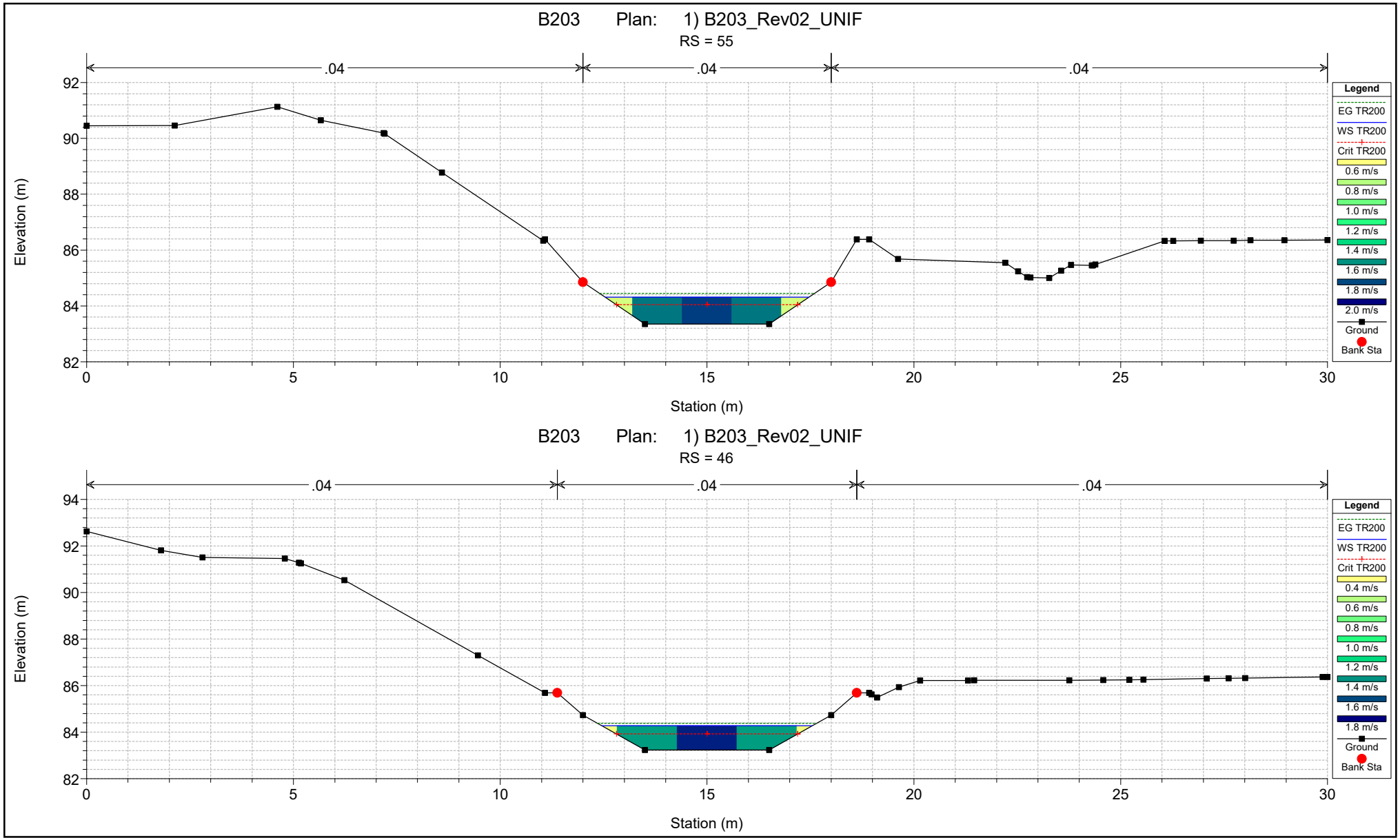
HEC-RAS Plan: B203_Rev02_UNIF River: B.203 Reach: B.203 Profile: TR200

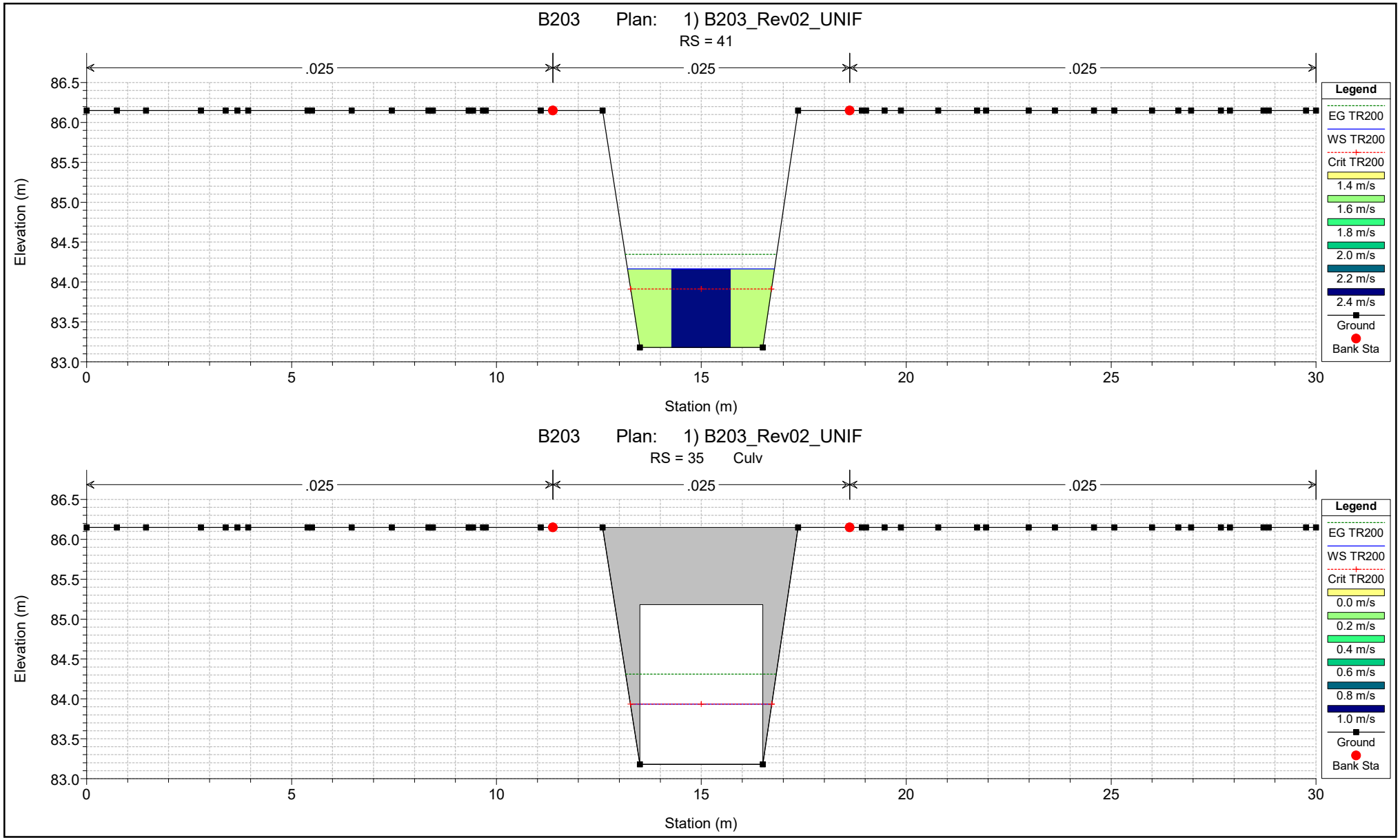
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B.203	120 Sez.1	TR200	6.15	88.15	0.48	88.63	88.84	-0.21	1.83	89.33	3.72	3.72	0.38	298.84	0.42
B.203	100 Sez.2	TR200	6.15	86.48	0.47	86.95	87.17	-0.22	1.90	87.68	3.81	3.81	0.37	315.38	0.41
B.203	84 Sez.3	TR200	6.15	85.33	0.51	85.84	86.02	-0.18	1.65	86.44	3.45	3.45	0.40	252.38	0.44
B.203	70 Sez.4	TR200	6.15	84.36	0.50	84.86	85.05	-0.19	1.71	85.50	3.54	3.54	0.39	267.88	0.44
B.203	55 Sez.5	TR200	6.15	83.35	0.96	84.31	84.04	0.27	0.58	84.45	1.61	1.61	0.67	46.63	0.77
B.203	46 Sez.6	TR200	6.15	83.23	1.04	84.27	83.92	0.35	0.51	84.38	1.46	1.46	0.71	37.60	0.83
B.203	41 Sez.7	TR200	6.15	83.18	0.98	84.16	83.91	0.25	0.64	84.35	1.90	1.90	0.64	25.62	0.90
B.203	35		Culvert												
B.203	27 Sez.8	TR200	6.15	83.04	0.68	83.72	83.79	-0.07	1.17	84.18	3.01	3.01	0.47	71.31	0.68
B.203	2 Sez.9	TR200	6.15	81.80	0.18	81.98	82.11	-0.13	5.17	82.94	4.34	4.34	0.07	576.01	0.07

