



REGIONE TOSCANA
DIREZIONE DIFESA DEL SUOLO E PROTEZIONE CIVILE
SETTORE GENIO CIVILE VALDARNO SUPERIORE

**Mitigazione del rischio idraulico per l'abitato di Firenze.
Sistemazione delle difese idrauliche esistenti nel
tratto dalla Nave a Rovezzano al Ponte S.Trinita.**

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2 RELAZIONE IDRAULICA

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Allegati:

Planimetra SASA-SASP

Planimetra SPSA-SPSP

Allegati idraulici – Risultati Modellazione

1. PREMESSA E FINALITA' DELL'INTERVENTO

Il presente elaborato illustra la metodologia utilizzata ed i risultati ottenuti per il dimensionamento e la verifica idraulica delle opere per la riduzione del rischio idraulico per l'abitato di Firenze. Le opere di difesa idraulica saranno eseguite sia in sponda sinistra che in sponda destra con l'obiettivo della messa in sicurezza dell'abitato per piene con tempo di ritorno fino a 200 anni.

Gli obiettivi del progetto sono:

- mantenere all'interno dell'alveo la piena duecentennale nella situazione attuale
- garantire un franco di 70 cm per la piena duecentennale nello scenario futuro (dopo la realizzazione delle casse di laminazione a monte di Firenze previste nel *Piano stralcio relativo alla riduzione del rischio idraulico del bacino del fiume Arno* (D.P.C.M. 5.11.1999));

Il *Piano stralcio relativo alla riduzione del rischio idraulico del bacino del fiume Arno* (D.P.C.M. 5.11.1999) prevede il potenziamento della capacità di laminazione delle aree fluviali lungo il fiume Arno nel Valdarno Superiore attraverso la realizzazione di cinque casse di esondazione controllata denominate Restone, Pizziconi, Prulli, Leccio e Burchio. Obiettivo primario del sistema costituito dalle citate casse di espansione è quello di ridurre le massime portate del fiume Arno che attraversano la città di Firenze affinché possano essere contenute in alveo. Il franco di sicurezza previsto con la realizzazione di tale sistema di casse è comunque destinato ad aumentare ulteriormente dopo la realizzazione di ulteriori interventi attualmente in fase di progettazione (sovrizzo diga di Levane, casse di laminazione sul fiume Sieve).

Il presente progetto si basa, per l'analisi idrologica e la modellazione idraulica dello stato attuale, sulle elaborazioni condotte nell'ambito della stesura del Progetto Definitivo "Casse di Espansione di Figline – Lotto Prulli" di cui all'Accordo di Programma D. M. N. 550 del 25/11/2015. Uno degli obiettivi di tale progetto è la laminazione dei picchi di piena del fiume Arno, finalizzata alla riduzione a valori inferiori a 3400 m³/s della portata duecentennale nel tratto che attraversa la città di Firenze. Infatti, è stato verificato che per portate superiori ha inizio il sormonto delle spallette d'argine in corrispondenza della Biblioteca Nazionale.

Il presente studio idrologico-idraulico è articolato nelle fasi generali di seguito descritte:

- Definizione del quadro conoscitivo
- Analisi idrologica
- Modellazione idraulica
- Analisi dei risultati

2. QUADRO CONOSCITIVO

2.1. Area e ipotesi di intervento

Le probabilità di esondazione del fiume Arno e l'entità dei beni esposti determinano un rischio idraulico molto elevato per il centro storico di Firenze, paragonabile a quello della piena del 1966.

Dall'analisi degli studi disponibili si rileva che le possibili aree inondabili della città, allo stato attuale, si estendono principalmente lungo la sponda destra del fiume e interessano gran parte del centro storico per tempi di ritorno superiori a 100 anni.

Relativamente al tempo di ritorno duecentennale, la sponda destra del fiume dal ponte di Varlungo risulta insufficiente a contenere le massime piene che pertanto si riversano nelle aree urbane. L'insufficienza continua lungo i lungarni Moro, Colombo e del Tempio ed è aggravata dal fatto che la sponda sinistra risulta a maggior quota. Le acque esondate lungo questo tratto si propagano nella zona a sud-ovest della linea ferrovia e raggiungono il centro storico dove si congiungono con quelle straripate dalla spalletta destra tra Piazza dei Cavalleggeri (Santa Croce) e il ponte Santa Trinita. I deflussi si propagano quindi verso l'area a sud del torrente Mugnone e verso il Parco delle Cascine.

Per far fronte a tali criticità, gli Enti competenti in materia hanno avviato la progettazione e la realizzazione di un sistema di casse di espansione localizzate nel Valdarno Superiore, a monte di Firenze, con lo scopo di laminare i picchi di piena prima che questi possano interessare le aree urbanizzate di valle.

Nelle more del completamento del sistema di casse di espansione, è stata richiesta una valutazione circa la realizzazione di sistemi per la messa in sicurezza della città di Firenze fino al tempo di ritorno duecentennale. I tratti interessati dagli interventi e le tipologie previste per gli stessi discendono dall'analisi delle condizioni di pericolosità idraulica, investigate utilizzando i dati più aggiornati.

I tratti interessati dagli interventi saranno:

- in sponda sinistra il tratto dall'abitato di Nave a Rovezzano fino a piazza Ravenna;
- in sponda destra il tratto da via Fabrizio De Andrè (in prossimità del Tuscany Hall), a Ponte Santa Trinita.

Gli interventi previsti sono classificabili in 8 tipologie distinte:

- A) rialzamento e/o rinforzo argini in muratura esistenti;
- B) rialzamento e/o rinforzo arginature in materiale sciolto esistenti;
- C) realizzazione nuovi argini in materiale sciolto;
- D) realizzazione nuovi argini in muratura;
- E) realizzazione varchi manovrabili a tenuta;
- F) interventi per la predisposizione di manufatti esistenti (spallette Arno) per l'utilizzo di opere provvisorie di contenimento delle piene.
- G) interventi puntuali su difese esistenti (chiusura varchi, manutenzione murature, piccoli rialzamenti, ecc.).
- H) Altro.

Si rimanda alla Relazione Generale per un maggiore dettaglio degli interventi previsti.

2.2. Studi esistenti

Le analisi condotte precedentemente nell'area oggetto d'interesse sono stati la base di partenza per l'implementazione della modellistica idrologica e idraulica del progetto. In particolare la definizione del modello geometrico utilizzato per la modellazione idraulica ha fatto riferimento a quello utilizzato per la redazione del Piano di Gestione del Rischio Alluvione (2015), nel tratto fiorentino. Per il modello idraulico, rispetto al PGRA è stato effettuato un aggiornamento conseguente all'eliminazione della traversa dei Massetti a monte del ponte di Varlungo, operata dal Consorzio di Bonifica nell'estate del 2018.

Gli studi e progetti consultati sono:

- Sintesi del Progetto di Piano di Bacino Stralcio Rischio Idraulico (Autorità di Bacino, 1996);
- Perimetrazione delle aree a rischio sull'asta principale del fiume Arno e sugli affluenti nel tratto di rigurgito (Autorità di Bacino, 1999);
- Progetto di Piano Stralcio per l'Assetto Idrogeologico (Autorità di Bacino, 2002);
- Piano di Gestione del Rischio di Alluvione (Autorità di Distretto Appennino settentrionale, 2015);
- Progetto Definitivo "Casse di Espansione di Figline Lotto Prulli" (Commissario di Governo ex legge 116/2014, Regione Toscana, 2018).

2.3. Dati di base

L'analisi delle attuali condizioni idrauliche del territorio e la definizione del progetto si è basata sui seguenti dati acquisiti dagli Enti competenti alla loro divulgazione:

- cartografia Tecnica Regionale C.T.R. 1:10.000 e 1:2.000 (Regione Toscana);
- modello digitale del terreno a celle 10x10 m derivato dalla fotogrammetria in scala 1:10.000 (Regione Toscana);
- rilievo Laser-scanning (Regione Toscana e Ministero dell'Ambiente e della Tutela del Territorio) e modello digitale del terreno (Lidar) che ne è derivato a celle di dimensioni 1x1 m (aggiornamento 2011);
- sezioni fluviali del fiume Arno eseguite dal Provveditorato alle Opere Pubbliche per la Toscana (1999-2001);
- reticolo idrografico della Regione Toscana approvato con D.C.R. 101/2016, D.G.R.T. 1357/2017 e D.G.R.T. 899/2018;
- curve di possibilità pluviometrica della Regione Toscana – aggiornamento 2014;
- Carta dell'uso e della copertura dei suoli - "Uso e copertura del suolo 2007-2013" (Regione Toscana);
- Carta geologica regionale - "Continuum Geologico – aggiornamento del 15/11/2013" (Regione Toscana);
- progetti e studi elencati al § 2.2.

3. ANALISI IDROLOGICA

Le sollecitazioni idrologiche al sistema sono costituite da idrogrammi di piena dei singoli sottobacini afferenti all'asta del fiume Arno, tenendo conto che i contributi di piena degli affluenti sono valutati adottando la stessa durata di pioggia e un coefficiente di ragguaglio areale tale da garantire la coerenza tra l'altezza di pioggia stimata sull'intero bacino a monte di ciascuna sezione e la sommatoria di quelle stimate singolarmente per ciascun sottobacino afferente.

Considerato che obiettivo dell'analisi è la determinazione dei contributi dei vari affluenti alla formazione delle piene del fiume Arno, e non delle portate critiche dei singoli tributari, all'altezza di pioggia stimata è stato applicato il coefficiente di ragguaglio areale calcolato con l'area del bacino del fiume Arno in corrispondenza dell'area oggetto d'analisi.

E' stato scelto di studiare eventi con **tempo di ritorno pari a 200 anni con durata di pioggia critica per il tratto fiorentino**, ricavata da precedenti studi.

In particolare, sono state individuate per il tratto oggetto d'analisi due durate critiche, relative a due scenari, uno rappresentativo delle portate in arrivo da monte senza l'effetto della laminazione delle casse di espansione di Pizziconi, Restone, Prulli e Leccio, l'altro rappresentativo delle portate in arrivo da monte con l'effetto della laminazione delle casse di espansione di Pizziconi, Restone, Prulli e Leccio.

Inoltre, per entrambi gli scenari, è stato tenuto conto dell'effetto di laminazione operato dall'invaso di Bilancino sulle portate relative al fiume Sieve. Tale effetto acquista rilievo in quanto il fiume Sieve rappresenta un elemento di notevole importanza per la formazione delle piene del fiume Arno a Firenze. Infatti le caratteristiche idrografiche e idrologiche del bacino della Sieve, nonché la sua particolare ubicazione, comportano che piene significative nel tratto fiorentino possano generarsi dalla sovrapposizione dei picchi di portata di Arno e Sieve stessa. Pertanto, nella gestione della diga di Bilancino è stato considerato un livello iniziale d'invaso di 250 m s.l.m., conseguentemente a quanto stabilito con il Piano di laminazione per l'Invaso di Bilancino, approvato dalla Regione Toscana con decreto n. 14777/2018.

Sono state dunque individuate **due durate di pioggia critiche per il tratto fiorentino, una pari a 18 ore e relativa allo scenario rappresentativo delle portate in arrivo da monte senza l'effetto della laminazione delle casse di espansione di Pizziconi, Restone, Prulli e Leccio, l'altra pari a 12 ore e relativa allo scenario rappresentativo delle portate in arrivo da monte con l'effetto della laminazione delle casse di espansione di Pizziconi, Restone, Prulli e Leccio.**

Ogni combinazione fra durata di pioggia ed evento meteorico definisce uno scenario idrologico di dimensionamento o verifica per i quali si è proceduto ad individuare gli input al modello idraulico costituiti dall' "idrogramma di piena in testa" e dai contributi laterali al modello.

Questi sono stati acquisiti da precedenti studi o sono stati stimati con un modello idrologico basato sul metodo di regionalizzazione delle portate di piena.

In particolare, per quanto riguarda l'idrogramma di "testa" del fiume Arno nella sezione iniziale del modello idraulico, si è fatto riferimento alle risultanze del Progetto Definitivo "Casse di Espansione di Figline Lotto Prulli", a cui si rimanda per le assunzioni fatte nell'ambito dell'analisi idrologica per i bacini a monte del modello idraulico del presente progetto.. In generale, l'analisi idrologica è stata condotta attraverso una preliminare analisi geomorfologica e idrografica del reticolo e dei relativi sottobacini. Le grandezze ricavate sono state utilizzate nel modello di piena a parametri concentrati, basato sull'idrogramma unitario istantaneo di Nash, i cui parametri sono stati stimati attraverso metodi di regionalizzazione. La stima delle portate è eseguita con il metodo indiretto, ipotizzando cioè che il tempo di ritorno dei deflussi di piena sia lo stesso degli eventi meteorici utilizzati in ingresso al modello. Quest'ultimi sono stati ricavati dalle curve di possibilità pluviometrica delle stazioni pluviometriche della Regione Toscana aggiornate ai dati del 2012. Inoltre, in particolare, è stato tenuto conto il contributo della diga di Bilancino

alla laminazione delle onde di piena del fiume Sieve a seguito dell'approvazione da parte della Regione Toscana del Piano di laminazione che ha definito le modalità di gestione dell'opera ai fini della difesa del territorio.

L'analisi idrologica si basa sulle seguenti ipotesi:

- eventi meteorici sintetici ad intensità costante;
- durata degli eventi meteorici uguale per tutti i sottobacini;
- altezza di pioggia calcolata in funzione delle curve di possibilità pluviometrica di ciascun bacino;
- isofrequenza fra evento meteorico e portata in alveo (tempo di ritorno dell'evento di pioggia uguale al tempo di ritorno dell'idrogramma di piena).

4. MODELLAZIONE IDRAULICA

4.1. Il Modello Idraulico di Moto Vario Hec-Ras 4.1

Lo schema metodologico scelto per le verifiche idrauliche è direttamente mutuato da quello utilizzato dall'Autorità di Bacino del Fiume Arno per la definizione delle aree a pericolosità idraulica del Piano di Gestione del Rischio di Alluvione.

Esso consiste in un approccio idrologico-idraulico basato su una modello idraulico dei fenomeni di propagazione e laminazione delle onde di piena cimentato da idrogrammi idrologici dei vari sottobacini che l'asta principale incontra lungo il suo percorso. La **propagazione dei deflussi di piena** e la valutazione dei **fenomeni di laminazione** lungo l'asta fluviale considerata avviene tramite un modello idraulico di moto vario a fondo fisso, più avanti descritto, in grado di fornire in ogni sezione dell'asta fluviale l'idrogramma di piena in transito e i volumi eventualmente esondati o invasati nelle aree di potenziale espansione. Da evidenziare che l'analisi svolta ipotizza che i fenomeni di esondazione si manifestino esclusivamente per tracimazione delle portate di piena sopra la quota di massimo contenimento, escludendo pertanto i fenomeni di collasso arginale.

La modellistica idraulica è stata sviluppata contemporaneamente per l'asta principale del fiume Arno e per alcuni suoi affluenti nel tratto di rigurgito, in modo tale da poter valutare anche i volumi di piena esondabili dal reticolo secondario. Essendo infatti la laminazione dell'onda di piena del fiume Arno dipendente anche dalle caratteristiche delle opere idrauliche presenti lungo gli affluenti nel tratto di rigurgito, nasce l'esigenza di una simulazione simultanei dei vari corsi d'acqua.

Definiti gli eventi di verifica e la metodologica da utilizzarsi per la schematizzazione dei processi di propagazione e laminazione dell'onda di piena, si è proceduto all'implementazione della modellistica idraulica dei fiumi Arno, dei suoi affluenti e delle relative aree di esondazione.

In analogia con la metodologia utilizzata nella redazione del Piano di Gestione del Rischio da Alluvione, si è optato per una schematizzazione quasi-bidimensionale dei processi di propagazione dell'idrogramma di piena, del tipo proposto da Cunge: ad un modello idraulico non stazionario è associata una rappresentazione "a celle d'accumulo" delle aree potenzialmente esondabili (in seguito APE) adiacenti al corso d'acqua, idraulicamente connesse ad esso e fra di loro.

Il modello idraulico è stato sviluppato attraverso il software Hec Ras 4.1, di cui si riporta di seguito una breve descrizione.

Le simulazioni idrauliche in moto vario sono state condotte sulla base della discretizzazione numerica delle equazioni di moto, che fornisce i livelli idrici in ciascuna sezione di calcolo tenendo conto delle eventuali transizioni tra corrente veloce e corrente lenta.

Il modello matematico di moto vario unidimensionale a fondo fisso risolve, in forma numerica, le equazioni di continuità e del moto per una corrente liquida in condizioni non stazionarie. Assumendo la gradualità spazio-temporale del fenomeno, la perdita di carico effettivo sono stimate con una delle equazione di moto uniforme disponibili (Manning o Gauckler-Strickler). Per includere nel modello gli effetti dissipativi indotti da variazioni di sezione, quali allargamenti o restringimenti, sono valutate le perdite di carico localizzate attraverso i coefficienti di contrazione ed espansione.

Al modello unidimensionale, capace di rappresentare adeguatamente il moto in alveo e in aree golenale di limitata dimensione, è accoppiato un sistema di celle d'invaso secondo lo schema di Cunge: il modello matematico di moto vario simula i processi di trasferimento e laminazione in alveo; l'accumulo dei volumi di esondazione nelle aree golenali più ampie o arginate viene invece studiato attraverso la definizione di celle caratterizzate da una propria legge d'invaso, che scambiano volumi d'acqua tra loro e con il corso d'acqua attraverso dei

collegamenti idraulici schematizzati come soglie sfioranti libere o rigurgitate. Le celle di accumulo sono definite sulla base delle caratteristiche morfologiche del territorio in modo che lo schema di stramazzo in parete grossa delle suddette soglie sfioranti possa essere considerato valido. Con riferimento alla modellazione delle strutture arginali, il programma permette di tener in conto della variazione geometrica nel tempo delle stessi in occasione di eventi di rottura (breach).

Il fenomeno di invasivo avviene in modo sincrono, cioè viene trascurato il tempo reale di propagazione sul terreno dei volumi esondati. Le modalità di riempimento sono regolate dalle caratteristiche degli sfioratori di collegamento tra le celle che, in funzione della quota, della lunghezza e del coefficiente di efflusso, influenzano la velocità di riempimento della cella successiva. Sono comunque trascurati gli effetti di non stazionarietà e bidimensionalità connessi al fenomeno di propagazione del fronte d'inondazione.

In corrispondenza dei ponti e per livelli idrici inferiori all'intradosso, il programma permette il calcolo con il metodo del bilancio energetico e con il teorema della quantità di moto. Il primo, basato sulla risoluzione delle suddette equazioni di continuità e del moto, sottrae nel calcolo dell'area liquida delle sezioni del ponte le parti occupate dalla struttura, ed aggiunge, nella determinazione del perimetro bagnato, le superficie del ponte in contatto con l'acqua.

Il teorema della quantità di moto, particolarmente appropriato in presenza di pile, applica l'equazione di conservazione della quantità di moto. Nel caso di livelli idrometrici che superino le quote di intradosso o di estradosso dei ponti, le simulazione idrauliche dei ponti possono essere effettuati con il bilancio energetico o usando le equazioni di deflusso, libero o rigurgitato, per luce a battente e/o per luci sfioranti.

Per la simulazione delle condotte (opere di altezza limitata rispetto ai livelli idrometri attesi alla sezione di ingresso) il programma Hec-Ras calcola l'energia necessaria a monte per avere una determinata portata attraverso l'opera, sia nei casi in cui la sezione di controllo si trovi all'ingresso (*inlet control*), sia quando detta sezione è posta all'uscita (*outlet control*).

Nel primo caso le equazioni adottate sono quelle emerse dai test di laboratorio effettuati dal NBS (1961) e BPR degli Stati Uniti, distinguendo i casi di imbocco sommerso e imbocco non sommerso. Nel secondo caso l'equazione di Bernoulli è applicata al fine di compiere un bilancio energetico fra le sezioni di imbocco e di uscita.

Tra le condizioni di inlet e outlet control è in generale quella che possiede il carico di monte più alto a determinare il tipo di moto all'interno della condotta per una data condizione di valle. Se, durante l'elaborazione, la domanda energetica del funzionamento in inlet control risulta maggiore di quella di outlet control, il programma valuta se le condizioni di controllo in ingresso possono effettivamente persistere attraverso il condotto senza porlo in pressione. Infatti, se questo funziona completamente in pressione, il programma adotta necessariamente il metodo di outlet control.

Il funzionamento idraulico di soglie e briglie in alveo è tenuto in conto attraverso l'adozione della legge di stramazzo in parete grossa, con coefficiente di efflusso definito dall'utente e variabile in funzione del grado di rigurgito secondo il seguente coefficiente correttivo.

Per la risoluzione del sistema di equazioni è necessario conoscere le condizioni al contorno sia a monte che a valle. Le prime sono imposte attraverso un idrogramma di livelli/portate. Le seconde possono invece essere costituite da un idrogramma dei livelli/portate o da una scala di deflusso.

Per maggiori dettagli sul modello di calcolo e sulle equazioni utilizzate si rimanda ai manuali del programma Hec-Ras.

4.2. Scenari oggetto d'analisi

Come già detto, l'analisi è stata finalizzata alla valutazione delle condizioni di rischio idraulico per il centro storico di Firenze.

Tale analisi ha necessariamente tenuto conto della progettazione e realizzazione del sistema di casse di espansione nel Valdarno superiore, a monte di Firenze, con lo scopo di laminare i picchi di piena prima che questi possano interessare le aree urbanizzate di valle.

Sono così stati studiati scenari che prevedano il completamento del sistema di casse di espansione, nelle more della valutazione della possibilità di impiego di sistemi per la messa in sicurezza della città di Firenze per eventi di piena del Fiume Arno e affluenti, con tempo di ritorno duecentennale.

Pertanto gli scenari a cui si farà riferimento sono:

- Stato attuale: stato antecedente alla realizzazione di qualsiasi opera prevista dal Piano di Bacino e progettazioni conseguenti;
- Stato di progetto con completate le casse Pizziconi, Restone e Prulli e senza muretti
- Stato di progetto con completate soltanto le casse Pizziconi, Restone e Prulli e con muretti.

Nell'analisi dei risultati ottenuti in termini di allagamento e di confronto in termini di aumenti e diminuzioni di battente nelle APE, si farà riferimento ai seguenti scenari:

- Scenario 1: Confronto fra lo stato attuale e lo stato di progetto con le sole opere di difesa di Firenze realizzate – codice SASA – SASP;
- Scenario 2: confronto fra lo stato di progetto con il solo sistema di casse di Figline realizzato e con anche le opere di difesa di Firenze – codice SPSA - SPSP

4.3. Verifiche idrauliche allo Stato Attuale

Il modello idraulico utilizzato per la verifica del regime di piena del sistema idrografico dell'area di interesse è costituito dai seguenti tronchi fluviali:

1. fiume Arno tra l'idrometro di Rosano e l'idrometro di Brucianesi (37.3 Km);
2. fiume Bisenzio tra il ponte Petrino e la confluenza (15.9 Km);
3. fosso Reale tra il nuovo polo Universitario e la confluenza (6.2 Km);
4. fiume Greve dall'altezza della Certosa del Galluzzo alla confluenza (8.2 Km);
5. torrente Mugnone dalla Fortezza da Basso alla confluenza (3.9 Km);
6. torrente Ombrone dal ponte all'Asse alla confluenza (7.6 Km);
7. torrente Terzolle dal sovrappasso della Ferrovia alla confluenza (1.4 Km);
8. torrente Vingone dall'attraversamento dell'autostrada A1 alla confluenza (7.9 Km).

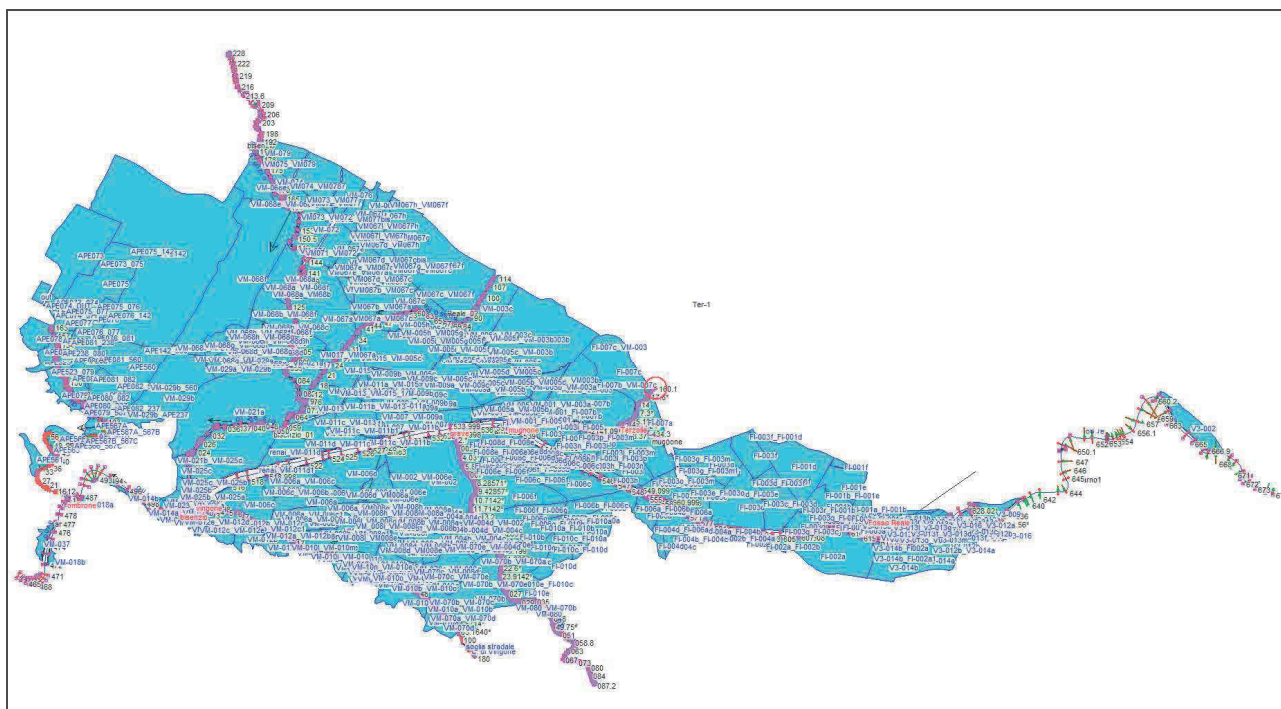


Figura 1 – Geometria del modello idraulico

Per gli altri corsi tributari del fiume Arno che non sono stati modellati, è stato verificato che: le sponde e le opere di contenimento siano in grado di contenere i livelli di piena del fiume Arno, o che le prospicienti aree inondabili siano di modesta estensione. I corsi d'acqua sono descritti attraverso sezioni fluviali che rappresentano i punti di calcolo della discretizzazione spaziale della modellistica idraulica.

Le simulazioni condotte si basano sull'ipotesi di trascurare i fenomeni di:

- collasso delle strutture di contenimento (argini, sponde, muri, ecc.);
- ostruzione temporanea delle sezioni fluviali dovute al trasporto di materiale flottante;
- modifica della forma e dimensioni delle sezioni fluviali per dinamica d'alveo (erosione, trasporto e deposito di materiale solido).

Come coefficienti di resistenza al moto nell'alveo inciso e nelle aree golenali sono stati utilizzati i valori stimati nell'ambito di precedenti studi o sulla base dei valori di letteratura. Resta inteso che tali valori tengono implicitamente conto anche delle perdite energetiche dovute al materiale flottante, all'erosione, al trasporto e deposito di materiale solido. Essi inoltre sono considerati per ciascuna sezione costanti al variare delle portate e dei livelli in alveo. In particolare, per l'alveo inciso del fiume Arno è stato assunto un coefficiente di Manning compreso tra 0.035 e 0.041 s/m^{1/3}, coerentemente con i valori utilizzati nell'ambito degli studi a supporto del PAI e PGRA.

I coefficienti di contrazione ed espansione, necessari per la valutazione delle perdite di carico indotte da variazioni di sezione, allargamenti o restringimenti, sono stati imposti pari rispettivamente a 0.1 e 0.3 per modeste variazioni e uguali rispettivamente a 0.3 e 0.5 per variazioni più marcate secondo le indicazioni di letteratura. Al coefficiente di efflusso da utilizzare nella formula di stramazzo in parete grosso per briglia, traverse e salti di fondo trasversale ai corsi d'acqua è stato attribuito un valore tra 0.325 e 0.38 in funzione della forma e delle condizioni locali, secondo le indicazioni di letteratura.

La condizione al contorno di valle è stata imposta nella sezione 463.66 come scala di deflusso, verificato che la sezione di valle del modello risulta sufficientemente distante dall'area di interesse, affinché anche modeste approssimazioni nella stima della scala di deflusso siano ininfluenti sul calcolo dei livelli in corrispondenza della zona di intervento.

Il modello geometrico è stato cimentato con le immissioni idrologiche, per il tempo di ritorno di 200 anni e le durate critiche di 12 e 18 ore, come esposto nei precedenti paragrafi. Si ricorda che nella gestione della diga di Bilancino è stata considerato un livello iniziale d'invaso di 250 m s.l.m.

E' stato operato un aggiornamento della geometria del modello idraulico, conseguente all'eliminazione della traversa dei Massetti a monte del ponte di Varlungo, operata dal Consorzio di Bonifica nell'estate del 2018. Di seguito si riportano alcune immagini relativi ai lavori di rimozione.



Figura 2 – Pescaia dei Massetti (prima della rimozione)

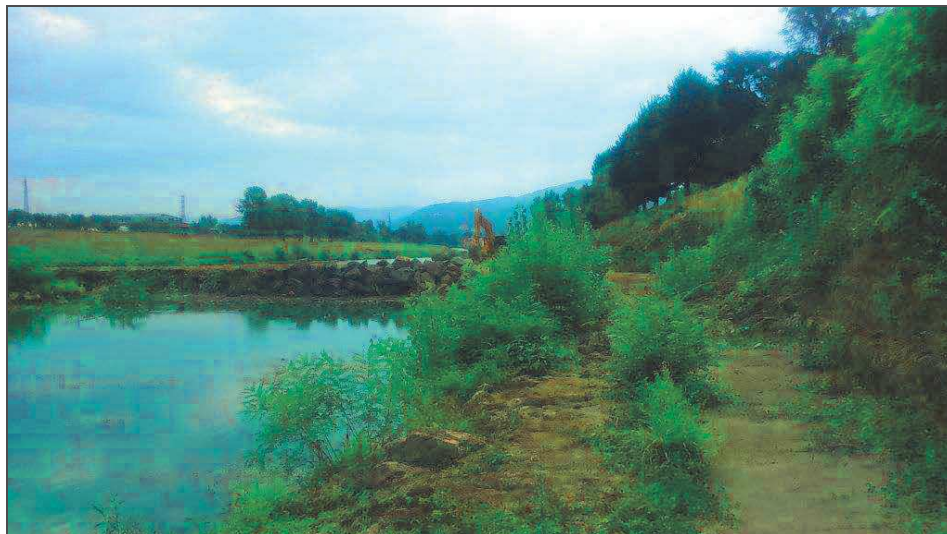


Figura 3 – Pescaia dei Massetti (prima della rimozione)



Figura 4 – Pescaia dei Massetti (dopo la rimozione)



Figura 5 – Pescaia dei Massetti (dopo la rimozione)

4.4. Descrizione degli interventi

Gli interventi previsti sono localizzabili come segue (per posizionamento planimetrico cfr Elaborato 1 “Relazione Generale” allegato 1, per dettagli fotografici cfr Elaborato 5 “Documentazione fotografica”):

Sponda sinistra

1. Tratto a monte dell'abitato di Nave a Rovezzano: tipologia E. Realizzazione varco per la chiusura di via Villamagna con altezza di circa 2 m;
2. Tratto nell'abitato di Nave a Rovezzano per una lunghezza di circa 170 m (da via villamagna a giardini): tipologia A. Rialzo muro esistente in calcestruzzo di circa 0,8 m;
3. Tratto nell'abitato di Nave a Rovezzano per una lunghezza di circa 220 m (giardini e percorso pedonale di fronte abitazioni): tipologia B. Rialzo piano campagna di circa 0,6 m;
4. Tratto a valle dell'abitato di Nave a Rovezzano per una lunghezza di circa 220 m (di fronte a campo sportivo fino a ponte Varlungo): tipologia B. consolidamento e rialzo argine di circa 1 m;
5. tratto a valle ponte di Varlungo per una lunghezza di circa 485 m (zona giardini Anconella): tipologia B. Allargamento e riprofilatura arginello esistente;
6. Tratto di fronte impianto potabilizzazione Anconella per una lunghezza di circa 1120 m. tipologia G. Manutenzione muratura esistente con adeguamento varchi di accesso;
7. Tratto in prossimità impianto ex bocciodromo a monte del ponte Giovanni da Verrazzano per una lunghezza di circa 15m tipologia D. Demolizione e rifacimento muro d'argine con altezza circa 2.6 m
8. Tratto immediatamente a monte del ponte da Verrazzano per una lunghezza di circa 55 m tipologia D. Demolizione e rifacimento muro d'argine con altezza circa 2.1 m.

Sponda destra

1. Tratto a monte del Tuscany Hall in via Fabrizio De Andrè all'altezza del benzinaio Agip Tratto di raccordo muretto-giardini per una lunghezza di circa 20 m. tipologia B. Sovralzo terreno esistente altezza variabile (max. 100 cm);
2. Tratto a monte del Tuscany Hall in via Fabrizio De Andrè all'altezza del benzinaio Agip Tratto di raccordo varco-giardini per una lunghezza di circa 10 m. tipologia D. Realizzazione muretto di altezza variabile (max. 120 cm);
3. Tratto a monte del Tuscany Hall in via Fabrizio De Andrè all'altezza del benzinaio Agip. tipologia E. Realizzazione varco per la chiusura di via De Andrè di circa 1,2 m;
4. Tratto dal varco di cui al punto precedente al Tuscany Hall per una lunghezza di circa 140 m. tipologia D. Realizzazione muretto di altezza variabile (max. 120 cm) in fregio alla pista ciclabile;
5. Tratto a valle ingresso del Tuscany Hall circa 50 m. tipologia B. Realizzazione di sovrizzo pista esistente max 60 cm;
6. Tratto a valle del Tuscany Hall fino ai giardini “Vittime di via Fani” per una lunghezza di circa 180 m. tipologia D. Realizzazione di muretto d'argine di altezza 1 m;
7. Tratto immediatamente a monte giardino “Vittime di via Fani”. Varco altezza 80 cm;
8. Tratto lungo i giardini “Vittime di via Fani” per una lunghezza di circa 660m. tipologia G. Rialzo cordolo fondazione cancellata per circa 40 cm;
9. Tratto di fronte albergo “Ville sull'Arno”. tipologia E. Chiusura due varchi accesso albergo.;

10. Tratto da Ville sull'Arno a ponte da Giovanni da Verrazzano per una lunghezza di circa 150 m. tipologia D. Realizzazione di muretto d'argine di altezza 1 m in fregio al marciapiede;
11. Tratto da Ponte Giovanni da Verrazzano a ristorante ex dopolavoro postelegrafonici per una lunghezza di circa 190 m. tipologia D. Realizzazione di muretto d'argine di altezza 1 m in fregio al marciapiede;
12. Tratto compreso fra giardini ed ex dopo lavoro postelegrafonici per una lunghezza di circa 55 m. tipologia D. Realizzazione nuovo muro d'argine di altezza 100 cm;
13. Tratto prospiciente ristorante ex dopolavoro postelegrafonici e altre strutture in muratura per una lunghezza di circa 70 m. tipologia G. Sistemazione muretti esistenti e predisposizione chiusure/adeguamento varchi;
14. Tratto a valle campo di calcetto fino inizio alberature per una lunghezza di circa 40 m. tipologia D. Realizzazione nuovo muro d'argine di altezza 100 cm;
15. Varco di accesso. tipologia E. Altezza 100 cm;
16.
 - I. Tratto a valle campo calcetto per una lunghezza di circa 30 m. tipologia D. Realizzazione di muretto d'argine di altezza 1 m in fregio al marciapiede;
 - II. Varco di altezza 1 m;
 - III. Tratto fino ad immissione torrente Affrico per una lunghezza di circa 30 m. tipologia D. Realizzazione di muretto d'argine di altezza 1 m in fregio al marciapiede;
17. Immissione torrente Affrico. tipologia H. Realizzazione clapet e rinforzo muretto lato fiume;
18. Tratto immediatamente a valle torrente Affrico. Realizzazione varco altezza 100 cm;
19. Tratto compreso fra immissione torrente Affrico e chiosco su lungarno del Tempio per una lunghezza di circa 130m. tipologia D. Realizzazione nuovo argine in muratura di altezza circa 1 m in fregio alla pista ciclabile;
20. Tratto in zona chiosco su lungarno del Tempio. tipologia D. Realizzazione nuovo muretto per una lunghezza di circa 25 m intorno al chiosco;
21. Tratto immediatamente a valle del chiosco. Realizzazione varco altezza 100 cm;
22. Tratto dal chiosco a ponte san Niccolò per una lunghezza di circa 210 m. Realizzazione nuovo argine in muratura di altezza circa 1 m in fregio alla pista ciclabile;
23. Varco collegamento pista ciclabile muro argine ponte san Niccolò. Altezza 80 cm;
24. Tratto di lungarno alle Grazie da piazza dei Cavalleggeri a Ponte alle Grazie per una lunghezza di circa 250 m. Rialzo murature esistenti mediante targonature rimovibili di altezza circa 95 cm;
25. Tratto di lungarno Acciaiuoli da ponte vecchio a ponte S. Trinita per una lunghezza di circa 230 m. Rialzo murature esistenti mediante targonature rimovibili di altezza circa 70 cm.

5. VERIFICHE IDRAULICHE ALLO STATO DI PROGETTO

Il modello geometrico allo Stato di Progetto è stato sviluppato a partire da quello per lo Stato Attuale, tenendo conto dei risultati della modellazione idraulica per lo stesso, in particolare in termini di valutazione delle condizioni di insufficienza idraulica nei tratti analizzati. L'analisi delle condizioni di pericolosità idraulica allo Stato Attuale ha permesso la localizzazione ed entità degli interventi di Progetto (vedi Paragrafo 4.4).

Il modello geometrico allo Stato di Progetto, pertanto, traduce in termini di modellazione idraulica gli interventi previsti, volti alla messa in sicurezza dell'abitato per piene con tempo di ritorno fino a 200 anni.

Attraverso l'utilizzo di Lateral Structures, si è contenuta l'esondazione delle portate transistanti in alveo, ottenendo pertanto anche una valutazione in termini altimetrici dell'entità delle altezze di ritenuta da raggiungere con le opere strutturali da realizzarsi.

Analizzando i valori dei battenti nelle APE in corrispondenza delle quali si hanno ancora esondazioni, si è pertanto potuta fare una valutazione del rischio residuo ed eventuali situazioni di trasferimento/incremento della pericolosità idraulica a valle dell'intervento.

6. ANALISI DEI RISULTATI

Analizzando i vari scenari modellati è stato possibile eseguire un confronto fra i battenti risultanti nelle APE nei vari scenari messi a confronto. In particolare ci si è concentrati sul confronto fra i battenti negli scenari di cui al paragrafo 4.2:

- Scenario 1: Confronto fra lo stato attuale e lo stato di progetto con le sole opere di difesa di Firenze realizzate – codice SASA – SASP;
- Scenario 2: confronto fra lo stato di progetto con il solo sistema di casse di Figline realizzato e con anche le opere di difesa di Firenze – codice SPSA - SPSP

6.1. Scenario 1: SASA – SASP

Confrontando i battenti che si verificano nelle APE del modello idraulico utilizzato, in questo scenario di confronto si evidenzia (ALLEGATO PLANIMETRIA SASA _ SASP) come le esondazioni nel centro storico di Firenze vengano eliminate, per l'evento di progetto, con riduzioni di battenti di 3/5 m. Essendo un modello quasi-bidimensionale, il confronto lo si può fare sui battenti statici che si registrano a fine evento, non potendo determinare esattamente le celle in cui si verifica l'effettivo transito.

Per quanto riguarda gli aumenti di battente, che si registrano a valle del centro storico, si evidenzia che ad eccezione delle celle FI-003m – Vm-005b – Vm-005e – Vm003b – Vm003c, si verificano aumenti diffusi ma inferiori a 0.10 m, che pertanto rientrano nel grado di precisione dell'analisi idraulica.

Per quanto riguarda le APE sopraccitate i cui battenti sono riportati nella successiva tabella, è stata effettuata una analisi di dettaglio tramite DTM Lidar, verificando le porzioni di superficie che sarebbero interessate realmente dall'incremento di battente: i risultati dell'analisi sono rappresentati nelle figure seguenti, dalle quali si evince che sarebbero solo le porzioni evidenziate in rosso quelle interessate dall'incremento di battente rispetto allo stato attuale, con la realizzazione delle difese del centro storico.

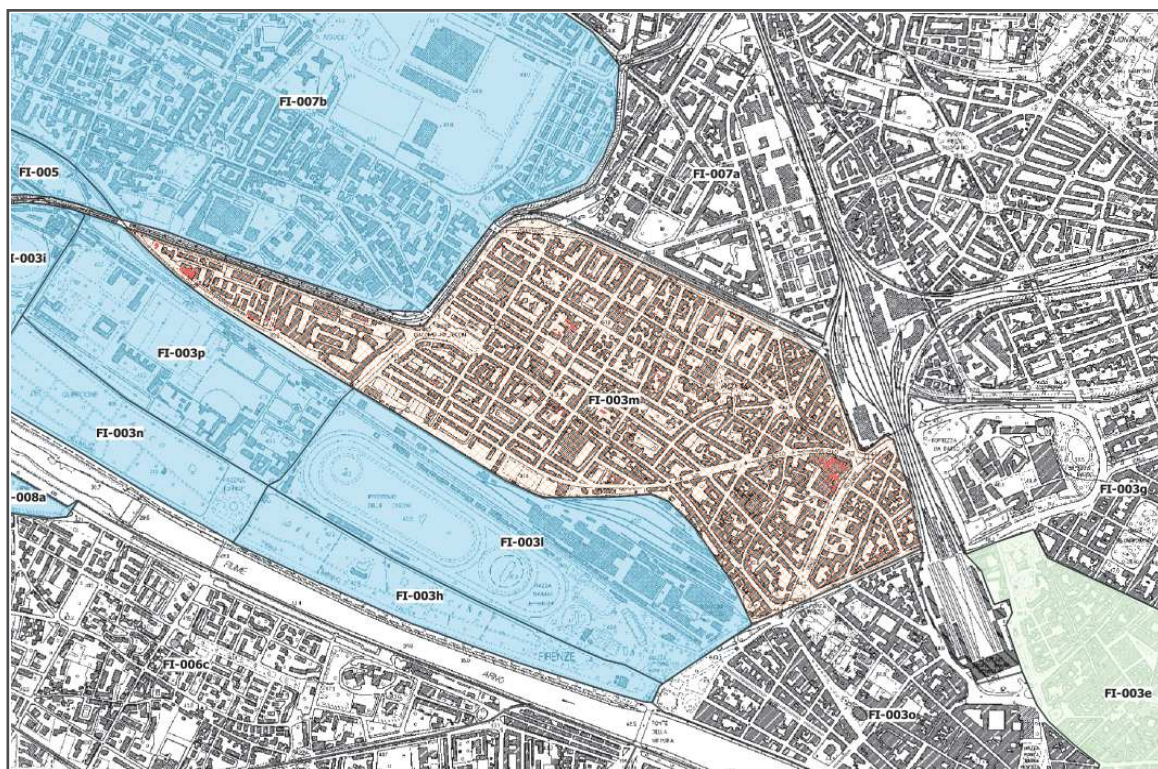


Figura 6 – Le celle evidenziate in rosso rappresentano l'aumento di battente nello scenario SASA – SASP (sistema di casse di Figline non realizzato) per la cella FI-003m

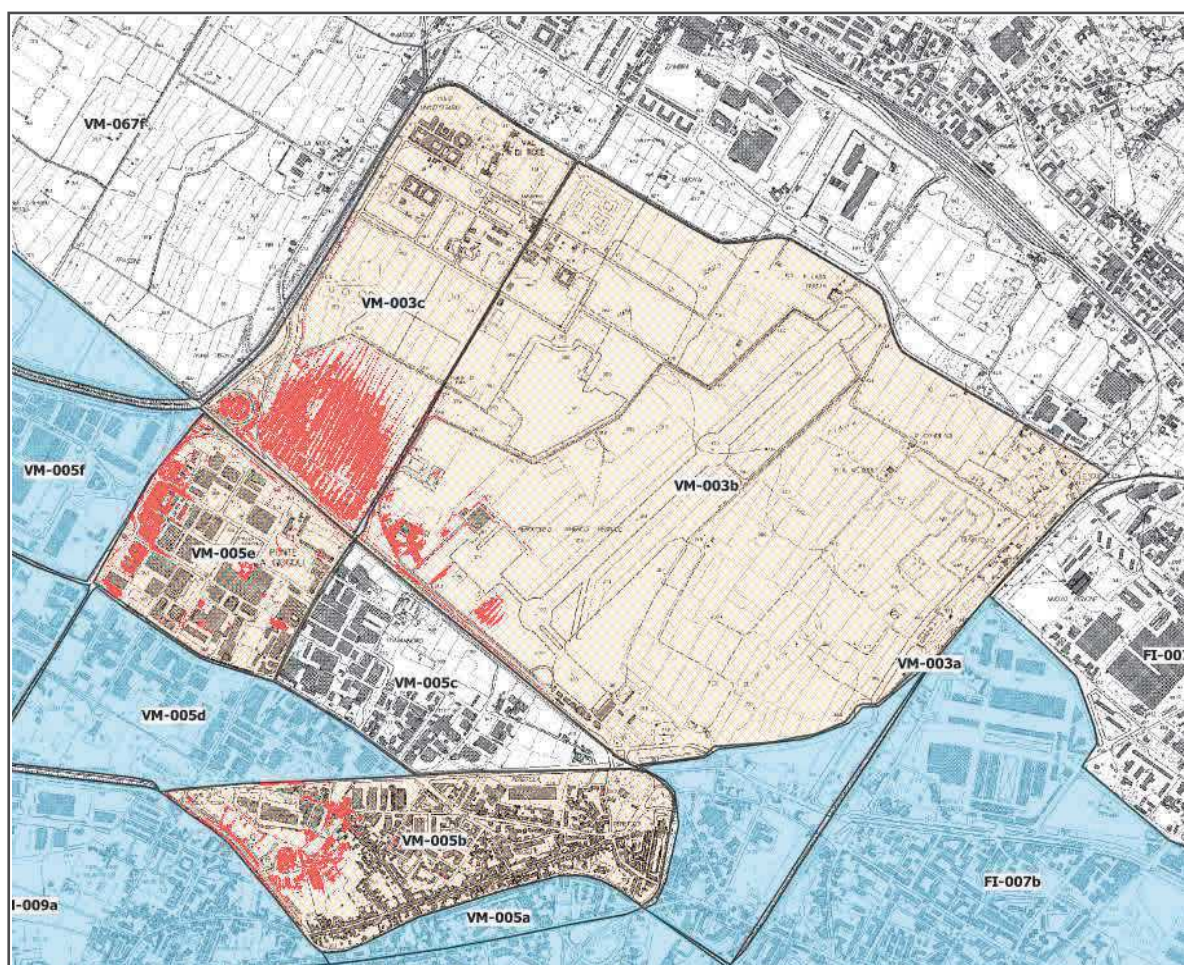


Figura 7 – Aumento battente nello scenario SASA – SASP (sistema di casse di Figline non realizzato) per le celle Vm-005b – Vm-005e – Vm003b – Vm003c

APE	Battente [m] Stato Attuale SASA	Battente [m] Stato Progetto SASP	Aumento [m]
FI-003m	39.15	39.40	+ 0.25
VM-005b	35.63	35.87	+ 0.24
Vm-005e	35.59	35.89	+ 0.30
Vm-003b	35.73	36.22	+ 0.59
Vm-003c	34.98	35.43	+ 0.45

Figura 8 – Tabella contenente i battenti nelle APE analizzate, allo stato attuale e di progetto, con le difese di Firenze realizzate e il sistema di casse di espansione di Figline non realizzato.

6.2. Scenario 2: SPSA – SPSP

Con la realizzazione del sistema di casse di espansione di Figline l'abbattimento dei livelli che si verifica nel centro storico di Firenze, genera un aumento del franco di sicurezza rispetto alle opere in progetto per lo scenario duecentennale, come è stato evidenziato nei precedenti paragrafi; in conseguenza di ciò si assiste ad una diminuzione delle esondazioni anche nei tratti posti a valle del centro storico.

Pertanto gli aumenti dovuti alla realizzazione del sistema di difese in progetto sono contenuti come estensione e inferiori a 0.10m, ad eccezione della cella FI-003m, come si evince dalla planimetria allegata (ALLEGATO PLANIMETRIA SPSA _ SPSP).

Effettuando l'analisi con DTM Lidar così come per lo scenario precedente, si evince che, una volta realizzato il sistema di casse di espansione, sarebbero solo le porzioni evidenziate in rosso quelle eventualmente interessate dall'incremento di battente rispetto allo stato attuale, con la realizzazione delle difese del centro storico.

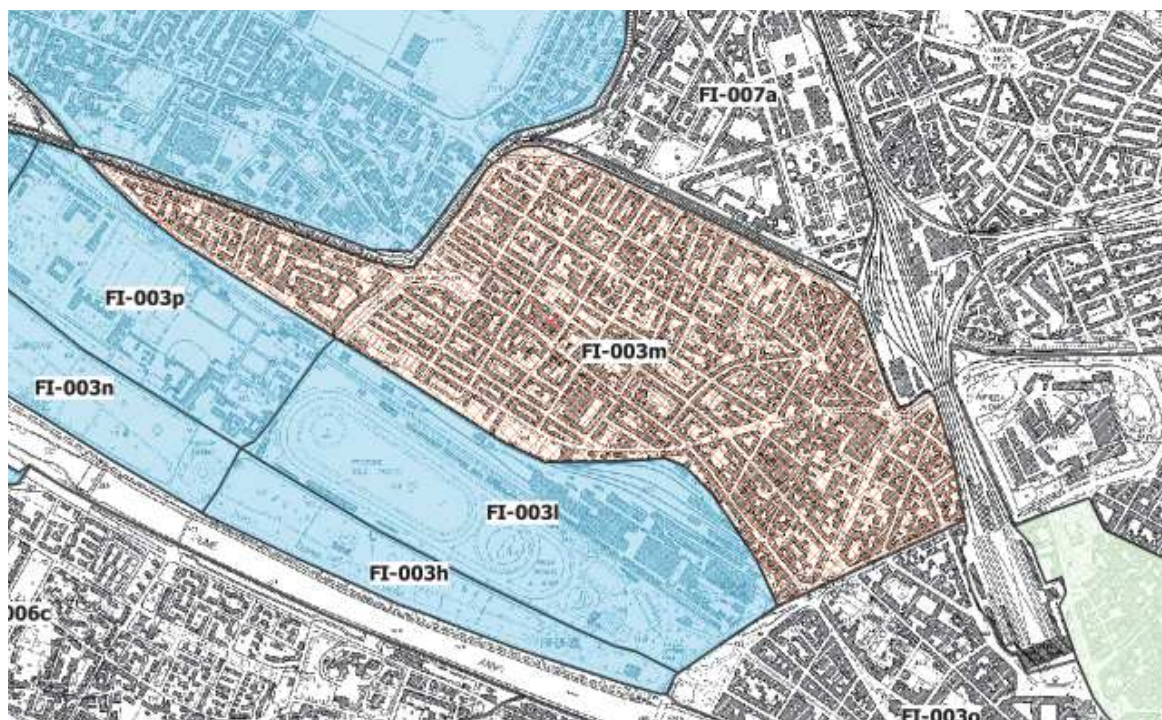


Figura 9 – Le celle evidenziate in rosso rappresentano l'aumento di battente nello scenario SPSA – SPSP (sistema di casse di Figline realizzato) per la cella FI-003m

APE	Battente [m] Stato Attuale SPSA	Battente [m] Stato Progetto SPSP	Aumento [m]
FI-003m	36.87	37.17	+ 0.30

Figura 10 – Tabella contenente il battente nella Ape analizzata, allo stato attuale e di progetto, con le difese di Firenze realizzate e il sistema di casse di espansione di Figline realizzato.

7. CONCLUSIONI

Lo scopo del presente intervento è la messa in sicurezza idraulica del centro storico della città di Firenze, sia in sponda sinistra che in sponda destra, per eventi con tempo di ritorno fino a duecento anni per il Fiume Arno. Per raggiungere tale obiettivo, si prevede la realizzazione di nuovi argini o il sovrizzo delle strutture arginali esistenti. Gli interventi previsti comporteranno una modifica delle difese attuali, in modo definitivo con altezza massima superiore di 1,20 m, mentre per i tratti di lungarno delle Grazie e lungarno Acciaiuoli è previsto, in caso di piena, il posizionamento di panconature provvisorie da rimuoversi al termine dell'allerta meteo. Le modellazioni idrauliche effettuate mostrano come a fronte di una significativa riduzione del rischio idraulico per l'abitato di Firenze non vi siano aggravii diffusi per le zone poste a valle dell'intervento, se non con incrementi del battente idrico inferiori a 10 cm. In tal senso, bisogna considerare che, una volta completato il sistema di casse di espansione sul Fiume Arno a monte di Firenze, gli eventuali incrementi di battente causati dalla realizzazione delle difese idrauliche in progetto, saranno ulteriormente ridotti o annullati, mentre aumenteranno i franchi di sicurezza nel centro storico di Firenze.

La serie di interventi previsti consentirà l'individuazione di una linea di demarcazione delle aree in sicurezza idraulica, stabilita dalle opere idrauliche realizzate nell'ambito del progetto che andranno ad integrarsi con i tratti già esistenti e che si svilupperà, senza soluzione di continuità, se non laddove necessaria l'interruzione per vincoli storici, funzionali o legati a interferenze con infrastrutture presenti.

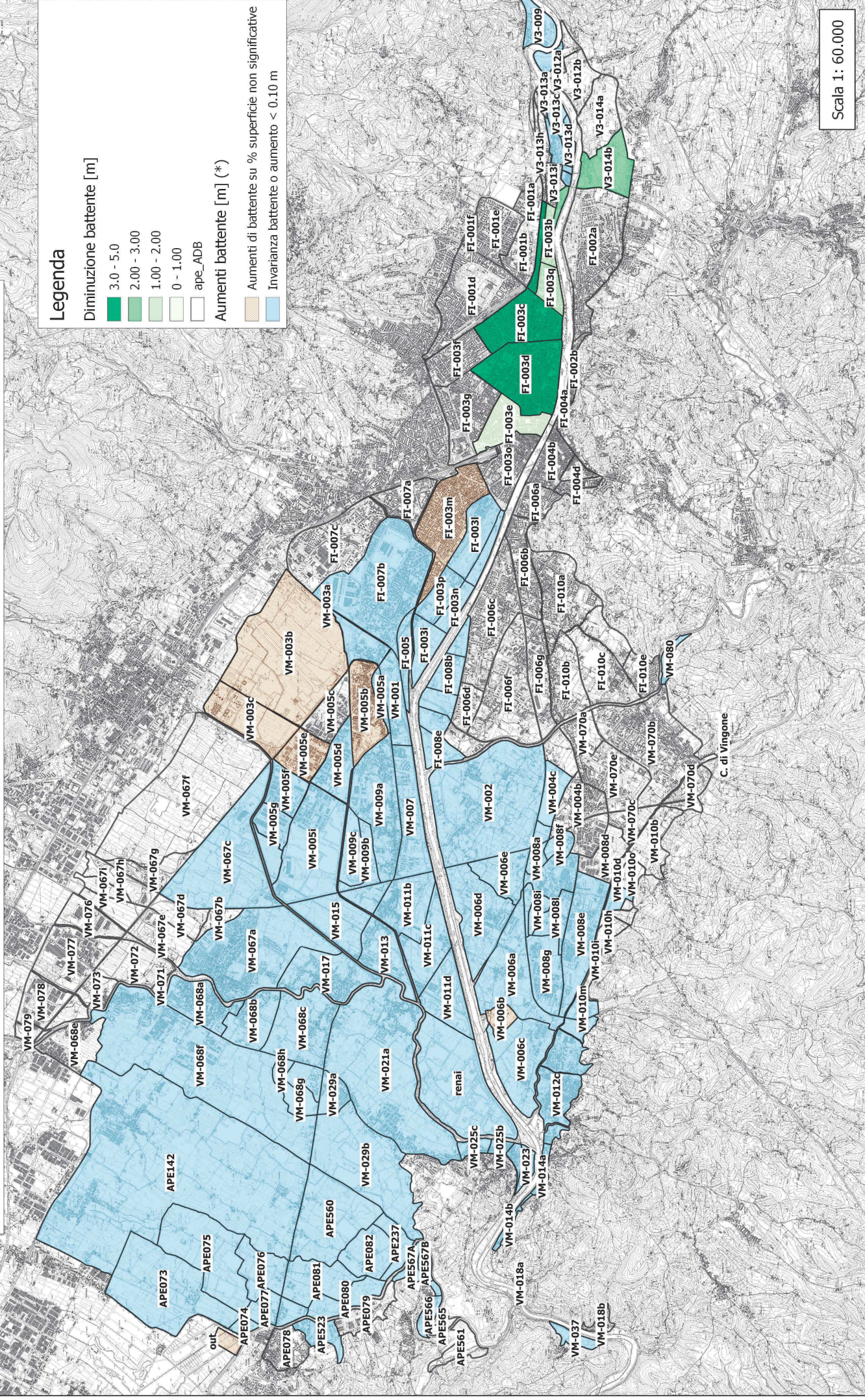
Tali singolarità saranno gestite mediante strutture temporanee individuate in progetto, che andranno ad integrarsi a soluzioni attinenti alla gestione in fase di emergenza.

ALLEGATI

Planimetria SASA-SASP

Scenario 1: SASA - SASP
Aumenti e diminuzioni di battente rispetto allo Stato Attuale con la realizzazione delle opere di difesa

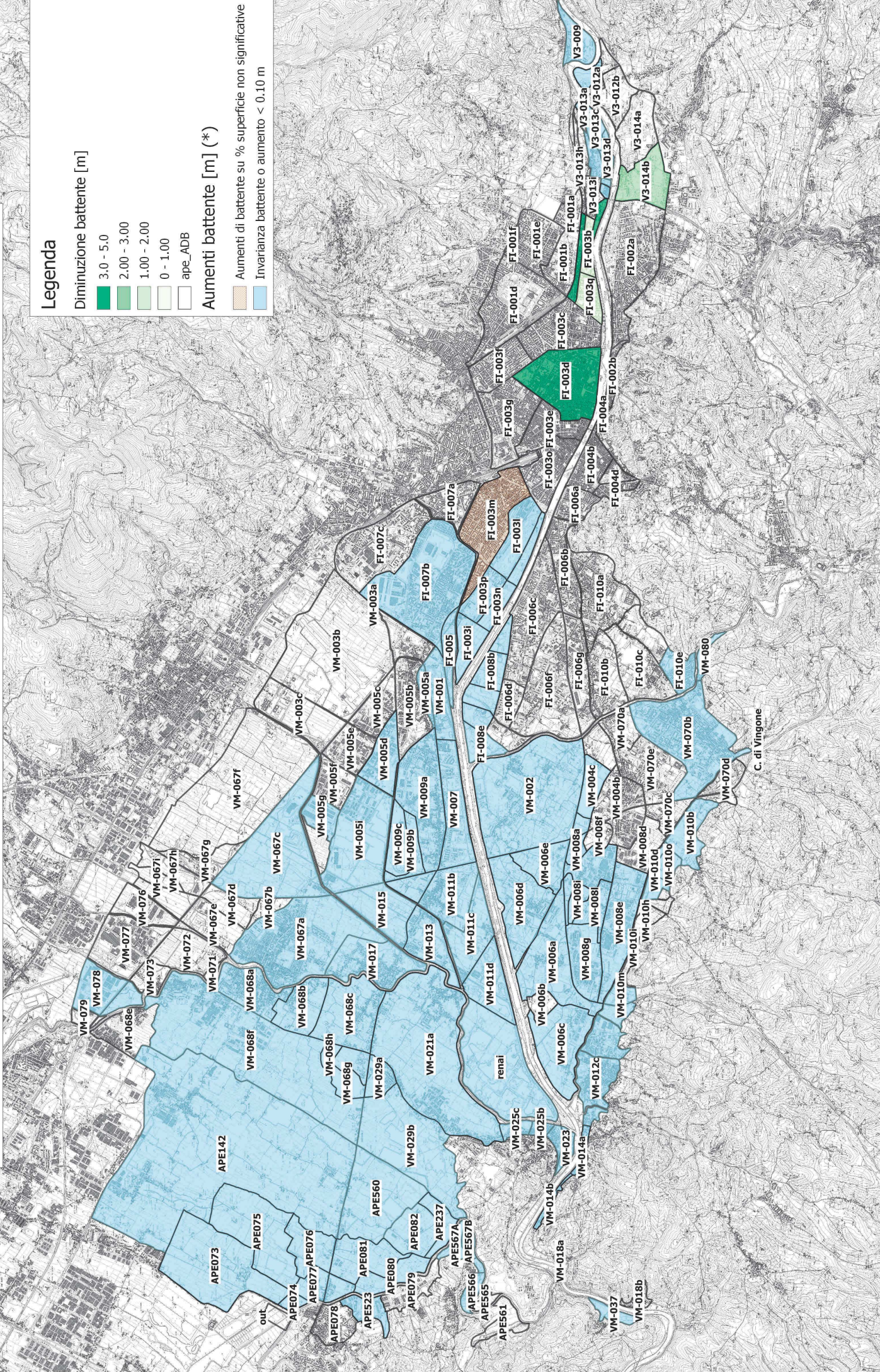
- Legenda**
- Diminuzione battente [m]
- 3.0 - 5.0
 - 2.00 - 3.00
 - 1.00 - 2.00
 - 0 - 1.00
 - ape_ADB
- Aumenti battente [m] (*)
- Aumenti di battente su % superficie non significative
 - Invarianza battente o aumento < 0.10 m



(*) Aumenti concentrati in limitate porzioni di APE (si veda Elaborato 1A_ Relazione idraulica)

Planimetria SPSA-SPSP

Aumenti e diminuzioni di battente con la realizzazione delle opere di difesa di Firenze nell'ipotesi che il sistema di casse di espansione di Figline sia stato realizzato



(*) Aumenti concentrati in limitate porzioni di APE (si veda Elaborato: Relazione Idraulica)

Allegati Idraulici – Risultati Modellazione

HEC-RAS Profile: Max WS

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
APE073	Max WS	SASA	35.53	32.21	9.42	1108.35	924.96
APE073	Max WS	SASP	35.54	32.21	8.97	1108.35	936.45
APE073	Max WS	SPSA	34.91	32.21	7.16	663.33	371.97
APE073	Max WS	SPSP	33.84	32.21	6.88	106.87	25.54
APE074	Max WS	SASA	35.53	32.00	12.92	104.09	102.76
APE074	Max WS	SASP	35.54	32.00	13.11	104.09	103.81
APE074	Max WS	SPSA	35.17	32.00	-0.02	98.09	67.77
APE074	Max WS	SPSP	35.17	32.00	0.23	98.09	67.32
APE075	Max WS	SASA	35.57	31.98	27.92	1275.87	1120.80
APE075	Max WS	SASP	35.59	31.98	27.04	1275.87	1135.97
APE075	Max WS	SPSA	35.19	31.98	18.52	974.47	718.15
APE075	Max WS	SPSP	35.19	31.98	20.33	974.47	714.88
APE076	Max WS	SASA	35.57	31.91	29.40	581.43	897.67
APE076	Max WS	SASP	35.59	31.91	28.92	581.43	904.59
APE076	Max WS	SPSA	35.19	31.91	25.07	568.50	676.18
APE076	Max WS	SPSP	35.19	31.91	22.31	568.50	674.45
APE077	Max WS	SASA	35.57	31.81	5.76	253.99	506.83
APE077	Max WS	SASP	35.58	31.81	7.55	253.99	509.61
APE077	Max WS	SPSA	35.19	31.81	-0.46	247.56	411.24
APE077	Max WS	SPSP	35.18	31.81	0.87	247.56	410.40
APE078	Max WS	SASA	31.83	31.83	0.00	0.87	0.00
APE078	Max WS	SASP	31.83	31.83	0.00	0.87	0.00
APE078	Max WS	SPSA	31.83	31.83	0.00	0.87	0.00
APE078	Max WS	SPSP	31.83	31.83	0.00	0.87	0.00
APE079	Max WS	SASA	32.11	32.11	0.00	1.88	0.00
APE079	Max WS	SASP	32.11	32.11	0.00	1.88	0.00
APE079	Max WS	SPSA	32.11	32.11	0.00	1.88	0.00
APE079	Max WS	SPSP	32.11	32.11	0.00	1.88	0.00
APE080	Max WS	SASA	35.46	30.31	11.62	427.18	867.66
APE080	Max WS	SASP	35.47	30.31	11.70	427.18	872.09
APE080	Max WS	SPSA	33.71	30.31	2.29	282.11	168.80
APE080	Max WS	SPSP	33.40	30.31	2.27	282.11	80.15
APE081	Max WS	SASA	35.57	30.49	9.64	747.73	1662.37
APE081	Max WS	SASP	35.59	30.49	9.99	747.73	1671.26
APE081	Max WS	SPSA	35.19	30.49	7.92	742.43	1375.44
APE081	Max WS	SPSP	35.19	30.49	8.02	742.43	1373.18
APE082	Max WS	SASA	35.68	30.46	22.69	568.66	1026.10
APE082	Max WS	SASP	35.70	30.46	22.00	568.66	1040.14
APE082	Max WS	SPSA	35.30	30.46	13.95	528.13	817.54
APE082	Max WS	SPSP	35.30	30.46	14.01	528.13	818.03
APE142	Max WS	SASA	35.75	31.40	23.75	3432.74	4950.48
APE142	Max WS	SASP	35.76	31.40	6.21	3432.74	4986.05
APE142	Max WS	SPSA	35.43	31.40	-6.01	3432.74	3859.19
APE142	Max WS	SPSP	35.43	31.40	6.78	3432.74	3865.46

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
APE237	Max WS	SASA	35.75	29.98	1.56	266.16	811.30
APE237	Max WS	SASP	35.76	29.98	6.69	266.16	813.97
APE237	Max WS	SPSA	31.57	29.98	2.94	36.93	23.74
APE237	Max WS	SPSP	31.64	29.98	3.19	36.93	26.49
APE238	Max WS	SASA	35.46	31.10	5.35	162.42	298.40
APE238	Max WS	SASP	35.47	31.10	5.83	162.42	299.94
APE238	Max WS	SPSA	33.90	31.10	1.67	105.56	72.46
APE238	Max WS	SPSP	33.31	31.10	1.65	61.55	23.24
APE523	Max WS	SASA	31.92	31.04	0.05	0.42	0.37
APE523	Max WS	SASP	31.98	31.04	0.06	0.42	0.39
APE523	Max WS	SPSA	34.56	31.04	0.51	39.37	6.26
APE523	Max WS	SPSP	34.57	31.04	0.51	39.37	6.42
APE560	Max WS	SASA	35.75	30.73	-7.66	1556.93	3803.01
APE560	Max WS	SASP	35.76	30.73	24.11	1556.93	3818.67
APE560	Max WS	SPSA	35.43	30.73	10.27	1554.30	3307.41
APE560	Max WS	SPSP	35.43	30.73	-15.02	1554.30	3310.73
APE566	Max WS	SASA	38.19	33.50	0.00	111.57	299.44
APE566	Max WS	SASP	38.19	33.50	0.00	111.57	299.50
APE566	Max WS	SPSA	38.24	33.50	0.00	111.57	305.29
APE566	Max WS	SPSP	38.24	33.50	0.00	111.57	305.35
APE567A	Max WS	SASA	38.19	34.50	5.51	86.62	190.12
APE567A	Max WS	SASP	38.19	34.50	-0.98	86.62	190.17
APE567A	Max WS	SPSA	38.24	34.50	0.13	86.62	194.66
APE567A	Max WS	SPSP	38.24	34.50	0.12	86.62	194.72
APE567B	Max WS	SASA	38.19	34.00	-1.52	114.03	296.60
APE567B	Max WS	SASP	38.19	34.00	7.86	114.03	296.64
APE567B	Max WS	SPSA	38.24	34.00	-1.54	114.03	302.58
APE567B	Max WS	SPSP	38.24	34.00	-1.54	114.03	302.65
APE567C	Max WS	SASA	38.19	34.50	1.52	24.65	66.04
APE567C	Max WS	SASP	38.19	34.50	0.00	24.65	66.06
APE567C	Max WS	SPSA	38.24	34.50	1.54	24.65	67.34
APE567C	Max WS	SPSP	38.24	34.50	1.54	24.65	67.35
C. di Vingone	Max WS	SASA	55.39	53.50	0.01	18.08	17.24
C. di Vingone	Max WS	SASP	55.39	53.50	0.01	18.08	17.24
C. di Vingone	Max WS	SPSA	55.64	53.50	0.06	19.42	22.03
C. di Vingone	Max WS	SPSP	55.64	53.50	0.06	19.42	22.03
FI-001a	Max WS	SASA	46.90	46.90	0.00	0.48	0.00
FI-001a	Max WS	SASP	46.90	46.90	0.00	0.48	0.00
FI-001a	Max WS	SPSA	46.90	46.90	0.00	0.48	0.00
FI-001a	Max WS	SPSP	46.90	46.90	0.00	0.48	0.00
FI-001b	Max WS	SASA	49.50	49.50	0.00	2.58	0.00
FI-001b	Max WS	SASP	49.50	49.50	0.00	2.58	0.00
FI-001b	Max WS	SPSA	49.50	49.50	0.00	2.58	0.00
FI-001b	Max WS	SPSP	49.50	49.50	0.00	2.58	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
FI-001d	Max WS	SASA	46.20	46.20	0.00	0.50	0.00
FI-001d	Max WS	SASP	46.20	46.20	0.00	0.50	0.00
FI-001d	Max WS	SPSA	46.20	46.20	0.00	0.50	0.00
FI-001d	Max WS	SPSP	46.20	46.20	0.00	0.50	0.00
FI-001e	Max WS	SASA	52.15	52.15	0.00	0.27	0.00
FI-001e	Max WS	SASP	52.15	52.15	0.00	0.27	0.00
FI-001e	Max WS	SPSA	52.15	52.15	0.00	0.27	0.00
FI-001e	Max WS	SPSP	52.15	52.15	0.00	0.27	0.00
FI-002a	Max WS	SASA	41.00	41.00	0.00	0.31	0.00
FI-002a	Max WS	SASP	41.00	41.00	0.00	0.31	0.00
FI-002a	Max WS	SPSA	41.00	41.00	0.00	0.31	0.00
FI-002a	Max WS	SPSP	41.00	41.00	0.00	0.31	0.00
FI-002b	Max WS	SASA	45.70	45.70	0.00	0.79	0.00
FI-002b	Max WS	SASP	45.70	45.70	0.00	0.79	0.00
FI-002b	Max WS	SPSA	45.70	45.70	0.00	0.79	0.00
FI-002b	Max WS	SPSP	45.70	45.70	0.00	0.79	0.00
FI-003a	Max WS	SASA	53.34	51.10	18.69	34.13	23.11
FI-003a	Max WS	SASP	51.10	51.10	0.00	2.01	0.00
FI-003a	Max WS	SPSA	53.14	51.10	4.68	27.81	16.93
FI-003a	Max WS	SPSP	51.10	51.10	0.00	2.01	0.00
FI-003b	Max WS	SASA	51.40	49.94	15.86	29.05	13.43
FI-003b	Max WS	SASP	49.94	49.94	0.00	0.04	0.00
FI-003b	Max WS	SPSA	50.50	49.94	0.01	3.72	0.52
FI-003b	Max WS	SPSP	49.94	49.94	0.00	0.04	0.00
FI-003c	Max WS	SASA	49.59	44.70	6.04	268.63	122.36
FI-003c	Max WS	SASP	44.70	44.70	0.00	0.68	0.00
FI-003c	Max WS	SPSA	44.70	44.70	0.00	0.68	0.00
FI-003c	Max WS	SPSP	44.70	44.70	0.00	0.68	0.00
FI-003d	Max WS	SASA	48.95	44.50	58.13	742.87	889.42
FI-003d	Max WS	SASP	44.50	44.50	0.00	4.48	0.00
FI-003d	Max WS	SPSA	47.41	44.50	17.58	231.98	113.04
FI-003d	Max WS	SPSP	44.50	44.50	0.00	4.48	0.00
FI-003e	Max WS	SASA	42.51	42.50	0.00	0.92	0.01
FI-003e	Max WS	SASP	42.50	42.50	0.00	0.92	0.00
FI-003e	Max WS	SPSA	42.50	42.50	0.00	0.92	0.00
FI-003e	Max WS	SPSP	42.50	42.50	0.00	0.92	0.00
FI-003f	Max WS	SASA	45.70	45.70	0.00	0.51	0.00
FI-003f	Max WS	SASP	45.70	45.70	0.00	0.51	0.00
FI-003f	Max WS	SPSA	45.70	45.70	0.00	0.51	0.00
FI-003f	Max WS	SPSP	45.70	45.70	0.00	0.51	0.00
FI-003g	Max WS	SASA	41.00	41.00	0.00	1.09	0.00
FI-003g	Max WS	SASP	41.00	41.00	0.00	1.09	0.00
FI-003g	Max WS	SPSA	41.00	41.00	0.00	1.09	0.00
FI-003g	Max WS	SPSP	41.00	41.00	0.00	1.09	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
FI-003h	Max WS	SASA	43.13	40.80	0.10	105.71	59.37
FI-003h	Max WS	SASP	43.21	40.80	0.07	105.71	67.14
FI-003h	Max WS	SPSA	43.05	40.80	0.88	105.71	50.51
FI-003h	Max WS	SPSP	43.07	40.80	1.63	105.71	52.64
FI-003i	Max WS	SASA	41.86	39.50	20.08	172.13	167.05
FI-003i	Max WS	SASP	41.90	39.50	15.51	172.13	173.81
FI-003i	Max WS	SPSA	41.80	39.50	12.64	172.13	157.18
FI-003i	Max WS	SPSP	41.82	39.50	8.33	172.13	159.28
FI-003l	Max WS	SASA	42.15	37.50	0.14	287.99	379.36
FI-003l	Max WS	SASP	42.23	37.50	2.18	287.99	402.89
FI-003l	Max WS	SPSA	41.97	37.50	10.18	275.27	328.27
FI-003l	Max WS	SPSP	41.99	37.50	12.99	275.27	333.98
FI-003m	Max WS	SASA	39.15	34.40	0.63	11.72	10.83
FI-003m	Max WS	SASP	39.40	34.40	0.86	18.05	14.73
FI-003m	Max WS	SPSA	36.87	34.40	0.22	1.04	1.42
FI-003m	Max WS	SPSP	37.17	34.40	0.26	1.32	1.78
FI-003n	Max WS	SASA	42.14	39.50	0.40	193.93	218.87
FI-003n	Max WS	SASP	42.22	39.50	5.66	193.93	233.47
FI-003n	Max WS	SPSA	41.97	39.50	22.45	172.13	185.72
FI-003n	Max WS	SPSP	41.99	39.50	29.59	172.13	189.24
FI-003o	Max WS	SASA	39.00	39.00	0.00	1.21	0.00
FI-003o	Max WS	SASP	39.00	39.00	0.00	1.21	0.00
FI-003o	Max WS	SPSA	39.00	39.00	0.00	1.21	0.00
FI-003o	Max WS	SPSP	39.00	39.00	0.00	1.21	0.00
FI-003p	Max WS	SASA	42.14	37.50	1.07	364.73	719.66
FI-003p	Max WS	SASP	42.22	37.50	-2.26	364.73	747.34
FI-003p	Max WS	SPSA	41.97	37.50	-3.07	361.14	655.96
FI-003p	Max WS	SPSP	41.99	37.50	-8.04	361.14	663.45
FI-003q	Max WS	SASA	51.39	49.82	2.41	259.92	263.45
FI-003q	Max WS	SASP	49.82	49.82	0.00	9.37	0.00
FI-003q	Max WS	SPSA	50.40	49.82	2.98	175.49	38.51
FI-003q	Max WS	SPSP	49.82	49.82	0.00	9.37	0.00
FI-003r	Max WS	SASA	51.39	47.93	1.21	64.62	50.25
FI-003r	Max WS	SASP	47.93	47.93	0.00	0.04	0.00
FI-003r	Max WS	SPSA	50.40	47.93	2.98	13.97	5.57
FI-003r	Max WS	SPSP	47.93	47.93	0.00	0.04	0.00
FI-004a	Max WS	SASA	45.80	45.80	0.00	0.38	0.00
FI-004a	Max WS	SASP	45.80	45.80	0.00	0.38	0.00
FI-004a	Max WS	SPSA	45.80	45.80	0.00	0.38	0.00
FI-004a	Max WS	SPSP	45.80	45.80	0.00	0.38	0.00
FI-004b	Max WS	SASA	35.60	35.60	0.00	0.96	0.00
FI-004b	Max WS	SASP	35.60	35.60	0.00	0.96	0.00
FI-004b	Max WS	SPSA	35.60	35.60	0.00	0.96	0.00
FI-004b	Max WS	SPSP	35.60	35.60	0.00	0.96	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
FI-004c	Max WS	SASA	44.10	44.10	0.00	0.89	0.00
FI-004c	Max WS	SASP	44.10	44.10	0.00	0.89	0.00
FI-004c	Max WS	SPSA	44.10	44.10	0.00	0.89	0.00
FI-004c	Max WS	SPSP	44.10	44.10	0.00	0.89	0.00
FI-004d	Max WS	SASA	43.80	43.80	0.00	0.62	0.00
FI-004d	Max WS	SASP	43.80	43.80	0.00	0.62	0.00
FI-004d	Max WS	SPSA	43.80	43.80	0.00	0.62	0.00
FI-004d	Max WS	SPSP	43.80	43.80	0.00	0.62	0.00
FI-005	Max WS	SASA	39.52	36.50	3.35	195.65	134.31
FI-005	Max WS	SASP	39.55	36.50	3.25	195.65	140.39
FI-005	Max WS	SPSA	39.32	36.50	7.03	178.68	96.93
FI-005	Max WS	SPSP	39.32	36.50	7.40	178.68	98.18
FI-005a	Max WS	SASA	41.63	39.60	40.50	28.65	58.30
FI-005a	Max WS	SASP	41.67	39.60	39.41	28.65	59.37
FI-005a	Max WS	SPSA	41.60	39.60	30.87	28.65	57.24
FI-005a	Max WS	SPSP	41.61	39.60	31.12	28.65	57.52
FI-006a	Max WS	SASA	38.20	38.20	0.00	0.35	0.00
FI-006a	Max WS	SASP	38.20	38.20	0.00	0.35	0.00
FI-006a	Max WS	SPSA	38.20	38.20	0.00	0.35	0.00
FI-006a	Max WS	SPSP	38.20	38.20	0.00	0.35	0.00
FI-006b	Max WS	SASA	35.30	35.30	0.00	0.63	0.00
FI-006b	Max WS	SASP	35.30	35.30	0.00	0.63	0.00
FI-006b	Max WS	SPSA	35.30	35.30	0.00	0.63	0.00
FI-006b	Max WS	SPSP	35.30	35.30	0.00	0.63	0.00
FI-006c	Max WS	SASA	35.40	35.40	0.00	2.28	0.00
FI-006c	Max WS	SASP	35.40	35.40	0.00	2.28	0.01
FI-006c	Max WS	SPSA	35.40	35.40	0.00	2.28	0.00
FI-006c	Max WS	SPSP	35.40	35.40	0.00	2.28	0.00
FI-006d	Max WS	SASA	35.30	35.30	0.00	0.75	0.00
FI-006d	Max WS	SASP	35.30	35.30	0.00	0.75	0.00
FI-006d	Max WS	SPSA	35.30	35.30	0.00	0.75	0.00
FI-006d	Max WS	SPSP	35.30	35.30	0.00	0.75	0.00
FI-006e	Max WS	SASA	34.70	34.70	0.00	0.82	0.00
FI-006e	Max WS	SASP	34.70	34.70	0.00	0.82	0.00
FI-006e	Max WS	SPSA	34.70	34.70	0.00	0.82	0.00
FI-006e	Max WS	SPSP	34.70	34.70	0.00	0.82	0.00
FI-006f	Max WS	SASA	33.90	33.90	0.00	0.78	0.00
FI-006f	Max WS	SASP	33.90	33.90	0.00	0.78	0.00
FI-006f	Max WS	SPSA	33.90	33.90	0.00	0.78	0.00
FI-006f	Max WS	SPSP	33.90	33.90	0.00	0.78	0.00
FI-006g	Max WS	SASA	34.10	34.10	0.00	0.42	0.00
FI-006g	Max WS	SASP	34.10	34.10	0.00	0.42	0.00
FI-006g	Max WS	SPSA	34.10	34.10	0.00	0.42	0.00
FI-006g	Max WS	SPSP	34.10	34.10	0.00	0.42	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min EI (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
FI-007a	Max WS	SASA	39.80	39.80	0.00	0.61	0.00
FI-007a	Max WS	SASP	39.80	39.80	0.00	0.61	0.00
FI-007a	Max WS	SPSA	39.80	39.80	0.00	0.61	0.00
FI-007a	Max WS	SPSP	39.80	39.80	0.00	0.61	0.00
FI-007b	Max WS	SASA	38.75	33.90	5.09	155.16	131.58
FI-007b	Max WS	SASP	38.78	33.90	6.31	155.16	136.22
FI-007b	Max WS	SPSA	38.53	33.90	0.28	108.78	106.97
FI-007b	Max WS	SPSP	38.25	33.90	0.26	83.42	83.31
FI-007c	Max WS	SASA	43.50	43.50	0.00	0.96	0.00
FI-007c	Max WS	SASP	43.50	43.50	0.00	0.96	0.00
FI-007c	Max WS	SPSA	43.50	43.50	0.00	0.96	0.00
FI-007c	Max WS	SPSP	43.50	43.50	0.00	0.96	0.00
FI-008a	Max WS	SASA	41.72	37.90	0.46	110.87	163.44
FI-008a	Max WS	SASP	41.77	37.90	0.31	117.87	168.83
FI-008a	Max WS	SPSA	41.68	37.90	-0.86	110.87	158.07
FI-008a	Max WS	SPSP	41.69	37.90	-0.15	110.87	159.32
FI-008b	Max WS	SASA	41.72	29.40	34.02	294.87	958.08
FI-008b	Max WS	SASP	41.76	29.40	17.97	297.96	970.24
FI-008b	Max WS	SPSA	41.67	29.40	4.74	294.87	944.60
FI-008b	Max WS	SPSP	41.68	29.40	-0.23	294.87	947.84
FI-008c	Max WS	SASA	41.69	30.10	20.51	225.46	844.92
FI-008c	Max WS	SASP	41.73	30.10	19.68	225.46	853.16
FI-008c	Max WS	SPSA	41.65	30.10	0.74	225.46	836.12
FI-008c	Max WS	SPSP	41.66	30.10	1.33	225.46	838.32
FI-008d	Max WS	SASA	41.61	29.50	22.99	185.49	830.00
FI-008d	Max WS	SASP	41.64	29.50	15.44	185.49	836.00
FI-008d	Max WS	SPSA	41.58	29.50	-1.19	185.49	824.29
FI-008d	Max WS	SPSP	41.59	29.50	-1.32	185.49	825.93
FI-008e	Max WS	SASA	41.50	31.10	208.75	252.02	741.27
FI-008e	Max WS	SASP	41.53	31.10	158.61	253.23	748.36
FI-008e	Max WS	SPSA	41.48	31.10	-3.71	252.02	735.43
FI-008e	Max WS	SPSP	41.48	31.10	10.86	252.02	737.43
FI-010a	Max WS	SASA	37.40	37.40	0.00	0.86	0.00
FI-010a	Max WS	SASP	37.40	37.40	0.00	0.86	0.00
FI-010a	Max WS	SPSA	37.40	37.40	0.00	0.86	0.00
FI-010a	Max WS	SPSP	37.40	37.40	0.00	0.86	0.00
FI-010b	Max WS	SASA	37.50	37.50	0.00	1.21	0.00
FI-010b	Max WS	SASP	37.50	37.50	0.00	1.21	0.00
FI-010b	Max WS	SPSA	37.50	37.50	0.00	1.21	0.00
FI-010b	Max WS	SPSP	37.50	37.50	0.00	1.21	0.00
FI-010c	Max WS	SASA	38.10	38.10	0.00	1.17	0.00
FI-010c	Max WS	SASP	38.10	38.10	0.00	1.17	0.00
FI-010c	Max WS	SPSA	38.10	38.10	0.00	1.17	0.00
FI-010c	Max WS	SPSP	38.10	38.10	0.00	1.17	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
FI-010d	Max WS	SASA	40.00	40.00	0.00	0.58	0.00
FI-010d	Max WS	SASP	40.00	40.00	0.00	0.58	0.00
FI-010d	Max WS	SPSA	40.00	40.00	0.00	0.58	0.00
FI-010d	Max WS	SPSP	40.00	40.00	0.00	0.58	0.00
FI-010e	Max WS	SASA	42.50	42.50	0.00	0.87	0.00
FI-010e	Max WS	SASP	42.50	42.50	0.00	0.87	0.00
FI-010e	Max WS	SPSA	44.98	42.50	1.13	11.16	7.26
FI-010e	Max WS	SPSP	44.98	42.50	1.13	11.16	7.26
out	Max WS	SASA	35.20	33.00	35.89	1000.00	2200.96
out	Max WS	SASP	35.19	33.00	38.31	1000.00	2185.11
out	Max WS	SPSA	33.00	33.00	0.00	1000.00	0.00
out	Max WS	SPSP	33.00	33.00	0.00	1000.00	0.00
renai	Max WS	SASA	39.39	20.50	617.55	2071.73	18061.91
renai	Max WS	SASP	39.39	20.50	551.57	2071.73	18072.65
renai	Max WS	SPSA	39.38	20.50	-24.82	2071.73	18049.92
renai	Max WS	SPSP	39.38	20.50	51.64	2071.73	18052.44
V03-013l	Max WS	SASA	54.40	51.61	-0.45	28.24	34.88
V03-013l	Max WS	SASP	54.41	51.61	-0.66	28.24	35.24
V03-013l	Max WS	SPSA	54.32	51.61	-0.23	28.24	32.55
V03-013l	Max WS	SPSP	54.32	51.61	-0.27	28.24	32.56
V03-013m	Max WS	SASA	54.53	46.73	0.55	16.01	26.70
V03-013m	Max WS	SASP	54.53	46.73	0.64	16.01	26.80
V03-013m	Max WS	SPSA	54.48	46.73	0.07	16.01	25.88
V03-013m	Max WS	SPSP	54.48	46.73	0.07	16.01	25.88
V03-013n	Max WS	SASA	54.14	50.67	1.65	19.08	11.01
V03-013n	Max WS	SASP	54.22	50.67	1.74	35.76	13.57
V03-013n	Max WS	SPSA	53.92	50.67	1.52	19.08	6.88
V03-013n	Max WS	SPSP	53.94	50.67	1.17	19.08	7.33
V3-002	Max WS	SASA	77.92	73.50	1.09	257.83	396.22
V3-002	Max WS	SASP	77.92	73.50	1.09	257.83	396.22
V3-002	Max WS	SPSA	77.61	73.50	8.92	225.98	321.40
V3-002	Max WS	SPSP	77.61	73.50	8.92	225.98	321.40
V3-009	Max WS	SASA	60.92	57.00	0.89	91.10	107.52
V3-009	Max WS	SASP	60.92	57.00	0.89	91.10	107.52
V3-009	Max WS	SPSA	60.73	57.00	1.79	76.34	89.89
V3-009	Max WS	SPSP	60.73	57.00	1.79	76.34	89.89
V3-010	Max WS	SASA	63.00	63.00	0.00	6.36	0.00
V3-010	Max WS	SASP	63.00	63.00	0.00	6.36	0.00
V3-010	Max WS	SPSA	63.00	63.00	0.00	6.36	0.00
V3-010	Max WS	SPSP	63.00	63.00	0.00	6.36	0.00
V3-012a	Max WS	SASA	55.50	55.50	0.00	1.03	0.00
V3-012a	Max WS	SASP	55.50	55.50	0.00	1.03	0.00
V3-012a	Max WS	SPSA	55.50	55.50	0.00	1.03	0.00
V3-012a	Max WS	SPSP	55.50	55.50	0.00	1.03	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
V3-012b	Max WS	SASA	57.00	57.00	0.00	0.90	0.00
V3-012b	Max WS	SASP	57.00	57.00	0.00	0.90	0.00
V3-012b	Max WS	SPSA	57.00	57.00	0.00	0.90	0.00
V3-012b	Max WS	SPSP	57.00	57.00	0.00	0.90	0.00
V3-013a	Max WS	SASA	57.41	55.00	-11.47	16.12	10.17
V3-013a	Max WS	SASP	57.40	55.00	-1.72	16.12	10.08
V3-013a	Max WS	SPSA	57.28	55.00	21.78	16.12	8.10
V3-013a	Max WS	SPSP	57.29	55.00	20.74	16.12	8.26
V3-013b	Max WS	SASA	57.12	54.20	1.65	26.73	24.61
V3-013b	Max WS	SASP	57.12	54.20	1.65	26.73	24.61
V3-013b	Max WS	SPSA	56.99	54.20	6.40	25.68	21.28
V3-013b	Max WS	SPSP	56.99	54.20	6.40	25.68	21.28
V3-013c	Max WS	SASA	56.38	54.40	1.09	99.55	72.95
V3-013c	Max WS	SASP	56.38	54.40	1.09	99.55	72.95
V3-013c	Max WS	SPSA	56.27	54.40	2.90	99.55	62.12
V3-013c	Max WS	SPSP	56.27	54.40	2.90	99.55	62.12
V3-013d	Max WS	SASA	54.84	47.22	0.21	28.61	43.68
V3-013d	Max WS	SASP	54.85	47.22	4.67	28.61	43.91
V3-013d	Max WS	SPSA	54.77	47.22	-0.15	28.61	41.82
V3-013d	Max WS	SPSP	54.77	47.22	-0.19	28.61	41.82
V3-013e	Max WS	SASA	57.15	57.15	0.00	0.04	0.00
V3-013e	Max WS	SASP	57.15	57.15	0.00	0.04	0.00
V3-013e	Max WS	SPSA	57.15	57.15	0.00	0.04	0.00
V3-013e	Max WS	SPSP	57.15	57.15	0.00	0.04	0.00
V3-013f	Max WS	SASA	55.94	54.25	1.94	66.54	69.11
V3-013f	Max WS	SASP	55.94	54.25	1.94	66.54	69.11
V3-013f	Max WS	SPSA	55.86	54.25	7.46	66.54	63.70
V3-013f	Max WS	SPSP	55.85	54.25	7.92	66.54	63.68
V3-013g	Max WS	SASA	56.72	56.72	0.00	1.04	0.00
V3-013g	Max WS	SASP	56.72	56.72	0.00	1.04	0.00
V3-013g	Max WS	SPSA	56.72	56.72	0.00	1.04	0.00
V3-013g	Max WS	SPSP	56.72	56.72	0.00	1.04	0.00
V3-013h	Max WS	SASA	55.06	55.06	0.00	0.24	0.00
V3-013h	Max WS	SASP	55.06	55.06	0.00	0.24	0.00
V3-013h	Max WS	SPSA	55.06	55.06	0.00	0.24	0.00
V3-013h	Max WS	SPSP	55.06	55.06	0.00	0.24	0.00
V3-013i	Max WS	SASA	54.07	54.07	0.00	0.06	0.00
V3-013i	Max WS	SASP	54.07	54.07	0.00	0.06	0.00
V3-013i	Max WS	SPSA	54.07	54.07	0.00	0.06	0.00
V3-013i	Max WS	SPSP	54.07	54.07	0.00	0.06	0.00
V3-013l	Max WS	SASA	55.82	55.07	0.04	10.75	8.08
V3-013l	Max WS	SASP	55.82	55.07	0.04	10.75	8.08
V3-013l	Max WS	SPSA	55.73	55.07	-0.07	10.75	7.05
V3-013l	Max WS	SPSP	55.73	55.07	-0.12	10.75	7.05