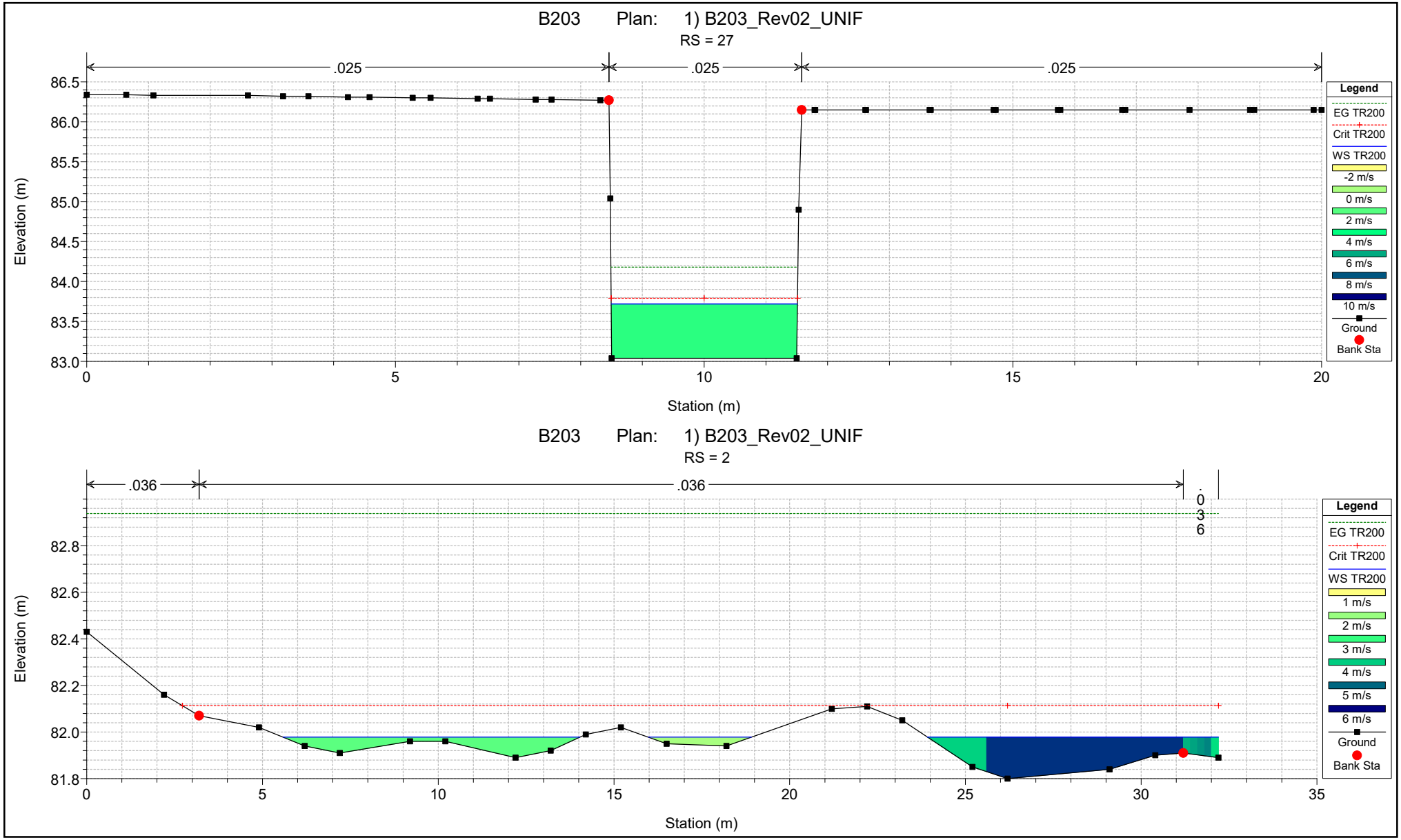

B203 Plan: 1) B203_Rev02_UNIF
B.203 B.203
Legend
EG TR200
Crit TR200
WS TR200
Ground
Elevation (m)
90
88
86
84
82
80
0
20
40
60
80
100
120
Main Channel Distance (m)
Sez.8
Sez.7
Sez.6
Sez.5
Sez.4
Sez.3
Sez.2
Sez.1


B203 Plan: 1) B203_Rev02_UNIF
RS = 120
.04
.04
.04
Elevation (m)
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta
B203 Plan: 1) B203_Rev02_UNIF
RS = 100
.04
.04
.04
Elevation (m)
91
90
89
88
87
86
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta


B203 Plan: 1) B203_Rev02_UNIF
RS = 84
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta
B203 Plan: 1) B203_Rev02_UNIF
RS = 70
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta


B203 Plan: 1) B203_Rev02_UNIF
RS = 55
.04
.04
.04
Elevation (m)
92
90
88
86
84
82
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
Ground
Bank Sta
B203 Plan: 1) B203_Rev02_UNIF
RS = 46
.04
.04
.04
Elevation (m)
94
92
90
88
86
84
82
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
Ground
Bank Sta

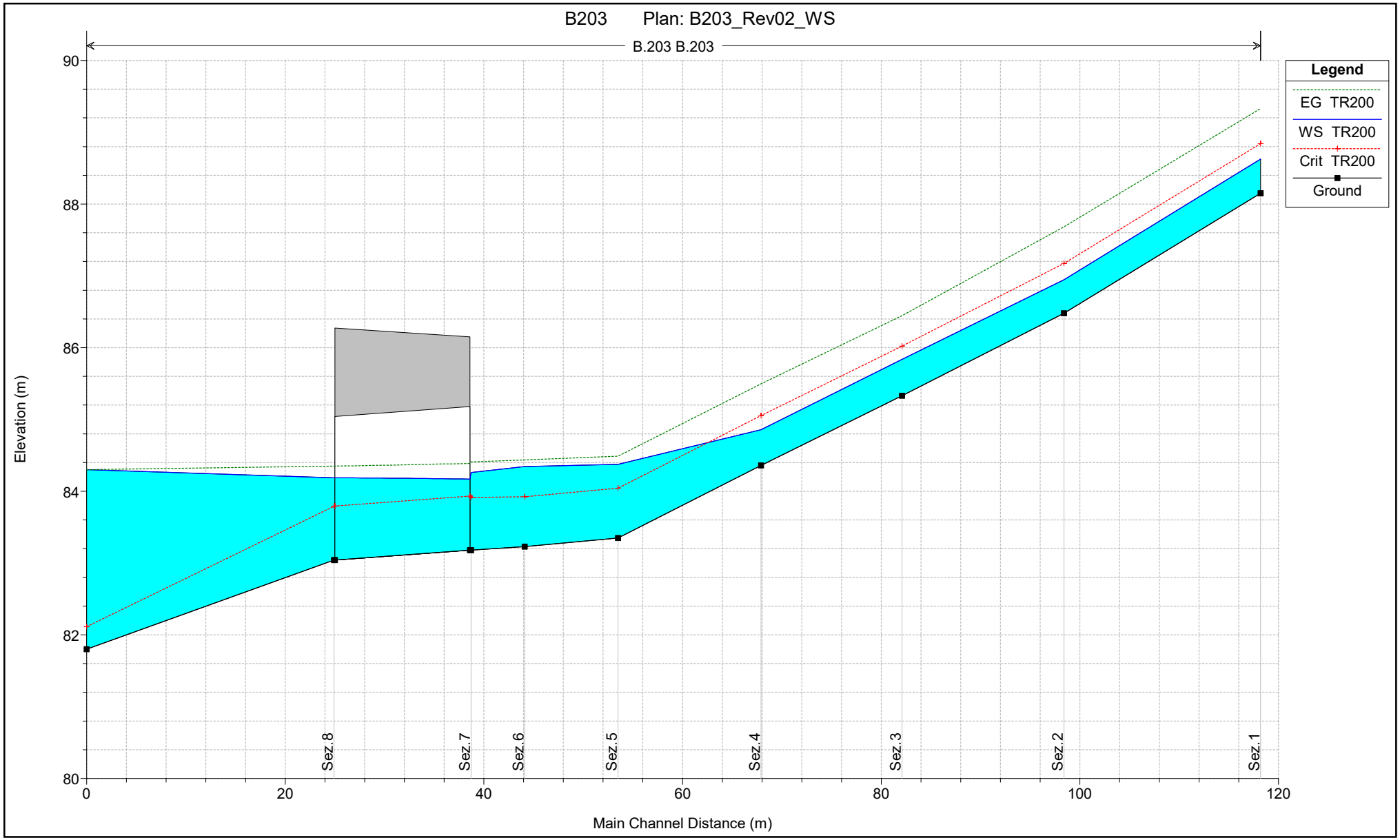

B203 Plan: 1) B203_Rev02_UNIF
RS = 41
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
Ground
Bank Sta
B203 Plan: 1) B203_Rev02_UNIF
RS = 35 Culv
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

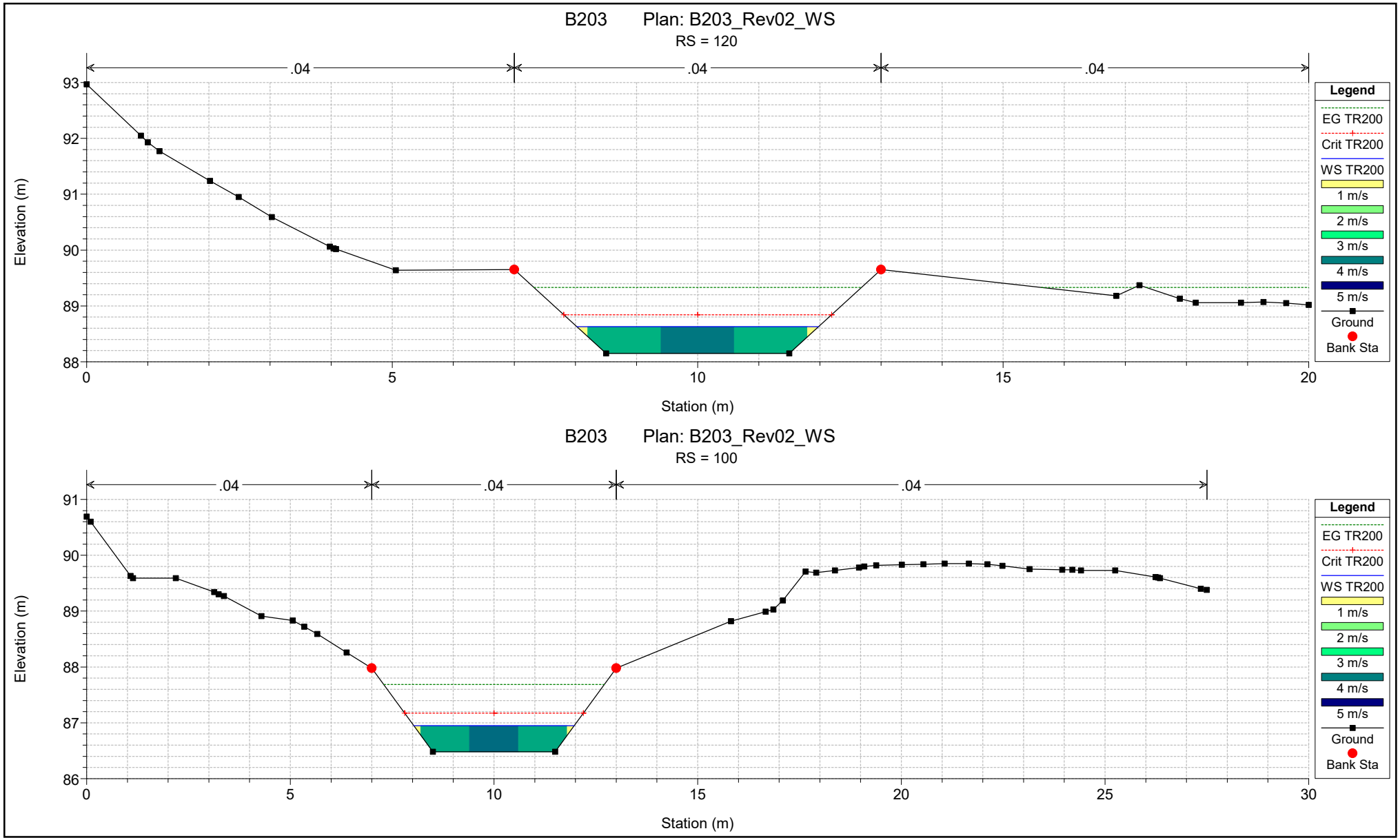

B203 Plan: 1) B203_Rev02_UNIF
RS = 27
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
-2 m/s
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
Ground
Bank Sta
B203 Plan: 1) B203_Rev02_UNIF
RS = 2
.036
.036
.036
Elevation (m)
82.8
82.6
82.4
82.2
82.0
81.8
0
5
10
15
20
25
30
35
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta

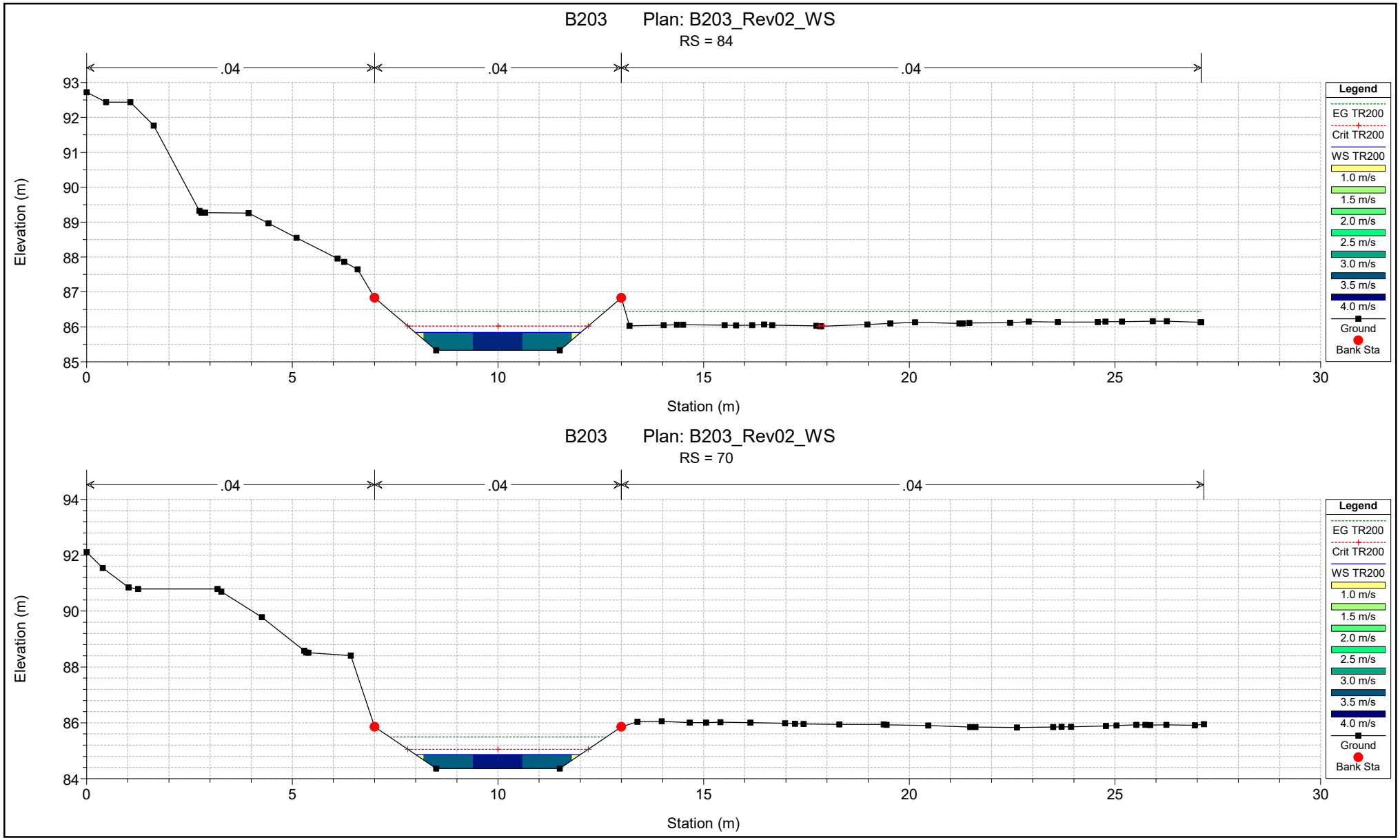
3.4 Bacino B203 – TM03 Scenario con rigurgito

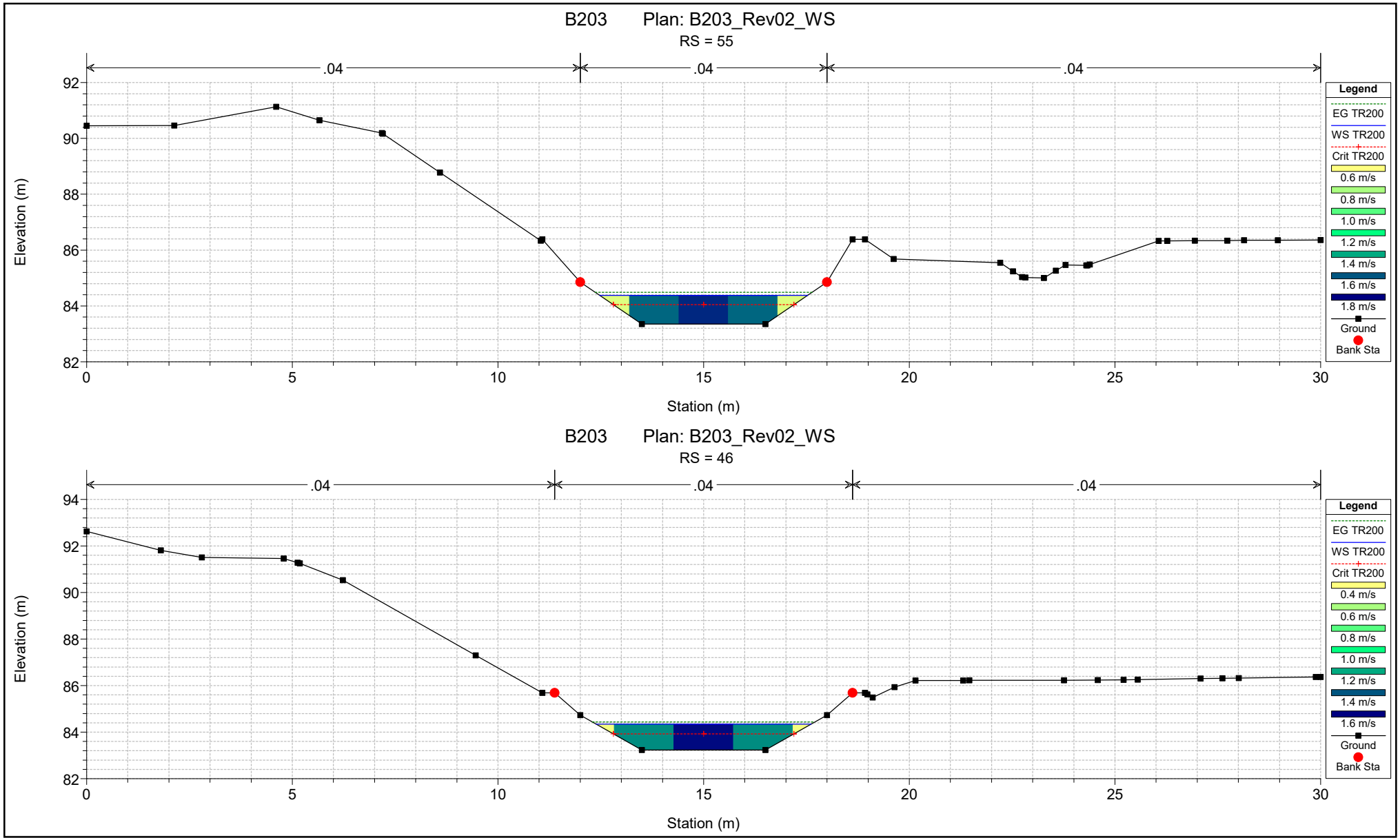
HEC-RAS Plan: B203_Rev02_WS River: B.203 Reach: B.203 Profile: TR200