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min EI (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
V3-014a	Max WS	SASA	48.60	48.60	0.00	0.30	0.00
V3-014a	Max WS	SASP	48.60	48.60	0.00	0.30	0.00
V3-014a	Max WS	SPSA	48.60	48.60	0.00	0.30	0.00
V3-014a	Max WS	SPSP	48.60	48.60	0.00	0.30	0.00
V3-014b	Max WS	SASA	53.94	51.40	0.83	83.66	76.35
V3-014b	Max WS	SASP	51.40	51.40	0.00	1.22	0.00
V3-014b	Max WS	SPSA	52.81	51.40	2.05	31.09	9.87
V3-014b	Max WS	SPSP	51.40	51.40	0.00	1.22	0.00
V3-016	Max WS	SASA	57.69	54.90	-0.80	0.44	1.23
V3-016	Max WS	SASP	57.69	54.90	-0.80	0.44	1.23
V3-016	Max WS	SPSA	57.20	54.90	0.19	0.44	1.02
V3-016	Max WS	SPSP	57.21	54.90	0.19	0.44	1.02
VM-001	Max WS	SASA	38.69	34.00	-29.16	226.18	218.06
VM-001	Max WS	SASP	38.70	34.00	-29.19	226.18	218.82
VM-001	Max WS	SPSA	38.65	34.00	-27.30	226.18	208.14
VM-001	Max WS	SPSP	38.65	34.00	-27.36	226.18	208.21
VM-002	Max WS	SASA	37.46	31.30	0.76	2386.41	2899.88
VM-002	Max WS	SASP	37.51	31.30	2.40	2608.41	3022.84
VM-002	Max WS	SPSA	36.65	31.30	-17.43	1578.80	1268.12
VM-002	Max WS	SPSP	36.66	31.30	-17.57	1578.80	1283.04
VM-003a	Max WS	SASA	38.53	37.24	-0.16	240.62	59.11
VM-003a	Max WS	SASP	38.53	37.24	-0.10	240.62	60.14
VM-003a	Max WS	SPSA	37.24	37.24	0.00	0.16	0.00
VM-003a	Max WS	SPSP	37.24	37.24	0.00	0.16	0.00
VM-003b	Max WS	SASA	35.73	33.27	0.33	10.66	8.88
VM-003b	Max WS	SASP	36.22	33.27	0.42	31.59	19.43
VM-003b	Max WS	SPSA	33.27	33.27	0.00	0.02	0.00
VM-003b	Max WS	SPSP	33.27	33.27	0.00	0.02	0.00
VM-003c	Max WS	SASA	34.98	32.95	1.02	86.72	15.93
VM-003c	Max WS	SASP	35.44	32.95	2.31	178.60	78.78
VM-003c	Max WS	SPSA	32.95	32.95	0.00	0.04	0.00
VM-003c	Max WS	SPSP	32.95	32.95	0.00	0.04	0.00
VM-004a	Max WS	SASA	37.46	34.00	-0.13	85.34	145.82
VM-004a	Max WS	SASP	37.51	34.00	0.00	89.19	150.19
VM-004a	Max WS	SPSA	36.75	34.00	5.07	82.42	85.95
VM-004a	Max WS	SPSP	36.76	34.00	4.34	82.42	87.11
VM-004b	Max WS	SASA	35.20	35.20	0.00	0.78	0.00
VM-004b	Max WS	SASP	35.20	35.20	0.00	0.78	0.00
VM-004b	Max WS	SPSA	35.20	35.20	0.00	0.78	0.00
VM-004b	Max WS	SPSP	35.20	35.20	0.00	0.78	0.00
VM-004c	Max WS	SASA	37.46	36.00	0.13	79.74	46.74
VM-004c	Max WS	SASP	37.51	36.00	0.00	136.73	51.21
VM-004c	Max WS	SPSA	36.73	36.00	0.85	19.19	5.30
VM-004c	Max WS	SPSP	36.74	36.00	1.01	19.19	5.47

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-004d	Max WS	SASA	38.50	38.50	0.00	2.22	0.00
VM-004d	Max WS	SASP	38.50	38.50	0.00	2.22	0.00
VM-004d	Max WS	SPSA	38.50	38.50	0.00	2.22	0.00
VM-004d	Max WS	SPSP	38.50	38.50	0.00	2.22	0.00
VM-005a	Max WS	SASA	38.69	35.30	0.00	71.73	32.00
VM-005a	Max WS	SASP	38.70	35.30	-0.45	71.73	32.26
VM-005a	Max WS	SPSA	38.59	35.30	2.23	71.73	24.37
VM-005a	Max WS	SPSP	38.59	35.30	2.24	71.73	24.45
VM-005b	Max WS	SASA	35.63	32.90	0.20	10.64	5.37
VM-005b	Max WS	SASP	35.87	32.90	0.26	43.21	11.76
VM-005b	Max WS	SPSA	32.90	32.90	0.00	0.72	0.00
VM-005b	Max WS	SPSP	32.90	32.90	0.00	0.72	0.00
VM-005c	Max WS	SASA	32.82	32.82	0.00	0.04	0.00
VM-005c	Max WS	SASP	32.82	32.82	0.00	0.04	0.00
VM-005c	Max WS	SPSA	32.82	32.82	0.00	0.04	0.00
VM-005c	Max WS	SPSP	32.82	32.82	0.00	0.04	0.00
VM-005d	Max WS	SASA	35.81	32.67	0.08	291.35	182.02
VM-005d	Max WS	SASP	35.90	32.67	1.27	291.35	206.98
VM-005d	Max WS	SPSA	35.39	32.67	0.03	164.32	77.61
VM-005d	Max WS	SPSP	35.33	32.67	0.83	164.32	66.29
VM-005e	Max WS	SASA	35.59	30.08	0.22	85.97	37.86
VM-005e	Max WS	SASP	35.89	30.08	0.05	85.97	63.26
VM-005e	Max WS	SPSA	30.08	30.08	0.00	0.04	0.00
VM-005e	Max WS	SPSP	30.08	30.08	0.00	0.04	0.00
VM-005f	Max WS	SASA	35.81	31.32	0.57	130.72	89.60
VM-005f	Max WS	SASP	35.90	31.32	-0.28	231.10	108.47
VM-005f	Max WS	SPSA	31.32	31.32	0.00	0.04	0.00
VM-005f	Max WS	SPSP	31.32	31.32	0.00	0.04	0.00
VM-005g	Max WS	SASA	35.81	31.20	-2.16	303.84	184.26
VM-005g	Max WS	SASP	35.90	31.20	2.33	303.84	210.19
VM-005g	Max WS	SPSA	33.46	31.20	1.42	4.80	3.63
VM-005g	Max WS	SPSP	33.46	31.20	1.42	4.80	3.63
VM-005h	Max WS	SASA	35.81	32.45	2.41	208.17	232.83
VM-005h	Max WS	SASP	35.90	32.45	0.00	208.17	250.66
VM-005h	Max WS	SPSA	32.45	32.45	0.00	0.76	0.00
VM-005h	Max WS	SPSP	32.45	32.45	0.00	0.76	0.00
VM-005i	Max WS	SASA	35.81	31.83	24.40	1258.68	1461.09
VM-005i	Max WS	SASP	35.90	31.83	26.50	1339.39	1574.79
VM-005i	Max WS	SPSA	33.90	31.83	3.41	199.52	38.16
VM-005i	Max WS	SPSP	33.35	31.83	2.63	18.11	9.11
VM-006a	Max WS	SASA	37.46	28.47	468.03	1306.33	3224.19
VM-006a	Max WS	SASP	37.51	28.47	487.96	1306.33	3291.08
VM-006a	Max WS	SPSA	36.78	28.47	290.90	1293.55	2342.33
VM-006a	Max WS	SPSP	36.79	28.47	299.27	1293.55	2354.16

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-006b	Max WS	SASA	34.89	29.60	12.37	109.27	130.77
VM-006b	Max WS	SASP	35.24	29.60	15.79	131.40	174.71
VM-006b	Max WS	SPSA	29.60	29.60	0.00	0.00	0.00
VM-006b	Max WS	SPSP	29.60	29.60	0.00	0.00	0.00
VM-006c	Max WS	SASA	38.00	28.60	52.69	1109.41	3568.94
VM-006c	Max WS	SASP	38.04	28.60	53.49	1112.32	3617.76
VM-006c	Max WS	SPSA	37.41	28.60	87.54	1103.00	2917.76
VM-006c	Max WS	SPSP	37.42	28.60	88.76	1103.00	2924.15
VM-006d	Max WS	SASA	37.46	28.59	5.08	1155.59	2499.67
VM-006d	Max WS	SASP	37.51	28.59	0.00	1155.59	2558.84
VM-006d	Max WS	SPSA	36.77	28.59	8.42	1142.29	1714.21
VM-006d	Max WS	SPSP	36.78	28.59	8.42	1142.29	1724.65
VM-006e	Max WS	SASA	37.46	33.78	0.00	537.06	1162.28
VM-006e	Max WS	SASP	37.51	33.78	5.14	537.06	1189.62
VM-006e	Max WS	SPSA	36.77	33.78	60.89	524.77	796.85
VM-006e	Max WS	SPSP	36.78	33.78	60.44	524.77	801.65
VM-007	Max WS	SASA	37.72	27.00	106.52	581.44	676.05
VM-007	Max WS	SASP	37.77	27.00	131.61	748.92	709.42
VM-007	Max WS	SPSA	37.27	27.00	23.65	465.76	441.69
VM-007	Max WS	SPSP	37.28	27.00	25.23	465.76	446.80
VM-008a	Max WS	SASA	37.46	33.50	0.00	124.27	196.42
VM-008a	Max WS	SASP	37.51	33.50	0.85	128.52	202.77
VM-008a	Max WS	SPSA	36.76	33.50	2.34	105.93	114.90
VM-008a	Max WS	SPSP	36.77	33.50	3.86	105.93	115.83
VM-008b	Max WS	SASA	37.46	34.18	0.00	413.87	505.56
VM-008b	Max WS	SASP	37.51	34.18	-0.09	413.87	526.75
VM-008b	Max WS	SPSA	36.77	34.18	-1.63	326.36	255.52
VM-008b	Max WS	SPSP	36.78	34.18	2.36	326.36	258.50
VM-008c	Max WS	SASA	35.70	35.70	0.00	0.81	0.00
VM-008c	Max WS	SASP	35.70	35.70	0.00	0.81	0.00
VM-008c	Max WS	SPSA	35.70	35.70	0.00	0.81	0.00
VM-008c	Max WS	SPSP	35.70	35.70	0.00	0.81	0.00
VM-008d	Max WS	SASA	35.20	35.20	0.00	0.70	0.00
VM-008d	Max WS	SASP	35.20	35.20	0.00	0.70	0.00
VM-008d	Max WS	SPSA	35.20	35.20	0.00	0.70	0.00
VM-008d	Max WS	SPSP	35.20	35.20	0.00	0.70	0.00
VM-008e	Max WS	SASA	37.46	32.30	11.31	862.86	1107.52
VM-008e	Max WS	SASP	37.51	32.30	8.49	903.61	1151.99
VM-008e	Max WS	SPSA	36.77	32.30	9.77	714.91	571.04
VM-008e	Max WS	SPSP	36.78	32.30	9.79	714.91	577.80
VM-008f	Max WS	SASA	37.46	35.00	0.00	82.92	82.39
VM-008f	Max WS	SASP	37.51	35.00	-0.76	112.42	86.84
VM-008f	Max WS	SPSA	35.00	35.00	0.00	0.46	0.00
VM-008f	Max WS	SPSP	35.00	35.00	0.00	0.46	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-008g	Max WS	SASA	37.46	33.50	-4.93	692.52	1633.80
VM-008g	Max WS	SASP	37.51	33.50	4.15	694.45	1669.06
VM-008g	Max WS	SPSA	36.77	33.50	9.38	690.30	1162.53
VM-008g	Max WS	SPSP	36.78	33.50	6.39	690.30	1169.06
VM-008h	Max WS	SASA	37.46	34.18	-2.48	87.30	165.49
VM-008h	Max WS	SASP	37.51	34.18	-2.51	87.30	169.96
VM-008h	Max WS	SPSA	36.77	34.18	0.21	80.18	107.93
VM-008h	Max WS	SPSP	36.78	34.18	2.22	80.18	108.66
VM-008i	Max WS	SASA	37.46	33.64	2.48	152.56	365.26
VM-008i	Max WS	SASP	37.51	33.64	2.51	152.56	373.07
VM-008i	Max WS	SPSA	36.77	33.64	6.00	152.52	261.26
VM-008i	Max WS	SPSP	36.78	33.64	0.00	152.52	262.70
VM-008l	Max WS	SASA	37.46	33.60	1.93	327.92	686.43
VM-008l	Max WS	SASP	37.51	33.60	0.00	327.92	703.22
VM-008l	Max WS	SPSA	36.77	33.60	1.75	320.52	463.62
VM-008l	Max WS	SPSP	36.78	33.60	1.75	320.52	466.64
VM-009a	Max WS	SASA	37.72	31.80	17.47	1336.15	2426.34
VM-009a	Max WS	SASP	37.77	31.80	9.81	1357.75	2495.20
VM-009a	Max WS	SPSA	36.98	31.80	68.49	1255.52	1455.29
VM-009a	Max WS	SPSP	36.99	31.80	65.08	1255.52	1469.83
VM-009b	Max WS	SASA	37.72	28.90	0.53	246.16	564.27
VM-009b	Max WS	SASP	37.77	28.90	2.08	247.30	576.82
VM-009b	Max WS	SPSA	36.98	28.90	-2.71	228.74	385.92
VM-009b	Max WS	SPSP	36.99	28.90	0.00	228.74	388.50
VM-009c	Max WS	SASA	37.72	28.80	2.68	409.97	831.88
VM-009c	Max WS	SASP	37.77	28.80	-0.07	411.91	852.78
VM-009c	Max WS	SPSA	36.98	28.80	1.00	406.02	530.92
VM-009c	Max WS	SPSP	36.99	28.80	0.00	406.02	535.62
VM-010a	Max WS	SASA	47.00	47.00	0.00	0.75	0.00
VM-010a	Max WS	SASP	47.00	47.00	0.00	0.75	0.00
VM-010a	Max WS	SPSA	47.00	47.00	0.00	0.75	0.00
VM-010a	Max WS	SPSP	47.00	47.00	0.00	0.75	0.00
VM-010b	Max WS	SASA	43.10	43.10	0.00	4.93	0.00
VM-010b	Max WS	SASP	43.10	43.10	0.00	4.93	0.00
VM-010b	Max WS	SPSA	44.31	43.10	1.09	83.66	21.76
VM-010b	Max WS	SPSP	44.31	43.10	1.09	83.66	21.76
VM-010c	Max WS	SASA	41.50	41.50	0.00	2.65	0.00
VM-010c	Max WS	SASP	41.50	41.50	0.00	2.65	0.00
VM-010c	Max WS	SPSA	43.24	41.50	1.08	31.01	25.69
VM-010c	Max WS	SPSP	43.24	41.50	1.08	31.01	25.69
VM-010d	Max WS	SASA	44.12	41.80	0.03	19.44	23.98
VM-010d	Max WS	SASP	44.12	41.80	0.03	19.44	23.98
VM-010d	Max WS	SPSA	44.19	41.80	0.01	19.44	25.43
VM-010d	Max WS	SPSP	44.19	41.80	0.01	19.44	25.43

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-010e	Max WS	SASA	39.01	39.01	0.00	0.97	0.00
VM-010e	Max WS	SASP	39.01	39.01	0.00	0.97	0.00
VM-010e	Max WS	SPSA	39.01	39.01	0.00	0.97	0.00
VM-010e	Max WS	SPSP	39.01	39.01	0.00	0.97	0.00
VM-010f	Max WS	SASA	39.20	39.20	0.00	1.58	0.00
VM-010f	Max WS	SASP	39.20	39.20	0.00	1.58	0.00
VM-010f	Max WS	SPSA	39.20	39.20	0.00	1.58	0.00
VM-010f	Max WS	SPSP	39.20	39.20	0.00	1.58	0.00
VM-010g	Max WS	SASA	38.50	38.50	0.00	3.19	0.00
VM-010g	Max WS	SASP	38.50	38.50	0.00	3.19	0.00
VM-010g	Max WS	SPSA	38.50	38.50	0.00	3.19	0.00
VM-010g	Max WS	SPSP	38.50	38.50	0.00	3.19	0.00
VM-010h	Max WS	SASA	37.04	37.04	0.00	1.20	0.00
VM-010h	Max WS	SASP	37.04	37.04	0.00	1.20	0.00
VM-010h	Max WS	SPSA	37.04	37.04	0.00	1.20	0.00
VM-010h	Max WS	SPSP	37.04	37.04	0.00	1.20	0.00
VM-010i	Max WS	SASA	37.80	37.80	0.00	1.20	0.00
VM-010i	Max WS	SASP	37.80	37.80	0.00	1.20	0.00
VM-010i	Max WS	SPSA	37.80	37.80	0.00	1.20	0.00
VM-010i	Max WS	SPSP	37.80	37.80	0.00	1.20	0.00
VM-010l	Max WS	SASA	36.70	36.70	0.00	1.37	0.00
VM-010l	Max WS	SASP	36.70	36.70	0.00	1.37	0.00
VM-010l	Max WS	SPSA	36.70	36.70	0.00	1.37	0.00
VM-010l	Max WS	SPSP	36.70	36.70	0.00	1.37	0.00
VM-010m	Max WS	SASA	39.34	35.20	25.18	130.12	223.28
VM-010m	Max WS	SASP	39.34	35.20	26.37	130.12	223.60
VM-010m	Max WS	SPSA	39.30	35.20	25.76	130.12	217.77
VM-010m	Max WS	SPSP	39.30	35.20	25.56	130.12	217.81
VM-010n	Max WS	SASA	41.19	38.74	4.02	131.93	165.48
VM-010n	Max WS	SASP	41.19	38.74	4.02	131.93	165.48
VM-010n	Max WS	SPSA	41.85	38.74	8.82	136.73	253.43
VM-010n	Max WS	SPSP	41.85	38.74	8.82	136.73	253.43
VM-010o	Max WS	SASA	39.10	39.10	0.00	1.57	0.00
VM-010o	Max WS	SASP	39.10	39.10	0.00	1.57	0.00
VM-010o	Max WS	SPSA	39.55	39.10	0.03	1.57	0.71
VM-010o	Max WS	SPSP	39.55	39.10	0.03	1.57	0.71
VM-011a	Max WS	SASA	37.72	31.20	14.00	226.46	629.22
VM-011a	Max WS	SASP	37.77	31.20	13.02	227.86	640.77
VM-011a	Max WS	SPSA	36.98	31.20	34.60	223.86	462.37
VM-011a	Max WS	SPSP	36.99	31.20	37.51	223.86	464.89
VM-011b	Max WS	SASA	37.73	31.30	108.19	748.84	1621.07
VM-011b	Max WS	SASP	37.78	31.30	103.05	757.96	1658.51
VM-011b	Max WS	SPSA	37.17	31.30	98.13	728.67	1206.13
VM-011b	Max WS	SPSP	37.17	31.30	100.91	728.67	1208.13

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min EI (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-011c	Max WS	SASA	37.97	27.60	11.16	752.11	2459.97
VM-011c	Max WS	SASP	37.99	27.60	12.46	752.11	2479.00
VM-011c	Max WS	SPSA	37.58	27.60	-1.01	748.92	2165.48
VM-011c	Max WS	SPSP	37.58	27.60	-1.01	748.92	2168.22
VM-011d	Max WS	SASA	38.01	28.10	61.14	673.01	2941.91
VM-011d	Max WS	SASP	38.03	28.10	62.79	673.01	2959.15
VM-011d	Max WS	SPSA	37.59	28.10	129.04	667.23	2665.31
VM-011d	Max WS	SPSP	37.60	28.10	129.81	667.23	2667.75
VM-012a	Max WS	SASA	39.34	35.10	8.41	104.11	262.07
VM-012a	Max WS	SASP	39.34	35.10	8.42	104.11	262.36
VM-012a	Max WS	SPSA	39.30	35.10	7.35	104.11	257.60
VM-012a	Max WS	SPSP	39.30	35.10	6.11	104.11	257.63
VM-012b	Max WS	SASA	39.34	32.80	40.28	320.76	1005.51
VM-012b	Max WS	SASP	39.34	32.80	41.05	320.76	1006.39
VM-012b	Max WS	SPSA	39.30	32.80	45.38	320.76	991.82
VM-012b	Max WS	SPSP	39.30	32.80	48.52	320.76	991.82
VM-012c	Max WS	SASA	39.43	32.60	3.94	451.51	1341.87
VM-012c	Max WS	SASP	39.44	32.60	3.62	451.51	1344.63
VM-012c	Max WS	SPSA	39.38	32.60	12.14	451.51	1318.89
VM-012c	Max WS	SPSP	39.38	32.60	12.37	451.51	1319.16
VM-012d	Max WS	SASA	38.68	35.00	4.18	10.29	14.04
VM-012d	Max WS	SASP	38.68	35.00	4.23	10.29	14.04
VM-012d	Max WS	SPSA	38.65	35.00	4.33	10.29	13.71
VM-012d	Max WS	SPSP	38.31	35.00	3.98	8.05	10.65
VM-012e	Max WS	SASA	39.42	35.40	-0.04	45.89	85.94
VM-012e	Max WS	SASP	39.43	35.40	-0.01	45.89	86.22
VM-012e	Max WS	SPSA	39.36	35.40	1.00	45.89	83.20
VM-012e	Max WS	SPSP	39.36	35.40	1.03	45.89	83.21
VM-013	Max WS	SASA	35.81	29.60	39.45	545.86	424.53
VM-013	Max WS	SASP	35.90	29.60	44.57	545.86	471.45
VM-013	Max WS	SPSA	33.97	29.60	4.51	26.85	37.16
VM-013	Max WS	SPSP	34.06	29.60	4.71	30.37	39.68
VM-014a	Max WS	SASA	38.68	34.60	-0.05	46.60	104.81
VM-014a	Max WS	SASP	38.68	34.60	-0.04	46.60	104.82
VM-014a	Max WS	SPSA	38.65	34.60	0.05	46.60	103.35
VM-014a	Max WS	SPSP	38.31	34.60	0.28	44.77	87.88
VM-014b	Max WS	SASA	38.68	35.00	0.26	66.45	145.94
VM-014b	Max WS	SASP	38.68	35.00	0.32	66.45	145.96
VM-014b	Max WS	SPSA	38.65	35.00	0.40	66.45	143.93
VM-014b	Max WS	SPSP	38.31	35.00	0.60	64.58	121.71
VM-015	Max WS	SASA	35.81	31.50	21.82	719.70	1173.33
VM-015	Max WS	SASP	35.90	31.50	24.16	719.70	1235.19
VM-015	Max WS	SPSA	34.28	31.50	21.59	469.60	197.00
VM-015	Max WS	SPSP	34.28	31.50	21.59	469.60	196.86

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-017	Max WS	SASA	35.36	31.70	9.18	318.84	147.79
VM-017	Max WS	SASP	35.37	31.70	9.21	318.84	148.56
VM-017	Max WS	SPSA	35.48	31.70	17.18	318.84	186.27
VM-017	Max WS	SPSP	35.48	31.70	17.18	318.84	186.46
VM-018a	Max WS	SASA	37.78	34.30	0.32	17.41	41.85
VM-018a	Max WS	SASP	37.79	34.30	0.58	17.41	41.91
VM-018a	Max WS	SPSA	37.78	34.30	1.39	17.41	41.87
VM-018a	Max WS	SPSP	37.79	34.30	1.33	17.41	41.89
VM-018b	Max WS	SASA	30.50	30.50	0.00	0.40	0.00
VM-018b	Max WS	SASP	30.50	30.50	0.00	0.40	0.00
VM-018b	Max WS	SPSA	30.50	30.50	0.00	0.40	0.00
VM-018b	Max WS	SPSP	30.50	30.50	0.00	0.40	0.00
VM-021a	Max WS	SASA	35.80	31.00	169.76	3288.48	3271.06
VM-021a	Max WS	SASP	35.82	31.00	168.56	3288.48	3311.15
VM-021a	Max WS	SPSA	35.74	31.00	51.01	3160.34	3078.28
VM-021a	Max WS	SPSP	35.75	31.00	52.21	3160.34	3085.98
VM-023	Max WS	SASA	39.11	30.40	1.22	132.96	400.14
VM-023	Max WS	SASP	39.11	30.40	1.27	132.96	400.99
VM-023	Max WS	SPSA	39.08	30.40	2.51	132.96	396.25
VM-023	Max WS	SPSP	39.08	30.40	2.65	132.96	396.41
VM-025a	Max WS	SASA	38.63	34.30	3.62	67.97	141.59
VM-025a	Max WS	SASP	38.63	34.30	3.79	67.97	141.76
VM-025a	Max WS	SPSA	38.54	34.30	4.31	67.97	135.79
VM-025a	Max WS	SPSP	38.54	34.30	4.36	67.97	135.97
VM-025b	Max WS	SASA	38.25	32.90	4.30	73.34	151.63
VM-025b	Max WS	SASP	38.26	32.90	1.74	73.34	152.36
VM-025b	Max WS	SPSA	38.24	32.90	-1.62	71.46	150.35
VM-025b	Max WS	SPSP	38.24	32.90	1.91	71.46	150.55
VM-025c	Max WS	SASA	38.25	31.90	-2.12	111.11	234.30
VM-025c	Max WS	SASP	38.26	31.90	0.47	111.11	235.38
VM-025c	Max WS	SPSA	38.24	31.90	2.84	107.75	232.35
VM-025c	Max WS	SPSP	38.24	31.90	-0.70	107.75	232.68
VM-029a	Max WS	SASA	35.75	32.50	71.84	206.99	351.00
VM-029a	Max WS	SASP	35.77	32.50	71.09	206.99	353.15
VM-029a	Max WS	SPSA	35.43	32.50	132.69	195.25	285.35
VM-029a	Max WS	SPSP	35.44	32.50	133.98	195.25	285.70
VM-029b	Max WS	SASA	35.75	30.50	22.36	1833.27	4203.99
VM-029b	Max WS	SASP	35.76	30.50	0.84	1833.27	4222.99
VM-029b	Max WS	SPSA	35.43	30.50	19.45	1807.16	3620.15
VM-029b	Max WS	SPSP	35.43	30.50	31.39	1807.16	3623.45
VM-037	Max WS	SASA	35.92	31.90	-0.41	87.87	127.85
VM-037	Max WS	SASP	35.92	31.90	-0.44	87.87	128.17
VM-037	Max WS	SPSA	35.93	31.90	-0.36	87.87	128.39
VM-037	Max WS	SPSP	35.93	31.90	-0.37	87.87	128.44

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-067a	Max WS	SASA	34.05	31.80	2.97	49.81	28.97
VM-067a	Max WS	SASP	34.05	31.80	2.97	49.81	28.97
VM-067a	Max WS	SPSA	34.12	31.80	4.70	49.81	32.28
VM-067a	Max WS	SPSP	34.11	31.80	4.71	49.81	31.86
VM-067b	Max WS	SASA	33.60	33.60	0.00	1.29	0.00
VM-067b	Max WS	SASP	33.60	33.60	0.00	1.29	0.00
VM-067b	Max WS	SPSA	33.60	33.60	0.00	1.29	0.00
VM-067b	Max WS	SPSP	33.60	33.60	0.00	1.29	0.00
VM-067c	Max WS	SASA	34.05	30.50	0.00	32.57	21.36
VM-067c	Max WS	SASP	34.05	30.50	0.00	32.57	21.36
VM-067c	Max WS	SPSA	34.12	30.50	0.00	32.57	23.52
VM-067c	Max WS	SPSP	34.11	30.50	0.00	32.57	23.24
VM-067d	Max WS	SASA	35.60	35.60	0.00	6.23	0.00
VM-067d	Max WS	SASP	35.60	35.60	0.00	6.23	0.00
VM-067d	Max WS	SPSA	35.60	35.60	0.00	6.23	0.00
VM-067d	Max WS	SPSP	35.60	35.60	0.00	6.23	0.00
VM-067e	Max WS	SASA	35.50	35.50	0.00	0.79	0.00
VM-067e	Max WS	SASP	35.50	35.50	0.00	0.79	0.00
VM-067e	Max WS	SPSA	35.50	35.50	0.00	0.79	0.00
VM-067e	Max WS	SPSP	35.50	35.50	0.00	0.79	0.00
VM-067f	Max WS	SASA	33.60	33.60	0.00	2.46	0.00
VM-067f	Max WS	SASP	33.60	33.60	0.00	2.46	0.00
VM-067f	Max WS	SPSA	33.60	33.60	0.00	2.46	0.00
VM-067f	Max WS	SPSP	33.60	33.60	0.00	2.46	0.00
VM-067g	Max WS	SASA	34.80	34.80	0.00	0.95	0.00
VM-067g	Max WS	SASP	34.80	34.80	0.00	0.95	0.00
VM-067g	Max WS	SPSA	34.80	34.80	0.00	0.95	0.00
VM-067g	Max WS	SPSP	34.80	34.80	0.00	0.95	0.00
VM-067h	Max WS	SASA	36.50	36.50	0.00	1.26	0.00
VM-067h	Max WS	SASP	36.50	36.50	0.00	1.26	0.00
VM-067h	Max WS	SPSA	36.50	36.50	0.00	1.26	0.00
VM-067h	Max WS	SPSP	36.50	36.50	0.00	1.26	0.00
VM-067i	Max WS	SASA	38.60	38.60	0.00	1.85	0.00
VM-067i	Max WS	SASP	38.60	38.60	0.00	1.85	0.00
VM-067i	Max WS	SPSA	38.60	38.60	0.00	1.85	0.00
VM-067i	Max WS	SPSP	38.60	38.60	0.00	1.85	0.00
VM-067l	Max WS	SASA	36.30	36.30	0.00	0.86	0.00
VM-067l	Max WS	SASP	36.30	36.30	0.00	0.86	0.00
VM-067l	Max WS	SPSA	36.30	36.30	0.00	0.86	0.00
VM-067l	Max WS	SPSP	36.30	36.30	0.00	0.86	0.00
VM-068a	Max WS	SASA	34.07	33.40	0.12	0.80	0.54
VM-068a	Max WS	SASP	34.07	33.40	0.12	0.80	0.54
VM-068a	Max WS	SPSA	36.94	33.40	3.33	69.18	33.69
VM-068a	Max WS	SPSP	36.94	33.40	3.34	69.18	33.69

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-068b	Max WS	SASA	35.76	32.90	0.58	369.73	182.03
VM-068b	Max WS	SASP	35.77	32.90	0.11	369.73	185.86
VM-068b	Max WS	SPSA	35.43	32.90	1.38	211.81	92.00
VM-068b	Max WS	SPSP	35.44	32.90	1.33	211.81	92.39
VM-068c	Max WS	SASA	35.76	32.10	182.13	1136.89	1077.29
VM-068c	Max WS	SASP	35.77	32.10	183.95	1136.89	1089.07
VM-068c	Max WS	SPSA	35.43	32.10	333.28	1021.14	725.24
VM-068c	Max WS	SPSP	35.44	32.10	340.05	1021.14	727.11
VM-068d	Max WS	SASA	35.76	32.50	-2.11	245.86	335.25
VM-068d	Max WS	SASP	35.77	32.50	9.47	245.86	337.72
VM-068d	Max WS	SPSA	35.43	32.50	8.27	235.32	256.74
VM-068d	Max WS	SPSP	35.44	32.50	-9.77	235.32	257.24
VM-068e	Max WS	SASA	37.40	37.40	0.00	0.31	0.00
VM-068e	Max WS	SASP	37.40	37.40	0.00	0.31	0.00
VM-068e	Max WS	SPSA	37.40	37.40	0.00	0.31	0.00
VM-068e	Max WS	SPSP	37.40	37.40	0.00	0.31	0.00
VM-068f	Max WS	SASA	35.75	31.50	5.97	1995.05	2391.88
VM-068f	Max WS	SASP	35.76	31.50	-1.15	1995.05	2412.55
VM-068f	Max WS	SPSA	35.43	31.50	-4.26	1699.56	1773.19
VM-068f	Max WS	SPSP	35.43	31.50	-4.16	1699.56	1776.30
VM-068g	Max WS	SASA	35.75	33.00	-5.22	275.03	550.79
VM-068g	Max WS	SASP	35.76	33.00	7.26	275.03	553.56
VM-068g	Max WS	SPSA	35.43	33.00	-1.74	274.64	462.46
VM-068g	Max WS	SPSP	35.44	33.00	6.09	274.64	462.96
VM-068h	Max WS	SASA	35.76	33.50	0.46	107.43	167.17
VM-068h	Max WS	SASP	35.77	33.50	-5.58	107.43	168.29
VM-068h	Max WS	SPSA	35.43	33.50	-0.14	107.36	132.60
VM-068h	Max WS	SPSP	35.44	33.50	3.86	107.36	132.80
VM-070a	Max WS	SASA	39.50	39.50	0.00	0.96	0.00
VM-070a	Max WS	SASP	39.50	39.50	0.00	0.96	0.00
VM-070a	Max WS	SPSA	39.50	39.50	0.00	0.96	0.00
VM-070a	Max WS	SPSP	39.50	39.50	0.00	0.96	0.00
VM-070b	Max WS	SASA	34.30	34.30	0.00	0.18	0.00
VM-070b	Max WS	SASP	34.30	34.30	0.00	0.18	0.00
VM-070b	Max WS	SPSA	42.10	34.30	1.58	24.65	12.88
VM-070b	Max WS	SPSP	42.10	34.30	1.58	24.65	12.87
VM-070c	Max WS	SASA	38.70	38.70	0.00	0.63	0.00
VM-070c	Max WS	SASP	38.70	38.70	0.00	0.63	0.00
VM-070c	Max WS	SPSA	38.70	38.70	0.00	0.63	0.00
VM-070c	Max WS	SPSP	38.70	38.70	0.00	0.63	0.00
VM-070d	Max WS	SASA	47.00	47.00	0.00	0.53	0.00
VM-070d	Max WS	SASP	47.00	47.00	0.00	0.53	0.00
VM-070d	Max WS	SPSA	47.00	47.00	0.00	0.53	0.00
VM-070d	Max WS	SPSP	47.00	47.00	0.00	0.53	0.00

HEC-RAS Profile: Max WS (Continued)

Storage Area	Profile	Plan	W.S. Elev (m)	SA Min El (m)	Net Flux (m3/s)	SA Area (1000 m2)	SA Volume (1000 m3)
VM-070e	Max WS	SASA	38.00	38.00	0.00	1.10	0.00
VM-070e	Max WS	SASP	38.00	38.00	0.00	1.10	0.00
VM-070e	Max WS	SPSA	38.00	38.00	0.00	1.10	0.00
VM-070e	Max WS	SPSP	38.00	38.00	0.00	1.10	0.00
VM-071	Max WS	SASA	38.90	38.90	0.00	2.17	0.00
VM-071	Max WS	SASP	38.90	38.90	0.00	2.17	0.00
VM-071	Max WS	SPSA	38.90	38.90	0.00	2.17	0.00
VM-071	Max WS	SPSP	38.90	38.90	0.00	2.17	0.00
VM-072	Max WS	SASA	37.50	37.50	0.00	1.56	0.00
VM-072	Max WS	SASP	37.50	37.50	0.00	1.56	0.00
VM-072	Max WS	SPSA	37.50	37.50	0.00	1.56	0.00
VM-072	Max WS	SPSP	37.50	37.50	0.00	1.56	0.00
VM-073	Max WS	SASA	38.80	38.80	0.00	0.59	0.00
VM-073	Max WS	SASP	38.80	38.80	0.00	0.59	0.00
VM-073	Max WS	SPSA	38.80	38.80	0.00	0.59	0.00
VM-073	Max WS	SPSP	38.80	38.80	0.00	0.59	0.00
VM-074	Max WS	SASA	42.60	42.60	0.00	0.70	0.00
VM-074	Max WS	SASP	42.60	42.60	0.00	0.70	0.00
VM-074	Max WS	SPSA	44.73	42.60	2.73	52.35	15.95
VM-074	Max WS	SPSP	44.73	42.60	2.73	52.35	15.95
VM-075	Max WS	SASA	45.60	45.60	0.00	1.68	0.00
VM-075	Max WS	SASP	45.60	45.60	0.00	1.68	0.00
VM-075	Max WS	SPSA	45.60	45.60	0.00	1.68	0.00
VM-075	Max WS	SPSP	45.60	45.60	0.00	1.68	0.00
VM-077	Max WS	SASA	39.20	39.20	0.00	0.95	0.00
VM-077	Max WS	SASP	39.20	39.20	0.00	0.95	0.00
VM-077	Max WS	SPSA	39.20	39.20	0.00	0.95	0.00
VM-077	Max WS	SPSP	39.20	39.20	0.00	0.95	0.00
VM-078	Max WS	SASA	42.80	42.80	0.00	1.22	0.00
VM-078	Max WS	SASP	42.80	42.80	0.00	1.22	0.00
VM-078	Max WS	SPSA	44.69	42.80	0.41	14.66	4.82
VM-078	Max WS	SPSP	44.69	42.80	0.41	14.66	4.82
VM-079	Max WS	SASA	44.30	44.30	0.00	1.83	0.00
VM-079	Max WS	SASP	44.30	44.30	0.00	1.83	0.00
VM-079	Max WS	SPSA	44.30	44.30	0.00	1.83	0.00
VM-079	Max WS	SPSP	44.30	44.30	0.00	1.83	0.00
VM-080	Max WS	SASA	48.17	45.00	0.11	65.09	39.42
VM-080	Max WS	SASP	48.17	45.00	0.11	65.09	39.42
VM-080	Max WS	SPSA	48.42	45.00	0.40	79.98	57.89
VM-080	Max WS	SPSP	48.42	45.00	0.40	79.98	57.89

HEC-RAS Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	675	Max WS	SASA	3534.70	68.80	81.87		82.78	0.001834	4.27	863.28	149.68	0.43
amo1	675	Max WS	SASP	3534.70	68.80	81.87		82.78	0.001834	4.27	863.28	149.68	0.43
amo1	675	Max WS	SPSA	3347.02	68.80	81.60		82.47	0.001823	4.18	833.37	145.02	0.43
amo1	675	Max WS	SPSP	3347.02	68.80	81.60		82.47	0.001823	4.18	833.37	145.02	0.43
amo1	674	Max WS	SASA	3534.63	68.91	81.78		82.53	0.001280	3.88	961.36	154.47	0.39
amo1	674	Max WS	SASP	3534.63	68.91	81.78		82.53	0.001280	3.88	961.36	154.47	0.39
amo1	674	Max WS	SPSA	3346.92	68.91	81.50		82.22	0.001277	3.80	925.36	144.86	0.39
amo1	674	Max WS	SPSP	3346.92	68.91	81.50		82.22	0.001277	3.80	925.36	144.86	0.39
amo1	673	Max WS	SASA	3534.58	68.56	80.86		82.04	0.002395	4.79	737.14	85.56	0.52
amo1	673	Max WS	SASP	3534.57	68.56	80.86		82.04	0.002395	4.79	737.14	85.56	0.52
amo1	673	Max WS	SPSA	3346.85	68.56	80.62		81.73	0.002338	4.67	716.44	85.06	0.51
amo1	673	Max WS	SPSP	3346.85	68.56	80.62		81.73	0.002338	4.67	716.44	85.06	0.51
amo1	672	Max WS	SASA	3534.48	67.68	81.20		81.57	0.000652	2.72	1309.34	155.33	0.28
amo1	672	Max WS	SASP	3534.48	67.68	81.20		81.57	0.000652	2.72	1309.34	155.33	0.28
amo1	672	Max WS	SPSA	3346.76	67.68	80.92		81.28	0.000642	2.65	1267.38	154.04	0.28
amo1	672	Max WS	SPSP	3346.75	67.68	80.92		81.28	0.000642	2.65	1267.38	154.04	0.28
amo1	671.3	Max WS	SASA	3534.43	67.10	81.02	76.58	81.50	0.001006	3.18	1245.97	263.79	0.35
amo1	671.3	Max WS	SASP	3534.43	67.10	81.02	76.58	81.50	0.001006	3.18	1245.97	263.79	0.35
amo1	671.3	Max WS	SPSA	3346.70	67.10	80.73	76.39	81.21	0.001041	3.16	1174.39	259.63	0.35
amo1	671.3	Max WS	SPSP	3346.70	67.10	80.73	76.39	81.21	0.001041	3.16	1174.39	259.63	0.35
amo1	671.2			Bridge									
amo1	671.1	Max WS	SASA	3534.40	67.60	80.70		81.33	0.001303	3.53	1034.43	179.22	0.39
amo1	671.1	Max WS	SASP	3534.39	67.60	80.70		81.33	0.001303	3.53	1034.43	179.22	0.39
amo1	671.1	Max WS	SPSA	3346.66	67.60	80.46		81.06	0.001287	3.45	995.49	165.45	0.39
amo1	671.1	Max WS	SPSP	3346.66	67.60	80.46		81.06	0.001287	3.45	995.49	165.45	0.39
amo1	671	Max WS	SASA	3534.38	65.85	80.61		81.18	0.000883	3.35	1086.30	236.72	0.33
amo1	671	Max WS	SASP	3534.34	65.85	80.61		81.18	0.000883	3.35	1086.30	236.72	0.33
amo1	671	Max WS	SPSA	3346.58	65.85	80.38		80.91	0.000851	3.25	1060.81	236.39	0.32
amo1	671	Max WS	SPSP	3346.57	65.85	80.38		80.91	0.000851	3.25	1060.81	236.39	0.32
amo1	670	Max WS	SASA	3534.12	67.41	79.70		80.72	0.002230	4.48	789.51	128.40	0.50
amo1	670	Max WS	SASP	3534.26	67.41	79.70		80.72	0.002230	4.48	789.51	128.40	0.50
amo1	670	Max WS	SPSA	3346.54	67.41	79.52		80.48	0.002131	4.34	771.81	94.28	0.48
amo1	670	Max WS	SPSP	3346.54	67.41	79.52		80.48	0.002131	4.34	771.81	94.28	0.48
amo1	669	Max WS	SASA	3534.03	67.50	79.37		80.37	0.001953	4.41	802.91	256.39	0.46
amo1	669	Max WS	SASP	3534.04	67.50	79.37		80.37	0.001953	4.41	802.91	256.39	0.46
amo1	669	Max WS	SPSA	3346.49	67.50	79.22		80.14	0.001855	4.25	787.69	227.40	0.45
amo1	669	Max WS	SPSP	3346.49	67.50	79.22		80.14	0.001855	4.25	787.69	227.40	0.45
amo1	668	Max WS	SASA	3533.94	66.90	79.03		79.74	0.001496	3.72	960.46	227.93	0.42
amo1	668	Max WS	SASP	3533.97	66.90	79.03		79.74	0.001496	3.72	960.46	227.93	0.42
amo1	668	Max WS	SPSA	3346.41	66.90	78.88		79.54	0.001430	3.60	938.42	194.06	0.41
amo1	668	Max WS	SPSP	3346.41	66.90	78.88		79.54	0.001430	3.60	938.42	194.06	0.41
amo1	667	Max WS	SASA	3533.97	67.04	79.05		79.49	0.000982	2.98	1202.80	200.60	0.34
amo1	667	Max WS	SASP	3533.94	67.04	79.05		79.49	0.000982	2.98	1202.80	200.60	0.34
amo1	667	Max WS	SPSA	3346.36	67.04	78.89		79.31	0.000940	2.88	1177.89	199.84	0.33
amo1	667	Max WS	SPSP	3346.36	67.04	78.89		79.31	0.000940	2.88	1177.89	199.84	0.33
amo1	666.9			Lat Struct									
amo1	666	Max WS	SASA	3451.67	66.57	78.67		79.34	0.001448	3.64	948.30	116.04	0.41
amo1	666	Max WS	SASP	3451.67	66.57	78.67		79.34	0.001448	3.64	948.30	116.04	0.41
amo1	666	Max WS	SPSA	3280.78	66.57	78.53		79.16	0.001374	3.52	932.14	115.44	0.40
amo1	666	Max WS	SPSP	3280.78	66.57	78.53		79.16	0.001374	3.52	932.14	115.44	0.40
amo1	665	Max WS	SASA	3276.83	66.48	78.54		79.03	0.000936	3.13	1060.86	128.90	0.33
amo1	665	Max WS	SASP	3276.78	66.48	78.54		79.03	0.000936	3.13	1060.86	128.90	0.33
amo1	665	Max WS	SPSA	3140.98	66.48	78.38		78.85	0.000912	3.06	1040.51	128.70	0.33
amo1	665	Max WS	SPSP	3140.98	66.48	78.38		78.85	0.000912	3.06	1040.51	128.70	0.33
amo1	664	Max WS	SASA	3153.81	66.19	78.40		78.84	0.000917	2.95	1079.71	141.78	0.33
amo1	664	Max WS	SASP	3153.87	66.19	78.40		78.84	0.000917	2.95	1079.71	141.78	0.33
amo1	664	Max WS	SPSA	3047.56	66.19	78.22		78.65	0.000920	2.92	1055.21	138.46	0.33
amo1	664	Max WS	SPSP	3047.58	66.19	78.22		78.65	0.000920	2.92	1055.21	138.46	0.33
amo1	663	Max WS	SASA	2895.82	66.74	77.82		78.41	0.001307	3.40	851.69	106.73	0.38
amo1	663	Max WS	SASP	2895.83	66.74	77.82		78.41	0.001307	3.40	851.69	106.73	0.38
amo1	663	Max WS	SPSA	2861.83	66.74	77.56		78.18	0.001414	3.47	824.14	106.45	0.40
amo1	663	Max WS	SPSP	2861.83	66.74	77.56		78.18	0.001414	3.47	824.14	106.45	0.40
amo1	662	Max WS	SASA	3073.38	65.53	77.10		77.93	0.001937	4.07	796.90	348.52	0.47
amo1	662	Max WS	SASP	3073.38	65.53	77.10		77.93	0.001937	4.07	796.90	348.52	0.47
amo1	662	Max WS	SPSA	2980.94	65.53	76.85		77.69	0.002062	4.11	761.73	314.40	0.48
amo1	662	Max WS	SPSP	2980.94	65.53	76.85		77.69	0.002062	4.11	761.73	314.40	0.48
amo1	661	Max WS	SASA	3531.49	66.39	74.68		76.40	0.007206	5.82	606.71	126.66	0.84
amo1	661	Max WS	SASP	3531.49	66.39	74.68		76.40	0.007206	5.82	606.71	126.66	0.84
amo1	661	Max WS	SPSA	3344.19	66.39	74.50		76.17	0.007123	5.71	585.24	122.59	0.83
amo1	661	Max WS	SPSP	3344.27	66.39	74.50		76.17	0.007123	5.71	585.24	122.59	0.83
amo1	660.2	Max WS	SASA	3531.41	66.14	75.07	72.45	75.63	0.001787	3.33	1061.96	177.97	0.43
amo1	660.2	Max WS	SASP	3531.33	66.14	75.07	72.45	75.63	0.001787	3.33	1061.96	177.97	0.43
amo1	660.2	Max WS	SPSA	3344.05	66.14	74.88	72.32	75.42	0.001769	3.25	1029.55	177.60	0.43
amo1	660.2	Max WS	SPSP	3344.00	66.14	74.88	72.32	75.42	0.001769	3.25	1029.55	177.60	0.43

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
amo1	660.15			Ini Struct									
amo1	660.1	Max WS	SASA	3530.90	64.23	75.06		75.21	0.000293	1.76	2011.85	223.32	0.19
amo1	660.1	Max WS	SASP	3530.96	64.23	75.06		75.21	0.000293	1.76	2011.85	223.32	0.19
amo1	660.1	Max WS	SPSA	3343.54	64.23	74.85		75.00	0.000282	1.70	1966.90	222.89	0.18
amo1	660.1	Max WS	SPSP	3343.54	64.23	74.85		75.00	0.000282	1.70	1966.90	222.89	0.18
amo1	659	Max WS	SASA	3530.27	62.42	74.83		75.11	0.000594	2.34	1591.16	427.20	0.26
amo1	659	Max WS	SASP	3530.35	62.42	74.83		75.11	0.000594	2.34	1591.16	427.20	0.26
amo1	659	Max WS	SPSA	3343.31	62.42	74.64		74.90	0.000582	2.28	1543.95	366.60	0.26
amo1	659	Max WS	SPSP	3343.31	62.42	74.64		74.90	0.000582	2.28	1543.95	366.60	0.26
amo1	658	Max WS	SASA	3571.62	62.16	74.08		74.86	0.001673	3.89	918.48	242.08	0.43
amo1	658	Max WS	SASP	3571.64	62.16	74.08		74.86	0.001673	3.89	918.48	242.08	0.43
amo1	658	Max WS	SPSA	3418.60	62.16	73.90		74.64	0.001644	3.81	897.20	211.23	0.43
amo1	658	Max WS	SPSP	3418.59	62.16	73.90		74.64	0.001644	3.81	897.20	211.23	0.43
amo1	657	Max WS	SASA	3571.55	63.71	73.44		74.31	0.002101	4.20	913.76	298.25	0.49
amo1	657	Max WS	SASP	3571.57	63.71	73.44		74.31	0.002101	4.20	913.76	298.25	0.49
amo1	657	Max WS	SPSA	3418.59	63.71	73.24		74.09	0.002123	4.15	878.27	286.90	0.49
amo1	657	Max WS	SPSP	3418.57	63.71	73.24		74.09	0.002123	4.15	878.27	286.90	0.49
amo1	656.1	Max WS	SASA	3571.55	62.51	72.85		73.78	0.002195	4.35	857.71	245.34	0.50
amo1	656.1	Max WS	SASP	3571.54	62.51	72.85		73.78	0.002195	4.35	857.71	245.34	0.50
amo1	656.1	Max WS	SPSA	3418.52	62.51	72.66		73.57	0.002196	4.27	833.06	236.01	0.50
amo1	656.1	Max WS	SPSP	3418.52	62.51	72.66		73.57	0.002196	4.27	833.06	236.01	0.50
amo1	654.9	Max WS	SASA	3572.12	60.37	72.07		73.20	0.002842	4.72	759.24	236.62	0.56
amo1	654.9	Max WS	SASP	3572.10	60.37	72.07		73.20	0.002842	4.72	759.24	236.62	0.56
amo1	654.9	Max WS	SPSA	3422.24	60.37	71.89		72.99	0.002833	4.63	740.40	235.93	0.56
amo1	654.9	Max WS	SPSP	3422.16	60.37	71.89		72.99	0.002833	4.63	740.40	235.93	0.56
amo1	654.7	Max WS	SASA	3572.12	60.36	72.06		73.14	0.001996	4.96	822.90	102.77	0.50
amo1	654.7	Max WS	SASP	3572.07	60.36	72.06		73.14	0.001996	4.96	822.90	102.77	0.50
amo1	654.7	Max WS	SPSA	3422.23	60.36	71.88		72.92	0.001960	4.86	804.92	102.48	0.49
amo1	654.7	Max WS	SPSP	3422.16	60.36	71.88		72.92	0.001960	4.86	804.92	102.48	0.49
amo1	654.4	Max WS	SASA	3572.09	61.35	71.98		72.94	0.002502	4.34	823.32	144.58	0.52
amo1	654.4	Max WS	SASP	3572.09	61.35	71.98		72.94	0.002502	4.34	823.32	144.58	0.52
amo1	654.4	Max WS	SPSA	3422.20	61.35	71.80		72.73	0.002513	4.28	801.14	141.91	0.52
amo1	654.4	Max WS	SPSP	3422.16	61.35	71.80		72.73	0.002513	4.28	801.14	141.91	0.52
amo1	654	Max WS	SASA	3572.09	62.86	71.96		72.79	0.002013	4.08	907.18	182.03	0.48
amo1	654	Max WS	SASP	3572.09	62.86	71.96		72.79	0.002013	4.08	907.18	182.03	0.48
amo1	654	Max WS	SPSA	3422.20	62.86	71.76		72.57	0.002031	4.03	879.83	177.15	0.48
amo1	654	Max WS	SPSP	3422.15	62.86	71.76		72.57	0.002031	4.03	879.83	177.15	0.48
amo1	653.8	Max WS	SASA	3572.04	62.54	71.83		72.59	0.001874	3.89	943.85	168.97	0.46
amo1	653.8	Max WS	SASP	3572.09	62.54	71.83		72.59	0.001874	3.89	943.85	168.97	0.46
amo1	653.8	Max WS	SPSA	3422.18	62.54	71.63		72.37	0.001897	3.85	914.34	165.88	0.46
amo1	653.8	Max WS	SPSP	3422.15	62.54	71.63		72.37	0.001897	3.85	914.34	165.88	0.46
amo1	653.6	Max WS	SASA	3572.08	62.54	71.71		72.40	0.001778	3.71	980.77	192.92	0.45
amo1	653.6	Max WS	SASP	3572.04	62.54	71.71		72.40	0.001778	3.71	980.77	192.92	0.45
amo1	653.6	Max WS	SPSA	3422.17	62.54	71.50		72.18	0.001807	3.66	949.30	190.47	0.45
amo1	653.6	Max WS	SPSP	3422.15	62.54	71.50		72.18	0.001807	3.66	949.30	190.47	0.45
amo1	653.3	Max WS	SASA	3572.08	62.47	71.86		72.35	0.001073	3.13	1175.21	202.77	0.35
amo1	653.3	Max WS	SASP	3572.06	62.47	71.86		72.35	0.001073	3.13	1175.21	202.77	0.35
amo1	653.3	Max WS	SPSA	3422.18	62.47	71.65		72.13	0.001081	3.09	1140.81	199.14	0.35
amo1	653.3	Max WS	SPSP	3422.17	62.47	71.65		72.13	0.001081	3.09	1140.81	199.14	0.35
amo1	653.2	Max WS	SASA	3572.08	62.47	71.83	67.91	72.35	0.001207	3.20	1115.46	142.63	0.37
amo1	653.2	Max WS	SASP	3572.08	62.47	71.83	67.91	72.35	0.001207	3.20	1115.46	142.63	0.37
amo1	653.2	Max WS	SPSA	3422.17	62.47	71.62	67.80	72.13	0.001206	3.15	1086.27	142.45	0.36
amo1	653.2	Max WS	SPSP	3422.17	62.47	71.62	67.80	72.13	0.001206	3.15	1086.27	142.45	0.36
amo1	653.15			Ini Struct									
amo1	653.1	Max WS	SASA	3572.07	62.03	71.77		72.26	0.001066	3.12	1149.71	142.65	0.35
amo1	653.1	Max WS	SASP	3572.04	62.03	71.77		72.26	0.001066	3.12	1149.71	142.65	0.35
amo1	653.1	Max WS	SPSA	3422.17	62.03	71.56		72.04	0.001062	3.07	1120.68	142.50	0.35
amo1	653.1	Max WS	SPSP	3422.17	62.03	71.56		72.04	0.001062	3.07	1120.68	142.50	0.35
amo1	653	Max WS	SASA	3572.07	62.03	71.80		72.27	0.000989	3.06	1206.25	201.72	0.34
amo1	653	Max WS	SASP	3572.08	62.03	71.80		72.27	0.000989	3.06	1206.25	201.72	0.34
amo1	653	Max WS	SPSA	3422.17	62.03	71.59		72.04	0.000992	3.01	1172.12	198.13	0.34
amo1	653	Max WS	SPSP	3422.18	62.03	71.59		72.04	0.000992	3.01	1172.12	198.13	0.34
amo1	652	Max WS	SASA	3571.99	56.26	70.91		71.86	0.001811	4.52	920.95	151.58	0.46
amo1	652	Max WS	SASP	3571.97	56.26	70.91		71.86	0.001811	4.52	920.95	151.58	0.46
amo1	652	Max WS	SPSA	3422.15	56.26	70.71		71.63	0.001816	4.46	889.59	151.42	0.45
amo1	652	Max WS	SPSP	3422.15	56.26	70.71		71.63	0.001816	4.46	889.59	151.42	0.45
amo1	651	Max WS	SASA	3571.95	56.57	70.55		71.53	0.001743	4.57	879.63	169.45	0.45
amo1	651	Max WS	SASP	3571.93	56.57	70.55		71.53	0.001743	4.57	879.63	169.45	0.45
amo1	651	Max WS	SPSA	3422.14	56.57	70.36		71.31	0.001721	4.49	856.92	165.44	0.45
amo1	651	Max WS	SPSP	3422.14	56.57	70.36		71.31	0.001721	4.49	856.92	165.44	0.45
amo1	650.1	Max WS	SASA	3571.92	58.11	70.16		70.93	0.001414	3.92	938.50	176.42	0.40
amo1	650.1	Max WS	SASP	3571.91	58.11	70.16		70.93	0.001414	3.92	938.50	176.42	0.40
amo1	650.1	Max WS	SPSA	3422.13	58.11	69.98		70.72	0.001385	3.83	913.48	151.70	0.40
amo1	650.1	Max WS	SPSP	3422.11	58.11	69.98		70.72	0.001385	3.83	913.48	151.70	0.40

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	649	Max WS	SASA	3573.01	60.78	70.27		70.59	0.000781	2.54	1415.62	255.44	0.30
amo1	649	Max WS	SASP	3572.99	60.78	70.27		70.59	0.000781	2.54	1415.62	255.44	0.30
amo1	649	Max WS	SPSA	3427.40	60.78	70.07		70.39	0.000782	2.50	1376.77	233.69	0.30
amo1	649	Max WS	SPSP	3427.40	60.78	70.07		70.39	0.000782	2.50	1376.77	233.69	0.30
amo1	648.21	Max WS	SASA	3572.99	60.65	70.09	65.27	70.50	0.000838	2.83	1260.86	146.01	0.31
amo1	648.21	Max WS	SASP	3572.98	60.65	70.09	65.27	70.50	0.000838	2.83	1260.86	146.01	0.31
amo1	648.21	Max WS	SPSA	3427.40	60.65	69.90	65.16	70.30	0.000828	2.78	1232.98	145.85	0.31
amo1	648.21	Max WS	SPSP	3427.40	60.65	69.90	65.16	70.30	0.000828	2.78	1232.98	145.85	0.31
amo1	648.15			Ini Struct									
amo1	648.01	Max WS	SASA	3572.96	59.23	69.95		70.30	0.000671	2.65	1347.88	145.89	0.28
amo1	648.01	Max WS	SASP	3572.98	59.23	69.95		70.30	0.000671	2.65	1347.88	145.89	0.28
amo1	648.01	Max WS	SPSA	3427.38	59.23	69.76		70.10	0.000659	2.60	1320.68	145.73	0.28
amo1	648.01	Max WS	SPSP	3427.38	59.23	69.76		70.10	0.000659	2.60	1320.68	145.73	0.28
amo1	647	Max WS	SASA	3572.90	58.30	69.31		70.04	0.001400	3.80	959.11	243.49	0.41
amo1	647	Max WS	SASP	3572.92	58.30	69.31		70.04	0.001400	3.80	959.11	243.49	0.41
amo1	647	Max WS	SPSA	3427.28	58.30	69.14		69.84	0.001376	3.72	938.24	240.52	0.40
amo1	647	Max WS	SPSP	3427.27	58.30	69.14		69.84	0.001376	3.72	938.24	240.52	0.40
amo1	646	Max WS	SASA	3572.89	57.67	68.86		69.63	0.001442	3.91	937.13	251.47	0.42
amo1	646	Max WS	SASP	3572.90	57.67	68.86		69.63	0.001442	3.91	937.13	251.47	0.42
amo1	646	Max WS	SPSA	3427.26	57.67	68.71		69.44	0.001410	3.82	918.16	220.64	0.41
amo1	646	Max WS	SPSP	3427.26	57.67	68.71		69.44	0.001410	3.82	918.16	220.64	0.41
amo1	645	Max WS	SASA	3572.88	55.54	68.58		69.37	0.001862	3.94	913.58	126.60	0.45
amo1	645	Max WS	SASP	3572.86	55.54	68.58		69.37	0.001862	3.94	913.58	126.60	0.45
amo1	645	Max WS	SPSA	3427.25	55.54	68.43		69.18	0.001827	3.86	894.57	124.85	0.44
amo1	645	Max WS	SPSP	3427.25	55.54	68.43		69.18	0.001827	3.86	894.57	124.85	0.44
amo1	644	Max WS	SASA	3572.71	57.92	67.16		68.50	0.003953	5.29	782.68	193.22	0.64
amo1	644	Max WS	SASP	3572.73	57.92	67.16		68.50	0.003953	5.29	782.68	193.22	0.64
amo1	644	Max WS	SPSA	3427.16	57.92	66.97		68.30	0.004073	5.27	745.13	188.85	0.65
amo1	644	Max WS	SPSP	3427.16	57.92	66.97		68.30	0.004073	5.27	745.13	188.85	0.65
amo1	643	Max WS	SASA	3572.75	57.27	66.85		67.85	0.002537	4.50	860.66	179.11	0.53
amo1	643	Max WS	SASP	3572.74	57.27	66.85		67.85	0.002537	4.50	860.66	179.11	0.53
amo1	643	Max WS	SPSA	3427.60	57.27	66.65		67.64	0.002575	4.46	825.72	175.68	0.53
amo1	643	Max WS	SPSP	3427.63	57.27	66.65		67.64	0.002575	4.46	825.72	175.68	0.53
amo1	642	Max WS	SASA	3572.71	56.13	66.35		66.93	0.001419	3.38	1068.13	208.62	0.40
amo1	642	Max WS	SASP	3572.71	56.13	66.35		66.93	0.001419	3.38	1068.13	208.62	0.40
amo1	642	Max WS	SPSA	3427.61	56.13	66.15		66.71	0.001438	3.34	1035.87	204.15	0.40
amo1	642	Max WS	SPSP	3427.61	56.13	66.15		66.71	0.001438	3.34	1035.87	204.15	0.40
amo1	641	Max WS	SASA	3572.70	55.85	65.23		66.46	0.002878	4.91	731.71	158.46	0.56
amo1	641	Max WS	SASP	3572.70	55.85	65.23		66.46	0.002878	4.91	731.71	158.46	0.56
amo1	641	Max WS	SPSA	3427.60	55.85	65.05		66.24	0.002863	4.82	713.67	152.91	0.55
amo1	641	Max WS	SPSP	3427.60	55.85	65.05		66.24	0.002863	4.82	713.67	152.91	0.55
amo1	640	Max WS	SASA	3572.70	55.16	63.93		65.97	0.005391	6.32	566.21	113.32	0.76
amo1	640	Max WS	SASP	3572.69	55.16	63.93		65.97	0.005391	6.32	566.21	113.32	0.76
amo1	640	Max WS	SPSA	3427.58	55.16	63.79		65.74	0.005285	6.18	554.98	109.81	0.75
amo1	640	Max WS	SPSP	3427.58	55.16	63.79		65.74	0.005285	6.18	554.98	109.81	0.75
amo1	639	Max WS	SASA	3572.69	54.84	64.12		65.81	0.004623	5.76	619.97	116.39	0.69
amo1	639	Max WS	SASP	3572.70	54.84	64.12		65.81	0.004623	5.76	619.97	116.39	0.69
amo1	639	Max WS	SPSA	3427.57	54.84	63.96		65.59	0.004573	5.65	606.30	110.76	0.69
amo1	639	Max WS	SPSP	3427.57	54.84	63.96		65.59	0.004573	5.65	606.30	110.76	0.69
amo1	638	Max WS	SASA	3572.69	54.87	63.41		65.73	0.006694	6.75	529.60	77.76	0.83
amo1	638	Max WS	SASP	3572.69	54.87	63.41		65.73	0.006694	6.75	529.60	77.76	0.83
amo1	638	Max WS	SPSA	3427.56	54.87	63.27		65.49	0.006544	6.60	519.35	77.64	0.81
amo1	638	Max WS	SPSP	3427.55	54.87	63.27		65.49	0.006543	6.60	519.35	77.64	0.81
amo1	637.9			Lat Struct									
amo1	637	Max WS	SASA	3572.65	54.37	63.42		64.74	0.003671	5.08	703.52	110.73	0.63
amo1	637	Max WS	SASP	3572.65	54.37	63.42		64.74	0.003671	5.08	703.52	110.73	0.63
amo1	637	Max WS	SPSA	3427.53	54.37	63.29		64.55	0.003592	4.98	688.79	107.45	0.62
amo1	637	Max WS	SPSP	3427.51	54.37	63.29		64.55	0.003592	4.98	688.79	107.45	0.62
amo1	636	Max WS	SASA	3572.63	52.15	63.25		63.94	0.001420	3.70	968.56	176.03	0.40
amo1	636	Max WS	SASP	3572.63	52.15	63.25		63.94	0.001420	3.70	968.56	176.03	0.40
amo1	636	Max WS	SPSA	3427.51	52.15	63.11		63.77	0.001377	3.60	952.80	175.51	0.40
amo1	636	Max WS	SPSP	3427.50	52.15	63.11		63.77	0.001377	3.60	952.80	175.51	0.40
amo1	635.2	Max WS	SASA	3546.05	53.35	63.23	59.12	63.76	0.001098	3.28	1146.07	180.17	0.36
amo1	635.2	Max WS	SASP	3546.05	53.35	63.23	59.12	63.76	0.001098	3.28	1146.07	180.17	0.36
amo1	635.2	Max WS	SPSA	3408.63	53.35	63.08	58.99	63.60	0.001084	3.22	1119.30	179.79	0.36
amo1	635.2	Max WS	SPSP	3408.64	53.35	63.08	58.99	63.60	0.001084	3.22	1119.30	179.79	0.36
amo1	635.15			Ini Struct									
amo1	635.1	Max WS	SASA	3546.03	52.93	62.98		63.41	0.000799	2.91	1268.85	176.19	0.31
amo1	635.1	Max WS	SASP	3546.03	52.93	62.98		63.41	0.000799	2.91	1268.85	176.19	0.31
amo1	635.1	Max WS	SPSA	3408.59	52.93	62.81		63.22	0.000792	2.86	1238.34	176.19	0.31
amo1	635.1	Max WS	SPSP	3408.56	52.93	62.81		63.22	0.000792	2.86	1238.34	176.19	0.31
amo1	634.99			Lat Struct									
amo1	634.2	Max WS	SASA	3517.87	53.58	62.44	58.98	63.14	0.001657	3.70	952.11	135.12	0.43

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	634.2	Max WS	SASP	3517.86	53.58	62.44	58.99	63.14	0.001657	3.70	952.11	135.12	0.43
amo1	634.2	Max WS	SPSA	3395.80	53.58	62.26	58.88	62.94	0.001651	3.66	928.54	132.21	0.43
amo1	634.2	Max WS	SPSP	3395.80	53.58	62.26	58.88	62.94	0.001651	3.66	928.54	132.21	0.43
amo1	634.15			Inl Struct									
amo1	634.1	Max WS	SASA	3517.86	48.27	62.41		62.80	0.000609	2.78	1264.64	113.56	0.27
amo1	634.1	Max WS	SASP	3517.86	48.27	62.41		62.80	0.000609	2.78	1264.64	113.56	0.27
amo1	634.1	Max WS	SPSA	3395.80	48.27	62.23		62.61	0.000597	2.73	1244.08	113.56	0.26
amo1	634.1	Max WS	SPSP	3395.78	48.27	62.23		62.61	0.000597	2.73	1244.08	113.56	0.26
amo1	633.9			Lat Struct									
amo1	633	Max WS	SASA	3490.18	50.50	61.27		62.45	0.002799	4.81	724.87	92.85	0.55
amo1	633	Max WS	SASP	3490.20	50.50	61.27		62.45	0.002799	4.81	724.87	92.85	0.55
amo1	633	Max WS	SPSA	3378.39	50.50	61.09		62.25	0.002794	4.77	708.86	92.15	0.55
amo1	633	Max WS	SPSP	3378.39	50.50	61.09		62.25	0.002794	4.77	708.86	92.15	0.55
amo1	632.998			Lat Struct									
amo1	632	Max WS	SASA	3490.17	50.02	60.69		61.73	0.002470	4.50	774.86	100.76	0.52
amo1	632	Max WS	SASP	3490.19	50.02	60.69		61.73	0.002470	4.50	774.86	100.76	0.52
amo1	632	Max WS	SPSA	3378.33	50.02	60.51		61.53	0.002489	4.46	756.70	100.50	0.52
amo1	632	Max WS	SPSP	3378.35	50.02	60.51		61.53	0.002489	4.46	756.70	100.50	0.52
amo1	631	Max WS	SASA	3492.84	49.79	59.58		61.47	0.005226	6.09	573.39	83.59	0.74
amo1	631	Max WS	SASP	3492.87	49.79	59.58		61.47	0.005226	6.09	573.39	83.59	0.74
amo1	631	Max WS	SPSA	3378.15	49.79	59.42		61.27	0.005253	6.04	559.57	83.08	0.74
amo1	631	Max WS	SPSP	3378.15	49.79	59.42		61.27	0.005253	6.04	559.57	83.08	0.74
amo1	630	Max WS	SASA	3501.34	49.60	59.97		61.07	0.002900	4.64	755.02	103.45	0.55
amo1	630	Max WS	SASP	3501.36	49.60	59.97		61.07	0.002900	4.64	755.02	103.45	0.55
amo1	630	Max WS	SPSA	3381.07	49.60	59.80		60.87	0.002909	4.59	737.23	103.12	0.55
amo1	630	Max WS	SPSP	3381.19	49.60	59.80		60.87	0.002910	4.59	737.23	103.12	0.55
amo1	629	Max WS	SASA	3572.25	48.38	60.19		60.56	0.000975	2.69	1342.28	224.41	0.33
amo1	629	Max WS	SASP	3572.26	48.38	60.19		60.56	0.000975	2.69	1342.28	224.41	0.33
amo1	629	Max WS	SPSA	3426.90	48.38	60.02		60.37	0.000979	2.66	1302.74	221.26	0.33
amo1	629	Max WS	SPSP	3426.90	48.38	60.02		60.37	0.000979	2.66	1302.74	221.26	0.33
amo1	628.2	Max WS	SASA	3571.79	48.38	60.15	55.43	60.50	0.000910	2.62	1362.05	197.43	0.32
amo1	628.2	Max WS	SASP	3571.80	48.38	60.15	55.43	60.50	0.000910	2.62	1362.05	197.43	0.32
amo1	628.2	Max WS	SPSA	3426.80	48.38	59.98	55.32	60.32	0.000908	2.58	1327.32	196.88	0.32
amo1	628.2	Max WS	SPSP	3426.80	48.38	59.98	55.32	60.32	0.000908	2.58	1327.32	196.88	0.32
amo1	628.15			Inl Struct									
amo1	628.1	Max WS	SASA	3571.80	48.33	60.05		60.33	0.000595	2.32	1538.67	194.68	0.26
amo1	628.1	Max WS	SASP	3571.79	48.33	60.05		60.33	0.000595	2.32	1538.67	194.68	0.26
amo1	628.1	Max WS	SPSA	3426.89	48.33	59.88		60.14	0.000585	2.28	1504.72	193.31	0.26
amo1	628.1	Max WS	SPSP	3426.80	48.33	59.88		60.14	0.000585	2.28	1504.72	193.31	0.26
amo1	628.098			Lat Struct									
amo1	628	Max WS	SASA	3570.76	48.37	58.54		60.22	0.005484	5.75	621.39	104.50	0.75
amo1	628	Max WS	SASP	3570.77	48.37	58.54		60.22	0.005484	5.75	621.39	104.50	0.75
amo1	628	Max WS	SPSA	3426.66	48.37	58.42		60.03	0.005381	5.63	608.64	104.13	0.74
amo1	628	Max WS	SPSP	3426.66	48.37	58.42		60.03	0.005381	5.63	608.64	104.13	0.74
amo1	627	Max WS	SASA	3570.06	48.71	57.76		59.02	0.004386	4.97	718.43	125.67	0.66
amo1	627	Max WS	SASP	3570.11	48.71	57.76		59.02	0.004387	4.97	718.43	125.67	0.66
amo1	627	Max WS	SPSA	3426.42	48.71	57.65		58.86	0.004294	4.86	704.87	125.55	0.65
amo1	627	Max WS	SPSP	3426.42	48.71	57.65		58.86	0.004294	4.86	704.87	125.55	0.65
amo1	626.3	Max WS	SASA	3570.93	49.24	57.61		58.33	0.002126	3.78	945.52	145.32	0.47
amo1	626.3	Max WS	SASP	3570.90	49.24	57.61		58.33	0.002126	3.78	945.52	145.32	0.47
amo1	626.3	Max WS	SPSA	3425.46	49.24	57.50		58.19	0.002067	3.69	929.48	145.32	0.47
amo1	626.3	Max WS	SPSP	3425.46	49.24	57.50		58.19	0.002067	3.69	929.48	145.32	0.47
amo1	626.25	Max WS	SASA	3570.91	49.28	57.53	55.08	58.33	0.002312	3.98	903.20	148.59	0.50
amo1	626.25	Max WS	SASP	3570.89	49.28	57.53	55.07	58.33	0.002312	3.98	903.20	148.59	0.50
amo1	626.25	Max WS	SPSA	3425.43	49.28	57.42	54.96	58.18	0.002246	3.88	888.23	148.59	0.49
amo1	626.25	Max WS	SPSP	3425.43	49.28	57.42	54.96	58.18	0.002246	3.88	888.23	148.59	0.49
amo1	626.22			Bridge									
amo1	626.2	Max WS	SASA	3570.91	49.28	57.43		58.26	0.002430	4.04	889.44	148.59	0.51
amo1	626.2	Max WS	SASP	3570.89	49.28	57.43		58.26	0.002430	4.04	889.44	148.59	0.51
amo1	626.2	Max WS	SPSA	3425.43	49.28	57.33		58.12	0.002356	3.94	875.24	148.59	0.50
amo1	626.2	Max WS	SPSP	3425.43	49.28	57.33		58.12	0.002356	3.94	875.24	148.59	0.50
amo1	626.1	Max WS	SASA	3570.90	49.31	57.65		58.25	0.001217	3.42	1045.46	150.18	0.41
amo1	626.1	Max WS	SASP	3570.87	49.31	57.65		58.25	0.001217	3.42	1045.46	150.18	0.41
amo1	626.1	Max WS	SPSA	3425.41	49.31	57.54		58.11	0.001180	3.33	1028.71	150.18	0.41
amo1	626.1	Max WS	SPSP	3425.41	49.31	57.54		58.11	0.001180	3.33	1028.71	150.18	0.41
amo1	626.099			Lat Struct									
amo1	626.08			Lat Struct									
amo1	626	Max WS	SASA	3570.94	49.00	57.27		58.17	0.002231	4.21	870.67	168.53	0.55
amo1	626	Max WS	SASP	3570.94	49.00	57.27		58.17	0.002231	4.21	870.67	168.53	0.55
amo1	626	Max WS	SPSA	3424.73	49.00	57.17		58.03	0.002171	4.11	854.08	166.74	0.55
amo1	626	Max WS	SPSP	3424.74	49.00	57.17		58.03	0.002171	4.11	854.08	166.74	0.55