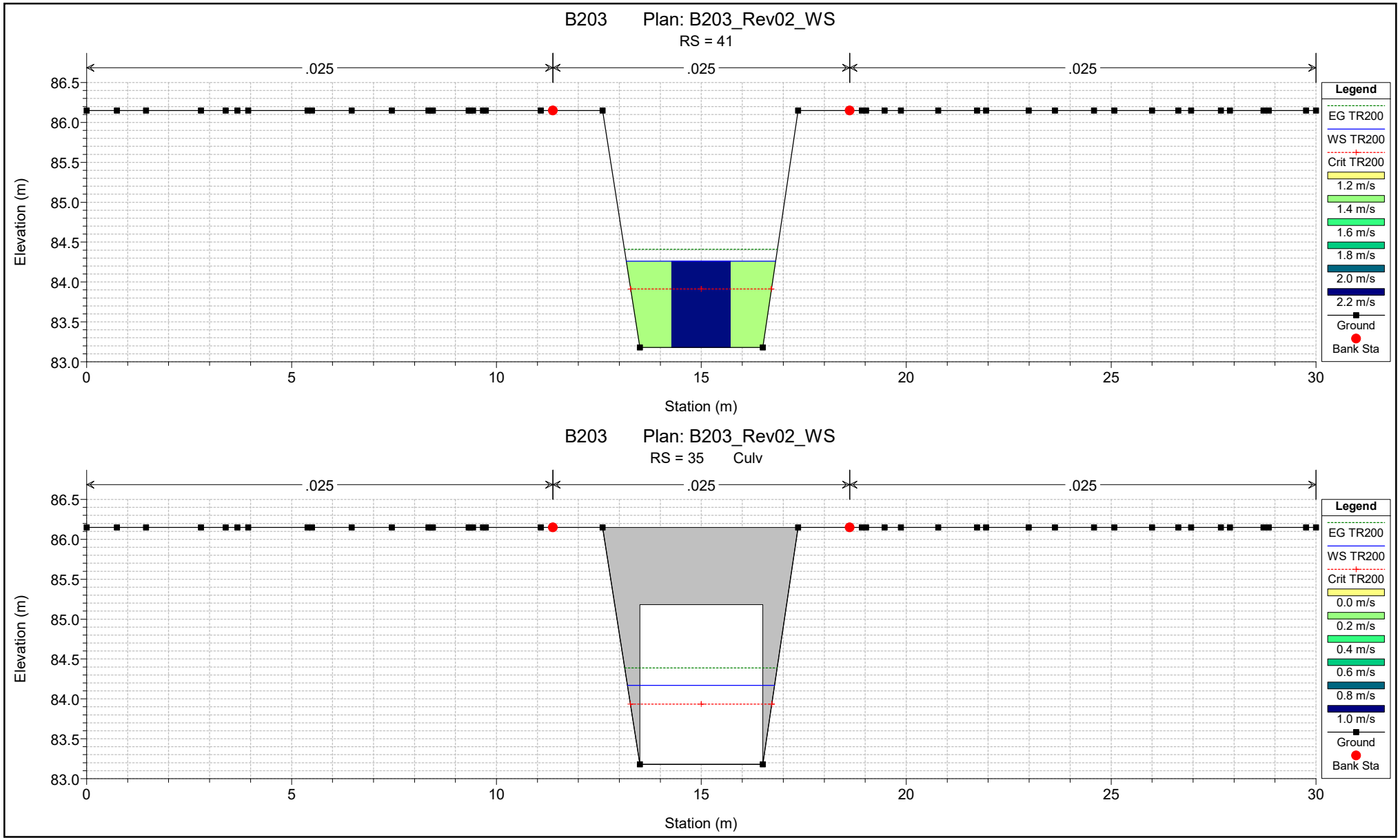
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B.203	120 Sez.1	TR200	6.15	88.15	0.48	88.63	88.84	-0.21	1.83	89.33	3.72	3.72	0.38	298.84	0.42
B.203	100 Sez.2	TR200	6.15	86.48	0.47	86.95	87.17	-0.22	1.90	87.68	3.81	3.81	0.37	315.38	0.41
B.203	84 Sez.3	TR200	6.15	85.33	0.51	85.84	86.02	-0.18	1.65	86.44	3.45	3.45	0.40	252.38	0.44
B.203	70 Sez.4	TR200	6.15	84.36	0.50	84.86	85.05	-0.19	1.71	85.50	3.54	3.54	0.39	267.88	0.44
B.203	55 Sez.5	TR200	6.15	83.35	1.02	84.37	84.04	0.33	0.53	84.49	1.49	1.49	0.70	39.34	0.82
B.203	46 Sez.6	TR200	6.15	83.23	1.11	84.34	83.92	0.42	0.46	84.44	1.34	1.34	0.74	31.23	0.88
B.203	41 Sez.7	TR200	6.15	83.18	1.08	84.26	83.91	0.35	0.55	84.41	1.71	1.71	0.68	20.44	0.98
B.203	35		Culvert												
B.203	27 Sez.8	TR200	6.15	83.04	1.15	84.19	83.79	0.40	0.53	84.35	1.78	1.78	0.65	22.30	1.14
B.203	2 Sez.9	TR200	6.15	81.80	2.50	84.30	82.11	2.19	0.02	84.30	0.09	0.08	2.05	0.07	2.32

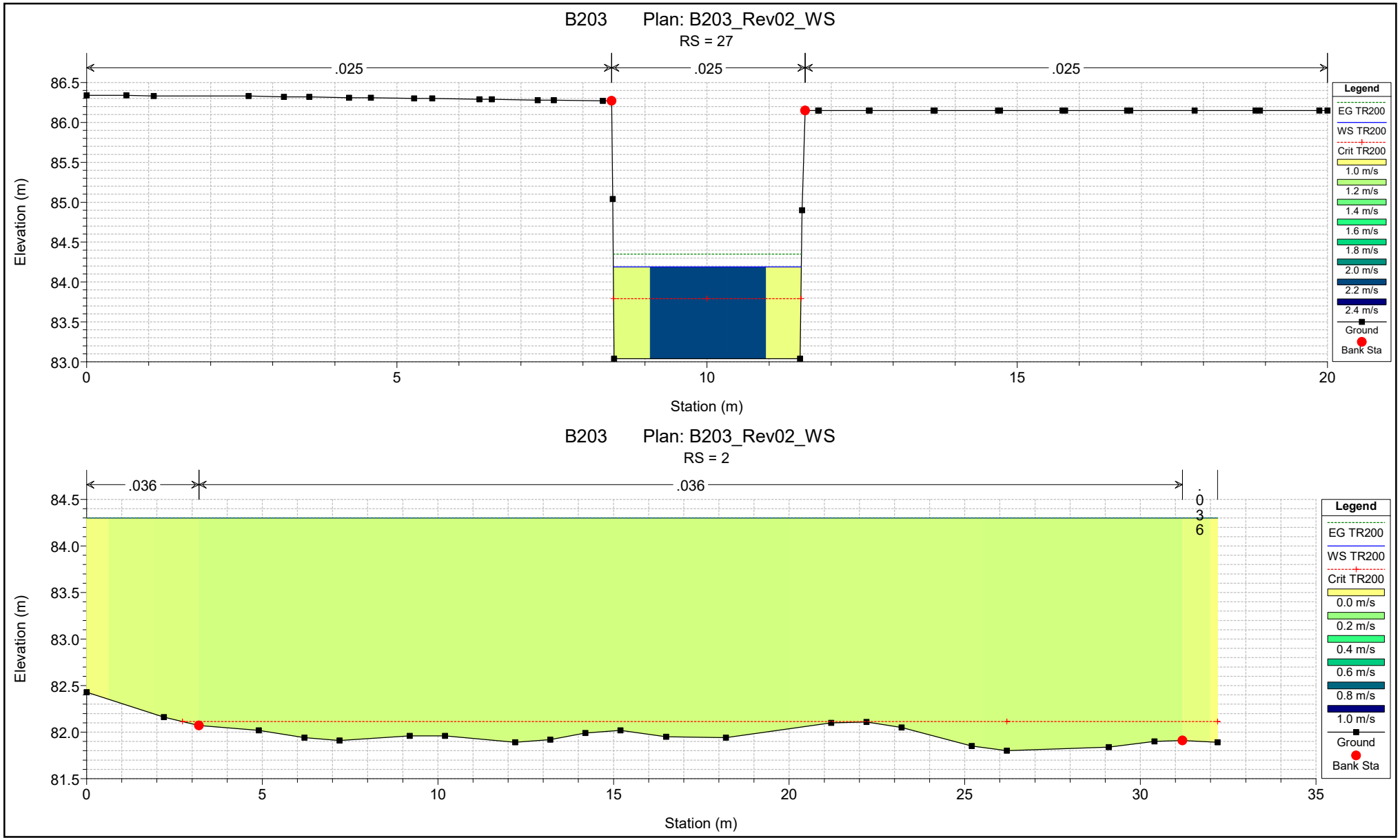

B203 Plan: B203_Rev02_WS
B.203 B.203
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
90
88
86
84
82
80
0
20
40
60
80
100
120
Main Channel Distance (m)
Sez.8
Sez.7
Sez.6
Sez.5
Sez.4
Sez.3
Sez.2
Sez.1


B203 Plan: B203_Rev02_WS
RS = 120
.04
.04
.04
Elevation (m)
93
92
91
90
89
88
0
5
10
15
20
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta
B203 Plan: B203_Rev02_WS
RS = 100
.04
.04
.04
Elevation (m)
91
90
89
88
87
86
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
Ground
Bank Sta


B203 Plan: B203_Rev02_WS
RS = 84
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta
B203 Plan: B203_Rev02_WS
RS = 70
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
Ground
Bank Sta


B203 Plan: B203_Rev02_WS
RS = 55
.04
.04
.04
Elevation (m)
92
90
88
86
84
82
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
Ground
Bank Sta
B203 Plan: B203_Rev02_WS
RS = 46
.04
.04
.04
Elevation (m)
94
92
90
88
86
84
82
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
Ground
Bank Sta

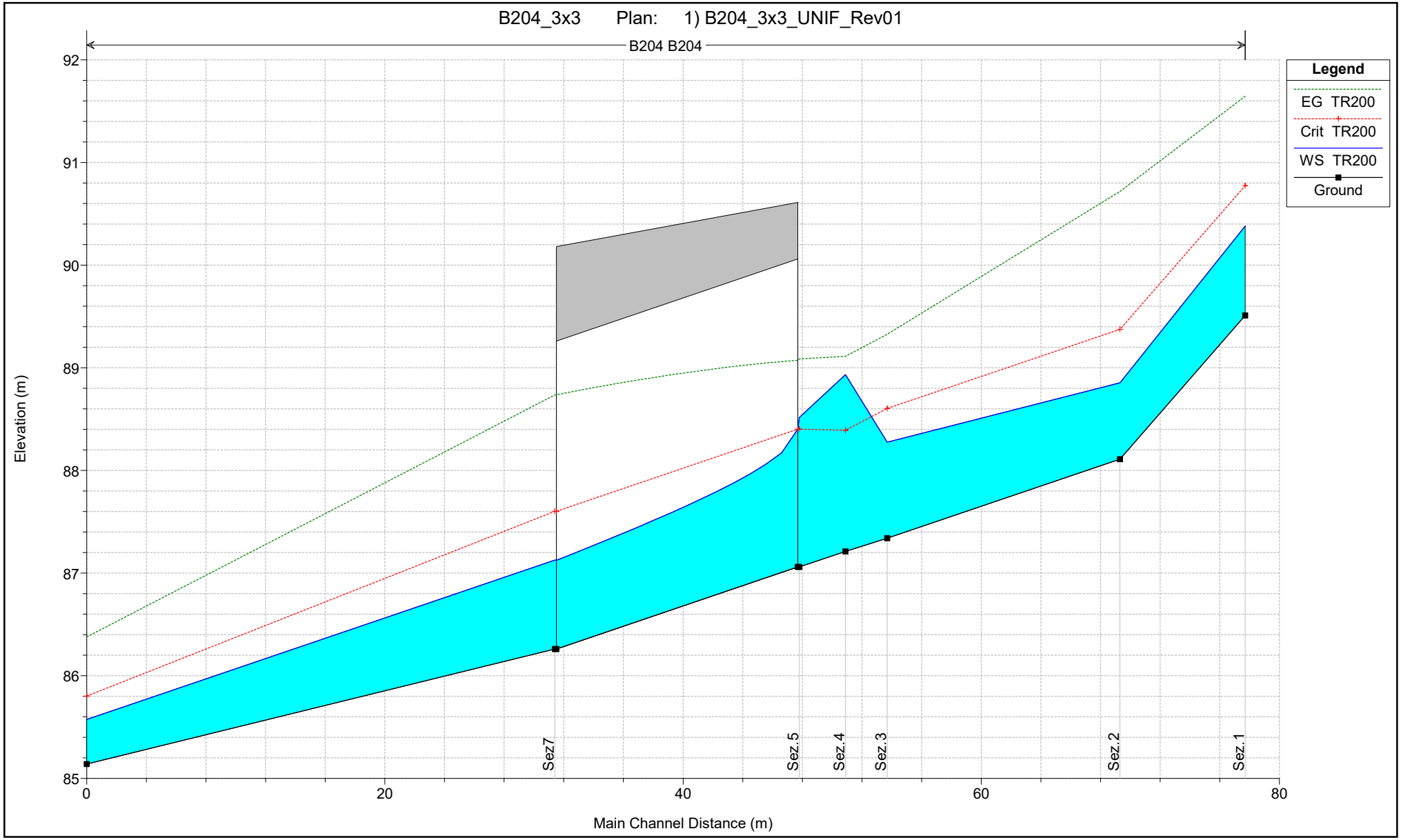

B203 Plan: B203_Rev02_WS
RS = 41
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
Ground
Bank Sta
B203 Plan: B203_Rev02_WS
RS = 35 Culv
.025
.025
.025
Elevation (m)
86.5
86.0
85.5
85.0
84.5
84.0
83.5
83.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

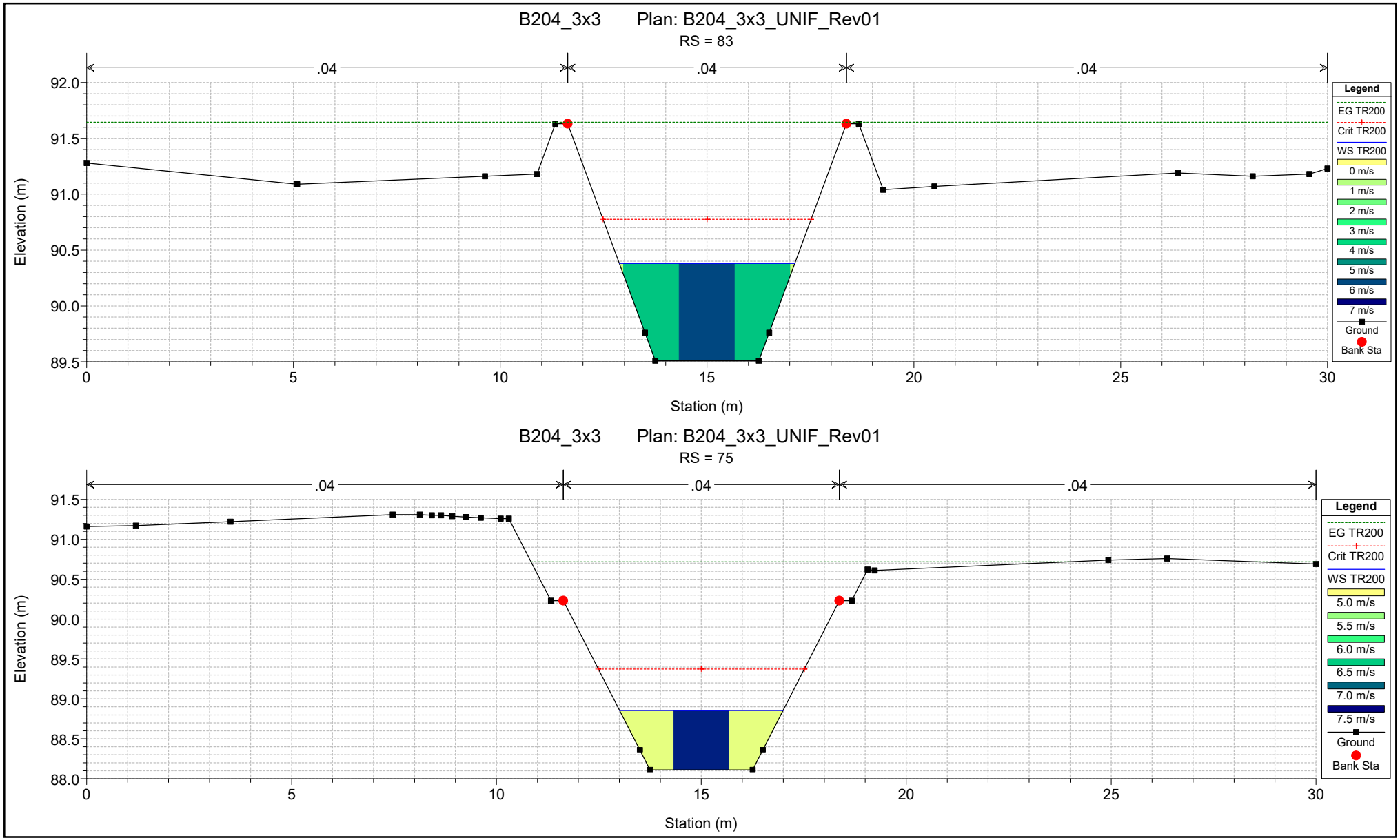

B203 Plan: B203_Rev02_WS
RS = 27
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.2 m/s
1.4 m/s
1.6 m/s
1.8 m/s
2.0 m/s
2.2 m/s
2.4 m/s
Ground
Bank Sta
B203 Plan: B203_Rev02_WS
RS = 2
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

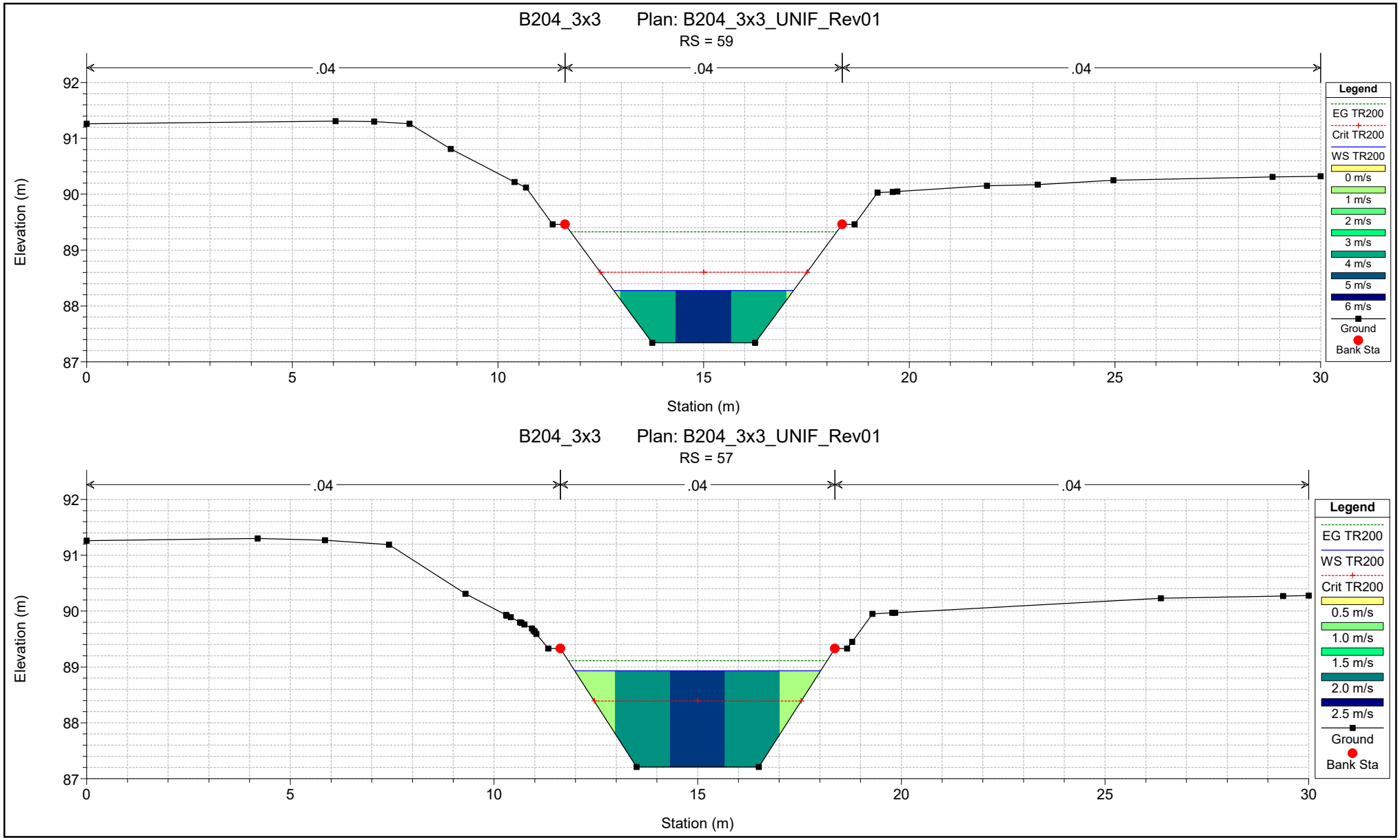
3.5 Bacino B204 – TM04 Scenario senza rigurgito