Reach	River Sta	Profile	Pla	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
arno1	625.2	Max WS	SASA	3574.08	49.00	57.53	55.04	57.91	0.001338	2.76	1298.24	288.68	0.41
arno1	625.2	Max WS	SASP	3574.06	49.00	57.53	55.04	57.91	0.001338	2.76	1298.24	288.68	0.41
arno1	625.2	Max WS	SPSA	3430.40	49.00	57.40	54.96	57.78	0.001353	2.72	1262.27	288.43	0.41
arno1	625.2	Max WS	SPSP	3430.40	49.00	57.40	54.96	57.78	0.001353	2.72	1262.27	288.43	0.41
arno1	625.15			Int Struct									
arno1	625.1	Max WS	SASA	3574.06	45.77	57.47		57.73	0.000406	2.25	1588.62	186.66	0.25
arno1	625.1	Max WS	SASP	3574.05	45.77	57.47		57.73	0.000406	2.25	1588.62	186.66	0.25
arno1	625.1	Max WS	SPSA	3431.10	45.77	57.34		57.58	0.000393	2.19	1564.33	186.66	0.24
arno1	625.1	Max WS	SPSP	3431.10	45.77	57.34		57.58	0.000393	2.19	1564.33	186.66	0.24
arno1	625.09			Lat Struct									
arno1	625.08			Lat Struct									
arno1	625	Max WS	SASA	3535.04	45.71	57.11		57.67	0.000950	3.32	1080.64	148.68	0.38
arno1	625	Max WS	SASP	3535.04	45.71	57.11		57.67	0.000950	3.32	1080.64	148.68	0.38
arno1	625	Max WS	SPSA	3402.04	45.71	56.99		57.52	0.000927	3.24	1063.03	148.44	0.37
arno1	625	Max WS	SPSP	3401.86	45.71	56.99		57.52	0.000927	3.24	1063.03	148.44	0.37
arno1	624.998			Lat Struct									
arno1	624	Max WS	SASA	3554.09	45.58	57.10		57.57	0.000739	3.05	1176.11	139.15	0.33
arno1	624	Max WS	SASP	3554.09	45.58	57.10		57.57	0.000739	3.05	1176.11	139.15	0.33
arno1	624	Max WS	SPSA	3417.55	45.58	56.98		57.43	0.000714	2.98	1159.95	139.15	0.33
arno1	624	Max WS	SPSP	3417.55	45.58	56.98		57.43	0.000714	2.98	1159.95	139.15	0.33
arno1	623.99			Lat Struct									
arno1	623	Max WS	SASA	3530.33	46.66	56.49		57.36	0.002202	4.14	858.19	148.20	0.54
arno1	623	Max WS	SASP	3530.33	46.66	56.49		57.36	0.002202	4.14	858.19	148.20	0.54
arno1	623	Max WS	SPSA	3401.98	46.66	56.38		57.22	0.002172	4.06	842.38	148.20	0.54
arno1	623	Max WS	SPSP	3401.98	46.66	56.38		57.22	0.002172	4.06	842.38	148.20	0.54
arno1	622	Max WS	SASA	3539.45	45.30	56.23		57.01	0.001596	3.93	918.71	145.72	0.47
arno1	622	Max WS	SASP	3539.44	45.30	56.23		57.01	0.001596	3.93	918.71	145.72	0.47
arno1	622	Max WS	SPSA	3406.93	45.30	56.14		56.88	0.001547	3.84	905.08	145.72	0.47
arno1	622	Max WS	SPSP	3406.93	45.30	56.14		56.88	0.001547	3.84	905.08	145.72	0.47
arno1	621.999			Lat Struct									
arno1	621	Max WS	SASA	3488.43	43.42	55.74		56.84	0.002588	4.66	748.59	114.89	0.58
arno1	621	Max WS	SASP	3488.43	43.42	55.74		56.84	0.002588	4.66	748.59	114.89	0.58
arno1	621	Max WS	SP										

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
amo1	617.09			Lat Struct									
amo1	617	Max WS	SASA	3553.88	42.02	53.74		54.44	0.001042	3.70	964.38	115.48	0.40
amo1	617	Max WS	SASP	3568.91	42.02	53.83		54.52	0.001015	3.68	975.71	118.86	0.39
amo1	617	Max WS	SPSA	3426.78	42.02	53.53		54.21	0.001048	3.66	939.99	114.74	0.40
amo1	617	Max WS	SPSP	3427.45	42.02	53.55		54.23	0.001038	3.65	942.79	114.82	0.39
amo1	616.3	Max WS	SASA	3567.86	42.02	53.62	49.28	54.35	0.001086	3.77	953.18	124.02	0.41
amo1	616.3	Max WS	SASP	3569.22	42.02	53.74	49.28	54.44	0.001042	3.72	966.35	124.24	0.40
amo1	616.3	Max WS	SPSA	3429.43	42.02	53.42	49.14	54.12	0.001086	3.71	929.50	123.62	0.40
amo1	616.3	Max WS	SPSP	3429.95	42.02	53.45	49.14	54.14	0.001075	3.70	932.52	123.67	0.40
amo1	616.2			Bridge									
amo1	616.1	Max WS	SASA	3567.78	42.02	53.58		54.31	0.001106	3.79	947.68	123.93	0.41
amo1	616.1	Max WS	SASP	3569.14	42.02	53.69		54.40	0.001059	3.74	961.13	124.15	0.40
amo1	616.1	Max WS	SPSA	3429.24	42.02	53.38		54.08	0.001106	3.73	924.18	123.53	0.41
amo1	616.1	Max WS	SPSP	3429.86	42.02	53.40		54.11	0.001095	3.72	927.23	123.58	0.41
amo1	616.099			Lat Struct									
amo1	616.098			Lat Struct									
amo1	616	Max WS	SASA	3562.60	40.43	53.32		54.22	0.001469	4.21	850.71	110.16	0.47
amo1	616	Max WS	SASP	3568.47	40.43	53.44		54.32	0.001407	4.15	864.18	110.81	0.46
amo1	616	Max WS	SPSA	3427.81	40.43	53.12		54.00	0.001471	4.15	828.69	109.08	0.47
amo1	616	Max WS	SPSP	3429.50	40.43	53.15		54.02	0.001457	4.14	831.65	109.22	0.46
amo1	615.1	Max WS	SASA	3571.42	39.36	53.31		54.06	0.001116	3.85	941.38	122.47	0.41
amo1	615.1	Max WS	SASP	3568.55	39.36	53.44		54.17	0.001060	3.79	957.90	122.70	0.40
amo1	615.1	Max WS	SPSA	3431.28	39.36	53.11		53.84	0.001111	3.79	917.04	122.13	0.41
amo1	615.1	Max WS	SPSP	3429.40	39.36	53.14		53.86	0.001096	3.77	920.95	122.19	0.41
amo1	615	Max WS	SASA	3551.77	38.82	53.40		53.95	0.000709	3.28	1104.84	143.94	0.33
amo1	615	Max WS	SASP	3568.90	38.82	53.52		54.05	0.000687	3.25	1121.66	144.14	0.33
amo1	615	Max WS	SPSA	3415.96	38.82	53.20		53.72	0.000706	3.23	1075.27	142.43	0.33
amo1	615	Max WS	SPSP	3429.50	38.82	53.22		53.75	0.000707	3.23	1078.02	143.61	0.33
amo1	614	Max WS	SASA	3549.74	41.56	53.29		53.82	0.000794	3.24	1103.60	148.17	0.35
amo1	614	Max WS	SASP	3568.62	41.56	53.41		53.93	0.000767	3.21	1121.24	148.70	0.34
amo1	614	Max WS	SPSA	3422.37	41.56	53.07		53.59	0.000801	3.20	1072.34	140.30	0.35
amo1	614	Max WS	SPSP	3429.41	41.56	53.10		53.62	0.000797	3.20	1075.73	141.77	0.35
amo1	613.1	Max WS	SASA	3549.62	40.60	53.23		53.76	0.000803	3.25	1101.40	141.51	0.35
amo1	613.1	Max WS	SASP	3568.48	40.60	53.35		53.87	0.000775	3.22	1118.73	144.28	0.34
amo1	613.1	Max WS	SPSA	3422.42	40.60	53.01		53.54	0.000811	3.21	1071.37	137.90	0.35
amo1	613.1	Max WS	SPSP	3429.32	40.60	53.04		53.56	0.000807	3.21	1074.78	138.12	0.35
amo1	613	Max WS	SASA	3549.38	40.84	53.05		53.69	0.001005	3.57	1006.30	138.09	0.39
amo1	613	Max WS	SASP	3568.34	40.84	53.17		53.81	0.000968	3.54	1024.03	138.92	0.38
amo1	613	Max WS	SPSA	3422.31	40.84	52.83		53.47	0.001015	3.54	976.61	136.69	0.39
amo1	613	Max WS	SPSP	3429.07	40.84	52.86		53.49	0.001009	3.53	980.11	136.85	0.39
amo1	612.1	Max WS	SASA	3549.27	40.97	53.00		53.58	0.000918	3.39	1070.91	144.63	0.37
amo1	612.1	Max WS	SASP	3568.20	40.97	53.13		53.70	0.000880	3.35	1090.27	148.31	0.36
amo1	612.1	Max WS	SPSA	3422.25	40.97	52.78		53.35	0.000930	3.36	1039.12	143.90	0.37
amo1	612.1	Max WS	SPSP	3429.15	40.97	52.81		53.38	0.000924	3.36	1042.93	143.98	0.37
amo1	612	Max WS	SASA	3553.10	41.14	53.03		53.49	0.000725	3.03	1198.65	182.29	0.33
amo1	612	Max WS	SASP	3568.33	41.14	53.16		53.62	0.000693	2.99	1223.39	182.50	0.32
amo1	612	Max WS	SPSA	3422.98	41.14	52.81		53.26	0.000736	3.00	1160.34	164.87	0.33
amo1	612	Max WS	SPSP	3429.07	41.14	52.83		53.29	0.000731	2.99	1164.82	165.78	0.33
amo1	611.999			Lat Struct									
amo1	611.1	Max WS	SASA	3552.96	40.58	52.95		53.45	0.000755	3.16	1148.03	155.28	0.33
amo1	611.1	Max WS	SASP	3568.27	40.58	53.08		53.58	0.000723	3.12	1169.62	158.96	0.33
amo1	611.1	Max WS	SPSA	3422.98	40.58	52.73		53.22	0.000763	3.12	1114.62	149.59	0.33
amo1	611.1	Max WS	SPSP	3429.14	40.58	52.76		53.25	0.000758	3.12	1118.74	150.30	0.33
amo1	611	Max WS	SASA	3552.89	39.60	52.74		53.38	0.000901	3.56	1026.53	136.18	0.37
amo1	611	Max WS	SASP	3568.00	39.60	52.88		53.51	0.000863	3.52	1046.57	141.03	0.36
amo1	611	Max WS	SPSA	3422.88	39.60	52.52		53.15	0.000906	3.51	997.65	131.43	0.37
amo1	611	Max WS	SPSP	3428.76	39.60	52.55		53.17	0.000900	3.51	1001.42	131.85	0.37
amo1	610.1	Max WS	SASA	3552.84	40.44	52.64		53.28	0.000948	3.57	1023.34	146.29	0.38
amo1	610.1	Max WS	SASP	3568.00	40.44	52.79		53.41	0.000903	3.52	1046.00	151.77	0.37
amo1	610.1	Max WS	SPSA	3422.82	40.44	52.42		53.05	0.000957	3.53	992.21	140.31	0.38
amo1	610.1	Max WS	SPSP	3428.69	40.44	52.45		53.08	0.000949	3.52	996.40	140.62	0.38
amo1	610	Max WS	SASA	3552.81	39.93	52.58		53.19	0.000878	3.46	1059.08	153.06	0.37
amo1	610	Max WS	SASP	3567.93	39.93	52.74		53.33	0.000835	3.41	1083.32	157.70	0.36
amo1	610	Max WS	SPSA	3422.77	39.93	52.36		52.96	0.000888	3.42	1026.32	145.37	0.37
amo1	610	Max WS	SPSP	3428.68	39.93	52.39		52.98	0.000880	3.42	1030.76	145.81	0.37
amo1	609.1	Max WS	SASA	3552.75	41.66	52.51		53.08	0.000845	3.34	1108.20	163.98	0.36
amo1	609.1	Max WS	SASP	3567.92	41.66	52.68		53.22	0.000799	3.29	1135.13	166.35	0.35
amo1	609.1	Max WS	SPSA	3422.76	41.66	52.29		52.84	0.000858	3.31	1071.88	157.12	0.36
amo1	609.1	Max WS	SPSP	3428.68	41.66	52.32		52.87	0.000851	3.31	1076.93	160.94	0.36
amo1	609	Max WS	SASA	3552.69	42.05	52.39		52.98	0.000960	3.46	1094.27	172.72	0.38
amo1	609	Max WS	SASP	3567.80	42.05	52.56		53.13	0.000898	3.39	1124.48	173.45	0.37
amo1	609	Max WS	SPSA	3422.71	42.05	52.15		52.74	0.000986	3.44	1054.42	170.44	0.38
amo1	609	Max WS	SPSP	3428.60	42.05	52.19		52.77	0.000974	3.43	1060.19	170.77	0.38

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	608.1	Max WS	SASA	3552.67	40.28	52.28		52.88	0.000836	3.51	1093.19	150.37	0.36
amo1	608.1	Max WS	SASP	3567.63	40.28	52.46		53.04	0.000787	3.45	1119.97	150.52	0.35
amo1	608.1	Max WS	SPSA	3422.62	40.28	52.05		52.64	0.000849	3.48	1058.61	150.18	0.36
amo1	608.1	Max WS	SPSP	3428.47	40.28	52.08		52.68	0.000840	3.47	1063.82	150.21	0.36
amo1	608	Max WS	SASA	3551.53	40.89	52.30		52.82	0.000834	3.24	1160.45	171.77	0.36
amo1	608	Max WS	SASP	3567.74	40.89	52.48		52.98	0.000780	3.18	1191.50	171.77	0.35
amo1	608	Max WS	SPSA	3422.64	40.89	52.06		52.58	0.000858	3.23	1119.83	171.76	0.36
amo1	608	Max WS	SPSP	3428.53	40.89	52.10		52.61	0.000847	3.22	1125.90	171.76	0.36
amo1	607.2	Max WS	SASA	3541.72	41.17	52.17	48.04	52.65	0.000846	3.06	1158.94	146.79	0.35
amo1	607.2	Max WS	SASP	3567.69	41.17	52.35	48.08	52.82	0.000798	3.01	1185.47	146.79	0.34
amo1	607.2	Max WS	SPSA	3422.44	41.17	51.93	47.88	52.40	0.000873	3.05	1123.24	146.79	0.35
amo1	607.2	Max WS	SPSP	3428.47	41.17	51.97	47.89	52.44	0.000863	3.04	1128.61	146.79	0.35
amo1	607.15			Bridge									
amo1	607.1	Max WS	SASA	3541.72	40.66	51.99		52.50	0.000924	3.14	1126.68	146.79	0.36
amo1	607.1	Max WS	SASP	3567.59	40.66	52.16		52.65	0.000876	3.10	1150.80	146.79	0.35
amo1	607.1	Max WS	SPSA	3422.41	40.66	51.78		52.28	0.000944	3.12	1095.63	146.79	0.36
amo1	607.1	Max WS	SPSP	3428.42	40.66	51.81		52.31	0.000934	3.12	1100.51	146.79	0.36
amo1	607.099			Lat Struct									
amo1	607.098			Lat Struct									
amo1	607	Max WS	SASA	3541.72	41.18	51.74		52.46	0.001326	3.77	943.14	144.50	0.44
amo1	607	Max WS	SASP	3567.44	41.18	51.91		52.61	0.001243	3.71	968.96	147.66	0.43
amo1	607	Max WS	SPSA	3422.29	41.18	51.53		52.24	0.001362	3.75	913.47	130.94	0.44
amo1	607	Max WS	SPSP	3428.26	41.18	51.56		52.27	0.001345	3.74	918.20	137.24	0.44
amo1	606	Max WS	SASA	3541.69	40.26	51.55		52.23	0.001114	3.65	971.32	123.62	0.40
amo1	606	Max WS	SASP	3567.23	40.26	51.74		52.39	0.001059	3.59	995.41	136.04	0.39
amo1	606	Max WS	SPSA	3422.25	40.26	51.34		52.00	0.001131	3.62	945.91	116.13	0.40
amo1	606	Max WS	SPSP	3428.19	40.26	51.38		52.04	0.001118	3.61	950.28	117.37	0.40
amo1	605	Max WS	SASA	3541.58	40.24	51.56		52.00	0.000759	2.92	1218.56	173.36	0.33
amo1	605	Max WS	SASP	3567.32	40.24	51.76		52.18	0.000709	2.87	1252.23	173.46	0.32
amo1	605	Max WS	SPSA	3422.28	40.24	51.34		51.77	0.000779	2.91	1181.06	162.92	0.33
amo1	605	Max WS	SPSP	3428.23	40.24	51.38		51.81	0.000769	2.90	1187.48	164.39	0.33
amo1	604.999			Lat Struct									
amo1	604	Max WS	SASA	3541.49	41.17	51.13		51.83	0.001220	3.68	961.16	124.19	0.42
amo1	604	Max WS	SASP	3567.20	41.17	51.35		52.02	0.001130	3.61	988.38	124.21	0.41
amo1	604	Max WS	SPSA	3422.29	41.17	50.91		51.60	0.001244	3.67	933.40	123.56	0.43
amo1	604	Max WS	SPSP	3427.98	41.17	50.96		51.63	0.001225	3.65	938.90	123.62	0.42
amo1	603	Max WS	SASA	3541.48	40.32	50.89		51.60	0.001239	3.74	947.49	119.70	0.42
amo1	603	Max WS	SASP	3567.15	40.32	51.13		51.81	0.001146	3.65	976.14	120.06	0.41
amo1	603	Max WS	SPSA	3422.24	40.32	50.66		51.37	0.001267	3.72	920.17	119.36	0.43
amo1	603	Max WS	SPSP	3428.02	40.32	50.71		51.41	0.001247	3.70	925.99	119.43	0.42
amo1	602	Max WS	SASA	3541.48	39.92	50.43		51.58	0.001960	4.75	744.86	110.15	0.53
amo1	602	Max WS	SASP	3567.00	39.92	50.70		51.79	0.001787	4.64	769.08	110.76	0.51
amo1	602	Max WS	SPSA	3422.19	39.92	50.21		51.35	0.002006	4.72	724.60	109.54	0.54
amo1	602	Max WS	SPSP	3427.90	39.92	50.26		51.39	0.001968	4.70	729.57	109.54	0.53
amo1	601.75	Max WS	SASA	3541.48	39.92	50.44	47.64	51.58	0.001952	4.73	748.40	110.15	0.53
amo1	601.75	Max WS	SASP	3567.04	39.92	50.71	47.67	51.79	0.001779	4.62	772.79	110.76	0.51
amo1	601.75	Max WS	SPSA	3422.19	39.92	50.22	47.52	51.34	0.001999	4.70	727.97	109.54	0.53
amo1	601.75	Max WS	SPSP	3427.94	39.92	50.27	47.53	51.39	0.001960	4.68	732.97	109.54	0.53
amo1	601			Bridge									
amo1	600.25	Max WS	SASA	3541.44	39.92	49.86		51.18	0.002497	5.10	695.06	108.31	0.59
amo1	600.25	Max WS	SASP	3566.60	39.92	50.17		51.41	0.002218	4.93	723.25	108.93	0.56
amo1	600.25	Max WS	SPSA	3421.77	39.92	49.68		50.97	0.002532	5.05	678.06	107.71	0.59
amo1	600.25	Max WS	SPSP	3427.36	39.92	49.74		51.02	0.002467	5.01	684.02	107.71	0.59
amo1	600	Max WS	SASA	3541.21	39.35	49.74		51.18	0.002681	5.33	664.97	106.92	0.62
amo1	600	Max WS	SASP	3566.41	39.35	50.06		51.40	0.002363	5.14	693.54	108.06	0.59
amo1	600	Max WS	SPSA	3421.77	39.35	49.56		50.97	0.002718	5.27	648.73	106.33	0.62
amo1	600	Max WS	SPSP	3427.18	39.35	49.62		51.02	0.002644	5.23	654.75	106.44	0.62
amo1	599.999			Lat Struct									
amo1	599.998			Lat Struct									
amo1	599	Max WS	SASA	3541.46	39.07	50.42		51.11	0.001080	3.69	960.55	111.57	0.40
amo1	599	Max WS	SASP	3566.83	39.07	50.68		51.35	0.000994	3.60	989.84	119.73	0.39
amo1	599	Max WS	SPSA	3422.02	39.07	50.23		50.90	0.001080	3.64	939.10	110.59	0.40
amo1	599	Max WS	SPSP	3427.70	39.07	50.28		50.95	0.001063	3.63	945.21	110.71	0.40
amo1	598	Max WS	SASA	3541.44	40.00	50.16		51.00	0.001596	4.11	919.76	160.74	0.48
amo1	598	Max WS	SASP	3566.78	40.00	50.48		51.24	0.001394	3.95	970.81	160.78	0.45
amo1	598	Max WS	SPSA	3421.95	40.00	49.94		50.78	0.001656	4.11	884.98	160.71	0.49
amo1	598	Max WS	SPSP	3427.60	40.00	50.01		50.84	0.001607	4.08	895.95	160.72	0.48
amo1	597	Max WS	SASA	3541.43	40.17	50.17		50.85	0.001553	3.66	968.04	153.98	0.47
amo1	597	Max WS	SASP	3566.82	40.17	50.49		51.12	0.001363	3.51	1017.38	156.07	0.44
amo1	597	Max WS	SPSA	3421.95	40.17	49.95		50.64	0.001604	3.66	934.67	152.27	0.47
amo1	597	Max WS	SPSP	3427.65	40.17	50.02		50.69	0.001558	3.63	945.18	152.81	0.47

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	596.2	Max WS	SASA	3541.41	40.29	50.35	45.23	50.73	0.000473	2.71	1307.17	153.22	0.30
amo1	596.2	Max WS	SASP	3566.85	40.29	50.65	45.26	51.00	0.000430	2.64	1352.76	153.30	0.28
amo1	596.2	Max WS	SPSA	3422.03	40.29	50.14	45.14	50.51	0.000479	2.69	1274.35	153.16	0.30
amo1	596.2	Max WS	SPSP	3427.68	40.29	50.20	45.15	50.57	0.000469	2.67	1284.15	153.17	0.29
amo1	596.15			Ini Struct									
amo1	596.1	Max WS	SASA	3541.42	38.86	50.21		50.59	0.000500	2.73	1298.55	153.18	0.30
amo1	596.1	Max WS	SASP	3566.82	38.86	50.52		50.88	0.000453	2.65	1345.67	153.26	0.29
amo1	596.1	Max WS	SPSA	3422.01	38.86	50.00		50.37	0.000507	2.70	1265.55	153.12	0.30
amo1	596.1	Max WS	SPSP	3427.65	38.86	50.07		50.43	0.000496	2.69	1275.63	153.14	0.30
amo1	596.099			Lat Struct									
amo1	596.098			Lat Struct									
amo1	595	Max WS	SASA	3541.38	36.00	50.11		50.55	0.000536	3.06	1238.14	118.38	0.29
amo1	595	Max WS	SASP	3566.81	36.00	50.42		50.84	0.000497	2.99	1274.84	118.44	0.28
amo1	595	Max WS	SPSA	3422.01	36.00	49.90		50.33	0.000533	3.02	1213.28	118.34	0.29
amo1	595	Max WS	SPSP	3427.60	36.00	49.96		50.39	0.000524	3.00	1221.11	118.35	0.29
amo1	594	Max WS	SASA	3541.38	36.86	50.15		50.50	0.000434	2.75	1425.11	151.62	0.26
amo1	594	Max WS	SASP	3566.81	36.86	50.46		50.79	0.000399	2.68	1472.48	151.67	0.25
amo1	594	Max WS	SPSA	3422.00	36.86	49.93		50.27	0.000435	2.72	1392.53	151.58	0.26
amo1	594	Max WS	SPSP	3427.64	36.86	50.00		50.34	0.000427	2.70	1402.65	151.60	0.26
amo1	593	Max WS	SASA	3541.38	36.05	50.14		50.44	0.000410	2.61	1512.96	150.37	0.24
amo1	593	Max WS	SASP	3566.81	36.05	50.46		50.74	0.000379	2.54	1560.09	150.43	0.23
amo1	593	Max WS	SPSA	3422.00	36.05	49.93		50.22	0.000409	2.58	1480.65	150.34	0.24
amo1	593	Max WS	SPSP	3427.67	36.05	49.99		50.28	0.000402	2.56	1490.73	150.35	0.24
amo1	592	Max WS	SASA	3541.04	35.86	50.11		50.41	0.000357	2.54	1537.51	155.57	0.24
amo1	592	Max WS	SASP	3566.80	35.86	50.43		50.71	0.000329	2.47	1586.64	155.57	0.23
amo1	592	Max WS	SPSA	3421.98	35.86	49.90		50.19	0.000357	2.51	1504.09	155.56	0.24
amo1	592	Max WS	SPSP	3427.66	35.86	49.97		50.25	0.000350	2.49	1514.57	155.57	0.23
amo1	591	Max WS	SASA	3512.67	36.41	50.08		50.36	0.000353	2.46	1523.60	151.37	0.23
amo1	591	Max WS	SASP	3566.82	36.41	50.38		50.66	0.000330	2.43	1570.34	151.38	0.23
amo1	591	Max WS	SPSA	3415.16	36.41	49.85		50.14	0.000358	2.45	1489.96	151.37	0.24
amo1	591	Max WS	SPSP	3427.64	36.41	49.92		50.20	0.000353	2.44	1499.88	151.37	0.23
amo1	590	Max WS	SASA	3483.16	38.04	50.06		50.32	0.000280	2.26	1558.00	148.00	0.22
amo1	590	Max WS	SASP	3566.82	38.04	50.36		50.62	0.000268	2.25	1602.80	148.04	0.22
amo1	590	Max WS	SPSA	3404.42	38.04	49.83		50.09	0.000288	2.26	1524.45	147.71	0.22
amo1	590	Max WS	SPSP	3427.64	38.04	49.90		50.16	0.000286	2.26	1533.82	147.72	0.22
amo1	589	Max WS	SASA	3483.15	41.39	49.53		50.17	0.001034	3.56	983.22	141.57	0.40
amo1	589	Max WS	SASP	3566.80	41.39	49.86		50.48	0.000947	3.50	1023.73	141.57	0.39
amo1	589	Max WS	SPSA	3404.42	41.39	49.29		49.94	0.001094	3.59	953.36	141.57	0.41
amo1	589	Max WS	SPSP	3427.62	41.39	49.35		50.01	0.001078	3.58	961.65	141.57	0.41
amo1	588.3	Max WS	SASA	3483.16	41.35	49.50	45.94	50.17	0.000844	3.61	971.01	140.56	0.41
amo1	588.3	Max WS	SASP	3566.80	41.35	49.83	46.01	50.47	0.000773	3.55	1011.38	140.56	0.39
amo1	588.3	Max WS	SPSA	3404.42	41.35	49.26	45.87	49.94	0.000894	3.64	941.29	140.56	0.42
amo1	588.3	Max WS	SPSP	3427.63	41.35	49.33	45.89	50.00	0.000880	3.63	949.54	140.56	0.42
amo1	588.2			Bridge									
amo1	588.1	Max WS	SASA	3483.13	41.35	49.10		49.84	0.001003	3.80	921.98	140.56	0.44
amo1	588.1	Max WS	SASP	3566.79	41.35	49.36		50.08	0.000939	3.76	953.94	140.56	0.43
amo1	588.1	Max WS	SPSA	3404.40	41.35	48.91		49.65	0.001044	3.81	898.38	140.56	0.45
amo1	588.1	Max WS	SPSP	3427.62	41.35	48.96		49.70	0.001033	3.81	904.92	140.56	0.45
amo1	587	Max WS	SASA	3483.15	41.15	49.12		49.82	0.000948	3.69	944.97	141.54	0.43
amo1	587	Max WS	SASP	3566.78	41.15	49.38		50.07	0.000889	3.66	977.07	141.54	0.42
amo1	587	Max WS	SPSA	3404.40	41.15	48.93		49.63	0.000986	3.70	921.18	141.54	0.43
amo1	587	Max WS	SPSP	3427.60	41.15	48.99		49.68	0.000976	3.70	927.80	141.54	0.43
amo1	586.999			Lat Struct									
amo1	586.998			Lat Struct									
amo1	586	Max WS	SASA	3483.16	32.73	49.56		49.76	0.000150	1.99	1763.25	143.68	0.18
amo1	586	Max WS	SASP	3566.79	32.73	49.81		50.01	0.000147	2.00	1799.03	143.71	0.18
amo1	586	Max WS	SPSA	3404.41	32.73	49.37		49.57	0.000151	1.97	1736.23	143.65	0.18
amo1	586	Max WS	SPSP	3427.62	32.73	49.42		49.62	0.000151	1.98	1743.80	143.66	0.18
amo1	585	Max WS	SASA	3483.13	36.17	49.39		49.74	0.000310	2.62	1336.70	123.35	0.25
amo1	585	Max WS	SASP	3566.79	36.17	49.64		49.99	0.000302	2.62	1367.63	123.68	0.25
amo1	585	Max WS	SPSA	3404.42	36.17	49.20		49.55	0.000314	2.60	1313.55	123.32	0.25
amo1	585	Max WS	SPSP	3427.63	36.17	49.26		49.60	0.000313	2.61	1320.01	123.32	0.25
amo1	584	Max WS	SASA	3483.13	36.43	49.06		49.69	0.000599	3.53	992.18	98.42	0.35
amo1	584	Max WS	SASP	3566.80	36.43	49.31		49.94	0.000579	3.53	1017.20	98.43	0.35
amo1	584	Max WS	SPSA	3404.40	36.43	48.87		49.50	0.000609	3.51	973.79	98.40	0.35
amo1	584	Max WS	SPSP	3427.62	36.43	48.92		49.55	0.000606	3.52	978.89	98.41	0.35
amo1	583.5	Max WS	SASA	3483.11	36.73	48.97		49.66	0.000669	3.69	952.52	97.17	0.37
amo1	583.5	Max WS	SASP	3566.78	36.73	49.22		49.91	0.000645	3.68	977.46	97.18	0.37
amo1	583.5	Max WS	SPSA	3404.40	36.73	48.78		49.47	0.000682	3.67	934.24	97.15	0.38
amo1	583.5	Max WS	SPSP	3427.62	36.73	48.83		49.52	0.000679	3.68	939.31	97.16	0.38
amo1	583	Max WS	SASA	3483.11	37.08	48.87		49.62	0.000765	3.84	910.88	95.73	0.40

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	583	Max WS	SASP	3566.78	37.08	49.13		49.87	0.000734	3.83	935.80	95.73	0.39
amo1	583	Max WS	SPSA	3404.40	37.08	48.68		49.42	0.000781	3.83	892.74	95.71	0.40
amo1	583	Max WS	SPSP	3427.62	37.08	48.73		49.48	0.000778	3.83	897.78	95.71	0.40
amo1	582.999			Lat Struct									
amo1	582	Max WS	SASA	3483.12	37.79	48.81		49.55	0.000783	3.81	914.61	99.04	0.40
amo1	582	Max WS	SASP	3566.78	37.79	49.08		49.81	0.000747	3.80	940.85	99.14	0.39
amo1	582	Max WS	SPSA	3404.40	37.79	48.62		49.36	0.000802	3.81	895.57	98.96	0.40
amo1	582	Max WS	SPSP	3427.62	37.79	48.67		49.41	0.000797	3.81	900.82	98.98	0.40
amo1	581	Max WS	SASA	3483.12	39.15	48.77		49.54	0.000737	3.89	895.99	97.85	0.41
amo1	581	Max WS	SASP	3566.78	39.15	49.03		49.80	0.000702	3.87	922.11	97.85	0.40
amo1	581	Max WS	SPSA	3404.40	39.15	48.57		49.34	0.000756	3.88	877.08	97.85	0.41
amo1	581	Max WS	SPSP	3427.61	39.15	48.63		49.40	0.000751	3.89	882.30	97.85	0.41
amo1	580.3	Max WS	SASA	3483.11	39.13	48.23	45.06	49.41	0.001173	4.83	723.07	94.15	0.52
amo1	580.3	Max WS	SASP	3566.78	39.13	48.51	45.16	49.68	0.001110	4.79	745.75	94.15	0.51
amo1	580.3	Max WS	SPSA	3404.40	39.13	48.03	44.97	49.22	0.001206	4.82	707.30	94.15	0.52
amo1	580.3	Max WS	SPSP	3427.61	39.13	48.09	45.00	49.27	0.001198	4.83	711.59	94.15	0.52
amo1	580.2			Bridge									
amo1	580.1	Max WS	SASA	3483.09	39.13	47.12		48.67	0.001838	5.53	632.60	94.15	0.63
amo1	580.1	Max WS	SASP	3566.78	39.13	47.33		48.88	0.001760	5.51	650.14	94.15	0.62
amo1	580.1	Max WS	SPSA	3404.39	39.13	46.99		48.52	0.001856	5.49	622.16	94.15	0.63
amo1	580.1	Max WS	SPSP	3427.60	39.13	47.02		48.56	0.001855	5.51	624.74	94.15	0.63
amo1	579	Max WS	SASA	3483.11	38.58	47.73		48.65	0.001124	4.25	830.97	99.97	0.47
amo1	579	Max WS	SASP	3566.78	38.58	47.94		48.85	0.001086	4.25	851.72	99.97	0.46
amo1	579	Max WS	SPSA	3404.40	38.58	47.60		48.50	0.001134	4.23	817.41	99.97	0.47
amo1	579	Max WS	SPSP	3427.61	38.58	47.63		48.54	0.001133	4.24	820.95	99.97	0.47
amo1	578.999			Lat Struct									
amo1	578	Max WS	SASA	3483.11	36.01	47.85		48.62	0.000877	3.89	896.34	101.45	0.42
amo1	578	Max WS	SASP	3566.77	36.01	48.06		48.83	0.000852	3.90	917.21	101.45	0.41
amo1	578	Max WS	SPSA	3404.40	36.01	47.71		48.47	0.000883	3.86	882.49	101.44	0.42
amo1	578	Max WS	SPSP	3427.61	36.01	47.75		48.51	0.000883	3.87	886.11	101.45	0.42
amo1	577	Max WS	SASA	3483.10	37.61	47.72		48.55	0.000994	4.03	864.71	102.53	0.44
amo1	577	Max WS	SASP	3566.77	37.61	47.93		48.76	0.000961	4.03	886.31	102.53	0.44
amo1	577	Max WS	SPSA	3404.40	37.61	47.58		48.40	0.001003	4.00	850.65	102.23	0.44
amo1	577	Max WS	SPSP	3427.60	37.61	47.62		48.44	0.001003	4.01	854.33	102.23	0.44
amo1	576	Max WS	SASA	3483.10	38.33	47.58		48.43	0.001134	4.10	849.45	107.04	0.46
amo1	576	Max WS	SASP	3566.77	38.33	47.79		48.65	0.001086	4.09	872.94	107.06	0.46
amo1	576	Max WS	SPSA	3404.40	38.33	47.43		48.28	0.001150	4.08	834.35	107.03	0.47
amo1	576	Max WS	SPSP	3427.61	38.33	47.47		48.32	0.001148	4.09	838.23	107.04	0.47
amo1	575	Max WS	SASA	3483.10	38.74	47.58		48.41	0.000895	4.05	861.28	103.01	0.45
amo1	575	Max WS	SASP	3566.77	38.74	47.80		48.63	0.000862	4.04	883.70	103.02	0.44
amo1	575	Max WS	SPSA	3404.40	38.74	47.44		48.26	0.000904	4.02	846.90	103.00	0.45
amo1	575	Max WS	SPSP	3427.61	38.74	47.48		48.30	0.000904	4.03	850.61	103.01	0.45
amo1	574.3	Max WS	SASA	3483.10	38.72	46.86	44.68	48.36	0.001932	5.43	641.76	98.28	0.62
amo1	574.3	Max WS	SASP	3566.77	38.72	47.09	44.78	48.57	0.001848	5.40	660.37	98.28	0.60
amo1	574.3	Max WS	SPSA	3404.39	38.72	46.73	44.60	48.21	0.001948	5.39	631.13	98.28	0.62
amo1	574.3	Max WS	SPSP	3427.60	38.72	46.76	44.62	48.25	0.001949	5.41	633.70	98.28	0.62
amo1	574.2			Bridge									
amo1	574.1	Max WS	SASA	3483.10	38.72	45.34		47.64	0.003850	6.72	518.31	98.27	0.85
amo1	574.1	Max WS	SASP	3566.76	38.72	45.44		47.78	0.003838	6.77	526.48	98.27	0.85
amo1	574.1	Max WS	SPSA	3404.39	38.72	45.26		47.51	0.003840	6.66	511.44	98.27	0.85
amo1	574.1	Max WS	SPSP	3427.60	38.72	45.28		47.55	0.003842	6.68	513.50	98.27	0.85
amo1	573	Max WS	SASA	3483.10	38.43	46.27		47.35	0.001569	4.61	757.19	103.91	0.54
amo1	573	Max WS	SASP	3566.76	38.43	46.38		47.48	0.001561	4.65	769.19	103.91	0.54
amo1	573	Max WS	SPSA	3404.40	38.43	46.17		47.23	0.001566	4.56	747.25	103.91	0.54
amo1	573	Max WS	SPSP	3427.60	38.43	46.20		47.27	0.001566	4.58	750.25	103.91	0.54
amo1	572.999			Lat Struct									
amo1	572.998			Lat Struct									
amo1	572	Max WS	SASA	3483.10	39.12	45.97		47.32	0.002569	5.15	677.92	112.13	0.67
amo1	572	Max WS	SASP	3566.76	39.12	46.09		47.45	0.002519	5.16	691.73	112.15	0.66
amo1	572	Max WS	SPSA	3404.39	39.12	45.87		47.20	0.002593	5.11	666.74	112.11	0.67
amo1	572	Max WS	SPSP	3427.60	39.12	45.90		47.24	0.002585	5.12	670.13	112.12	0.67
amo1	571	Max WS	SASA	3483.10	37.08	46.28		47.08	0.001204	3.94	884.25	123.29	0.47
amo1	571	Max WS	SASP	3566.76	37.08	46.41		47.21	0.001190	3.97	900.03	123.32	0.47
amo1	571	Max WS	SPSA	3404.39	37.08	46.18		46.96	0.001208	3.91	871.24	123.26	0.47
amo1	571	Max WS	SPSP	3427.60	37.08	46.21		46.99	0.001206	3.92	875.19	123.27	0.47
amo1	570	Max WS	SASA	3483.09	37.17	46.34		46.97	0.000915	3.52	992.86	133.23	0.41
amo1	570	Max WS	SASP	3566.76	37.17	46.47		47.11	0.000906	3.54	1010.24	133.26	0.41
amo1	570	Max WS	SPSA	3404.39	37.17	46.23		46.85	0.000918	3.49	978.45	133.20	0.41
amo1	570	Max WS	SPSP	3427.60	37.17	46.26		46.89	0.000917	3.50	982.79	133.21	0.41
amo1	569	Max WS	SASA	3483.09	36.62	46.23		46.96	0.001120	3.77	926.00	133.60	0.46
amo1	569	Max WS	SASP	3566.76	36.62	46.36		47.09	0.001103	3.79	943.55	133.62	0.45
amo1	569	Max WS	SPSA	3404.39	36.62	46.12		46.84	0.001127	3.75	911.55	133.59	0.46

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	569	Max WS	SPSP	3427.60	36.62	46.16		46.87	0.001124	3.76	915.90	133.59	0.46
amo1	568.25	Max WS	SASA	3483.09	36.62	45.89	43.81	46.93	0.001728	4.53	776.76	133.80	0.56
amo1	568.25	Max WS	SASP	3566.76	36.62	46.02	43.88	47.07	0.001697	4.54	792.36	133.83	0.56
amo1	568.25	Max WS	SPSA	3404.39	36.62	45.79	43.75	46.81	0.001742	4.50	764.26	133.77	0.56
amo1	568.25	Max WS	SPSP	3427.60	36.62	45.82	43.77	46.85	0.001737	4.50	768.05	133.78	0.56
amo1	568			Bridge									
amo1	567.75	Max WS	SASA	3483.08	36.62	44.84		46.32	0.003085	5.39	651.70	133.55	0.73
amo1	567.75	Max WS	SASP	3566.69	36.62	44.90		46.41	0.003133	5.46	658.07	133.57	0.74
amo1	567.75	Max WS	SPSA	3404.29	36.62	44.81		46.23	0.003015	5.30	647.27	133.54	0.72
amo1	567.75	Max WS	SPSP	3427.51	36.62	44.82		46.26	0.003036	5.33	648.58	133.55	0.72
amo1	567	Max WS	SASA	3483.09	35.67	45.55		46.25	0.001117	3.73	938.30	134.98	0.45
amo1	567	Max WS	SASP	3566.75	35.67	45.62		46.34	0.001133	3.78	947.89	134.99	0.45
amo1	567	Max WS	SPSA	3404.36	35.67	45.49		46.18	0.001097	3.67	930.57	134.98	0.45
amo1	567	Max WS	SPSP	3427.59	35.67	45.51		46.20	0.001103	3.69	932.83	134.98	0.45
amo1	566.099			Lat Struct									
amo1	566.098			Lat Struct									
amo1	566	Max WS	SASA	3483.09	34.19	45.84		46.23	0.000447	2.74	1271.89	138.55	0.29
amo1	566	Max WS	SASP	3566.76	34.19	45.92		46.32	0.000456	2.79	1282.71	138.57	0.29
amo1	566	Max WS	SPSA	3404.39	34.19	45.78		46.15	0.000437	2.70	1262.86	138.54	0.28
amo1	566	Max WS	SPSP	3427.59	34.19	45.80		46.17	0.000440	2.71	1265.52	138.55	0.29
amo1	564.2	Max WS	SASA	3483.09	36.30	45.74	41.01	46.13	0.000437	2.78	1255.14	150.84	0.31
amo1	564.2	Max WS	SASP	3566.75	36.30	45.82	41.07	46.22	0.000444	2.82	1266.68	150.86	0.31
amo1	564.2	Max WS	SPSA	3404.37	36.30	45.68	40.95	46.06	0.000428	2.74	1245.53	150.83	0.30
amo1	564.2	Max WS	SPSP	3427.58	36.30	45.70	40.97	46.08	0.000431	2.75	1248.38	150.83	0.30
amo1	564.15			Int Struct									
amo1	564.1	Max WS	SASA	3483.06	33.67	45.39		45.66	0.000248	2.31	1506.14	157.67	0.24
amo1	564.1	Max WS	SASP	3566.72	33.67	45.50		45.77	0.000251	2.34	1523.54	157.67	0.24
amo1	564.1	Max WS	SPSA	3404.11	33.67	45.28		45.54	0.000246	2.29	1489.03	157.66	0.24
amo1	564.1	Max WS	SPSP	3427.40	33.67	45.31		45.58	0.000247	2.30	1493.98	157.66	0.24
amo1	564.099			Lat Struct									
amo1	564.098			Lat Struct									
amo1	564	Max WS	SASA	3483.06	30.54	45.47		45.64	0.000129	1.82	1925.10	164.44	0.17
amo1	564	Max WS	SASP	3566.72	30.54	45.58		45.75	0.000131	1.85	1943.50	164.48	0.17
amo1	564	Max WS	SPSA	3404.18	30.54	45.36		45.52	0.000127	1.80	1907.01	164.41	0.17
amo1	564	Max WS	SPSP	3427.43	30.54	45.39		45.56	0.000128	1.81	1912.27	164.42	0.17
amo1	563	Max WS	SASA	3483.06	29.08	45.45		45.63	0.000154	1.91	1825.65	162.85	0.18
amo1	563	Max WS	SASP	3566.70	29.08	45.56		45.75	0.000156	1.94	1843.76	162.88	0.18
amo1	563	Max WS	SPSA	3404.11	29.08	45.34		45.52	0.000152	1.89	1807.78	162.82	0.18
amo1	563	Max WS	SPSP	3427.43	29.08	45.37		45.55	0.000152	1.90	1812.94	162.83	0.18
amo1	562.25	Max WS	SASA	3483.05	30.96	45.38	38.56	45.64	0.000201	2.29	1569.86	163.39	0.22
amo1	562.25	Max WS	SASP	3566.71	30.96	45.49	38.62	45.75	0.000204	2.32	1586.66	163.53	0.22
amo1	562.25	Max WS	SPSA	3404.13	30.96	45.27	38.49	45.52	0.000199	2.26	1553.31	163.25	0.22
amo1	562.25	Max WS	SPSP	3427.41	30.96	45.30	38.51	45.56	0.000200	2.27	1558.11	163.29	0.22
amo1	562			Bridge									
amo1	561.75	Max WS	SASA	3483.06	30.96	45.35		45.61	0.000203	2.29	1565.99	163.35	0.22
amo1	561.75	Max WS	SASP	3566.71	30.96	45.46		45.73	0.000206	2.33	1582.18	163.49	0.22
amo1	561.75	Max WS	SPSA	3404.16	30.96	45.25		45.50	0.000200	2.26	1550.01	163.22	0.22
amo1	561.75	Max WS	SPSP	3427.39	30.96	45.28		45.53	0.000201	2.27	1554.62	163.26	0.22
amo1	561	Max WS	SASA	3483.05	30.96	45.39		45.61	0.000199	2.07	1688.42	163.27	0.20
amo1	561	Max WS	SASP	3566.71	30.96	45.50		45.72	0.000202	2.10	1705.89	163.28	0.21
amo1	561	Max WS	SPSA	3404.16	30.96	45.29		45.50	0.000197	2.04	1671.21	163.27	0.20
amo1	561	Max WS	SPSP	3427.39	30.96	45.32		45.53	0.000198	2.05	1676.18	163.27	0.20
amo1	560.999			Lat Struct									
amo1	560.998			Lat Struct									
amo1	560	Max WS	SASA	3483.07	30.42	45.38		45.61	0.000252	2.11	1677.73	167.04	0.20
amo1	560	Max WS	SASP	3566.71	30.42	45.49		45.72	0.000256	2.13	1695.55	167.05	0.21
amo1	560	Max WS	SPSA	3404.16	30.42	45.28		45.50	0.000249	2.08	1660.11	167.02	0.20
amo1	560	Max WS	SPSP	3427.41	30.42	45.31		45.53	0.000250	2.09	1665.20	167.03	0.20
amo1	559	Max WS	SASA	3483.04	30.06	45.28		45.58	0.000342	2.40	1459.46	155.52	0.24
amo1	559	Max WS	SASP	3566.71	30.06	45.39		45.69	0.000347	2.43	1475.75	157.14	0.24
amo1	559	Max WS	SPSA	3404.15	30.06	45.18		45.46	0.000338	2.37	1443.47	153.92	0.24
amo1	559	Max WS	SPSP	3427.37	30.06	45.21		45.50	0.000339	2.38	1448.03	154.38	0.24
amo1	558.998			Lat Struct									
amo1	558	Max WS	SASA	3483.05	30.24	45.30		45.55	0.000250	2.21	1595.32	145.60	0.21
amo1	558	Max WS	SASP	3566.71	30.24	45.40		45.66	0.000255	2.24	1610.59	145.74	0.21
amo1	558	Max WS	SPSA	3404.11	30.24	45.20		45.44	0.000247	2.18	1580.24	145.45	0.21
amo1	558	Max WS	SPSP	3427.39	30.24	45.23		45.47	0.000248	2.19	1584.58	145.49	0.21
amo1	557	Max WS	SASA	3483.05	31.45	45.25		45.52	0.000293	2.30	1531.50	147.48	0.22
amo1	557	Max WS	SASP	3566.70	31.45	45.36		45.63	0.000298	2.33	1546.83	147.51	0.22

Reach	River Sta	Profile	Plan	Q Total (m³/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m²)	Top Width (m)	Froude # Chl
arno1	557	Max WS	SPSA	3404.13	31.45	45.15		45.41	0.000289	2.27	1516.30	147.44	0.22
arno1	557	Max WS	SPSP	3427.38	31.45	45.18		45.44	0.000291	2.27	1520.71	147.45	0.22
arno1	556	Max WS	SASA	3483.04	32.33	45.20		45.49	0.000321	2.38	1477.29	146.16	0.23
arno1	556	Max WS	SASP	3566.70	32.33	45.31		45.60	0.000326	2.41	1492.35	146.18	0.23
arno1	556	Max WS	SPSA	3404.10	32.33	45.10		45.38	0.000317	2.35	1462.36	146.14	0.23
arno1	556	Max WS	SPSP	3427.35	32.33	45.13		45.41	0.000318	2.36	1466.64	146.14	0.23
arno1	555	Max WS	SASA	3483.05	32.39	45.15		45.46	0.000365	2.49	1412.36	142.71	0.24
arno1	555	Max WS	SASP	3566.70	32.39	45.25		45.57	0.000370	2.52	1426.90	142.85	0.25
arno1	555	Max WS	SPSA	3404.09	32.39	45.04		45.35	0.000360	2.46	1397.93	142.58	0.24
arno1	555	Max WS	SPSP	3427.35	32.39	45.07		45.38	0.000361	2.47	1402.10	142.62	0.24
arno1	554	Max WS	SASA	3483.04	32.02	45.10		45.42	0.000379	2.53	1386.88	140.29	0.25
arno1	554	Max WS	SASP	3566.70	32.02	45.20		45.53	0.000385	2.57	1401.03	140.38	0.25
arno1	554	Max WS	SPSA	3404.12	32.02	45.00		45.32	0.000374	2.50	1372.81	140.20	0.25
arno1	554	Max WS	SPSP	3427.35	32.02	45.03		45.35	0.000375	2.51	1376.83	140.23	0.25
arno1	553	Max WS	SASA	3483.04	32.16	45.05		45.39	0.000379	2.58	1353.63	128.90	0.25
arno1	553	Max WS	SASP	3566.69	32.16	45.15		45.50	0.000385	2.61	1366.48	128.91	0.26
arno1	553	Max WS	SPSA	3404.09	32.16	44.95		45.28	0.000374	2.54	1340.82	128.89	0.25
arno1	553	Max WS	SPSP	3427.34	32.16	44.98		45.31	0.000376	2.55	1344.51	128.89	0.25
arno1	552	Max WS	SASA	3483.04	31.66	44.73	39.90	45.39	0.000643	3.60	967.62	118.79	0.37
arno1	552	Max WS	SASP	3566.70	31.66	44.82	39.98	45.50	0.000654	3.65	976.45	118.79	0.37
arno1	552	Max WS	SPSA	3404.07	31.66	44.64	39.82	45.28	0.000633	3.55	958.79	118.79	0.36
arno1	552	Max WS	SPSP	3427.34	31.66	44.66	39.84	45.31	0.000636	3.57	961.32	118.79	0.36
arno1	551			Bridge									
arno1	550	Max WS	SASA	3483.04	33.80	44.00		44.91	0.001074	4.21	826.73	117.83	0.46
arno1	550	Max WS	SASP	3566.69	33.80	44.05		44.99	0.001103	4.29	831.85	117.83	0.47
arno1	550	Max WS	SPSA	3403.82	33.80	43.94		44.82	0.001049	4.15	821.13	117.82	0.46
arno1	550	Max WS	SPSP	3427.19	33.80	43.96		44.85	0.001057	4.17	822.71	117.83	0.46
arno1	549.099			Lat Struct									
arno1	549.098			Lat Struct									
arno1	549	Max WS	SASA	3483.04	30.51	44.50		44.86	0.000436	2.67	1304.60	128.73	0.27
arno1	549	Max WS	SASP	3566.70	30.51	44.57		44.95	0.000447	2.72	1313.70	128.74	0.27

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo1	544.098			Lat Struct									
amo1	544	Max WS	SASA	3320.13	31.58	42.73		43.42	0.001442	3.69	899.81	131.59	0.45
amo1	544	Max WS	SASP	3376.36	31.58	42.78		43.48	0.001460	3.73	905.79	131.68	0.45
amo1	544	Max WS	SPSA	3261.91	31.58	42.67		43.35	0.001429	3.66	892.12	131.48	0.45
amo1	544	Max WS	SPSP	3279.26	31.58	42.69		43.37	0.001435	3.67	893.96	131.51	0.45
amo1	543.2	Max WS	SASA	3308.70	31.58	42.74	38.45	43.32	0.001256	3.37	982.21	154.17	0.42
amo1	543.2	Max WS	SASP	3362.04	31.58	42.79	38.51	43.38	0.001267	3.40	989.87	154.25	0.42
amo1	543.2	Max WS	SPSA	3253.89	31.58	42.67	38.39	43.25	0.001253	3.35	972.52	152.93	0.42
amo1	543.2	Max WS	SPSP	3270.68	31.58	42.69	38.41	43.26	0.001257	3.36	974.80	153.26	0.42
amo1	543.15			Inl Struct									
amo1	543.1	Max WS	SASA	3308.58	28.75	42.36		42.68	0.000441	2.53	1314.88	151.07	0.26
amo1	543.1	Max WS	SASP	3361.97	28.75	42.39		42.73	0.000450	2.56	1320.79	152.31	0.26
amo1	543.1	Max WS	SPSA	3235.66	28.75	42.29		42.61	0.000431	2.49	1305.14	149.21	0.26
amo1	543.1	Max WS	SPSP	3250.68	28.75	42.30		42.62	0.000434	2.50	1306.55	149.29	0.26
amo1	543.099			Lat Struct									
amo1	543.098			Lat Struct									
amo1	543	Max WS	SASA	3308.57	27.27	42.35		42.64	0.000383	2.42	1377.31	168.75	0.25
amo1	543	Max WS	SASP	3361.96	27.27	42.38		42.69	0.000391	2.45	1384.03	174.13	0.25
amo1	543	Max WS	SPSA	3235.45	27.27	42.28		42.57	0.000374	2.38	1366.46	165.47	0.24
amo1	543	Max WS	SPSP	3250.91	27.27	42.29		42.58	0.000377	2.39	1368.08	165.96	0.24
amo1	542.998			Lat Struct									
amo1	542	Max WS	SASA	3284.45	26.27	42.20		42.53	0.000459	2.56	1314.53	200.93	0.27
amo1	542	Max WS	SASP	3327.26	26.27	42.24		42.58	0.000464	2.58	1322.74	200.93	0.27
amo1	542	Max WS	SPSA	3222.53	26.27	42.13		42.46	0.000453	2.53	1301.00	200.93	0.26
amo1	542	Max WS	SPSP	3235.50	26.27	42.14		42.47	0.000455	2.54	1302.90	200.93	0.26
amo1	541.999			Lat Struct									
amo1	541	Max WS	SASA	3206.54	27.92	41.94		42.33	0.000573	2.77	1171.97	166.96	0.30
amo1	541	Max WS	SASP	3245.89	27.92	41.97		42.37	0.000579	2.79	1178.54	166.96	0.30
amo1	541	Max WS	SPSA	3141.37	27.92	41.88		42.26	0.000563	2.73	1161.95	166.68	0.29
amo1	541	Max WS	SPSP	3147.95	27.92	41.89		42.27	0.000563	2.73	1163.83	166.96	0.29
amo1	540.998			Lat Struct									
amo1	540	Max WS	SASA	3262.65	25.32	41.77		42.16	0.000551	2.77	1207.38	178.90	0.29
amo1	540	Max WS	SASP	3296.44	25.32	41.81		42.20	0.000554	2.78	1214.74	178.90	0.29
amo1	540	Max WS	SPSA	3189.93	25.32	41.71		42.09	0.000537	2.72	1198.00	178.90	0.29
amo1	540	Max WS	SPSP	3197.71	25.32	41.73		42.10	0.000538	2.72	1199.96	178.90	0.29
amo1	539	Max WS	SASA	3284.20	25.87	41.70		42.00	0.000385	2.42	1368.95	171.94	0.25
amo1	539	Max WS	SASP	3322.99	25.87	41.74		42.04	0.000388	2.44	1375.55	171.94	0.25
amo1	539	Max WS	SPSA	3203.01	25.87	41.65		41.94	0.000372	2.37	1360.98	171.94	0.24
amo1	539	Max WS	SPSP	3212.22	25.87	41.66		41.95	0.000372	2.38	1362.76	171.94	0.24
amo1	538.998			Lat Struct									
amo1	538.9			Lat Struct									
amo1	538.6	Max WS	SASA	3187.04	25.57	41.78		41.91	0.000145	1.61	1984.33	179.40	0.15
amo1	538.6	Max WS	SASP	3240.37	25.57	41.82		41.95	0.000148	1.63	1990.89	179.41	0.16
amo1	538.6	Max WS	SPSA	3088.31	25.57	41.74		41.86	0.000138	1.56	1976.24	179.39	0.15
amo1	538.6	Max WS	SPSP	3100.22	25.57	41.75		41.87	0.000139	1.57	1978.04	179.39	0.15
amo1	538.5	Max WS	SASA	3187.04	25.57	41.78		41.91	0.000145	1.61	1984.33	179.40	0.15
amo1	538.5	Max WS	SASP	3240.39	25.57	41.82		41.95	0.000149	1.63	1990.84	179.41	0.16
amo1	538.5	Max WS	SPSA	3088.37	25.57	41.74		41.86	0.000138	1.56	1976.18	179.39	0.15
amo1	538.5	Max WS	SPSP	3100.22	25.57	41.75		41.87	0.000139	1.57	1977.99	179.39	0.15
amo2	538.4	Max WS	SASA	3304.48	25.57	41.78		41.92	0.000156	1.67	1984.33	179.40	0.16
amo2	538.4	Max WS	SASP	3359.60	25.57	41.82		41.96	0.000160	1.69	1990.84	179.41	0.16
amo2	538.4	Max WS	SPSA	3196.17	25.57	41.74		41.87	0.000148	1.62	1976.18	179.39	0.16
amo2	538.4	Max WS	SPSP	3209.98	25.57	41.75		41.88	0.000149	1.62	1977.99	179.39	0.16
amo2	538.3	Max WS	SASA	3304.55	25.57	41.78	32.36	41.92	0.000156	1.67	1984.05	179.40	0.16
amo2	538.3	Max WS	SASP	3359.61	25.57	41.82	32.42	41.96	0.000160	1.69	1990.56	179.41	0.16
amo2	538.3	Max WS	SPSA	3196.09	25.57	41.74	32.26	41.87	0.000148	1.62	1975.91	179.39	0.16
amo2	538.3	Max WS	SPSP	3209.98	25.57	41.75	32.27	41.88	0.000149	1.62	1977.71	179.39	0.16
amo2	538.2			Bridge									
amo2	538.1	Max WS	SASA	3304.55	25.57	41.76		41.90	0.000157	1.67	1982.42	179.39	0.16
amo2	538.1	Max WS	SASP	3359.61	25.57	41.79		41.94	0.000160	1.69	1988.92	179.41	0.16
amo2	538.1	Max WS	SPSA	3196.17	25.57	41.71		41.85	0.000148	1.62	1974.38	179.38	0.16
amo2	538.1	Max WS	SPSP	3209.98	25.57	41.72		41.86	0.000149	1.62	1976.18	179.38	0.16
amo2	538.099			Lat Struct									
amo2	538.098			Lat Struct									
amo2	538	Max WS	SASA	3303.01	25.57	41.74		41.90	0.000215	1.77	1885.05	245.70	0.18
amo2	538	Max WS	SASP	3357.95	25.57	41.77		41.94	0.000220	1.80	1893.89	245.95	0.19
amo2	538	Max WS	SPSA	3194.79	25.57	41.69		41.84	0.000205	1.72	1874.32	243.30	0.18
amo2	538	Max WS	SPSP	3208.64	25.57	41.70		41.85	0.000206	1.73	1876.69	243.83	0.18

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo2	537.998			Lat Struct									
amo2	537	Max WS	SASA	3161.29	23.92	41.58		41.84	0.000278	2.27	1443.14	162.59	0.21
amo2	537	Max WS	SASP	3221.95	23.92	41.61		41.88	0.000286	2.31	1447.85	162.59	0.21
amo2	537	Max WS	SPSA	3047.18	23.92	41.55		41.79	0.000261	2.19	1438.03	162.59	0.20
amo2	537	Max WS	SPSP	3061.71	23.92	41.56		41.80	0.000263	2.20	1439.42	162.59	0.21
amo2	536.598			Lat Struct									
amo2	536.099			Lat Struct									
amo2	536	Max WS	SASA	3077.39	24.40	41.55		41.76	0.000201	2.05	1590.18	166.33	0.18
amo2	536	Max WS	SASP	3139.98	24.40	41.58		41.79	0.000208	2.08	1594.70	166.83	0.19
amo2	536	Max WS	SPSA	2959.07	24.40	41.52		41.72	0.000187	1.97	1585.67	165.84	0.18
amo2	536	Max WS	SPSP	2973.86	24.40	41.53		41.73	0.000189	1.98	1587.09	165.99	0.18
amo2	535.999			Lat Struct									
amo2	535	Max WS	SASA	3089.18	25.14	41.46		41.68	0.000248	2.13	1536.44	179.98	0.20
amo2	535	Max WS	SASP	3141.64	25.14	41.48		41.71	0.000254	2.16	1541.38	179.98	0.21
amo2	535	Max WS	SPSA	2995.76	25.14	41.43		41.64	0.000235	2.07	1531.28	179.98	0.20
amo2	535	Max WS	SPSP	3009.52	25.14	41.43		41.65	0.000237	2.08	1532.71	179.98	0.20
amo2	534.3	Max WS	SASA	3530.82	24.65	41.38		41.56	0.000176	1.93	1988.34	204.60	0.17
amo2	534.3	Max WS	SASP	3588.85	24.65	41.41		41.59	0.000181	1.96	1993.64	204.84	0.17
amo2	534.3	Max WS	SPSA	3433.92	24.65	41.36		41.53	0.000168	1.88	1982.85	204.35	0.17
amo2	534.3	Max WS	SPSP	3450.17	24.65	41.36		41.54	0.000169	1.89	1984.35	204.42	0.17
amo2	534.2	Max WS	SASA	3530.75	24.65	41.38		41.56	0.000176	1.93	1988.34	204.60	0.17
amo2	534.2	Max WS	SASP	3588.85	24.65	41.41		41.59	0.000181	1.96	1993.58	204.84	0.17
amo2	534.2	Max WS	SPSA	3433.98	24.65	41.36		41.53	0.000168	1.88	1982.85	204.35	0.17
amo2	534.2	Max WS	SPSP	3450.11	24.65	41.36		41.54	0.000169	1.89	1984.35	204.42	0.17
amo3	534.1	Max WS	SASA	3922.12	24.65	41.38		41.61	0.000217	2.14	1988.34	204.60	0.19
amo3	534.1	Max WS	SASP	3991.37	24.65	41.41		41.64	0.000223	2.18	1993.58	204.84	0.19
amo3	534.1	Max WS	SPSA	3853.96	24.65	41.36		41.57	0.000211	2.11	1982.85	204.35	0.19
amo3	534.1	Max WS	SPSP	3872.49	24.65	41.36		41.58	0.000213	2.12	1984.35	204.42	0.19
amo3	534	Max WS	SASA	3922.13	24.65	41.38		41.61	0.000217	2.14	1988.28	204.60	0.19
amo3	534	Max WS	SASP	3991.36	24.65	41.41		41.64	0.000223	2.18	1993.58	204.84	0.19
amo3	534	Max WS	SPSA	3853.95	24.65	41.36		41.57	0.000211	2.11	1982.79	204.35	0.19
amo3	534	Max WS	SPSP	3872.47	24.65	41.36		41.58	0.000213	2.12	1984.29	204.42	0.19
amo3	533.999			Lat Struct									
amo3	533.998			Lat Struct									
amo3	533	Max WS	SASA	3890.33	24.67	41.29		41.55	0.000250	2.26	1803.67	195.26	0.21
amo3	533	Max WS	SASP	3954.66	24.67	41.32		41.58	0.000257	2.30	1808.38	195.41	0.22
amo3	533	Max WS	SPSA	3826.93	24.67	41.27		41.52	0.000244	2.23	1798.68	195.11	0.21
amo3	533	Max WS	SPSP	3844.20	24.67	41.27		41.52	0.000246	2.24	1800.04	195.15	0.21
amo3	532	Max WS	SASA	3860.02	26.26	41.20		41.48	0.000292	2.36	1719.03	197.25	0.23
amo3	532	Max WS	SASP	3920.86	26.26	41.22		41.51	0.000300	2.39	1723.48	197.29	0.23
amo3	532	Max WS	SPSA	3800.21	26.26	41.18		41.45	0.000286	2.33	1714.29	197.21	0.22
amo3	532	Max WS	SPSP	3816.53	26.26	41.18		41.46	0.000288	2.34	1715.61	197.22	0.23
amo3	531	Max WS	SASA	3796.53	25.08	41.12		41.36	0.000265	2.18	1808.87	202.39	0.21
amo3	531	Max WS	SASP	3851.24	25.08	41.14		41.39	0.000271	2.21	1813.37	202.39	0.21
amo3	531	Max WS	SPSA	3742.81	25.08	41.10		41.33	0.000260	2.16	1804.12	202.34	0.21
amo3	531	Max WS	SPSP	3757.48	25.08	41.10		41.34	0.000261	2.16	1805.41	202.39	0.21
amo3	530	Max WS	SASA	3782.62	24.87	41.06		41.33	0.000283	2.33	1712.19	200.77	0.22
amo3	530	Max WS	SASP	3834.89	24.87	41.08		41.36	0.000289	2.35	1716.47	200.84	0.22
amo3	530	Max WS	SPSA	3730.93	24.87	41.03		41.30	0.000277	2.30	1707.60	200.63	0.22
amo3	530	Max WS	SPSP	3745.10	24.87	41.04		41.31	0.000279	2.31	1708.88	200.67	0.22
amo3	529	Max WS	SASA	3778.64	25.74	40.94		41.23	0.000316	2.39	1678.53	200.42	0.23
amo3	529	Max WS	SASP	3827.93	25.74	40.96		41.25	0.000322	2.42	1682.56	200.42	0.23
amo3	529	Max WS	SPSA	3729.23	25.74	40.92		41.20	0.000310	2.37	1674.38	200.19	0.23
amo3	529	Max WS	SPSP	3742.81	25.74	40.93		41.21	0.000312	2.37	1675.48	200.26	0.23
amo3	528.3	Max WS	SASA	3777.18	24.98	40.83	33.38	41.17	0.000370	2.60	1549.25	197.53	0.25
amo3	528.3	Max WS	SASP	3825.91	24.98	40.85	33.43	41.19	0.000377	2.63	1552.48	197.91	0.25
amo3	528.3	Max WS	SPSA	3728.25	24.98	40.81	33.33	41.14	0.000362	2.57	1545.86	197.14	0.24
amo3	528.3	Max WS	SPSP	3741.78	24.98	40.82	33.35	41.15	0.000364	2.58	1546.75	197.24	0.24
amo3	528.2			Bridge									
amo3	528.1	Max WS	SASA	3777.22	24.15	40.84		41.16	0.000350	2.56	1578.92	198.40	0.24
amo3	528.1	Max WS	SASP	3825.90	24.15	40.86		41.19	0.000357	2.58	1582.17	198.42	0.24
amo3	528.1	Max WS	SPSA	3728.27	24.15	40.82		41.14	0.000343	2.53	1575.40	198.37	0.24
amo3	528.1	Max WS	SPSP	3741.76	24.15	40.83		41.14	0.000345	2.54	1576.35	198.38	0.24
amo3	528.099			Lat Struct									
amo3	528.098			Lat Struct									
amo3	528	Max WS	SASA	3777.21	25.93	40.86		41.14	0.000304	2.41	1696.68	201.31	0.22
amo3	528	Max WS	SASP	3825.92	25.93	40.88		41.17	0.000310	2.44	1700.42	201.31	0.23
amo3	528	Max WS	SPSA	3728.34	25.93	40.84		41.12	0.000298	2.39	1692.81	201.29	0.22
amo3	528	Max WS	SPSP	3741.78	25.93	40.84		41.12	0.000299	2.39	1693.85	201.30	0.22
amo3	527	Max WS	SASA	3776.29	25.69	40.78		41.05	0.000334	2.35	1669.14	203.40	0.23

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo3	527	Max WS	SASP	3824.75	25.69	40.79		41.08	0.000341	2.37	1672.55	203.40	0.24
amo3	527	Max WS	SPSA	3728.15	25.69	40.76		41.03	0.000328	2.32	1665.48	203.40	0.23
amo3	527	Max WS	SPSP	3741.57	25.69	40.76		41.04	0.000329	2.33	1666.47	203.40	0.23
amo3	526	Max WS	SASA	3771.67	26.21	40.67		40.97	0.000333	2.43	1659.22	202.83	0.23
amo3	526	Max WS	SASP	3818.35	26.21	40.69		40.99	0.000340	2.45	1662.25	202.83	0.24
amo3	526	Max WS	SPSA	3725.13	26.21	40.66		40.94	0.000327	2.40	1655.88	202.83	0.23
amo3	526	Max WS	SPSP	3738.10	26.21	40.66		40.95	0.000329	2.41	1656.75	202.83	0.23
amo3	525	Max WS	SASA	3754.72	25.88	40.51		40.82	0.000383	2.50	1602.53	204.31	0.25
amo3	525	Max WS	SASP	3798.43	25.88	40.53		40.84	0.000390	2.52	1605.15	204.31	0.25
amo3	525	Max WS	SPSA	3711.38	25.88	40.50		40.80	0.000376	2.47	1599.60	204.31	0.25
amo3	525	Max WS	SPSP	3723.56	25.88	40.50		40.81	0.000378	2.48	1600.35	204.31	0.25
amo3	524	Max WS	SASA	3719.67	24.41	40.46		40.73	0.000294	2.30	1722.91	203.55	0.22
amo3	524	Max WS	SASP	3759.46	24.41	40.48		40.74	0.000299	2.32	1725.51	203.55	0.22
amo3	524	Max WS	SPSA	3680.39	24.41	40.45		40.71	0.000289	2.28	1719.93	203.55	0.22
amo3	524	Max WS	SPSP	3691.53	24.41	40.45		40.71	0.000290	2.28	1720.67	203.55	0.22
amo3	523.999			Lat Struct									
amo3	523	Max WS	SASA	3705.67	24.42	40.34		40.68	0.000368	2.66	1516.31	184.44	0.25
amo3	523	Max WS	SASP	3744.20	24.42	40.35		40.70	0.000374	2.68	1518.33	184.46	0.25
amo3	523	Max WS	SPSA	3667.68	24.42	40.33		40.67	0.000362	2.64	1514.00	184.42	0.24
amo3	523	Max WS	SPSP	3678.52	24.42	40.33		40.67	0.000364	2.64	1514.62	184.43	0.24
amo3	522	Max WS	SASA	3680.93	24.48	40.26		40.54	0.000330	2.43	1636.70	191.85	0.23
amo3	522	Max WS	SASP	3716.97	24.48	40.27		40.56	0.000335	2.45	1638.63	191.87	0.24
amo3	522	Max WS	SPSA	3645.76	24.48	40.24		40.53	0.000325	2.41	1634.36	191.83	0.23
amo3	522	Max WS	SPSP	3656.00	24.48	40.25		40.53	0.000326	2.41	1634.94	191.83	0.23
amo3	521	Max WS	SASA	3622.42	26.12	40.20		40.42	0.000254	2.08	1783.31	196.53	0.21
amo3	521	Max WS	SASP	3655.16	26.12	40.21		40.44	0.000258	2.09	1785.29	196.53	0.21
amo3	521	Max WS	SPSA	3591.25	26.12	40.19		40.41	0.000251	2.06	1780.85	196.53	0.20
amo3	521	Max WS	SPSP	3600.49	26.12	40.19		40.41	0.000252	2.07	1781.45	196.53	0.21
amo3	520	Max WS	SASA	3604.12	25.76	40.13		40.36	0.000266	2.13	1740.31	192.48	0.21
amo3	520	Max WS	SASP	3635.39	25.76	40.14		40.37	0.000270	2.14	1742.07	192.50	0.21
amo3	520	Max WS	SPSA	3574.63	25.76	40.12		40.34	0.000263	2.11	1738.08	192.45	0.21
amo3	520	Max WS	SPSP	3583.48	25.76	40.12		40.35	0.000264	2.12	1738.55	192.46	0.21
amo3	519	Max WS	SASA	3587.99	26.35	40.00		40.25	0.000333	2.25	1671.40	216.87	0.23
amo3	519	Max WS	SASP	3617.72	26.35	40.01		40.26	0.000338	2.27	1673.12	216.94	0.23
amo3	519	Max WS	SPSA	3560.47	26.35	39.99		40.24	0.000329	2.24	1669.15	216.78	0.23
amo3	519	Max WS	SPSP	3568.88	26.35	39.99		40.24	0.000331	2.24	1669.61	216.79	0.23
amo3	518.999			Lat Struct									
amo3	518.998			Lat Struct									
amo3	518	Max WS	SASA	3383.67	23.37	39.87		40.16	0.000325	2.46	1608.24	237.18	0.23
amo3	518	Max WS	SASP	3409.90	23.37	39.88		40.17	0.000329	2.48	1609.83	237.20	0.23
amo3	518	Max WS	SPSA	3361.09	23.37	39.86		40.14	0.000322	2.45	1605.78	237.15	0.23
amo3	518	Max WS	SPSP	3368.58	23.37	39.86		40.14	0.000323	2.45	1606.22	237.15	0.23
amo3	517	Max WS	SASA	3284.26	23.52	39.84		40.10	0.000264	2.38	1688.70	254.47	0.21
amo3	517	Max WS	SASP	3308.76	23.52	39.85		40.11	0.000268	2.40	1690.41	254.47	0.21
amo3	517	Max WS	SPSA	3264.49	23.52	39.83		40.08	0.000262	2.37	1685.99	254.47	0.21
amo3	517	Max WS	SPSP	3271.48	23.52	39.83		40.09	0.000263	2.38	1686.45	254.47	0.21
amo3	516	Max WS	SASA	3175.31	24.62	39.79		40.03	0.000273	2.34	1681.71	239.37	0.21
amo3	516	Max WS	SASP	3197.08	24.62	39.80		40.04	0.000276	2.35	1683.31	239.37	0.21
amo3	516	Max WS	SPSA	3159.98	24.62	39.78		40.02	0.000272	2.33	1679.01	239.37	0.21
amo3	516	Max WS	SPSP	3166.23	24.62	39.79		40.02	0.000273	2.34	1679.44	239.37	0.21
amo3	515	Max WS	SASA	2953.34	22.95	39.62		39.91	0.000314	2.43	1360.72	178.42	0.23
amo3	515	Max WS	SASP	2969.37	22.95	39.63		39.92	0.000317	2.44	1361.81	178.42	0.23
amo3	515	Max WS	SPSA	2949.72	22.95	39.61		39.89	0.000315	2.43	1358.16	178.42	0.23
amo3	515	Max WS	SPSP	2954.34	22.95	39.61		39.89	0.000316	2.44	1358.44	178.42	0.23
amo3	514.3	Max WS	SASA	2893.48	25.47	39.64	32.44	39.84	0.000276	2.10	1679.61	301.63	0.21
amo3	514.3	Max WS	SASP	2907.31	25.47	39.65	32.45	39.85	0.000278	2.11	1681.61	301.63	0.21
amo3	514.3	Max WS	SPSA	2895.06	25.47	39.62	32.44	39.82	0.000278	2.11	1674.71	301.63	0.21
amo3	514.3	Max WS	SPSP	2899.12	25.47	39.62	32.45	39.82	0.000279	2.11	1675.25	301.63	0.21
amo3	514.2			Bridge									
amo3	514.1	Max WS	SASA	2893.46	25.47	39.63		39.83	0.000277	2.10	1678.07	301.63	0.21
amo3	514.1	Max WS	SASP	2907.35	25.47	39.64		39.84	0.000279	2.11	1680.06	301.63	0.21
amo3	514.1	Max WS	SPSA	2895.06	25.47	39.62		39.82	0.000279	2.11	1673.17	301.63	0.21
amo3	514.1	Max WS	SPSP	2899.12	25.47	39.62		39.82	0.000280	2.11	1673.71	301.63	0.21
amo3	514.099			Lat Struct									
amo3	514	Max WS	SASA	2889.02	25.47	39.59		39.82	0.000292	2.18	1500.34	301.63	0.22
amo3	514	Max WS	SASP	2902.66	25.47	39.60		39.83	0.000294	2.18	1501.73	301.63	0.22
amo3	514	Max WS	SPSA	2891.14	25.47	39.58		39.80	0.000295	2.18	1496.71	301.63	0.22
amo3	514	Max WS	SPSP	2895.12	25.47	39.58		39.81	0.000295	2.18	1497.11	301.63	0.22
amo3	513.9	Max WS	SASA	2885.03	25.47	39.58		39.81	0.000293	2.18	1497.24	301.63	0.22
amo3	513.9	Max WS	SASP	2898.44	25.47	39.58		39.81	0.000295	2.19	1498.63	301.63	0.22
amo3	513.9	Max WS	SPSA	2887.66	25.47	39.56		39.79	0.000296	2.18	1493.55	301.63	0.22
amo3	513.9	Max WS	SPSP	2891.58	25.47	39.56		39.79	0.000296	2.19	1493.94	301.63	0.22

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo3	513.8	Max WS	SASA	2885.02	25.47	39.58		39.81	0.000293	2.18	1497.18	301.63	0.22
amo3	513.8	Max WS	SASP	2898.43	25.47	39.58		39.81	0.000295	2.19	1498.56	301.63	0.22
amo3	513.8	Max WS	SPSA	2887.66	25.47	39.56		39.79	0.000296	2.18	1493.48	301.63	0.22
amo3	513.8	Max WS	SPSP	2891.60	25.47	39.56		39.79	0.000296	2.19	1493.88	301.63	0.22
amo4	513.7	Max WS	SASA	2671.67	25.47	39.58		39.77	0.000239	2.02	1497.18	301.63	0.20
amo4	513.7	Max WS	SASP	2681.01	25.47	39.58		39.78	0.000240	2.03	1498.56	301.63	0.20
amo4	513.7	Max WS	SPSA	2657.39	25.47	39.56		39.76	0.000238	2.01	1493.48	301.63	0.20
amo4	513.7	Max WS	SPSP	2660.05	25.47	39.56		39.76	0.000238	2.01	1493.88	301.63	0.20
amo4	513.6	Max WS	SASA	2671.65	25.47	39.58		39.77	0.000239	2.02	1497.11	301.63	0.20
amo4	513.6	Max WS	SASP	2681.19	25.47	39.58		39.78	0.000240	2.03	1498.50	301.63	0.20
amo4	513.6	Max WS	SPSA	2657.38	25.47	39.56		39.76	0.000238	2.01	1493.42	301.63	0.20
amo4	513.6	Max WS	SPSP	2660.06	25.47	39.56		39.76	0.000238	2.02	1493.81	301.63	0.20
amo4	513.599			Lat Struct									
amo4	513.598			Lat Struct									
amo4	513	Max WS	SASA	2640.78	26.26	39.57		39.74	0.000220	2.00	1660.25	429.13	0.19
amo4	513	Max WS	SASP	2648.96	26.26	39.57		39.75	0.000220	2.01	1661.88	429.14	0.19
amo4	513	Max WS	SPSA	2629.59	26.26	39.55		39.72	0.000219	2.00	1655.94	429.09	0.19
amo4	513	Max WS	SPSP	2631.95	26.26	39.55		39.72	0.000220	2.00	1656.39	429.09	0.19
amo4	512.998			Lat Struct									
amo4	512.1	Max WS	SASA	2640.57	25.69	39.38		39.65	0.000445	2.30	1150.26	143.92	0.26
amo4	512.1	Max WS	SASP	2648.45	25.69	39.39		39.66	0.000447	2.30	1151.10	143.92	0.26
amo4	512.1	Max WS	SPSA	2629.63	25.69	39.36		39.63	0.000444	2.29	1147.81	143.92	0.26
amo4	512.1	Max WS	SPSP	2631.97	25.69	39.37		39.63	0.000445	2.29	1148.07	143.92	0.26
amo4	512	Max WS	SASA	2640.49	25.69	39.38		39.65	0.000445	2.30	1150.22	143.92	0.26
amo4	512	Max WS	SASP	2648.45	25.69	39.39		39.66	0.000447	2.30	1151.05	143.92	0.26
amo4	512	Max WS	SPSA	2629.63	25.69	39.36		39.63	0.000444	2.29	1147.77	143.92	0.26
amo4	512	Max WS	SPSP	2631.98	25.69	39.36		39.63	0.000445	2.29	1147.99	143.92	0.26
amo5	511.9	Max WS	SASA	2756.27	25.69	39.38		39.67	0.000485	2.40	1150.21	143.82	0.27
amo5	511.9	Max WS	SASP	2758.69	25.69	39.39		39.68	0.000484	2.40	1151.04	143.82	0.27
amo5	511.9	Max WS	SPSA	2788.80	25.69	39.36		39.66	0.000499	2.43	1147.76	143.82	0.27
amo5	511.9	Max WS	SPSP	2790.24	25.69	39.36		39.67	0.000500	2.43	1147.98	143.82	0.27
amo5	511	Max WS	SASA	2756.27	24.35	39.28		39.63	0.000547	2.63	1047.17	121.58	0.29
amo5	511	Max WS	SASP	2758.69	24.35	39.29		39.64	0.000547	2.63	1047.87	121.60	0.29
amo5	511	Max WS	SPSA	2788.71	24.35	39.26		39.62	0.000564	2.67	1044.72	121.50	0.29
amo5	511	Max WS	SPSP	2789.97	24.35	39.26		39.62	0.000564	2.67	1044.91	121.50	0.29
amo5	510.999			Lat Struct									
amo5	510.998			Lat Struct									
amo5	510	Max WS	SASA	2756.25	24.63	39.30		39.59	0.000480	2.41	1145.62	140.27	0.27
amo5	510	Max WS	SASP	2758.67	24.63	39.31		39.60	0.000480	2.41	1146.44	140.28	0.27
amo5	510	Max WS	SPSA	2788.71	24.63	39.28		39.58	0.000495	2.44	1142.89	140.23	0.27
amo5	510	Max WS	SPSP	2789.99	24.63	39.28		39.58	0.000495	2.44	1143.10	140.23	0.27
amo5	509	Max WS	SASA	2756.25	24.39	39.28		39.59	0.000459	2.46	1121.19	127.76	0.26
amo5	509	Max WS	SASP	2758.66	24.39	39.29		39.60	0.000459	2.46	1121.90	127.82	0.26
amo5	509	Max WS	SPSA	2788.73	24.39	39.26		39.58	0.000472	2.49	1118.72	127.56	0.26
amo5	509	Max WS	SPSP	2790.02	24.39	39.26		39.58	0.000472	2.49	1118.91	127.57	0.26
amo5	508.25	Max WS	SASA	2756.25	24.57	39.28	32.70	39.59	0.000468	2.46	1121.74	132.15	0.26
amo5	508.25	Max WS	SASP	2758.66	24.57	39.29	32.70	39.60	0.000468	2.46	1122.47	132.18	0.26
amo5	508.25	Max WS	SPSA	2788.73	24.57	39.26	32.74	39.58	0.000482	2.49	1119.21	132.02	0.27
amo5	508.25	Max WS	SPSP	2790.02	24.57	39.26	32.74	39.58	0.000482	2.49	1119.40	132.03	0.27
amo5	508			Bridge									
amo5	507.75	Max WS	SASA	2756.25	24.57	39.24		39.55	0.000475	2.47	1115.95	131.86	0.26
amo5	507.75	Max WS	SASP	2758.66	24.57	39.24		39.55	0.000475	2.47	1116.64	131.90	0.26
amo5	507.75	Max WS	SPSA	2741.08	24.57	39.22		39.52	0.000472	2.46	1113.42	131.74	0.26
amo5	507.75	Max WS	SPSP	2741.98	24.57	39.22		39.53	0.000472	2.46	1113.57	131.75	0.26
amo5	507	Max WS	SASA	2756.25	24.57	39.24		39.55	0.000465	2.46	1119.73	128.89	0.26
amo5	507	Max WS	SASP	2758.66	24.57	39.24		39.55	0.000465	2.46	1120.41	128.89	0.26
amo5	507	Max WS	SPSA	2741.08	24.57	39.22		39.52	0.000458	2.45	1117.28	127.69	0.26
amo5	507	Max WS	SPSP	2741.98	24.57	39.22		39.53	0.000458	2.45	1117.39	127.69	0.26
amo5	506.999			Lat Struct									
amo5	506.998			Lat Struct									
amo5	506	Max WS	SASA	2756.25	26.20	39.25		39.53	0.000472	2.37	1162.54	140.14	0.26
amo5	506	Max WS	SASP	2758.66	26.20	39.25		39.54	0.000472	2.37	1163.35	140.17	0.26
amo5	506	Max WS	SPSA	2741.74	26.20	39.23		39.51	0.000470	2.36	1159.77	140.05	0.26
amo5	506	Max WS	SPSP	2742.65	26.20	39.23		39.51	0.000470	2.36	1159.90	140.05	0.26
amo5	505	Max WS	SASA	2755.82	25.40	39.21		39.48	0.000440	2.28	1208.98	146.50	0.25
amo5	505	Max WS	SASP	2758.15	25.40	39.22		39.48	0.000440	2.28	1209.83	146.50	0.25
amo5	505	Max WS	SPSA	2742.16	25.40	39.19		39.46	0.000439	2.27	1206.17	146.50	0.25
amo5	505	Max WS	SPSP	2743.07	25.40	39.19		39.46	0.000439	2.27	1206.30	146.50	0.25
amo5	504	Max WS	SASA	2746.58	25.35	39.16		39.44	0.000429	2.36	1164.82	129.61	0.25
amo5	504	Max WS	SASP	2748.58	25.35	39.17		39.45	0.000428	2.36	1165.57	129.61	0.25
amo5	504	Max WS	SPSA	2734.00	25.35	39.14		39.42	0.000427	2.35	1162.33	129.61	0.25

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo5	504	Max WS	SPSP	2734.84	25.35	39.14		39.42	0.000428	2.35	1162.49	129.61	0.25
amo5	503.25	Max WS	SASA	2746.58	25.22	39.15	32.73	39.44	0.000437	2.39	1149.93	127.57	0.25
amo5	503.25	Max WS	SASP	2748.58	25.22	39.16	32.73	39.45	0.000437	2.39	1150.67	127.58	0.25
amo5	503.25	Max WS	SPSA	2734.00	25.22	39.13	32.71	39.42	0.000436	2.38	1147.48	127.56	0.25
amo5	503.25	Max WS	SPSP	2734.84	25.22	39.13	32.72	39.42	0.000436	2.38	1147.60	127.56	0.25
amo5	503			Bridge									
amo5	502.75	Max WS	SASA	2746.58	25.22	39.12		39.41	0.000442	2.40	1145.85	127.55	0.26
amo5	502.75	Max WS	SASP	2748.58	25.22	39.13		39.42	0.000442	2.40	1146.55	127.56	0.26
amo5	502.75	Max WS	SPSA	2733.37	25.22	39.10		39.39	0.000440	2.39	1143.48	127.54	0.25
amo5	502.75	Max WS	SPSP	2733.57	25.22	39.10		39.39	0.000440	2.39	1143.60	127.54	0.25
amo5	502	Max WS	SASA	2746.58	25.22	39.12		39.41	0.000448	2.39	1147.67	128.96	0.26
amo5	502	Max WS	SASP	2748.58	25.22	39.13		39.42	0.000448	2.39	1148.42	128.96	0.26
amo5	502	Max WS	SPSA	2733.37	25.22	39.10		39.39	0.000447	2.39	1145.27	128.96	0.26
amo5	502	Max WS	SPSP	2733.57	25.22	39.10		39.39	0.000446	2.39	1145.43	128.96	0.26
amo5	501.999			Lat Struct									
amo5	501.998			Lat Struct									
amo5	501	Max WS	SASA	2746.66	27.13	39.10		39.37	0.000463	2.31	1189.73	147.07	0.26
amo5	501	Max WS	SASP	2748.89	27.13	39.10		39.38	0.000463	2.31	1190.54	147.07	0.26
amo5	501	Max WS	SPSA	2733.10	27.13	39.08		39.35	0.000461	2.30	1187.04	146.93	0.26
amo5	501	Max WS	SPSP	2733.90	27.13	39.08		39.35	0.000461	2.30	1187.22	146.95	0.26
amo5	500	Max WS	SASA	2745.01	26.37	39.12		39.32	0.000346	1.97	1396.79	179.36	0.22
amo5	500	Max WS	SASP	2747.16	26.37	39.13		39.33	0.000346	1.97	1397.83	179.36	0.22
amo5	500	Max WS	SPSA	2731.88	26.37	39.11		39.30	0.000345	1.96	1393.56	179.36	0.22
amo5	500	Max WS	SPSP	2732.63	26.37	39.11		39.30	0.000346	1.96	1393.78	179.36	0.22
amo5	499	Max WS	SASA	2756.77	23.96	39.01		39.28	0.000351	2.31	1282.01	158.30	0.23
amo5	499	Max WS	SASP	2759.47	23.96	39.02		39.28	0.000351	2.31	1282.88	158.31	0.23
amo5	499	Max WS	SPSA	2738.40	23.96	39.00		39.26	0.000349	2.30	1279.65	158.27	0.23
amo5	499	Max WS	SPSP	2739.17	23.96	39.00		39.26	0.000349	2.30	1279.84	158.27	0.23
amo5	498.998			Lat Struct									
amo5	498	Max WS	SASA	2775.52	23.81	38.91		39.23	0.000365	2.58	1214.50	160.89	0.24
amo5	498	Max WS	SASP	2778.90	23.81	38.91		39.24	0.000365	2.58	1215.33	160.91	0.24
amo5	498	Max WS	SPSA	2751.91	23.81	38.90		39.21	0.000360	2.56	1212.68	160.84	0.24
amo5	498	Max WS	SPSP	2752.76	23.81	38.90		39.22	0.000360	2.56	1212.88	160.84	0.24
amo5	497	Max WS	SASA	2775.40	23.71	38.85		39.15	0.000369	2.45	1197.50	136.62	0.24
amo5	497	Max WS	SASP	2778.74	23.71	38.86		39.16	0.000369	2.45	1198.21	136.62	0.24
amo5	497	Max WS	SPSA	2751.84	23.71	38.84		39.14	0.000364	2.43	1196.09	136.62	0.24
amo5	497	Max WS	SPSP	2752.67	23.71	38.84		39.14	0.000364	2.43	1196.21	136.62	0.24
amo5	496.8	Max WS	SASA	2775.24	26.71	38.74	32.44	39.12	0.000587	2.74	1060.49	129.09	0.28
amo5	496.8	Max WS	SASP	2778.56	26.71	38.75	32.44	39.12	0.000587	2.74	1061.12	129.11	0.28
amo5	496.8	Max WS	SPSA	2751.75	26.71	38.74	32.41	39.10	0.000578	2.72	1059.35	129.05	0.28
amo5	496.8	Max WS	SPSP	2752.60	26.71	38.74	32.41	39.11	0.000578	2.72	1059.50	129.05	0.28
amo5	496.5			Ini Struct									
amo5	496.2	Max WS	SASA	2775.24	25.99	38.44		38.85	0.000593	2.83	992.48	105.18	0.29
amo5	496.2	Max WS	SASP	2778.56	25.99	38.44		38.85	0.000593	2.83	992.97	105.19	0.29
amo5	496.2	Max WS	SPSA	2751.75	25.99	38.43		38.83	0.000584	2.81	991.72	105.16	0.28
amo5	496.2	Max WS	SPSP	2752.60	25.99	38.43		38.83	0.000584	2.81	991.81	105.17	0.28
amo5	496.198			Lat Struct									
amo5	496	Max WS	SASA	2775.22	23.38	38.41		38.73	0.000440	2.51	1104.67	103.36	0.25
amo5	496	Max WS	SASP	2778.55	23.38	38.42		38.74	0.000440	2.51	1105.15	103.36	0.25
amo5	496	Max WS	SPSA	2751.78	23.38	38.40		38.72	0.000433	2.49	1103.95	103.36	0.24
amo5	496	Max WS	SPSP	2752.58	23.38	38.41		38.72	0.000434	2.49	1104.07	103.36	0.24
amo5	495	Max WS	SASA	2775.17	22.01	38.28		38.62	0.000480	2.61	1066.65	110.64	0.26
amo5	495	Max WS	SASP	2778.52	22.01	38.28		38.63	0.000481	2.61	1067.16	110.64	0.26
amo5	495	Max WS	SPSA	2751.75	22.01	38.27		38.61	0.000473	2.59	1066.11	110.64	0.25
amo5	495	Max WS	SPSP	2752.53	22.01	38.27		38.61	0.000473	2.59	1066.21	110.64	0.25
amo5	494	Max WS	SASA	2775.12	22.39	38.22		38.51	0.000359	2.40	1197.88	128.96	0.23
amo5	494	Max WS	SASP	2778.50	22.39	38.22		38.51	0.000359	2.40	1198.47	128.97	0.23
amo5	494	Max WS	SPSA	2752.00	22.39	38.21		38.50	0.000353	2.38	1197.37	128.95	0.23
amo5	494	Max WS	SPSP	2752.83	22.39	38.21		38.50	0.000353	2.38	1197.49	128.95	0.23
amo5	493	Max WS	SASA	2775.11	23.74	38.21		38.43	0.000319	2.20	1594.34	313.60	0.22
amo5	493	Max WS	SASP	2778.51	23.74	38.21		38.44	0.000320	2.20	1595.87	313.68	0.22
amo5	493	Max WS	SPSA	2751.41	23.74	38.20		38.42	0.000315	2.18	1593.10	313.54	0.21
amo5	493	Max WS	SPSP	2752.25	23.74	38.21		38.43	0.000315	2.18	1593.48	313.56	0.21
amo5	492	Max WS	SASA	2775.12	20.21	38.19		38.39	0.000259	2.06	1684.15	350.44	0.19
amo5	492	Max WS	SASP	2778.46	20.21	38.20		38.40	0.000259	2.06	1685.75	350.46	0.19
amo5	492	Max WS	SPSA	2751.21	20.21	38.19		38.39	0.000255	2.04	1682.86	350.42	0.19
amo5	492	Max WS	SPSP	2752.04	20.21	38.19		38.39	0.000255	2.04	1683.19	350.42	0.19
amo5	491	Max WS	SASA	2775.05	20.07	38.17		38.36	0.000253	2.02	1644.22	313.13	0.19
amo5	491	Max WS	SASP	2778.49	20.07	38.17		38.37	0.000254	2.02	1645.75	313.16	0.19
amo5	491	Max WS	SPSA	2751.18	20.07	38.16		38.36	0.000249	2.00	1643.27	313.12	0.19
amo5	491	Max WS	SPSP	2751.86	20.07	38.16		38.36	0.000249	2.00	1643.65	313.13	0.19

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo5	490	Max WS	SASA	2775.03	23.47	38.11		38.33	0.000300	2.14	1574.31	304.11	0.21
amo5	490	Max WS	SASP	2778.45	23.47	38.12		38.33	0.000300	2.14	1575.70	304.13	0.21
amo5	490	Max WS	SPSA	2751.02	23.47	38.11		38.32	0.000295	2.12	1573.67	304.10	0.21
amo5	490	Max WS	SPSP	2751.83	23.47	38.11		38.33	0.000295	2.12	1573.94	304.10	0.21
amo5	489	Max WS	SASA	2774.94	23.52	37.98		38.28	0.000467	2.51	1269.74	228.12	0.26
amo5	489	Max WS	SASP	2778.34	23.52	37.98		38.29	0.000467	2.51	1270.78	228.20	0.26
amo5	489	Max WS	SPSA	2750.89	23.52	37.98		38.28	0.000459	2.49	1269.88	228.13	0.26
amo5	489	Max WS	SPSP	2751.69	23.52	37.98		38.28	0.000459	2.49	1270.09	228.15	0.26
amo5	488	Max WS	SASA	2774.90	22.22	37.91		38.22	0.000403	2.55	1269.67	205.49	0.24
amo5	488	Max WS	SASP	2778.32	22.22	37.91		38.23	0.000404	2.55	1270.55	205.53	0.24
amo5	488	Max WS	SPSA	2750.77	22.22	37.91		38.22	0.000396	2.53	1270.05	205.51	0.23
amo5	488	Max WS	SPSP	2751.57	22.22	37.91		38.22	0.000396	2.53	1270.24	205.51	0.23
amo5	487	Max WS	SASA	2774.73	21.93	37.83		38.11	0.000382	2.32	1222.72	137.96	0.23
amo5	487	Max WS	SASP	2778.23	21.93	37.84		38.11	0.000382	2.32	1223.35	137.97	0.23
amo5	487	Max WS	SPSA	2750.56	21.93	37.84		38.11	0.000375	2.30	1223.22	137.97	0.23
amo5	487	Max WS	SPSP	2751.35	21.93	37.84		38.11	0.000375	2.30	1223.35	137.97	0.23
amo5	486.998			Lat Struct									
amo5	486	Max WS	SASA	2763.98	21.70	37.79		38.08	0.000404	2.40	1189.51	139.22	0.24
amo5	486	Max WS	SASP	2767.30	21.70	37.80		38.09	0.000405	2.40	1190.11	139.23	0.24
amo5	486	Max WS	SPSA	2739.67	21.70	37.80		38.08	0.000397	2.38	1190.15	139.23	0.24
amo5	486	Max WS	SPSP	2740.42	21.70	37.80		38.08	0.000397	2.38	1190.23	139.23	0.24
amo5	485	Max WS	SASA	2774.65	21.17	37.73		38.06	0.000516	2.56	1118.02	141.90	0.26
amo5	485	Max WS	SASP	2778.13	21.17	37.74		38.07	0.000516	2.57	1118.63	141.91	0.26
amo5	485	Max WS	SPSA	2750.48	21.17	37.74		38.06	0.000506	2.54	1118.89	141.91	0.26
amo5	485	Max WS	SPSP	2751.18	21.17	37.74		38.06	0.000506	2.54	1118.97	141.92	0.26
amo5	484	Max WS	SASA	2774.53	22.65	37.70		38.04	0.000519	2.61	1106.35	143.27	0.27
amo5	484	Max WS	SASP	2778.11	22.65	37.70		38.05	0.000520	2.61	1106.92	143.28	0.27
amo5	484	Max WS	SPSA	2750.40	22.65	37.71		38.04	0.000509	2.58	1107.27	143.28	0.26
amo5	484	Max WS	SPSP	2751.18	22.65	37.71		38.04	0.000509	2.58	1107.40	143.28	0.26
amo5	483	Max WS	SASA	2774.38	23.42	37.64		37.96	0.000486	2.49	1113.41	113.69	0.25
amo5	483	Max WS	SASP	2778.04	23.42	37.65		37.96	0.000487	2.49	1113.89	113.69	0.25
amo5	483	Max WS	SPSA	2750.39	23.42	37.65		37.96	0.000477	2.47	1114.31	113.69	0.25
amo5	483	Max WS	SPSP	2751.10	23.42	37.65		37.96	0.000477	2.47	1114.38	113.69	0.25
amo5	482.1	Max WS	SASA	2774.29	22.65	37.60		37.94	0.000499	2.57	1078.28	105.16	0.26
amo5	482.1	Max WS	SASP	2777.92	22.65	37.61		37.95	0.000500	2.58	1078.70	105.17	0.26
amo5	482.1	Max WS	SPSA	2750.33	22.65	37.61		37.94	0.000489	2.55	1079.18	105.17	0.25
amo5	482.1	Max WS	SPSP	2751.10	22.65	37.61		37.94	0.000490	2.55	1079.25	105.17	0.25
amo6	482	Max WS	SASA	3031.77	22.65	37.60		38.01	0.000596	2.81	1078.28	105.16	0.28
amo6	482	Max WS	SASP	3034.01	22.65	37.61		38.01	0.000596	2.81	1078.70	105.17	0.28
amo6	482	Max WS	SPSA	3036.94	22.65	37.61		38.02	0.000597	2.81	1079.18	105.17	0.28
amo6	482	Max WS	SPSP	3037.43	22.65	37.61		38.02	0.000597	2.81	1079.25	105.17	0.28
amo6	481	Max WS	SASA	3031.77	23.19	37.41		37.99	0.000875	3.35	903.67	93.48	0.34
amo6	481	Max WS	SASP	3033.99	23.19	37.42		37.99	0.000876	3.36	904.01	93.49	0.34
amo6	481	Max WS	SPSA	3036.94	23.19	37.42		38.00	0.000876	3.36	904.44	93.50	0.34
amo6	481	Max WS	SPSP	3037.43	23.19	37.42		38.00	0.000876	3.36	904.50	93.50	0.34
amo6	480	Max WS	SASA	3031.77	22.70	37.28		37.94	0.000966	3.58	846.69	84.55	0.36
amo6	480	Max WS	SASP	3033.99	22.70	37.29		37.94	0.000967	3.58	847.00	84.55	0.36
amo6	480	Max WS	SPSA	3036.93	22.70	37.29		37.94	0.000967	3.58	847.36	84.56	0.36
amo6	480	Max WS	SPSP	3037.40	22.70	37.29		37.95	0.000967	3.58	847.44	84.56	0.36
amo6	479	Max WS	SASA	3031.76	21.11	37.11		37.79	0.001034	3.66	827.35	80.82	0.37
amo6	479	Max WS	SASP	3033.98	21.11	37.11		37.80	0.001035	3.67	827.67	80.83	0.37
amo6	479	Max WS	SPSA	3036.91	21.11	37.12		37.80	0.001035	3.67	827.99	80.84	0.37
amo6	479	Max WS	SPSP	3037.39	21.11	37.12		37.80	0.001036	3.67	828.04	80.84	0.37
amo6	478	Max WS	SASA	3031.74	24.05	36.89		37.60	0.001266	3.74	810.22	93.78	0.41
amo6	478	Max WS	SASP	3033.98	24.05	36.89		37.61	0.001266	3.74	810.56	93.79	0.41
amo6	478	Max WS	SPSA	3036.90	24.05	36.90		37.61	0.001267	3.74	810.93	93.81	0.41
amo6	478	Max WS	SPSP	3037.37	24.05	36.90		37.61	0.001267	3.75	811.02	93.81	0.41
amo6	477	Max WS	SASA	3031.72	22.12	36.37		37.31	0.001591	4.30	704.74	76.30	0.45
amo6	477	Max WS	SASP	3033.94	22.12	36.37		37.31	0.001592	4.30	704.99	76.30	0.45
amo6	477	Max WS	SPSA	3036.88	22.12	36.37		37.32	0.001593	4.31	705.25	76.31	0.45
amo6	477	Max WS	SPSP	3037.35	22.12	36.37		37.32	0.001593	4.31	705.32	76.31	0.45
amo6	476.999			Lat Struct									
amo6	476	Max WS	SASA	3031.72	24.15	36.24		36.97	0.001305	3.81	805.83	104.30	0.41
amo6	476	Max WS	SASP	3033.94	24.15	36.24		36.98	0.001305	3.81	806.18	104.33	0.42
amo6	476	Max WS	SPSA	3036.84	24.15	36.24		36.98	0.001306	3.81	806.56	104.37	0.42
amo6	476	Max WS	SPSP	3037.32	24.15	36.24		36.98	0.001306	3.82	806.62	104.38	0.42
amo6	475	Max WS	SASA	3022.87	24.02	36.10		36.76	0.001096	3.61	854.50	111.37	0.38
amo6	475	Max WS	SASP	3025.07	24.02	36.11		36.76	0.001097	3.61	854.87	111.37	0.38
amo6	475	Max WS	SPSA	3027.93	24.02	36.11		36.77	0.001097	3.61	855.28	111.38	0.38
amo6	475	Max WS	SPSP	3028.38	24.02	36.11		36.77	0.001097	3.61	855.35	111.38	0.38
amo6	474.998			Lat Struct									
amo6	474	Max WS	SASA	3014.81	24.33	35.94		36.56	0.001196	3.48	871.48	122.51	0.40
amo6	474	Max WS	SASP	3016.98	24.33	35.95		36.56	0.001196	3.49	871.93	122.52	0.40
amo6	474	Max WS	SPSA	3019.73	24.33	35.95		36.57	0.001196	3.49	872.38	122.53	0.40

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
amo6	474	Max WS	SPSP	3020.19	24.33	35.95		36.57	0.001196	3.49	872.45	122.53	0.40
amo6	473	Max WS	SASA	3019.48	23.67	35.68		36.33	0.001217	3.56	853.59	122.97	0.40
amo6	473	Max WS	SASP	3021.65	23.67	35.69		36.33	0.001216	3.57	854.08	123.06	0.40
amo6	473	Max WS	SPSA	3024.34	23.67	35.69		36.34	0.001217	3.57	854.49	123.14	0.40
amo6	473	Max WS	SPSP	3024.79	23.67	35.69		36.34	0.001217	3.57	854.57	123.15	0.40
amo6	472	Max WS	SASA	3031.66	22.30	35.41		36.04	0.001045	3.53	900.08	136.94	0.37
amo6	472	Max WS	SASP	3033.86	22.30	35.42		36.04	0.001045	3.53	900.58	136.95	0.37
amo6	472	Max WS	SPSA	3035.97	22.30	35.42		36.05	0.001045	3.54	901.08	136.96	0.37
amo6	472	Max WS	SPSP	3036.34	22.30	35.42		36.05	0.001045	3.54	901.20	136.96	0.37
amo6	471	Max WS	SASA	3031.66	20.51	35.18		35.80	0.000913	3.49	896.65	166.21	0.35
amo6	471	Max WS	SASP	3033.85	20.51	35.18		35.80	0.000914	3.49	897.26	166.62	0.35
amo6	471	Max WS	SPSA	3036.01	20.51	35.19		35.81	0.000914	3.49	897.87	167.03	0.35
amo6	471	Max WS	SPSP	3036.47	20.51	35.19		35.81	0.000914	3.49	897.97	167.10	0.35
amo6	470	Max WS	SASA	3031.66	20.68	35.20		35.71	0.000788	3.20	1005.43	197.99	0.33
amo6	470	Max WS	SASP	3033.85	20.68	35.20		35.72	0.000788	3.21	1006.16	198.01	0.33
amo6	470	Max WS	SPSA	3036.10	20.68	35.20		35.72	0.000788	3.21	1006.88	198.02	0.33
amo6	470	Max WS	SPSP	3036.51	20.68	35.20		35.72	0.000788	3.21	1007.00	198.02	0.33
amo6	469	Max WS	SASA	3031.66	19.28	35.30		35.65	0.000462	2.61	1213.45	203.37	0.26
amo6	469	Max WS	SASP	3033.85	19.28	35.30		35.65	0.000462	2.61	1214.20	203.38	0.26
amo6	469	Max WS	SPSA	3036.13	19.28	35.31		35.65	0.000462	2.62	1214.94	203.40	0.26
amo6	469	Max WS	SPSP	3036.55	19.28	35.31		35.66	0.000462	2.62	1215.07	203.40	0.26
amo6	468	Max WS	SASA	3031.66	23.60	35.24		35.58	0.000719	2.61	1200.96	189.95	0.30
amo6	468	Max WS	SASP	3033.85	23.60	35.24		35.59	0.000719	2.61	1201.66	189.98	0.30
amo6	468	Max WS	SPSA	3036.13	23.60	35.25		35.59	0.000719	2.61	1202.41	190.00	0.30
amo6	468	Max WS	SPSP	3036.55	23.60	35.25		35.59	0.000719	2.61	1202.52	190.00	0.30
amo6	467	Max WS	SASA	3031.66	23.45	35.19		35.52	0.000596	2.57	1210.51	162.63	0.28
amo6	467	Max WS	SASP	3033.85	23.45	35.19		35.53	0.000596	2.57	1211.11	162.65	0.28
amo6	467	Max WS	SPSA	3036.15	23.45	35.20		35.53	0.000596	2.57	1211.70	162.66	0.28
amo6	467	Max WS	SPSP	3036.57	23.45	35.20		35.53	0.000596	2.57	1211.85	162.66	0.28
amo6	466	Max WS	SASA	3031.66	23.25	35.06		35.48	0.000740	2.87	1073.39	140.17	0.31
amo6	466	Max WS	SASP	3033.85	23.25	35.06		35.48	0.000740	2.87	1073.86	140.18	0.31
amo6	466	Max WS	SPSA	3036.14	23.25	35.07		35.49	0.000740	2.87	1074.41	140.20	0.31
amo6	466	Max WS	SPSP	3036.57	23.25	35.07		35.49	0.000740	2.87	1074.50	140.20	0.31
amo6	465	Max WS	SASA	3031.66	21.29	34.88		35.40	0.000965	3.23	965.02	122.47	0.33
amo6	465	Max WS	SASP	3033.85	21.29	34.88		35.41	0.000965	3.23	965.43	122.48	0.33
amo6	465	Max WS	SPSA	3036.12	21.29	34.88		35.41	0.000966	3.23	965.88	122.49	0.33
amo6	465	Max WS	SPSP	3036.56	21.29	34.88		35.41	0.000966	3.23	965.99	122.50	0.33
amo6	464	Max WS	SASA	3031.66	20.87	34.71		35.30	0.000949	3.41	906.46	113.26	0.36
amo6	464	Max WS	SASP	3033.85	20.87	34.72		35.31	0.000949	3.41	906.84	113.27	0.36
amo6	464	Max WS	SPSA	3036.13	20.87	34.72		35.31	0.000950	3.41	907.26	113.28	0.36
amo6	464	Max WS	SPSP	3036.56	20.87	34.72		35.31	0.000950	3.41	907.33	113.29	0.36
amo6	463.666	Max WS	SASA	3031.66	20.23	34.60	28.55	35.20	0.000912	3.42	911.37	123.37	0.35
amo6	463.666	Max WS	SASP	3033.85	20.23	34.61	28.55	35.20	0.000912	3.42	911.82	123.39	0.35
amo6	463.666	Max WS	SPSA	3036.12	20.23	34.61	28.56	35.20	0.000912	3.42	912.24	123.41	0.35
amo6	463.666	Max WS	SPSP	3036.55	20.23	34.61	28.56	35.20	0.000912	3.42	912.31	123.42	0.35

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
bisenzio	228	Max WS	SASA	350.37	49.00	52.84		53.17	0.002229	2.56	136.61	50.21	0.50
bisenzio	228	Max WS	SASP	350.37	49.00	52.84		53.17	0.002229	2.56	136.61	50.21	0.50
bisenzio	228	Max WS	SPSA	389.84	49.00	53.05		53.40	0.002184	2.65	147.28	50.71	0.50
bisenzio	228	Max WS	SPSP	389.84	49.00	53.05		53.40	0.002184	2.65	147.28	50.71	0.50
bisenzio	227	Max WS	SASA	350.37	49.05	52.84	51.54	53.16	0.001952	2.47	141.76	49.25	0.47
bisenzio	227	Max WS	SASP	350.37	49.05	52.84	51.54	53.16	0.001952	2.47	141.76	49.25	0.47
bisenzio	227	Max WS	SPSA	389.84	49.05	53.06	51.76	53.39	0.001940	2.56	152.19	49.75	0.47
bisenzio	227	Max WS	SPSP	389.84	49.05	53.06	51.76	53.39	0.001940	2.56	152.19	49.75	0.47
bisenzio	226.5			Bridge									
bisenzio	226	Max WS	SASA	350.36	48.72	52.36		52.85	0.003970	3.10	113.16	47.65	0.64
bisenzio	226	Max WS	SASP	350.36	48.72	52.36		52.85	0.003970	3.10	113.16	47.65	0.64
bisenzio	226	Max WS	SPSA	389.78	48.72	52.60		53.10	0.003639	3.13	124.46	48.05	0.62
bisenzio	226	Max WS	SPSP	389.78	48.72	52.60		53.10	0.003639	3.13	124.46	48.05	0.62
bisenzio	225.999			Lat Struct									
bisenzio	225.998			Lat Struct									
bisenzio	225	Max WS	SASA	350.37	48.61	52.55		52.81	0.001857	2.26	154.98	60.82	0.45
bisenzio	225	Max WS	SASP	350.37	48.61	52.55		52.81	0.001857	2.26	154.98	60.82	0.45
bisenzio	225	Max WS	SPSA	389.81	48.61	52.80		53.06	0.001726	2.30	169.78	61.47	0.44
bisenzio	225	Max WS	SPSP	389.81	48.61	52.80		53.06	0.001726	2.30	169.78	61.47	0.44
bisenzio	224	Max WS	SASA	350.37	48.08	52.42		52.77	0.002396	2.62	133.53	49.48	0.51
bisenzio	224	Max WS	SASP	350.37	48.08	52.42		52.77	0.002396	2.62	133.53	49.48	0.51
bisenzio	224	Max WS	SPSA	389.80	48.08	52.66		53.02	0.002523	2.67	146.17	54.96	0.52
bisenzio	224	Max WS	SPSP	389.79	48.08	52.66		53.02	0.002523	2.67	146.17	54.96	0.52
bisenzio	223	Max WS	SASA	350.36	48.10	52.29		52.60	0.002010	2.44	143.84	53.13	0.47
bisenzio	223	Max WS	SASP	350.36	48.10	52.29		52.60	0.002010	2.44	143.84	53.13	0.47
bisenzio	223	Max WS	SPSA	389.78	48.10	52.53		52.84	0.001924	2.49	156.41	53.92	0.47
bisenzio	223	Max WS	SPSP	389.78	48.10	52.53		52.84	0.001924	2.49	156.41	53.92	0.47
bisenzio	222	Max WS	SASA	350.36	47.97	52.16		52.40	0.001460	2.17	161.33	54.19	0.40
bisenzio	222	Max WS	SASP	350.36	47.97	52.16		52.40	0.001460	2.17	161.33	54.19	0.40
bisenzio	222	Max WS	SPSA	389.77	47.97	52.40		52.65	0.001421	2.23	174.41	54.89	0.40
bisenzio	222	Max WS	SPSP	389.78	47.97	52.40		52.65	0.001421	2.23	174.41	54.89	0.40
bisenzio	221	Max WS	SASA										

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	213	Max WS	SASA	350.31	46.08	50.65		50.85	0.001293	1.97	178.27	65.24	0.38
bisenzio	213	Max WS	SASP	350.31	46.08	50.65		50.85	0.001293	1.97	178.27	65.24	0.38
bisenzio	213	Max WS	SPSA	389.66	46.08	50.86		51.07	0.001305	2.03	191.78	67.15	0.38
bisenzio	213	Max WS	SPSP	389.67	46.08	50.86		51.07	0.001306	2.03	191.78	67.15	0.38
bisenzio	212	Max WS	SASA	350.26	46.10	50.21		50.62	0.002729	2.84	123.47	44.57	0.54
bisenzio	212	Max WS	SASP	350.25	46.10	50.21		50.62	0.002729	2.84	123.47	44.57	0.54
bisenzio	212	Max WS	SPSA	389.54	46.10	50.38		50.83	0.002905	2.97	131.15	46.36	0.56
bisenzio	212	Max WS	SPSP	389.54	46.10	50.38		50.83	0.002905	2.97	131.15	46.36	0.56
bisenzio	211	Max WS	SASA	350.22	45.47	50.08		50.30	0.003344	2.07	168.98	117.88	0.55
bisenzio	211	Max WS	SASP	350.22	45.47	50.08		50.30	0.003344	2.07	168.98	117.88	0.55
bisenzio	211	Max WS	SPSA	389.54	45.47	50.35		50.55	0.002342	1.94	201.24	118.92	0.47
bisenzio	211	Max WS	SPSP	389.54	45.47	50.35		50.55	0.002342	1.94	201.24	118.92	0.47
bisenzio	210	Max WS	SASA	350.20	44.85	49.97		50.08	0.001023	1.46	239.69	110.78	0.32
bisenzio	210	Max WS	SASP	350.20	44.85	49.97		50.08	0.001023	1.46	239.69	110.78	0.32
bisenzio	210	Max WS	SPSA	389.52	44.85	50.28		50.39	0.000817	1.42	274.40	111.83	0.29
bisenzio	210	Max WS	SPSP	389.52	44.85	50.28		50.39	0.000817	1.42	274.40	111.83	0.29
bisenzio	209	Max WS	SASA	350.18	45.01	49.85		50.02	0.001578	1.83	191.79	84.93	0.39
bisenzio	209	Max WS	SASP	350.19	45.01	49.85		50.02	0.001578	1.83	191.79	84.93	0.39
bisenzio	209	Max WS	SPSA	389.50	45.01	50.18		50.33	0.001308	1.76	220.98	90.01	0.36
bisenzio	209	Max WS	SPSP	389.50	45.01	50.18		50.33	0.001308	1.76	220.98	90.01	0.36
bisenzio	208	Max WS	SASA	350.19	44.05	49.83		49.99	0.001702	1.80	194.08	84.64	0.38
bisenzio	208	Max WS	SASP	350.19	44.05	49.83		49.99	0.001702	1.80	194.08	84.64	0.38
bisenzio	208	Max WS	SPSA	389.51	44.05	50.16		50.31	0.001360	1.75	222.30	85.56	0.35
bisenzio	208	Max WS	SPSP	389.51	44.05	50.16		50.31	0.001360	1.75	222.30	85.56	0.35
bisenzio	207	Max WS	SASA	350.16	43.49	49.45		49.75	0.001623	2.43	144.37	44.30	0.43
bisenzio	207	Max WS	SASP	350.16	43.49	49.45		49.75	0.001623	2.43	144.37	44.30	0.43
bisenzio	207	Max WS	SPSA	389.46	43.49	49.81		50.11	0.001461	2.43	160.45	45.28	0.41
bisenzio	207	Max WS	SPSP	389.46	43.49	49.81		50.11	0.001461	2.43	160.45	45.28	0.41
bisenzio	206	Max WS	SASA	350.16	43.56	49.49		49.65	0.000802	1.75	200.22	60.16	0.31
bisenzio	206	Max WS	SASP	350.17	43.56	49.49		49.65	0.000802	1.75	200.22	60.16	0.31
bisenzio	206	Max WS	SPSA	389.46	43.56	49.86		50.02	0.000717	1.75	222.70	61.35	0.29
bisenzio	206	Max WS	SPSP	389.46	43.56	49.86		50.02	0.000717	1.75	222.70	61.35	0.29
bisenzio	205	Max WS	SASA	350.17	43.92	49.55		49.61	0.000336	1.04	337.78	118.85	0.20
bisenzio	205	Max WS	SASP	350.17	43.92	49.55		49.61	0.000336	1.04	337.78	118.85	0.20
bisenzio	205	Max WS	SPSA	389.47	43.92	49.93		49.98	0.000278	1.02	382.61	119.69	0.18
bisenzio	205	Max WS	SPSP	389.48	43.92	49.93		49.98	0.000278	1.02	382.61	119.69	0.18
bisenzio	204	Max WS	SASA	350.16	43.67	49.53		49.59	0.000314	1.05	331.91	107.53	0.19
bisenzio	204	Max WS	SASP	350.16	43.67	49.53		49.59	0.000314	1.05	331.91	107.53	0.19
bisenzio	204	Max WS	SPSA	389.47	43.67	49.91		49.97	0.000268	1.05	372.66	108.42	0.18
bisenzio	204	Max WS	SPSP	389.47	43.67	49.91		49.97	0.000268	1.05	372.66	108.42	0.18
bisenzio	203	Max WS	SASA	350.16	43.09	49.25		49.55	0.001313	2.41	145.54	37.67	0.39
bisenzio	203	Max WS	SASP	350.16	43.09	49.25		49.55	0.001313	2.41	145.54	37.67	0.39
bisenzio	203	Max WS	SPSA	389.46	43.09	49.62		49.92	0.001394	2.42	160.68	43.37	0.40
bisenzio	203	Max WS	SPSP	389.47	43.09	49.62		49.92	0.001394	2.42	160.68	43.37	0.40
bisenzio	202	Max WS	SASA	350.16	43.19	49.15		49.45	0.001420	2.42	144.60	39.14	0.40
bisenzio	202	Max WS	SASP	350.16	43.19	49.15		49.45	0.001420	2.42	144.60	39.14	0.40
bisenzio	202	Max WS	SPSA	389.46	43.19	49.52		49.82	0.001571	2.42	161.00	47.64	0.42
bisenzio	202	Max WS	SPSP	389.46	43.19	49.52		49.82	0.001571	2.42	161.00	47.64	0.42
bisenzio	201	Max WS	SASA	350.16	43.39	48.91		49.31	0.001912	2.81	124.72	33.49	0.46
bisenzio	201	Max WS	SASP	350.16	43.39	48.91		49.31	0.001912	2.81	124.72	33.49	0.46
bisenzio	201	Max WS	SPSA	389.46	43.39	49.26		49.67	0.002008	2.83	137.45	38.00	0.48
bisenzio	201	Max WS	SPSP	389.46	43.39	49.26		49.67	0.002008	2.83	137.45	38.00	0.48
bisenzio	200	Max WS	SASA	350.15	42.89	48.66		49.19	0.002726	3.24	107.96	30.43	0.55
bisenzio	200	Max WS	SASP	350.15	42.89	48.66		49.19	0.002726	3.24	107.96	30.43	0.55
bisenzio	200	Max WS	SPSA	389.45	42.89	49.00		49.54	0.003088	3.26	119.60	37.33	0.58
bisenzio	200	Max WS	SPSP	389.45	42.89	49.00		49.54	0.003089	3.26	119.60	37.33	0.58
bisenzio	199	Max WS	SASA	350.16	42.87	48.67		49.05	0.002048	2.72	128.56	38.41	0.48
bisenzio	199	Max WS	SASP	350.16	42.87	48.67		49.05	0.002048	2.72	128.56	38.41	0.48
bisenzio	199	Max WS	SPSA	389.46	42.87	49.00		49.38	0.002209	2.73	142.48	45.30	0.49
bisenzio	199	Max WS	SPSP	389.46	42.87	49.00		49.38	0.002209	2.73	142.48	45.30	0.49
bisenzio	198	Max WS	SASA	350.15	42.42	48.48		48.85	0.001595	2.70	129.67	31.42	0.42
bisenzio	198	Max WS	SASP	350.15	42.42	48.48		48.85	0.001595	2.70	129.67	31.42	0.42
bisenzio	198	Max WS	SPSA	389.45	42.42	48.77		49.17	0.001616	2.80	139.07	32.11	0.43
bisenzio	198	Max WS	SPSP	389.45	42.42	48.77		49.17	0.001616	2.80	139.07	32.11	0.43
bisenzio	197	Max WS	SASA	350.15	42.79	48.42		48.72	0.001463	2.44	143.59	38.89	0.41
bisenzio	197	Max WS	SASP	350.15	42.79	48.42		48.72	0.001463	2.44	143.59	38.89	0.41
bisenzio	197	Max WS	SPSA	389.45	42.79	48.73		49.04	0.001431	2.50	155.75	39.89	0.40
bisenzio	197	Max WS	SPSP	389.45	42.79	48.73		49.04	0.001431	2.50	155.75	39.89	0.40
bisenzio	196	Max WS	SASA	350.15	42.25	48.42		48.62	0.000824	1.99	175.86	43.07	0.31
bisenzio	196	Max WS	SASP	350.15	42.25	48.42		48.62	0.000824	1.99	175.86	43.07	0.31
bisenzio	196	Max WS	SPSA	389.45	42.25	48.73		48.95	0.000873	2.05	189.62	46.36	0.32
bisenzio	196	Max WS	SPSP	389.45	42.25	48.73		48.95	0.000873	2.05	189.62	46.36	0.32

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	194	Max WS	SASA	350.15	42.28	48.39	45.85	48.62	0.000977	2.12	164.85	38.55	0.33
bisenzio	194	Max WS	SASP	350.15	42.28	48.39	45.85	48.62	0.000977	2.12	164.85	38.55	0.33
bisenzio	194	Max WS	SPSA	389.45	42.28	48.69	46.04	48.94	0.001105	2.20	177.18	43.77	0.35
bisenzio	194	Max WS	SPSP	389.45	42.28	48.69	46.04	48.94	0.001105	2.20	177.18	43.77	0.35
bisenzio	193.5			Bridge									
bisenzio	193	Max WS	SASA	350.15	42.15	48.29		48.56	0.001188	2.30	151.96	39.06	0.37
bisenzio	193	Max WS	SASP	350.15	42.15	48.29		48.56	0.001188	2.30	151.96	39.06	0.37
bisenzio	193	Max WS	SPSA	389.45	42.15	48.60		48.88	0.001214	2.37	164.04	40.99	0.38
bisenzio	193	Max WS	SPSP	389.45	42.15	48.60		48.88	0.001214	2.37	164.04	40.99	0.38
bisenzio	192.6			Lat Struct									
bisenzio	192.5			Lat Struct									
bisenzio	192	Max WS	SASA	350.15	42.15	48.28		48.55	0.001199	2.31	151.47	39.02	0.37
bisenzio	192	Max WS	SASP	350.15	42.15	48.28		48.55	0.001199	2.31	151.47	39.02	0.37
bisenzio	192	Max WS	SPSA	389.45	42.15	48.58		48.87	0.001217	2.38	163.52	40.72	0.38
bisenzio	192	Max WS	SPSP	389.45	42.15	48.58		48.87	0.001217	2.38	163.52	40.72	0.38
bisenzio	191	Max WS	SASA	350.15	41.82	48.08		48.48	0.001935	2.78	126.01	33.51	0.46
bisenzio	191	Max WS	SASP	350.15	41.82	48.08		48.48	0.001935	2.78	126.01	33.51	0.46
bisenzio	191	Max WS	SPSA	389.45	41.82	48.38		48.80	0.001919	2.86	136.06	34.34	0.46
bisenzio	191	Max WS	SPSP	389.45	41.82	48.38		48.80	0.001919	2.86	136.06	34.34	0.46
bisenzio	188	Max WS	SASA	350.15	41.92	47.75	46.19	48.36	0.002715	3.46	101.06	24.15	0.54
bisenzio	188	Max WS	SASP	350.15	41.92	47.75	46.18	48.36	0.002715	3.46	101.06	24.15	0.54
bisenzio	188	Max WS	SPSA	389.45	41.92	48.01	46.44	48.68	0.002814	3.63	107.34	24.16	0.55
bisenzio	188	Max WS	SPSP	389.45	41.92	48.01	46.44	48.68	0.002814	3.63	107.34	24.16	0.55
bisenzio	187.5			Bridge									
bisenzio	187	Max WS	SASA	350.15	42.11	47.71		48.30	0.002700	3.38	103.48	26.49	0.55
bisenzio	187	Max WS	SASP	350.15	42.11	47.71		48.30	0.002700	3.38	103.48	26.49	0.55
bisenzio	187	Max WS	SPSA	389.45	42.11	47.99		48.62	0.002763	3.51	111.05	27.38	0.56
bisenzio	187	Max WS	SPSP	389.45	42.11	47.99		48.62	0.002763	3.51	111.05	27.38	0.56
bisenzio	186.6			Lat Struct									
bisenzio	186.5			Lat Struct									
bisenzio	185	Max WS	SASA	350.15	41.89	47.89		48.20	0.001371	2.48	140.97	35.87	0.40
bisenzio	185	Max WS	SASP	350.15	41.89	47.89		48.20	0.001371	2.48	140.97	35.87	0.40
bisenzio	185	Max WS	SPSA	389.45	41.89	48.19		48.52	0.001371	2.56	151.92	36.77	0.40
bisenzio	185	Max WS	SPSP	389.45	41.89	48.19		48.52	0.001371	2.56	151.92	36.77	0.40
bisenzio	184	Max WS	SASA	350.15	41.92	47.82		48.09	0.001289	2.34	149.80	40.21	0.39
bisenzio	184	Max WS	SASP	350.15	41.92	47.82		48.09	0.001289	2.34	149.80	40.21	0.39
bisenzio	184	Max WS	SPSA	389.45	41.92	48.12		48.42	0.001261	2.40	162.33	41.14	0.39
bisenzio	184	Max WS	SPSP	389.45	41.92	48.12		48.42	0.001261	2.40	162.33	41.14	0.39
bisenzio	183	Max WS	SASA	350.15	42.21	47.74	45.18	48.08	0.001811	2.56	136.95	36.10	0.42
bisenzio	183	Max WS	SASP	350.15	42.21	47.74	45.18	48.08	0.001811	2.56	136.95	36.10	0.42
bisenzio	183	Max WS	SPSA	389.45	42.21	48.05	45.37	48.40	0.001794	2.63	148.11	37.29	0.42
bisenzio	183	Max WS	SPSP	389.45	42.21	48.05	45.37	48.40	0.001794	2.63	148.11	37.29	0.42
bisenzio	182			Bridge									
bisenzio	181	Max WS	SASA	350.15	41.48	47.81		47.99	0.000840	1.93	181.83	48.13	0.32
bisenzio	181	Max WS	SASP	350.15	41.48	47.81		47.99	0.000840	1.93	181.83	48.13	0.32
bisenzio	181	Max WS	SPSA	389.45	41.48	48.12		48.32	0.000821	1.98	196.97	49.14	0.32
bisenzio	181	Max WS	SPSP	389.45	41.48	48.12		48.32	0.000821	1.98	196.97	49.14	0.32
bisenzio	180.6			Lat Struct									
bisenzio	180.5			Lat Struct									
bisenzio	180	Max WS	SASA	350.15	40.38	47.84		47.99	0.000657	1.72	204.11	53.87	0.28
bisenzio	180	Max WS	SASP	350.15	40.38	47.84		47.99	0.000657	1.72	204.11	53.87	0.28
bisenzio	180	Max WS	SPSA	389.45	40.38	48.15		48.31	0.000676	1.76	221.39	57.16	0.29
bisenzio	180	Max WS	SPSP	389.45	40.38	48.15		48.31	0.000676	1.76	221.39	57.16	0.29
bisenzio	179	Max WS	SASA	350.15	41.72	47.62		47.88	0.001114	2.28	153.67	37.10	0.36
bisenzio	179	Max WS	SASP	350.15	41.72	47.62		47.88	0.001114	2.28	153.67	37.10	0.36
bisenzio	179	Max WS	SPSA	389.45	41.72	47.91		48.19	0.001329	2.35	165.61	43.71	0.39
bisenzio	179	Max WS	SPSP	389.45	41.72	47.91		48.19	0.001329	2.35	165.61	43.71	0.39
bisenzio	178	Max WS	SASA	350.15	41.34	47.51		47.77	0.001085	2.25	155.68	38.69	0.36
bisenzio	178	Max WS	SASP	350.15	41.34	47.51		47.77	0.001085	2.25	155.68	38.69	0.36
bisenzio	178	Max WS	SPSA	389.45	41.34	47.79		48.07	0.001108	2.34	166.39	39.47	0.36
bisenzio	178	Max WS	SPSP	389.45	41.34	47.79		48.07	0.001108	2.34	166.39	39.47	0.36
bisenzio	177	Max WS	SASA	350.15	41.40	47.49		47.67	0.000743	1.92	182.50	44.47	0.30
bisenzio	177	Max WS	SASP	350.15	41.40	47.49		47.67	0.000743	1.92	182.50	44.47	0.30
bisenzio	177	Max WS	SPSA	389.44	41.40	47.76		47.97	0.000759	2.00	194.95	45.37	0.31
bisenzio	177	Max WS	SPSP	389.44	41.40	47.76		47.97	0.000759	2.00	194.95	45.37	0.31
bisenzio	176	Max WS	SASA	350.14	41.30	47.40		47.61	0.000823	2.04	171.80	40.50	0.32
bisenzio	176	Max WS	SASP	350.15	41.30	47.40		47.61	0.000823	2.04	171.80	40.50	0.32
bisenzio	176	Max WS	SPSA	389.44	41.30	47.67		47.90	0.000850	2.13	182.92	41.27	0.32

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	176	Max WS	SPSP	389.44	41.30	47.67		47.90	0.000850	2.13	182.92	41.27	0.32
bisenzio	175.5			Lat Struct									
bisenzio	175	Max WS	SASA	350.13	40.22	47.13		47.50	0.001445	2.69	130.30	29.41	0.40
bisenzio	175	Max WS	SASP	350.13	40.22	47.13		47.50	0.001445	2.69	130.30	29.41	0.40
bisenzio	175	Max WS	SPSA	388.93	40.22	47.38		47.79	0.001512	2.83	137.88	30.74	0.41
bisenzio	175	Max WS	SPSP	388.94	40.22	47.38		47.79	0.001512	2.83	137.88	30.74	0.41
bisenzio	174	Max WS	SASA	350.12	40.90	47.02		47.35	0.001508	2.56	136.72	36.24	0.42
bisenzio	174	Max WS	SASP	350.12	40.90	47.02		47.35	0.001508	2.56	136.72	36.24	0.42
bisenzio	174	Max WS	SPSA	386.27	40.90	47.29		47.64	0.001487	2.64	147.47	46.54	0.42
bisenzio	174	Max WS	SPSP	386.26	40.90	47.29		47.64	0.001487	2.64	147.47	46.54	0.42
bisenzio	173	Max WS	SASA	350.09	40.26	46.79		47.17	0.001833	2.72	128.66	34.18	0.45
bisenzio	173	Max WS	SASP	350.09	40.26	46.79		47.17	0.001833	2.72	128.66	34.18	0.45
bisenzio	173	Max WS	SPSA	386.18	40.26	47.06		47.46	0.001822	2.80	138.01	34.93	0.45
bisenzio	173	Max WS	SPSP	386.18	40.26	47.06		47.46	0.001822	2.80	138.01	34.93	0.45
bisenzio	172	Max WS	SASA	350.07	40.79	46.70		47.00	0.001356	2.43	143.82	37.56	0.40
bisenzio	172	Max WS	SASP	350.07	40.79	46.70		47.00	0.001356	2.43	143.82	37.56	0.40
bisenzio	172	Max WS	SPSA	386.15	40.79	46.97		47.29	0.001342	2.50	154.29	38.20	0.40
bisenzio	172	Max WS	SPSP	386.13	40.79	46.97		47.29	0.001342	2.50	154.29	38.20	0.40
bisenzio	171	Max WS	SASA	350.02	40.45	46.49		46.87	0.001851	2.73	128.19	35.04	0.46
bisenzio	171	Max WS	SASP	350.01	40.45	46.49		46.87	0.001851	2.73	128.19	35.04	0.46
bisenzio	171	Max WS	SPSA	386.04	40.45	46.77		47.17	0.001815	2.80	137.97	35.72	0.45
bisenzio	171	Max WS	SPSP	386.02	40.45	46.77		47.17	0.001815	2.80	137.97	35.72	0.45
bisenzio	170	Max WS	SASA	349.83	40.09	46.12		46.63	0.002807	3.15	111.02	32.07	0.54
bisenzio	170	Max WS	SASP	349.82	40.09	46.12		46.63	0.002807	3.15	111.02	32.07	0.54
bisenzio	170	Max WS	SPSA	385.60	40.09	46.40		46.93	0.002708	3.21	120.23	32.87	0.54
bisenzio	170	Max WS	SPSP	385.58	40.09	46.40		46.93	0.002708	3.21	120.23	32.87	0.54
bisenzio	169.6			Lat Struct									
bisenzio	169	Max WS	SASA	349.75	40.29	45.99		46.32	0.001542	2.54	137.67	36.81	0.42
bisenzio	169	Max WS	SASP	349.73	40.29	45.99		46.32	0.001542	2.54	137.67	36.81	0.42
bisenzio	169	Max WS	SPSA	385.42	40.29	46.29		46.63	0.001495	2.59	148.79	37.65	0.42
bisenzio	169	Max WS	SPSP	385.44	40.29	46.29		46.63	0.001495	2.59	148.79	37.65	0.42
bisenzio	168	Max WS	SASA	349.72	40.59	45.98		46.18	0.000972	2.00	175.05	48.99	0.34
bisenzio	168	Max WS	SASP	349.72	40.59	45.98		46.18	0.000972	2.00	175.05	48.99	0.34
bisenzio	168	Max WS	SPSA	385.42	40.59	46.29		46.50	0.000917	2.02	190.48	49.94	0.33
bisenzio	168	Max WS	SPSP	385.41	40.59	46.29		46.50	0.000917	2.02	190.48	49.94	0.33
bisenzio	167	Max WS	SASA	358.98	40.41	45.91		46.07	0.000843	1.77	202.62	61.92	0.31
bisenzio	167	Max WS	SASP	358.99	40.41	45.91		46.07	0.000843	1.77	202.62	61.92	0.31
bisenzio	167	Max WS	SPSA	394.73	40.41	46.23		46.39	0.000806	1.77	223.39	66.24	0.31
bisenzio	167	Max WS	SPSP	394.74	40.41	46.23		46.39	0.000806	1.77	223.39	66.24	0.31
bisenzio	166.5			Lat Struct									
bisenzio	166	Max WS	SASA	358.99	39.77	45.93		46.05	0.000743	1.57	228.30	76.65	0.29
bisenzio	166	Max WS	SASP	358.99	39.77	45.93		46.05	0.000743	1.57	228.30	76.65	0.29
bisenzio	166	Max WS	SPSA	394.74	39.77	46.25		46.38	0.000644	1.56	253.48	77.33	0.27
bisenzio	166	Max WS	SPSP	394.74	39.77	46.25		46.38	0.000644	1.56	253.48	77.33	0.27
bisenzio	165	Max WS	SASA	358.99	41.02	45.88		46.03	0.000993	1.73	207.49	75.16	0.33
bisenzio	165	Max WS	SASP	358.99	41.02	45.88		46.03	0.000993	1.73	207.49	75.16	0.33
bisenzio	165	Max WS	SPSA	394.74	41.02	46.21		46.36	0.000836	1.70	232.68	76.08	0.31
bisenzio	165	Max WS	SPSP	394.74	41.02	46.21		46.36	0.000836	1.70	232.68	76.08	0.31
bisenzio	164	Max WS	SASA	358.98	38.90	45.69		45.97	0.001207	2.35	152.59	36.87	0.37
bisenzio	164	Max WS	SASP	358.98	38.90	45.69		45.97	0.001207	2.35	152.59	36.87	0.37
bisenzio	164	Max WS	SPSA	394.73	38.90	46.01		46.30	0.001179	2.40	164.70	38.02	0.37
bisenzio	164	Max WS	SPSP	394.74	38.90	46.01		46.30	0.001179	2.40	164.70	38.02	0.37
bisenzio	163	Max WS	SASA	358.98	39.51	45.63		45.87	0.001080	2.20	163.42	41.77	0.35
bisenzio	163	Max WS	SASP	358.98	39.51	45.63		45.87	0.001080	2.20	163.42	41.77	0.35
bisenzio	163	Max WS	SPSA	394.73	39.51	45.96		46.21	0.001027	2.23	177.36	42.70	0.35
bisenzio	163	Max WS	SPSP	394.73	39.51	45.96		46.21	0.001027	2.23	177.36	42.70	0.35
bisenzio	162	Max WS	SASA	358.98	39.35	45.44		45.77	0.001263	2.53	141.65	31.02	0.38
bisenzio	162	Max WS	SASP	358.98	39.35	45.44		45.77	0.001263	2.53	141.65	31.02	0.38
bisenzio	162	Max WS	SPSA	394.72	39.35	45.76		46.10	0.001427	2.60	152.07	35.74	0.40
bisenzio	162	Max WS	SPSP	394.72	39.35	45.76		46.10	0.001427	2.60	152.07	35.74	0.40
bisenzio	161	Max WS	SASA	358.97	39.04	45.25		45.63	0.001606	2.73	131.48	29.32	0.41
bisenzio	161	Max WS	SASP	358.97	39.04	45.25		45.63	0.001606	2.73	131.48	29.32	0.41
bisenzio	161	Max WS	SPSA	394.72	39.04	45.56		45.96	0.001625	2.81	140.49	30.32	0.42
bisenzio	161	Max WS	SPSP	394.72	39.04	45.56		45.96	0.001625	2.81	140.49	30.32	0.42
bisenzio	160	Max WS	SASA	358.97	39.25	45.29	42.59	45.63	0.001326	2.56	140.00	29.94	0.38
bisenzio	160	Max WS	SASP	358.97	39.25	45.29	42.59	45.63	0.001326	2.56	140.00	29.94	0.38
bisenzio	160	Max WS	SPSA	394.72	39.25	45.60	42.78	45.95	0.001343	2.65	149.17	30.65	0.38
bisenzio	160	Max WS	SPSP	394.72	39.25	45.60	42.78	45.95	0.001343	2.65	149.17	30.65	0.38
bisenzio	159			Bridge									
bisenzio	158	Max WS	SASA	358.97	39.25	45.13		45.49	0.001460	2.65	135.25	29.56	0.40

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	158	Max WS	SASP	358.97	39.25	45.13		45.49	0.001460	2.65	135.25	29.56	0.40
bisenzio	158	Max WS	SPSA	394.71	39.25	45.40		45.78	0.001508	2.76	143.10	30.18	0.40
bisenzio	158	Max WS	SPSP	394.71	39.25	45.40		45.78	0.001508	2.76	143.10	30.18	0.40
bisenzio	157.6			Lat Struct									
bisenzio	157.5			Lat Struct									
bisenzio	157	Max WS	SASA	358.97	39.38	45.19		45.47	0.001170	2.34	153.15	37.59	0.37
bisenzio	157	Max WS	SASP	358.97	39.38	45.19		45.47	0.001170	2.34	153.15	37.59	0.37
bisenzio	157	Max WS	SPSA	394.72	39.38	45.47		45.76	0.001171	2.41	163.58	38.35	0.37
bisenzio	157	Max WS	SPSP	394.72	39.38	45.47		45.76	0.001171	2.41	163.58	38.35	0.37
bisenzio	156	Max WS	SASA	358.96	38.26	44.89		45.22	0.001533	2.55	140.96	37.01	0.42
bisenzio	156	Max WS	SASP	358.96	38.26	44.89		45.22	0.001533	2.55	140.96	37.01	0.42
bisenzio	156	Max WS	SPSA	394.70	38.26	45.16		45.51	0.001516	2.61	151.31	37.92	0.42
bisenzio	156	Max WS	SPSP	394.70	38.26	45.16		45.51	0.001515	2.61	151.31	37.92	0.42
bisenzio	155	Max WS	SASA	358.95	37.12	44.61		44.95	0.001935	2.58	139.09	37.98	0.43
bisenzio	155	Max WS	SASP	358.95	37.12	44.61		44.95	0.001935	2.58	139.09	37.98	0.43
bisenzio	155	Max WS	SPSA	394.70	37.12	44.90		45.25	0.001869	2.63	150.09	38.86	0.43
bisenzio	155	Max WS	SPSP	394.69	37.12	44.90		45.25	0.001869	2.63	150.09	38.86	0.43
bisenzio	154.5			Lat Struct									
bisenzio	154	Max WS	SASA	358.95	38.01	44.33		44.65	0.001565	2.50	143.36	39.59	0.42
bisenzio	154	Max WS	SASP	358.94	38.01	44.33		44.65	0.001565	2.50	143.36	39.59	0.42
bisenzio	154	Max WS	SPSA	394.69	38.01	44.63		44.96	0.001494	2.54	155.45	40.54	0.41
bisenzio	154	Max WS	SPSP	394.69	38.01	44.63		44.96	0.001494	2.54	155.45	40.54	0.41
bisenzio	153	Max WS	SASA	358.94	37.94	44.04		44.36	0.001517	2.51	143.09	38.18	0.41
bisenzio	153	Max WS	SASP	358.94	37.94	44.04		44.36	0.001517	2.51	143.09	38.18	0.41
bisenzio	153	Max WS	SPSA	394.69	37.94	44.36		44.69	0.001449	2.54	155.27	39.17	0.41
bisenzio	153	Max WS	SPSP	394.69	37.94	44.36		44.69	0.001449	2.54	155.27	39.17	0.41
bisenzio	152	Max WS	SASA	358.94	37.09	43.88		44.19	0.001362	2.47	145.39	36.59	0.40
bisenzio	152	Max WS	SASP	358.94	37.09	43.88		44.19	0.001362	2.47	145.39	36.59	0.40
bisenzio	152	Max WS	SPSA	394.69	37.09	44.20		44.52	0.001314	2.51	157.27	37.49	0.39
bisenzio	152	Max WS	SPSP	394.69	37.09	44.20		44.52	0.001314	2.51	157.27	37.49	0.39
bisenzio	151	Max WS	SASA	358.93	37.75	43.66	41.85	44.06	0.001964	2.77	129.40	36.66	0.47
bisenzio	151	Max WS	SASP	358.93	37.75	43.66	41.86	44.06	0.001964	2.77	129.40	36.66	0.47
bisenzio	151	Max WS	SPSA	394.69	37.75	44.00	42.05	44.39	0.001816	2.78	141.90	37.64	0.46
bisenzio	151	Max WS	SPSP	394.69	37.75	44.00	42.05	44.39	0.001816	2.78	141.90	37.64	0.46
bisenzio	150.5			Bridge									
bisenzio	150.4	Max WS	SASA	358.93	37.75	43.57		43.98	0.002126	2.85	125.93	36.39	0.49
bisenzio	150.4	Max WS	SASP	358.93	37.75	43.57		43.98	0.002126	2.85	125.93	36.39	0.49
bisenzio	150.4	Max WS	SPSA	394.69	37.75	43.91		44.32	0.001947	2.85	138.52	37.38	0.47
bisenzio	150.4	Max WS	SPSP	394.69	37.75	43.91		44.32	0.001947	2.85	138.52	37.38	0.47
bisenzio	150.2			Lat Struct									
bisenzio	150.1			Lat Struct									
bisenzio	150	Max WS	SASA	358.93	37.12	43.36		43.72	0.001650	2.64	135.71	35.70	0.43
bisenzio	150	Max WS	SASP	358.93	37.12	43.36		43.72	0.001650	2.64	135.71	35.70	0.43
bisenzio	150	Max WS	SPSA	394.68	37.12	43.72		44.08	0.001559	2.65	148.68	37.23	0.42
bisenzio	150	Max WS	SPSP	394.68	37.12	43.72		44.08	0.001559	2.65	148.68	37.23	0.42
bisenzio	149.6			Lat Struct									
bisenzio	149	Max WS	SASA	358.93	36.47	43.20		43.39	0.000902	1.95	183.91	49.60	0.32
bisenzio	149	Max WS	SASP	358.93	36.47	43.20		43.39	0.000901	1.95	183.92	49.60	0.32
bisenzio	149	Max WS	SPSA	394.66	36.47	43.58		43.78	0.000809	1.94	203.19	50.73	0.31
bisenzio	149	Max WS	SPSP	394.66	36.47	43.58		43.78	0.000809	1.94	203.19	50.73	0.31
bisenzio	148	Max WS	SASA	358.93	36.66	43.15		43.28	0.000518	1.63	220.75	52.20	0.25
bisenzio	148	Max WS	SASP	358.92	36.66	43.15		43.28	0.000518	1.63	220.75	52.20	0.25
bisenzio	148	Max WS	SPSA	394.65	36.66	43.54		43.68	0.000480	1.63	241.38	53.29	0.25
bisenzio	148	Max WS	SPSP	394.65	36.66	43.54		43.68	0.000480	1.63	241.38	53.29	0.25
bisenzio	147	Max WS	SASA	358.92	36.71	43.08		43.23	0.000656	1.73	206.96	52.88	0.28
bisenzio	147	Max WS	SASP	358.92	36.71	43.08		43.23	0.000656	1.73	206.96	52.88	0.28
bisenzio	147	Max WS	SPSA	394.62	36.71	43.48		43.63	0.000592	1.73	228.26	54.14	0.27
bisenzio	147	Max WS	SPSP	394.62	36.71	43.48		43.63	0.000592	1.73	228.26	54.14	0.27
bisenzio	146	Max WS	SASA	358.92	35.81	43.03		43.17	0.000553	1.64	219.03	53.33	0.26
bisenzio	146	Max WS	SASP	358.92	35.81	43.03		43.17	0.000553	1.64	219.03	53.33	0.26
bisenzio	146	Max WS	SPSA	394.60	35.81	43.43		43.57	0.000504	1.64	240.77	54.54	0.25
bisenzio	146	Max WS	SPSP	394.60	35.81	43.43		43.57	0.000504	1.64	240.77	54.54	0.25
bisenzio	145	Max WS	SASA	406.69	36.58	43.05		43.10	0.000174	0.92	440.38	107.66	0.15
bisenzio	145	Max WS	SASP	406.71	36.58	43.05		43.10	0.000174	0.92	440.38	107.66	0.15
bisenzio	145	Max WS	SPSA	463.19	36.58	43.45		43.50	0.000172	0.96	484.07	110.90	0.15
bisenzio	145	Max WS	SPSP	463.16	36.58	43.45		43.50	0.000172	0.96	484.07	110.90	0.15
bisenzio	144.5			Lat Struct									
bisenzio	144	Max WS	SASA	406.69	36.32	43.00		43.07	0.000384	1.23	331.44	96.92	0.21

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	144	Max WS	SASP	406.68	36.32	43.00		43.07	0.000384	1.23	331.44	96.92	0.21
bisenzio	144	Max WS	SPSA	463.13	36.32	43.40		43.48	0.000351	1.25	370.39	98.18	0.21
bisenzio	144	Max WS	SPSP	463.16	36.32	43.40		43.48	0.000351	1.25	370.39	98.18	0.21
bisenzio	143	Max WS	SASA	406.66	35.54	42.85		43.00	0.000577	1.72	236.93	53.78	0.26
bisenzio	143	Max WS	SASP	406.64	35.54	42.85		43.00	0.000577	1.72	236.93	53.78	0.26
bisenzio	143	Max WS	SPSA	462.05	35.54	43.24		43.40	0.000573	1.79	258.17	54.34	0.26
bisenzio	143	Max WS	SPSP	462.05	35.54	43.24		43.40	0.000573	1.79	258.19	54.34	0.26
bisenzio	142	Max WS	SASA	406.66	35.19	42.89		42.97	0.000315	1.19	341.31	89.99	0.20
bisenzio	142	Max WS	SASP	406.67	35.19	42.89		42.97	0.000315	1.19	341.31	89.99	0.20
bisenzio	142	Max WS	SPSA	461.76	35.19	43.30		43.37	0.000296	1.22	377.84	91.32	0.19
bisenzio	142	Max WS	SPSP	461.74	35.19	43.30		43.37	0.000296	1.22	377.84	91.32	0.19
bisenzio	141	Max WS	SASA	406.66	35.05	42.89		42.94	0.000227	1.02	400.48	106.31	0.17
bisenzio	141	Max WS	SASP	406.66	35.05	42.89		42.94	0.000227	1.02	400.48	106.31	0.17
bisenzio	141	Max WS	SPSA	461.76	35.05	43.29		43.35	0.000211	1.04	443.89	107.56	0.16
bisenzio	141	Max WS	SPSP	461.76	35.05	43.29		43.35	0.000211	1.04	443.89	107.56	0.16
bisenzio	140	Max WS	SASA	406.65	35.49	42.79		42.91	0.000467	1.57	259.10	60.18	0.24
bisenzio	140	Max WS	SASP	406.64	35.49	42.79		42.91	0.000467	1.57	259.10	60.18	0.24
bisenzio	140	Max WS	SPSA	461.74	35.49	43.19		43.32	0.000460	1.63	283.40	61.28	0.24
bisenzio	140	Max WS	SPSP	461.72	35.49	43.19		43.32	0.000460	1.63	283.40	61.28	0.24
bisenzio	139	Max WS	SASA	406.64	35.60	42.78		42.88	0.000389	1.37	296.73	73.32	0.22
bisenzio	139	Max WS	SASP	406.64	35.60	42.78		42.88	0.000389	1.37	296.73	73.32	0.22
bisenzio	139	Max WS	SPSA	461.71	35.60	43.19		43.29	0.000395	1.41	326.87	77.92	0.22
bisenzio	139	Max WS	SPSP	461.73	35.60	43.19		43.29	0.000395	1.41	326.87	77.92	0.22
bisenzio	138	Max WS	SASA	406.64	34.88	42.76		42.85	0.000310	1.35	300.32	62.29	0.20
bisenzio	138	Max WS	SASP	406.64	34.88	42.76		42.85	0.000310	1.35	300.32	62.29	0.20
bisenzio	138	Max WS	SPSA	461.73	34.88	43.16		43.26	0.000313	1.42	325.43	62.89	0.20
bisenzio	138	Max WS	SPSP	461.73	34.88	43.16		43.26	0.000313	1.42	325.43	62.89	0.20
bisenzio	137	Max WS	SASA	406.63	34.23	42.62		42.81	0.000608	1.93	210.81	37.80	0.26
bisenzio	137	Max WS	SASP	406.63	34.23	42.62		42.81	0.000608	1.93	210.82	37.80	0.26
bisenzio	137	Max WS	SPSA	461.68	34.23	43.01		43.22	0.000643	2.05	225.43	38.16	0.27
bisenzio	137	Max WS	SPSP	461.66	34.23	43.01		43.22	0.000643	2.05	225.43	38.16	0.27
bisenzio	136	Max WS	SASA	406.63	35.09	42.61	38.56	42.81	0.000587	1.98	205.65	32.83	0.25
bisenzio	136	Max WS	SASP	406.64	35.09	42.61	38.56	42.81	0.000587	1.98	205.65	32.83	0.25
bisenzio	136	Max WS	SPSA	461.66	35.09	42.99	38.82	43.22	0.000637	2.12	218.12	32.84	0.26
bisenzio	136	Max WS	SPSP	461.68	35.09	42.99	38.82	43.22	0.000637	2.12	218.13	32.84	0.26
bisenzio	135			Bridge									
bisenzio	134	Max WS	SASA	406.61	34.55	42.42		42.61	0.000518	1.91	212.78	33.27	0.24
bisenzio	134	Max WS	SASP	406.61	34.55	42.42		42.61	0.000518	1.91	212.78	33.27	0.24
bisenzio	134	Max WS	SPSA	461.55	34.55	42.72		42.94	0.000583	2.07	222.86	33.28	0.26
bisenzio	134	Max WS	SPSP	461.55	34.55	42.72		42.94	0.000583	2.07	222.86	33.28	0.26
bisenzio	133.6			Lat Struct									
bisenzio	133.5			Lat Struct									
bisenzio	133	Max WS	SASA	406.59	34.19	42.47		42.60	0.000347	1.57	259.39	41.55	0.20
bisenzio	133	Max WS	SASP	406.59	34.19	42.47		42.60	0.000347	1.57	259.40	41.55	0.20
bisenzio	133	Max WS	SPSA	460.00	34.19	42.79		42.94	0.000383	1.69	272.53	41.55	0.21
bisenzio	133	Max WS	SPSP	459.98	34.19	42.79		42.94	0.000383	1.69	272.53	41.55	0.21
bisenzio	132	Max WS	SASA	406.49	34.94	42.41		42.57	0.000493	1.77	230.30	44.58	0.25
bisenzio	132	Max WS	SASP	406.50	34.94	42.41		42.57	0.000493	1.76	230.32	44.58	0.25
bisenzio	132	Max WS	SPSA	454.39	34.94	42.73		42.90	0.000516	1.86	244.67	45.02	0.25
bisenzio	132	Max WS	SPSP	454.39	34.94	42.73		42.90	0.000516	1.86	244.68	45.02	0.25
bisenzio	131	Max WS	SASA	406.48	34.71	42.19		42.49	0.000955	2.39	169.81	31.70	0.33
bisenzio	131	Max WS	SASP	406.47	34.71	42.20		42.49	0.000955	2.39	169.82	31.70	0.33
bisenzio	131	Max WS	SPSA	454.29	34.71	42.49		42.82	0.001023	2.53	179.33	32.13	0.34
bisenzio	131	Max WS	SPSP	454.27	34.71	42.49		42.82	0.001023	2.53	179.33	32.13	0.34
bisenzio	130	Max WS	SASA	406.48	34.50	42.23		42.41	0.000610	1.90	213.60	42.24	0.27
bisenzio	130	Max WS	SASP	406.47	34.50	42.23		42.41	0.000610	1.90	213.61	42.24	0.27
bisenzio	130	Max WS	SPSA	454.29	34.50	42.53		42.74	0.000641	2.00	226.71	42.83	0.28
bisenzio	130	Max WS	SPSP	454.31	34.50	42.53		42.74	0.000641	2.00	226.71	42.83	0.28
bisenzio	129	Max WS	SASA	406.49	34.71	42.31		42.37	0.000175	1.03	396.51	83.56	0.15
bisenzio	129	Max WS	SASP	406.48	34.71	42.31		42.37	0.000175	1.03	396.51	83.56	0.15
bisenzio	129	Max WS	SPSA	454.34	34.71	42.63		42.69	0.000179	1.07	423.35	84.30	0.15
bisenzio	129	Max WS	SPSP	454.34	34.71	42.63		42.69	0.000179	1.07	423.35	84.30	0.15
bisenzio	128	Max WS	SASA	406.48	34.52	42.16		42.34	0.000611	1.89	215.36	44.18	0.27
bisenzio	128	Max WS	SASP	406.47	34.52	42.16		42.34	0.000611	1.89	215.36	44.18	0.27
bisenzio	128	Max WS	SPSA	454.26	34.52	42.46		42.66	0.000642	1.98	229.01	45.08	0.28
bisenzio	128	Max WS	SPSP	454.29	34.52	42.46		42.66	0.000643	1.98	229.01	45.08	0.28
bisenzio	127	Max WS	SASA	406.45	34.38	41.96		42.28	0.001198	2.51	162.22	34.52	0.37
bisenzio	127	Max WS	SASP	406.45	34.38	41.96		42.28	0.001198	2.51	162.22	34.52	0.37
bisenzio	127	Max WS	SPSA	454.23	34.38	42.25		42.60	0.001264	2.64	172.25	35.22	0.38
bisenzio	127	Max WS	SPSP	454.23	34.38	42.25		42.60	0.001264	2.64	172.26	35.22	0.38
bisenzio	126	Max WS	SASA	406.44	33.98	41.86		42.17	0.001116	2.47	164.66	34.75	0.36

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	126	Max WS	SASP	406.44	33.98	41.86		42.17	0.001116	2.47	164.67	34.76	0.36
bisenzio	126	Max WS	SPSA	454.16	33.98	42.14		42.49	0.001181	2.60	174.51	35.29	0.37
bisenzio	126	Max WS	SPSP	454.14	33.98	42.14		42.49	0.001181	2.60	174.51	35.29	0.37
bisenzio	125.6			Lat Struct									
bisenzio	125	Max WS	SASA	406.43	34.29	41.78		42.07	0.001044	2.39	169.94	35.65	0.35
bisenzio	125	Max WS	SASP	406.42	34.29	41.78		42.07	0.001044	2.39	169.95	35.65	0.35
bisenzio	125	Max WS	SPSA	454.10	34.29	42.06		42.38	0.001107	2.52	179.85	36.07	0.36
bisenzio	125	Max WS	SPSP	454.10	34.29	42.06		42.38	0.001106	2.52	179.86	36.07	0.36
bisenzio	124	Max WS	SASA	406.43	34.60	41.73		41.99	0.000880	2.27	178.76	36.11	0.33
bisenzio	124	Max WS	SASP	406.41	34.60	41.73		41.99	0.000880	2.27	178.77	36.11	0.33
bisenzio	124	Max WS	SPSA	454.10	34.60	42.00		42.30	0.000942	2.41	188.70	36.67	0.34
bisenzio	124	Max WS	SPSP	454.08	34.60	42.00		42.30	0.000942	2.41	188.70	36.67	0.34
bisenzio	123	Max WS	SASA	406.42	34.54	41.70	38.39	41.98	0.000893	2.36	171.87	30.53	0.32
bisenzio	123	Max WS	SASP	406.41	34.54	41.70	38.40	41.98	0.000893	2.36	171.88	30.53	0.32
bisenzio	123	Max WS	SPSA	454.06	34.54	41.96	38.62	42.29	0.000976	2.52	179.99	30.81	0.33
bisenzio	123	Max WS	SPSP	454.08	34.54	41.96	38.62	42.29	0.000976	2.52	180.00	30.81	0.33
bisenzio	122			Bridge									
bisenzio	121	Max WS	SASA	406.42	34.54	41.66		41.95	0.000912	2.38	170.60	30.48	0.32
bisenzio	121	Max WS	SASP	406.40	34.54	41.66		41.95	0.000912	2.38	170.61	30.48	0.32
bisenzio	121	Max WS	SPSA	454.01	34.54	41.90		42.23	0.001009	2.55	177.89	30.74	0.34
bisenzio	121	Max WS	SPSP	454.00	34.54	41.90		42.23	0.001009	2.55	177.89	30.74	0.34
bisenzio	120.6			Lat Struct									
bisenzio	120.5			Lat Struct									
bisenzio	120	Max WS	SASA	406.42	34.66	41.76		41.94	0.000543	1.84	220.29	43.66	0.26
bisenzio	120	Max WS	SASP	406.41	34.66	41.76		41.94	0.000543	1.84	220.29	43.66	0.26
bisenzio	120	Max WS	SPSA	454.10	34.66	42.02		42.22	0.000586	1.96	231.56	44.03	0.27
bisenzio	120	Max WS	SPSP	454.08	34.66	42.02		42.22	0.000586	1.96	231.56	44.03	0.27
bisenzio	119	Max WS	SASA	406.43	33.70	41.76		41.91	0.000473	1.70	239.43	48.28	0.24
bisenzio	119	Max WS	SASP	406.42	33.70	41.76		41.91	0.000473	1.70	239.45	48.28	0.24
bisenzio	119	Max WS	SPSA	454.08	33.70	42.02		42.18	0.000507	1.80	251.98	48.66	0.25
bisenzio	119	Max WS	SPSP	454.10	33.70	42.02		42.18	0.000507	1.80	251.98	48.66	0.25
bisenzio	118	Max WS	SASA	406.42	32.76	41.64		41.85	0.000690	2.03	199.93	39.56	0.29
bisenzio	118	Max WS	SASP	406.39	32.76	41.64		41.85	0.000690	2.03	199.94	39.56	0.29
bisenzio	118	Max WS	SPSA	454.03	32.76	41.88		42.12	0.000755	2.17	209.68	40.32	0.30
bisenzio	118	Max WS	SPSP	454.04	32.76	41.88		42.12	0.000755	2.17	209.68	40.32	0.30
bisenzio	117	Max WS	SASA	406.40	32.96	41.56		41.76	0.000680	2.01	202.29	40.60	0.29
bisenzio	117	Max WS	SASP	406.39	32.96	41.56		41.76	0.000680	2.01	202.30	40.60	0.29
bisenzio	117	Max WS	SPSA	453.97	32.96	41.79		42.03	0.000744	2.14	211.96	41.30	0.30
bisenzio	117	Max WS	SPSP	453.99	32.96	41.79		42.03	0.000744	2.14	211.96	41.30	0.30
bisenzio	116	Max WS	SASA	406.38	34.16	41.45		41.68	0.000822	2.16	187.79	39.42	0.32
bisenzio	116	Max WS	SASP	406.37	34.16	41.45		41.68	0.000821	2.16	187.81	39.42	0.32
bisenzio	116	Max WS	SPSA	453.92	34.16	41.67		41.94	0.000901	2.31	196.72	40.14	0.33
bisenzio	116	Max WS	SPSP	453.92	34.16	41.67		41.94	0.000901	2.31	196.72	40.14	0.33
bisenzio	115	Max WS	SASA	406.38	33.86	41.43	37.97	41.63	0.000663	1.98	205.47	42.28	0.29
bisenzio	115	Max WS	SASP	406.36	33.86	41.43	37.97	41.63	0.000663	1.98	205.47	42.28	0.29
bisenzio	115	Max WS	SPSA	453.90	33.86	41.65	38.19	41.88	0.000727	2.11	214.98	42.88	0.30
bisenzio	115	Max WS	SPSP	453.90	33.86	41.65	38.19	41.88	0.000726	2.11	214.99	42.88	0.30
bisenzio	114.5			Bridge									
bisenzio	114	Max WS	SASA	406.37	33.66	41.06		41.26	0.000710	2.01	201.76	42.39	0.29
bisenzio	114	Max WS	SASP	406.35	33.66	41.06		41.26	0.000709	2.01	201.77	42.39	0.29
bisenzio	114	Max WS	SPSA	453.86	33.66	41.28		41.51	0.000778	2.15	211.06	42.99	0.31
bisenzio	114	Max WS	SPSP	453.84	33.66	41.28		41.51	0.000778	2.15	211.06	42.99	0.31
bisenzio	113.6			Lat Struct									
bisenzio	113.5			Lat Struct									
bisenzio	113	Max WS	SASA	406.37	33.90	41.07		41.21	0.000624	1.66	244.65	65.21	0.27
bisenzio	113	Max WS	SASP	406.34	33.90	41.07		41.21	0.000623	1.66	244.67	65.21	0.27
bisenzio	113	Max WS	SPSA	453.86	33.90	41.30		41.45	0.000649	1.75	259.55	65.93	0.28
bisenzio	113	Max WS	SPSP	453.84	33.90	41.30		41.45	0.000649	1.75	259.58	65.94	0.28
bisenzio	112	Max WS	SASA	406.37	32.60	40.98		41.14	0.000581	1.78	228.61	50.37	0.27
bisenzio	112	Max WS	SASP	406.34	32.60	40.98		41.14	0.000581	1.78	228.62	50.37	0.27
bisenzio	112	Max WS	SPSA	453.80	32.60	41.20		41.38	0.000632	1.89	239.60	51.07	0.28
bisenzio	112	Max WS	SPSP	453.78	32.60	41.20		41.38	0.000632	1.89	239.60	51.07	0.28
bisenzio	111	Max WS	SASA	406.34	33.56	40.92		41.09	0.000599	1.87	217.20	45.66	0.27
bisenzio	111	Max WS	SASP	406.32	33.56	40.92		41.10	0.000599	1.87	217.22	45.66	0.27
bisenzio	111	Max WS	SPSA	453.74	33.56	41.12		41.33	0.000660	2.00	226.77	46.28	0.29
bisenzio	111	Max WS	SPSP	453.72	33.56	41.13		41.33	0.000659	2.00	226.79	46.28	0.29
bisenzio	110	Max WS	SASA	406.36	32.43	40.98		41.07	0.000264	1.34	304.07	57.78	0.19
bisenzio	110	Max WS	SASP	406.34	32.43	40.98		41.07	0.000264	1.34	304.08	57.78	0.19
bisenzio	110	Max WS	SPSA	453.78	32.43	41.20		41.30	0.000292	1.43	316.71	58.43	0.20