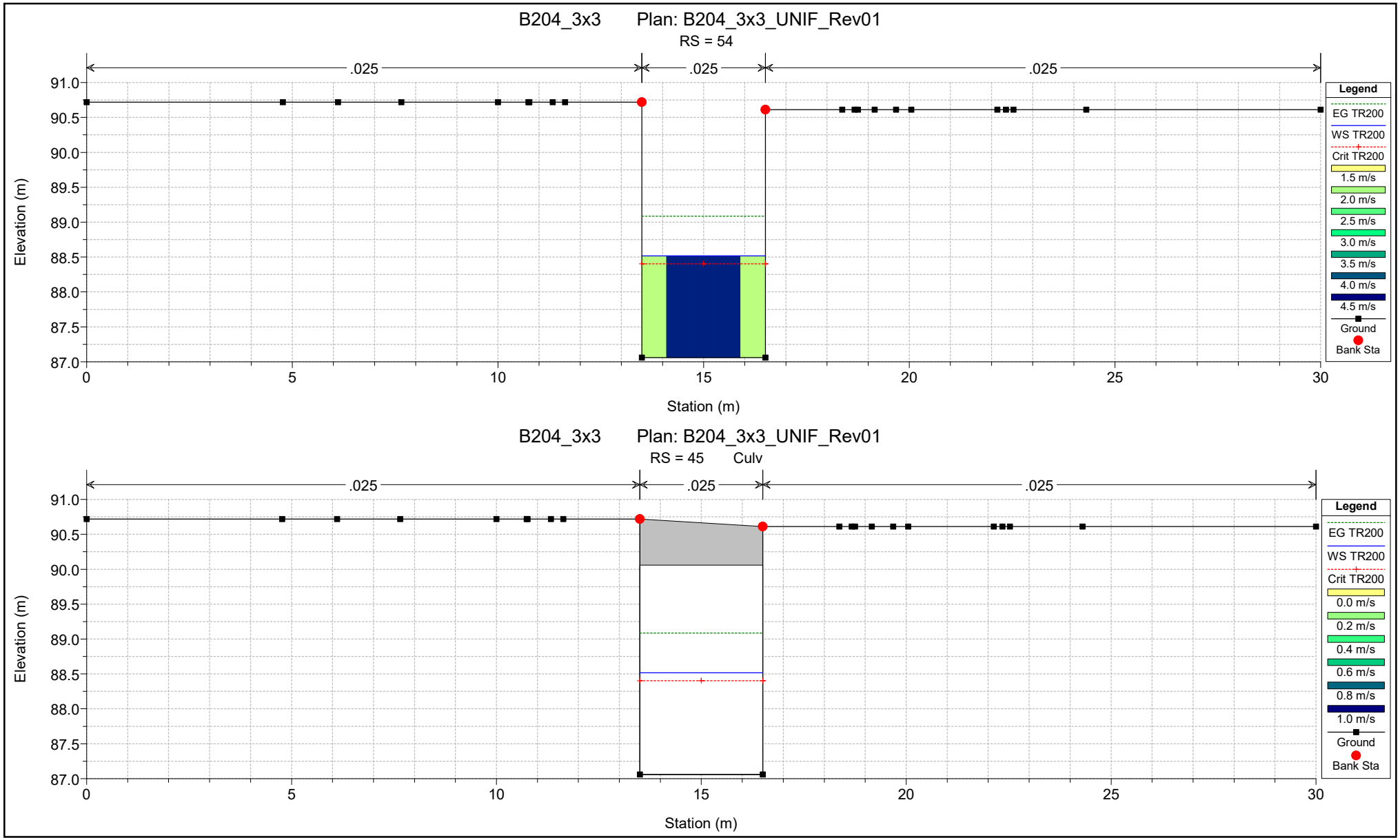
HEC-RAS Plan: B204_3x3_UNIF_Rev01 River: B204 Reach: B204 Profile: TR200

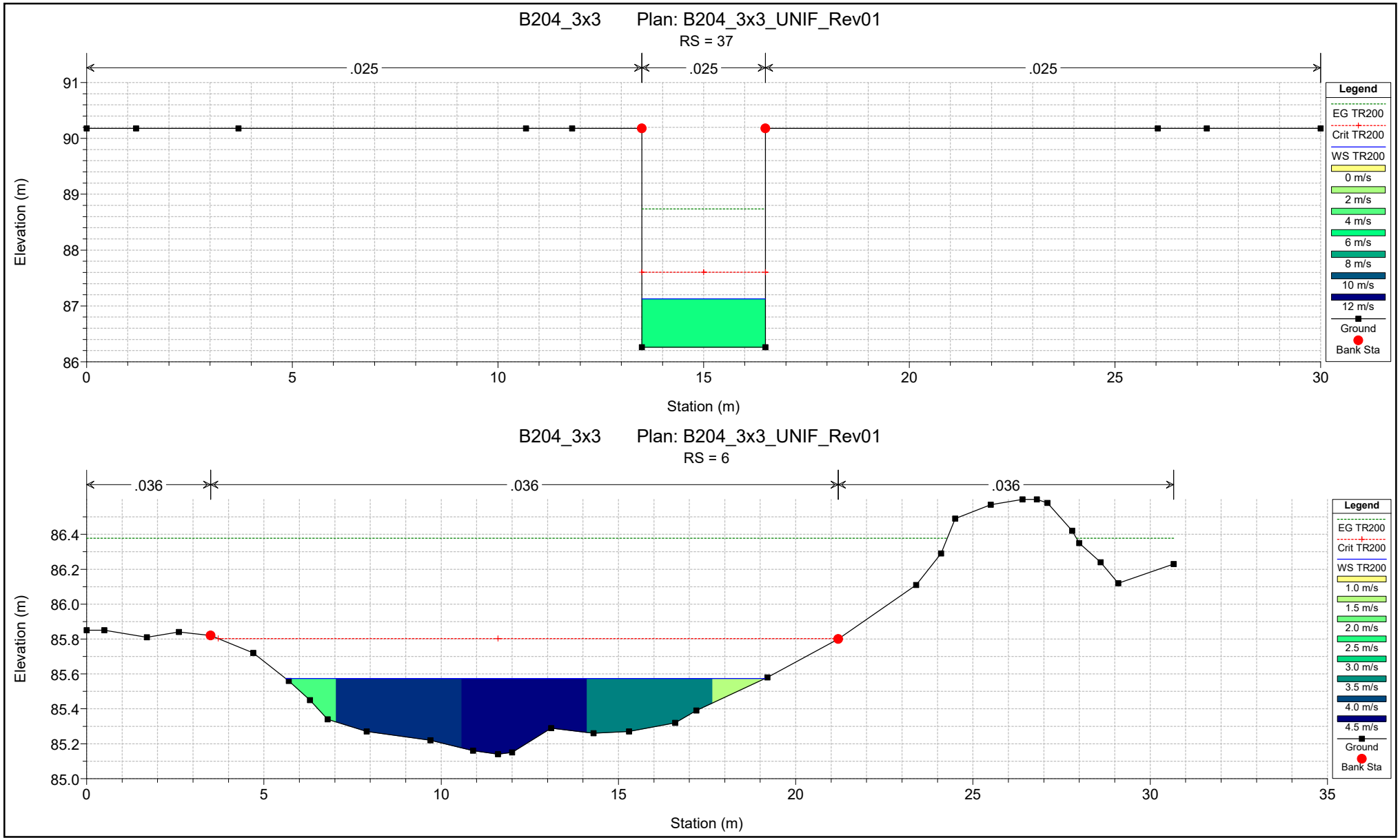
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B204	83 Sez.1	TR200	14.60	89.51	0.87	90.38	90.77	-0.39	1.91	91.64	4.98	4.98	0.59	463.94	0.69
B204	75 Sez.2	TR200	14.60	88.11	0.74	88.85	89.38	-0.53	2.48	90.72	6.05	6.05	0.52	711.40	0.61
B204	59 Sez.3	TR200	14.60	87.34	0.94	88.28	88.61	-0.33	1.69	89.33	4.54	4.54	0.62	378.35	0.74
B204	57 Sez.4	TR200	14.60	87.21	1.72	88.93	88.39	0.54	0.53	89.11	1.88	1.88	1.03	54.73	1.29
B204	54 Sez.5	TR200	14.60	87.06	1.46	88.52	88.40	0.12	0.89	89.09	3.34	3.34	0.74	75.81	1.46
B204	45		Culvert												
B204	37 Sez7	TR200	14.60	86.26	0.87	87.13	87.60	-0.47	1.93	88.74	5.62	5.62	0.55	236.33	0.87
B204	6	TR200	14.60	85.14	0.43	85.57	85.80	-0.23	2.43	86.38	3.97	3.97	0.27	309.62	0.27


B204_3x3 Plan: 1) B204_3x3_UNIF_Rev01
B204 B204
Legend
EG TR200
Crit TR200
WS TR200
Ground
Elevation (m)
92
91
90
89
88
87
86
85
0
20
40
60
80
Main Channel Distance (m)
Sez7
Sez.5
Sez.4
Sez.3
Sez.2
Sez.1


B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 83
.04
.04
.04
Elevation (m)
92.0
91.5
91.0
90.5
90.0
89.5
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 75
.04
.04
.04
Elevation (m)
91.5
91.0
90.5
90.0
89.5
89.0
88.5
88.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta


B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 59
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 57
.04
.04
.04
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
Ground
Bank Sta