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	110	Max WS	SPSP	453.76	32.43	41.20		41.30	0.000292	1.43	316.71	58.43	0.20
bisenzio	109	Max WS	SASA	406.36	33.09	40.96		41.04	0.000267	1.32	308.84	60.90	0.19
bisenzio	109	Max WS	SASP	406.33	33.09	40.96		41.04	0.000267	1.32	308.86	60.90	0.19
bisenzio	109	Max WS	SPSA	453.76	33.09	41.17		41.27	0.000294	1.41	322.03	61.48	0.20
bisenzio	109	Max WS	SPSP	453.78	33.09	41.17		41.27	0.000294	1.41	322.03	61.48	0.20
bisenzio	108	Max WS	SASA	406.33	33.07	40.82		41.01	0.000611	1.93	210.33	42.41	0.28
bisenzio	108	Max WS	SASP	406.31	33.07	40.82		41.01	0.000611	1.93	210.34	42.41	0.28
bisenzio	108	Max WS	SPSA	453.69	33.07	41.02		41.24	0.000684	2.07	218.70	43.04	0.29
bisenzio	108	Max WS	SPSP	453.68	33.07	41.02		41.24	0.000684	2.07	218.70	43.04	0.29
bisenzio	107	Max WS	SASA	406.34	31.51	40.90		40.98	0.000207	1.28	318.36	52.52	0.17
bisenzio	107	Max WS	SASP	406.32	31.51	40.90		40.98	0.000207	1.28	318.38	52.52	0.17
bisenzio	107	Max WS	SPSA	453.74	31.51	41.11		41.20	0.000235	1.38	329.34	53.14	0.18
bisenzio	107	Max WS	SPSP	453.72	31.51	41.11		41.21	0.000235	1.38	329.36	53.14	0.18
bisenzio	106	Max WS	SASA	406.34	32.74	40.77		40.96	0.000596	1.92	211.60	41.50	0.27
bisenzio	106	Max WS	SASP	406.30	32.74	40.77		40.96	0.000596	1.92	211.61	41.50	0.27
bisenzio	106	Max WS	SPSA	453.63	32.74	40.96		41.18	0.000669	2.07	219.50	42.03	0.29
bisenzio	106	Max WS	SPSP	453.65	32.74	40.96		41.18	0.000669	2.07	219.50	42.03	0.29
bisenzio	105	Max WS	SASA	406.30	33.16	40.71		40.94	0.000800	2.13	190.35	40.01	0.31
bisenzio	105	Max WS	SASP	406.29	33.16	40.71		40.94	0.000800	2.13	190.36	40.01	0.31
bisenzio	105	Max WS	SPSA	453.59	33.16	40.89		41.16	0.000898	2.30	197.60	40.56	0.33
bisenzio	105	Max WS	SPSP	453.59	33.16	40.89		41.16	0.000898	2.30	197.60	40.56	0.33
bisenzio	104	Max WS	SASA	406.33	32.32	40.79		40.92	0.000364	1.57	258.01	47.23	0.22
bisenzio	104	Max WS	SASP	406.30	32.32	40.79		40.92	0.000364	1.57	258.02	47.24	0.22
bisenzio	104	Max WS	SPSA	453.67	32.32	40.98		41.13	0.000412	1.70	267.18	47.84	0.23
bisenzio	104	Max WS	SPSP	453.61	32.32	40.98		41.13	0.000412	1.70	267.20	47.84	0.23
bisenzio	103	Max WS	SASA	406.32	32.31	40.70		40.89	0.000629	1.94	209.34	42.02	0.28
bisenzio	103	Max WS	SASP	406.29	32.31	40.70		40.89	0.000629	1.94	209.35	42.03	0.28
bisenzio	103	Max WS	SPSA	453.57	32.31	40.88		41.10	0.000710	2.09	216.92	42.60	0.30
bisenzio	103	Max WS	SPSP	453.59	32.31	40.88		41.10	0.000710	2.09	216.92	42.60	0.30
bisenzio	102	Max WS	SASA	406.31	32.85	40.69		40.86	0.000557	1.81	224.22	45.62	0.26
bisenzio	102	Max WS	SASP	406.27	32.85	40.69		40.86	0.000557	1.81	224.24	45.62	0.26
bisenzio	102	Max WS	SPSA	453.59	32.85	40.87		41.07	0.000626	1.95	232.47	46.15	0.28
bisenzio	102	Max WS	SPSP	453.57	32.85	40.87		41.07	0.000626	1.95	232.47	46.15	0.28
bisenzio	101	Max WS	SASA	406.31	31.81	40.72		40.84	0.000393	1.56	260.57	52.32	0.22
bisenzio	101	Max WS	SASP	406.28	31.81	40.72		40.84	0.000393	1.56	260.58	52.32	0.22
bisenzio	101	Max WS	SPSA	453.59	31.81	40.90		41.05	0.000440	1.68	270.27	52.92	0.24
bisenzio	101	Max WS	SPSP	453.57	31.81	40.90		41.05	0.000440	1.68	270.28	52.93	0.24
bisenzio	100	Max WS	SASA	406.30	32.03	40.66		40.82	0.000562	1.80	225.17	46.89	0.26
bisenzio	100	Max WS	SASP	406.27	32.03	40.66		40.82	0.000562	1.80	225.19	46.89	0.26
bisenzio	100	Max WS	SPSA	453.53	32.03	40.83		41.02	0.000632	1.94	233.45	47.54	0.28
bisenzio	100	Max WS	SPSP	453.53	32.03	40.83		41.02	0.000632	1.94	233.45	47.54	0.28
bisenzio	099	Max WS	SASA	406.29	32.08	40.62		40.77	0.000462	1.72	236.50	45.49	0.24
bisenzio	099	Max WS	SASP	406.27	32.08	40.62		40.77	0.000462	1.72	236.53	45.49	0.24
bisenzio	099	Max WS	SPSA	453.47	32.08	40.79		40.96	0.000525	1.86	244.24	46.03	0.26
bisenzio	099	Max WS	SPSP	453.44	32.08	40.79		40.96	0.000525	1.86	244.26	46.03	0.26
bisenzio	098	Max WS	SASA	406.27	31.92	40.52		40.71	0.000598	1.96	206.81	39.03	0.27
bisenzio	098	Max WS	SASP	406.23	31.92	40.52		40.71	0.000597	1.96	206.84	39.03	0.27
bisenzio	098	Max WS	SPSA	453.29	31.92	40.67		40.90	0.000688	2.13	212.78	39.46	0.29
bisenzio	098	Max WS	SPSP	453.26	31.92	40.67		40.90	0.000688	2.13	212.78	39.46	0.29
bisenzio	097	Max WS	SASA	406.26	32.60	40.45		40.65	0.000615	1.97	206.61	42.05	0.28
bisenzio	097	Max WS	SASP	406.23	32.60	40.45		40.65	0.000615	1.97	206.64	42.05	0.28
bisenzio	097	Max WS	SPSA	453.12	32.60	40.59		40.82	0.000705	2.14	212.57	42.26	0.30
bisenzio	097	Max WS	SPSP	453.12	32.60	40.59		40.82	0.000705	2.14	212.59	42.26	0.30
bisenzio	096	Max WS	SASA	397.27	32.57	40.39		40.60	0.000661	2.04	195.33	35.23	0.27
bisenzio	096	Max WS	SASP	397.21	32.57	40.39		40.60	0.000660	2.04	195.35	35.23	0.27
bisenzio	096	Max WS	SPSA	435.08	32.57	40.54		40.78	0.000729	2.17	200.63	35.23	0.29
bisenzio	096	Max WS	SPSP	435.03	32.57	40.54		40.78	0.000729	2.17	200.63	35.23	0.29
bisenzio	095	Max WS	SASA	397.05	32.79	40.38	36.67	40.59	0.000640	2.06	192.62	31.92	0.27
bisenzio	095	Max WS	SASP	396.98	32.79	40.38	36.67	40.59	0.000639	2.06	192.64	31.92	0.27
bisenzio	095	Max WS	SPSA	434.61	32.79	40.52	36.85	40.77	0.000714	2.20	197.36	31.97	0.28
bisenzio	095	Max WS	SPSP	434.53	32.79	40.52	36.85	40.77	0.000713	2.20	197.36	31.97	0.28
bisenzio	094			Bridge									
bisenzio	093	Max WS	SASA	397.04	32.79	40.37		40.59	0.000641	2.06	192.46	31.92	0.27
bisenzio	093	Max WS	SASP	396.97	32.79	40.37		40.59	0.000641	2.06	192.48	31.92	0.27
bisenzio	093	Max WS	SPSA	434.58	32.79	40.52		40.77	0.000716	2.20	197.14	31.96	0.28
bisenzio	093	Max WS	SPSP	434.53	32.79	40.52		40.77	0.000716	2.20	197.14	31.96	0.28
bisenzio	92.6			Lat Struct									
bisenzio	92.5			Lat Struct									
bisenzio	092	Max WS	SASA	397.05	32.39	40.39		40.58	0.000679	1.94	204.97	43.91	0.29
bisenzio	092	Max WS	SASP	396.98	32.39	40.39		40.58	0.000679	1.94	204.99	43.91	0.29
bisenzio	092	Max WS	SPSA	434.67	32.39	40.54		40.76	0.000737	2.05	211.67	43.91	0.30

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio	092	Max WS	SPSP	434.62	32.39	40.54		40.76	0.000737	2.05	211.68	43.91	0.30
bisenzio	091	Max WS	SASA	397.05	33.10	40.37		40.56	0.000671	1.94	204.80	43.95	0.29
bisenzio	091	Max WS	SASP	396.96	33.10	40.37		40.56	0.000671	1.94	204.83	43.95	0.29
bisenzio	091	Max WS	SPSA	434.58	33.10	40.52		40.73	0.000732	2.06	211.42	44.13	0.30
bisenzio	091	Max WS	SPSP	434.53	33.10	40.52		40.73	0.000732	2.06	211.43	44.13	0.30
bisenzio	089.1	Max WS	SASA	397.04	33.37	40.36	36.78	40.55	0.000632	1.94	204.33	41.57	0.28
bisenzio	089.1	Max WS	SASP	396.98	33.37	40.36	36.79	40.55	0.000631	1.94	204.36	41.57	0.28
bisenzio	089.1	Max WS	SPSA	434.50	33.37	40.50	36.96	40.72	0.000692	2.06	210.49	41.71	0.29
bisenzio	089.1	Max WS	SPSP	434.48	33.37	40.50	36.96	40.72	0.000692	2.06	210.49	41.71	0.29
bisenzio	089		Bridge										
bisenzio	088.9	Max WS	SASA	397.03	33.37	40.30		40.50	0.000651	1.96	202.23	41.52	0.28
bisenzio	088.9	Max WS	SASP	396.96	33.37	40.31		40.50	0.000651	1.96	202.27	41.52	0.28
bisenzio	088.9	Max WS	SPSA	434.41	33.37	40.44		40.66	0.000718	2.09	207.90	41.65	0.30
bisenzio	088.9	Max WS	SPSP	434.30	33.37	40.44		40.66	0.000717	2.09	207.91	41.65	0.30
bisenzio	88.6		Lat Struct										
bisenzio	88.5		Lat Struct										
bisenzio	088	Max WS	SASA	397.02	33.02	40.29		40.50	0.000707	2.02	196.43	40.23	0.29
bisenzio	088	Max WS	SASP	396.92	33.02	40.29		40.50	0.000706	2.02	196.46	40.24	0.29
bisenzio	088	Max WS	SPSA	434.32	33.02	40.43		40.66	0.000783	2.15	201.86	40.58	0.31
bisenzio	088	Max WS	SPSP	434.27	33.02	40.43		40.66	0.000783	2.15	201.87	40.58	0.31
bisenzio	087	Max WS	SASA	397.00	32.63	40.26		40.48	0.000751	2.10	188.61	38.06	0.30
bisenzio	087	Max WS	SASP	396.91	32.63	40.26		40.48	0.000750	2.10	188.63	38.06	0.30
bisenzio	087	Max WS	SPSA	434.29	32.63	40.39		40.64	0.000837	2.24	193.56	38.50	0.32
bisenzio	087	Max WS	SPSP	434.18	32.63	40.39		40.64	0.000836	2.24	193.58	38.50	0.32
bisenzio	086	Max WS	SASA	397.02	32.45	40.26		40.46	0.000665	1.98	200.15	40.43	0.28
bisenzio	086	Max WS	SASP	396.92	32.45	40.26		40.46	0.000665	1.98	200.17	40.43	0.28
bisenzio	086	Max WS	SPSA	434.29	32.45	40.39		40.62	0.000740	2.11	205.44	40.85	0.30
bisenzio	086	Max WS	SPSP	434.21	32.45	40.39		40.62	0.000740	2.11	205.45	40.85	0.30
bisenzio	085	Max WS	SASA	396.97	32.46	40.16		40.39	0.000819	2.12	186.94	39.66	0.31
bisenzio	085	Max WS	SASP	396.88	32.46	40.16		40.39	0.000819	2.12	186.96	39.66	0.31
bisenzio	085	Max WS	SPSA	433.95	32.46	40.28		40.54	0.000913	2.26	191.63	40.00	0.33
bisenzio	085	Max WS	SPSP	433.89	32.46	40.28		40.54	0.000912	2.26	191.65	40.00	0.33
bisenzio	084	Max WS	SASA	396.91	31.61	40.06		40.25	0.000653	1.96	202.57	40.76	0.28
bisenzio	084	Max WS	SASP	396.78	31.61	40.06		40.25	0.000652	1.96	202.61	40.76	0.28
bisenzio	084	Max WS	SPSA	433.45	31.61	40.16		40.39	0.000733	2.10	206.84	41.03	0.30
bisenzio	084	Max WS	SPSP	433.38	31.61	40.16		40.39	0.000733	2.09	206.87	41.03	0.30
bisenzio	083	Max WS	SASA	396.80	31.80	39.93		40.14	0.000701	2.00	198.01	40.87	0.29
bisenzio	083	Max WS	SASP	396.70	31.80	39.93		40.14	0.000700	2.00	198.06	40.88	0.29
bisenzio	083	Max WS	SPSA	432.62	31.80	40.02		40.25	0.000792	2.15	201.59	41.12	0.31
bisenzio	083	Max WS	SPSP	432.46	31.80	40.02		40.25	0.000791	2.14	201.62	41.12	0.31
bisenzio	082	Max WS	SASA	396.71	31.17	39.83		40.02	0.000651	1.95	203.65	40.65	0.28
bisenzio	082	Max WS	SASP	396.57	31.17	39.83		40.03	0.000650	1.95	203.70	40.66	0.28
bisenzio	082	Max WS	SPSA	431.95	31.17	39.90		40.13	0.000741	2.09	206.60	40.86	0.30
bisenzio	082	Max WS	SPSP	431.78	31.17	39.90		40.13	0.000740	2.09	206.63	40.86	0.30
bisenzio	081	Max WS	SASA	396.65	31.59	39.79		39.95	0.000530	1.80	220.90	43.84	0.26
bisenzio	081	Max WS	SASP	396.42	31.59	39.79		39.95	0.000529	1.79	220.95	43.84	0.26
bisenzio	081	Max WS	SPSA	431.64	31.59	39.86		40.05	0.000605	1.93	223.83	44.04	0.27
bisenzio	081	Max WS	SPSP	431.52	31.59	39.86		40.05	0.000604	1.93	223.86	44.05	0.27
bisenzio	080	Max WS	SASA	396.72	31.53	39.86		39.94	0.000200	1.22	324.14	56.17	0.16
bisenzio	080	Max WS	SASP	396.56	31.53	39.86		39.94	0.000200	1.22	324.23	56.17	0.16
bisenzio	080	Max WS	SPSA	432.03	31.53	39.94		40.03	0.000229	1.32	328.53	56.39	0.17
bisenzio	080	Max WS	SPSP	431.99	31.53	39.94		40.03	0.000229	1.31	328.57	56.39	0.17
bisenzio	079	Max WS	SASA	396.60	31.78	39.79		39.92	0.000385	1.61	245.86	45.30	0.22
bisenzio	079	Max WS	SASP	396.47	31.78	39.79		39.92	0.000384	1.61	245.93	45.30	0.22
bisenzio	079	Max WS	SPSA	431.69	31.78	39.86		40.01	0.000440	1.73	248.90	45.48	0.24
bisenzio	079	Max WS	SPSP	431.56	31.78	39.86		40.01	0.000440	1.73	248.93	45.48	0.24
bisenzio	078	Max WS	SASA	396.52	31.65	39.72		39.89	0.000518	1.82	217.68	41.41	0.25
bisenzio	078	Max WS	SASP	396.32	31.65	39.73		39.89	0.000517	1.82	217.74	41.41	0.25
bisenzio	078	Max WS	SPSA	431.20	31.65	39.78		39.98	0.000595	1.96	220.03	41.56	0.27
bisenzio	078	Max WS	SPSP	431.03	31.65	39.78		39.98	0.000594	1.96	220.05	41.57	0.27
bisenzio	077	Max WS	SASA	396.49	32.09	39.71		39.88	0.000566	1.85	214.90	43.48	0.26
bisenzio	077	Max WS	SASP	396.24	32.09	39.71		39.88	0.000564	1.84	214.96	43.49	0.26
bisenzio	077	Max WS	SPSA	431.07	32.09	39.76		39.96	0.000648	1.98	217.27	43.65	0.28
bisenzio	077	Max WS	SPSP	430.93	32.09	39.76		39.96	0.000647	1.98	217.30	43.65	0.28
bisenzio	076	Max WS	SASA	396.65	31.90	39.81		39.84	0.000058	0.73	543.37	85.01	0.09
bisenzio	076	Max WS	SASP	396.49	31.90	39.82		39.84	0.000058	0.73	543.50	85.01	0.09
bisenzio	076	Max WS	SPSA	431.81	31.90	39.88		39.92	0.000067	0.79	549.42	85.23	0.10
bisenzio	076	Max WS	SPSP	431.64	31.90	39.89		39.92	0.000067	0.79	549.47	85.23	0.10
bisenzio_01	075	Max WS	SASA	396.65	31.90	39.81		39.93	0.000332	1.51	262.13	47.75	0.21
bisenzio_01	075	Max WS	SASP	396.49	31.90	39.82		39.93	0.000332	1.51	262.20	47.76	0.21
bisenzio_01	075	Max WS	SPSA	431.81	31.90	39.88		40.02	0.000379	1.63	265.53	47.93	0.22

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio_01	075	Max WS	SPSP	431.64	31.90	39.89		40.02	0.000379	1.63	265.56	47.94	0.22
bisenzio_01	074.99	Max WS	SASA	396.65	31.90	39.81		39.93	0.000332	1.51	262.12	47.75	0.21
bisenzio_01	074.99	Max WS	SASP	396.46	31.90	39.81		39.93	0.000332	1.51	262.17	47.76	0.21
bisenzio_01	074.99	Max WS	SPSA	431.77	31.90	39.88		40.02	0.000379	1.63	265.51	47.93	0.22
bisenzio_01	074.99	Max WS	SPSP	431.64	31.90	39.88		40.02	0.000379	1.63	265.54	47.94	0.22
bisenzio_01	74.9			Lat Struct									
bisenzio_01	74.8			Lat Struct									
bisenzio_01	074	Max WS	SASA	396.54	31.66	39.74		39.89	0.000413	1.70	233.18	41.31	0.23
bisenzio_01	074	Max WS	SASP	396.34	31.66	39.74		39.89	0.000413	1.70	233.24	41.31	0.23
bisenzio_01	074	Max WS	SPSA	431.30	31.66	39.80		39.97	0.000475	1.83	235.65	41.47	0.25
bisenzio_01	074	Max WS	SPSP	431.12	31.66	39.80		39.97	0.000474	1.83	235.69	41.47	0.24
bisenzio_01	073	Max WS	SASA	396.52	31.64	39.74		39.88	0.000405	1.67	236.87	42.59	0.23
bisenzio_01	073	Max WS	SASP	396.33	31.64	39.74		39.88	0.000405	1.67	236.93	42.60	0.23
bisenzio_01	073	Max WS	SPSA	431.25	31.64	39.80		39.97	0.000466	1.80	239.41	42.78	0.24
bisenzio_01	073	Max WS	SPSP	431.17	31.64	39.80		39.97	0.000465	1.80	239.43	42.79	0.24
bisenzio_01	072.1	Max WS	SASA	396.54	31.64	39.74	35.18	39.88	0.000406	1.67	236.84	42.59	0.23
bisenzio_01	072.1	Max WS	SASP	396.28	31.64	39.74	35.19	39.88	0.000405	1.67	236.91	42.60	0.23
bisenzio_01	072.1	Max WS	SPSA	431.25	31.64	39.80	35.35	39.96	0.000466	1.80	239.38	42.78	0.24
bisenzio_01	072.1	Max WS	SPSP	431.12	31.64	39.80	35.35	39.97	0.000465	1.80	239.42	42.78	0.24
bisenzio_01	072			Bridge									
bisenzio_01	071.9	Max WS	SASA	396.44	31.64	39.71		39.85	0.000412	1.68	235.47	42.49	0.23
bisenzio_01	071.9	Max WS	SASP	396.21	31.64	39.71		39.85	0.000411	1.68	235.53	42.49	0.23
bisenzio_01	071.9	Max WS	SPSA	431.03	31.64	39.76		39.93	0.000474	1.81	237.75	42.66	0.25
bisenzio_01	071.9	Max WS	SPSP	430.94	31.64	39.76		39.93	0.000474	1.81	237.79	42.66	0.25
bisenzio_01	71.6			Lat Struct									
bisenzio_01	71.5			Lat Struct									
bisenzio_01	071	Max WS	SASA	396.43	31.61	39.70		39.85	0.000413	1.71	231.94	40.74	0.23
bisenzio_01	071	Max WS	SASP	396.21	31.61	39.70		39.85	0.000412	1.71	232.01	40.74	0.23
bisenzio_01	071	Max WS	SPSA	430.94	31.61	39.76		39.93	0.000476	1.84	234.11	40.89	0.25
bisenzio_01	071	Max WS	SPSP	430.90	31.61	39.76		39.93	0.000476	1.84	234.13	40.89	0.25
bisenzio_01	070	Max WS	SASA	396.46	31.64	39.70		39.85	0.000408	1.70	233.16	41.07	0.23
bisenzio_01	070	Max WS	SASP	396.19	31.64	39.70		39.85	0.000407	1.70	233.22	41.07	0.23
bisenzio_01	070	Max WS	SPSA	430.99	31.64	39.75		39.92	0.000470	1.83	235.31	41.23	0.24
bisenzio_01	070	Max WS	SPSP	430.90	31.64	39.75		39.92	0.000470	1.83	235.34	41.24	0.24
bisenzio_01	069	Max WS	SASA	396.39	31.05	39.68		39.83	0.000434	1.71	231.30	42.27	0.23
bisenzio_01	069	Max WS	SASP	396.09	31.05	39.68		39.83	0.000433	1.71	231.36	42.27	0.23
bisenzio_01	069	Max WS	SPSA	430.85	31.05	39.73		39.90	0.000500	1.85	233.39	42.41	0.25
bisenzio_01	069	Max WS	SPSP	430.76	31.05	39.73		39.90	0.000499	1.85	233.43	42.42	0.25
bisenzio_01	068	Max WS	SASA	396.34	30.70	39.67		39.80	0.000365	1.60	248.44	43.78	0.21
bisenzio_01	068	Max WS	SASP	396.11	30.70	39.67		39.80	0.000364	1.59	248.51	43.79	0.21
bisenzio_01	068	Max WS	SPSA	430.80	30.70	39.72		39.87	0.000421	1.72	250.53	43.90	0.23
bisenzio_01	068	Max WS	SPSP	430.72	30.70	39.72		39.87	0.000421	1.72	250.57	43.91	0.23
bisenzio_01	067	Max WS	SASA	396.29	30.80	39.65		39.79	0.000415	1.66	238.81	43.84	0.23
bisenzio_01	067	Max WS	SASP	395.97	30.80	39.65		39.79	0.000414	1.66	238.89	43.84	0.23
bisenzio_01	067	Max WS	SPSA	430.62	30.80	39.69		39.85	0.000479	1.79	240.75	43.96	0.24
bisenzio_01	067	Max WS	SPSP	430.39	30.80	39.69		39.86	0.000478	1.79	240.79	43.97	0.24
bisenzio_01	066	Max WS	SASA	396.29	30.67	39.66		39.77	0.000291	1.45	272.37	47.43	0.19
bisenzio_01	066	Max WS	SASP	396.01	30.67	39.67		39.77	0.000290	1.45	272.46	47.43	0.19
bisenzio_01	066	Max WS	SPSA	430.71	30.67	39.71		39.84	0.000336	1.57	274.60	47.55	0.21
bisenzio_01	066	Max WS	SPSP	430.67	30.67	39.71		39.84	0.000336	1.57	274.64	47.55	0.21
bisenzio_01	065	Max WS	SASA	396.32	30.83	39.67		39.76	0.000246	1.36	291.15	49.53	0.18
bisenzio_01	065	Max WS	SASP	396.07	30.83	39.67		39.76	0.000246	1.36	291.24	49.53	0.18
bisenzio_01	065	Max WS	SPSA	430.75	30.83	39.71		39.82	0.000284	1.47	293.51	49.66	0.19
bisenzio_01	065	Max WS	SPSP	430.62	30.83	39.72		39.82	0.000284	1.47	293.56	49.66	0.19
bisenzio_01	064	Max WS	SASA	396.22	30.57	39.64		39.74	0.000249	1.37	289.92	49.18	0.18
bisenzio_01	064	Max WS	SASP	395.91	30.57	39.65		39.74	0.000248	1.37	290.01	49.19	0.18
bisenzio_01	064	Max WS	SPSA	430.43	30.57	39.69		39.80	0.000288	1.47	292.09	49.32	0.19
bisenzio_01	064	Max WS	SPSP	430.39	30.57	39.69		39.80	0.000287	1.47	292.13	49.32	0.19
bisenzio_01	063	Max WS	SASA	395.99	30.76	39.59		39.72	0.000379	1.61	246.70	44.82	0.22
bisenzio_01	063	Max WS	SASP	390.26	30.76	39.59		39.72	0.000368	1.58	246.84	44.82	0.22
bisenzio_01	063	Max WS	SPSA	429.70	30.76	39.62		39.77	0.000439	1.73	248.24	44.91	0.24
bisenzio_01	063	Max WS	SPSP	429.66	30.76	39.62		39.78	0.000438	1.73	248.29	44.92	0.23
bisenzio_01	062	Max WS	SASA	390.80	30.65	39.56		39.70	0.000389	1.63	239.89	43.21	0.22
bisenzio_01	062	Max WS	SASP	388.16	30.65	39.57		39.70	0.000383	1.62	240.04	43.22	0.22
bisenzio_01	062	Max WS	SPSA	429.45	30.65	39.59		39.76	0.000463	1.78	241.18	43.30	0.24
bisenzio_01	062	Max WS	SPSP	429.31	30.65	39.60		39.76	0.000462	1.78	241.22	43.30	0.24
bisenzio_01	061	Max WS	SASA	390.51	30.84	39.56		39.68	0.000340	1.52	256.93	46.37	0.21
bisenzio_01	061	Max WS	SASP	387.73	30.84	39.56		39.68	0.000335	1.51	257.09	46.38	0.20
bisenzio_01	061	Max WS	SPSA	429.45	30.84	39.59		39.73	0.000405	1.66	258.28	46.41	0.22
bisenzio_01	061	Max WS	SPSP	429.26	30.84	39.59		39.73	0.000405	1.66	258.32	46.42	0.22

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio_01	060	Max WS	SASA	389.98	30.93	39.54		39.64	0.000278	1.40	278.62	48.71	0.19
bisenzio_01	060	Max WS	SASP	386.93	30.93	39.54		39.64	0.000273	1.39	278.81	48.71	0.19
bisenzio_01	060	Max WS	SPSA	429.10	30.93	39.56		39.68	0.000332	1.53	279.84	48.74	0.20
bisenzio_01	060	Max WS	SPSP	428.90	30.93	39.57		39.69	0.000331	1.53	279.88	48.74	0.20
bisenzio_01	059	Max WS	SASA	386.69	31.16	39.49		39.61	0.000340	1.54	251.79	42.81	0.20
bisenzio_01	059	Max WS	SASP	385.27	31.16	39.50		39.62	0.000336	1.53	251.99	42.81	0.20
bisenzio_01	059	Max WS	SPSA	428.14	31.16	39.51		39.65	0.000413	1.70	252.42	42.81	0.22
bisenzio_01	059	Max WS	SPSP	427.92	31.16	39.51		39.66	0.000413	1.69	252.47	42.81	0.22
bisenzio_01	58.5			Lat Struct									
bisenzio_01	058	Max WS	SASA	386.16	30.85	39.48		39.59	0.000298	1.43	270.54	46.97	0.19
bisenzio_01	058	Max WS	SASP	384.88	30.85	39.49		39.59	0.000295	1.42	270.76	46.97	0.19
bisenzio_01	058	Max WS	SPSA	428.02	30.85	39.49		39.62	0.000364	1.58	271.10	46.97	0.21
bisenzio_01	058	Max WS	SPSP	427.63	30.85	39.50		39.62	0.000363	1.58	271.16	46.97	0.21
bisenzio_01	057	Max WS	SASA	385.86	30.75	39.47		39.58	0.000269	1.46	264.36	34.90	0.17
bisenzio_01	057	Max WS	SASP	384.57	30.75	39.48		39.59	0.000267	1.45	264.53	34.90	0.17
bisenzio_01	057	Max WS	SPSA	427.57	30.75	39.48		39.62	0.000329	1.62	264.70	34.90	0.19
bisenzio_01	057	Max WS	SPSP	427.16	30.75	39.48		39.62	0.000329	1.61	264.74	34.90	0.19
bisenzio_01	056.1	Max WS	SASA	385.71	30.75	39.47	34.19	39.58	0.000267	1.45	265.82	35.19	0.17
bisenzio_01	056.1	Max WS	SASP	384.57	30.75	39.48	34.18	39.59	0.000265	1.45	265.98	35.19	0.17
bisenzio_01	056.1	Max WS	SPSA	427.57	30.75	39.48	34.35	39.62	0.000326	1.61	266.17	35.19	0.19
bisenzio_01	056.1	Max WS	SPSP	427.28	30.75	39.49	34.35	39.62	0.000326	1.61	266.21	35.19	0.19
bisenzio_01	056			Bridge									
bisenzio_01	055.9	Max WS	SASA	382.24	30.75	39.42		39.53	0.000267	1.45	263.91	35.19	0.17
bisenzio_01	055.9	Max WS	SASP	381.63	30.75	39.42		39.53	0.000266	1.45	264.08	35.19	0.17
bisenzio_01	055.9	Max WS	SPSA	419.99	30.75	39.42		39.55	0.000323	1.59	263.82	35.19	0.19
bisenzio_01	055.9	Max WS	SPSP	420.19	30.75	39.42		39.55	0.000323	1.59	263.87	35.19	0.19
bisenzio_01	55.6			Lat Struct									
bisenzio_01	55.5			Lat Struct									
bisenzio_01	055	Max WS	SASA	383.36	30.86	39.44		39.53	0.000217	1.34	285.35	41.28	0.16
bisenzio_01	055	Max WS	SASP	382.76	30.86	39.44		39.53	0.000216	1.34	285.54	41.28	0.16
bisenzio_01	055	Max WS	SPSA	421.82	30.86	39.44		39.55	0.000262	1.48	285.36	41.28	0.18
bisenzio_01	055	Max WS	SPSP	421.60	30.86	39.44		39.55	0.000262	1.48	285.42	41.28	0.18
bisenzio_01	054	Max WS	SASA	380.05	30.79	39.40		39.52	0.000323	1.54	247.42	42.52	0.20
bisenzio_01	054	Max WS	SASP	379.81	30.79	39.40		39.52	0.000322	1.53	247.63	42.56	0.20
bisenzio_01	054	Max WS	SPSA	416.99	30.79	39.39		39.54	0.000390	1.69	247.11	42.46	0.22
bisenzio_01	054	Max WS	SPSP	417.88	30.79	39.39		39.54	0.000391	1.69	247.18	42.47	0.22
bisenzio_01	053	Max WS	SASA	378.59	30.24	39.39		39.51	0.000383	1.53	246.78	49.17	0.22
bisenzio_01	053	Max WS	SASP	378.15	30.24	39.39		39.51	0.000382	1.53	247.02	49.22	0.22
bisenzio_01	053	Max WS	SPSA	415.64	30.24	39.38		39.52	0.000464	1.69	246.29	49.08	0.24
bisenzio_01	053	Max WS	SPSP	415.50	30.24	39.38		39.52	0.000463	1.69	246.36	49.09	0.24
bisenzio_01	52.5			Lat Struct									
bisenzio_01	052	Max WS	SASA	381.73	29.79	39.38		39.49	0.000294	1.48	257.55	41.80	0.19
bisenzio_01	052	Max WS	SASP	380.78	29.79	39.39		39.50	0.000292	1.48	257.75	41.81	0.19
bisenzio_01	052	Max WS	SPSA	418.74	29.79	39.37		39.51	0.000356	1.63	257.09	41.79	0.21
bisenzio_01	052	Max WS	SPSP	419.01	29.79	39.37		39.51	0.000356	1.63	257.14	41.79	0.21
bisenzio_01	051	Max WS	SASA	400.27	30.17	39.38		39.47	0.000230	1.35	295.41	46.12	0.17
bisenzio_01	051	Max WS	SASP	399.24	30.17	39.39		39.48	0.000228	1.35	295.63	46.13	0.17
bisenzio_01	051	Max WS	SPSA	438.37	30.17	39.37		39.48	0.000277	1.49	294.91	46.11	0.19
bisenzio_01	051	Max WS	SPSP	438.97	30.17	39.37		39.48	0.000278	1.49	294.98	46.11	0.19
bisenzio_01	050	Max WS	SASA	401.37	30.26	39.40		39.47	0.000137	1.10	364.59	53.56	0.13
bisenzio_01	050	Max WS	SASP	400.78	30.26	39.41		39.47	0.000136	1.10	364.85	53.57	0.13
bisenzio_01	050	Max WS	SPSA	440.78	30.26	39.40		39.47	0.000165	1.21	364.25	53.55	0.15
bisenzio_01	050	Max WS	SPSP	440.36	30.26	39.40		39.47	0.000165	1.21	364.33	53.56	0.15
bisenzio_01	049	Max WS	SASA	372.96	30.00	39.39		39.46	0.000163	1.17	319.16	47.64	0.14
bisenzio_01	049	Max WS	SASP	372.44	30.00	39.39		39.46	0.000162	1.17	319.40	47.65	0.14
bisenzio_01	049	Max WS	SPSA	408.52	30.00	39.38		39.46	0.000196	1.28	318.73	47.63	0.16
bisenzio_01	049	Max WS	SPSP	408.87	30.00	39.38		39.46	0.000196	1.28	318.80	47.63	0.16
bisenzio_01	048	Max WS	SASA	342.95	29.78	39.40		39.44	0.000102	0.93	383.71	65.70	0.12
bisenzio_01	048	Max WS	SASP	342.59	29.78	39.40		39.45	0.000101	0.92	384.03	65.70	0.12
bisenzio_01	048	Max WS	SPSA	376.15	29.78	39.39		39.44	0.000123	1.02	383.23	65.70	0.13
bisenzio_01	048	Max WS	SPSP	376.80	29.78	39.39		39.45	0.000123	1.02	383.33	65.70	0.13
bisenzio_01	047	Max WS	SASA	331.32	29.62	39.40		39.44	0.000109	0.96	345.88	52.25	0.12
bisenzio_01	047	Max WS	SASP	330.80	29.62	39.40		39.45	0.000108	0.96	346.13	52.25	0.12
bisenzio_01	047	Max WS	SPSA	363.93	29.62	39.39		39.44	0.000132	1.05	345.45	52.25	0.13
bisenzio_01	047	Max WS	SPSP	364.16	29.62	39.39		39.44	0.000132	1.05	345.53	52.25	0.13
bisenzio_01	046	Max WS	SASA	317.38	28.90	39.40		39.44	0.000085	0.89	357.47	49.54	0.11
bisenzio_01	046	Max WS	SASP	317.49	28.90	39.41		39.45	0.000084	0.89	357.71	49.54	0.11
bisenzio_01	046	Max WS	SPSA	348.94	28.90	39.40		39.44	0.000102	0.98	357.14	49.53	0.12
bisenzio_01	046	Max WS	SPSP	349.01	28.90	39.40		39.45	0.000102	0.98	357.20	49.53	0.12

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio_01	045	Max WS	SASA	307.83	29.37	39.40		39.44	0.000096	0.91	338.32	49.93	0.11
bisenzio_01	045	Max WS	SASP	307.72	29.37	39.41		39.45	0.000096	0.91	338.56	49.93	0.11
bisenzio_01	045	Max WS	SPSA	337.90	29.37	39.40		39.45	0.000116	1.00	338.00	49.92	0.12
bisenzio_01	045	Max WS	SPSP	337.89	29.37	39.40		39.45	0.000116	1.00	338.06	49.93	0.12
bisenzio_01	044	Max WS	SASA	293.30	29.40	39.39		39.44	0.000121	0.99	296.27	45.07	0.12
bisenzio_01	044	Max WS	SASP	293.03	29.40	39.40		39.45	0.000120	0.99	296.49	45.08	0.12
bisenzio_01	044	Max WS	SPSA	320.21	29.40	39.39		39.45	0.000144	1.08	295.96	45.05	0.13
bisenzio_01	044	Max WS	SPSP	320.54	29.40	39.39		39.45	0.000145	1.08	296.02	45.06	0.13
bisenzio_01	043	Max WS	SASA	315.68	29.09	39.38		39.43	0.000110	0.97	336.80	56.23	0.12
bisenzio_01	043	Max WS	SASP	315.23	29.09	39.38		39.43	0.000110	0.97	337.10	56.24	0.12
bisenzio_01	043	Max WS	SPSA	344.75	29.09	39.37		39.42	0.000132	1.07	336.22	56.22	0.13
bisenzio_01	043	Max WS	SPSP	345.67	29.09	39.37		39.43	0.000133	1.07	336.31	56.22	0.13
bisenzio_01	042	Max WS	SASA	329.20	28.97	39.39		39.42	0.000064	0.74	446.94	70.56	0.09
bisenzio_01	042	Max WS	SASP	328.43	28.97	39.40		39.42	0.000064	0.73	447.28	70.57	0.09
bisenzio_01	042	Max WS	SPSA	361.61	28.97	39.38		39.42	0.000078	0.81	446.34	70.55	0.10
bisenzio_01	042	Max WS	SPSP	361.78	28.97	39.38		39.42	0.000078	0.81	446.42	70.55	0.10
bisenzio_01	041	Max WS	SASA	321.81	29.19	39.40		39.42	0.000043	0.61	531.43	84.18	0.08
bisenzio_01	041	Max WS	SASP	321.94	29.19	39.41		39.42	0.000043	0.61	531.85	84.19	0.08
bisenzio_01	041	Max WS	SPSA	353.70	29.19	39.39		39.42	0.000052	0.67	530.84	84.17	0.08
bisenzio_01	041	Max WS	SPSP	354.25	29.19	39.39		39.42	0.000052	0.67	530.97	84.17	0.08
bisenzio_01	040	Max WS	SASA	298.05	28.85	39.40		39.42	0.000045	0.62	479.64	74.55	0.08
bisenzio_01	040	Max WS	SASP	297.79	28.85	39.41		39.42	0.000045	0.62	480.00	74.55	0.08
bisenzio_01	040	Max WS	SPSA	326.36	28.85	39.39		39.42	0.000054	0.68	479.14	74.53	0.09
bisenzio_01	040	Max WS	SPSP	326.40	28.85	39.40		39.42	0.000054	0.68	479.25	74.54	0.09
bisenzio_01	039	Max WS	SASA	287.12	29.01	39.39		39.42	0.000055	0.73	400.64	60.02	0.09
bisenzio_01	039	Max WS	SASP	287.13	29.01	39.40		39.42	0.000055	0.73	400.93	60.02	0.09
bisenzio_01	039	Max WS	SPSA	312.94	29.01	39.39		39.42	0.000066	0.79	400.18	60.02	0.10
bisenzio_01	039	Max WS	SPSP	313.33	29.01	39.39		39.42	0.000066	0.79	400.27	60.02	0.10
bisenzio_01	038	Max WS	SASA	251.59	28.61	39.39		39.41	0.000058	0.70	361.02	54.71	0.09
bisenzio_01	038	Max WS	SASP	251.64	28.61	39.40		39.42	0.000058	0.70	361.30	54.71	0.09
bisenzio_01	038	Max WS	SPSA	273.74	28.61	39.38		39.41	0.000069	0.76	360.58	54.71	0.09
bisenzio_01	038	Max WS	SPSP	273.90	28.61	39.38		39.41	0.000069	0.76	360.67	54.71	0.09
bisenzio_01	037	Max WS	SASA	265.59	28.60	39.38		39.40	0.000051	0.67	403.38	66.38	0.08
bisenzio_01	037	Max WS	SASP	266.57	28.60	39.39		39.41	0.000051	0.68	403.68	66.38	0.08
bisenzio_01	037	Max WS	SPSA	283.15	28.60	39.37		39.40	0.000058	0.72	402.89	66.38	0.09
bisenzio_01	037	Max WS	SPSP	283.79	28.60	39.38		39.40	0.000058	0.72	402.99	66.38	0.09
bisenzio_01	036	Max WS	SASA	212.61	28.11	39.39		39.40	0.000034	0.55	396.03	64.91	0.07
bisenzio_01	036	Max WS	SASP	212.89	28.11	39.39		39.41	0.000034	0.55	396.35	64.91	0.07
bisenzio_01	036	Max WS	SPSA	232.23	28.11	39.38		39.40	0.000041	0.60	395.50	64.91	0.08
bisenzio_01	036	Max WS	SPSP	232.37	28.11	39.38		39.40	0.000041	0.60	395.58	64.91	0.08
bisenzio_01	035	Max WS	SASA	188.74	28.41	39.39		39.40	0.000021	0.43	452.51	76.46	0.05
bisenzio_01	035	Max WS	SASP	189.08	28.41	39.40		39.41	0.000021	0.43	452.88	76.46	0.06
bisenzio_01	035	Max WS	SPSA	207.43	28.41	39.38		39.39	0.000026	0.47	451.91	76.46	0.06
bisenzio_01	035	Max WS	SPSP	207.62	28.41	39.39		39.40	0.000026	0.47	452.02	76.46	0.06
bisenzio_01	034	Max WS	SASA	172.93	28.10	39.39		39.40	0.000022	0.45	407.11	65.32	0.05
bisenzio_01	034	Max WS	SASP	173.35	28.10	39.40		39.41	0.000022	0.45	407.43	65.32	0.05
bisenzio_01	034	Max WS	SPSA	188.27	28.10	39.38		39.40	0.000026	0.49	406.64	65.32	0.06
bisenzio_01	034	Max WS	SPSP	188.34	28.10	39.39		39.40	0.000026	0.49	406.72	65.32	0.06
bisenzio_01	033	Max WS	SASA	170.93	27.53	39.38		39.40	0.000036	0.57	315.47	47.72	0.07
bisenzio_01	033	Max WS	SASP	170.97	27.53	39.39		39.41	0.000036	0.57	315.71	47.72	0.07
bisenzio_01	033	Max WS	SPSA	185.46	27.53	39.38		39.40	0.000042	0.62	315.08	47.72	0.07
bisenzio_01	033	Max WS	SPSP	185.70	27.53	39.38		39.40	0.000043	0.62	315.14	47.72	0.07
bisenzio_01	032	Max WS	SASA	158.32	27.60	39.39		39.40	0.000016	0.37	444.80	73.02	0.05
bisenzio_01	032	Max WS	SASP	158.13	27.60	39.39		39.40	0.000016	0.37	445.16	73.02	0.05
bisenzio_01	032	Max WS	SPSA	173.20	27.60	39.38		39.39	0.000019	0.41	444.22	73.02	0.05
bisenzio_01	032	Max WS	SPSP	173.23	27.60	39.38		39.39	0.000019	0.41	444.33	73.02	0.05
bisenzio_01	31.5			Lat Struct									
bisenzio_01	031	Max WS	SASA	138.13	27.85	39.39		39.40	0.000017	0.38	375.75	60.54	0.05
bisenzio_01	031	Max WS	SASP	137.87	27.85	39.39		39.40	0.000016	0.38	376.04	60.54	0.05
bisenzio_01	031	Max WS	SPSA	150.98	27.85	39.38		39.39	0.000020	0.42	375.25	60.54	0.05
bisenzio_01	031	Max WS	SPSP	151.09	27.85	39.38		39.39	0.000020	0.42	375.34	60.54	0.05
bisenzio_01	030	Max WS	SASA	138.05	28.12	39.39		39.40	0.000016	0.38	377.37	59.84	0.05
bisenzio_01	030	Max WS	SASP	137.89	28.12	39.39		39.40	0.000016	0.38	377.66	59.84	0.05
bisenzio_01	030	Max WS	SPSA	151.01	28.12	39.38		39.39	0.000019	0.41	376.88	59.84	0.05
bisenzio_01	030	Max WS	SPSP	151.26	28.12	39.38		39.39	0.000019	0.41	376.97	59.84	0.05
bisenzio_01	029	Max WS	SASA	137.63	27.90	39.39		39.40	0.000013	0.34	406.01	62.47	0.04
bisenzio_01	029	Max WS	SASP	137.47	27.90	39.39		39.40	0.000013	0.34	406.31	62.47	0.04
bisenzio_01	029	Max WS	SPSA	151.04	27.90	39.38		39.39	0.000016	0.38	405.49	62.47	0.05
bisenzio_01	029	Max WS	SPSP	151.09	27.90	39.38		39.39	0.000016	0.38	405.57	62.47	0.05
bisenzio_01	028	Max WS	SASA	135.17	28.40	39.39		39.40	0.000010	0.31	447.06	67.68	0.04
bisenzio_01	028	Max WS	SASP	134.93	28.40	39.40		39.40	0.000010	0.31	447.39	67.68	0.04
bisenzio_01	028	Max WS	SPSA	148.39	28.40	39.38		39.39	0.000012	0.34	446.50	67.68	0.04
bisenzio_01	028	Max WS	SPSP	148.39	28.40	39.38		39.39	0.000012	0.34	446.61	67.68	0.04

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
bisenzio_01	027	Max WS	SASA	128.78	28.61	39.39		39.39	0.000011	0.32	402.31	59.13	0.04
bisenzio_01	027	Max WS	SASP	128.72	28.61	39.39		39.40	0.000011	0.32	402.60	59.13	0.04
bisenzio_01	027	Max WS	SPSA	141.21	28.61	39.38		39.39	0.000013	0.36	401.84	59.13	0.04
bisenzio_01	027	Max WS	SPSP	141.22	28.61	39.38		39.39	0.000013	0.36	401.91	59.13	0.04
bisenzio_01	026	Max WS	SASA	127.13	27.69	39.39		39.39	0.000013	0.34	371.76	52.56	0.04
bisenzio_01	026	Max WS	SASP	126.99	27.69	39.39		39.40	0.000013	0.34	372.01	52.56	0.04
bisenzio_01	026	Max WS	SPSA	139.37	27.69	39.38		39.39	0.000016	0.38	371.32	52.56	0.05
bisenzio_01	026	Max WS	SPSP	139.42	27.69	39.38		39.39	0.000016	0.38	371.40	52.56	0.05
bisenzio_01	025	Max WS	SASA	120.56	26.25	39.39		39.39	0.000010	0.31	402.22	57.82	0.04
bisenzio_01	025	Max WS	SASP	120.34	26.25	39.39		39.40	0.000010	0.31	402.50	57.82	0.04
bisenzio_01	025	Max WS	SPSA	132.25	26.25	39.38		39.39	0.000012	0.34	401.75	57.82	0.04
bisenzio_01	025	Max WS	SPSP	132.23	26.25	39.38		39.39	0.000012	0.34	401.83	57.82	0.04
bisenzio_01	024	Max WS	SASA	124.65	28.58	39.39		39.39	0.000010	0.31	412.90	61.64	0.04
bisenzio_01	024	Max WS	SASP	124.55	28.58	39.39		39.40	0.000010	0.31	413.20	61.64	0.04
bisenzio_01	024	Max WS	SPSA	135.48	28.58	39.38		39.39	0.000012	0.34	412.39	61.64	0.04
bisenzio_01	024	Max WS	SPSP	135.45	28.58	39.38		39.39	0.000012	0.34	412.49	61.64	0.04
bisenzio_01	023	Max WS	SASA	128.87	27.47	39.39		39.39	0.000009	0.29	448.48	67.45	0.04
bisenzio_01	023	Max WS	SASP	128.82	27.47	39.39		39.40	0.000009	0.29	448.81	67.45	0.04
bisenzio_01	023	Max WS	SPSA	139.45	27.47	39.38		39.38	0.000011	0.32	447.93	67.45	0.04
bisenzio_01	023	Max WS	SPSP	139.49	27.47	39.38		39.39	0.000011	0.32	448.03	67.45	0.04
bisenzio_01	022	Max WS	SASA	131.07	27.71	39.39		39.39	0.000009	0.30	442.58	61.54	0.04
bisenzio_01	022	Max WS	SASP	131.11	27.71	39.39		39.40	0.000009	0.30	442.86	61.54	0.04
bisenzio_01	022	Max WS	SPSA	141.82	27.71	39.38		39.38	0.000010	0.32	442.05	61.54	0.04
bisenzio_01	022	Max WS	SPSP	141.90	27.71	39.38		39.39	0.000010	0.32	442.15	61.54	0.04
bisenzio_01	21.5			Lat Struct									
bisenzio_01	021	Max WS	SASA	128.64	27.80	39.39		39.39	0.000009	0.29	438.93	57.66	0.03
bisenzio_01	021	Max WS	SASP	128.63	27.80	39.39		39.40	0.000009	0.29	439.21	57.66	0.03
bisenzio_01	021	Max WS	SPSA	139.78	27.80	39.38		39.38	0.000010	0.32	438.44	57.66	0.04
bisenzio_01	021	Max WS	SPSP	139.85	27.80	39.38		39.39	0.000010	0.32	438.52	57.66	0.04
bisenzio_01	020	Max WS	SASA	127.00	27.36	39.39		39.39	0.000006	0.24	539.53	85.81	0.03
bisenzio_01	020	Max WS	SASP	126.99	27.36	39.39		39.40	0.000006	0.24	539.95	85.81	0.03
bisenzio_01	020	Max WS	SPSA	138.50	27.36	39.38		39.38	0.000008	0.26	538.82	85.81	0.03
bisenzio_01	020	Max WS	SPSP	138.58	27.36	39.38		39.39	0.000008	0.26	538.95	85.81	0.03
bisenzio_01	019	Max WS	SASA	104.25	27.10	39.39		39.39	0.000005	0.20	547.54	94.62	0.03
bisenzio_01	019	Max WS	SASP	104.13	27.10	39.39		39.40	0.000005	0.20	548.01	94.62	0.03
bisenzio_01	019	Max WS	SPSA	115.87	27.10	39.38		39.38	0.000006	0.22	546.77	94.62	0.03
bisenzio_01	019	Max WS	SPSP	115.91	27.10	39.38		39.39	0.000006	0.22	546.91	94.62	0.03
bisenzio_01	18.6			Lat Struct									
bisenzio_01	018	Max WS	SASA	81.76	27.36	39.39		39.39	0.000002	0.15	592.09	88.66	0.02
bisenzio_01	018	Max WS	SASP	81.55	27.36	39.40		39.40	0.000002	0.15	592.52	88.66	0.02
bisenzio_01	018	Max WS	SPSA	92.20	27.36	39.38		39.38	0.000002	0.17	591.42	88.66	0.02
bisenzio_01	018	Max WS	SPSP	92.13	27.36	39.38		39.39	0.000002	0.17	591.52	88.66	0.02
bisenzio_01	017	Max WS	SASA	70.59	27.78	39.39		39.39	0.000002	0.16	491.11	81.08	0.02
bisenzio_01	017	Max WS	SASP	70.22	27.78	39.40		39.40	0.000002	0.15	491.51	81.08	0.02
bisenzio_01	017	Max WS	SPSA	79.70	27.78	39.38		39.38	0.000003	0.18	490.47	81.08	0.02
bisenzio_01	017	Max WS	SPSP	79.58	27.78	39.39		39.39	0.000003	0.18	490.59	81.08	0.02
bisenzio_01	016	Max WS	SASA	69.72	28.19	39.39		39.39	0.000004	0.18	397.51	62.26	0.02
bisenzio_01	016	Max WS	SASP	69.23	28.19	39.40		39.40	0.000004	0.18	397.81	62.26	0.02
bisenzio_01	016	Max WS	SPSA	78.61	28.19	39.38		39.39	0.000005	0.21	397.01	62.26	0.03
bisenzio_01	016	Max WS	SPSP	78.48	28.19	39.38		39.39	0.000005	0.21	397.11	62.26	0.03
bisenzio_01	015	Max WS	SASA	73.82	28.52	39.39		39.39	0.000004	0.19	389.42	62.47	0.02
bisenzio_01	015	Max WS	SASP	73.61	28.52	39.39		39.40	0.000004	0.19	389.73	62.55	0.02
bisenzio_01	015	Max WS	SPSA	80.88	28.52	39.38		39.38	0.000005	0.21	388.93	62.34	0.03
bisenzio_01	015	Max WS	SPSP	80.77	28.52	39.38		39.39	0.000005	0.21	389.02	62.36	0.03
bisenzio_01	014	Max WS	SASA	74.30	28.93	39.39	30.32	39.39	0.000006	0.22	337.82	52.86	0.03
bisenzio_01	014	Max WS	SASP	74.12	28.93	39.39	30.32	39.40	0.000006	0.22	338.08	52.87	0.03
bisenzio_01	014	Max WS	SPSA	81.28	28.93	39.38	30.40	39.38	0.000007	0.24	337.39	52.84	0.03
bisenzio_01	014	Max WS	SPSP	81.17	28.93	39.38	30.40	39.39	0.000007	0.24	337.47	52.84	0.03
bisenzio_01	13.5			Bridge									
bisenzio_01	013	Max WS	SASA	74.30	28.93	39.39		39.39	0.000006	0.22	337.76	52.86	0.03
bisenzio_01	013	Max WS	SASP	74.11	28.93	39.39		39.40	0.000006	0.22	338.03	52.87	0.03
bisenzio_01	013	Max WS	SPSA	81.28	28.93	39.38		39.38	0.000007	0.24	337.32	52.84	0.03
bisenzio_01	013	Max WS	SPSP	81.17	28.93	39.38		39.38	0.000007	0.24	337.40	52.84	0.03
bisenzio_01	12.6			Lat Struct									
bisenzio_01	12.5			Lat Struct									
bisenzio_01	012	Max WS	SASA	74.41	28.36	39.39		39.39	0.000004	0.19	386.54	57.97	0.02
bisenzio_01	012	Max WS	SASP	74.23	28.36	39.39		39.40	0.000004	0.19	386.82	57.97	0.02
bisenzio_01	012	Max WS	SPSA	81.49	28.36	39.38		39.38	0.000005	0.21	386.06	57.97	0.03
bisenzio_01	012	Max WS	SPSP	81.28	28.36	39.38		39.38	0.000005	0.21	386.15	57.97	0.03

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
bisenzio_01	011	Max WS	SASA	74.20	28.00	39.39		39.39	0.000003	0.17	436.34	63.76	0.02
bisenzio_01	011	Max WS	SASP	74.00	28.00	39.39		39.40	0.000003	0.17	436.65	63.76	0.02
bisenzio_01	011	Max WS	SPSA	81.26	28.00	39.38		39.38	0.000003	0.19	435.83	63.76	0.02
bisenzio_01	011	Max WS	SPSP	81.11	28.00	39.38		39.38	0.000003	0.19	435.93	63.76	0.02
bisenzio_01	010	Max WS	SASA	44.29	27.02	39.39		39.39	0.000001	0.09	490.75	74.99	0.01
bisenzio_01	010	Max WS	SASP	43.75	27.02	39.40		39.40	0.000001	0.09	491.11	74.99	0.01
bisenzio_01	010	Max WS	SPSA	48.88	27.02	39.38		39.38	0.000001	0.10	490.15	74.99	0.01
bisenzio_01	010	Max WS	SPSP	48.49	27.02	39.38		39.38	0.000001	0.10	490.27	74.99	0.01
bisenzio_01	9.6			Lat Struct									
bisenzio_01	009	Max WS	SASA	45.12	26.95	39.39		39.39	0.000001	0.10	468.76	67.72	0.01
bisenzio_01	009	Max WS	SASP	44.90	26.95	39.40		39.40	0.000001	0.10	469.09	67.73	0.01
bisenzio_01	009	Max WS	SPSA	46.83	26.95	39.38		39.38	0.000001	0.10	468.20	67.71	0.01
bisenzio_01	009	Max WS	SPSP	46.74	26.95	39.38		39.38	0.000001	0.10	468.30	67.71	0.01
bisenzio_01	008	Max WS	SASA	60.02	26.02	39.39		39.39	0.000002	0.13	457.76	66.14	0.02
bisenzio_01	008	Max WS	SASP	60.41	26.02	39.39		39.40	0.000002	0.13	458.08	66.14	0.02
bisenzio_01	008	Max WS	SPSA	59.93	26.02	39.38		39.38	0.000002	0.13	457.23	66.14	0.02
bisenzio_01	008	Max WS	SPSP	59.70	26.02	39.38		39.38	0.000002	0.13	457.33	66.14	0.02
bisenzio_01	7.6			Lat Struct									
bisenzio_01	007.5			Lat Struct									
bisenzio_01	007	Max WS	SASA	137.26	27.31	39.38		39.38	0.000011	0.39	349.28	81.37	0.04
bisenzio_01	007	Max WS	SASP	132.71	27.31	39.38		39.39	0.000011	0.38	349.49	81.37	0.04
bisenzio_01	007	Max WS	SPSA	177.87	27.31	39.36		39.37	0.000019	0.51	348.59	81.37	0.05
bisenzio_01	007	Max WS	SPSP	177.18	27.31	39.36		39.37	0.000019	0.51	348.66	81.37	0.05
bisenzio_01	006.1	Max WS	SASA	137.06	27.60	39.37	29.85	39.38	0.000026	0.47	289.98	31.45	0.05
bisenzio_01	006.1	Max WS	SASP	132.40	27.60	39.38	29.81	39.39	0.000024	0.46	290.17	31.45	0.05
bisenzio_01	006.1	Max WS	SPSA	177.66	27.60	39.35	30.19	39.37	0.000044	0.61	289.32	31.45	0.06
bisenzio_01	006.1	Max WS	SPSP	177.03	27.60	39.35	30.18	39.37	0.000044	0.61	289.37	31.45	0.06
bisenzio_01	6			Bridge									
bisenzio_01	005	Max WS	SASA	136.87	27.77	39.37		39.38	0.000026	0.47	291.19	32.98	0.05
bisenzio_01	005	Max WS	SASP	132.27	27.77	39.38		39.39	0.000025	0.45	291.39	32.98	0.05
bisenzio_01	005	Max WS	SPSA	177.61	27.77	39.35		39.37	0.000045	0.61	290.45	32.97	0.07
bisenzio_01	005	Max WS	SPSP	177.01	27.77	39.35		39.37	0.000044	0.61	290.51	32.97	0.07
bisenzio_01	4.6			Lat Struct									
bisenzio_01	004	Max WS	SASA	136.69	27.62	39.37		39.38	0.000011	0.41	337.32	49.66	0.04
bisenzio_01	004	Max WS	SASP	132.15	27.62	39.38		39.39	0.000010	0.39	337.52	49.66	0.04
bisenzio_01	004	Max WS	SPSA	177.33	27.62	39.35		39.37	0.000019	0.53	336.65	49.66	0.05
bisenzio_01	004	Max WS	SPSP	176.77	27.62	39.35		39.37	0.000018	0.53	336.70	49.66	0.05
bisenzio_01	003	Max WS	SASA	134.15	27.57	39.38		39.38	0.000008	0.30	446.17	52.69	0.03
bisenzio_01	003	Max WS	SASP	129.60	27.57	39.38		39.39	0.000007	0.29	446.49	52.69	0.03
bisenzio_01	003	Max WS	SPSA	175.03	27.57	39.36		39.37	0.000014	0.40	445.24	52.69	0.04
bisenzio_01	003	Max WS	SPSP	174.27	27.57	39.36		39.37	0.000014	0.40	445.32	52.69	0.04
bisenzio_01	002	Max WS	SASA	119.20	26.05	39.38		39.38	0.000005	0.24	502.62	60.98	0.03
bisenzio_01	002	Max WS	SASP	114.12	26.05	39.39		39.39	0.000005	0.23	502.97	60.98	0.03
bisenzio_01	002	Max WS	SPSA	161.69	26.05	39.36		39.37	0.000009	0.33	501.54	60.98	0.04
bisenzio_01	002	Max WS	SPSP	160.84	26.05	39.36		39.37	0.000009	0.32	501.63	60.98	0.04
bisenzio_01	001	Max WS	SASA	115.78	25.38	39.38		39.38	0.000002	0.18	666.14	73.85	0.02
bisenzio_01	001	Max WS	SASP	110.25	25.38	39.39		39.39	0.000002	0.18	666.57	73.85	0.02
bisenzio_01	001	Max WS	SPSA	159.17	25.38	39.36		39.37	0.000004	0.25	664.88	73.85	0.03
bisenzio_01	001	Max WS	SPSP	158.25	25.38	39.36		39.37	0.000004	0.25	664.99	73.85	0.03

HEC-RAS River: greve Reach: greve Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
greve	087.2	Max WS	SASA	426.91	49.85	55.81		56.02	0.001027	2.05	208.14	46.75	0.31
greve	087.2	Max WS	SASP	426.91	49.85	55.81		56.02	0.001027	2.05	208.14	46.75	0.31
greve	087.2	Max WS	SPSA	490.64	49.85	56.24		56.48	0.001018	2.15	228.39	46.75	0.31
greve	087.2	Max WS	SPSP	490.64	49.85	56.24		56.48	0.001018	2.15	228.39	46.75	0.31
greve	086	Max WS	SASA	426.90	49.01	55.22		55.79	0.003206	3.34	127.94	32.03	0.53
greve	086	Max WS	SASP	426.90	49.01	55.22		55.79	0.003206	3.34	127.94	32.03	0.53
greve	086	Max WS	SPSA	490.59	49.01	55.64		56.25	0.003178	3.46	141.90	34.75	0.54
greve	086	Max WS	SPSP	490.59	49.01	55.64		56.25	0.003178	3.46	141.90	34.75	0.54
greve	085	Max WS	SASA	426.90	48.99	55.28		55.63	0.001721	2.63	162.07	36.45	0.40
greve	085	Max WS	SASP	426.90	48.99	55.28		55.63	0.001721	2.63	162.07	36.45	0.40
greve	085	Max WS	SPSA	490.61	48.99	55.71		56.10	0.001743	2.76	177.93	37.39	0.40
greve	085	Max WS	SPSP	490.60	48.99	55.71		56.10	0.001743	2.76	177.93	37.39	0.40
greve	084	Max WS	SASA	426.90	48.46	55.09		55.51	0.002332	2.87	148.63	36.17	0.45
greve	084	Max WS	SASP	426.90	48.46	55.09		55.51	0.002332	2.87	148.63	36.17	0.45
greve	084	Max WS	SPSA	490.60	48.46	55.52		55.98	0.002314	2.98	164.52	37.55	0.45
greve	084	Max WS	SPSP	490.60	48.46	55.52		55.98	0.002314	2.98	164.52	37.55	0.45
greve	083	Max WS	SASA	426.89	48.69	54.86		55.39	0.002900	3.22	132.49	30.50	0.49
greve	083	Max WS	SASP	426.89	48.69	54.86		55.39	0.002900	3.22	132.49	30.50	0.49
greve	083	Max WS	SPSA	490.58	48.69	55.27		55.85	0.002977	3.38	145.29	31.78	0.50
greve	083	Max WS	SPSP	490.59	48.69	55.27		55.85	0.002977	3.38	145.29	31.78	0.50
greve	082	Max WS	SASA	426.89	48.75	54.78		55.27	0.002461	3.09	138.09	30.74	0.47
greve	082	Max WS	SASP	426.90	48.75	54.78		55.27	0.002461	3.09	138.09	30.74	0.47
greve	082	Max WS	SPSA	490.58	48.75	55.19		55.72	0.002539	3.25	150.76	31.65	0.48
greve	082	Max WS	SPSP	490.58	48.75	55.19		55.72	0.002539	3.25	150.76	31.65	0.48
greve	081	Max WS	SASA	426.89	48.52	54.70		55.15	0.002238	2.97	143.96	32.55	0.45
greve	081	Max WS	SASP	426.90	48.52	54.70		55.15	0.002238	2.97	143.96	32.55	0.45
greve	081	Max WS	SPSA	490.58	48.52	55.12		55.61	0.002242	3.11	158.37	38.47	0.45
greve	081	Max WS	SPSP	490.57	48.52	55.12		55.61	0.002242	3.11	158.37	38.47	0.45
greve	080	Max WS	SASA	426.89	48.15	54.49		55.01	0.002783	3.19	133.77	30.50	0.49
greve	080	Max WS	SASP	426.89	48.15	54.49		55.01	0.002783	3.19	133.77	30.50	0.49
greve	080	Max WS	SPSA	490.56	48.15	54.89		55.46	0.002925	3.35	146.26	32.19	0.50
greve	080	Max WS	SPSP	490.55	48.15	54.89		55.46	0.002925	3.35	146.26	32.19	0.50
greve	079	Max WS	SASA	426.89	48.10	54.67		54.92	0.001273	2.25	189.54	43.73	0.35
greve	079	Max WS	SASP	426.89	48.10	54.67		54.92	0.001273	2.25	189.54	43.73	0.35
greve	079	Max WS	SPSA	490.57	48.10	55.09		55.37	0.001293	2.35	208.52	45.55	0.35
greve	079	Max WS	SPSP	490.57	48.10	55.09		55.37	0.001293	2.35	208.52	45.55	0.35
greve	078	Max WS	SASA	426.89	48.19	54.39		54.80	0.002204	2.85	149.74	35.57	0.44
greve	078	Max WS	SASP	426.88	48.19	54.39		54.80	0.002204	2.85	149.74	35.57	0.44
greve	078	Max WS	SPSA	490.56	48.19	54.80		55.25	0.002228	2.98	164.49	36.68	0.45
greve	078	Max WS	SPSP	490.55	48.19	54.80		55.25	0.002228	2.98	164.49	36.68	0.45
greve	077	Max WS	SASA	426.89	47.85	54.46		54.75	0.001460	2.36	181.06	42.84	0.37
greve	077	Max WS	SASP	426.89	47.85	54.46		54.75	0.001460	2.36	181.06	42.84	0.37
greve	077	Max WS	SPSA	490.56	47.85	54.89		55.19	0.001450	2.46	199.32	43.80	0.37
greve	077	Max WS	SPSP	490.56	47.85	54.89		55.19	0.001450	2.46	199.32	43.80	0.37
greve	076	Max WS	SASA	426.88	47.43	54.18		54.62	0.002307	2.94	145.02	33.32	0.45
greve	076	Max WS	SASP	426.88	47.43	54.18		54.62	0.002307	2.94	145.02	33.32	0.45
greve	076	Max WS	SPSA	490.55	47.43	54.57		55.06	0.002370	3.09	158.52	34.36	0.46
greve	076	Max WS	SPSP	490.55	47.43	54.57		55.06	0.002370	3.09	158.52	34.36	0.46
greve	075	Max WS	SASA	426.88	47.69	54.03		54.49	0.002533	3.00	142.41	34.83	0.47
greve	075	Max WS	SASP	426.88	47.69	54.03		54.49	0.002533	3.00	142.41	34.83	0.47
greve	075	Max WS	SPSA	490.54	47.69	54.43		54.93	0.002585	3.13	156.69	36.42	0.48
greve	075	Max WS	SPSP	490.54	47.69	54.43		54.93	0.002585	3.13	156.69	36.42	0.48
greve	074	Max WS	SASA	426.88	47.54	53.87		54.37	0.003070	3.11	137.19	36.54	0.51
greve	074	Max WS	SASP	426.88	47.54	53.87		54.37	0.003070	3.11	137.19	36.54	0.51
greve	074	Max WS	SPSA	490.53	47.54	54.28		54.81	0.003103	3.22	152.46	39.03	0.52
greve	074	Max WS	SPSP	490.53	47.54	54.28		54.81	0.003103	3.22	152.46	39.03	0.52
greve	073	Max WS	SASA	426.86	47.20	53.67		54.22	0.002709	3.36	133.65	33.27	0.49
greve	073	Max WS	SASP	426.86	47.20	53.67		54.22	0.002709	3.36	133.65	33.27	0.49
greve	073	Max WS	SPSA	490.53	47.20	54.06		54.66	0.002795	3.53	146.62	34.00	0.50
greve	073	Max WS	SPSP	490.53	47.20	54.06		54.66	0.002795	3.53	146.62	34.00	0.50
greve	072	Max WS	SASA	426.86	47.18	53.66		54.11	0.002634	3.00	142.22	35.16	0.48
greve	072	Max WS	SASP	426.86	47.18	53.66		54.11	0.002634	3.00	142.22	35.16	0.48
greve	072	Max WS	SPSA	490.53	47.18	54.05		54.55	0.002638	3.14	156.13	35.84	0.48
greve	072	Max WS	SPSP	490.53	47.18	54.05		54.55	0.002638	3.14	156.13	35.84	0.48
greve	071	Max WS	SASA	426.87	46.73	53.71		53.95	0.001680	2.15	198.54	61.44	0.38
greve	071	Max WS	SASP	426.86	46.73	53.71		53.95	0.001680	2.15	198.54	61.44	0.38
greve	071	Max WS	SPSA	490.53	46.73	54.15		54.39	0.001504	2.17	225.58	62.90	0.37
greve	071	Max WS	SPSP	490.53	46.73	54.15		54.39	0.001504	2.17	225.58	62.90	0.37
greve	070	Max WS	SASA	426.87	46.48	53.66		53.89	0.001386	2.18	199.93	60.76	0.35
greve	070	Max WS	SASP	426.87	46.48	53.66		53.89	0.001386	2.18	199.93	60.76	0.35
greve	070	Max WS	SPSA	490.53	46.48	54.09		54.34	0.001279	2.23	226.74	62.59	0.34
greve	070	Max WS	SPSP	490.53	46.48	54.09		54.34	0.001279	2.23	226.74	62.59	0.34
greve	069	Max WS	SASA	426.87	46.39	53.59		53.82	0.001206	2.11	202.26	47.62	0.33
greve	069	Max WS	SASP	426.86	46.39	53.59		53.82	0.001206	2.11	202.26	47.62	0.33
greve	069	Max WS	SPSA	490.52	46.39	54.02		54.27	0.001186	2.20	222.84	48.23	0.33
greve	069	Max WS	SPSP	490.52	46.39	54.02		54.27	0.001186	2.20	222.84	48.23	0.33

HEC-RAS River: greve Reach: greve Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
greve	068	Max WS	SASA	426.87	46.41	53.62		53.77	0.000706	1.74	245.48	55.85	0.26
greve	068	Max WS	SASP	426.87	46.41	53.62		53.77	0.000706	1.74	245.48	55.85	0.26
greve	068	Max WS	SPSA	490.52	46.41	54.05		54.22	0.000688	1.82	270.42	58.45	0.26
greve	068	Max WS	SPSP	490.52	46.41	54.05		54.22	0.000688	1.82	270.42	58.45	0.26
greve	067	Max WS	SASA	426.87	46.12	53.64		53.74	0.000549	1.39	307.08	80.13	0.23
greve	067	Max WS	SASP	426.86	46.12	53.64		53.74	0.000549	1.39	307.08	80.13	0.23
greve	067	Max WS	SPSA	490.52	46.12	54.09		54.19	0.000509	1.43	342.73	80.35	0.22
greve	067	Max WS	SPSP	490.52	46.12	54.09		54.19	0.000509	1.43	342.73	80.35	0.22
greve	066	Max WS	SASA	426.86	46.01	53.31		53.70	0.001838	2.78	155.70	35.32	0.40
greve	066	Max WS	SASP	426.86	46.01	53.31		53.70	0.001838	2.78	155.70	35.32	0.40
greve	066	Max WS	SPSA	490.52	46.01	53.73		54.16	0.001821	2.92	174.28	51.34	0.40
greve	066	Max WS	SPSP	490.52	46.01	53.73		54.16	0.001821	2.92	174.28	51.34	0.40
greve	065	Max WS	SASA	426.86	46.04	53.10		53.60	0.002256	3.13	139.15	29.94	0.45
greve	065	Max WS	SASP	426.86	46.04	53.10		53.60	0.002256	3.13	139.15	29.94	0.45
greve	065	Max WS	SPSA	490.51	46.04	53.50		54.06	0.002381	3.32	151.29	30.91	0.47
greve	065	Max WS	SPSP	490.51	46.04	53.50		54.06	0.002381	3.32	151.29	30.91	0.47
greve	064	Max WS	SASA	426.86	45.63	53.03		53.47	0.002459	2.92	146.01	35.92	0.46
greve	064	Max WS	SASP	426.86	45.63	53.03		53.47	0.002459	2.92	146.01	35.92	0.46
greve	064	Max WS	SPSA	490.52	45.63	53.45		53.92	0.002467	3.04	161.33	37.16	0.47
greve	064	Max WS	SPSP	490.52	45.63	53.45		53.92	0.002467	3.04	161.33	37.16	0.47
greve	063	Max WS	SASA	426.86	45.89	52.73		53.33	0.003362	3.45	123.62	28.39	0.53
greve	063	Max WS	SASP	426.86	45.89	52.73		53.33	0.003362	3.45	123.62	28.39	0.53
greve	063	Max WS	SPSA	490.51	45.89	53.11		53.78	0.003645	3.64	134.75	30.52	0.55
greve	063	Max WS	SPSP	490.51	45.89	53.11		53.78	0.003645	3.64	134.75	30.52	0.55
greve	062	Max WS	SASA	426.85	46.00	52.57		53.14	0.003212	3.35	127.48	30.42	0.52
greve	062	Max WS	SASP	426.85	46.00	52.57		53.14	0.003212	3.35	127.48	30.42	0.52
greve	062	Max WS	SPSA	490.50	46.00	52.94		53.57	0.003383	3.53	139.04	31.92	0.54
greve	062	Max WS	SPSP	490.51	46.00	52.94		53.57	0.003383	3.53	139.04	31.92	0.54
greve	061	Max WS	SASA	426.86	45.48	52.55		53.00	0.002297	2.97	143.63	31.46	0.44
greve	061	Max WS	SASP	426.86	45.48	52.55		53.00	0.002297	2.97	143.63	31.46	0.44
greve	061	Max WS	SPSA	490.51	45.48	52.92		53.43	0.002444	3.16	155.43	32.57	0.46
greve	061	Max WS	SPSP	490.51	45.48	52.92		53.43	0.002444	3.16	155.43	32.57	0.46
greve	060	Max WS	SASA	426.85	46.03	52.25		52.84	0.003596	3.39	125.76	31.91	0.55
greve	060	Max WS	SASP	426.85	46.03	52.25		52.84	0.003596	3.39	125.76	31.91	0.55
greve	060	Max WS	SPSA	490.50	46.03	52.64		53.27	0.003575	3.53	142.76	48.27	0.55
greve	060	Max WS	SPSP	490.50	46.03	52.64		53.27	0.003575	3.53	142.76	48.27	0.55
greve	059	Max WS	SASA	426.85	45.41	52.17		52.49	0.001741	2.51	170.12	42.51	0.40
greve	059	Max WS	SASP	426.85	45.41	52.17		52.49	0.001741	2.51	170.12	42.51	0.40
greve	059	Max WS	SPSA	490.50	45.41	52.56		52.91	0.001750	2.62	186.98	43.62	0.40
greve	059	Max WS	SPSP	490.50	45.41	52.56		52.91	0.001750	2.62	186.98	43.62	0.40
greve	058.8	Max WS	SASA	426.85	45.48	51.83	49.86	52.29	0.002716	3.01	141.83	35.91	0.47
greve	058.8	Max WS	SASP	426.85	45.48	51.83	49.86	52.29	0.002716	3.01	141.83	35.91	0.47
greve	058.8	Max WS	SPSA	490.49	45.48	52.19	50.18	52.70	0.002827	3.18	154.13	36.88	0.48
greve	058.8	Max WS	SPSP	490.49	45.48	52.19	50.18	52.70	0.002827	3.18	154.13	36.88	0.48
greve	58.5			Bridge									
greve	058.2	Max WS	SASA	426.85	45.53	51.84		52.26	0.002377	2.87	148.63	35.57	0.43
greve	058.2	Max WS	SASP	426.85	45.53	51.84		52.26	0.002377	2.87	148.63	35.57	0.43
greve	058.2	Max WS	SPSA	490.49	45.53	52.18		52.66	0.002507	3.06	160.17	35.87	0.45
greve	058.2	Max WS	SPSP	490.49	45.53	52.18		52.66	0.002507	3.06	160.17	35.87	0.45
greve	057	Max WS	SASA	426.84	44.97	51.71		52.13	0.002021	2.87	149.20	35.73	0.42
greve	057	Max WS	SASP	426.84	44.97	51.71		52.13	0.002021	2.87	149.20	35.73	0.42
greve	057	Max WS	SPSA	490.49	44.97	52.05		52.53	0.002140	3.07	161.20	35.73	0.44
greve	057	Max WS	SPSP	490.49	44.97	52.05		52.53	0.002140	3.07	161.20	35.73	0.44
greve	056	Max WS	SASA	426.84	44.47	51.71		52.05	0.001624	2.60	167.47	44.84	0.38
greve	056	Max WS	SASP	426.85	44.47	51.71		52.05	0.001624	2.60	167.47	44.84	0.38
greve	056	Max WS	SPSA	490.49	44.47	52.06		52.45	0.001657	2.76	184.10	49.40	0.39
greve	056	Max WS	SPSP	490.49	44.47	52.06		52.45	0.001657	2.76	184.10	49.40	0.39
greve	055	Max WS	SASA	426.84	45.40	51.60		51.97	0.001889	2.71	161.56	42.83	0.42
greve	055	Max WS	SASP	426.84	45.40	51.60		51.97	0.001889	2.71	161.56	42.83	0.42
greve	055	Max WS	SPSA	490.49	45.40	51.95		52.36	0.001892	2.86	177.03	45.28	0.43
greve	055	Max WS	SPSP	490.48	45.40	51.95		52.36	0.001892	2.86	177.03	45.28	0.43
greve	054	Max WS	SASA	426.84	45.06	51.50		51.89	0.002039	2.81	156.82	46.06	0.43
greve	054	Max WS	SASP	426.84	45.06	51.50		51.89	0.002039	2.81	156.82	46.06	0.43
greve	054	Max WS	SPSA	490.48	45.06	51.85		52.29	0.002048	2.95	173.25	46.34	0.44
greve	054	Max WS	SPSP	490.49	45.06	51.85		52.29	0.002048	2.95	173.25	46.34	0.44
greve	053	Max WS	SASA	426.84	44.28	51.35		51.77	0.001965	2.89	153.14	36.26	0.42
greve	053	Max WS	SASP	426.84	44.28	51.35		51.77	0.001965	2.89	153.14	36.26	0.42
greve	053	Max WS	SPSA	490.49	44.28	51.68		52.15	0.002067	3.09	165.98	43.96	0.44
greve	053	Max WS	SPSP	490.49	44.28	51.68		52.15	0.002067	3.09	165.98	43.96	0.44
greve	052	Max WS	SASA	426.84	44.67	51.24		51.67	0.001985	2.95	153.48	42.21	0.42
greve	052	Max WS	SASP	426.84	44.67	51.24		51.67	0.001985	2.95	153.48	42.21	0.42
greve	052	Max WS	SPSA	490.48	44.67	51.57		52.05	0.002076	3.15	167.51	42.58	0.43
greve	052	Max WS	SPSP	490.48	44.67	51.57		52.05	0.002076	3.15	167.51	42.58	0.43
greve	051	Max WS	SASA	426.84	44.51	51.18		51.55	0.001977	2.70	161.75	47.20	0.42

HEC-RAS River: greve Reach: greve Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
greve	051	Max WS	SASP	426.84	44.51	51.18		51.55	0.001977	2.70	161.75	47.20	0.42
greve	051	Max WS	SPSA	490.48	44.51	51.52		51.93	0.002001	2.85	178.03	48.19	0.43
greve	051	Max WS	SPSP	490.48	44.51	51.52		51.93	0.002001	2.85	178.03	48.19	0.43
greve	050	Max WS	SASA	426.84	44.47	50.66		51.15	0.002366	3.13	140.43	37.43	0.46
greve	050	Max WS	SASP	426.84	44.47	50.66		51.15	0.002366	3.13	140.43	37.43	0.46
greve	050	Max WS	SPSA	490.48	44.47	50.96		51.52	0.002501	3.35	151.85	38.88	0.48
greve	050	Max WS	SPSP	490.48	44.47	50.96		51.52	0.002501	3.35	151.85	38.88	0.48
greve	049	Max WS	SASA	426.84	44.01	49.91		50.43	0.002766	3.19	134.81	35.87	0.49
greve	049	Max WS	SASP	426.84	44.01	49.91		50.43	0.002766	3.19	134.81	35.87	0.49
greve	049	Max WS	SPSA	490.48	44.01	50.11		50.74	0.003183	3.51	142.56	44.75	0.52
greve	049	Max WS	SPSP	490.48	44.01	50.11		50.74	0.003183	3.51	142.56	44.75	0.52
greve	48.998			Lat Struct									
greve	048	Max WS	SASA	426.84	44.06	49.65		50.28	0.003637	3.53	121.01	29.80	0.56
greve	048	Max WS	SASP	426.84	44.06	49.65		50.28	0.003637	3.53	121.01	29.80	0.56
greve	048	Max WS	SPSA	490.48	44.06	49.77		50.56	0.004464	3.94	124.63	30.36	0.62
greve	048	Max WS	SPSP	490.48	44.06	49.77		50.56	0.004464	3.94	124.63	30.36	0.62
greve	047	Max WS	SASA	426.84	44.48	49.63		50.13	0.003972	3.13	136.31	45.54	0.58
greve	047	Max WS	SASP	426.84	44.48	49.63		50.13	0.003972	3.13	136.31	45.54	0.58
greve	047	Max WS	SPSA	490.48	44.48	49.77		50.37	0.004578	3.43	142.87	48.17	0.62
greve	047	Max WS	SPSP	490.48	44.48	49.77		50.37	0.004578	3.43	142.87	48.17	0.62
greve	046	Max WS	SASA	423.48	44.08	49.74		49.97	0.001298	2.16	202.82	62.66	0.35
greve	046	Max WS	SASP	423.48	44.08	49.74		49.97	0.001298	2.16	202.82	62.66	0.35
greve	046	Max WS	SPSA	484.18	44.08	49.91		50.19	0.001461	2.35	213.99	63.09	0.38
greve	046	Max WS	SPSP	484.17	44.08	49.91		50.19	0.001461	2.35	213.99	63.09	0.38
greve	045	Max WS	SASA	417.06	44.10	49.67		49.93	0.001290	2.28	194.43	73.60	0.35
greve	045	Max WS	SASP	417.06	44.10	49.67		49.93	0.001290	2.28	194.43	73.60	0.35
greve	045	Max WS	SPSA	473.57	44.10	49.84		50.14	0.001427	2.46	206.15	80.51	0.37
greve	045	Max WS	SPSP	473.57	44.10	49.84		50.14	0.001427	2.46	206.15	80.51	0.37
greve	044	Max WS	SASA	414.07	44.06	49.56		49.87	0.001465	2.52	179.47	85.70	0.37
greve	044	Max WS	SASP	414.07	44.06	49.56		49.87	0.001465	2.52	179.47	85.70	0.37
greve	044	Max WS	SPSA	467.16	44.06	49.74		50.09	0.001606	2.70	190.56	86.42	0.39
greve	044	Max WS	SPSP	467.16	44.06	49.74		50.09	0.001606	2.70	190.56	86.42	0.39
greve	043	Max WS	SASA	411.74	43.79	49.39		49.78	0.002246	2.78	151.90	65.55	0.44
greve	043	Max WS	SASP	411.74	43.79	49.39		49.78	0.002246	2.78	151.90	65.55	0.44
greve	043	Max WS	SPSA	461.46	43.79	49.55		50.00	0.002459	2.98	159.81	72.81	0.47
greve	043	Max WS	SPSP	461.45	43.79	49.55		50.00	0.002459	2.98	159.81	72.81	0.47
greve	042	Max WS	SASA	407.34	43.96	49.26		49.67	0.002313	2.83	145.37	43.20	0.45
greve	042	Max WS	SASP	407.34	43.96	49.26		49.67	0.002313	2.83	145.37	43.20	0.45
greve	042	Max WS	SPSA	453.20	43.96	49.41		49.88	0.002513	3.02	152.15	51.28	0.48
greve	042	Max WS	SPSP	453.20	43.96	49.41		49.88	0.002513	3.02	152.15	51.28	0.48
greve	041	Max WS	SASA	406.61	43.49	49.18		49.54	0.002511	2.67	155.95	55.90	0.47
greve	041	Max WS	SASP	406.61	43.49	49.18		49.54	0.002510	2.67	155.95	55.90	0.47
greve	041	Max WS	SPSA	451.54	43.49	49.34		49.74	0.002616	2.81	165.68	69.32	0.48
greve	041	Max WS	SPSP	451.54	43.49	49.34		49.74	0.002616	2.81	165.68	69.32	0.48
greve	040	Max WS	SASA	406.58	43.93	48.92		49.40	0.003232	3.08	133.04	40.61	0.52
greve	040	Max WS	SASP	406.58	43.93	48.92		49.40	0.003232	3.08	133.04	40.61	0.52
greve	040	Max WS	SPSA	451.32	43.93	49.04		49.59	0.003580	3.30	138.02	40.82	0.55
greve	040	Max WS	SPSP	451.32	43.93	49.04		49.59	0.003580	3.30	138.02	40.82	0.55
greve	039	Max WS	SASA	401.79	43.73	48.86		49.28	0.002627	2.86	142.70	43.70	0.48
greve	039	Max WS	SASP	401.79	43.73	48.86		49.28	0.002627	2.86	142.70	43.70	0.48
greve	039	Max WS	SPSA	443.79	43.73	49.00		49.47	0.002839	3.04	148.55	43.75	0.50
greve	039	Max WS	SPSP	443.79	43.73	49.00		49.47	0.002839	3.04	148.55	43.75	0.50
greve	038	Max WS	SASA	389.95	43.77	48.88		49.18	0.001875	2.42	162.24	46.36	0.41
greve	038	Max WS	SASP	389.95	43.77	48.88		49.18	0.001875	2.42	162.24	46.36	0.41
greve	038	Max WS	SPSA	427.31	43.77	49.04		49.37	0.001962	2.54	169.48	46.36	0.42
greve	038	Max WS	SPSP	427.31	43.77	49.04		49.37	0.001962	2.54	169.48	46.36	0.42
greve	037	Max WS	SASA	381.21	43.01	48.74		49.10	0.002141	2.68	142.66	37.87	0.43
greve	037	Max WS	SASP	381.21	43.01	48.74		49.10	0.002141	2.68	142.66	37.87	0.43
greve	037	Max WS	SPSA	414.39	43.01	48.89		49.29	0.002220	2.80	148.67	38.87	0.44
greve	037	Max WS	SPSP	414.40	43.01	48.89		49.29	0.002220	2.80	148.67	38.87	0.44
greve	36.9			Lat Struct									
greve	036	Max WS	SASA	376.00	43.07	48.62		49.02	0.002351	2.81	133.94	34.97	0.45
greve	036	Max WS	SASP	376.00	43.07	48.62		49.02	0.002351	2.81	133.94	34.97	0.45
greve	036	Max WS	SPSA	405.79	43.07	48.78		49.22	0.002408	2.91	139.73	35.16	0.46
greve	036	Max WS	SPSP	405.79	43.07	48.78		49.22	0.002408	2.91	139.73	35.16	0.46
greve	035	Max WS	SASA	375.17	43.45	48.40		48.89	0.003190	3.09	121.27	33.64	0.52
greve	035	Max WS	SASP	375.17	43.45	48.40		48.89	0.003190	3.09	121.27	33.64	0.52
greve	035	Max WS	SPSA	403.63	43.45	48.57		49.08	0.003246	3.18	126.92	34.20	0.53
greve	035	Max WS	SPSP	403.63	43.45	48.57		49.08	0.003246	3.18	126.92	34.20	0.53
greve	034	Max WS	SASA	375.16	43.38	48.22		48.67	0.003158	2.97	126.42	37.69	0.52
greve	034	Max WS	SASP	375.16	43.38	48.22		48.67	0.003158	2.97	126.42	37.69	0.52
greve	034	Max WS	SPSA	403.62	43.38	48.39		48.86	0.003131	3.04	133.03	39.09	0.52
greve	034	Max WS	SPSP	403.62	43.38	48.39		48.86	0.003131	3.04	133.03	39.09	0.52
greve	033	Max WS	SASA	375.16	43.52	48.13		48.50	0.002528	2.71	138.93	43.08	0.47

HEC-RAS River: greve Reach: greve Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
greve	033	Max WS	SASP	375.16	43.52	48.13		48.50	0.002528	2.71	138.93	43.08	0.47
greve	033	Max WS	SPSA	403.33	43.52	48.31		48.70	0.002476	2.76	146.76	43.34	0.47
greve	033	Max WS	SPSP	403.33	43.52	48.31		48.70	0.002476	2.76	146.76	43.34	0.47
greve	032	Max WS	SASA	375.30	43.56	48.00		48.39	0.002892	2.76	136.73	47.72	0.50
greve	032	Max WS	SASP	375.30	43.56	48.00		48.39	0.002892	2.76	136.73	47.72	0.50
greve	032	Max WS	SPSA	403.81	43.56	48.19		48.59	0.002739	2.80	145.83	47.83	0.49
greve	032	Max WS	SPSP	403.82	43.56	48.19		48.59	0.002739	2.80	145.83	47.83	0.49
greve	031.8	Max WS	SASA	388.39	43.91	47.70	46.75	48.22	0.003287	3.20	121.81	42.08	0.59
greve	031.8	Max WS	SASP	388.39	43.91	47.70	46.75	48.22	0.003287	3.20	121.81	42.08	0.59
greve	031.8	Max WS	SPSA	424.07	43.91	47.85	46.88	48.41	0.003340	3.33	128.08	44.64	0.60
greve	031.8	Max WS	SPSP	424.07	43.91	47.85	46.88	48.41	0.003340	3.33	128.08	44.64	0.60
greve	31.5			Int Struct									
greve	031.2	Max WS	SASA	388.35	42.44	46.95		47.28	0.002128	2.54	153.28	57.62	0.48
greve	031.2	Max WS	SASP	388.36	42.44	46.95		47.28	0.002128	2.54	153.28	57.62	0.48
greve	031.2	Max WS	SPSA	424.01	42.44	47.39		47.67	0.001645	2.39	178.91	60.34	0.43
greve	031.2	Max WS	SPSP	424.01	42.44	47.39		47.67	0.001645	2.39	178.91	60.34	0.43
greve	31.098			Lat Struct									
greve	030	Max WS	SASA	388.36	40.38	47.11		47.24	0.000546	1.61	241.60	61.46	0.26
greve	030	Max WS	SASP	388.36	40.38	47.11		47.24	0.000546	1.61	241.60	61.46	0.26
greve	030	Max WS	SPSA	424.01	40.38	47.51		47.64	0.000478	1.59	267.13	64.92	0.25
greve	030	Max WS	SPSP	424.01	40.38	47.51		47.64	0.000478	1.59	267.13	64.92	0.25
greve	29.999			Lat Struct									
greve	029	Max WS	SASA	402.51	40.69	46.84		47.13	0.001240	2.39	168.35	41.77	0.38
greve	029	Max WS	SASP	402.51	40.69	46.84		47.13	0.001240	2.39	168.35	41.77	0.38
greve	029	Max WS	SPSA	450.84	40.69	47.23		47.53	0.001183	2.44	184.55	42.42	0.37
greve	029	Max WS	SPSP	450.84	40.69	47.23		47.53	0.001183	2.44	184.55	42.42	0.37
greve	28.5			Lat Struct									
greve	028	Max WS	SASA	426.69	40.10	46.33		46.72	0.001899	2.77	154.15	42.97	0.47
greve	028	Max WS	SASP	426.69	40.10	46.33		46.72	0.001899	2.77	154.15	42.97	0.47
greve	028	Max WS	SPSA	487.48	40.10	46.69		47.11	0.001877	2.87	169.76	44.34	0.47
greve	028	Max WS	SPSP	487.48	40.10	46.69		47.11	0.001877	2.87	169.76	44.34	0.47
greve	27.998			Lat Struct									
greve	027	Max WS	SASA	426.69	40.88	46.04		46.35	0.001604	2.48	172.09	51.08	0.43
greve	027	Max WS	SASP	426.69	40.88	46.04		46.35	0.001604	2.48	172.09	51.08	0.43
greve	027	Max WS	SPSA	487.46	40.88	46.42		46.75	0.001602	2.53	192.90	55.63	0.43
greve	027	Max WS	SPSP	487.46	40.88	46.42		46.75	0.001602	2.53	192.90	55.63	0.43
greve	026.8	Max WS	SASA	426.69	40.88	45.93	43.97	46.19	0.001287	2.25	190.04	56.32	0.39
greve	026.8	Max WS	SASP	426.69	40.88	45.93	43.96	46.19	0.001287	2.25	190.04	56.32	0.39
greve	026.8	Max WS	SPSA	487.46	40.88	46.32	44.17	46.59	0.001227	2.30	212.04	56.85	0.38
greve	026.8	Max WS	SPSP	487.46	40.88	46.32	44.17	46.59	0.001227	2.30	212.04	56.85	0.38
greve	26.5			Bridge									
greve	026.2	Max WS	SASA	426.69	40.95	45.77		46.06	0.001240	2.38	179.22	45.06	0.38
greve	026.2	Max WS	SASP	426.68	40.95	45.77		46.06	0.001240	2.38	179.22	45.06	0.38
greve	026.2	Max WS	SPSA	487.46	40.95	46.06		46.39	0.001436	2.54	191.85	45.06	0.39
greve	026.2	Max WS	SPSP	487.46	40.95	46.06		46.39	0.001436	2.54	191.85	45.06	0.39
greve	26.099			Lat Struct									
greve	26.098			Lat Struct									
greve	025.8	Max WS	SASA	426.68	40.67	45.72		46.01	0.001777	2.37	179.94	61.30	0.44
greve	025.8	Max WS	SASP	426.68	40.67	45.72		46.01	0.001777	2.37	179.94	61.30	0.44
greve	025.8	Max WS	SPSA	487.46	40.67	46.02		46.33	0.001689	2.45	198.61	61.35	0.44
greve	025.8	Max WS	SPSP	487.45	40.67	46.02		46.33	0.001689	2.45	198.61	61.35	0.44
greve	025.5	Max WS	SASA	426.68	41.49	45.65	44.23	45.96	0.001773	2.47	172.74	55.20	0.45
greve	025.5	Max WS	SASP	426.68	41.49	45.65	44.24	45.96	0.001773	2.47	172.74	55.20	0.45
greve	025.5	Max WS	SPSA	487.45	41.49	45.95	44.44	46.29	0.001730	2.58	189.27	55.22	0.44
greve	025.5	Max WS	SPSP	487.45	41.49	45.95	44.44	46.29	0.001730	2.58	189.28	55.22	0.44
greve	25.45			Int Struct									
greve	025.2	Max WS	SASA	426.68	40.24	45.52		45.66	0.000473	1.61	265.75	57.57	0.24
greve	025.2	Max WS	SASP	426.68	40.24	45.52		45.66	0.000473	1.61	265.75	57.57	0.24
greve	025.2	Max WS	SPSA	487.44	40.24	45.86		46.01	0.000494	1.71	285.19	57.60	0.25
greve	025.2	Max WS	SPSP	487.44	40.24	45.86		46.01	0.000494	1.71	285.21	57.60	0.25
greve	25.199			Lat Struct									
greve	25.198			Lat Struct									
greve	024	Max WS	SASA	426.67	39.04	45.20		45.49	0.001340	2.40	177.79	48.03	0.40
greve	024	Max WS	SASP	426.67	39.04	45.20		45.49	0.001340	2.40	177.79	48.03	0.40
greve	024	Max WS	SPSA	487.42	39.04	45.52		45.84	0.001365	2.52	193.35	49.10	0.41
greve	024	Max WS	SPSP	487.43	39.04	45.52		45.84	0.001365	2.52	193.35	49.10	0.41
greve	023.8	Max WS	SASA	426.67	38.25	44.75	42.79	45.15	0.001755	2.80	152.42	38.41	0.45
greve	023.8	Max WS	SASP	426.66	38.25	44.75	42.80	45.15	0.001754	2.80	152.44	38.41	0.45
greve	023.8	Max WS	SPSA	487.41	38.25	45.03	43.09	45.49	0.001874	2.98	163.40	39.26	0.47

HEC-RAS River: greve Reach: greve Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
greve	023.8	Max WS	SPSP	487.40	38.25	45.03	43.09	45.49	0.001874	2.98	163.41	39.26	0.47
greve	23.5			Bridge									
greve	023.2	Max WS	SASA	426.67	38.15	44.77		45.15	0.001613	2.74	155.78	38.14	0.43
greve	023.2	Max WS	SASP	426.67	38.15	44.77		45.15	0.001613	2.74	155.78	38.14	0.43
greve	023.2	Max WS	SPSA	487.41	38.15	45.05		45.49	0.001733	2.92	166.71	38.98	0.45
greve	023.2	Max WS	SPSP	487.40	38.15	45.05		45.49	0.001733	2.92	166.71	38.98	0.45
greve	23.099			Lat Struct									
greve	23.098			Lat Struct									
greve	022	Max WS	SASA	426.66	38.67	44.45		44.83	0.001834	2.74	155.50	42.49	0.46
greve	022	Max WS	SASP	426.66	38.67	44.45		44.83	0.001834	2.74	155.51	42.49	0.46
greve	022	Max WS	SPSA	487.38	38.67	44.71		45.15	0.001951	2.92	166.82	43.41	0.48
greve	022	Max WS	SPSP	487.37	38.67	44.72		45.15	0.001951	2.92	166.83	43.41	0.48
greve	021	Max WS	SASA	426.66	39.39	44.25		44.51	0.001269	2.24	190.08	55.13	0.39
greve	021	Max WS	SASP	426.65	39.39	44.25		44.51	0.001269	2.24	190.08	55.13	0.39
greve	021	Max WS	SPSA	487.36	39.39	44.52		44.80	0.001320	2.38	204.86	55.98	0.40
greve	021	Max WS	SPSP	487.36	39.39	44.52		44.80	0.001319	2.38	204.88	55.98	0.40
greve	020.8	Max WS	SASA	426.66	39.44	44.12	42.27	44.36	0.001518	2.18	195.70	69.00	0.41
greve	020.8	Max WS	SASP	426.65	39.44	44.12	42.27	44.36	0.001518	2.18	195.72	69.00	0.41
greve	020.8	Max WS	SPSA	487.35	39.44	44.39	42.50	44.66	0.001480	2.27	214.93	69.98	0.41
greve	020.8	Max WS	SPSP	487.34	39.44	44.39	42.49	44.66	0.001479	2.27	214.96	69.98	0.41
greve	20.5			Bridge									
greve	020.2	Max WS	SASA	426.65	39.37	43.93		44.18	0.001614	2.21	192.69	69.85	0.43
greve	020.2	Max WS	SASP	426.65	39.37	43.93		44.18	0.001614	2.21	192.71	69.85	0.43
greve	020.2	Max WS	SPSA	487.33	39.37	44.21		44.48	0.001569	2.30	211.81	70.85	0.42
greve	020.2	Max WS	SPSP	487.33	39.37	44.21		44.48	0.001569	2.30	211.84	70.85	0.42
greve	20.199			Lat Struct									
greve	20.198			Lat Struct									
greve	019.8	Max WS	SASA	426.64	39.42	43.48		43.81	0.002110	2.56	166.71	58.78	0.49
greve	019.8	Max WS	SASP	426.62	39.42	43.48		43.81	0.002108	2.56	166.75	58.78	0.48
greve	019.8	Max WS	SPSA	487.30	39.42	43.75		44.11	0.002078	2.67	182.74	59.80	0.49
greve	019.8	Max WS	SPSP	487.28	39.42	43.75		44.11	0.002077	2.67	182.78	59.81	0.49
greve	019.5	Max WS	SASA	426.65	40.28	43.42	42.43	43.78	0.002537	2.66	160.21	60.07	0.52
greve	019.5	Max WS	SASP	426.60	40.28	43.42	42.43	43.78	0.002534	2.66	160.25	60.07	0.52
greve	019.5	Max WS	SPSA	487.29	40.28	43.69	42.61	44.08	0.002428	2.76	176.77	60.62	0.52
greve	019.5	Max WS	SPSP	487.28	40.28	43.69	42.61	44.08	0.002427	2.76	176.80	60.62	0.52
greve	19.25			Ini Struct									
greve	019.2	Max WS	SASA	426.45	37.47	43.25		43.42	0.000662	1.79	238.72	55.42	0.27
greve	019.2	Max WS	SASP	426.40	37.47	43.26		43.42	0.000660	1.78	238.95	55.43	0.27
greve	019.2	Max WS	SPSA	487.10	37.47	43.59		43.77	0.000686	1.89	257.41	55.98	0.28
greve	019.2	Max WS	SPSP	487.04	37.47	43.59		43.77	0.000685	1.89	257.50	55.98	0.28
greve	19.199			Lat Struct									
greve	19.198			Lat Struct									
greve	018	Max WS	SASA	426.44	36.69	43.21		43.34	0.000448	1.64	260.42	55.03	0.24
greve	018	Max WS	SASP	426.38	36.69	43.21		43.35	0.000447	1.64	260.67	55.05	0.24
greve	018	Max WS	SPSA	487.10	36.69	43.54		43.69	0.000479	1.75	278.95	56.13	0.25
greve	018	Max WS	SPSP	487.05	36.69	43.54		43.70	0.000478	1.75	279.04	56.14	0.25
greve	017.8	Max WS	SASA	426.33	37.10	42.90	40.48	43.22	0.001270	2.51	170.01	42.08	0.37
greve	017.8	Max WS	SASP	426.21	37.10	42.90	40.48	43.22	0.001265	2.50	170.21	42.09	0.37
greve	017.8	Max WS	SPSA	486.97	37.10	43.19	40.72	43.56	0.001666	2.69	180.84	42.48	0.39
greve	017.8	Max WS	SPSP	486.89	37.10	43.19	40.72	43.56	0.001664	2.69	180.92	42.48	0.39
greve	17.5			Bridge									
greve	017.2	Max WS	SASA	426.32	37.31	42.84		43.16	0.001324	2.53	168.81	42.36	0.38
greve	017.2	Max WS	SASP	426.20	37.31	42.85		43.17	0.001319	2.52	169.03	42.36	0.38
greve	017.2	Max WS	SPSA	486.90	37.31	43.10		43.48	0.001453	2.73	178.65	42.37	0.40
greve	017.2	Max WS	SPSP	486.88	37.31	43.11		43.48	0.001451	2.72	178.73	42.37	0.40
greve	17.199			Lat Struct									
greve	17.198			Lat Struct									
greve	016.8	Max WS	SASA	426.32	37.52	42.86		43.10	0.000983	2.18	195.47	45.12	0.33
greve	016.8	Max WS	SASP	426.21	37.52	42.86		43.11	0.000979	2.18	195.73	45.13	0.33
greve	016.8	Max WS	SPSA	486.90	37.52	43.13		43.41	0.001064	2.34	207.93	45.53	0.35
greve	016.8	Max WS	SPSP	486.89	37.52	43.14		43.42	0.001062	2.34	208.03	45.53	0.35
greve	016.5	Max WS	SASA	426.33	37.56	42.87	40.20	43.10	0.000880	2.11	201.73	46.05	0.32
greve	016.5	Max WS	SASP	426.21	37.56	42.88	40.20	43.10	0.000876	2.11	201.99	46.06	0.32
greve	016.5	Max WS	SPSA	486.94	37.56	43.15	40.42	43.41	0.000962	2.27	214.59	46.91	0.34
greve	016.5	Max WS	SPSP	486.88	37.56	43.15	40.42	43.41	0.000961	2.27	214.69	46.92	0.34
greve	016.25			Ini Struct									
greve	016.2	Max WS	SASA	426.31	36.62	42.83		43.00	0.000563	1.84	231.63	46.28	0.26

Reach	River Sta	Profile	Pla	O Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
greve	016.2	Max WS	SASP	426.21	36.62	42.84		43.01	0.000561	1.84	231.90	46.29	0.26
greve	016.2	Max WS	SPSA	486.92	36.62	43.10		43.31	0.000628	1.99	244.27	46.84	0.28
greve	016.2	Max WS	SPSP	486.89	36.62	43.11		43.31	0.000627	1.99	244.37	46.85	0.28
greve	015.8	Max WS	SASA	426.31	35.67	42.83	39.14	43.00	0.000505	1.79	237.95	47.03	0.25
greve	015.8	Max WS	SASP	426.21	35.67	42.84	39.14	43.00	0.000503	1.79	238.22	47.05	0.25
greve	015.8	Max WS	SPSA	486.92	35.67	43.10	39.39	43.30	0.000565	1.94	250.94	48.59	0.27
greve	015.8	Max WS	SPSP	486.88	35.67	43.11	39.38	43.30	0.000564	1.94	251.05	48.60	0.27
greve	15.5			Bridge									
greve	015.2	Max WS	SASA	426.30	35.74	42.78		42.95	0.000540	1.83	232.41	45.80	0.26
greve	015.2	Max WS	SASP	426.17	35.74	42.79		42.96	0.000538	1.83	232.68	45.82	0.26
greve	015.2	Max WS	SPSA	486.90	35.74	43.04		43.24	0.000603	1.99	244.36	47.95	0.28
greve	015.2	Max WS	SPSP	486.86	35.74	43.04		43.24	0.000602	1.99	244.47	47.96	0.28
greve	15.199			Lat Struct									
greve	15.198			Lat Struct									
greve	014	Max WS	SASA	426.10	34.30	42.46		42.78	0.001245	2.49	171.01	39.14	0.38
greve	014	Max WS	SASP	425.89	34.30	42.47		42.78	0.001237	2.49	171.31	39.16	0.38
greve	014	Max WS	SPSA	486.73	34.30	42.67		43.04	0.001426	2.72	179.01	39.75	0.41
greve	014	Max WS	SPSP	486.66	34.30	42.67		43.04	0.001423	2.72	179.12	39.76	0.41
greve	013.8	Max WS	SASA	425.97	34.35	42.32	39.23	42.59	0.001047	2.28	186.65	44.15	0.35
greve	013.8	Max WS	SASP	425.71	34.35	42.33	39.23	42.60	0.001040	2.28	187.04	44.18	0.35
greve	013.8	Max WS	SPSA	486.62	34.35	42.51	39.54	42.82	0.001209	2.50	194.76	44.77	0.38
greve	013.8	Max WS	SPSP	486.56	34.35	42.51	39.54	42.83	0.001207	2.50	194.91	44.78	0.38
greve	013.5			Bridge									
greve	013.2	Max WS	SASA	425.99	34.69	42.38		42.58	0.000679	1.97	215.94	46.08	0.29
greve	013.2	Max WS	SASP	425.79	34.69	42.39		42.59	0.000675	1.97	216.32	46.11	0.29
greve	013.2	Max WS	SPSA	486.68	34.69	42.57		42.81	0.000791	2.16	224.86	46.81	0.32
greve	013.2	Max WS	SPSP	486.60	34.69	42.58		42.81	0.000789	2.16	225.02	46.83	0.31
greve	13.199			Lat Struct									
greve	13.198			Lat Struct									
greve	012	Max WS	SASA	425.75	33.25	42.16		42.45	0.001245	2.38	178.68	43.67	0.38
greve	012	Max WS	SASP	425.08	33.25	42.18		42.46	0.001232	2.37	179.13	43.70	0.37
greve	012	Max WS	SPSA	486.47	33.25	42.31		42.67	0.001463	2.63	185.26	44.14	0.41
greve	012	Max WS	SPSP	486.38	33.25	42.							

HEC-RAS River: greve Reach: greve Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
greve	004.18	Max WS	SASA	412.53	30.16	41.50	35.34	41.60	0.000187	1.45	334.24	59.92	0.16
greve	004.18	Max WS	SASP	410.00	30.16	41.53	35.32	41.62	0.000183	1.44	335.86	60.02	0.16
greve	004.18	Max WS	SPSA	475.01	30.16	41.48	35.72	41.60	0.000252	1.68	332.59	59.82	0.19
greve	004.18	Max WS	SPSP	476.12	30.16	41.48	35.72	41.61	0.000252	1.68	333.09	59.85	0.19
greve	4.15			Bridge									
greve	004.12	Max WS	SASA	413.05	30.17	41.51		41.60	0.000174	1.40	345.28	60.54	0.15
greve	004.12	Max WS	SASP	410.00	30.17	41.54		41.62	0.000169	1.39	346.90	60.61	0.15
greve	004.12	Max WS	SPSA	475.28	30.17	41.48		41.60	0.000233	1.62	343.75	60.48	0.18
greve	004.12	Max WS	SPSP	476.29	30.17	41.49		41.61	0.000233	1.62	344.24	60.50	0.18
greve	4.099			Lat Struct									
greve	4.098			Lat Struct									
greve	004	Max WS	SASA	399.20	30.05	41.51		41.58	0.000146	1.26	356.94	63.88	0.14
greve	004	Max WS	SASP	396.76	30.05	41.53		41.61	0.000142	1.25	358.67	63.93	0.14
greve	004	Max WS	SPSA	459.83	30.05	41.48		41.58	0.000196	1.46	355.26	63.83	0.16
greve	004	Max WS	SPSP	460.98	30.05	41.49		41.59	0.000196	1.46	355.79	63.84	0.16
greve	003	Max WS	SASA	339.18	29.72	41.52		41.57	0.000098	1.02	347.50	49.18	0.11
greve	003	Max WS	SASP	344.21	29.72	41.54		41.60	0.000100	1.04	348.52	49.28	0.11
greve	003	Max WS	SPSA	408.79	29.72	41.49		41.56	0.000144	1.24	345.87	49.02	0.14
greve	003	Max WS	SPSP	410.82	29.72	41.50		41.57	0.000145	1.24	346.26	49.06	0.14
greve	002.8	Max WS	SASA	159.47	30.30	41.59	32.48	41.60	0.000014	0.43	413.38	63.87	0.05
greve	002.8	Max WS	SASP	175.44	30.30	41.61	32.59	41.62	0.000017	0.47	414.61	63.93	0.05
greve	002.8	Max WS	SPSA	228.99	30.30	41.57	32.97	41.59	0.000029	0.62	412.35	63.82	0.07
greve	002.8	Max WS	SPSP	229.82	30.30	41.58	32.97	41.60	0.000029	0.62	412.86	63.84	0.07
greve	2.5			Bridge									
greve	002.2	Max WS	SASA	159.38	30.18	41.49		41.50	0.000014	0.43	414.85	64.03	0.05
greve	002.2	Max WS	SASP	175.44	30.18	41.52		41.53	0.000016	0.47	416.62	64.12	0.05
greve	002.2	Max WS	SPSA	228.99	30.18	41.47		41.49	0.000028	0.62	413.49	63.97	0.07
greve	002.2	Max WS	SPSP	229.72	30.18	41.48		41.50	0.000029	0.62	413.98	63.99	0.07
greve	2.199			Lat Struct									
greve	2.198			Lat Struct									
greve	001.8	Max WS	SASA	210.38	30.74	41.49		41.49	0.000013	0.41	557.66	85.61	0.05
greve	001.8	Max WS	SASP	220.17	30.74	41.52		41.53	0.000014	0.43	560.22	85.61	0.05
greve	001.8	Max WS	SPSA	245.97	30.74	41.47		41.48	0.000018	0.48	556.43	85.61	0.05
greve	001.8	Max WS	SPSP	247.09	30.74	41.48		41.49	0.000018	0.48	557.11	85.61	0.05
greve	001.5	Max WS	SASA	215.80	30.84	41.49	32.80	41.49	0.000013	0.41	570.57	86.01	0.04
greve	001.5	Max WS	SASP	225.17	30.84	41.52	32.85	41.52	0.000014	0.43	573.11	86.01	0.05
greve	001.5	Max WS	SPSA	247.18	30.84	41.47	32.95	41.48	0.000017	0.48	569.37	86.01	0.05
greve	001.5	Max WS	SPSP	248.27	30.84	41.48	32.96	41.49	0.000017	0.48	570.07	86.01	0.05
greve	001.25			Ini Struct									
greve	001.2	Max WS	SASA	215.09	28.31	41.42		41.42	0.000009	0.36	651.22	90.15	0.04
greve	001.2	Max WS	SASP	223.85	28.31	41.44		41.45	0.000009	0.38	653.64	90.26	0.04
greve	001.2	Max WS	SPSA	246.70	28.31	41.39		41.40	0.000011	0.42	649.09	89.60	0.04
greve	001.2	Max WS	SPSP	248.00	28.31	41.40		41.41	0.000012	0.42	649.77	89.78	0.04
greve	1.199			Lat Struct									
greve	1.198			Lat Struct									
greve	000	Max WS	SASA	391.36	27.78	41.38		41.41	0.000033	0.72	637.79	93.05	0.07
greve	000	Max WS	SASP	402.52	27.78	41.41		41.43	0.000035	0.74	640.18	93.44	0.07
greve	000	Max WS	SPSA	419.98	27.78	41.36		41.38	0.000038	0.78	635.30	92.74	0.08
greve	000	Max WS	SPSP	422.38	27.78	41.36		41.39	0.000039	0.78	635.98	92.79	0.08

HEC-RAS Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
mugnone	0	Max WS	SASA	55.93	44.49	46.49		46.61	0.001521	1.57	35.67	20.64	0.38
mugnone	0	Max WS	SASP	55.93	44.49	46.49		46.61	0.001521	1.57	35.67	20.64	0.38
mugnone	0	Max WS	SPSA	72.04	44.49	46.73		46.89	0.001673	1.77	40.73	20.96	0.41
mugnone	0	Max WS	SPSP	72.04	44.49	46.73		46.89	0.001673	1.77	40.73	20.96	0.41
mugnone	-27.16	Max WS	SASA	55.93	44.38	46.32		46.54	0.003893	2.06	27.18	21.25	0.58
mugnone	-27.16	Max WS	SASP	55.93	44.38	46.32		46.54	0.003893	2.06	27.18	21.25	0.58
mugnone	-27.16	Max WS	SPSA	72.04	44.38	46.56		46.82	0.003736	2.23	32.26	21.30	0.58
mugnone	-27.16	Max WS	SPSP	72.04	44.38	46.56		46.82	0.003736	2.23	32.26	21.30	0.58
mugnone	-69.27	Max WS	SASA	55.93	44.21	46.17		46.38	0.003811	2.04	27.36	21.24	0.57
mugnone	-69.27	Max WS	SASP	55.93	44.21	46.17		46.38	0.003811	2.04	27.36	21.24	0.57
mugnone	-69.27	Max WS	SPSA	72.04	44.21	46.41		46.66	0.003583	2.20	32.68	21.29	0.57
mugnone	-69.27	Max WS	SPSP	72.04	44.21	46.41		46.66	0.003583	2.20	32.68	21.29	0.57
mugnone	-102.66	Max WS	SASA	55.93	44.08	46.04		46.25	0.003810	2.04	27.35	21.21	0.57
mugnone	-102.66	Max WS	SASP	55.93	44.08	46.04		46.25	0.003810	2.04	27.35	21.21	0.57
mugnone	-102.66	Max WS	SPSA	72.04	44.08	46.30		46.54	0.003491	2.19	32.93	21.27	0.56
mugnone	-102.66	Max WS	SPSP	72.04	44.08	46.30		46.54	0.003491	2.19	32.93	21.27	0.56
mugnone	-132.33	Max WS	SASA	55.93	44.00	46.03		46.16	0.001998	1.60	34.88	23.82	0.42
mugnone	-132.33	Max WS	SASP	55.93	44.00	46.03		46.16	0.001998	1.60	34.88	23.82	0.42
mugnone	-132.33	Max WS	SPSA	72.04	44.00	46.31		46.46	0.001902	1.74	41.49	23.88	0.42
mugnone	-132.33	Max WS	SPSP	72.04	44.00	46.31		46.46	0.001902	1.74	41.49	23.88	0.42
mugnone	-144.83	Max WS	SASA	55.93	43.89	46.01	45.13	46.14	0.001246	1.60	35.01	21.21	0.38
mugnone	-144.83	Max WS	SASP	55.93	43.89	46.01	45.13	46.14	0.001246	1.60	35.01	21.21	0.38
mugnone	-144.83	Max WS	SPSA	72.04	43.89	46.28	45.31	46.44	0.001355	1.80	40.12	21.27	0.40
mugnone	-144.83	Max WS	SPSP	72.04	43.89	46.28	45.31	46.44	0.001355	1.80	40.12	21.27	0.40
mugnone	-154.91			Bridge									
mugnone	-161.04	Max WS	SASA	55.93	43.90	45.94		46.08	0.001540	1.66	33.67	21.09	0.42
mugnone	-161.04	Max WS	SASP	55.93	43.90	45.94		46.08	0.001540	1.66	33.67	21.09	0.42
mugnone	-161.04	Max WS	SPSA	72.04	43.90	46.20		46.37	0.001590	1.84	39.16	21.13	0.43
mugnone	-161.04	Max WS	SPSP	72.04	43.90	46.20		46.37	0.001590	1.84	39.16	21.13	0.43
mugnone	-164.82	Max WS	SASA	55.93	43.90	45.93		46.07	0.001526	1.65	33.94	21.41	0.42
mugnone	-164.82	Max WS	SASP	55.93	43.90	45.93		46.07	0.001526	1.65	33.94	21.41	0.42
mugnone	-164.82	Max WS	SPSA	72.04	43.90	46.20		46.36	0.001569	1.82	39.53	21.46	0.43
mugnone	-164.82	Max WS	SPSP	72.04	43.90	46.20		46.36	0.001569	1.82	39.53	21.46	0.43
mugnone	-194.51	Max WS	SASA	55.93	43.72	45.80		46.00	0.003256	2.01	27.80	19.38	0.54
mugnone	-194.51	Max WS	SASP	55.93	43.72	45.80		46.00	0.003256	2.01	27.80	19.38	0.54
mugnone	-194.51	Max WS	SPSA	72.04	43.72	46.05		46.29	0.003249	2.21	32.63	19.43	0.54
mugnone	-194.51	Max WS	SPSP	72.04	43.72	46.05		46.29	0.003249	2.21	32.63	19.43	0.54
mugnone	-226.33	Max WS	SASA	55.93	43.65	45.67		45.89	0.003635	2.08	26.89	19.45	0.56
mugnone	-226.33	Max WS	SASP	55.93	43.65	45.67		45.89	0.003635	2.08	26.89	19.45	0.56
mugnone	-226.33	Max WS	SPSA	72.04	43.65	45.92		46.19	0.003544	2.27	31.79	19.50	0.57
mugnone	-226.33	Max WS	SPSP	72.04	43.65	45.92		46.19	0.003544	2.27	31.79	19.50	0.57
mugnone	-258.33	Max WS	SASA	55.93	43.58	45.53		45.77	0.004347	2.20	25.43	19.44	0.61
mugnone	-258.33	Max WS	SASP	55.93	43.58	45.53		45.77	0.004347	2.20	25.43	19.44	0.61
mugnone	-258.33	Max WS	SPSA	72.04	43.58	45.79		46.07	0.004041	2.36	30.50	19.49	0.60
mugnone	-258.33	Max WS	SPSP	72.04	43.58	45.79		46.07	0.004041	2.36	30.50	19.49	0.60
mugnone	-327.30	Max WS	SASA	55.93	43.23	45.28		45.50	0.003439	2.06	27.17	19.10	0.55
mugnone	-327.30	Max WS	SASP	55.93	43.23	45.28		45.50	0.003439	2.06	27.17	19.10	0.55
mugnone	-327.30	Max WS	SPSA	72.04	43.23	45.57		45.82	0.003192	2.21	32.63	19.15	0.54
mugnone	-327.30	Max WS	SPSP	72.03	43.23	45.57		45.82	0.003192	2.21	32.63	19.15	0.54
mugnone	-419.3	Max WS	SASA	55.93	42.90	44.97		45.19	0.003331	2.06	27.22	18.66	0.54
mugnone	-419.3	Max WS	SASP	55.93	42.90	44.97		45.19	0.003331	2.06	27.22	18.66	0.54
mugnone	-419.3	Max WS	SPSA	72.03	42.90	45.30		45.53	0.002929	2.17	33.27	18.73	0.52
mugnone	-419.3	Max WS	SPSP	72.03	42.90	45.30		45.53	0.002929	2.17	33.27	18.73	0.52
mugnone	-432.3	Max WS	SASA	55.93	42.85	44.93		45.14	0.003237	2.03	27.49	18.73	0.54
mugnone	-432.3	Max WS	SASP	55.93	42.85	44.93		45.14	0.003237	2.03	27.49	18.73	0.54
mugnone	-432.3	Max WS	SPSA	72.03	42.85	45.26		45.50	0.002823	2.14	33.70	18.79	0.51
mugnone	-432.3	Max WS	SPSP	72.03	42.85	45.26		45.50	0.002823	2.14	33.70	18.79	0.51
mugnone	-434.3	Max WS	SASA	55.93	42.85	44.92		45.14	0.003298	2.05	27.34	18.73	0.54
mugnone	-434.3	Max WS	SASP	55.93	42.85	44.92		45.14	0.003298	2.05	27.34	18.73	0.54
mugnone	-434.3	Max WS	SPSA	72.03	42.85	45.26		45.49	0.002857	2.15	33.57	18.80	0.51
mugnone	-434.3	Max WS	SPSP	72.03	42.85	45.26		45.49	0.002858	2.15	33.57	18.80	0.51
mugnone	-438.7	Max WS	SASA	55.93	42.84	44.91		45.12	0.003331	2.05	27.28	18.77	0.54
mugnone	-438.7	Max WS	SASP	55.93	42.84	44.91		45.12	0.003331	2.05	27.28	18.77	0.54
mugnone	-438.7	Max WS	SPSA	72.03	42.84	45.24		45.48	0.002862	2.14	33.58	18.84	0.51
mugnone	-438.7	Max WS	SPSP	72.03	42.84	45.24		45.48	0.002862	2.14	33.58	18.84	0.51
mugnone	-449.3	Max WS	SASA	55.93	42.78	44.89		45.09	0.003054	1.99	28.07	18.86	0.52
mugnone	-449.3	Max WS	SASP	55.93	42.78	44.89		45.09	0.003054	1.99	28.07	18.86	0.52
mugnone	-449.3	Max WS	SPSA	72.03	42.78	45.23		45.45	0.002640	2.09	34.51	18.93	0.49
mugnone	-449.3	Max WS	SPSP	72.03	42.78	45.23		45.45	0.002640	2.09	34.51	18.93	0.49
mugnone	-458.5	Max WS	SASA	55.93	42.76	44.86		45.06	0.003107	2.00	27.96	21.94	0.53
mugnone	-458.5	Max WS	SASP	55.93	42.76	44.86		45.06	0.003107	2.00	27.96	21.94	0.53
mugnone	-458.5	Max WS	SPSA	72.03	42.76	45.20		45.42	0.002645	2.09	34.53	22.01	0.49
mugnone	-458.5	Max WS	SPSP	72.03	42.76	45.20		45.42	0.002645	2.09	34.53	22.01	0.49
mugnone	-465.1	Max WS	SASA	55.93	42.73	44.89		45.04	0.002391	1.73	32.40	22.29	0.46
mugnone	-465.1	Max WS	SASP	55.93	42.73	44.89		45.04	0.002391	1.73	32.40	22.29	0.46
mugnone	-465.1	Max WS	SPSA	72.03	42.73	45.25		45.41	0.001978	1.79	40.35	22.33	0.42
mugnone	-465.1	Max WS	SPSP	72.03	42.73	45.25		45.41	0.001977	1.78	40.36	22.33	0.42
mugnone	-465.7	Max WS	SASA	55.93	42.73	44.89		45.04	0.002406	1.73	32.32	22.26	0.46

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
mugnone	-465.7	Max WS	SASP	55.93	42.73	44.89		45.04	0.002406	1.73	32.32	22.26	0.46
mugnone	-465.7	Max WS	SPSA	72.03	42.73	45.24		45.41	0.001988	1.79	40.27	22.30	0.42
mugnone	-465.7	Max WS	SPSP	72.03	42.73	45.24		45.41	0.001988	1.79	40.27	22.30	0.42
mugnone	-478.2	Max WS	SASA	55.93	42.69	44.81		45.01	0.002933	1.96	28.55	19.08	0.51
mugnone	-478.2	Max WS	SASP	55.93	42.69	44.81		45.01	0.002933	1.96	28.55	19.08	0.51
mugnone	-478.2	Max WS	SPSA	72.03	42.69	45.17		45.38	0.002471	2.04	35.38	19.15	0.48
mugnone	-478.2	Max WS	SPSP	72.03	42.69	45.17		45.38	0.002470	2.04	35.38	19.15	0.48
mugnone	-556.2	Max WS	SASA	55.93	42.41	44.62		44.80	0.002457	1.86	30.07	18.89	0.47
mugnone	-556.2	Max WS	SASP	55.93	42.41	44.62		44.80	0.002457	1.86	30.07	18.89	0.47
mugnone	-556.2	Max WS	SPSA	72.02	42.41	45.02		45.21	0.002019	1.92	37.58	18.97	0.43
mugnone	-556.2	Max WS	SPSP	72.02	42.41	45.02		45.21	0.002019	1.92	37.58	18.97	0.43
mugnone	-599.98	Max WS	SASA	55.93	42.28	44.52		44.69	0.002330	1.83	30.48	18.73	0.46
mugnone	-599.98	Max WS	SASP	55.93	42.28	44.52		44.69	0.002330	1.83	30.48	18.73	0.46
mugnone	-599.98	Max WS	SPSA	72.01	42.28	44.94		45.12	0.001878	1.88	38.35	18.81	0.42
mugnone	-599.98	Max WS	SPSP	72.01	42.28	44.94		45.12	0.001878	1.88	38.35	18.81	0.42
mugnone	-612.41	Max WS	SASA	55.92	42.15	44.50	43.75	44.67	0.001731	1.84	30.47	17.26	0.44
mugnone	-612.41	Max WS	SASP	55.93	42.15	44.50	43.75	44.67	0.001731	1.84	30.47	17.26	0.44
mugnone	-612.41	Max WS	SPSA	72.01	42.15	44.91	43.94	45.10	0.001493	1.91	37.69	17.34	0.41
mugnone	-612.41	Max WS	SPSP	72.01	42.15	44.91	43.94	45.10	0.001493	1.91	37.69	17.34	0.41
mugnone	-612.42			Bridge									
mugnone	-627.09	Max WS	SASA	55.92	42.20	44.42		44.61	0.002163	1.97	28.35	17.24	0.49
mugnone	-627.09	Max WS	SASP	55.92	42.20	44.42		44.61	0.002163	1.97	28.35	17.24	0.49
mugnone	-627.09	Max WS	SPSA	71.99	42.20	44.85		45.06	0.001728	2.01	35.90	17.32	0.44
mugnone	-627.09	Max WS	SPSP	71.99	42.20	44.85		45.06	0.001728	2.01	35.90	17.32	0.44
mugnone	-632.09	Max WS	SASA	55.92	42.20	44.40		44.60	0.002224	1.99	28.09	17.23	0.50
mugnone	-632.09	Max WS	SASP	55.92	42.20	44.40		44.60	0.002224	1.99	28.09	17.23	0.50
mugnone	-632.09	Max WS	SPSA	71.99	42.20	44.84		45.05	0.001755	2.02	35.72	17.32	0.45
mugnone	-632.09	Max WS	SPSP	71.99	42.20	44.84		45.05	0.001755	2.02	35.72	17.32	0.45
mugnone	-678.17	Max WS	SASA	55.92	42.02	44.35		44.50	0.002036	1.76	31.71	18.57	0.43
mugnone	-678.17	Max WS	SASP	55.92	42.02	44.35		44.50	0.002036	1.76	31.71	18.57	0.43
mugnone	-678.17	Max WS	SPSA	71.99	42.02	44.81		44.97	0.001588	1.78	40.34	18.66	0.39
mugnone	-678.17	Max WS	SPSP	71.99	42.02	44.81		44.97	0.001588	1.78	40.34	18.66	0.39
mugnone	-706.52	Max WS	SASA	55.92	41.90	44.31		44.45	0.001732	1.67	33.54	18.83	0.40
mugnone	-706.52	Max WS	SASP	55.92	41.90	44.31		44.45	0.001732	1.67	33.54	18.83	0.40
mugnone	-706.52	Max WS	SPSA	71.98	41.90	44.78		44.93	0.001370	1.69	42.50	18.93	0.36
mugnone	-706.52	Max WS	SPSP	71.98	41.90	44.78		44.93	0.001370	1.69	42.50	18.93	0.36
mugnone	-790.14	Max WS	SASA	55.92	41.62	44.19		44.32	0.001388	1.58	35.48	18.08	0.36
mugnone	-790.14	Max WS	SASP	55.91	41.62	44.19		44.32	0.001387	1.58	35.48	18.08	0.36
mugnone	-790.14	Max WS	SPSA	71.98	41.62	44.69		44.83	0.001139	1.62	44.50	18.18	0.33
mugnone	-790.14	Max WS	SPSP	71.98	41.62	44.69		44.83	0.001139	1.62	44.50	18.18	0.33
mugnone	-842.80	Max WS	SASA	55.91	41.43	44.13		44.25	0.001220	1.55	36.11	16.88	0.34
mugnone	-842.80	Max WS	SASP	55.91	41.43	44.13		44.25	0.001220	1.55	36.12	16.88	0.34
mugnone	-842.80	Max WS	SPSA	71.98	41.43	44.64		44.77	0.001054	1.61	44.65	16.98	0.32
mugnone	-842.80	Max WS	SPSP	71.98	41.43	44.64		44.77	0.001054	1.61	44.65	16.98	0.32
mugnone	-861.31	Max WS	SASA	55.92	41.33	44.17	42.39	44.24	0.000436	1.15	48.55	17.31	0.22
mugnone	-861.31	Max WS	SASP	55.91	41.33	44.17	42.39	44.24	0.000436	1.15	48.55	17.31	0.22
mugnone	-861.31	Max WS	SPSA	71.98	41.33	44.67	42.58	44.76	0.000441	1.26	57.26	17.31	0.22
mugnone	-861.31	Max WS	SPSP	71.98	41.33	44.67	42.57	44.76	0.000441	1.26	57.26	17.31	0.22
mugnone	-870.89			Bridge									
mugnone	-889.01	Max WS	SASA	55.91	41.33	44.16		44.23	0.000442	1.16	48.32	17.31	0.22
mugnone	-889.01	Max WS	SASP	55.91	41.33	44.16		44.23	0.000442	1.16	48.32	17.31	0.22
mugnone	-889.01	Max WS	SPSA	71.98	41.33	44.66		44.74	0.000447	1.26	57.02	17.31	0.22
mugnone	-889.01	Max WS	SPSP	71.98	41.33	44.66		44.74	0.000447	1.26	57.02	17.31	0.22
mugnone	-910.36	Max WS	SASA	55.91	41.18	44.13		44.21	0.000721	1.26	44.53	19.14	0.26
mugnone	-910.36	Max WS	SASP	55.91	41.18	44.13		44.21	0.000720	1.26	44.53	19.14	0.26
mugnone	-910.36	Max WS	SPSA	71.97	41.18	44.64		44.73	0.000649	1.33	54.26	19.24	0.25
mugnone	-910.36	Max WS	SPSP	71.98	41.18	44.64		44.73	0.000649	1.33	54.26	19.24	0.25
mugnone	-927.33	Max WS	SASA	55.91	41.08	44.13		44.20	0.000632	1.20	46.47	19.20	0.25
mugnone	-927.33	Max WS	SASP	55.91	41.08	44.13		44.20	0.000632	1.20	46.47	19.20	0.25
mugnone	-927.33	Max WS	SPSA	71.97	41.08	44.64		44.72	0.000583	1.28	56.25	19.30	0.24
mugnone	-927.33	Max WS	SPSP	71.97	41.08	44.64		44.72	0.000583	1.28	56.25	19.30	0.24
mugnone	-1027.16	Max WS	SASA	55.91	40.77	44.15		44.17	0.000162	0.66	85.25	32.73	0.13
mugnone	-1027.16	Max WS	SASP	55.91	40.77	44.15		44.17	0.000162	0.66	85.26	32.73	0.13
mugnone	-1027.16	Max WS	SPSA	71.97	40.77	44.67		44.69	0.000161	0.70	102.88	35.88	0.13
mugnone	-1027.16	Max WS	SPSP	71.98	40.77	44.67		44.69	0.000161	0.70	102.88	35.88	0.13
mugnone	-1072.04	Max WS	SASA	55.91	40.58	44.14		44.17	0.000150	0.64	87.22	32.39	0.12
mugnone	-1072.04	Max WS	SASP	55.91	40.58	44.14		44.17	0.000150	0.64	87.23	32.39	0.12
mugnone	-1072.04	Max WS	SPSA	71.97	40.58	44.66		44.68	0.000155	0.68	106.13	38.15	0.13
mugnone	-1072.04	Max WS	SPSP	71.97	40.58	44.66		44.68	0.000155	0.68	106.13	38.15	0.13
mugnone_01	-1102.5	Max WS	SASA	91.67	40.40	44.04		44.14	0.000688	1.41	64.99	20.76	0.25
mugnone_01	-1102.5	Max WS	SASP	91.66	40.40	44.04		44.14	0.000688	1.41	65.00	20.76	0.25
mugnone_01	-1102.5	Max WS	SPSA	117.99	40.40	44.54		44.66	0.000730	1.57	75.22	20.77	0.26
mugnone_01	-1102.5	Max WS	SPSP	118.00	40.40	44.54		44.66	0.000730	1.57	75.22	20.77	0.26
mugnone_01	-1103.00	Max WS	SASA	91.67	40.40	44.04	41.96	44.14	0.000729	1.45	63.06	20.76	0.26
mugnone_01	-1103.00	Max WS	SASP	91.66	40.40	44.04	41.96	44.14	0.000729	1.45	63.06	20.76	0.26
mugnone_01	-1103.00	Max WS	SPSA	117.99	40.40	44.53	42.36	44.66	0.000782	1.62	72.74	20.77	0.27
mugnone_01	-1103.00	Max WS	SPSP	118.00	40.40	44.53	42.36	44.66	0.000782	1.62	72.74	20.77	0.27

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
mugnone_01	-1108			Bridge									
mugnone_01	-1113.50	Max WS	SASA	91.64	40.35	43.59		43.91	0.003348	2.50	36.72	14.74	0.50
mugnone_01	-1113.50	Max WS	SASP	91.64	40.35	43.59		43.91	0.003347	2.50	36.72	14.74	0.50
mugnone_01	-1113.50	Max WS	SPSA	117.88	40.35	43.97		44.37	0.003586	2.78	42.34	14.74	0.52
mugnone_01	-1113.50	Max WS	SPSP	117.88	40.35	43.97		44.37	0.003587	2.78	42.34	14.74	0.52
mugnone_01	-1114	Max WS	SASA	91.65	40.35	43.71		43.91	0.001254	1.97	46.42	14.74	0.36
mugnone_01	-1114	Max WS	SASP	91.65	40.35	43.71		43.91	0.001253	1.97	46.42	14.74	0.36
mugnone_01	-1114	Max WS	SPSA	117.93	40.35	44.11		44.37	0.001465	2.25	52.30	14.74	0.38
mugnone_01	-1114	Max WS	SPSP	117.92	40.35	44.11		44.37	0.001464	2.25	52.30	14.74	0.38
mugnone_01	-1114.5	Max WS	SASA	91.66	40.35	43.71	42.04	43.91	0.001254	1.97	46.42	14.74	0.36
mugnone_01	-1114.5	Max WS	SASP	91.64	40.35	43.71	42.04	43.91	0.001253	1.97	46.42	14.74	0.36
mugnone_01	-1114.5	Max WS	SPSA	117.93	40.35	44.11	42.39	44.37	0.001465	2.26	52.29	14.74	0.38
mugnone_01	-1114.5	Max WS	SPSP	117.92	40.35	44.11	42.38	44.37	0.001465	2.25	52.29	14.74	0.38
mugnone_01	-1119.5			Bridge									
mugnone_01	-1124.5	Max WS	SASA	91.65	40.31	43.70		43.89	0.001273	1.97	46.58	15.12	0.36
mugnone_01	-1124.5	Max WS	SASP	91.65	40.31	43.70		43.90	0.001273	1.97	46.59	15.12	0.36
mugnone_01	-1124.5	Max WS	SPSA	117.91	40.31	44.10		44.35	0.001472	2.24	52.62	15.12	0.38
mugnone_01	-1124.5	Max WS	SPSP	117.91	40.31	44.10		44.35	0.001472	2.24	52.63	15.12	0.38
mugnone_01	-1125.55	Max WS	SASA	91.65	40.31	43.69		43.89	0.001158	1.99	46.09	15.20	0.36
mugnone_01	-1125.55	Max WS	SASP	91.65	40.31	43.69		43.89	0.001158	1.99	46.09	15.20	0.36
mugnone_01	-1125.55	Max WS	SPSA	117.91	40.31	44.09		44.35	0.001336	2.26	52.19	15.34	0.39
mugnone_01	-1125.55	Max WS	SPSP	117.91	40.31	44.09		44.35	0.001336	2.26	52.19	15.34	0.39
mugnone_01	-1151.45	Max WS	SASA	91.64	40.28	43.60		43.85	0.002030	2.24	40.86	15.47	0.44
mugnone_01	-1151.45	Max WS	SASP	91.64	40.28	43.60		43.85	0.002029	2.24	40.86	15.47	0.44
mugnone_01	-1151.45	Max WS	SPSA	117.89	40.28	43.98		44.31	0.002226	2.52	46.87	15.61	0.46
mugnone_01	-1151.45	Max WS	SPSP	117.89	40.28	43.98		44.31	0.002226	2.52	46.87	15.61	0.46
mugnone_01	-1186.96	Max WS	SASA	91.64	40.25	43.51		43.78	0.002151	2.28	40.25	15.77	0.45
mugnone_01	-1186.96	Max WS	SASP	91.63	40.25	43.51		43.78	0.002149	2.28	40.26	15.77	0.45
mugnone_01	-1186.96	Max WS	SPSA	117.86	40.25	43.89		44.22	0.002341	2.55	46.25	15.90	0.48
mugnone_01	-1186.96	Max WS	SPSP	117.86	40.25	43.89		44.22	0.002341	2.55	46.25	15.90	0.48
mugnone_01	-1222.75	Max WS	SASA	91.63	40.22	43.46		43.70	0.001872	2.17	42.17	16.20	0.43
mugnone_01	-1222.75	Max WS	SASP	91.62	40.22	43.46		43.70	0.001870	2.17	42.18	16.20	0.43
mugnone_01	-1222.75	Max WS	SPSA	117.83	40.22	43.83		44.14	0.002061	2.44	48.27	16.34	0.45
mugnone_01	-1222.75	Max WS	SPSP	117.84	40.22	43.83		44.14	0.002061	2.44	48.27	16.34	0.45
mugnone_01	-1248	Max WS	SASA	91.62	40.20	43.41		43.65	0.001858	2.16	42.47	16.43	0.43
mugnone_01	-1248	Max WS	SASP	91.62	40.20	43.41		43.65	0.001857	2.16	42.48	16.43	0.43
mugnone_01	-1248	Max WS	SPSA	117.82	40.20	43.78		44.08	0.002048	2.42	48.59	16.57	0.45
mugnone_01	-1248	Max WS	SPSP	117.81	40.20	43.78		44.08	0.002047	2.42	48.59	16.57	0.45
mugnone_01	-1317.64	Max WS	SASA	91.61	40.09	43.30		43.52	0.001756	2.09	43.81	17.02	0.42
mugnone_01	-1317.64	Max WS	SASP	91.59	40.09	43.30		43.52	0.001754	2.09	43.82	17.02	0.42
mugnone_01	-1317.64	Max WS	SPSA	117.74	40.09	43.66		43.94	0.001951	2.36	49.95	17.12	0.44
mugnone_01	-1317.64	Max WS	SPSP	117.74	40.09	43.66		43.94	0.001950	2.36	49.95	17.12	0.44
mugnone_01	-1388.37	Max WS	SASA	91.59	39.97	43.23		43.41	0.001439	1.90	48.28	19.25	0.38
mugnone_01	-1388.37	Max WS	SASP	91.13	39.97	43.23		43.41	0.001423	1.89	48.30	19.26	0.38
mugnone_01	-1388.37	Max WS	SPSA	117.71	39.97	43.59		43.82	0.001575	2.13	55.23	19.38	0.40
mugnone_01	-1388.37	Max WS	SPSP	117.70	39.97	43.59		43.82	0.001574	2.13	55.24	19.38	0.40
mugnone_01	-1427.01	Max WS	SASA	91.58	39.89	43.20		43.36	0.001218	1.74	52.68	21.23	0.35
mugnone_01	-1427.01	Max WS	SASP	91.13	39.89	43.21		43.36	0.001204	1.73	52.72	21.23	0.35
mugnone_01	-1427.01	Max WS	SPSA	117.70	39.89	43.57		43.76	0.001316	1.95	60.44	21.36	0.37
mugnone_01	-1427.01	Max WS	SPSP	117.70	39.89	43.57		43.76	0.001316	1.95	60.44	21.36	0.37
mugnone_01	-1446.26	Max WS	SASA	91.14	39.87	43.20		43.33	0.001035	1.63	55.78	22.43	0.33
mugnone_01	-1446.26	Max WS	SASP	91.13	39.87	43.20		43.34	0.001032	1.63	55.82	22.43	0.33
mugnone_01	-1446.26	Max WS	SPSA	117.69	39.87	43.56		43.74	0.001099	1.84	63.86	22.56	0.35
mugnone_01	-1446.26	Max WS	SPSP	117.69	39.87	43.56		43.74	0.001099	1.84	63.86	22.56	0.35
mugnone_01	-1446.76	Max WS	SASA	91.14	39.87	43.20	41.87	43.33	0.001036	1.63	55.77	22.43	0.33
mugnone_01	-1446.76	Max WS	SASP	91.13	39.87	43.20	41.87	43.34	0.001033	1.63	55.81	22.43	0.33
mugnone_01	-1446.76	Max WS	SPSA	117.70	39.87	43.56	42.09	43.74	0.001100	1.84	63.85	22.56	0.35
mugnone_01	-1446.76	Max WS	SPSP	117.69	39.87	43.56	42.10	43.74	0.001100	1.84	63.85	22.56	0.35
mugnone_01	-1456.13			Bridge									
mugnone_01	-1465.26	Max WS	SASA	91.13	39.84	43.08		43.22	0.001097	1.63	55.81	25.27	0.33
mugnone_01	-1465.26	Max WS	SASP	91.10	39.84	43.08		43.22	0.001093	1.63	55.86	25.27	0.33
mugnone_01	-1465.26	Max WS	SPSA	117.68	39.84	43.44		43.61	0.001169	1.84	63.83	25.38	0.35
mugnone_01	-1465.26	Max WS	SPSP	117.69	39.84	43.44		43.61	0.001168	1.84	63.84	25.38	0.35
mugnone_01	-1496.43	Max WS	SASA	91.14	39.79	43.11		43.19	0.000693	1.26	72.41	29.25	0.26
mugnone_01	-1496.43	Max WS	SASP	91.13	39.79	43.11		43.19	0.000691	1.26	72.46	29.25	0.26
mugnone_01	-1496.43	Max WS	SPSA	117.70	39.79	43.48		43.58	0.000744	1.41	83.37	29.32	0.27
mugnone_01	-1496.43	Max WS	SPSP	117.70	39.79	43.48		43.58	0.000744	1.41	83.38	29.32	0.27
mugnone_01	-1560.24	Max WS	SASA	91.05	39.67	42.96		43.12	0.001434	1.80	50.52	19.09	0.35
mugnone_01	-1560.24	Max WS	SASP	91.02	39.67	42.96		43.12	0.001429	1.80	50.56	19.09	0.35
mugnone_01	-1560.24	Max WS	SPSA	117.60	39.67	43.29		43.51	0.001667	2.07	56.94	19.15	0.38
mugnone_01	-1560.24	Max WS	SPSP	117.60	39.67	43.29		43.51	0.001667	2.07	56.94	19.15	0.38
mugnone_01	-1606.84	Max WS	SASA	90.97	39.62	42.86		43.05	0.001654	1.92	47.42	18.01	0.38
mugnone_01	-1606.84	Max WS	SASP	90.92	39.62	42.86		43.05	0.001648	1.92	47.47	18.01	0.38
mugnone_01	-1606.84	Max WS	SPSA	117.49	39.62	43.17		43.42	0.001969	2.21	53.06	18.08	0.41
mugnone_01	-1606.84	Max WS	SPSP	117.49	39.62	43.17		43.42	0.001968	2.21	53.06	18.08	0.41
mugnone_01	-1620.70	Max WS	SASA	90.97	39.62	42.86		43.03	0.001473	1.81	50.15	19.26	0.36
mugnone_01	-1620.70	Max WS	SASP	90.92	39.62	42.86		43.03	0.001467	1.81	50.20	19.26	0.36

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
mugnone_01	-1620.70	Max WS	SPSA	117.49	39.62	43.18		43.40	0.001738	2.09	56.24	19.32	0.39
mugnone_01	-1620.70	Max WS	SPSP	117.49	39.62	43.18		43.40	0.001737	2.09	56.25	19.32	0.39
mugnone_01	-1713.74	Max WS	SASA	90.89	39.45	42.76		42.90	0.001185	1.65	55.01	20.87	0.32
mugnone_01	-1713.74	Max WS	SASP	90.77	39.45	42.77		42.91	0.001177	1.65	55.08	20.87	0.32
mugnone_01	-1713.74	Max WS	SPSA	117.39	39.45	43.06		43.25	0.001425	1.92	61.27	20.93	0.36
mugnone_01	-1713.74	Max WS	SPSP	117.38	39.45	43.06		43.25	0.001425	1.92	61.27	20.93	0.36
mugnone_01	-1776.44	Max WS	SASA	90.75	39.34	42.69		42.83	0.001181	1.66	54.69	20.44	0.32
mugnone_01	-1776.44	Max WS	SASP	90.61	39.34	42.69		42.83	0.001172	1.65	54.77	20.44	0.32
mugnone_01	-1776.44	Max WS	SPSA	117.31	39.34	42.97		43.16	0.001460	1.94	60.40	20.51	0.36
mugnone_01	-1776.44	Max WS	SPSP	117.30	39.34	42.97		43.16	0.001459	1.94	60.41	20.51	0.36
mugnone_01	-1789.73	Max WS	SASA	90.72	39.32	42.67		42.81	0.001197	1.67	54.31	20.23	0.33
mugnone_01	-1789.73	Max WS	SASP	90.58	39.32	42.68		42.82	0.001188	1.67	54.39	20.23	0.32
mugnone_01	-1789.73	Max WS	SPSA	117.27	39.32	42.94		43.14	0.001490	1.96	59.86	20.29	0.36
mugnone_01	-1789.73	Max WS	SPSP	117.27	39.32	42.95		43.14	0.001490	1.96	59.86	20.29	0.36
mugnone_01	-1813.31	Max WS	SASA	90.66	39.28	42.65		42.79	0.001140	1.64	55.40	20.55	0.32
mugnone_01	-1813.31	Max WS	SASP	90.54	39.28	42.65		42.79	0.001131	1.63	55.49	20.55	0.32
mugnone_01	-1813.31	Max WS	SPSA	117.25	39.28	42.92		43.11	0.001430	1.92	60.91	20.60	0.36
mugnone_01	-1813.31	Max WS	SPSP	117.24	39.28	42.92		43.11	0.001429	1.92	60.92	20.60	0.36
mugnone_01	-1820.32	Max WS	SASA	90.63	39.27	42.64		42.78	0.001171	1.66	54.68	20.25	0.32
mugnone_01	-1820.32	Max WS	SASP	90.52	39.27	42.64		42.78	0.001162	1.65	54.77	20.25	0.32
mugnone_01	-1820.32	Max WS	SPSA	117.22	39.27	42.90		43.10	0.001476	1.95	60.04	20.31	0.36
mugnone_01	-1820.32	Max WS	SPSP	117.20	39.27	42.90		43.10	0.001475	1.95	60.04	20.31	0.36
mugnone_01	-1856.67	Max WS	SASA	90.56	39.22	42.60		42.74	0.001114	1.62	55.82	20.63	0.31
mugnone_01	-1856.67	Max WS	SASP	90.42	39.22	42.61		42.74	0.001105	1.62	55.91	20.63	0.31
mugnone_01	-1856.67	Max WS	SPSA	117.15	39.22	42.86		43.04	0.001420	1.92	61.06	20.68	0.36
mugnone_01	-1856.67	Max WS	SPSP	117.16	39.22	42.86		43.04	0.001421	1.92	61.06	20.68	0.36
mugnone_01	-1986.81	Max WS	SASA	90.30	39.00	42.49		42.60	0.000921	1.51	59.93	21.44	0.29
mugnone_01	-1986.81	Max WS	SASP	90.10	39.00	42.49		42.61	0.000911	1.50	60.06	21.44	0.29
mugnone_01	-1986.81	Max WS	SPSA	116.95	39.00	42.70		42.87	0.001232	1.81	64.56	21.48	0.33
mugnone_01	-1986.81	Max WS	SPSP	116.93	39.00	42.70		42.87	0.001232	1.81	64.56	21.48	0.33
mugnone_01	-2055.67	Max WS	SASA	90.15	38.88	42.44		42.54	0.000831	1.45	62.16	21.77	0.27
mugnone_01	-2055.67	Max WS	SASP	89.93	38.88	42.44		42.55	0.000821	1.44	62.30	21.78	0.27
mugnone_01	-2055.67	Max WS	SPSA	115.25	38.88	42.63		42.79	0.001110	1.73	66.44	21.81	0.32
mugnone_01	-2055.67	Max WS	SPSP	115.29	38.88	42.63		42.79	0.001110	1.73	66.45	21.81	0.32
mugnone_01	-2077.12	Max WS	SASA	90.10	38.86	42.42		42.52	0.000819	1.44	62.56	21.89	0.27
mugnone_01	-2077.12	Max WS	SASP	89.85	38.86	42.43		42.53	0.000808	1.43	62.71	21.89	0.27
mugnone_01	-2077.12	Max WS	SPSA	115.25	38.86	42.61		42.76	0.001101	1.73	66.73	21.92	0.32
mugnone_01	-2077.12	Max WS	SPSP	115.29	38.86	42.61		42.76	0.001100	1.73	66.75	21.92	0.32
mugnone_01	-2079.98	Max WS	SASA	90.08	38.85	42.42		42.52	0.000809	1.43	62.81	21.92	0.27
mugnone_01	-2079.98	Max WS	SASP	89.88	38.85	42.42		42.53	0.000799	1.43	62.97	21.92	0.27
mugnone_01	-2079.98	Max WS	SPSA	115.22	38.85	42.61		42.76	0.001088	1.72	66.99	21.95	0.31
mugnone_01	-2079.98	Max WS	SPSP	115.29	38.85	42.61		42.76	0.001089	1.72	67.00	21.95	0.31
mugnone_01	-2141.09	Max WS	SASA	89.96	38.77	42.37		42.47	0.000763	1.40	64.14	22.14	0.26
mugnone_01	-2141.09	Max WS	SASP	89.66	38.77	42.38		42.48	0.000752	1.39	64.32	22.14	0.26
mugnone_01	-2141.09	Max WS	SPSA	115.22	38.77	42.55		42.69	0.001049	1.69	67.98	22.17	0.31
mugnone_01	-2141.09	Max WS	SPSP	115.26	38.77	42.55		42.69	0.001049	1.70	67.99	22.17	0.31
mugnone_01	-2234.51	Max WS	SASA	89.73	38.60	42.32		42.41	0.000641	1.31	68.33	22.79	0.24
mugnone_01	-2234.51	Max WS	SASP	89.41	38.60	42.33		42.42	0.000631	1.30	68.52	22.79	0.24
mugnone_01	-2234.51	Max WS	SPSA	115.19	38.60	42.47		42.60	0.000910	1.61	71.75	22.82	0.29
mugnone_01	-2234.51	Max WS	SPSP	115.20	38.60	42.47		42.60	0.000909	1.61	71.77	22.82	0.29
mugnone_01	-2292.95	Max WS	SASA	89.59	38.52	42.29		42.37	0.000592	1.27	70.32	23.12	0.23
mugnone_01	-2292.95	Max WS	SASP	89.23	38.52	42.30		42.38	0.000582	1.27	70.53	23.12	0.23
mugnone_01	-2292.95	Max WS	SPSA	115.16	38.52	42.42		42.55	0.000857	1.57	73.45	23.14	0.28
mugnone_01	-2292.95	Max WS	SPSP	115.20	38.52	42.43		42.55	0.000857	1.57	73.47	23.14	0.28
mugnone_01	-2296.57	Max WS	SASA	89.56	38.50	42.29		42.37	0.000580	1.27	70.80	23.14	0.23
mugnone_01	-2296.57	Max WS	SASP	89.20	38.50	42.30		42.38	0.000570	1.26	71.01	23.14	0.23
mugnone_01	-2296.57	Max WS	SPSA	115.16	38.50	42.42		42.55	0.000841	1.56	73.92	23.17	0.28
mugnone_01	-2296.57	Max WS	SPSP	115.17	38.50	42.42		42.55	0.000840	1.56	73.95	23.17	0.28
mugnone_01	-2372.99	Max WS	SASA	89.33	38.46	42.24		42.32	0.000590	1.27	70.11	22.97	0.23
mugnone_01	-2372.99	Max WS	SASP	88.92	38.46	42.25		42.33	0.000579	1.26	70.34	22.97	0.23
mugnone_01	-2372.99	Max WS	SPSA	115.09	38.46	42.35		42.48	0.000879	1.58	72.66	22.99	0.28
mugnone_01	-2372.99	Max WS	SPSP	115.12	38.46	42.35		42.48	0.000878	1.58	72.69	22.99	0.28
mugnone_01	-2394.24	Max WS	SASA	89.28	38.45	42.24		42.31	0.000551	1.17	76.27	25.36	0.22
mugnone_01	-2394.24	Max WS	SASP	88.95	38.45	42.25		42.32	0.000541	1.16	76.53	25.36	0.21
mugnone_01	-2394.24	Max WS	SPSA	115.11	38.45	42.36		42.46	0.000817	1.45	79.13	25.37	0.26
mugnone_01	-2394.24	Max WS	SPSP	115.12	38.45	42.36		42.46	0.000817	1.45	79.14	25.37	0.26
mugnone_01	-2398.05	Max WS	SASA	89.28	38.44	42.24		42.31	0.000498	1.18	75.75	24.64	0.21
mugnone_01	-2398.05	Max WS	SASP	88.82	38.44	42.25		42.32	0.000488	1.17	76.00	24.64	0.21
mugnone_01	-2398.05	Max WS	SPSA	115.09	38.44	42.35		42.46	0.000742	1.47	78.48	24.65	0.26
mugnone_01	-2398.05	Max WS	SPSP	115.12	38.44	42.35		42.46	0.000742	1.47	78.50	24.65	0.26
mugnone_01	-2407.61	Max WS	SASA	89.15	38.38	42.22		42.31	0.000556	1.26	70.63	22.90	0.23
mugnone_01	-2407.61	Max WS	SASP	88.82	38.38	42.23		42.31	0.000546	1.25	70.87	22.90	0.23
mugnone_01	-2407.61	Max WS	SPSA	115.06	38.38	42.33		42.45	0.000840	1.58	72.96	22.91	0.28
mugnone_01	-2407.61	Max WS	SPSP	115.01	38.38	42.33		42.45	0.000838	1.58	72.98	22.91	0.28
mugnone_01	-2419.17	Max WS	SASA	89.06	38.43	42.21		42.30	0.000636	1.34	66.60	20.74	0.24
mugnone_01	-2419.17	Max WS	SASP	88.62	38.43	42.22		42.31	0.000623	1.33	66.83	20.74	0.24
mugnone_01	-2419.17	Max WS	SPSA	114.98	38.43	42.30		42.44	0.000975	1.68	68.48	20.75	0.29
mugnone_01	-2419.17	Max WS	SPSP	114.98	38.43	42.30		42.44	0.000974	1.68	68.50	20.75	0.29

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
mugnone_01	-2431.32	Max WS	SASA	88.93	38.42	42.19		42.29	0.000706	1.42	62.82	19.05	0.25
mugnone_01	-2431.32	Max WS	SASP	88.49	38.42	42.20		42.30	0.000692	1.40	63.03	19.05	0.25
mugnone_01	-2431.32	Max WS	SPSA	114.95	38.42	42.27		42.43	0.001100	1.79	64.31	19.06	0.31
mugnone_01	-2431.32	Max WS	SPSP	114.92	38.42	42.27		42.43	0.001099	1.79	64.33	19.06	0.31
mugnone_01	-2438.43	Max WS	SASA	88.81	38.42	42.18		42.28	0.000747	1.46	60.87	18.22	0.25
mugnone_01	-2438.43	Max WS	SASP	88.42	38.42	42.19		42.29	0.000733	1.45	61.08	18.22	0.25
mugnone_01	-2438.43	Max WS	SPSA	114.92	38.42	42.25		42.42	0.001176	1.85	62.16	18.23	0.32
mugnone_01	-2438.43	Max WS	SPSP	114.69	38.42	42.25		42.42	0.001171	1.84	62.17	18.23	0.32
mugnone_01	-2445.60	Max WS	SASA	88.74	38.42	42.16	40.15	42.28	0.000812	1.52	58.37	17.26	0.26
mugnone_01	-2445.60	Max WS	SASP	88.27	38.42	42.17	40.15	42.29	0.000796	1.51	58.57	17.26	0.26
mugnone_01	-2445.60	Max WS	SPSA	114.54	38.42	42.22	40.41	42.41	0.001285	1.93	59.42	17.27	0.33
mugnone_01	-2445.60	Max WS	SPSP	114.54	38.42	42.22	40.41	42.41	0.001284	1.93	59.44	17.27	0.33
mugnone_01	-2466.74			Bridge									
mugnone_01	-2487.89	Max WS	SASA	88.36	38.38	42.12		42.24	0.000821	1.52	58.03	16.99	0.26
mugnone_01	-2487.89	Max WS	SASP	87.78	38.38	42.14		42.25	0.000802	1.51	58.24	16.99	0.26
mugnone_01	-2487.89	Max WS	SPSA	114.26	38.38	42.15		42.35	0.001338	1.95	58.55	16.99	0.34
mugnone_01	-2487.89	Max WS	SPSP	114.30	38.38	42.15		42.35	0.001338	1.95	58.56	16.99	0.34
mugnone_01	-2527.35	Max WS	SASA	88.10	38.38	42.09		42.21	0.000810	1.51	58.46	17.35	0.26
mugnone_01	-2527.35	Max WS	SASP	87.41	38.38	42.11		42.22	0.000788	1.49	58.69	17.35	0.26
mugnone_01	-2527.35	Max WS	SPSA	114.10	38.38	42.10		42.29	0.001349	1.95	58.60	17.35	0.34
mugnone_01	-2527.35	Max WS	SPSP	114.09	38.38	42.10		42.30	0.001347	1.95	58.63	17.35	0.34
mugnone_01	-2537.11	Max WS	SASA	87.91	38.37	42.08	40.07	42.20	0.000809	1.51	58.12	17.10	0.26
mugnone_01	-2537.11	Max WS	SASP	87.24	38.37	42.10	40.07	42.21	0.000787	1.50	58.35	17.10	0.26
mugnone_01	-2537.11	Max WS	SPSA	114.01	38.37	42.09	40.34	42.28	0.001359	1.96	58.15	17.10	0.34
mugnone_01	-2537.11	Max WS	SPSP	113.96	38.37	42.09	40.34	42.28	0.001356	1.96	58.17	17.10	0.34
mugnone_01	-2545			Bridge									
mugnone_01	-2556.93	Max WS	SASA	87.67	38.37	42.06		42.18	0.000820	1.52	57.75	17.07	0.26
mugnone_01	-2556.93	Max WS	SASP	86.89	38.37	42.08		42.19	0.000796	1.50	57.99	17.07	0.26
mugnone_01	-2556.93	Max WS	SPSA	105.07	38.37	42.05		42.22	0.001193	1.83	57.51	17.07	0.32
mugnone_01	-2556.93	Max WS	SPSP	103.91	38.37	42.05		42.22	0.001163	1.81	57.56	17.07	0.31
mugnone_01	-2572.98	Max WS	SASA	87.25	38.35	42.05		42.17	0.000838	1.53	57.17	16.99	0.27
mugnone_01	-2572.98	Max WS	SASP	86.47	38.35	42.06		42.18	0.000813	1.51	57.42	16.99	0.26
mugnone_01	-2572.98	Max WS	SPSA	103.57	38.35	42.03		42.20	0.001204	1.82	56.81	16.99	0.32
mugnone_01	-2572.98	Max WS	SPSP	102.91	38.35	42.03		42.20	0.001184	1.81	56.87	16.99	0.32
mugnone_01	-2590.83	Max WS	SASA	87.07	38.30	42.03		42.15	0.000842	1.52	57.39	17.13	0.26
mugnone_01	-2590.83	Max WS	SASP	86.08	38.30	42.05		42.16	0.000812	1.49	57.65	17.13	0.26
mugnone_01	-2590.83	Max WS	SPSA	102.57	38.30	42.01		42.17	0.001198	1.80	56.91	17.13	0.32
mugnone_01	-2590.83	Max WS	SPSP	102.08	38.30	42.01		42.17	0.001182	1.79	56.98	17.13	0.31
mugnone_01	-2593.79	Max WS	SASA	87.07	38.29	42.03		42.15	0.000839	1.52	57.45	17.13	0.26
mugnone_01	-2593.79	Max WS	SASP	86.08	38.29	42.05		42.16	0.000809	1.49	57.71	17.13	0.26
mugnone_01	-2593.79	Max WS	SPSA	102.57	38.29	42.00		42.17	0.001195	1.80	56.95	17.13	0.32
mugnone_01	-2593.79	Max WS	SPSP	101.99	38.29	42.01		42.17	0.001177	1.79	57.02	17.13	0.31
mugnone_01	-2601.37	Max WS	SASA	86.98	38.30	42.03		42.14	0.000790	1.48	58.77	17.51	0.26
mugnone_01	-2601.37	Max WS	SASP	86.08	38.30	42.05		42.16	0.000763	1.46	59.04	17.51	0.25
mugnone_01	-2601.37	Max WS	SPSA	102.57	38.30	42.00		42.16	0.001128	1.76	58.25	17.51	0.31
mugnone_01	-2601.37	Max WS	SPSP	100.76	38.30	42.01		42.16	0.001084	1.73	58.32	17.51	0.30
mugnone_01	-2609.37	Max WS	SASA	86.98	38.24	42.03		42.14	0.000744	1.45	60.00	17.68	0.25
mugnone_01	-2609.37	Max WS	SASP	85.98	38.24	42.05		42.15	0.000717	1.43	60.28	17.68	0.25
mugnone_01	-2609.37	Max WS	SPSA	102.48	38.24	42.00		42.15	0.001061	1.72	59.46	17.68	0.30
mugnone_01	-2609.37	Max WS	SPSP	100.67	38.24	42.00		42.15	0.001019	1.69	59.54	17.68	0.29
mugnone_01	-2622.17	Max WS	SASA	86.98	38.21	42.03		42.13	0.000693	1.41	61.67	18.12	0.24
mugnone_01	-2622.17	Max WS	SASP	85.93	38.21	42.04		42.14	0.000667	1.39	61.96	18.12	0.24
mugnone_01	-2622.17	Max WS	SPSA	102.39	38.21	42.00		42.14	0.000987	1.68	61.09	18.12	0.29
mugnone_01	-2622.17	Max WS	SPSP	100.67	38.21	42.00		42.14	0.000950	1.65	61.18	18.12	0.29
mugnone_01	-2647.24	Max WS	SASA	86.67	38.13	42.01		42.11	0.000658	1.38	62.81	18.56	0.24
mugnone_01	-2647.24	Max WS	SASP	85.47	38.13	42.03		42.12	0.000631	1.35	63.11	18.56	0.23
mugnone_01	-2647.24	Max WS	SPSA	101.00	38.13	41.98		42.11	0.000923	1.63	62.11	18.56	0.28
mugnone_01	-2647.24	Max WS	SPSP	100.57	38.13	41.98		42.11	0.000911	1.62	62.21	18.56	0.28
mugnone_01	-2684.28	Max WS	SASA	86.62	38.02	42.01		42.09	0.000491	1.23	70.63	20.39	0.21
mugnone_01	-2684.28	Max WS	SASP	85.47	38.02	42.03		42.10	0.000472	1.20	70.96	20.41	0.21
mugnone_01	-2684.28	Max WS	SPSA	101.09	38.02	41.98		42.08	0.000691	1.45	69.87	20.36	0.25
mugnone_01	-2684.28	Max WS	SPSP	100.57	38.02	41.98		42.09	0.000681	1.44	69.97	20.36	0.25
mugnone_01	-2684.29			Lat Struct									
mugnone_01	-2699.28	Max WS	SASA	86.62	37.97	42.01		42.08	0.000466	1.20	72.39	21.43	0.21
mugnone_01	-2699.28	Max WS	SASP	85.26	37.97	42.03		42.10	0.000446	1.17	72.74	21.46	0.20
mugnone_01	-2699.28	Max WS	SPSA	100.61	37.97	41.97		42.07	0.000651	1.41	71.54	21.37	0.25
mugnone_01	-2699.28	Max WS	SPSP	100.57	37.97	41.98		42.08	0.000647	1.40	71.65	21.38	0.24
mugnone_01	-2722.81	Max WS	SASA	86.05	37.90	41.99	39.62	42.07	0.000529	1.24	69.21	21.83	0.22
mugnone_01	-2722.81	Max WS	SASP	84.32	37.90	42.01	39.60	42.08	0.000501	1.21	69.58	21.86	0.22
mugnone_01	-2722.81	Max WS	SPSA	100.42	37.90	41.95	39.77	42.06	0.000753	1.47	68.18	21.74	0.27
mugnone_01	-2722.81	Max WS	SPSP	100.48	37.90	41.95	39.77	42.06	0.000750	1.47	68.30	21.75	0.27
mugnone_01	-2724			Inf Struct									
mugnone_01	-2726.49	Max WS	SASA	85.70	36.57	41.98		42.03	0.000273	1.01	84.61	21.09	0.16
mugnone_01	-2726.49	Max WS	SASP	83.67	36.57	41.99		42.04	0.000257	0.98	85.00	21.13	0.16
mugnone_01	-2726.49	Max WS	SPSA	100.33	36.57	41.93		42.00	0.000387	1.20	83.56	20.97	0.19
mugnone_01	-2726.49	Max WS	SPSP	100.48	36.57	41.93		42.00	0.000387	1.20	83.67	20.98	0.19

HEC-RAS Profile: Max WS (Continued)