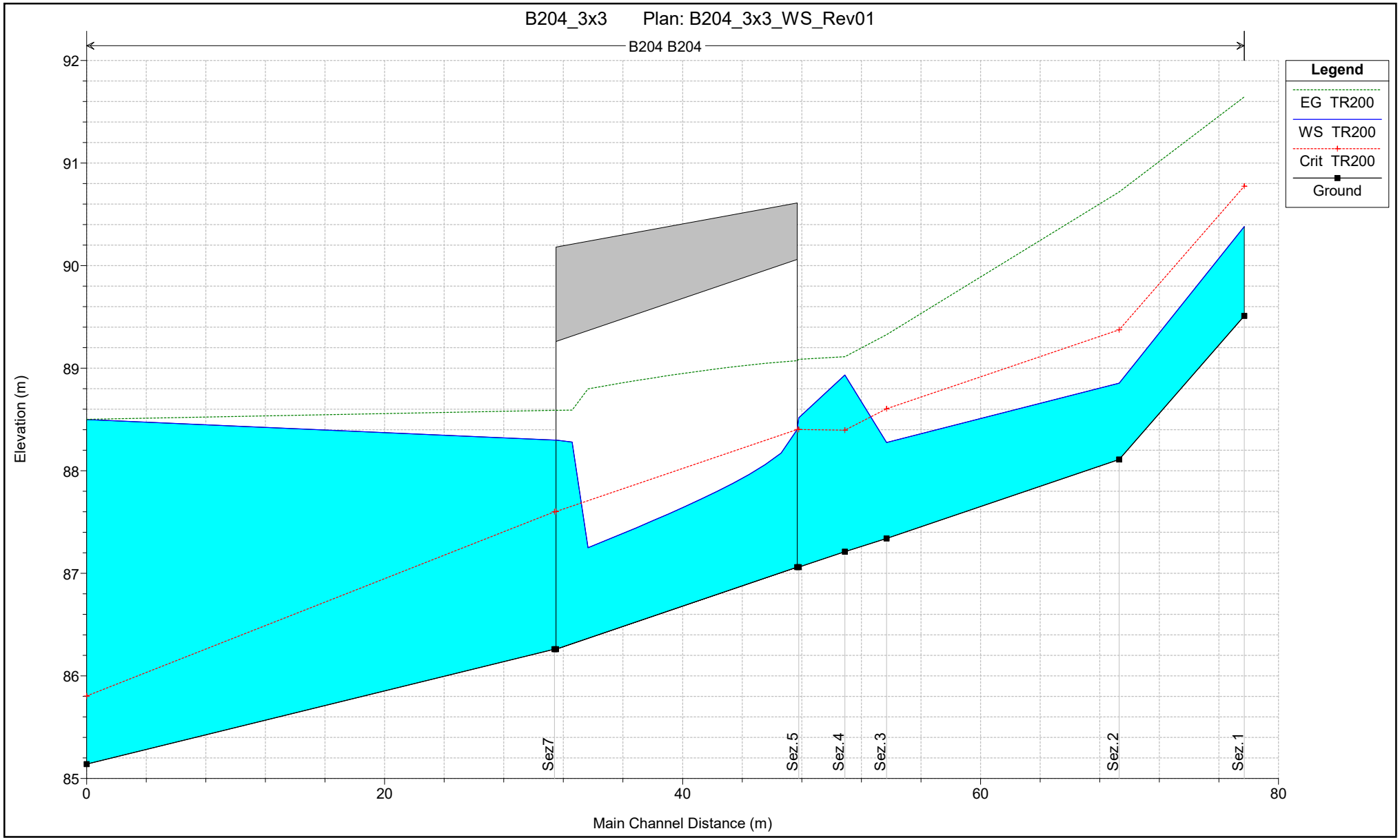

B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 54
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 45 Culv
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta

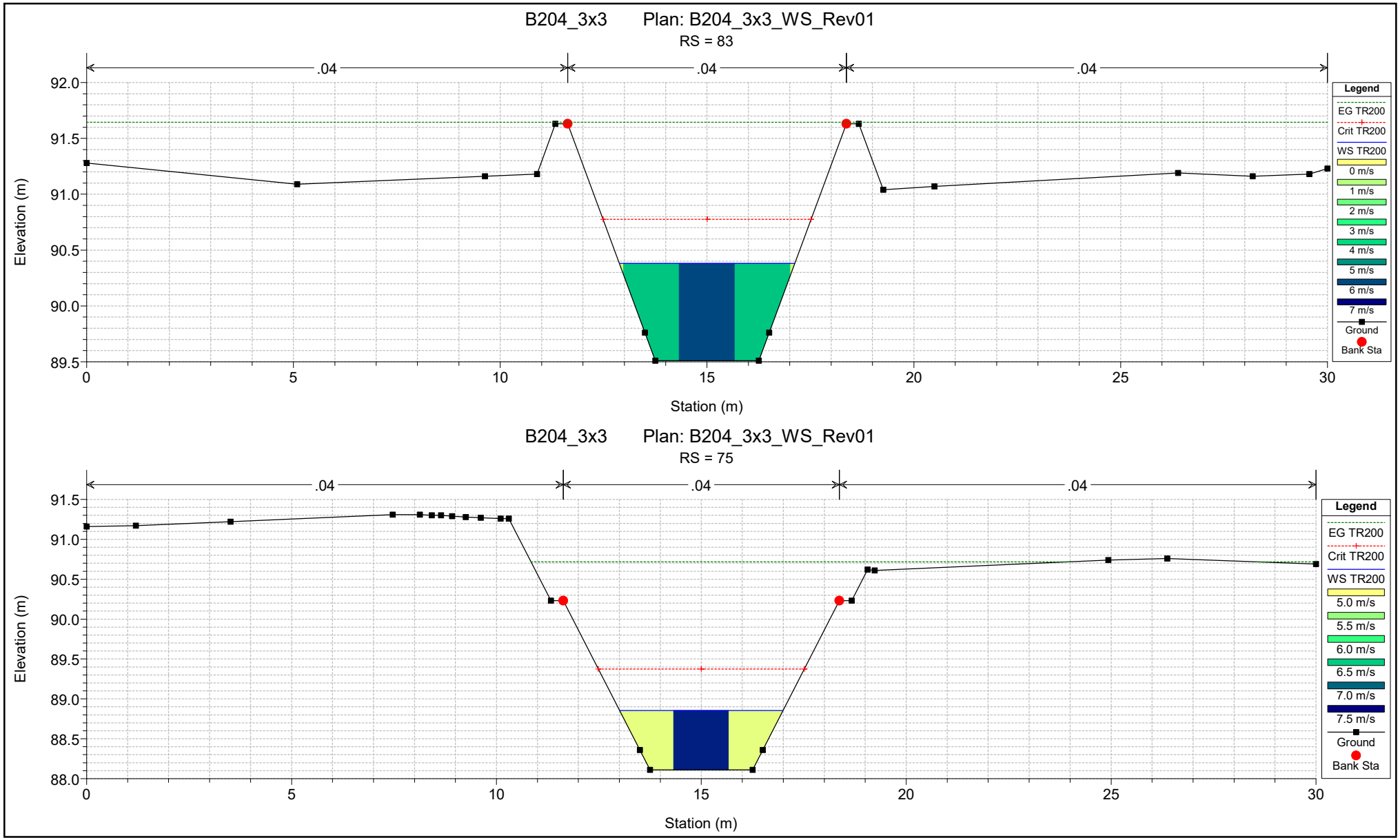

B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 37
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
2 m/s
4 m/s
6 m/s
8 m/s
10 m/s
12 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_UNIF_Rev01
RS = 6
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta

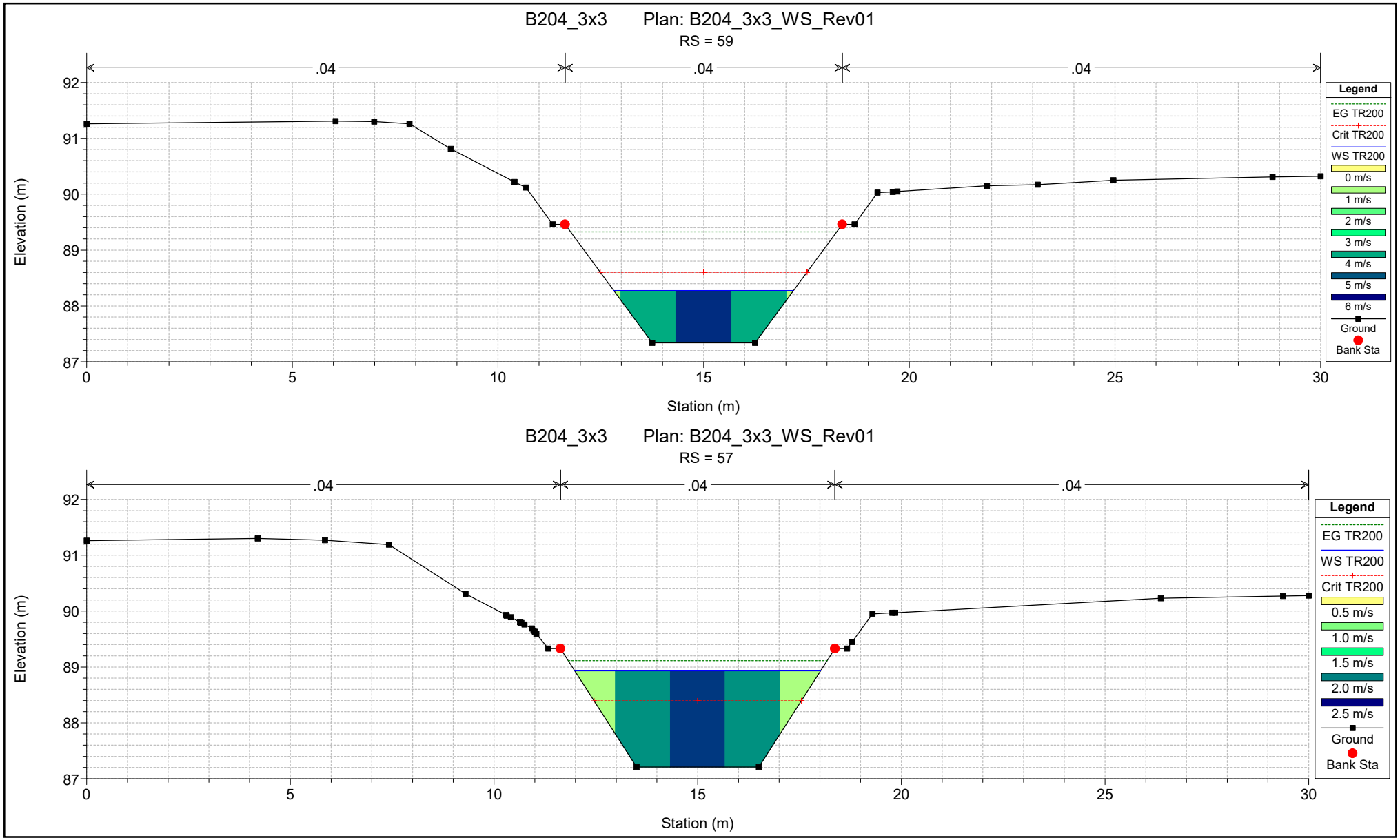
3.6 Bacino B204 – TM04 Scenario con rigurgito