EC-RAS Profile: Max WS (Continued)													
Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
mugnone_01	-2726.50			Lat Struct									
mugnone_01	-2739.77	Max WS	SASA	85.70	36.57	41.97		42.02	0.000271	1.01	84.71	21.06	0.16
mugnone_01	-2739.77	Max WS	SASP	81.61	36.57	41.99		42.04	0.000243	0.96	85.10	21.10	0.15
mugnone_01	-2739.77	Max WS	SPSA	100.33	36.57	41.92		41.99	0.000384	1.20	83.63	20.95	0.19
mugnone_01	-2739.77	Max WS	SPSP	100.48	36.57	41.93		42.00	0.000384	1.20	83.74	20.96	0.19
mugnone_01	-2750.30	Max WS	SASA	85.70	36.57	41.97		42.02	0.000249	0.97	88.07	22.04	0.16
mugnone_01	-2750.30	Max WS	SASP	83.67	36.57	41.99		42.04	0.000235	0.95	88.47	22.08	0.15
mugnone_01	-2750.30	Max WS	SPSA	100.33	36.57	41.92		41.99	0.000354	1.15	86.94	21.93	0.19
mugnone_01	-2750.30	Max WS	SPSP	100.48	36.57	41.93		41.99	0.000354	1.15	87.06	21.94	0.18
mugnone_01	-2755.35	Max WS	SASA	85.70	36.57	41.97		42.02	0.000246	0.97	88.76	22.41	0.15
mugnone_01	-2755.35	Max WS	SASP	81.48	36.57	41.99		42.03	0.000220	0.91	89.17	22.45	0.15
mugnone_01	-2755.35	Max WS	SPSA	100.33	36.57	41.92		41.99	0.000350	1.15	87.61	22.29	0.18
mugnone_01	-2755.35	Max WS	SPSP	100.57	36.57	41.93		41.99	0.000350	1.15	87.72	22.30	0.18
mugnone_01	-2760.41	Max WS	SASA	85.75	36.57	41.98		42.02	0.000215	0.91	94.50	23.76	0.15
mugnone_01	-2760.41	Max WS	SASP	83.73	36.57	42.00		42.03	0.000203	0.88	94.93	23.81	0.14
mugnone_01	-2760.41	Max WS	SPSA	100.33	36.57	41.93		41.99	0.000305	1.08	93.33	23.65	0.17
mugnone_01	-2760.41	Max WS	SPSP	100.57	36.57	41.93		41.99	0.000305	1.08	93.45	23.66	0.17
mugnone_01	-2764.88	Max WS	SASA	85.01	36.57	41.96		42.02	0.000322	1.06	80.34	22.30	0.18
mugnone_01	-2764.88	Max WS	SASP	77.77	36.57	41.98		42.03	0.000265	0.96	80.80	22.38	0.16
mugnone_01	-2764.88	Max WS	SPSA	100.33	36.57	41.90		41.99	0.000467	1.27	79.08	22.10	0.21
mugnone_01	-2764.88	Max WS	SPSP	100.13	36.57	41.91		41.99	0.000463	1.26	79.19	22.11	0.21
mugnone_01	-2771.63	Max WS	SASA	84.17	36.45	41.94		42.01	0.000420	1.17	72.12	21.22	0.20
mugnone_01	-2771.63	Max WS	SASP	76.80	36.45	41.97		42.02	0.000343	1.06	72.62	21.29	0.18
mugnone_01	-2771.63	Max WS	SPSA	77.85	36.45	41.88		41.94	0.000378	1.10	70.78	21.02	0.19
mugnone_01	-2771.63	Max WS	SPSP	77.85	36.45	41.89		41.95	0.000374	1.10	71.04	21.06	0.19
mugnone_01	-2832.37	Max WS	SASA	81.58	36.23	41.92		41.99	0.000352	1.11	73.32	20.30	0.19
mugnone_01	-2832.37	Max WS	SASP	74.44	36.23	41.95		42.00	0.000287	1.01	73.87	20.38	0.17
mugnone_01	-2832.37	Max WS	SPSA	74.61	36.23	41.86		41.92	0.000308	1.03	72.10	20.11	0.17
mugnone_01	-2832.37	Max WS	SPSP	74.71	36.23	41.87		41.93	0.000306	1.03	72.34	20.15	0.17
mugnone_01	-2891.95	Max WS	SASA	81.26	35.89	41.91		41.97	0.000329	1.03	78.81	23.32	0.18
mugnone_01	-2891.95	Max WS	SASP	73.39	35.89	41.94		41.98	0.000262	0.92	79.51	23.42	0.16
mugnone_01	-2891.95	Max WS	SPSA	73.50	35.89	41.85		41.90	0.000283	0.95	77.44	23.13	0.17
mugnone_01	-2891.95	Max WS	SPSP	74.05	35.89	41.87		41.91	0.000284	0.95	77.73	23.17	0.17
mugnone_01	-2986.09			Lat Struct									
mugnone_01	-2986.10	Max WS	SASA	80.44	36.02	41.90		41.94	0.000207	0.85	94.65	26.65	0.14
mugnone_01	-2986.10	Max WS	SASP	71.99	36.02	41.94		41.96	0.000161	0.75	95.50	26.77	0.13
mugnone_01	-2986.10	Max WS	SPSA	72.17	36.02	41.85		41.88	0.000174	0.77	93.13	26.42	0.13
mugnone_01	-2986.10	Max WS	SPSP	73.17	36.02	41.86		41.89	0.000177	0.78	93.45	26.47	0.13
mugnone_01	-3097.91	Max WS	SASA	70.73	35.78	41.89		41.91	0.000144	0.72	98.26	27.60	0.12
mugnone_01	-3097.91	Max WS	SASP	68.90	35.78	41.92		41.95	0.000133	0.69	99.19	27.73	0.12
mugnone_01	-3097.91	Max WS	SPSA	69.88	35.78	41.83		41.86	0.000147	0.72	96.70	27.37	0.12
mugnone_01	-3097.91	Max WS	SPSP	71.20	35.78	41.84		41.87	0.000151	0.73	97.03	27.42	0.12
mugnone_01	-3164.86	Max WS	SASA	66.38	35.66	41.88		41.90	0.000139	0.71	93.96	26.00	0.12
mugnone_01	-3164.86	Max WS	SASP	64.05	35.66	41.91		41.93	0.000126	0.68	94.85	26.12	0.11
mugnone_01	-3164.86	Max WS	SPSA	68.16	35.66	41.82		41.85	0.000153	0.74	92.47	25.80	0.12
mugnone_01	-3164.86	Max WS	SPSP	69.80	35.66	41.83		41.86	0.000159	0.75	92.76	25.84	0.13
mugnone_01	-3317.70	Max WS	SASA	61.95	35.45	41.87		41.88	0.000088	0.58	106.98	30.11	0.10
mugnone_01	-3317.70	Max WS	SASP	57.47	35.45	41.90		41.92	0.000074	0.53	108.07	30.16	0.09
mugnone_01	-3317.70	Max WS	SPSA	65.41	35.45	41.81		41.83	0.000103	0.62	105.18	30.03	0.10
mugnone_01	-3317.70	Max WS	SPSP	66.57	35.45	41.82		41.84	0.000106	0.63	105.53	30.04	0.10
mugnone_01	-3434.28	Max WS	SASA	58.26	35.15	41.87		41.88	0.000067	0.54	112.23	32.55	0.08
mugnone_01	-3434.28	Max WS	SASP	54.46	35.15	41.90		41.92	0.000057	0.50	113.46	32.60	0.08
mugnone_01	-3434.28	Max WS	SPSA	60.11	35.15	41.81		41.82	0.000075	0.57	110.29	32.45	0.09
mugnone_01	-3434.28	Max WS	SPSP	60.43	35.15	41.82		41.83	0.000075	0.57	110.68	32.47	0.09
mugnone_01	-3561.73	Max WS	SASA	81.00	34.40	41.83		41.86	0.000108	0.70	118.98	31.26	0.11
mugnone_01	-3561.73	Max WS	SASP	78.04	34.40	41.87		41.89	0.000097	0.67	120.21	31.32	0.10
mugnone_01	-3561.73	Max WS	SPSA	78.98	34.40	41.78		41.80	0.000106	0.69	117.25	31.17	0.11
mugnone_01	-3561.73	Max WS	SPSP	79.65	34.40	41.79		41.81	0.000107	0.70	117.62	31.19	0.11
mugnone_01	-3705.27	Max WS	SASA	109.89	34.27	41.80		41.83	0.000105	0.71	159.35	45.41	0.11
mugnone_01	-3705.27	Max WS	SASP	110.15	34.27	41.84		41.86	0.000102	0.71	161.05	45.47	0.10
mugnone_01	-3705.27	Max WS	SPSA	102.03	34.27	41.75		41.78	0.000093	0.67	157.16	45.33	0.11
mugnone_01	-3705.27	Max WS	SPSP	103.66	34.27	41.76		41.79	0.000096	0.68	157.64	45.35	0.10
mugnone_01	-3759.15	Max WS	SASA	120.01	34.03	41.79		41.82	0.000095	0.70	177.35	45.89	0.10
mugnone_01	-3759.15	Max WS	SASP	122.01	34.03	41.83		41.85	0.000096	0.70	179.01	45.95	0.10
mugnone_01	-3759.15	Max WS	SPSA	110.07	34.03	41.75		41.77	0.000083	0.65	175.24	45.82	0.10
mugnone_01	-3759.15	Max WS	SPSP	112.12	34.03	41.76		41.78	0.000085	0.66	175.71	45.84	0.10
mugnone_01	-3759.16			Lat Struct									
mugnone_01	-3855.15	Max WS	SASA	122.80	34.37	41.78		41.81	0.000092	0.68	186.08	49.14	0.10
mugnone_01	-3855.15	Max WS	SASP	125.88	34.37	41.82		41.84	0.000094	0.69	187.83	49.19	0.10
mugnone_01	-3855.15	Max WS	SPSA	112.20	34.37	41.74		41.76	0.000080	0.63	183.91	49.08	0.10
mugnone_01	-3855.15	Max WS	SPSP	114.46	34.37	41.75		41.77	0.000082	0.64	184.40	49.10	0.10
mugnone_01	-3902.23	Max WS	SASA	117.09	34.37	41.78	36.97	41.80	0.000095	0.65	181.13	43.37	0.10
mugnone_01	-3902.23	Max WS	SASP	119.21	34.37	41.82	36.99	41.84	0.000096	0.65	182.70	43.37	0.10
mugnone_01	-3902.23	Max WS	SPSA	107.81	34.37	41.74	36.86	41.76	0.000083	0.60	179.18	43.37	0.09
mugnone_01	-3902.23	Max WS	SPSP	109.78	34.37	41.75	36.88	41.77	0.000086	0.61	179.62	43.37	0.10
mugnone_01	-3903			Int Struct									

HEC-RAS Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
mugnone_01	-3915.25	Max WS	SASA	117.33	30.72	41.78		41.79	0.000023	0.45	264.16	35.89	0.05
mugnone_01	-3915.25	Max WS	SASP	119.21	30.72	41.82		41.83	0.000023	0.46	265.46	35.95	0.05
mugnone_01	-3915.25	Max WS	SPSA	107.80	30.72	41.73		41.74	0.000020	0.42	262.54	35.80	0.05
mugnone_01	-3915.25	Max WS	SPSP	109.76	30.72	41.74		41.75	0.000020	0.43	262.90	35.82	0.05
mugnone_01	-3920.85	Max WS	SASA	117.45	29.77	41.78		41.79	0.000017	0.38	306.40	35.84	0.04
mugnone_01	-3920.85	Max WS	SASP	119.21	29.77	41.82		41.83	0.000017	0.39	307.70	35.94	0.04
mugnone_01	-3920.85	Max WS	SPSA	107.80	29.77	41.74		41.74	0.000015	0.35	304.77	35.73	0.04
mugnone_01	-3920.85	Max WS	SPSP	109.76	29.77	41.75		41.75	0.000015	0.36	305.13	35.75	0.04

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	163	Max WS	SASA	291.93	30.65	38.63		38.72	0.000241	1.32	221.44	32.74	0.16
ombrone	163	Max WS	SASP	291.93	30.65	38.63		38.72	0.000241	1.32	221.46	32.74	0.16
ombrone	163	Max WS	SPSA	313.08	30.65	38.72		38.82	0.000266	1.39	224.55	32.74	0.17
ombrone	163	Max WS	SPSP	313.09	30.65	38.72		38.82	0.000266	1.39	224.57	32.74	0.17
ombrone	161	Max WS	SASA	291.93	30.84	38.61		38.72	0.000296	1.42	205.62	31.48	0.18
ombrone	161	Max WS	SASP	291.93	30.84	38.61		38.72	0.000296	1.42	205.64	31.48	0.18
ombrone	161	Max WS	SPSA	313.08	30.84	38.71		38.82	0.000327	1.50	208.55	31.49	0.19
ombrone	161	Max WS	SPSP	313.09	30.84	38.71		38.82	0.000327	1.50	208.57	31.49	0.19
ombrone	160.999			Lat Struct									
ombrone	160.998			Lat Struct									
ombrone	160	Max WS	SASA	291.91	30.55	38.61		38.70	0.000319	1.34	218.12	43.03	0.19
ombrone	160	Max WS	SASP	291.91	30.55	38.61		38.71	0.000319	1.34	218.13	43.03	0.19
ombrone	160	Max WS	SPSA	312.44	30.55	38.71		38.81	0.000353	1.41	222.25	43.98	0.20
ombrone	160	Max WS	SPSP	312.44	30.55	38.71		38.81	0.000353	1.41	222.26	43.98	0.20
ombrone	159	Max WS	SASA	291.91	30.24	38.62		38.69	0.000217	1.17	250.19	49.96	0.17
ombrone	159	Max WS	SASP	291.90	30.24	38.62		38.69	0.000217	1.17	250.22	49.96	0.17
ombrone	159	Max WS	SPSA	312.44	30.24	38.71		38.79	0.000236	1.23	254.99	50.41	0.17
ombrone	159	Max WS	SPSP	312.44	30.24	38.71		38.79	0.000236	1.23	255.02	50.44	0.17
ombrone	157	Max WS	SASA	291.90	30.62	38.58		38.66	0.000247	1.23	236.57	47.71	0.18
ombrone	157	Max WS	SASP	291.90	30.62	38.58		38.66	0.000247	1.23	236.60	47.71	0.18
ombrone	157	Max WS	SPSA	312.44	30.62	38.68		38.76	0.000268	1.30	240.99	47.99	0.18
ombrone	157	Max WS	SPSP	312.44	30.62	38.68		38.76	0.000268	1.30	241.02	47.99	0.18
ombrone	156	Max WS	SASA	291.90	29.82	38.57		38.64	0.000226	1.20	244.20	48.12	0.17
ombrone	156	Max WS	SASP	291.90	29.82	38.57		38.64	0.000226	1.20	244.23	48.13	0.17
ombrone	156	Max WS	SPSA	312.44	29.82	38.66		38.74	0.000246	1.26	248.61	48.41	0.18
ombrone	156	Max WS	SPSP	312.44	29.82	38.66		38.74	0.000246	1.26	248.63	48.41	0.18
ombrone	155.999			Lat Struct									
ombrone	155	Max WS	SASA	291.90	30.10	38.55		38.62	0.000208	1.18	246.90	45.57	0.16
ombrone	155	Max WS	SASP	291.89	30.10	38.55		38.62	0.000208	1.18	246.93	45.58	0.16
ombrone	155	Max WS	SPSA	312.44	30.10	38.64		38.71	0.000234	1.24	250.97	46.87	0.17
ombrone	155	Max WS	SPSP	312.44	30.10	38.64		38.72	0.000234	1.24	251.00	46.89	0.17
ombrone	154	Max WS	SASA	291.90	29.76	38.54		38.61	0.000180	1.10	265.98	49.59	0.15
ombrone	154	Max WS	SASP	291.89	29.76	38.55		38.61	0.000180	1.10	266.01	49.59	0.15
ombrone	154	Max WS	SPSA	312.41	29.76	38.63		38.70	0.000203	1.16	270.39	51.25	0.16
ombrone	154	Max WS	SPSP	312.41	29.76	38.63		38.70	0.000203	1.16	270.42	51.25	0.16
ombrone	152	Max WS	SASA	291.90	29.63	38.53		38.60	0.000179	1.09	267.51	50.09	0.15
ombrone	152	Max WS	SASP	291.89	29.63	38.54		38.60	0.000179	1.09	267.54	50.09	0.15
ombrone	152	Max WS	SPSA	312.40	29.63	38.62		38.69	0.000195	1.15	271.89	50.34	0.16
ombrone	152	Max WS	SPSP	312.40	29.63	38.62		38.69	0.000195	1.15	271.92	50.34	0.16
ombrone	151	Max WS	SASA	291.90	29.18	38.51		38.58	0.000209	1.16	251.47	47.93	0.16
ombrone	151	Max WS	SASP	291.89	29.18	38.51		38.58	0.000209	1.16	251.49	47.93	0.16
ombrone	151	Max WS	SPSA	312.40	29.18	38.60		38.67	0.000228	1.22	255.55	48.17	0.17
ombrone	151	Max WS	SPSP	312.40	29.18	38.60		38.68	0.000228	1.22	255.58	48.17	0.17
ombrone	150.998			Lat Struct									
ombrone	150	Max WS	SASA	291.90	29.00	38.50		38.57	0.000235	1.22	239.76	46.48	0.17
ombrone	150	Max WS	SASP	291.89	29.00	38.50		38.57	0.000235	1.22	239.79	46.48	0.17
ombrone	150	Max WS	SPSA	312.40	29.00	38.58		38.66	0.000258	1.28	243.65	46.73	0.18
ombrone	150	Max WS	SPSP	312.40	29.00	38.58		38.67	0.000257	1.28	243.68	46.73	0.18
ombrone	148	Max WS	SASA	291.90	28.90	38.49		38.56	0.000214	1.16	251.40	48.52	0.16
ombrone	148	Max WS	SASP	291.89	28.90	38.49		38.56	0.000214	1.16	251.42	48.52	0.16
ombrone	148	Max WS	SPSA	312.40	28.90	38.58		38.65	0.000234	1.22	255.44	48.75	0.17
ombrone	148	Max WS	SPSP	312.40	28.90	38.58		38.65	0.000234	1.22	255.47	48.76	0.17
ombrone	147	Max WS	SASA	291.90	30.04	38.49		38.55	0.000180	1.11	263.31	48.77	0.15
ombrone	147	Max WS	SASP	291.89	30.04	38.49		38.55	0.000180	1.11	263.34	48.78	0.15
ombrone	147	Max WS	SPSA	312.40	30.04	38.57		38.64	0.000197	1.17	267.35	49.01	0.16
ombrone	147	Max WS	SPSP	312.40	30.04	38.57		38.64	0.000197	1.17	267.36	49.01	0.16
ombrone	145	Max WS	SASA	291.89	30.04	38.49		38.55	0.000167	1.06	275.98	51.68	0.15
ombrone	145	Max WS	SASP	291.88	30.04	38.49		38.55	0.000167	1.06	276.01	51.68	0.15
ombrone	145	Max WS	SPSA	312.36	30.04	38.57		38.64	0.000182	1.11	280.28	51.79	0.15
ombrone	145	Max WS	SPSP	312.36	30.04	38.57		38.64	0.000182	1.11	280.30	51.79	0.15
ombrone	144	Max WS	SASA	291.84	30.01	38.47		38.54	0.000216	1.16	250.71	49.51	0.17
ombrone	144	Max WS	SASP	291.83	30.01	38.47		38.54	0.000216	1.16	250.74	49.51	0.17
ombrone	144	Max WS	SPSA	311.93	30.01	38.55		38.62	0.000236	1.22	254.74	49.73	0.17
ombrone	144	Max WS	SPSP	311.93	30.01	38.55		38.62	0.000236	1.22	254.77	49.74	0.17
ombrone	143	Max WS	SASA	291.84	29.39	38.47		38.53	0.000197	1.12	261.09	50.74	0.16
ombrone	143	Max WS	SASP	291.83	29.39	38.47		38.53	0.000196	1.12	261.13	50.74	0.16
ombrone	143	Max WS	SPSA	311.93	29.39	38.55		38.62	0.000215	1.18	265.20	50.99	0.16
ombrone	143	Max WS	SPSP	311.93	29.39	38.55		38.62	0.000215	1.18	265.23	50.99	0.16
ombrone	142	Max WS	SASA	291.84	29.76	38.46		38.52	0.000206	1.14	256.90	51.10	0.16
ombrone	142	Max WS	SASP	291.83	29.76	38.46		38.52	0.000206	1.14	256.93	51.11	0.16
ombrone	142	Max WS	SPSA	311.93	29.76	38.54		38.61	0.000225	1.20	260.99	51.33	0.17
ombrone	142	Max WS	SPSP	311.93	29.76	38.54		38.61	0.000225	1.20	261.02	51.33	0.17
ombrone	141	Max WS	SASA	291.84	29.42	38.44		38.51	0.000219	1.18	248.04	48.59	0.17

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	141	Max WS	SASP	291.83	29.42	38.44		38.51	0.000219	1.18	248.07	48.59	0.17
ombrone	141	Max WS	SPSA	311.93	29.42	38.52		38.60	0.000239	1.24	251.84	48.82	0.17
ombrone	141	Max WS	SPSP	311.93	29.42	38.52		38.60	0.000239	1.24	251.87	48.82	0.17
ombrone	140	Max WS	SASA	291.84	29.43	38.43		38.50	0.000212	1.17	249.71	48.26	0.16
ombrone	140	Max WS	SASP	291.83	29.43	38.43		38.50	0.000212	1.17	249.74	48.27	0.16
ombrone	140	Max WS	SPSA	311.93	29.43	38.51		38.59	0.000232	1.23	253.44	48.49	0.17
ombrone	140	Max WS	SPSP	311.93	29.43	38.51		38.59	0.000232	1.23	253.47	48.49	0.17
ombrone	139	Max WS	SASA	291.84	29.92	38.41		38.48	0.000241	1.23	237.79	46.25	0.17
ombrone	139	Max WS	SASP	291.83	29.92	38.41		38.48	0.000241	1.23	237.82	46.25	0.17
ombrone	139	Max WS	SPSA	311.93	29.92	38.48		38.57	0.000264	1.29	241.25	46.45	0.18
ombrone	139	Max WS	SPSP	311.93	29.92	38.48		38.57	0.000264	1.29	241.28	46.45	0.18
ombrone	138.999			Lat Struct									
ombrone	138	Max WS	SASA	291.84	29.40	38.40		38.48	0.000231	1.21	241.13	46.81	0.17
ombrone	138	Max WS	SASP	291.83	29.40	38.40		38.48	0.000230	1.21	241.16	46.82	0.17
ombrone	138	Max WS	SPSA	311.93	29.40	38.48		38.56	0.000259	1.28	244.62	48.08	0.18
ombrone	138	Max WS	SPSP	311.93	29.40	38.48		38.56	0.000260	1.28	244.65	48.11	0.18
ombrone	137	Max WS	SASA	291.84	29.73	38.39		38.45	0.000193	1.11	262.50	51.63	0.16
ombrone	137	Max WS	SASP	291.83	29.73	38.39		38.45	0.000193	1.11	262.53	51.63	0.16
ombrone	137	Max WS	SPSA	311.93	29.73	38.46		38.53	0.000211	1.17	266.28	51.83	0.16
ombrone	137	Max WS	SPSP	311.93	29.73	38.46		38.53	0.000211	1.17	266.30	51.83	0.16
ombrone	136	Max WS	SASA	291.84	30.06	38.38		38.44	0.000178	1.09	268.89	51.34	0.15
ombrone	136	Max WS	SASP	291.83	30.06	38.38		38.44	0.000178	1.09	268.92	51.34	0.15
ombrone	136	Max WS	SPSA	311.93	30.06	38.45		38.52	0.000196	1.14	272.59	51.56	0.16
ombrone	136	Max WS	SPSP	311.93	30.06	38.45		38.52	0.000196	1.14	272.61	51.56	0.16
ombrone	134	Max WS	SASA	291.84	29.67	38.34		38.43	0.000293	1.32	221.39	45.02	0.19
ombrone	134	Max WS	SASP	291.83	29.67	38.34		38.43	0.000293	1.32	221.42	45.02	0.19
ombrone	134	Max WS	SPSA	311.93	29.67	38.41		38.51	0.000322	1.39	224.43	45.20	0.20
ombrone	134	Max WS	SPSP	311.93	29.67	38.41		38.51	0.000322	1.39	224.46	45.20	0.20
ombrone	133	Max WS	SASA	291.85	29.78	38.34		38.41	0.000238	1.23	238.00	46.31	0.17
ombrone	133	Max WS	SASP	291.82	29.78	38.34		38.41	0.000238	1.23	238.03	46.31	0.17
ombrone	133	Max WS	SPSA	311.93	29.78	38.40		38.49	0.000262	1.29	241.13	46.50	0.18
ombrone	133	Max WS	SPSP	311.93	29.78	38.41		38.49	0.000262	1.29	241.14	46.50	0.18
ombrone	131	Max WS	SASA	291.85	28.53	38.34		38.40	0.000181	1.10	264.86	48.50	0.15
ombrone	131	Max WS	SASP	291.83	28.53	38.34		38.40	0.000181	1.10	264.89	48.50	0.15
ombrone	131	Max WS	SPSA	311.93	28.53	38.41		38.47	0.000199	1.16	268.13	48.70	0.16
ombrone	131	Max WS	SPSP	311.93	28.53	38.41		38.47	0.000199	1.16	268.16	48.70	0.16
ombrone	130	Max WS	SASA	291.84	28.96	38.32		38.39	0.000192	1.12	259.43	48.57	0.16
ombrone	130	Max WS	SASP	291.83	28.96	38.32		38.39	0.000192	1.12	259.46	48.57	0.16
ombrone	130	Max WS	SPSA	311.93	28.96	38.39		38.46	0.000212	1.19	262.62	48.77	0.16
ombrone	130	Max WS	SPSP	311.93	28.96	38.39		38.46	0.000212	1.19	262.65	48.77	0.16
ombrone	129	Max WS	SASA	291.85	29.49	38.30		38.37	0.000217	1.18	247.10	47.19	0.16
ombrone	129	Max WS	SASP	291.83	29.49	38.30		38.37	0.000217	1.18	247.14	47.19	0.16
ombrone	129	Max WS	SPSA	311.93	29.49	38.37		38.45	0.000239	1.25	250.12	47.38	0.17
ombrone	129	Max WS	SPSP	311.93	29.49	38.37		38.45	0.000239	1.25	250.14	47.38	0.17
ombrone	127	Max WS	SASA	291.85	29.67	38.30		38.36	0.000182	1.10	265.93	50.66	0.15
ombrone	127	Max WS	SASP	291.83	29.67	38.30		38.36	0.000182	1.10	265.98	50.66	0.15
ombrone	127	Max WS	SPSA	311.93	29.67	38.36		38.43	0.000201	1.16	269.17	50.85	0.16
ombrone	127	Max WS	SPSP	311.93	29.67	38.36		38.43	0.000201	1.16	269.18	50.85	0.16
ombrone	126	Max WS	SASA	291.84	29.59	38.27		38.35	0.000223	1.18	246.52	48.75	0.17
ombrone	126	Max WS	SASP	291.83	29.59	38.27		38.35	0.000223	1.18	246.55	48.75	0.17
ombrone	126	Max WS	SPSA	311.93	29.59	38.34		38.41	0.000246	1.25	249.49	48.93	0.18
ombrone	126	Max WS	SPSP	311.92	29.59	38.34		38.42	0.000246	1.25	249.52	48.94	0.18
ombrone	124	Max WS	SASA	291.79	29.38	38.26		38.33	0.000219	1.19	244.68	46.25	0.17
ombrone	124	Max WS	SASP	291.83	29.38	38.26		38.33	0.000219	1.19	244.71	46.26	0.17
ombrone	124	Max WS	SPSA	311.93	29.38	38.32		38.40	0.000243	1.26	247.41	46.42	0.17
ombrone	124	Max WS	SPSP	311.93	29.38	38.32		38.40	0.000243	1.26	247.44	46.42	0.17
ombrone	123	Max WS	SASA	291.78	28.79	38.26		38.31	0.000153	1.02	286.65	53.59	0.14
ombrone	123	Max WS	SASP	291.83	28.79	38.26		38.31	0.000153	1.02	286.69	53.59	0.14
ombrone	123	Max WS	SPSA	311.93	28.79	38.32		38.37	0.000170	1.08	289.81	53.76	0.15
ombrone	123	Max WS	SPSP	311.92	28.79	38.32		38.38	0.000170	1.08	289.84	53.76	0.15
ombrone	121	Max WS	SASA	291.78	29.61	38.24		38.30	0.000189	1.11	263.00	50.10	0.15
ombrone	121	Max WS	SASP	291.83	29.61	38.24		38.30	0.000189	1.11	263.03	50.10	0.15
ombrone	121	Max WS	SPSA	311.93	29.61	38.30		38.37	0.000209	1.17	265.86	50.26	0.16
ombrone	121	Max WS	SPSP	311.93	29.61	38.30		38.37	0.000209	1.17	265.89	50.26	0.16
ombrone	120	Max WS	SASA	291.77	29.18	38.24		38.29	0.000159	1.05	279.06	51.10	0.14
ombrone	120	Max WS	SASP	291.83	29.18	38.24		38.30	0.000159	1.05	279.11	51.10	0.14
ombrone	120	Max WS	SPSA	311.93	29.18	38.30		38.36	0.000177	1.11	281.98	51.26	0.15
ombrone	120	Max WS	SPSP	311.92	29.18	38.30		38.36	0.000177	1.11	282.01	51.26	0.15
ombrone	119	Max WS	SASA	291.77	28.69	38.25		38.29	0.000102	0.86	341.08	59.61	0.11
ombrone	119	Max WS	SASP	291.84	28.69	38.25		38.29	0.000102	0.86	341.12	59.61	0.11
ombrone	119	Max WS	SPSA	311.93	28.69	38.31		38.35	0.000113	0.91	344.58	59.79	0.12
ombrone	119	Max WS	SPSP	311.93	28.69	38.31		38.35	0.000113	0.91	344.61	59.79	0.12
ombrone	118	Max WS	SASA	291.77	29.65	38.23		38.28	0.000158	1.02	285.82	55.16	0.14
ombrone	118	Max WS	SASP	291.83	29.65	38.23		38.28	0.000158	1.02	285.86	55.17	0.14
ombrone	118	Max WS	SPSA	311.93	29.65	38.28		38.34	0.000175	1.08	288.90	55.34	0.15

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	118	Max WS	SPSP	311.92	29.65	38.28		38.34	0.000175	1.08	288.94	55.34	0.15
ombrone	116	Max WS	SASA	291.76	29.36	38.21		38.27	0.000158	1.04	281.70	52.32	0.14
ombrone	116	Max WS	SASP	291.83	29.36	38.21		38.27	0.000158	1.04	281.74	52.32	0.14
ombrone	116	Max WS	SPSA	311.93	29.36	38.27		38.33	0.000175	1.10	284.54	52.48	0.15
ombrone	116	Max WS	SPSP	311.92	29.36	38.27		38.33	0.000175	1.10	284.57	52.48	0.15
ombrone	115	Max WS	SASA	291.76	28.92	38.19		38.25	0.000159	1.05	278.83	51.01	0.14
ombrone	115	Max WS	SASP	291.83	28.92	38.19		38.25	0.000159	1.05	278.88	51.01	0.14
ombrone	115	Max WS	SPSA	311.92	28.92	38.25		38.31	0.000177	1.11	281.50	51.16	0.15
ombrone	115	Max WS	SPSP	311.92	28.92	38.25		38.31	0.000177	1.11	281.53	51.16	0.15
ombrone	114.998			Lat Struct									
ombrone	114	Max WS	SASA	291.76	29.32	38.21		38.24	0.000120	0.84	347.93	68.95	0.12
ombrone	114	Max WS	SASP	291.84	29.32	38.21		38.24	0.000120	0.84	347.99	68.95	0.12
ombrone	114	Max WS	SPSA	311.92	29.32	38.26		38.30	0.000133	0.89	351.64	69.15	0.13
ombrone	114	Max WS	SPSP	311.92	29.32	38.26		38.30	0.000133	0.89	351.68	69.15	0.13
ombrone	113	Max WS	SASA	291.76	29.45	38.21		38.24	0.000097	0.82	356.25	67.24	0.11
ombrone	113	Max WS	SASP	291.83	29.45	38.21		38.24	0.000097	0.82	356.29	67.24	0.11
ombrone	113	Max WS	SPSA	311.92	29.45	38.26		38.30	0.000108	0.87	359.85	67.68	0.12
ombrone	113	Max WS	SPSP	311.92	29.45	38.26		38.30	0.000108	0.87	359.89	67.68	0.12
ombrone	112	Max WS	SASA	291.76	29.29	38.20		38.24	0.000087	0.85	364.15	71.31	0.11
ombrone	112	Max WS	SASP	291.84	29.29	38.20		38.24	0.000087	0.85	364.22	71.31	0.11
ombrone	112	Max WS	SPSA	311.92	29.29	38.25		38.29	0.000096	0.90	367.94	71.38	0.12
ombrone	112	Max WS	SPSP	311.92	29.29	38.25		38.29	0.000096	0.90	367.98	71.38	0.12
ombrone	110.999			Lat Struct									
ombrone	110	Max WS	SASA	283.54	28.89	38.19		38.24	0.000104	0.91	327.98	60.53	0.12
ombrone	110	Max WS	SASP	283.62	28.89	38.20		38.24	0.000104	0.91	328.02	60.53	0.12
ombrone	110	Max WS	SPSA	303.10	28.89	38.25		38.29	0.000115	0.97	331.14	60.61	0.13
ombrone	110	Max WS	SPSP	303.10	28.89	38.25		38.29	0.000115	0.97	331.18	60.61	0.13
ombrone	109	Max WS	SASA	268.01	29.18	38.20		38.24	0.000103	0.89	320.07	62.98	0.12
ombrone	109	Max WS	SASP	268.09	29.18	38.20		38.24	0.000103	0.89	320.12	62.98	0.12
ombrone	109	Max WS	SPSA	286.86	29.18	38.25		38.29	0.000115	0.94	323.37	63.06	0.12
ombrone	109	Max WS	SPSP	286.85	29.18	38.25		38.29	0.000115	0.94	323.41	63.06	0.12
ombrone	108	Max WS	SASA	223.12	28.55	38.19		38.24	0.000117	0.95	246.01	44.66	0.12
ombrone	108	Max WS	SASP	223.18	28.55	38.19		38.24	0.000117	0.95	246.03	44.66	0.12
ombrone	108	Max WS	SPSA	237.54	28.55	38.25		38.30	0.000129	1.00	248.36	44.73	0.13
ombrone	108	Max WS	SPSP	237.54	28.55	38.25		38.30	0.000129	1.00	248.39	44.73	0.13
ombrone	107	Max WS	SASA	233.36	28.87	38.17		38.23	0.000146	1.03	233.47	43.60	0.14
ombrone	107	Max WS	SASP	233.36	28.87	38.17		38.23	0.000146	1.03	233.50	43.60	0.14
ombrone	107	Max WS	SPSA	249.25	28.87	38.22		38.28	0.000162	1.09	235.64	43.67	0.15
ombrone	107	Max WS	SPSP	249.38	28.87	38.22		38.28	0.000162	1.09	235.67	43.67	0.15
ombrone	106	Max WS	SASA	291.18	28.40	38.10		38.19	0.000240	1.28	227.61	38.47	0.17
ombrone	106	Max WS	SASP	291.25	28.40	38.10		38.19	0.000240	1.28	227.65	38.47	0.17
ombrone	106	Max WS	SPSA	311.02	28.40	38.15		38.24	0.000268	1.36	229.20	38.53	0.18
ombrone	106	Max WS	SPSP	311.00	28.40	38.15		38.24	0.000268	1.36	229.22	38.53	0.18
ombrone	105	Max WS	SASA	291.38	27.88	38.15		38.18	0.000104	0.88	428.54	105.29	0.12
ombrone	105	Max WS	SASP	291.49	27.88	38.15		38.18	0.000104	0.88	428.60	105.29	0.12
ombrone	105	Max WS	SPSA	311.14	27.88	38.19		38.23	0.000115	0.93	433.42	105.36	0.12
ombrone	105	Max WS	SPSP	311.03	27.88	38.19		38.23	0.000115	0.93	433.48	105.36	0.12
ombrone	104	Max WS	SASA	291.36	28.28	38.14		38.16	0.000089	0.82	533.85	192.63	0.11
ombrone	104	Max WS	SASP	291.50	28.28	38.14		38.16	0.000089	0.82	533.97	192.64	0.11
ombrone	104	Max WS	SPSA	311.04	28.28	38.18		38.21	0.000097	0.86	542.73	193.06	0.11
ombrone	104	Max WS	SPSP	311.00	28.28	38.19		38.21	0.000097	0.86	542.85	193.06	0.11
ombrone	103	Max WS	SASA	291.31	28.50	38.13		38.15	0.000076	0.78	515.79	142.48	0.10
ombrone	103	Max WS	SASP	291.51	28.50	38.13		38.15	0.000076	0.78	515.92	142.48	0.10
ombrone	103	Max WS	SPSA	310.98	28.50	38.17		38.20	0.000084	0.82	522.22	142.55	0.11
ombrone	103	Max WS	SPSP	310.89	28.50	38.17		38.20	0.000084	0.82	522.30	142.55	0.11
ombrone	102	Max WS	SASA	291.19	28.74	38.12		38.15	0.000079	0.78	491.27	135.71	0.10
ombrone	102	Max WS	SASP	291.40	28.74	38.12		38.15	0.000079	0.78	491.35	135.71	0.10
ombrone	102	Max WS	SPSA	310.91	28.74	38.16		38.19	0.000087	0.82	497.23	135.78	0.11
ombrone	102	Max WS	SPSP	310.86	28.74	38.17		38.19	0.000087	0.82	497.31	135.78	0.11
ombrone	101	Max WS	SASA	291.17	28.94	38.11		38.14	0.000080	0.79	474.78	126.99	0.10
ombrone	101	Max WS	SASP	291.42	28.94	38.11		38.14	0.000080	0.79	474.89	126.99	0.10
ombrone	101	Max WS	SPSA	310.88	28.94	38.16		38.19	0.000088	0.84	480.27	127.05	0.11
ombrone	101	Max WS	SPSP	310.78	28.94	38.16		38.19	0.000088	0.84	480.35	127.05	0.11
ombrone	100	Max WS	SASA	291.09	28.30	38.11		38.13	0.000071	0.71	512.00	136.70	0.10
ombrone	100	Max WS	SASP	291.42	28.30	38.11		38.13	0.000071	0.71	512.08	136.70	0.10
ombrone	100	Max WS	SPSA	310.86	28.30	38.16		38.18	0.000079	0.75	517.87	136.76	0.10
ombrone	100	Max WS	SPSP	310.78	28.30	38.16		38.18	0.000079	0.75	517.96	136.76	0.10
ombrone	99.998			Lat Struct									
ombrone	99	Max WS	SASA	291.07	28.09	38.11		38.13	0.000085	0.81	497.54	137.58	0.10
ombrone	99	Max WS	SASP	291.42	28.09	38.11		38.13	0.000085	0.81	497.62	137.58	0.10
ombrone	99	Max WS	SPSA	310.83	28.09	38.15		38.18	0.000093	0.86	503.41	137.58	0.11
ombrone	99	Max WS	SPSP	310.78	28.09	38.15		38.18	0.000093	0.86	503.49	137.58	0.11
ombrone	97	Max WS	SASA	288.12	29.48	38.02	32.29	38.15	0.000181	1.57	183.06	61.36	0.17

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	97	Max WS	SASP	288.36	29.48	38.02	32.29	38.15	0.000181	1.58	183.06	61.36	0.17
ombrone	97	Max WS	SPSA	310.75	29.48	38.05	32.42	38.20	0.000208	1.69	183.73	61.43	0.19
ombrone	97	Max WS	SPSP	310.66	29.48	38.05	32.42	38.20	0.000208	1.69	183.75	61.43	0.19
ombrone	96			Bridge									
ombrone	95	Max WS	SASA	287.36	29.36	37.99		38.12	0.000188	1.58	181.90	81.91	0.18
ombrone	95	Max WS	SASP	287.63	29.36	37.99		38.12	0.000189	1.58	181.90	81.91	0.18
ombrone	95	Max WS	SPSA	310.75	29.36	38.02		38.16	0.000218	1.70	182.45	81.91	0.19
ombrone	95	Max WS	SPSP	310.64	29.36	38.02		38.17	0.000218	1.70	182.46	81.91	0.19
ombrone	94.998			Lat Struct									
ombrone	94	Max WS	SASA	255.88	29.19	38.08		38.12	0.000108	0.94	367.15	105.94	0.12
ombrone	94	Max WS	SASP	255.95	29.19	38.08		38.12	0.000108	0.94	367.21	105.94	0.12
ombrone	94	Max WS	SPSA	274.14	29.19	38.12		38.16	0.000121	1.00	371.18	105.94	0.13
ombrone	94	Max WS	SPSP	274.00	29.19	38.12		38.16	0.000121	1.00	371.25	105.94	0.13
ombrone	93	Max WS	SASA	255.98	28.52	38.09		38.11	0.000065	0.76	483.70	128.25	0.09
ombrone	93	Max WS	SASP	256.21	28.52	38.09		38.11	0.000065	0.77	483.78	128.25	0.09
ombrone	93	Max WS	SPSA	274.17	28.52	38.13		38.15	0.000072	0.81	488.74	128.32	0.10
ombrone	93	Max WS	SPSP	274.02	28.52	38.13		38.15	0.000072	0.81	488.82	128.32	0.10
ombrone	92	Max WS	SASA	256.02	28.44	38.09		38.11	0.000051	0.66	564.51	141.44	0.08
ombrone	92	Max WS	SASP	256.43	28.44	38.09		38.11	0.000051	0.66	564.59	141.44	0.08
ombrone	92	Max WS	SPSA	274.14	28.44	38.13		38.15	0.000057	0.70	570.11	141.44	0.08
ombrone	92	Max WS	SPSP	274.02	28.44	38.13		38.15	0.000056	0.70	570.24	141.44	0.08
ombrone	91	Max WS	SASA	255.96	28.59	38.09		38.11	0.000049	0.66	584.19	147.80	0.08
ombrone	91	Max WS	SASP	256.44	28.59	38.09		38.11	0.000049	0.66	584.33	147.80	0.08
ombrone	91	Max WS	SPSA	274.14	28.59	38.13		38.15	0.000054	0.70	590.05	147.80	0.08
ombrone	91	Max WS	SPSP	273.99	28.59	38.13		38.15	0.000054	0.70	590.14	147.80	0.08
ombrone	90	Max WS	SASA	255.98	29.16	38.09		38.11	0.000045	0.65	614.48	162.51	0.08
ombrone	90	Max WS	SASP	256.44	29.16	38.09		38.11	0.000045	0.65	614.62	162.51	0.08
ombrone	90	Max WS	SPSA	274.14	29.16	38.13		38.15	0.000050	0.68	620.91	162.51	0.08
ombrone	90	Max WS	SPSP	273.99	29.16	38.13		38.15	0.000050	0.68	621.01	162.51	0.08
ombrone	89	Max WS	SASA	256.02	27.85	38.09		38.10	0.000031	0.55	791.70	228.86	0.06
ombrone	89	Max WS	SASP	256.43	27.85	38.09		38.10	0.000031	0.55	791.84	228.86	0.06
ombrone	89	Max WS	SPSA	274.11	27.85	38.13		38.14	0.000034	0.58	800.77	228.86	0.07
ombrone	89	Max WS	SPSP	273.99	27.85	38.13		38.14	0.000034	0.58	800.91	228.86	0.07
ombrone	88	Max WS	SASA	256.00	28.10	38.09		38.10	0.000029	0.52	834.43	241.82	0.06
ombrone	88	Max WS	SASP	256.46	28.10	38.09		38.10	0.000029	0.52	834.65	241.82	0.06
ombrone	88	Max WS	SPSA	274.11	28.10	38.13		38.14	0.000032	0.55	844.09	241.82	0.06
ombrone	88	Max WS	SPSP	273.96	28.10	38.13		38.14	0.000032	0.55	844.23	241.82	0.06
ombrone	87	Max WS	SASA	255.94	28.84	38.09		38.10	0.000043	0.61	742.16	269.19	0.07
ombrone	87	Max WS	SASP	256.39	28.84	38.09		38.10	0.000043	0.61	742.33	269.19	0.07
ombrone	87	Max WS	SPSA	274.05	28.84	38.13		38.14	0.000047	0.64	752.75	269.19	0.08
ombrone	87	Max WS	SPSP	273.96	28.84	38.13		38.14	0.000047	0.64	752.91	269.19	0.08
ombrone	86	Max WS	SASA	255.78	27.90	38.07		38.10	0.000087	0.90	390.20	103.22	0.11
ombrone	86	Max WS	SASP	255.81	27.90	38.07		38.10	0.000087	0.90	390.26	103.23	0.11
ombrone	86	Max WS	SPSA	274.01	27.90	38.11		38.14	0.000097	0.95	394.01	103.43	0.11
ombrone	86	Max WS	SPSP	273.89	27.90	38.11		38.14	0.000097	0.95	394.10	103.44	0.11
ombrone	85	Max WS	SASA	255.85	27.11	38.07		38.10	0.000070	0.85	420.38	105.10	0.10
ombrone	85	Max WS	SASP	255.85	27.11	38.07		38.10	0.000070	0.85	420.48	105.10	0.10
ombrone	85	Max WS	SPSA	274.01	27.11	38.11		38.14	0.000079	0.91	424.29	105.22	0.10
ombrone	85	Max WS	SPSP	273.85	27.11	38.11		38.14	0.000079	0.90	424.36	105.22	0.10
ombrone	84	Max WS	SASA	255.78	27.36	38.07		38.10	0.000071	0.84	431.46	107.24	0.10
ombrone	84	Max WS	SASP	255.83	27.36	38.07		38.10	0.000071	0.84	431.53	107.25	0.10
ombrone	84	Max WS	SPSA	274.01	27.36	38.11		38.14	0.000079	0.89	435.45	107.39	0.10
ombrone	84	Max WS	SPSP	273.85	27.36	38.11		38.14	0.000079	0.89	435.52	107.39	0.10
ombrone	83	Max WS	SASA	255.82	27.20	38.07		38.10	0.000046	0.73	475.18	103.16	0.08
ombrone	83	Max WS	SASP	255.94	27.20	38.07		38.10	0.000046	0.73	475.24	103.16	0.08
ombrone	83	Max WS	SPSA	274.01	27.20	38.11		38.14	0.000052	0.78	479.02	103.28	0.08
ombrone	83	Max WS	SPSP	273.89	27.20	38.11		38.14	0.000052	0.78	479.08	103.28	0.08
ombrone	82	Max WS	SASA	255.75	27.94	38.07		38.09	0.000067	0.82	435.27	104.97	0.10
ombrone	82	Max WS	SASP	255.78	27.94	38.07		38.09	0.000067	0.82	435.36	104.97	0.10
ombrone	82	Max WS	SPSA	273.98	27.94	38.10		38.13	0.000075	0.87	439.11	105.11	0.10
ombrone	82	Max WS	SPSP	273.82	27.94	38.10		38.13	0.000075	0.87	439.17	105.11	0.10
ombrone	81	Max WS	SASA	255.80	27.74	38.07		38.09	0.000051	0.72	512.68	121.52	0.08
ombrone	81	Max WS	SASP	255.85	27.74	38.07		38.09	0.000051	0.72	512.79	121.53	0.08
ombrone	81	Max WS	SPSA	273.94	27.74	38.11		38.13	0.000057	0.76	517.20	121.71	0.09
ombrone	81	Max WS	SPSP	273.81	27.74	38.11		38.13	0.000057	0.76	517.28	121.71	0.09
ombrone	80	Max WS	SASA	255.71	27.82	38.06		38.09	0.000060	0.77	450.50	135.44	0.09
ombrone	80	Max WS	SASP	255.74	27.82	38.07		38.09	0.000060	0.77	450.59	135.44	0.09
ombrone	80	Max WS	SPSA	273.91	27.82	38.10		38.13	0.000067	0.82	454.07	135.44	0.10
ombrone	80	Max WS	SPSP	273.78	27.82	38.10		38.13	0.000067	0.82	454.13	135.44	0.09
ombrone	79	Max WS	SASA	255.68	27.48	38.06		38.08	0.000052	0.75	464.85	142.95	0.09
ombrone	79	Max WS	SASP	255.72	27.48	38.06		38.08	0.000052	0.75	464.94	142.95	0.09
ombrone	79	Max WS	SPSA	273.91	27.48	38.10		38.12	0.000058	0.80	468.44	142.95	0.09
ombrone	79	Max WS	SPSP	273.78	27.48	38.10		38.12	0.000058	0.80	468.50	142.95	0.09
ombrone	78	Max WS	SASA	255.59	27.53	38.06		38.08	0.000062	0.82	409.44	141.31	0.09

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	78	Max WS	SASP	255.60	27.53	38.06		38.08	0.000062	0.82	409.49	141.31	0.09
ombrone	78	Max WS	SPSA	273.85	27.53	38.09		38.12	0.000070	0.88	412.36	141.31	0.10
ombrone	78	Max WS	SPSP	273.71	27.53	38.09		38.12	0.000070	0.88	412.43	141.31	0.10
ombrone	77	Max WS	SASA	255.59	27.21	38.06		38.08	0.000067	0.83	413.38	129.53	0.10
ombrone	77	Max WS	SASP	255.58	27.21	38.06		38.08	0.000067	0.83	413.43	129.53	0.10
ombrone	77	Max WS	SPSA	273.85	27.21	38.09		38.12	0.000075	0.88	416.52	129.53	0.10
ombrone	77	Max WS	SPSP	273.68	27.21	38.09		38.12	0.000075	0.88	416.58	129.53	0.10
ombrone	76	Max WS	SASA	255.52	27.47	38.05		38.08	0.000073	0.87	386.11	120.26	0.10
ombrone	76	Max WS	SASP	255.56	27.47	38.05		38.08	0.000073	0.87	386.16	120.26	0.10
ombrone	76	Max WS	SPSA	273.82	27.47	38.08		38.12	0.000082	0.93	388.88	120.26	0.11
ombrone	76	Max WS	SPSP	273.68	27.47	38.08		38.12	0.000082	0.93	388.93	120.26	0.11
ombrone	75	Max WS	SASA	255.49	28.25	38.04		38.08	0.000077	0.90	384.89	117.77	0.10
ombrone	75	Max WS	SASP	255.58	28.25	38.04		38.08	0.000077	0.90	384.94	117.77	0.10
ombrone	75	Max WS	SPSA	273.76	28.25	38.08		38.11	0.000087	0.96	387.69	117.77	0.11
ombrone	75	Max WS	SPSP	273.65	28.25	38.08		38.11	0.000087	0.96	387.74	117.77	0.11
ombrone	74	Max WS	SASA	255.49	27.68	38.05		38.07	0.000054	0.77	451.60	146.50	0.09
ombrone	74	Max WS	SASP	255.53	27.68	38.05		38.07	0.000054	0.77	451.66	146.50	0.09
ombrone	74	Max WS	SPSA	273.76	27.68	38.08		38.11	0.000061	0.81	454.95	146.50	0.09
ombrone	74	Max WS	SPSP	273.62	27.68	38.08		38.11	0.000061	0.81	455.01	146.50	0.09
ombrone	73	Max WS	SASA	255.59	27.55	38.05		38.07	0.000051	0.73	461.19	138.71	0.08
ombrone	73	Max WS	SASP	255.56	27.55	38.05		38.07	0.000050	0.73	461.28	138.71	0.08
ombrone	73	Max WS	SPSA	273.76	27.55	38.08		38.11	0.000057	0.78	464.52	138.71	0.09
ombrone	73	Max WS	SPSP	273.59	27.55	38.08		38.11	0.000057	0.78	464.58	138.71	0.09
ombrone	72	Max WS	SASA	255.42	26.96	38.04		38.07	0.000071	0.83	427.78	104.12	0.10
ombrone	72	Max WS	SASP	255.49	26.96	38.04		38.07	0.000071	0.83	427.88	104.13	0.10
ombrone	72	Max WS	SPSA	273.71	26.96	38.07		38.10	0.000079	0.89	431.21	104.31	0.10
ombrone	72	Max WS	SPSP	273.53	26.96	38.07		38.10	0.000079	0.88	431.31	104.31	0.10
ombrone	71	Max WS	SASA	255.32	26.76	38.03		38.06	0.000073	0.82	404.46	119.72	0.10
ombrone	71	Max WS	SASP	255.44	26.76	38.04		38.06	0.000073	0.82	404.51	119.73	0.10
ombrone	71	Max WS	SPSA	273.68	26.76	38.07		38.10	0.000082	0.88	407.25	119.96	0.10
ombrone	71	Max WS	SPSP	273.53	26.76	38.07		38.10	0.000082	0.88	407.32	119.97	0.10
ombrone	70	Max WS	SASA	252.59	28.95	38.02		38.06	0.000090	0.94	315.14	102.19	0.11
ombrone	70	Max WS	SASP	255.19	28.95	38.02		38.06	0.000091	0.95	315.18	102.19	0.11
ombrone	70	Max WS	SPSA	273.66	28.95	38.05		38.09	0.000103	1.02	316.96	102.19	0.12
ombrone	70	Max WS	SPSP	273.48	28.95	38.05		38.10	0.000103	1.02	317.00	102.19	0.12
ombrone	69	Max WS	SASA	252.71	27.96	38.02		38.05	0.000063	0.84	398.37	110.79	0.09
ombrone	69	Max WS	SASP	255.22	27.96	38.02		38.05	0.000064	0.85	398.40	110.79	0.09
ombrone	69	Max WS	SPSA	273.64	27.96	38.05		38.08	0.000072	0.91	401.02	110.79	0.10
ombrone	69	Max WS	SPSP	273.46	27.96	38.05		38.09	0.000072	0.91	401.10	110.79	0.10
ombrone	68	Max WS	SASA	252.52	27.83	38.01		38.05	0.000081	0.89	362.36	92.38	0.10
ombrone	68	Max WS	SASP	255.14	27.83	38.01		38.05	0.000083	0.90	362.41	92.38	0.11
ombrone	68	Max WS	SPSA	273.61	27.83	38.04		38.08	0.000093	0.96	364.65	92.41	0.11
ombrone	68	Max WS	SPSP	273.43	27.83	38.04		38.08	0.000093	0.96	364.72	92.41	0.11
ombrone	67	Max WS	SASA	252.46	27.09	38.01		38.04	0.000060	0.79	413.42	106.64	0.09
ombrone	67	Max WS	SASP	255.17	27.09	38.01		38.04	0.000061	0.80	413.47	106.64	0.09
ombrone	67	Max WS	SPSA	273.59	27.09	38.04		38.07	0.000069	0.86	415.94	106.64	0.10
ombrone	67	Max WS	SPSP	273.41	27.09	38.04		38.07	0.000069	0.85	415.99	106.64	0.10
ombrone	66	Max WS	SASA	252.65	26.90	38.01		38.03	0.000042	0.67	488.10	124.68	0.08
ombrone	66	Max WS	SASP	255.19	26.90	38.01		38.03	0.000043	0.68	488.16	124.68	0.08
ombrone	66	Max WS	SPSA	273.57	26.90	38.04		38.07	0.000049	0.72	491.03	124.72	0.08
ombrone	66	Max WS	SPSP	273.38	26.90	38.04		38.07	0.000049	0.72	491.09	124.72	0.08
ombrone	65	Max WS	SASA	252.65	27.60	38.01		38.03	0.000040	0.67	502.15	114.01	0.07
ombrone	65	Max WS	SASP	255.14	27.60	38.01		38.03	0.000041	0.68	502.21	114.01	0.08
ombrone	65	Max WS	SPSA	273.54	27.60	38.04		38.06	0.000046	0.72	505.07	114.01	0.08
ombrone	65	Max WS	SPSP	273.37	27.60	38.04		38.06	0.000046	0.72	505.13	114.01	0.08
ombrone	64	Max WS	SASA	252.77	27.03	38.01		38.03	0.000033	0.62	541.42	108.28	0.07
ombrone	64	Max WS	SASP	255.14	27.03	38.01		38.03	0.000033	0.63	541.52	108.28	0.07
ombrone	64	Max WS	SPSA	273.54	27.03	38.04		38.06	0.000037	0.67	544.62	108.31	0.07
ombrone	64	Max WS	SPSP	273.35	27.03	38.04		38.06	0.000037	0.67	544.72	108.31	0.07
ombrone	63	Max WS	SASA	252.45	26.74	38.01		38.03	0.000041	0.67	498.71	99.98	0.07
ombrone	63	Max WS	SASP	255.11	26.74	38.01		38.03	0.000042	0.68	498.74	99.98	0.08
ombrone	63	Max WS	SPSA	273.54	26.74	38.04		38.06	0.000047	0.72	501.60	99.99	0.08
ombrone	63	Max WS	SPSP	273.34	26.74	38.04		38.06	0.000047	0.72	501.67	99.99	0.08
ombrone	62	Max WS	SASA	252.58	27.26	38.01		38.02	0.000033	0.61	549.74	108.92	0.07
ombrone	62	Max WS	SASP	255.14	27.26	38.01		38.03	0.000033	0.62	549.80	108.92	0.07
ombrone	62	Max WS	SPSA	273.51	27.26	38.04		38.06	0.000038	0.66	552.92	108.96	0.07
ombrone	62	Max WS	SPSP	273.34	27.26	38.04		38.06	0.000038	0.66	552.99	108.96	0.07
ombrone	61	Max WS	SASA	252.25	27.25	38.00		38.02	0.000044	0.70	476.60	92.07	0.08
ombrone	61	Max WS	SASP	255.08	27.25	38.01		38.03	0.000045	0.71	476.65	92.07	0.08
ombrone	61	Max WS	SPSA	273.50	27.25	38.03		38.06	0.000051	0.76	479.21	92.12	0.08
ombrone	61	Max WS	SPSP	273.31	27.25	38.03		38.06	0.000051	0.75	479.26	92.12	0.08
ombrone	60	Max WS	SASA	252.45	27.52	38.01		38.02	0.000037	0.66	525.32	104.96	0.07
ombrone	60	Max WS	SASP	255.08	27.52	38.01		38.02	0.000038	0.66	525.38	104.97	0.07
ombrone	60	Max WS	SPSA	273.47	27.52	38.03		38.05	0.000042	0.71	528.29	105.02	0.08
ombrone	60	Max WS	SPSP	273.31	27.52	38.03		38.05	0.000042	0.71	528.39	105.02	0.08

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	59	Max WS	SASA	252.58	27.61	38.01		38.02	0.000028	0.57	641.29	132.01	0.06
ombrone	59	Max WS	SASP	255.11	27.61	38.01		38.02	0.000029	0.57	641.37	132.01	0.06
ombrone	59	Max WS	SPSA	273.50	27.61	38.04		38.05	0.000032	0.61	645.11	132.01	0.07
ombrone	59	Max WS	SPSP	273.30	27.61	38.04		38.05	0.000032	0.61	645.23	132.01	0.07
ombrone	58	Max WS	SASA	252.71	27.75	38.01		38.02	0.000024	0.50	722.37	158.12	0.06
ombrone	58	Max WS	SASP	255.16	27.75	38.01		38.02	0.000024	0.50	722.46	158.12	0.06
ombrone	58	Max WS	SPSA	273.47	27.75	38.04		38.05	0.000027	0.54	726.99	158.12	0.06
ombrone	58	Max WS	SPSP	273.30	27.75	38.04		38.05	0.000027	0.54	727.09	158.12	0.06
ombrone	57	Max WS	SASA	252.45	27.72	38.01		38.02	0.000032	0.57	619.68	140.20	0.07
ombrone	57	Max WS	SASP	255.14	27.72	38.01		38.02	0.000032	0.58	619.77	140.20	0.07
ombrone	57	Max WS	SPSA	273.47	27.72	38.03		38.05	0.000037	0.62	623.70	140.20	0.07
ombrone	57	Max WS	SPSP	273.26	27.72	38.03		38.05	0.000037	0.62	623.78	140.20	0.07
ombrone	56	Max WS	SASA	252.31	27.65	38.00		38.02	0.000033	0.63	555.47	113.73	0.07
ombrone	56	Max WS	SASP	255.05	27.65	38.00		38.02	0.000034	0.64	555.54	113.73	0.07
ombrone	56	Max WS	SPSA	273.43	27.65	38.03		38.05	0.000038	0.68	558.62	113.73	0.07
ombrone	56	Max WS	SPSP	273.22	27.65	38.03		38.05	0.000038	0.68	558.73	113.73	0.07
ombrone	55	Max WS	SASA	269.52	27.59	37.99		38.01	0.000057	0.77	417.65	82.62	0.09
ombrone	55	Max WS	SASP	261.25	27.59	37.99		38.01	0.000054	0.75	417.80	82.63	0.09
ombrone	55	Max WS	SPSA	287.58	27.59	38.01		38.04	0.000064	0.82	419.87	82.67	0.10
ombrone	55	Max WS	SPSP	287.38	27.59	38.01		38.04	0.000064	0.82	419.92	82.67	0.10
ombrone	54	Max WS	SASA	269.38	28.68	37.99		38.01	0.000063	0.77	422.72	85.88	0.09
ombrone	54	Max WS	SASP	261.28	28.68	37.99		38.01	0.000059	0.75	422.91	85.88	0.09
ombrone	54	Max WS	SPSA	287.58	28.68	38.01		38.04	0.000070	0.82	425.03	85.88	0.10
ombrone	54	Max WS	SPSP	287.37	28.68	38.01		38.04	0.000070	0.82	425.08	85.88	0.10
ombrone	53	Max WS	SASA	269.58	27.71	37.99		38.01	0.000044	0.69	480.14	94.26	0.08
ombrone	53	Max WS	SASP	261.28	27.71	37.99		38.01	0.000041	0.67	480.31	94.26	0.08
ombrone	53	Max WS	SPSA	287.54	27.71	38.01		38.04	0.000049	0.73	482.67	94.31	0.08
ombrone	53	Max WS	SPSP	287.37	27.71	38.02		38.04	0.000049	0.73	482.75	94.31	0.08
ombrone	52	Max WS	SASA	270.31	26.97	37.99		38.01	0.000025	0.56	600.39	110.12	0.06
ombrone	52	Max WS	SASP	261.31	26.97	37.99		38.01	0.000023	0.54	600.56	110.12	0.06
ombrone	52	Max WS	SPSA	287.54	26.97	38.02		38.03	0.000028	0.59	603.41	110.17	0.06
ombrone	52	Max WS	SPSP	287.33	26.97	38.02		38.04	0.000028	0.59	603.48	110.17	0.06
ombrone	51	Max WS	SASA	261.60	27.37	37.98		38.01	0.000058	0.81	407.52	77.39	0.09
ombrone	51	Max WS	SASP	261.31	27.37	37.98		38.01	0.000058	0.81	407.71	77.39	0.09
ombrone	51	Max WS	SPSA	287.50	27.37	38.00		38.04	0.000069	0.89	409.48	77.43	0.10
ombrone	51	Max WS	SPSP	287.29	27.37	38.00		38.04	0.000069	0.89	409.55	77.43	0.10
ombrone	50	Max WS	SASA	261.64	27.65	37.98		38.00	0.000048	0.75	447.02	83.62	0.08
ombrone	50	Max WS	SASP	261.34	27.65	37.98		38.00	0.000048	0.75	447.22	83.62	0.08
ombrone	50	Max WS	SPSA	287.46	27.65	38.00		38.03	0.000057	0.82	449.16	83.62	0.09
ombrone	50	Max WS	SPSP	287.29	27.65	38.00		38.03	0.000057	0.82	449.21	83.62	0.09
ombrone	49	Max WS	SASA	261.68	26.98	37.98		38.00	0.000050	0.72	468.43	90.96	0.08
ombrone	49	Max WS	SASP	261.38	26.98	37.98		38.00	0.000049	0.72	468.65	90.96	0.08
ombrone	49	Max WS	SPSA	287.46	26.98	38.00		38.03	0.000059	0.79	470.73	91.00	0.09
ombrone	49	Max WS	SPSP	287.24	26.98	38.00		38.03	0.000059	0.79	470.78	91.00	0.09
ombrone	48	Max WS	SASA	261.64	27.02	37.95		38.00	0.000089	1.00	291.57	44.10	0.11
ombrone	48	Max WS	SASP	256.48	27.02	37.95		38.00	0.000086	0.98	291.70	44.11	0.10
ombrone	48	Max WS	SPSA	287.39	27.02	37.97		38.03	0.000107	1.09	292.44	44.20	0.12
ombrone	48	Max WS	SPSP	287.17	27.02	37.97		38.03	0.000107	1.09	292.49	44.20	0.12
ombrone	47	Max WS	SASA	261.68	26.82	37.95		37.99	0.000073	0.93	302.55	45.38	0.10
ombrone	47	Max WS	SASP	256.55	26.82	37.95		38.00	0.000070	0.91	302.68	45.39	0.10
ombrone	47	Max WS	SPSA	287.39	26.82	37.97		38.02	0.000088	1.02	303.47	45.43	0.11
ombrone	47	Max WS	SPSP	287.17	26.82	37.97		38.02	0.000088	1.01	303.51	45.43	0.11
ombrone	46	Max WS	SASA	261.72	26.75	37.97		37.99	0.000046	0.69	508.58	114.17	0.08
ombrone	46	Max WS	SASP	261.42	26.75	37.97		37.99	0.000046	0.69	508.86	114.21	0.08
ombrone	46	Max WS	SPSA	287.36	26.75	37.99		38.02	0.000055	0.76	511.30	114.52	0.08
ombrone	46	Max WS	SPSP	287.17	26.75	38.00		38.02	0.000055	0.76	511.40	114.54	0.08
ombrone	45	Max WS	SASA	261.77	26.51	37.97		37.99	0.000037	0.64	586.45	139.52	0.07
ombrone	45	Max WS	SASP	261.46	26.51	37.97		37.99	0.000037	0.64	586.79	139.54	0.07
ombrone	45	Max WS	SPSA	287.36	26.51	38.00		38.01	0.000044	0.70	589.77	139.67	0.08
ombrone	45	Max WS	SPSP	287.14	26.51	38.00		38.02	0.000044	0.70	589.90	139.68	0.08
ombrone	44	Max WS	SASA	261.77	26.59	37.96		37.99	0.000045	0.69	466.69	83.83	0.08
ombrone	44	Max WS	SASP	261.50	26.59	37.97		37.99	0.000045	0.69	466.89	83.83	0.08
ombrone	44	Max WS	SPSA	287.33	26.59	37.99		38.01	0.000054	0.76	468.55	83.83	0.08
ombrone	44	Max WS	SPSP	287.11	26.59	37.99		38.01	0.000053	0.76	468.63	83.83	0.08
ombrone	43	Max WS	SASA	261.82	26.36	37.96		37.98	0.000038	0.70	486.70	83.38	0.07
ombrone	43	Max WS	SASP	261.50	26.36	37.97		37.99	0.000038	0.69	486.90	83.38	0.07
ombrone	43	Max WS	SPSA	287.33	26.36	37.99		38.01	0.000046	0.76	488.55	83.38	0.08
ombrone	43	Max WS	SPSP	287.10	26.36	37.99		38.01	0.000046	0.76	488.63	83.38	0.08
ombrone	42	Max WS	SASA	261.81	25.33	37.95		37.98	0.000043	0.75	382.59	51.58	0.08
ombrone	42	Max WS	SASP	256.95	25.33	37.96		37.98	0.000041	0.74	382.73	51.59	0.08
ombrone	42	Max WS	SPSA	287.30	25.33	37.97		38.01	0.000051	0.83	383.62	51.62	0.09
ombrone	42	Max WS	SPSP	287.07	25.33	37.98		38.01	0.000051	0.82	383.67	51.62	0.09
ombrone	41	Max WS	SASA	261.81	27.23	37.96		37.98	0.000042	0.69	518.31	106.00	0.08
ombrone	41	Max WS	SASP	261.54	27.23	37.96		37.98	0.000042	0.69	518.56	106.00	0.08
ombrone	41	Max WS	SPSA	287.27	27.23	37.98		38.00	0.000050	0.75	520.60	106.00	0.08
ombrone	41	Max WS	SPSP	287.07	27.23	37.98		38.00	0.000050	0.75	520.66	106.00	0.08

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	40	Max WS	SASA	261.86	26.78	37.96		37.98	0.000027	0.57	643.80	128.14	0.06
ombrone	40	Max WS	SASP	261.59	26.78	37.97		37.98	0.000027	0.57	644.11	128.14	0.06
ombrone	40	Max WS	SPSA	287.27	26.78	37.99		38.00	0.000032	0.62	646.65	128.14	0.07
ombrone	40	Max WS	SPSP	287.04	26.78	37.99		38.00	0.000032	0.62	646.76	128.14	0.07
ombrone	39	Max WS	SASA	261.91	26.71	37.96		37.97	0.000030	0.60	605.09	119.75	0.06
ombrone	39	Max WS	SASP	261.59	26.71	37.96		37.98	0.000030	0.59	605.38	119.75	0.06
ombrone	39	Max WS	SPSA	287.27	26.71	37.98		38.00	0.000036	0.65	607.68	119.75	0.07
ombrone	39	Max WS	SPSP	287.04	26.71	37.98		38.00	0.000036	0.65	607.75	119.75	0.07
ombrone	38	Max WS	SASA	261.90	26.50	37.96		37.97	0.000029	0.59	608.49	129.27	0.06
ombrone	38	Max WS	SASP	261.63	26.50	37.96		37.98	0.000029	0.59	608.80	129.28	0.06
ombrone	38	Max WS	SPSA	287.23	26.50	37.98		38.00	0.000035	0.65	611.21	129.38	0.07
ombrone	38	Max WS	SPSP	287.00	26.50	37.98		38.00	0.000035	0.65	611.33	129.38	0.07
ombrone	37	Max WS	SASA	261.94	26.78	37.96		37.97	0.000024	0.55	647.89	121.88	0.06
ombrone	37	Max WS	SASP	261.62	26.78	37.96		37.97	0.000024	0.55	648.19	121.88	0.06
ombrone	37	Max WS	SPSA	287.19	26.78	37.98		37.99	0.000029	0.60	650.45	121.88	0.06
ombrone	37	Max WS	SPSP	287.00	26.78	37.98		38.00	0.000029	0.60	650.57	121.88	0.06
ombrone	36	Max WS	SASA	261.94	27.31	37.96		37.97	0.000023	0.52	708.38	143.40	0.06
ombrone	36	Max WS	SASP	261.66	27.31	37.96		37.97	0.000023	0.52	708.73	143.40	0.06
ombrone	36	Max WS	SPSA	287.19	27.31	37.98		37.99	0.000027	0.57	711.40	143.40	0.06
ombrone	36	Max WS	SPSP	286.96	27.31	37.98		37.99	0.000027	0.57	711.53	143.40	0.06
ombrone	35	Max WS	SASA	261.93	26.15	37.95		37.97	0.000030	0.59	585.40	115.98	0.06
ombrone	35	Max WS	SASP	256.95	26.15	37.96		37.97	0.000029	0.58	585.71	115.98	0.06
ombrone	35	Max WS	SPSA	287.14	26.15	37.97		37.99	0.000035	0.64	587.69	116.03	0.07
ombrone	35	Max WS	SPSP	286.95	26.15	37.97		37.99	0.000035	0.64	587.80	116.03	0.07
ombrone	34	Max WS	SASA	261.96	25.82	37.95		37.97	0.000028	0.58	612.19	120.72	0.06
ombrone	34	Max WS	SASP	256.95	25.82	37.96		37.97	0.000027	0.57	612.52	120.73	0.06
ombrone	34	Max WS	SPSA	287.14	25.82	37.97		37.99	0.000033	0.63	614.58	120.80	0.07
ombrone	34	Max WS	SPSP	286.90	25.82	37.97		37.99	0.000033	0.63	614.69	120.80	0.07
ombrone	33	Max WS	SASA	261.96	25.92	37.95		37.96	0.000019	0.47	711.67	135.72	0.05
ombrone	33	Max WS	SASP	256.99	25.92	37.96		37.97	0.000018	0.46	712.05	135.73	0.05
ombrone	33	Max WS	SPSA	287.09	25.92	37.97		37.99	0.000023	0.51	714.41	135.76	0.06
ombrone	33	Max WS	SPSP	286.90	25.92	37.98		37.99	0.000023	0.51	714.49	135.76	0.06
ombrone	32	Max WS	SASA	261.99	28.01	37.94		37.96	0.000034	0.63	440.09	70.80	0.07
ombrone	32	Max WS	SASP	256.74	28.01	37.95		37.96	0.000032	0.62	440.31	70.87	0.07
ombrone	32	Max WS	SPSA	287.04	28.01	37.96		37.98	0.000040	0.69	441.33	71.17	0.08
ombrone	32	Max WS	SPSP	286.79	28.01	37.96		37.98	0.000040	0.69	441.39	71.19	0.08
ombrone	31	Max WS	SASA	261.98	27.87	37.94		37.96	0.000035	0.71	450.37	66.86	0.07
ombrone	31	Max WS	SASP	256.71	27.87	37.94		37.96	0.000033	0.69	450.60	66.86	0.07
ombrone	31	Max WS	SPSA	286.99	27.87	37.96		37.98	0.000041	0.77	451.51	66.86	0.08
ombrone	31	Max WS	SPSP	286.79	27.87	37.96		37.98	0.000041	0.77	451.57	66.86	0.08
ombrone	30	Max WS	SASA	262.01	26.89	37.94		37.96	0.000036	0.65	414.44	58.75	0.07
ombrone	30	Max WS	SASP	256.74	26.89	37.94		37.96	0.000035	0.64	414.64	58.75	0.07
ombrone	30	Max WS	SPSA	286.95	26.89	37.95		37.98	0.000043	0.72	415.41	58.77	0.08
ombrone	30	Max WS	SPSP	286.74	26.89	37.96		37.98	0.000043	0.71	415.46	58.77	0.08
ombrone	29	Max WS	SASA	262.01	27.66	37.94		37.96	0.000029	0.58	466.34	68.49	0.07
ombrone	29	Max WS	SASP	256.81	27.66	37.94		37.96	0.000028	0.57	466.55	68.49	0.07
ombrone	29	Max WS	SPSA	286.99	27.66	37.96		37.98	0.000035	0.64	467.51	68.51	0.07
ombrone	29	Max WS	SPSP	286.74	27.66	37.96		37.98	0.000035	0.64	467.55	68.51	0.07
ombrone	28	Max WS	SASA	262.04	27.59	37.94		37.96	0.000030	0.59	462.83	68.45	0.07
ombrone	28	Max WS	SASP	256.77	27.59	37.94		37.96	0.000029	0.58	463.06	68.46	0.07
ombrone	28	Max WS	SPSA	286.91	27.59	37.96		37.98	0.000036	0.64	463.98	68.47	0.07
ombrone	28	Max WS	SPSP	286.70	27.59	37.96		37.98	0.000036	0.64	464.04	68.47	0.07
ombrone	27	Max WS	SASA	262.08	27.37	37.94		37.96	0.000028	0.57	483.29	73.87	0.07
ombrone	27	Max WS	SASP	256.74	27.37	37.94		37.96	0.000027	0.56	483.51	73.87	0.06
ombrone	27	Max WS	SPSA	286.91	27.37	37.96		37.98	0.000034	0.63	484.50	73.87	0.07
ombrone	27	Max WS	SPSP	286.70	27.37	37.96		37.98	0.000034	0.62	484.57	73.87	0.07
ombrone	26	Max WS	SASA	262.07	26.62	37.94		37.96	0.000024	0.57	543.88	95.35	0.06
ombrone	26	Max WS	SASP	256.77	26.62	37.94		37.96	0.000023	0.55	544.20	95.37	0.06
ombrone	26	Max WS	SPSA	286.91	26.62	37.96		37.97	0.000029	0.62	545.48	95.43	0.07
ombrone	26	Max WS	SPSP	286.65	26.62	37.96		37.98	0.000029	0.62	545.57	95.44	0.07
ombrone	25	Max WS	SASA	262.11	26.70	37.94		37.95	0.000021	0.52	580.29	100.71	0.06
ombrone	25	Max WS	SASP	256.81	26.70	37.94		37.96	0.000020	0.51	580.60	100.72	0.06
ombrone	25	Max WS	SPSA	286.87	26.70	37.96		37.97	0.000025	0.57	582.01	100.75	0.06
ombrone	25	Max WS	SPSP	286.65	26.70	37.96		37.97	0.000025	0.57	582.10	100.75	0.06
ombrone	24	Max WS	SASA	262.11	26.98	37.94		37.95	0.000026	0.59	493.26	80.08	0.06
ombrone	24	Max WS	SASP	256.71	26.98	37.94		37.96	0.000025	0.58	493.53	80.11	0.06
ombrone	24	Max WS	SPSA	286.87	26.98	37.95		37.97	0.000031	0.64	494.56	80.23	0.07
ombrone	24	Max WS	SPSP	286.62	26.98	37.95		37.97	0.000031	0.64	494.61	80.24	0.07
ombrone	23	Max WS	SASA	262.15	27.00	37.94		37.95	0.000026	0.57	488.52	78.57	0.06
ombrone	23	Max WS	SASP	256.71	27.00	37.94		37.95	0.000025	0.56	488.79	78.59	0.06
ombrone	23	Max WS	SPSA	286.84	27.00	37.95		37.97	0.000031	0.63	489.77	78.66	0.07
ombrone	23	Max WS	SPSP	286.61	27.00	37.95		37.97	0.000031	0.63	489.84	78.66	0.07
ombrone	22	Max WS	SASA	262.15	27.16	37.94		37.95	0.000023	0.54	603.95	107.21	0.06
ombrone	22	Max WS	SASP	256.77	27.16	37.94		37.95	0.000022	0.53	604.31	107.22	0.06
ombrone	22	Max WS	SPSA	286.84	27.16	37.95		37.97	0.000027	0.59	605.69	107.29	0.06

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
ombrone	22	Max WS	SPSP	286.58	27.16	37.96		37.97	0.000027	0.59	605.79	107.29	0.06
ombrone	21	Max WS	SASA	262.15	27.55	37.94		37.95	0.000018	0.47	724.22	134.37	0.05
ombrone	21	Max WS	SASP	256.84	27.55	37.94		37.95	0.000017	0.46	724.63	134.37	0.05
ombrone	21	Max WS	SPSA	286.80	27.55	37.96		37.97	0.000021	0.51	726.43	134.38	0.06
ombrone	21	Max WS	SPSP	286.58	27.55	37.96		37.97	0.000021	0.51	726.55	134.38	0.06
ombrone	20	Max WS	SASA	262.19	27.36	37.94		37.95	0.000019	0.49	683.49	125.44	0.05
ombrone	20	Max WS	SASP	256.74	27.36	37.94		37.95	0.000018	0.48	683.91	125.44	0.05
ombrone	20	Max WS	SPSA	286.80	27.36	37.96		37.97	0.000022	0.54	685.55	125.47	0.06
ombrone	20	Max WS	SPSP	286.54	27.36	37.96		37.97	0.000022	0.54	685.67	125.47	0.06
ombrone	19	Max WS	SASA	262.19	27.15	37.94		37.95	0.000021	0.52	625.28	115.25	0.06
ombrone	19	Max WS	SASP	256.77	27.15	37.94		37.95	0.000020	0.51	625.67	115.26	0.06
ombrone	19	Max WS	SPSA	286.80	27.15	37.95		37.97	0.000025	0.57	627.11	115.29	0.06
ombrone	19	Max WS	SPSP	286.54	27.15	37.95		37.97	0.000025	0.57	627.21	115.29	0.06
ombrone	18	Max WS	SASA	262.18	26.92	37.93		37.95	0.000022	0.53	561.02	88.57	0.06
ombrone	18	Max WS	SASP	256.74	26.92	37.94		37.95	0.000021	0.52	561.31	88.57	0.06
ombrone	18	Max WS	SPSA	286.76	26.92	37.95		37.97	0.000026	0.58	562.37	88.59	0.06
ombrone	18	Max WS	SPSP	286.54	26.92	37.95		37.97	0.000026	0.58	562.45	88.59	0.06
ombrone	17	Max WS	SASA	262.22	27.31	37.93		37.95	0.000024	0.56	506.19	72.29	0.06
ombrone	17	Max WS	SASP	256.71	27.31	37.94		37.95	0.000023	0.54	506.44	72.30	0.06
ombrone	17	Max WS	SPSA	286.76	27.31	37.95		37.96	0.000029	0.61	507.25	72.31	0.07
ombrone	17	Max WS	SPSP	286.50	27.31	37.95		37.97	0.000029	0.61	507.32	72.31	0.07
ombrone	16	Max WS	SASA	262.25	27.09	37.93		37.94	0.000028	0.61	473.49	69.77	0.07
ombrone	16	Max WS	SASP	256.67	27.09	37.93		37.95	0.000027	0.60	473.74	69.86	0.06
ombrone	16	Max WS	SPSA	286.72	27.09	37.94		37.96	0.000033	0.67	474.45	70.11	0.07
ombrone	16	Max WS	SPSP	286.46	27.09	37.94		37.96	0.000033	0.67	474.49	70.12	0.07
ombrone	15	Max WS	SASA	262.25	27.10	37.93		37.94	0.000027	0.59	473.07	72.99	0.06
ombrone	15	Max WS	SASP	256.61	27.10	37.93		37.95	0.000026	0.57	473.34	73.22	0.06
ombrone	15	Max WS	SPSA	286.72	27.10	37.94		37.96	0.000033	0.64	474.08	73.84	0.07
ombrone	15	Max WS	SPSP	286.45	27.10	37.94		37.96	0.000033	0.64	474.14	73.90	0.07
ombrone	14	Max WS	SASA	262.25	26.98	37.92		37.94	0.000033	0.64	427.06	67.20	0.07
ombrone	14	Max WS	SASP	256.21	26.98	37.93		37.95	0.000032	0.63	427.33	67.46	0.07
ombrone	14	Max WS	SPSA	286.69	26.98	37.93		37.96	0.000040	0.70	427.91	68.01	0.08
ombrone	14	Max WS	SPSP	286.45	26.98	37.94		37.96	0.000040	0.70	427.97	68.07	0.08
ombrone	13	Max WS	SASA	262.25	26.92	37.92		37.94	0.000036	0.69	410.85	89.13	0.07
ombrone	13	Max WS	SASP	256.18	26.92	37.92		37.94	0.000034	0.67	411.20	89.13	0.07
ombrone	13	Max WS	SPSA	286.65	26.92	37.93		37.96	0.000043	0.75	411.88	89.14	0.08
ombrone	13	Max WS	SPSP	286.41	26.92	37.93		37.96	0.000043	0.75	411.96	89.14	0.08
ombrone	12	Max WS	SASA	262.28	26.41	37.92		37.94	0.000028	0.62	453.80	80.14	0.07
ombrone	12	Max WS	SASP	256.30	26.41	37.92		37.94	0.000027	0.61	454.11	81.26	0.06
ombrone	12	Max WS	SPSA	286.61	26.41	37.93		37.95	0.000033	0.68	454.77	83.49	0.07
ombrone	12	Max WS	SPSP	286.37	26.41	37.93		37.95	0.000033	0.68	454.82	83.67	0.07
ombrone	11	Max WS	SASA	257.28	26.10	37.90		37.94	0.000052	0.81	342.93	91.90	0.09
ombrone	11	Max WS	SASP	255.87	26.10	37.91		37.94	0.000051	0.81	343.14	92.00	0.08
ombrone	11	Max WS	SPSA	286.58	26.10	37.91		37.95	0.000064	0.91	343.34	92.09	0.09
ombrone	11	Max WS	SPSP	286.33	26.10	37.91		37.95	0.000064	0.90	343.38	92.11	0.09
ombrone	10	Max WS	SASA	256.77	25.96	37.88	29.72	37.93	0.000070	1.00	255.57	44.80	0.10
ombrone	10	Max WS	SASP	255.59	25.96	37.89	29.71	37.94	0.000069	1.00	255.69	45.11	0.10
ombrone	10	Max WS	SPSA	286.58	25.96	37.89	29.93	37.95	0.000087	1.12	255.65	45.00	0.11
ombrone	10	Max WS	SPSP	286.30	25.96	37.89	29.93	37.95	0.000087	1.12	255.67	45.07	0.11
ombrone	9		Bridge										
ombrone	8	Max WS	SASA	256.74	26.30	37.88		37.93	0.000063	0.99	263.26	38.78	0.10
ombrone	8	Max WS	SASP	255.54	26.30	37.88		37.93	0.000063	0.99	263.39	39.05	0.10
ombrone	8	Max WS	SPSA	286.58	26.30	37.88		37.94	0.000079	1.10	263.33	38.93	0.11
ombrone	8	Max WS	SPSP	286.30	26.30	37.88		37.94	0.000079	1.10	263.35	38.98	0.11
ombrone	7	Max WS	SASA	257.08	26.14	37.90	29.47	37.93	0.000051	0.77	345.29	57.43	0.08
ombrone	7	Max WS	SASP	255.82	26.14	37.90	29.46	37.93	0.000050	0.77	345.51	57.45	0.08
ombrone	7	Max WS	SPSA	286.58	26.14	37.90	29.66	37.94	0.000063	0.86	345.61	57.46	0.09
ombrone	7	Max WS	SPSP	286.30	26.14	37.90	29.66	37.94	0.000063	0.86	345.66	57.46	0.09
ombrone	6		Bridge										
ombrone	5	Max WS	SASA	257.35	26.21	37.60		37.63	0.000049	0.73	357.68	55.50	0.08
ombrone	5	Max WS	SASP	255.90	26.21	37.60		37.63	0.000048	0.73	357.88	55.50	0.08
ombrone	5	Max WS	SPSA	286.58	26.21	37.61		37.64	0.000060	0.81	358.03	55.51	0.09
ombrone	5	Max WS	SPSP	286.33	26.21	37.61		37.64	0.000060	0.81	358.06	55.51	0.09
ombrone	4	Max WS	SASA	256.98	25.94	37.59	28.96	37.62	0.000044	0.86	305.75	59.86	0.08
ombrone	4	Max WS	SASP	255.72	25.94	37.59	28.95	37.63	0.000044	0.86	305.88	59.86	0.08
ombrone	4	Max WS	SPSA	286.58	25.94	37.59	29.12	37.64	0.000055	0.96	305.88	59.86	0.09
ombrone	4	Max WS	SPSP	286.30	25.94	37.59	29.12	37.64	0.000055	0.96	305.91	59.86	0.09
ombrone	3		Bridge										
ombrone	2	Max WS	SASA	256.89	25.67	37.59		37.62	0.000042	0.84	314.87	65.63	0.08
ombrone	2	Max WS	SASP	255.72	25.67	37.59		37.62	0.000041	0.83	315.00	65.64	0.08
ombrone	2	Max WS	SPSA	286.61	25.67	37.59		37.63	0.000052	0.93	314.99	65.64	0.09
ombrone	2	Max WS	SPSP	286.33	25.67	37.59		37.63	0.000052	0.93	315.02	65.64	0.09
ombrone	1	Max WS	SASA	257.48	25.11	37.60		37.62	0.000016	0.52	552.63	65.84	0.05