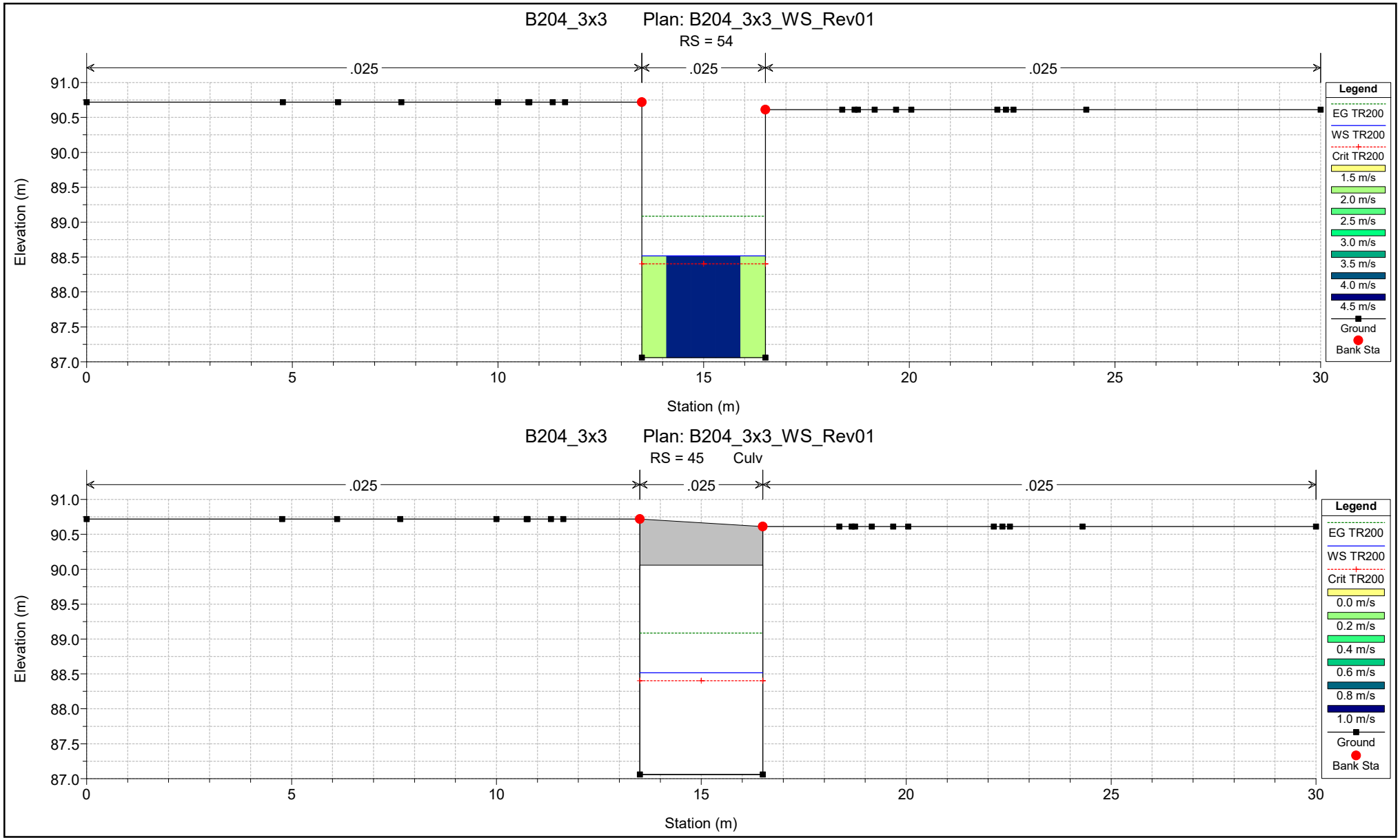
HEC-RAS Plan: B204_3x3_WS_Rev01 River: B204 Reach: B204 Profile: TR200

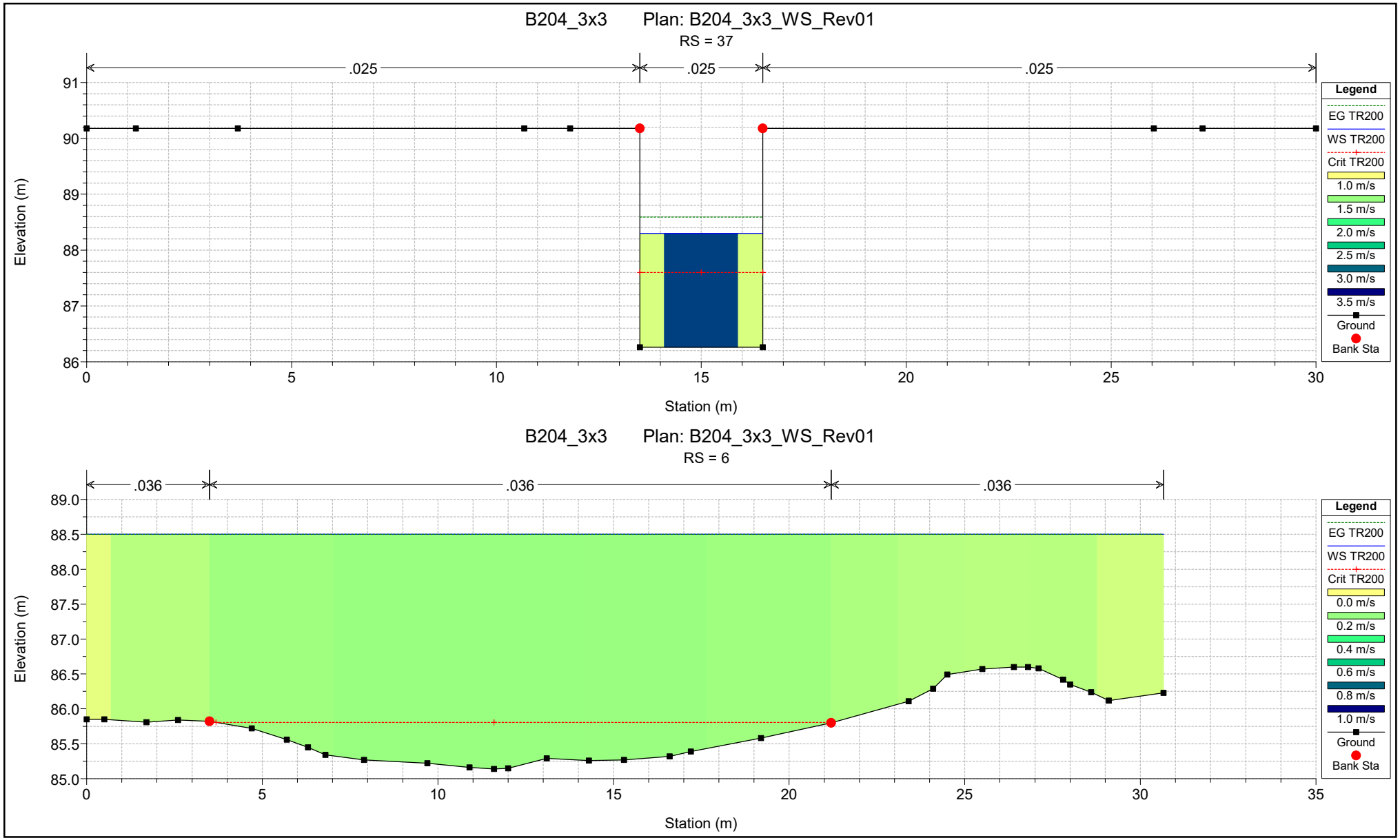
Reach	River Sta	Profile	Q Total	Min Ch El	Max Chl Dpth	W.S. Elev	Crit W.S.	Diff	Froude # Chl	E.G. Elev	Vel Chnl	Vel Total	Hydr Radius	Shear Chan	Hydr Depth
			(m3/s)	(m)	(m)	(m)	(m)			(m)	(m/s)	(m/s)	(m)	(N/m2)	(m)
B204	83 Sez.1	TR200	14.60	89.51	0.87	90.38	90.77	-0.39	1.91	91.64	4.98	4.98	0.59	463.94	0.69
B204	75 Sez.2	TR200	14.60	88.11	0.74	88.85	89.38	-0.53	2.48	90.72	6.05	6.05	0.52	711.40	0.61
B204	59 Sez.3	TR200	14.60	87.34	0.94	88.28	88.61	-0.33	1.69	89.33	4.54	4.54	0.62	378.35	0.74
B204	57 Sez.4	TR200	14.60	87.21	1.72	88.93	88.40	0.53	0.53	89.11	1.88	1.88	1.03	54.73	1.29
B204	54 Sez.5	TR200	14.60	87.06	1.46	88.52	88.40	0.12	0.89	89.09	3.34	3.34	0.74	75.82	1.46
B204	45		Culvert												
B204	37 Sez7	TR200	14.60	86.26	2.04	88.30	87.60	0.70	0.53	88.59	2.39	2.39	0.86	36.65	2.04
B204	6	TR200	14.60	85.14	3.36	88.50	85.81	2.69	0.04	88.50	0.19	0.17	2.38	0.33	2.78


B204_3x3 Plan: B204_3x3_WS_Rev01
B204 B204
Legend
EG TR200
WS TR200
Crit TR200
Ground
Elevation (m)
92
91
90
89
88
87
86
85
0
20
40
60
80
Main Channel Distance (m)
Sez7
Sez.5
Sez.4
Sez.3
Sez.2
Sez.1


B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 83
.04
.04
.04
Elevation (m)
92.0
91.5
91.0
90.5
90.0
89.5
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
7 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 75
.04
.04
.04
Elevation (m)
91.5
91.0
90.5
90.0
89.5
89.0
88.5
88.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
5.0 m/s
5.5 m/s
6.0 m/s
6.5 m/s
7.0 m/s
7.5 m/s
Ground
Bank Sta


B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 59
.04
.04
.04
Elevation (m)
92
91
90
89
88
87
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
Crit TR200
WS TR200
0 m/s
1 m/s
2 m/s
3 m/s
4 m/s
5 m/s
6 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 57
.04
.04
.04
Elevation (m)
92
91
90
89
88
87
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.5 m/s
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
Ground
Bank Sta


B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 54
.025
.025
.025
Elevation (m)
91.0
90.5
90.0
89.5
89.0
88.5
88.0
87.5
87.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
4.0 m/s
4.5 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 45 Culv
.025
.025
.025
Elevation (m)
91.0
90.5
90.0
89.5
89.0
88.5
88.0
87.5
87.0
0
5
10
15
20
25
30
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta


B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 37
.025
.025
.025
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
1.0 m/s
1.5 m/s
2.0 m/s
2.5 m/s
3.0 m/s
3.5 m/s
Ground
Bank Sta
B204_3x3 Plan: B204_3x3_WS_Rev01
RS = 6
.036
.036
.036
Elevation (m)
Station (m)
Legend
EG TR200
WS TR200
Crit TR200
0.0 m/s
0.2 m/s
0.4 m/s
0.6 m/s
0.8 m/s
1.0 m/s
Ground
Bank Sta