HEC-RAS River: ombrone Reach: ombrone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
ombrone	1	Max WS	SASP	256.09	25.11	37.61		37.62	0.000016	0.51	552.90	65.84	0.05
ombrone	1	Max WS	SPSA	286.61	25.11	37.61		37.63	0.000020	0.58	553.20	65.84	0.06
ombrone	1	Max WS	SPSP	286.33	25.11	37.61		37.63	0.000020	0.58	553.24	65.84	0.06

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	114	Max WS	SASA	26.17	36.49	39.74		39.78	0.000407	0.84	31.14	20.25	0.22
Reale_02	114	Max WS	SASP	26.17	36.49	39.74		39.78	0.000407	0.84	31.14	20.25	0.22
Reale_02	114	Max WS	SPSA	30.36	36.49	39.79		39.84	0.000497	0.94	32.15	20.32	0.24
Reale_02	114	Max WS	SPSP	30.36	36.49	39.79		39.84	0.000497	0.94	32.15	20.32	0.24
Reale_02	113	Max WS	SASA	26.17	36.49	39.71		39.75	0.000400	0.86	30.47	18.81	0.22
Reale_02	113	Max WS	SASP	26.17	36.49	39.71		39.75	0.000400	0.86	30.47	18.81	0.22
Reale_02	113	Max WS	SPSA	30.25	36.49	39.75		39.80	0.000536	0.97	31.29	20.26	0.25
Reale_02	113	Max WS	SPSP	30.25	36.49	39.75		39.80	0.000536	0.97	31.29	20.26	0.25
Reale_02	112.6			Lat Struct									
Reale_02	112.4			Lat Struct									
Reale_02	112	Max WS	SASA	26.17	36.14	39.68		39.72	0.000385	0.83	31.49	19.94	0.21
Reale_02	112	Max WS	SASP	26.17	36.14	39.68		39.72	0.000385	0.83	31.49	19.94	0.21
Reale_02	112	Max WS	SPSA	30.15	36.14	39.72		39.76	0.000478	0.94	32.18	20.00	0.24
Reale_02	112	Max WS	SPSP	30.15	36.14	39.72		39.76	0.000478	0.94	32.18	20.00	0.24
Reale_02	111.6			Lat Struct									
Reale_02	111.4			Lat Struct									
Reale_02	111	Max WS	SASA	26.17	36.11	39.68	37.48	39.71	0.000238	0.75	34.72	18.72	0.17
Reale_02	111	Max WS	SASP	26.17	36.11	39.68	37.48	39.71	0.000238	0.75	34.72	18.72	0.17
Reale_02	111	Max WS	SPSA	30.15	36.11	39.72	37.59	39.76	0.000299	0.85	35.34	18.72	0.19
Reale_02	111	Max WS	SPSP	30.15	36.11	39.72	37.59	39.76	0.000299	0.85	35.34	18.72	0.19
Reale_02	110.5			Bridge									
Reale_02	110	Max WS	SASA	26.17	36.11	39.68		39.71	0.000277	0.75	35.01	19.09	0.17
Reale_02	110	Max WS	SASP	26.17	36.11	39.68		39.71	0.000277	0.75	35.01	19.09	0.17
Reale_02	110	Max WS	SPSA	30.15	36.11	39.72		39.75	0.000348	0.85	35.63	19.09	0.19
Reale_02	110	Max WS	SPSP	30.15	36.11	39.72		39.75	0.000348	0.85	35.63	19.09	0.19
Reale_02	109.6			Lat Struct									
Reale_02	109.4			Lat Struct									
Reale_02	109	Max WS	SASA	26.17	36.11	39.68		39.71	0.000269	0.82	31.81	14.84	0.18
Reale_02	109	Max WS	SASP	26.17	36.11	39.68		39.71	0.000269	0.82	31.81	14.84	0.18
Reale_02	109	Max WS	SPSA	30.10	36.11	39.71		39.75	0.000342	0.93	32.30	14.96	0.20
Reale_02	109	Max WS	SPSP	30.15	36.11	39.71		39.75	0.000343	0.93	32.30	14.96	0.20
Reale_02	108.6			Lat Struct									
Reale_02	108.4			Lat Struct									
Reale_02	108	Max WS	SASA	26.17	36.09	39.68		39.71	0.000198	0.74	35.17	15.51	0.16
Reale_02	108	Max WS	SASP	26.17	36.09	39.68		39.71	0.000198	0.74	35.17	15.51	0.16
Reale_02	108	Max WS	SPSA	30.15	36.09	39.71		39.75	0.000252	0.84	35.70	15.62	0.18
Reale_02	108	Max WS	SPSP	30.15	36.09	39.71		39.75	0.000252	0.84	35.70	15.62	0.18
Reale_02	107.6			Lat Struct									
Reale_02	107.4			Lat Struct									
Reale_02	107	Max WS	SASA	26.17	35.80	39.67		39.70	0.000218	0.69	38.03	20.61	0.16
Reale_02	107	Max WS	SASP	26.17	35.80	39.67		39.70	0.000218	0.69	38.03	20.61	0.16
Reale_02	107	Max WS	SPSA	30.14	35.80	39.70		39.74	0.000275	0.78	38.70	20.71	0.18
Reale_02	107	Max WS	SPSP	30.15	35.80	39.70		39.74	0.000275	0.78	38.70	20.71	0.18
Reale_02	106.6			Lat Struct									
Reale_02	106.4			Lat Struct									
Reale_02	106	Max WS	SASA	26.17	35.76	39.67	37.21	39.69	0.000169	0.65	40.00	21.49	0.15
Reale_02	106	Max WS	SASP	26.17	35.76	39.67	37.21	39.69	0.000169	0.65	40.00	21.49	0.15
Reale_02	106	Max WS	SPSA	30.14	35.76	39.70	37.32	39.73	0.000213	0.74	40.63	21.58	0.16
Reale_02	106	Max WS	SPSP	30.14	35.76	39.70	37.32	39.73	0.000213	0.74	40.63	21.58	0.16
Reale_02	105.5			Bridge									
Reale_02	105	Max WS	SASA	26.17	35.65	39.67		39.69	0.000185	0.65	40.14	19.49	0.15
Reale_02	105	Max WS	SASP	26.17	35.65	39.67		39.69	0.000185	0.65	40.14	19.49	0.15
Reale_02	105	Max WS	SPSA	30.10	35.65	39.70		39.73	0.000233	0.74	40.76	19.49	0.16
Reale_02	105	Max WS	SPSP	30.11	35.65	39.70		39.73	0.000233	0.74	40.76	19.49	0.16
Reale_02	104.6			Lat Struct									
Reale_02	104.4			Lat Struct									
Reale_02	104	Max WS	SASA	26.17	35.65	39.67		39.69	0.000185	0.66	39.74	19.05	0.15
Reale_02	104	Max WS	SASP	26.17	35.65	39.67		39.69	0.000185	0.66	39.74	19.05	0.15
Reale_02	104	Max WS	SPSA	30.10	35.65	39.70		39.73	0.000234	0.75	40.35	19.06	0.16
Reale_02	104	Max WS	SPSP	30.11	35.65	39.70		39.73	0.000234	0.75	40.35	19.06	0.16
Reale_02	103.6			Lat Struct									
Reale_02	103.4			Lat Struct									
Reale_02	103	Max WS	SASA	26.17	35.69	39.66		39.69	0.000213	0.75	34.75	15.91	0.16
Reale_02	103	Max WS	SASP	26.17	35.69	39.66		39.69	0.000213	0.75	34.75	15.91	0.16
Reale_02	103	Max WS	SPSA	30.06	35.69	39.69		39.73	0.000271	0.85	35.23	16.01	0.18

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	103	Max WS	SPSP	30.07	35.69	39.69		39.73	0.000271	0.85	35.22	16.01	0.18
Reale_02	102.6			Lat Struct									
Reale_02	102.4			Lat Struct									
Reale_02	102	Max WS	SASA	26.17	35.64	39.64		39.67	0.000383	0.80	32.53	21.68	0.21
Reale_02	102	Max WS	SASP	26.17	35.64	39.64		39.67	0.000383	0.80	32.53	21.68	0.21
Reale_02	102	Max WS	SPSA	30.02	35.64	39.66		39.71	0.000480	0.91	33.06	21.74	0.24
Reale_02	102	Max WS	SPSP	30.02	35.64	39.66		39.71	0.000480	0.91	33.06	21.74	0.24
Reale_02	101.6			Lat Struct									
Reale_02	101.4			Lat Struct									
Reale_02	101	Max WS	SASA	26.17	35.34	39.62		39.64	0.000131	0.57	45.84	22.40	0.13
Reale_02	101	Max WS	SASP	26.17	35.34	39.62		39.64	0.000131	0.57	45.84	22.40	0.13
Reale_02	101	Max WS	SPSA	29.98	35.34	39.65		39.67	0.000167	0.65	46.32	22.45	0.14
Reale_02	101	Max WS	SPSP	29.99	35.34	39.65		39.67	0.000167	0.65	46.32	22.45	0.14
Reale_02	100.6			Lat Struct									
Reale_02	100.4			Lat Struct									
Reale_02	100	Max WS	SASA	26.17	35.19	39.62		39.63	0.000093	0.51	51.65	23.20	0.11
Reale_02	100	Max WS	SASP	26.17	35.19	39.62		39.63	0.000093	0.51	51.65	23.20	0.11
Reale_02	100	Max WS	SPSA	29.98	35.19	39.64		39.66	0.000119	0.58	52.12	23.25	0.12
Reale_02	100	Max WS	SPSP	29.95	35.19	39.64		39.66	0.000118	0.57	52.12	23.25	0.12
Reale_02	99.6			Lat Struct									
Reale_02	99.4			Lat Struct									
Reale_02	99	Max WS	SASA	26.17	35.15	39.61		39.62	0.000069	0.46	56.61	23.52	0.10
Reale_02	99	Max WS	SASP	26.17	35.15	39.61		39.62	0.000069	0.46	56.61	23.52	0.10
Reale_02	99	Max WS	SPSA	29.95	35.15	39.63		39.65	0.000088	0.52	57.06	23.57	0.11
Reale_02	99	Max WS	SPSP	29.95	35.15	39.63		39.65	0.000088	0.52	57.06	23.57	0.11
Reale_02	98.6			Lat Struct									
Reale_02	98.4			Lat Struct									
Reale_02	98	Max WS	SASA	26.17	35.09	39.60		39.62	0.000095	0.51	51.52	24.08	0.11
Reale_02	98	Max WS	SASP	26.17	35.09	39.60		39.62	0.000095	0.51	51.52	24.08	0.11
Reale_02	98	Max WS	SPSA	29.93	35.09	39.62		39.64	0.000121	0.58	51.91	24.12	0.13
Reale_02	98	Max WS	SPSP	29.93	35.09	39.62		39.64	0.000121	0.58	51.91	24.12	0.13
Reale_02	97.6			Lat Struct									
Reale_02	97.4			Lat Struct									
Reale_02	97	Max WS	SASA	26.17	35.00	39.60		39.61	0.000047	0.40	64.75	24.84	0.08
Reale_02	97	Max WS	SASP	26.17	35.00	39.60		39.61	0.000047	0.40	64.75	24.84	0.08
Reale_02	97	Max WS	SPSA	29.90	35.00	39.62		39.63	0.000061	0.46	65.14	24.89	0.09
Reale_02	97	Max WS	SPSP	29.90	35.00	39.62		39.63	0.000061	0.46	65.14	24.89	0.09
Reale_02	96.6			Lat Struct									
Reale_02	96.4			Lat Struct									
Reale_02	96	Max WS	SASA	26.17	35.09	39.60		39.61	0.000051	0.41	63.58	25.07	0.08
Reale_02	96	Max WS	SASP	26.17	35.09	39.60		39.61	0.000051	0.41	63.58	25.07	0.08
Reale_02	96	Max WS	SPSA	29.90	35.09	39.61		39.62	0.000065	0.47	63.96	25.11	0.09
Reale_02	96	Max WS	SPSP	29.90	35.09	39.61		39.62	0.000065	0.47	63.96	25.11	0.09
Reale_02	95.6			Lat Struct									
Reale_02	95.4			Lat Struct									
Reale_02	95	Max WS	SASA	26.17	35.36	39.60	36.19	39.61	0.000023	0.28	95.04	40.21	0.06
Reale_02	95	Max WS	SASP	26.17	35.36	39.60	36.19	39.61	0.000023	0.28	95.04	40.21	0.06
Reale_02	95	Max WS	SPSA	29.90	35.36	39.62	36.26	39.62	0.000030	0.31	95.69	40.26	0.06
Reale_02	95	Max WS	SPSP	29.90	35.36	39.62	36.26	39.62	0.000030	0.31	95.69	40.26	0.06
Reale_02	94.5			Bridge									
Reale_02	94	Max WS	SASA	26.17	35.36	39.60		39.60	0.000023	0.28	94.96	39.72	0.06
Reale_02	94	Max WS	SASP	26.17	35.36	39.60		39.60	0.000023	0.28	94.96	39.72	0.06
Reale_02	94	Max WS	SPSA	29.89	35.36	39.62		39.62	0.000029	0.31	95.60	39.74	0.06
Reale_02	94	Max WS	SPSP	29.89	35.36	39.62		39.62	0.000029	0.31	95.59	39.74	0.06
Reale_02	93.9	Max WS	SASA	26.17	35.36	39.60		39.60	0.000023	0.28	94.96	39.72	0.06
Reale_02	93.9	Max WS	SASP	26.17	35.36	39.60		39.60	0.000023	0.28	94.96	39.72	0.06
Reale_02	93.9	Max WS	SPSA	29.89	35.36	39.62		39.62	0.000029	0.31	95.59	39.74	0.06
Reale_02	93.9	Max WS	SPSP	29.89	35.36	39.62		39.62	0.000029	0.31	95.59	39.74	0.06
Reale_02	92.6			Lat Struct									
Reale_02	92.4			Lat Struct									
Reale_02	92	Max WS	SASA	26.17	35.08	39.60		39.60	0.000042	0.38	68.32	26.20	0.08
Reale_02	92	Max WS	SASP	26.17	35.08	39.60		39.60	0.000042	0.38	68.32	26.20	0.08
Reale_02	92	Max WS	SPSA	29.89	35.08	39.61		39.62	0.000054	0.43	68.71	26.25	0.09
Reale_02	92	Max WS	SPSP	29.89	35.08	39.61		39.62	0.000054	0.43	68.71	26.25	0.09

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	91.6			Lat Struct									
Reale_02	91.4			Lat Struct									
Reale_02	91	Max WS	SASA	26.17	34.67	39.60		39.60	0.000029	0.34	77.81	26.30	0.06
Reale_02	91	Max WS	SASP	26.17	34.67	39.60		39.60	0.000029	0.34	77.81	26.30	0.06
Reale_02	91	Max WS	SPSA	29.88	34.67	39.61		39.62	0.000037	0.38	78.20	26.33	0.07
Reale_02	91	Max WS	SPSP	29.88	34.67	39.61		39.62	0.000037	0.38	78.20	26.33	0.07
Reale_02	90.6			Lat Struct									
Reale_02	90.4			Lat Struct									
Reale_02	90	Max WS	SASA	26.17	35.04	39.59		39.60	0.000034	0.36	73.69	26.95	0.07
Reale_02	90	Max WS	SASP	26.17	35.04	39.59		39.60	0.000034	0.36	73.69	26.95	0.07
Reale_02	90	Max WS	SPSA	29.87	35.04	39.61		39.61	0.000043	0.40	74.06	27.00	0.08
Reale_02	90	Max WS	SPSP	29.87	35.04	39.61		39.61	0.000043	0.40	74.06	27.00	0.08
Reale_02	89.6			Lat Struct									
Reale_02	89.4			Lat Struct									
Reale_02	89	Max WS	SASA	26.17	35.14	39.59	36.26	39.60	0.000025	0.32	81.85	28.66	0.06
Reale_02	89	Max WS	SASP	26.17	35.14	39.59	36.26	39.60	0.000025	0.32	81.85	28.66	0.06
Reale_02	89	Max WS	SPSA	29.86	35.14	39.61	36.36	39.61	0.000033	0.36	82.25	28.71	0.07
Reale_02	89	Max WS	SPSP	29.87	35.14	39.61	36.36	39.61	0.000033	0.36	82.24	28.71	0.07
Reale_02	88.5			Bridge									
Reale_02	88	Max WS	SASA	26.17	35.14	39.59		39.60	0.000025	0.32	82.61	28.65	0.06
Reale_02	88	Max WS	SASP	26.17	35.14	39.59		39.60	0.000025	0.32	82.61	28.65	0.06
Reale_02	88	Max WS	SPSA	29.86	35.14	39.61		39.61	0.000032	0.36	83.01	28.69	0.07
Reale_02	88	Max WS	SPSP	29.87	35.14	39.61		39.61	0.000032	0.36	83.01	28.69	0.07
Reale_02	87.6			Lat Struct									
Reale_02	87.4			Lat Struct									
Reale_02	87	Max WS	SASA	26.17	35.14	39.59		39.60	0.000025	0.32	82.47	28.96	0.06
Reale_02	87	Max WS	SASP	26.17	35.14	39.59		39.60	0.000025	0.32	82.47	28.96	0.06
Reale_02	87	Max WS	SPSA	29.86	35.14	39.61		39.61	0.000032	0.36	82.87	29.01	0.07
Reale_02	87	Max WS	SPSP	29.87	35.14	39.61		39.61	0.000032	0.36	82.87	29.01	0.07
Reale_02	86.6			Lat Struct									
Reale_02	86.4			Lat Struct									
Reale_02	86	Max WS	SASA	26.17	35.06	39.59		39.60	0.000034	0.36	73.37	26.81	0.07
Reale_02	86	Max WS	SASP	26.17	35.06	39.59		39.60	0.000034	0.36	73.37	26.81	0.07
Reale_02	86	Max WS	SPSA	29.86	35.06	39.60		39.61	0.000043	0.41	73.73	26.85	0.08
Reale_02	86	Max WS	SPSP	29.86	35.06	39.60		39.61	0.000043	0.41	73.73	26.85	0.08
Reale_02	85.6			Lat Struct									
Reale_02	85.4			Lat Struct									
Reale_02	85	Max WS	SASA	26.17	34.82	39.59		39.59	0.000030	0.34	77.00	27.05	0.06
Reale_02	85	Max WS	SASP	26.17	34.82	39.59		39.59	0.000030	0.34	77.00	27.05	0.06
Reale_02	85	Max WS	SPSA	29.86	34.82	39.60		39.61	0.000038	0.39	77.33	27.09	0.07
Reale_02	85	Max WS	SPSP	29.86	34.82	39.60		39.61	0.000038	0.39	77.33	27.09	0.07
Reale_02	84.6			Lat Struct									
Reale_02	84.4			Lat Struct									
Reale_02	84	Max WS	SASA	26.17	34.80	39.59		39.59	0.000015	0.26	100.88	28.81	0.04
Reale_02	84	Max WS	SASP	26.17	34.80	39.59		39.59	0.000015	0.26	100.88	28.81	0.04
Reale_02	84	Max WS	SPSA	29.85	34.80	39.60		39.60	0.000019	0.29	101.23	28.81	0.05
Reale_02	84	Max WS	SPSP	29.85	34.80	39.60		39.60	0.000019	0.29	101.23	28.81	0.05
Reale_02	83.6			Lat Struct									
Reale_02	83.4			Lat Struct									
Reale_02	83	Max WS	SASA	26.17	34.62	39.59		39.59	0.000005	0.16	163.22	43.75	0.03
Reale_02	83	Max WS	SASP	26.17	34.62	39.59		39.59	0.000005	0.16	163.22	43.75	0.03
Reale_02	83	Max WS	SPSA	29.85	34.62	39.60		39.60	0.000006	0.18	163.78	43.76	0.03
Reale_02	83	Max WS	SPSP	29.85	34.62	39.60		39.60	0.000006	0.18	163.78	43.76	0.03
Reale_02	82.6			Lat Struct									
Reale_02	82.4			Lat Struct									
Reale_02	82	Max WS	SASA	26.17	34.62	39.59	35.96	39.59	0.000017	0.29	91.15	23.65	0.05
Reale_02	82	Max WS	SASP	26.17	34.62	39.59	35.96	39.59	0.000017	0.29	91.15	23.65	0.05
Reale_02	82	Max WS	SPSA	29.85	34.62	39.60	36.02	39.60	0.000022	0.33	91.44	23.66	0.05
Reale_02	82	Max WS	SPSP	29.85	34.62	39.60	36.02	39.60	0.000022	0.33	91.44	23.66	0.05
Reale_02	81.5			Bridge									
Reale_02	81	Max WS	SASA	26.17	34.62	39.59		39.59	0.000017	0.29	91.15	23.65	0.05
Reale_02	81	Max WS	SASP	26.17	34.62	39.59		39.59	0.000017	0.29	91.15	23.65	0.05
Reale_02	81	Max WS	SPSA	29.85	34.62	39.60		39.60	0.000022	0.33	91.43	23.66	0.05

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	81	Max WS	SPSP	29.85	34.62	39.60		39.60	0.000022	0.33	91.43	23.66	0.05
Reale_02	80.6			Lat Struct									
Reale_02	80.4			Lat Struct									
Reale_02	80	Max WS	SASA	26.17	34.61	39.59		39.59	0.000004	0.14	183.99	48.10	0.02
Reale_02	80	Max WS	SASP	26.17	34.61	39.59		39.59	0.000004	0.14	183.99	48.10	0.02
Reale_02	80	Max WS	SPSA	29.85	34.61	39.60		39.60	0.000005	0.16	184.60	48.13	0.03
Reale_02	80	Max WS	SPSP	29.85	34.61	39.60		39.60	0.000005	0.16	184.60	48.13	0.03
Reale_02	79.9	Max WS	SASA	26.17	34.60	39.59		39.59	0.000004	0.14	184.08	48.10	0.02
Reale_02	79.9	Max WS	SASP	26.17	34.60	39.59		39.59	0.000004	0.14	184.08	48.10	0.02
Reale_02	79.9	Max WS	SPSA	29.85	34.60	39.60		39.60	0.000005	0.16	184.70	48.13	0.03
Reale_02	79.9	Max WS	SPSP	29.85	34.60	39.60		39.60	0.000005	0.16	184.70	48.13	0.03
Reale_02	79.6			Lat Struct									
Reale_02	79.4			Lat Struct									
Reale_02	79	Max WS	SASA	26.17	34.14	39.59		39.59	0.000003	0.12	211.43	51.32	0.02
Reale_02	79	Max WS	SASP	26.17	34.14	39.59		39.59	0.000003	0.12	211.43	51.32	0.02
Reale_02	79	Max WS	SPSA	29.84	34.14	39.60		39.60	0.000003	0.14	212.07	51.32	0.02
Reale_02	79	Max WS	SPSP	29.85	34.14	39.60		39.60	0.000003	0.14	212.07	51.32	0.02
Reale_02	78	Max WS	SASA	26.17	34.14	39.59	35.69	39.59	0.000012	0.24	107.06	24.72	0.04
Reale_02	78	Max WS	SASP	26.17	34.14	39.59	35.69	39.59	0.000012	0.24	107.06	24.72	0.04
Reale_02	78	Max WS	SPSA	29.84	34.14	39.60	35.74	39.60	0.000015	0.28	107.36	24.72	0.04
Reale_02	78	Max WS	SPSP	29.85	34.14	39.60	35.74	39.60	0.000015	0.28	107.36	24.72	0.04
Reale_02	77.5			Bridge									
Reale_02	77	Max WS	SASA	26.17	34.14	39.59		39.59	0.000012	0.24	107.05	24.72	0.04
Reale_02	77	Max WS	SASP	26.17	34.14	39.59		39.59	0.000012	0.24	107.05	24.72	0.04
Reale_02	77	Max WS	SPSA	29.84	34.14	39.60		39.60	0.000015	0.28	107.35	24.72	0.04
Reale_02	77	Max WS	SPSP	29.85	34.14	39.60		39.60	0.000015	0.28	107.35	24.72	0.04
Reale_02	76.6			Lat Struct									
Reale_02	76.4			Lat Struct									
Reale_02	76	Max WS	SASA	26.17	34.09	39.59		39.59	0.000012	0.25	103.51	25.33	0.04
Reale_02	76	Max WS	SASP	26.17	34.09	39.59		39.59	0.000012	0.25	103.51	25.33	0.04
Reale_02	76	Max WS	SPSA	29.84	34.09	39.60		39.60	0.000015	0.29	103.82	25.33	0.05
Reale_02	76	Max WS	SPSP	29.85	34.09	39.60		39.60	0.000015	0.29	103.82	25.33	0.05
Reale_02	75.6			Lat Struct									
Reale_02	75.4			Lat Struct									

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	69.4			Lat Struct									
Reale_02	69	Max WS	SASA	26.16	33.33	39.58		39.59	0.000014	0.27	97.53	27.77	0.05
Reale_02	69	Max WS	SASP	26.16	33.33	39.58		39.59	0.000014	0.27	97.53	27.77	0.05
Reale_02	69	Max WS	SPSA	29.84	33.33	39.59		39.60	0.000018	0.30	97.83	27.80	0.05
Reale_02	69	Max WS	SPSP	29.84	33.33	39.59		39.60	0.000018	0.31	97.83	27.80	0.05
Reale_02	68.6			Lat Struct									
Reale_02	68.4			Lat Struct									
Reale_02	68	Max WS	SASA	26.17	33.00	39.58		39.58	0.000015	0.27	95.99	28.03	0.05
Reale_02	68	Max WS	SASP	26.17	33.00	39.58		39.58	0.000015	0.27	95.99	28.03	0.05
Reale_02	68	Max WS	SPSA	29.83	33.00	39.59		39.60	0.000020	0.31	96.29	28.06	0.05
Reale_02	68	Max WS	SPSP	29.84	33.00	39.59		39.60	0.000020	0.31	96.29	28.06	0.05
Reale_02	67.6			Lat Struct									
Reale_02	67.4			Lat Struct									
Reale_02	67	Max WS	SASA	26.17	33.19	39.58		39.58	0.000013	0.26	100.23	28.06	0.04
Reale_02	67	Max WS	SASP	26.17	33.19	39.58		39.58	0.000013	0.26	100.23	28.06	0.04
Reale_02	67	Max WS	SPSA	29.83	33.19	39.59		39.59	0.000017	0.30	100.51	28.09	0.05
Reale_02	67	Max WS	SPSP	29.83	33.19	39.59		39.59	0.000017	0.30	100.51	28.09	0.05
Reale_02	66.6			Lat Struct									
Reale_02	66.4			Lat Struct									
Reale_02	66	Max WS	SASA	26.17	33.16	39.58		39.58	0.000013	0.25	102.96	28.68	0.04
Reale_02	66	Max WS	SASP	26.17	33.16	39.58		39.58	0.000013	0.25	102.96	28.68	0.04
Reale_02	66	Max WS	SPSA	29.82	33.16	39.59		39.59	0.000016	0.29	103.24	28.70	0.05
Reale_02	66	Max WS	SPSP	29.83	33.16	39.59		39.59	0.000016	0.29	103.24	28.70	0.05
Reale_02	65.6			Lat Struct									
Reale_02	65.4			Lat Struct									
Reale_02	65	Max WS	SASA	26.17	33.09	39.58		39.58	0.000012	0.25	105.13	28.81	0.04
Reale_02	65	Max WS	SASP	26.17	33.09	39.58		39.58	0.000012	0.25	105.13	28.81	0.04
Reale_02	65	Max WS	SPSA	29.81	33.09	39.58		39.59	0.000015	0.28	105.39	28.83	0.05
Reale_02	65	Max WS	SPSP	29.81	33.09	39.58		39.59	0.000015	0.28	105.39	28.83	0.05
Reale_02	64.6			Lat Struct									
Reale_02	64.4			Lat Struct									
Reale_02	64	Max WS	SASA	25.30	32.80	39.58		39.58	0.000010	0.23	107.94	28.79	0.04
Reale_02	64	Max WS	SASP	25.30	32.80	39.58		39.58	0.000010	0.23	107.94	28.79	0.04
Reale_02	64	Max WS	SPSA	28.64	32.80	39.58		39.59	0.000013	0.26	108.21	28.80	0.04
Reale_02	64	Max WS	SPSP	28.64	32.80	39.58		39.59	0.000013	0.26	108.21	28.80	0.04
Reale_02	63.6			Lat Struct									
Reale_02	63.4			Lat Struct									
Reale_02	63	Max WS	SASA	25.10	33.21	39.57		39.58	0.000010	0.23	107.21	28.96	0.04
Reale_02	63	Max WS	SASP	25.10	33.21	39.57		39.58	0.000010	0.23	107.21	28.96	0.04
Reale_02	63	Max WS	SPSA	28.38	33.21	39.58		39.59	0.000013	0.26	107.47	28.98	0.04
Reale_02	63	Max WS	SPSP	28.37	33.21	39.58		39.59	0.000013	0.26	107.47	28.98	0.04
Reale_02	62.6			Lat Struct									
Reale_02	62.4			Lat Struct									
Reale_02	62	Max WS	SASA	25.10	33.02	39.57		39.58	0.000010	0.24	106.44	28.91	0.04
Reale_02	62	Max WS	SASP	25.10	33.02	39.57		39.58	0.000010	0.24	106.44	28.91	0.04
Reale_02	62	Max WS	SPSA	28.37	33.02	39.58		39.59	0.000013	0.27	106.69	28.93	0.04
Reale_02	62	Max WS	SPSP	28.37	33.02	39.58		39.59	0.000013	0.27	106.69	28.93	0.04
Reale_02	61.6			Lat Struct									
Reale_02	61.4			Lat Struct									
Reale_02	61	Max WS	SASA	25.10	32.81	39.57		39.58	0.000009	0.22	112.03	29.22	0.04
Reale_02	61	Max WS	SASP	25.10	32.81	39.57		39.58	0.000009	0.22	112.03	29.22	0.04
Reale_02	61	Max WS	SPSA	28.37	32.81	39.58		39.58	0.000011	0.25	112.28	29.24	0.04
Reale_02	61	Max WS	SPSP	28.37	32.81	39.58		39.58	0.000011	0.25	112.28	29.24	0.04
Reale_02	60.6			Lat Struct									
Reale_02	60.4			Lat Struct									
Reale_02	60	Max WS	SASA	25.10	32.82	39.57		39.57	0.000009	0.23	110.41	29.35	0.04
Reale_02	60	Max WS	SASP	25.10	32.82	39.57		39.57	0.000009	0.23	110.41	29.35	0.04
Reale_02	60	Max WS	SPSA	28.37	32.82	39.58		39.58	0.000012	0.26	110.66	29.37	0.04
Reale_02	60	Max WS	SPSP	28.36	32.82	39.58		39.58	0.000012	0.26	110.66	29.37	0.04
Reale_02	59.6			Lat Struct									
Reale_02	59.4			Lat Struct									
Reale_02	59	Max WS	SASA	25.11	32.62	39.57		39.57	0.000008	0.20	122.53	33.50	0.03

Reach	River Sta	Profile	Pla	O Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	59	Max WS	SASP	25.11	32.62	39.57		39.57	0.000008	0.20	122.53	33.50	0.03
Reale_02	59	Max WS	SPSA	28.37	32.62	39.58		39.58	0.000010	0.23	122.80	33.53	0.04
Reale_02	59	Max WS	SPSP	28.36	32.62	39.58		39.58	0.000010	0.23	122.80	33.53	0.04
Reale_02	58.6			Lat Struct									
Reale_02	58.4			Lat Struct									
Reale_02	58	Max WS	SASA	25.11	32.60	39.57		39.57	0.000006	0.19	133.93	32.04	0.03
Reale_02	58	Max WS	SASP	25.11	32.60	39.57		39.57	0.000006	0.19	133.93	32.04	0.03
Reale_02	58	Max WS	SPSA	28.37	32.60	39.58		39.58	0.000008	0.21	134.19	32.07	0.03
Reale_02	58	Max WS	SPSP	28.36	32.60	39.58		39.58	0.000008	0.21	134.19	32.07	0.03
Reale_02	57.6			Lat Struct									
Reale_02	57.4			Lat Struct									
Reale_02	57	Max WS	SASA	25.11	32.57	39.57	33.94	39.57	0.000007	0.19	130.88	32.36	0.03
Reale_02	57	Max WS	SASP	25.11	32.57	39.57	33.94	39.57	0.000007	0.19	130.88	32.36	0.03
Reale_02	57	Max WS	SPSA	28.37	32.57	39.58	34.04	39.58	0.000008	0.22	131.15	32.36	0.03
Reale_02	57	Max WS	SPSP	28.36	32.57	39.58	34.04	39.58	0.000008	0.22	131.15	32.36	0.03
Reale_02	56.5			Bridge									
Reale_02	56	Max WS	SASA	25.11	32.57	39.57		39.57	0.000007	0.19	130.88	32.36	0.03
Reale_02	56	Max WS	SASP	25.11	32.57	39.57		39.57	0.000007	0.19	130.88	32.36	0.03
Reale_02	56	Max WS	SPSA	28.37	32.57	39.58		39.58	0.000008	0.22	131.14	32.36	0.03
Reale_02	56	Max WS	SPSP	28.36	32.57	39.58		39.58	0.000008	0.22	131.14	32.36	0.03
Reale_02	55.6			Lat Struct									
Reale_02	55.4			Lat Struct									
Reale_02	55	Max WS	SASA	25.11	32.57	39.57		39.57	0.000007	0.20	126.45	29.67	0.03
Reale_02	55	Max WS	SASP	25.11	32.57	39.57		39.57	0.000007	0.20	126.45	29.67	0.03
Reale_02	55	Max WS	SPSA	28.37	32.57	39.58		39.58	0.000008	0.22	126.68	29.69	0.03
Reale_02	55	Max WS	SPSP	28.36	32.57	39.58		39.58	0.000008	0.22	126.68	29.69	0.03
Reale_02	54.6			Lat Struct									
Reale_02	54.4			Lat Struct									
Reale_02	54	Max WS	SASA	25.11	32.53	39.57		39.57	0.000009	0.21	119.25	33.51	0.04
Reale_02	54	Max WS	SASP	25.11	32.53	39.57		39.57	0.000009	0.21	119.25	33.51	0.04
Reale_02	54	Max WS	SPSA	28.36	32.53	39.58		39.58	0.000011	0.24	119.52	33.54	0.04
Reale_02	54	Max WS	SPSP	28.36	32.53	39.58		39.58	0.000011	0.24	119.52	33.54	0.04
Reale_02	53.6			Lat Struct									
Reale_02	53.4			Lat Struct									
Reale_02	53	Max WS	SASA	25.11	32.60	39.57		39.57	0.000009	0.22	113		

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	48.4			Lat Struct									
Reale_02	48	Max WS	SASA	25.12	32.59	39.57		39.57	0.000007	0.21	122.14	31.05	0.03
Reale_02	48	Max WS	SASP	25.12	32.59	39.57		39.57	0.000007	0.21	122.14	31.05	0.03
Reale_02	48	Max WS	SPSA	28.35	32.59	39.57		39.58	0.000009	0.23	122.36	31.07	0.04
Reale_02	48	Max WS	SPSP	28.34	32.59	39.57		39.58	0.000009	0.23	122.36	31.07	0.04
Reale_02	47.6			Lat Struct									
Reale_02	47.4			Lat Struct									
Reale_02	47	Max WS	SASA	25.11	32.41	39.57		39.57	0.000007	0.20	124.29	30.74	0.03
Reale_02	47	Max WS	SASP	25.11	32.41	39.57		39.57	0.000007	0.20	124.29	30.74	0.03
Reale_02	47	Max WS	SPSA	28.33	32.41	39.57		39.57	0.000009	0.23	124.50	30.76	0.04
Reale_02	47	Max WS	SPSP	28.32	32.41	39.57		39.57	0.000009	0.23	124.50	30.76	0.04
Reale_02	46.6			Lat Struct									
Reale_02	46.4			Lat Struct									
Reale_02	46	Max WS	SASA	25.12	32.39	39.56		39.57	0.000007	0.20	126.52	31.14	0.03
Reale_02	46	Max WS	SASP	25.12	32.39	39.56		39.57	0.000007	0.20	126.52	31.14	0.03
Reale_02	46	Max WS	SPSA	28.31	32.39	39.57		39.57	0.000008	0.22	126.73	31.16	0.04
Reale_02	46	Max WS	SPSP	28.30	32.39	39.57		39.57	0.000008	0.22	126.73	31.16	0.04
Reale_02	45.6			Lat Struct									
Reale_02	45.4			Lat Struct									
Reale_02	45	Max WS	SASA	25.12	32.44	39.56		39.57	0.000006	0.20	126.90	31.14	0.03
Reale_02	45	Max WS	SASP	25.12	32.44	39.56		39.57	0.000006	0.20	126.90	31.14	0.03
Reale_02	45	Max WS	SPSA	28.28	32.44	39.57		39.57	0.000008	0.22	127.11	31.16	0.04
Reale_02	45	Max WS	SPSP	28.27	32.44	39.57		39.57	0.000008	0.22	127.11	31.16	0.04
Reale_02	44.6			Lat Struct									
Reale_02	44.4			Lat Struct									
Reale_02	44	Max WS	SASA	25.11	32.32	39.56		39.57	0.000010	0.22	115.90	33.70	0.04
Reale_02	44	Max WS	SASP	25.11	32.32	39.56		39.57	0.000010	0.22	115.90	33.70	0.04
Reale_02	44	Max WS	SPSA	28.24	32.32	39.57		39.57	0.000012	0.24	116.12	33.75	0.04
Reale_02	44	Max WS	SPSP	28.23	32.32	39.57		39.57	0.000012	0.24	116.12	33.75	0.04
Reale_02	43.6			Lat Struct									
Reale_02	43.4			Lat Struct									
Reale_02	43	Max WS	SASA	25.12	32.46	39.56		39.57	0.000007	0.20	124.41	31.93	0.03
Reale_02	43	Max WS	SASP	25.12	32.46	39.56		39.57	0.000007	0.20	124.41	31.93	0.03
Reale_02	43	Max WS	SPSA	28.21	32.46	39.57		39.57	0.000009	0.23	124.62	31.95	0.04
Reale_02	43	Max WS	SPSP	28.23	32.46	39.57		39.57	0.000009	0.23	124.62	31.95	0.04
Reale_02	42.6			Lat Struct									
Reale_02	42.4			Lat Struct									
Reale_02	42	Max WS	SASA	24.98	32.20	39.56		39.56	0.000006	0.19	132.90	35.55	0.03
Reale_02	42	Max WS	SASP	24.98	32.20	39.56		39.56	0.000006	0.19	132.90	35.55	0.03
Reale_02	42	Max WS	SPSA	27.98	32.20	39.57		39.57	0.000008	0.21	133.13	35.56	0.03
Reale_02	42	Max WS	SPSP	27.97	32.20	39.57		39.57	0.000008	0.21	133.13	35.56	0.03
Reale_02	41.6			Lat Struct									
Reale_02	41.4			Lat Struct									
Reale_02	41	Max WS	SASA	24.37	32.22	39.56		39.56	0.000006	0.19	131.19	33.63	0.03
Reale_02	41	Max WS	SASP	24.37	32.22	39.56		39.56	0.000006	0.19	131.19	33.63	0.03
Reale_02	41	Max WS	SPSA	27.14	32.22	39.57		39.57	0.000007	0.21	131.42	33.73	0.03
Reale_02	41	Max WS	SPSP	27.10	32.22	39.57		39.57	0.000007	0.21	131.42	33.73	0.03
Reale_02	40.6			Lat Struct									
Reale_02	40.4			Lat Struct									
Reale_02	40	Max WS	SASA	23.07	32.12	39.56		39.56	0.000005	0.17	131.94	33.30	0.03
Reale_02	40	Max WS	SASP	23.07	32.12	39.56		39.56	0.000005	0.17	131.94	33.30	0.03
Reale_02	40	Max WS	SPSA	25.43	32.12	39.57		39.57	0.000006	0.19	132.16	33.31	0.03
Reale_02	40	Max WS	SPSP	25.47	32.12	39.57		39.57	0.000006	0.19	132.16	33.31	0.03
Reale_02	39.6			Lat Struct									
Reale_02	39.4			Lat Struct									
Reale_02	39	Max WS	SASA	22.99	32.31	39.56		39.56	0.000005	0.17	132.51	33.90	0.03
Reale_02	39	Max WS	SASP	22.99	32.31	39.56		39.56	0.000005	0.17	132.51	33.90	0.03
Reale_02	39	Max WS	SPSA	25.34	32.31	39.57		39.57	0.000006	0.19	132.74	33.91	0.03
Reale_02	39	Max WS	SPSP	25.39	32.31	39.57		39.57	0.000006	0.19	132.74	33.91	0.03
Reale_02	38.6			Lat Struct									
Reale_02	38.4			Lat Struct									
Reale_02	38	Max WS	SASA	22.95	32.48	39.56	33.64	39.56	0.000002	0.13	179.71	42.12	0.02
Reale_02	38	Max WS	SASP	22.95	32.48	39.56	33.64	39.56	0.000002	0.13	179.71	42.12	0.02

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	38	Max WS	SPSA	25.34	32.48	39.57	33.70	39.57	0.000003	0.14	180.01	42.16	0.02
Reale_02	38	Max WS	SPSP	25.35	32.48	39.57	33.70	39.57	0.000003	0.14	180.01	42.16	0.02
Reale_02	37.5			Bridge									
Reale_02	37.1	Max WS	SASA	22.95	32.49	39.56		39.56	0.000004	0.14	158.79	32.10	0.02
Reale_02	37.1	Max WS	SASP	22.95	32.49	39.56		39.56	0.000004	0.14	158.79	32.10	0.02
Reale_02	37.1	Max WS	SPSA	25.26	32.49	39.57		39.57	0.000004	0.16	159.00	32.10	0.02
Reale_02	37.1	Max WS	SPSP	25.26	32.49	39.57		39.57	0.000004	0.16	159.00	32.10	0.02
Reale_02	37	Max WS	SASA	22.95	32.49	39.56	33.68	39.56	0.000004	0.14	158.79	32.10	0.02
Reale_02	37	Max WS	SASP	22.95	32.49	39.56	33.68	39.56	0.000004	0.14	158.79	32.10	0.02
Reale_02	37	Max WS	SPSA	25.26	32.49	39.57	33.75	39.57	0.000004	0.16	159.00	32.10	0.02
Reale_02	37	Max WS	SPSP	25.31	32.49	39.57	33.75	39.57	0.000004	0.16	159.00	32.10	0.02
Reale_02	36.5			Bridge									
Reale_02	36	Max WS	SASA	22.95	32.49	39.56		39.56	0.000004	0.14	158.79	32.10	0.02
Reale_02	36	Max WS	SASP	22.95	32.49	39.56		39.56	0.000004	0.14	158.79	32.10	0.02
Reale_02	36	Max WS	SPSA	25.21	32.49	39.57		39.57	0.000004	0.16	159.00	32.10	0.02
Reale_02	36	Max WS	SPSP	25.31	32.49	39.57		39.57	0.000004	0.16	159.00	32.10	0.02
Reale_02	35.6			Lat Struct									
Reale_02	35.4			Lat Struct									
Reale_02	35	Max WS	SASA	22.95	32.30	39.56		39.56	0.000003	0.15	157.65	30.81	0.02
Reale_02	35	Max WS	SASP	22.95	32.30	39.56		39.56	0.000003	0.15	157.65	30.81	0.02
Reale_02	35	Max WS	SPSA	25.26	32.30	39.57		39.57	0.000004	0.16	157.85	30.81	0.02
Reale_02	35	Max WS	SPSP	25.26	32.30	39.57		39.57	0.000004	0.16	157.85	30.81	0.02
Reale_02	34.6			Lat Struct									
Reale_02	34.4			Lat Struct									
Reale_02	34	Max WS	SASA	21.02	32.16	39.56		39.56	0.000004	0.16	129.54	31.60	0.03
Reale_02	34	Max WS	SASP	21.02	32.16	39.56		39.56	0.000004	0.16	129.54	31.60	0.03
Reale_02	34	Max WS	SPSA	23.07	32.16	39.57		39.57	0.000005	0.18	129.76	31.61	0.03
Reale_02	34	Max WS	SPSP	23.07	32.16	39.57		39.57	0.000005	0.18	129.76	31.61	0.03
Reale_02	33.6			Lat Struct									
Reale_02	33.4			Lat Struct									
Reale_02	33	Max WS	SASA	7.49	32.12	39.56		39.56	0.000001	0.06	130.43	32.09	0.01
Reale_02	33	Max WS	SASP	7.49	32.12	39.56		39.56	0.000001	0.06	130.43	32.09	0.01
Reale_02	33	Max WS	SPSA	8.75	32.12	39.57		39.57	0.000001	0.07	130.67	32.10	0.01
Reale_02	33	Max WS	SPSP	8.76	32.12	39.57		39.57	0.000001	0.07	130.67	32.10	0.01
Reale_02	32.6			Lat Struct									
Reale_02	32.4			Lat Struct									
Reale_02	32	Max WS	SASA	4.43	32.07	39.56		39.56	0.000000	0.03	132.39	32.39	0.01
Reale_02	32	Max WS	SASP	4.43	32.07	39.56		39.56	0.000000	0.03	132.39	32.39	0.01
Reale_02	32	Max WS	SPSA	5.19	32.07	39.57		39.57	0.000000	0.04	132.65	32.40	0.01
Reale_02	32	Max WS	SPSP	5.24	32.07	39.57		39.57	0.000000	0.04	132.65	32.40	0.01
Reale_02	31.6			Lat Struct									
Reale_02	31.4			Lat Struct									
Reale_02	31	Max WS	SASA	3.13	32.13	39.56		39.56	0.000000	0.02	132.19	31.87	0.00
Reale_02	31	Max WS	SASP	3.13	32.13	39.56		39.56	0.000000	0.02	132.19	31.87	0.00
Reale_02	31	Max WS	SPSA	3.68	32.13	39.57		39.57	0.000000	0.03	132.45	31.91	0.00
Reale_02	31	Max WS	SPSP	3.69	32.13	39.57		39.57	0.000000	0.03	132.45	31.91	0.00
Reale_02	30.6			Lat Struct									
Reale_02	30.4			Lat Struct									
Reale_02	30	Max WS	SASA	3.14	32.02	39.56		39.56	0.000000	0.02	132.86	32.15	0.00
Reale_02	30	Max WS	SASP	3.14	32.02	39.56		39.56	0.000000	0.02	132.86	32.15	0.00
Reale_02	30	Max WS	SPSA	3.64	32.02	39.57		39.57	0.000000	0.03	133.12	32.17	0.00
Reale_02	30	Max WS	SPSP	3.69	32.02	39.57		39.57	0.000000	0.03	133.12	32.17	0.00
Reale_02	29.6			Lat Struct									
Reale_02	29.4			Lat Struct									
Reale_02	29	Max WS	SASA	3.14	32.06	39.56		39.56	0.000000	0.02	133.60	32.23	0.00
Reale_02	29	Max WS	SASP	3.14	32.06	39.56		39.56	0.000000	0.02	133.60	32.23	0.00
Reale_02	29	Max WS	SPSA	3.68	32.06	39.57		39.57	0.000000	0.03	133.87	32.28	0.00
Reale_02	29	Max WS	SPSP	3.65	32.06	39.57		39.57	0.000000	0.03	133.87	32.28	0.00
Reale_02	28.6			Lat Struct									
Reale_02	28.4			Lat Struct									
Reale_02	27.6			Lat Struct									
Reale_02	27.4			Lat Struct									
Reale_02	27	Max WS	SASA	0.23	31.92	39.56		39.56	0.000000	0.00	135.58	32.33	0.00

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	27	Max WS	SASP	0.23	31.92	39.56		39.56	0.000000	0.00	135.58	32.33	0.00
Reale_02	27	Max WS	SPSA	0.31	31.92	39.57		39.57	0.000000	0.00	135.87	32.34	0.00
Reale_02	27	Max WS	SPSP	0.31	31.92	39.57		39.57	0.000000	0.00	135.87	32.34	0.00
Reale_02	26.6			Lat Struct									
Reale_02	26.4			Lat Struct									
Reale_02	26	Max WS	SASA	0.00	32.00	39.56		39.56	0.000000	0.00	137.95	32.35	0.00
Reale_02	26	Max WS	SASP	0.00	32.00	39.56		39.56	0.000000	0.00	137.95	32.35	0.00
Reale_02	26	Max WS	SPSA	-0.01	32.00	39.57		39.57	0.000000	0.00	138.24	32.38	0.00
Reale_02	26	Max WS	SPSP	0.03	32.00	39.57		39.57	0.000000	0.00	138.24	32.38	0.00
Reale_02	25.6			Lat Struct									
Reale_02	25.4			Lat Struct									
Reale_02	25	Max WS	SASA	0.00	32.07	39.56		39.56	0.000000	0.00	136.25	32.51	0.00
Reale_02	25	Max WS	SASP	0.00	32.07	39.56		39.56	0.000000	0.00	136.25	32.51	0.00
Reale_02	25	Max WS	SPSA	0.02	32.07	39.57		39.57	0.000000	0.00	136.55	32.54	0.00
Reale_02	25	Max WS	SPSP	0.03	32.07	39.57		39.57	0.000000	0.00	136.55	32.54	0.00
Reale_02	24.6			Lat Struct									
Reale_02	24.4			Lat Struct									
Reale_02	24	Max WS	SASA	0.00	31.97	39.56		39.56	0.000000	0.00	138.84	32.71	0.00
Reale_02	24	Max WS	SASP	0.00	31.97	39.56		39.56	0.000000	0.00	138.84	32.71	0.00
Reale_02	24	Max WS	SPSA	0.02	31.97	39.57		39.57	0.000000	0.00	139.15	32.73	0.00
Reale_02	24	Max WS	SPSP	0.03	31.97	39.57		39.57	0.000000	0.00	139.15	32.73	0.00
Reale_02	23.6			Lat Struct									
Reale_02	23.4			Lat Struct									
Reale_02	23	Max WS	SASA	0.00	32.08	39.56		39.56	0.000000	0.00	140.98	32.64	0.00
Reale_02	23	Max WS	SASP	0.00	32.08	39.56		39.56	0.000000	0.00	140.98	32.64	0.00
Reale_02	23	Max WS	SPSA	0.02	32.08	39.57		39.57	0.000000	0.00	141.27	32.67	0.00
Reale_02	23	Max WS	SPSP	0.03	32.08	39.57		39.57	0.000000	0.00	141.27	32.67	0.00
Reale_02	22.6			Lat Struct									
Reale_02	22.4			Lat Struct									
Reale_02	22	Max WS	SASA	0.00	32.01	39.56		39.56	0.000000	0.00	139.69	32.68	0.00
Reale_02	22	Max WS	SASP	0.00	32.01	39.56		39.56	0.000000	0.00	139.69	32.68	0.00
Reale_02	22	Max WS	SPSA	0.02	32.01	39.57		39.57	0.000000	0.00	140.00	32.71	0.00
Reale_02	22	Max WS	SPSP	0.02	32.01	39.57		39.57	0.000000	0.00	139.99	32.71	0.00
Reale_02	21.6			Lat Struct									
Reale_02	21.4			Lat Struct									
Reale_02	21	Max WS	SASA	0.00	31.87	39.56		39.56	0.000000	0.00	140.70	34.90	0.00
Reale_02	21	Max WS	SASP	0.00	31.87	39.56		39.56	0.000000	0.00	140.70	34.90	0.00
Reale_02	21	Max WS	SPSA	0.02	31.87	39.57		39.57	0.000000	0.00	141.03	35.23	0.00
Reale_02	21	Max WS	SPSP	0.02	31.87	39.57		39.57	0.000000	0.00	141.03	35.23	0.00
Reale_02	20.6			Lat Struct									
Reale_02	20.4			Lat Struct									
Reale_02	20	Max WS	SASA	0.00	31.74	39.56		39.56	0.000000	0.00	145.78	33.15	0.00
Reale_02	20	Max WS	SASP	0.00	31.74	39.56		39.56	0.000000	0.00	145.78	33.15	0.00
Reale_02	20	Max WS	SPSA	0.03	31.74	39.57		39.57	0.000000	0.00	146.10	33.18	0.00
Reale_02	20	Max WS	SPSP	0.02	31.74	39.57		39.57	0.000000	0.00	146.10	33.18	0.00
Reale_02	19.6			Lat Struct									
Reale_02	19.4			Lat Struct									
Reale_02	19	Max WS	SASA	0.00	31.58	39.56		39.56	0.000000	0.00	147.29	33.40	0.00
Reale_02	19	Max WS	SASP	0.00	31.58	39.56		39.56	0.000000	0.00	147.29	33.40	0.00
Reale_02	19	Max WS	SPSA	0.01	31.58	39.57		39.57	0.000000	0.00	147.61	33.43	0.00
Reale_02	19	Max WS	SPSP	0.02	31.58	39.57		39.57	0.000000	0.00	147.61	33.43	0.00
Reale_02	18.6			Lat Struct									
Reale_02	18.4			Lat Struct									
Reale_02	18	Max WS	SASA	0.00	31.95	39.56		39.56	0.000000	0.00	136.27	34.18	0.00
Reale_02	18	Max WS	SASP	0.00	31.95	39.56		39.56	0.000000	0.00	136.27	34.18	0.00
Reale_02	18	Max WS	SPSA	0.01	31.95	39.57		39.57	0.000000	0.00	136.60	34.29	0.00
Reale_02	18	Max WS	SPSP	0.01	31.95	39.57		39.57	0.000000	0.00	136.60	34.29	0.00
Reale_02	17.6			Lat Struct									
Reale_02	17.4			Lat Struct									
Reale_02	17	Max WS	SASA	0.00	32.17	39.56	32.18	39.56	0.000000	0.00	151.92	34.70	0.00
Reale_02	17	Max WS	SASP	0.00	32.17	39.56	32.18	39.56	0.000000	0.00	151.92	34.70	0.00
Reale_02	17	Max WS	SPSA	0.01	32.17	39.57	32.20	39.57	0.000000	0.00	152.26	34.72	0.00
Reale_02	17	Max WS	SPSP	0.01	32.17	39.57	32.21	39.57	0.000000	0.00	152.26	34.72	0.00

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	16.5			Bridge									
Reale_02	16	Max WS	SASA	0.00	32.17	39.56		39.56	0.000000	0.00	152.56	34.70	0.00
Reale_02	16	Max WS	SASP	0.00	32.17	39.56		39.56	0.000000	0.00	152.56	34.70	0.00
Reale_02	16	Max WS	SPSA	0.01	32.17	39.57		39.57	0.000000	0.00	152.90	34.72	0.00
Reale_02	16	Max WS	SPSP	0.01	32.17	39.57		39.57	0.000000	0.00	152.90	34.72	0.00
Reale_02	15.6			Lat Struct									
Reale_02	15.4			Lat Struct									
Reale_02	15	Max WS	SASA	0.00	32.25	39.56		39.56	0.000000	0.00	162.14	35.26	0.00
Reale_02	15	Max WS	SASP	0.00	32.25	39.56		39.56	0.000000	0.00	162.14	35.26	0.00
Reale_02	15	Max WS	SPSA	0.01	32.25	39.57		39.57	0.000000	0.00	162.48	35.27	0.00
Reale_02	15	Max WS	SPSP	0.01	32.25	39.57		39.57	0.000000	0.00	162.48	35.27	0.00
Reale_02	14.6			Lat Struct									
Reale_02	14.4			Lat Struct									
Reale_02	14	Max WS	SASA	0.00	31.95	39.56		39.56	0.000000	0.00	136.27	34.18	0.00
Reale_02	14	Max WS	SASP	0.00	31.95	39.56		39.56	0.000000	0.00	136.27	34.18	0.00
Reale_02	14	Max WS	SPSA	0.01	31.95	39.57		39.57	0.000000	0.00	136.60	34.29	0.00
Reale_02	14	Max WS	SPSP	0.00	31.95	39.57		39.57	0.000000	0.00	136.60	34.29	0.00
Reale_02	13.6			Lat Struct									
Reale_02	13.4			Lat Struct									
Reale_02	13	Max WS	SASA	0.00	32.04	39.56		39.56	0.000000	0.00	143.13	33.26	0.00
Reale_02	13	Max WS	SASP	0.00	32.04	39.56		39.56	0.000000	0.00	143.13	33.26	0.00
Reale_02	13	Max WS	SPSA	0.01	32.04	39.57		39.57	0.000000	0.00	143.45	33.29	0.00
Reale_02	13	Max WS	SPSP	0.01	32.04	39.57		39.57	0.000000	0.00	143.45	33.29	0.00
Reale_02	12.6			Lat Struct									
Reale_02	12.4			Lat Struct									
Reale_02	12	Max WS	SASA	0.00	32.24	39.56		39.56	0.000000	0.00	144.56	33.49	0.00
Reale_02	12	Max WS	SASP	0.00	32.24	39.56		39.56	0.000000	0.00	144.56	33.49	0.00
Reale_02	12	Max WS	SPSA	0.00	32.24	39.57		39.57	0.000000	0.00	144.89	33.52	0.00
Reale_02	12	Max WS	SPSP	0.00	32.24	39.57		39.57	0.000000	0.00	144.89	33.52	0.00
Reale_02	11.6			Lat Struct									
Reale_02	11.4			Lat Struct									
Reale_02	11	Max WS	SASA	0.00	32.10	39.56		39.56	0.000000	0.00	146.54	34.27	0.00
Reale_02	11	Max WS	SASP	0.00	32.10	39.56		39.56	0.000000	0.00	146.54	34.27	0.00
Reale_02	11	Max WS	SPSA	0.00	32.10	39.57		39.57	0.000000	0.00	146.87	34.30	0.00
Reale_02	11	Max WS	SPSP	0.00	32.10	39.57		39.57	0.000000	0.00	146.87	34.30	0.00
Reale_02	10.6			Lat Struct									
Reale_02	10.4			Lat Struct									
Reale_02	10	Max WS	SASA	0.00	32.30	39.56	32.31	39.56	0.000000	0.00	87.23	12.44	0.00
Reale_02	10	Max WS	SASP	0.00	32.30	39.56	32.31	39.56	0.000000	0.00	87.23	12.44	0.00
Reale_02	10	Max WS	SPSA	0.00	32.30	39.57	32.31	39.57	0.000000	0.00	87.35	12.46	0.00
Reale_02	10	Max WS	SPSP	0.00	32.30	39.57	32.31	39.57	0.000000	0.00	87.35	12.46	0.00
Reale_02	9.5			Inl Struct									
Reale_02	9	Max WS	SASA	0.00	32.30	39.81		39.81	0.000000	0.00	90.36	12.77	0.00
Reale_02	9	Max WS	SASP	0.00	32.30	39.82		39.82	0.000000	0.00	90.38	12.77	0.00
Reale_02	9	Max WS	SPSA	0.00	32.30	39.88		39.88	0.000000	0.00	91.27	12.87	0.00
Reale_02	9	Max WS	SPSP	0.00	32.30	39.89		39.89	0.000000	0.00	91.28	12.87	0.00
Reale_02	8.6			Lat Struct									
Reale_02	8.4			Lat Struct									
Reale_02	8	Max WS	SASA	0.00	30.30	39.81		39.81	0.000000	0.00	95.14	10.00	0.00
Reale_02	8	Max WS	SASP	0.00	30.30	39.82		39.82	0.000000	0.00	95.16	10.00	0.00
Reale_02	8	Max WS	SPSA	0.00	30.30	39.88		39.88	0.000000	0.00	95.85	10.00	0.00
Reale_02	8	Max WS	SPSP	0.00	30.30	39.89		39.89	0.000000	0.00	95.86	10.00	0.00
Reale_02	7.6			Lat Struct									
Reale_02	7.4			Lat Struct									
Reale_02	7	Max WS	SASA	0.00	30.30	39.81		39.81	0.000000	0.00	95.14	10.00	0.00
Reale_02	7	Max WS	SASP	0.00	30.30	39.82		39.82	0.000000	0.00	95.16	10.00	0.00
Reale_02	7	Max WS	SPSA	0.00	30.30	39.88		39.88	0.000000	0.00	95.85	10.00	0.00
Reale_02	7	Max WS	SPSP	0.00	30.30	39.89		39.89	0.000000	0.00	95.86	10.00	0.00
Reale_02	6.6			Lat Struct									
Reale_02	6.4			Lat Struct									
Reale_02	6	Max WS	SASA	0.00	31.30	39.81		39.81	0.000000	0.00	85.14	10.00	0.00
Reale_02	6	Max WS	SASP	0.00	31.30	39.82		39.82	0.000000	0.00	85.16	10.00	0.00
Reale_02	6	Max WS	SPSA	0.00	31.30	39.88		39.88	0.000000	0.00	85.85	10.00	0.00
Reale_02	6	Max WS	SPSP	0.00	31.30	39.89		39.89	0.000000	0.00	85.86	10.00	0.00

HEC-RAS River: Fosso Reale Reach: Reale_02 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Reale_02	5.6			Lat Struct									
Reale_02	5.4			Lat Struct									
Reale_02	5	Max WS	SASA	0.00	31.30	39.81		39.81	0.000000	0.00	85.14	10.00	0.00
Reale_02	5	Max WS	SASP	0.00	31.30	39.82		39.82	0.000000	0.00	85.16	10.00	0.00
Reale_02	5	Max WS	SPSA	0.00	31.30	39.88		39.88	0.000000	0.00	85.85	10.00	0.00
Reale_02	5	Max WS	SPSP	0.00	31.30	39.89		39.89	0.000000	0.00	85.86	10.00	0.00
Reale_02	4.6			Lat Struct									
Reale_02	4.4			Lat Struct									
Reale_02	4	Max WS	SASA	0.00	30.80	39.81		39.81	0.000000	0.00	90.14	10.00	0.00
Reale_02	4	Max WS	SASP	0.00	30.80	39.82		39.82	0.000000	0.00	90.16	10.00	0.00
Reale_02	4	Max WS	SPSA	0.00	30.80	39.88		39.88	0.000000	0.00	90.85	10.00	0.00
Reale_02	4	Max WS	SPSP	0.00	30.80	39.89		39.89	0.000000	0.00	90.86	10.00	0.00
Reale_02	3.6			Lat Struct									
Reale_02	3.4			Lat Struct									
Reale_02	3	Max WS	SASA	0.00	30.80	39.81		39.81	0.000000	0.00	203.42	35.14	0.00
Reale_02	3	Max WS	SASP	0.00	30.80	39.82		39.82	0.000000	0.00	203.47	35.14	0.00
Reale_02	3	Max WS	SPSA	0.00	30.80	39.88		39.88	0.000000	0.00	205.92	35.33	0.00
Reale_02	3	Max WS	SPSP	0.00	30.80	39.89		39.89	0.000000	0.00	205.94	35.34	0.00
Reale_02	2.6			Lat Struct									
Reale_02	2.4			Lat Struct									
Reale_02	2	Max WS	SASA	0.00	31.66	39.81		39.81	0.000000	0.00	210.05	41.06	0.00
Reale_02	2	Max WS	SASP	0.00	31.66	39.82		39.82	0.000000	0.00	210.11	41.07	0.00
Reale_02	2	Max WS	SPSA	0.00	31.66	39.88		39.88	0.000000	0.00	212.97	41.24	0.00
Reale_02	2	Max WS	SPSP	0.00	31.66	39.89		39.89	0.000000	0.00	213.00	41.24	0.00
Reale_02	1	Max WS	SASA	0.00	30.80	39.81		39.81	0.000000	0.00	188.94	34.92	0.00
Reale_02	1	Max WS	SASP	0.00	30.80	39.82		39.82	0.000000	0.00	188.99	34.93	0.00
Reale_02	1	Max WS	SPSA	0.00	30.80	39.88		39.88	0.000000	0.00	191.43	35.14	0.00
Reale_02	1	Max WS	SPSP	0.00	30.80	39.89		39.89	0.000000	0.00	191.45	35.15	0.00

Reach	River Sta	Profile	Pla	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Ter-1	160.1	Max WS	SASA	35.76	49.91	51.26		51.56	0.005434	2.45	14.59	13.10	0.74
Ter-1	160.1	Max WS	SASP	35.76	49.91	51.26		51.56	0.005434	2.45	14.59	13.10	0.74
Ter-1	160.1	Max WS	SPSA	46.06	49.91	51.47		51.83	0.005257	2.66	17.35	13.13	0.74
Ter-1	160.1	Max WS	SPSP	46.06	49.91	51.47		51.83	0.005257	2.66	17.35	13.13	0.74
Ter-1	159.9	Max WS	SASA	35.76	49.91	51.08	51.06	51.51	0.009578	2.94	12.18	13.08	0.97
Ter-1	159.9	Max WS	SASP	35.76	49.91	51.08	51.06	51.51	0.009578	2.94	12.18	13.08	0.97
Ter-1	159.9	Max WS	SPSA	46.06	49.91	51.27	51.23	51.77	0.008802	3.13	14.70	13.10	0.94
Ter-1	159.9	Max WS	SPSP	46.06	49.91	51.27	51.23	51.77	0.008802	3.13	14.70	13.10	0.94
Ter-1	27	Max WS	SASA	35.76	48.89	50.75		50.97	0.003212	2.07	17.25	12.05	0.55
Ter-1	27	Max WS	SASP	35.76	48.89	50.75		50.97	0.003212	2.07	17.25	12.05	0.55
Ter-1	27	Max WS	SPSA	46.06	48.89	51.01		51.27	0.003170	2.25	20.45	12.16	0.55
Ter-1	27	Max WS	SPSP	46.06	48.89	51.01		51.27	0.003170	2.25	20.45	12.16	0.55
Ter-1	26.1	Max WS	SASA	35.76	48.76	50.79	50.00	50.94	0.001904	1.71	20.91	12.77	0.43
Ter-1	26.1	Max WS	SASP	35.76	48.76	50.79	50.00	50.94	0.001904	1.71	20.91	12.77	0.43
Ter-1	26.1	Max WS	SPSA	46.06	48.76	51.06	50.19	51.24	0.001980	1.89	24.37	12.77	0.44
Ter-1	26.1	Max WS	SPSP	46.06	48.76	51.06	50.19	51.24	0.001980	1.89	24.37	12.77	0.44
Ter-1	26			Bridge									
Ter-1	25.9	Max WS	SASA	35.76	48.76	50.55		50.75	0.003029	2.00	17.84	12.40	0.53
Ter-1	25.9	Max WS	SASP	35.76	48.76	50.55		50.75	0.003029	2.00	17.84	12.40	0.53
Ter-1	25.9	Max WS	SPSA	46.06	48.76	50.81		51.05	0.003053	2.18	21.14	12.77	0.54
Ter-1	25.9	Max WS	SPSP	46.06	48.76	50.81		51.05	0.003053	2.18	21.14	12.77	0.54
Ter-1	20	Max WS	SASA	35.76	48.56	50.43		50.70	0.003371	2.27	15.77	9.12	0.55
Ter-1	20	Max WS	SASP	35.76	48.56	50.43		50.70	0.003371	2.27	15.77	9.12	0.55
Ter-1	20	Max WS	SPSA	46.06	48.56	50.65		50.98	0.004548	2.56	17.97	11.13	0.64
Ter-1	20	Max WS	SPSP	46.06	48.56	50.65		50.98	0.004548	2.56	17.97	11.13	0.64
Ter-1	19.1	Max WS	SASA	35.76	48.50	50.44	49.65	50.59	0.001841	1.72	20.79	12.48	0.43
Ter-1	19.1	Max WS	SASP	35.76	48.50	50.44	49.65	50.59	0.001841	1.72	20.79	12.48	0.43
Ter-1	19.1	Max WS	SPSA	46.06	48.50	50.65	49.83	50.85	0.002287	1.96	23.51	13.63	0.48
Ter-1	19.1	Max WS	SPSP	46.06	48.50	50.65	49.83	50.85	0.002287	1.96	23.51	13.63	0.48
Ter-1	19			Bridge									
Ter-1	18.9	Max WS	SASA	35.76	48.50	50.42		50.58	0.001900	1.74	20.58	12.48</	

HEC-RAS River: Terzolle Reach: Ter-1 Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
Ter-1	9	Max WS	SASA	35.83	45.14	46.59		46.95	0.006711	2.67	13.43	12.49	0.82
Ter-1	9	Max WS	SASP	35.83	45.14	46.59		46.95	0.006711	2.67	13.43	12.49	0.82
Ter-1	9	Max WS	SPSA	46.06	45.14	46.79		47.20	0.006909	2.83	16.29	14.04	0.84
Ter-1	9	Max WS	SPSP	46.06	45.14	46.79		47.20	0.006909	2.83	16.29	14.04	0.84
Ter-1	8	Max WS	SASA	35.77	44.70	46.22		46.49	0.004353	2.32	15.44	12.36	0.66
Ter-1	8	Max WS	SASP	35.77	44.70	46.22		46.49	0.004353	2.32	15.44	12.36	0.66
Ter-1	8	Max WS	SPSA	46.06	44.70	46.45		46.77	0.004309	2.50	18.46	12.98	0.67
Ter-1	8	Max WS	SPSP	46.06	44.70	46.45		46.77	0.004309	2.50	18.46	12.98	0.67
Ter-1	7	Max WS	SASA	35.76	44.28	45.86		46.10	0.003564	2.19	16.32	12.32	0.61
Ter-1	7	Max WS	SASP	35.76	44.28	45.86		46.10	0.003564	2.19	16.32	12.32	0.61
Ter-1	7	Max WS	SPSA	46.06	44.28	46.10		46.39	0.003587	2.38	19.34	12.76	0.62
Ter-1	7	Max WS	SPSP	46.06	44.28	46.10		46.39	0.003587	2.38	19.34	12.76	0.62
Ter-1	5	Max WS	SASA	35.76	43.43	45.07		45.32	0.003820	2.23	16.01	12.08	0.62
Ter-1	5	Max WS	SASP	35.76	43.43	45.07		45.32	0.003820	2.23	16.01	12.08	0.62
Ter-1	5	Max WS	SPSA	46.06	43.43	45.30		45.61	0.003923	2.45	18.84	12.50	0.64
Ter-1	5	Max WS	SPSP	46.06	43.43	45.30		45.61	0.003923	2.45	18.84	12.50	0.64
Ter-1	4	Max WS	SASA	35.76	43.14	44.41	44.41	44.90	0.010049	3.10	11.54	11.65	0.99
Ter-1	4	Max WS	SASP	35.76	43.14	44.41	44.41	44.90	0.010049	3.10	11.54	11.65	0.99
Ter-1	4	Max WS	SPSA	46.05	43.14	44.61	44.59	45.17	0.009359	3.31	13.90	11.77	0.97
Ter-1	4	Max WS	SPSP	46.05	43.14	44.61	44.59	45.17	0.009359	3.31	13.90	11.77	0.97
Ter-1	2	Max WS	SASA	35.75	41.87	44.13		44.16	0.000257	0.74	48.46	27.67	0.18
Ter-1	2	Max WS	SASP	35.75	41.87	44.13		44.16	0.000257	0.74	48.46	27.67	0.18
Ter-1	2	Max WS	SPSA	46.03	41.87	44.65		44.68	0.000200	0.71	64.41	31.75	0.16
Ter-1	2	Max WS	SPSP	46.03	41.87	44.65		44.68	0.000200	0.71	64.41	31.75	0.16
Ter-1	1	Max WS	SASA	35.75	40.70	44.13		44.15	0.000153	0.69	51.59	20.83	0.14
Ter-1	1	Max WS	SASP	35.75	40.70	44.13		44.15	0.000153	0.69	51.59	20.83	0.14
Ter-1	1	Max WS	SPSA	46.03	40.70	44.64		44.67	0.000143	0.74	62.36	20.95	0.14
Ter-1	1	Max WS	SPSP	46.03	40.70	44.64		44.67	0.000143	0.74	62.36	20.95	0.14

HEC-RAS River: vingone Reach: vingone Profile: Max WS

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
vingone	180	Max WS	SASA	14.26	55.20	57.01		57.32	0.009227	2.49	5.73	5.03	0.74
vingone	180	Max WS	SASP	14.26	55.20	57.01		57.32	0.009227	2.49	5.73	5.03	0.74
vingone	180	Max WS	SPSA	19.95	55.20	57.26		57.67	0.010188	2.82	7.07	5.47	0.79
vingone	180	Max WS	SPSP	19.95	55.20	57.26		57.67	0.010188	2.82	7.07	5.47	0.79
vingone	170	Max WS	SASA	14.26	54.92	56.33	56.58	57.19	0.034016	4.11	3.47	3.95	1.40
vingone	170	Max WS	SASP	14.26	54.92	56.33	56.58	57.19	0.034016	4.11	3.47	3.95	1.40
vingone	170	Max WS	SPSA	19.95	54.92	56.56	56.88	57.59	0.034485	4.50	4.44	4.39	1.43
vingone	170	Max WS	SPSP	19.95	54.92	56.56	56.88	57.59	0.034485	4.50	4.44	4.39	1.43
vingone	160	Max WS	SASA	14.26	54.70	56.03		56.21	0.004612	1.85	7.71	6.99	0.56
vingone	160	Max WS	SASP	14.26	54.70	56.03		56.21	0.004612	1.85	7.71	6.99	0.56
vingone	160	Max WS	SPSA	19.95	54.70	56.27		56.50	0.005162	2.13	9.35	7.27	0.60
vingone	160	Max WS	SPSP	19.95	54.70	56.27		56.50	0.005162	2.13	9.35	7.27	0.60
vingone	150	Incrocio via di	Max WS	14.26	54.45	55.75		55.90	0.005331	1.76	8.11	9.67	0.61
vingone	150	Incrocio via di	Max WS	14.26	54.45	55.75		55.90	0.005331	1.76	8.11	9.67	0.61
vingone	150	Incrocio via di	Max WS	19.95	54.45	56.02		56.19	0.004382	1.85	10.80	10.03	0.57
vingone	150	Incrocio via di	Max WS	19.95	54.45	56.02		56.19	0.004382	1.85	10.80	10.03	0.57
vingone	149.95			Lat Struct									
vingone	140	Max WS	SASA	14.26	53.79	55.72		55.74	0.000558	0.65	29.70	78.54	0.20
vingone	140	Max WS	SASP	14.26	53.79	55.72		55.74	0.000558	0.65	29.70	78.54	0.20
vingone	140	Max WS	SPSA	19.95	53.79	56.04		56.05	0.000301	0.52	61.41	117.86	0.15
vingone	140	Max WS	SPSP	19.95	53.79	56.04		56.05	0.000301	0.52	61.41	117.86	0.15
vingone	130	Max WS	SASA	14.26	53.74	55.57	54.72	55.70	0.002837	1.60	8.93	5.17	0.39
vingone	130	Max WS	SASP	14.26	53.74	55.57	54.72	55.70	0.002837	1.60	8.93	5.17	0.39
vingone	130	Max WS	SPSA	19.95	53.74	55.99	54.96	56.03	0.001128	1.09	36.42	87.02	0.24
vingone	130	Max WS	SPSP	19.95	53.74	55.99	54.96	56.03	0.001128	1.09	36.42	87.02	0.24
vingone	129.5			Bridge									
vingone	129	Max WS	SASA	14.26	53.70	55.55		55.68	0.002832	1.60	8.92	5.11	0.39
vingone	129	Max WS	SASP	14.26	53.70	55.55		55.68	0.002832	1.60	8.92	5.11	0.39
vingone	129	Max WS	SPSA	19.95	53.70	55.85		55.98	0.002804	1.69	24.42	83.80	0.38
vingone	129	Max WS	SPSP	19.95	53.70	55.85		55.98	0.002804	1.69	24.42	83.80	0.38
vingone	127.5			Lat Struct									
vingone	125	Max WS	SASA	14.26	53.44	55.44		55.56	0.002405	1.51	10.50	15.79	0.36
vingone	125	Max WS	SASP	14.26	53.44	55.44		55.56	0.002405	1.51	10.50	15.79	0.36
vingone	125	Max WS	SPSA	19.95	53.44	55.68	54.78	55.83	0.002998	1.79	16.20	52.64	0.40
vingone	125	Max WS	SPSP	19.95	53.44	55.68	54.78	55.83	0.002998	1.79	16.20	52.64	0.40
vingone	124.95			Lat Struct									
vingone	123.95			Lat Struct									
vingone	122.95			Lat Struct									
vingone	121.95			Lat Struct									
vingone	120.95			Lat Struct									
vingone	120	Max WS	SASA	14.26	53.35	55.19		55.43	0.006359	2.17	6.57	3.78	0.53
vingone	120	Max WS	SASP	14.26	53.35	55.19		55.43	0.006359	2.17	6.57	3.78	0.53
vingone	120	Max WS	SPSA	19.90	53.35	55.51	54.85	55.68	0.005056	2.05	18.48	52.03	0.46
vingone	120	Max WS	SPSP	19.90	53.35	55.51	54.85	55.68	0.005056	2.05	18.48	52.03	0.46
vingone	119.95			Lat Struct									
vingone	115	Max WS	SASA	14.26	52.85	54.76		55.06	0.009296	2.45	5.81	4.22	0.67
vingone	115	Max WS	SASP	14.26	52.85	54.76		55.06	0.009296	2.45	5.81	4.22	0.67
vingone	115	Max WS	SPSA	20.49	52.85	55.13		55.51	0.010062	2.73	7.50	4.91	0.71
vingone	115	Max WS	SPSP	20.49	52.85	55.13		55.51	0.010062	2.73	7.50	4.91	0.71
vingone	111	Max WS	SASA	14.26	53.08	54.57	54.19	54.81	0.006641	2.17	6.56	4.98	0.60
vingone	111	Max WS	SASP	14.26	53.08	54.57	54.19	54.81	0.006641	2.17	6.56	4.98	0.60
vingone	111	Max WS	SPSA	20.20	53.08	54.91	54.44	55.22	0.006904	2.44	8.28	5.01	0.61
vingone	111	Max WS	SPSP	20.20	53.08	54.91	54.44	55.22	0.006904	2.44	8.28	5.01	0.61
vingone	110.5			Bridge									
vingone	110	Max WS	SASA	14.26	53.06	54.40		54.71	0.009511	2.47	5.78	4.96	0.73
vingone	110	Max WS	SASP	14.26	53.06	54.40		54.71	0.009511	2.47	5.78	4.96	0.73
vingone	110	Max WS	SPSA	20.20	53.06	54.66		55.08	0.010879	2.87	7.04	4.99	0.77
vingone	110	Max WS	SPSP	20.20	53.06	54.66		55.08	0.010879	2.87	7.04	4.99	0.77
vingone	107.95			Lat Struct									
vingone	105	Max WS	SASA	14.26	52.70	54.18		54.46	0.009743	2.38	5.99	6.07	0.76
vingone	105	Max WS	SASP	14.26	52.70	54.18		54.46	0.009743	2.38	5.99	6.07	0.76
vingone	105	Max WS	SPSA	20.18	52.70	54.48		54.81	0.009129	2.53	7.98	6.92	0.75
vingone	105	Max WS	SPSP	20.18	52.70	54.48		54.81	0.009129	2.53	7.98	6.92	0.75
vingone	100	Piazza Kennedy	Max WS	14.26	52.35	54.03		54.10	0.001610	1.22	13.18	13.24	0.31
vingone	100	Piazza Kennedy	Max WS	14.26	52.35	54.03		54.10	0.001610	1.22	13.18	13.24	0.31
vingone	100	Piazza Kennedy	Max WS	20.08	52.35	54.32		54.40	0.001697	1.35	17.17	14.03	0.32
vingone	100	Piazza Kennedy	Max WS	20.08	52.35	54.32		54.40	0.001697	1.35	17.17	14.03	0.32
vingone	90	Piazza Kennedy	Max WS	14.26	52.14	53.91		53.98	0.002195	1.34	13.14	13.52	0.33
vingone	90	Piazza Kennedy	Max WS	14.26	52.14	53.91		53.98	0.002195	1.34	13.14	13.52	0.33
vingone	90	Piazza Kennedy	Max WS	20.03	52.14	54.20		54.28	0.002174	1.41	17.28	14.57	0.32
vingone	90	Piazza Kennedy	Max WS	20.03	52.14	54.20		54.28	0.002174	1.41	17.28	14.57	0.32
vingone	85	Max WS	SASA	14.26	52.23	53.72		53.91	0.006235	2.07	8.47	13.43	0.58
vingone	85	Max WS	SASP	14.26	52.23	53.72		53.91	0.006235	2.07	8.47	13.43	0.58
vingone	85	Max WS	SPSA	20.00	52.23	54.08		54.22	0.004206	1.87	13.48	14.71	0.46
vingone	85	Max WS	SPSP	20.00	52.23	54.08		54.22	0.004206	1.87	13.48	14.71	0.46

HEC-RAS River: vingone Reach: vingone Profile: Max WS (Continued)

Reach	River Sta		Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
vingone	80	Piazza Kennedy	Max WS	SASA	14.26	51.54	53.40		53.72	0.009159	2.51	5.86	5.64	0.70
vingone	80	Piazza Kennedy	Max WS	SASP	14.26	51.54	53.40		53.72	0.009159	2.51	5.86	5.64	0.70
vingone	80	Piazza Kennedy	Max WS	SPSA	20.00	51.54	53.69		54.07	0.009749	2.78	7.73	7.03	0.72
vingone	80	Piazza Kennedy	Max WS	SPSP	20.00	51.54	53.69		54.07	0.009749	2.78	7.73	7.03	0.72
vingone	70	Largo San Zanobi	Max WS	SASA	14.26	51.56	53.23		53.35	0.003268	1.59	8.96	8.47	0.49
vingone	70	Largo San Zanobi	Max WS	SASP	14.26	51.56	53.23		53.35	0.003268	1.59	8.96	8.47	0.49
vingone	70	Largo San Zanobi	Max WS	SPSA	19.99	51.56	53.57		53.71	0.002822	1.66	12.02	9.43	0.47
vingone	70	Largo San Zanobi	Max WS	SPSP	19.99	51.56	53.57		53.71	0.002822	1.66	12.02	9.43	0.47
vingone	63	Largo San Zanobi	Max WS	SASA	14.26	51.70	53.16	52.52	53.24	0.001552	1.27	11.20	9.35	0.36
vingone	63	Largo San Zanobi	Max WS	SASP	14.26	51.70	53.16	52.52	53.24	0.001552	1.27	11.20	9.35	0.36
vingone	63	Largo San Zanobi	Max WS	SPSA	19.98	51.70	53.50	52.69	53.60	0.001367	1.40	14.24	9.83	0.35
vingone	63	Largo San Zanobi	Max WS	SPSP	19.98	51.70	53.50	52.69	53.60	0.001367	1.40	14.24	9.83	0.35
vingone	62.5	Ponte a Vingone			Bridge									
vingone	62		Max WS	SASA	14.26	51.70	53.03		53.13	0.002487	1.41	10.13	9.13	0.42
vingone	62		Max WS	SASP	14.26	51.70	53.03		53.13	0.002487	1.41	10.13	9.13	0.42
vingone	62		Max WS	SPSA	19.98	51.70	53.29		53.42	0.002559	1.61	12.42	9.48	0.43
vingone	62		Max WS	SPSP	19.98	51.70	53.29		53.42	0.002559	1.61	12.42	9.48	0.43
vingone	61.99				Lat Struct									
vingone	61.98				Lat Struct									
vingone	60		Max WS	SASA	14.26	51.55	52.84		52.94	0.002547	1.39	10.28	9.58	0.43
vingone	60		Max WS	SASP	14.26	51.55	52.84		52.94	0.002547	1.39	10.28	9.58	0.43
vingone	60		Max WS	SPSA	19.98	51.55	53.10		53.22	0.002645	1.56	12.79	10.02	0.44
vingone	60		Max WS	SPSP	19.98	51.55	53.10		53.22	0.002645	1.56	12.79	10.02	0.44
vingone	59		Max WS	SASA	17.61	50.65	52.22		52.34	0.003251	1.53	11.50	11.71	0.49
vingone	59		Max WS	SASP	17.61	50.65	52.22		52.34	0.003251	1.53	11.50	11.71	0.49
vingone	59		Max WS	SPSA	24.67	50.65	52.44		52.59	0.003467	1.74	14.15	12.37	0.52
vingone	59		Max WS	SPSP	24.67	50.65	52.44		52.59	0.003467	1.74	14.15	12.37	0.52
vingone	58		Max WS	SASA	17.61	50.31	51.52		51.75	0.009943	2.12	8.30	12.28	0.82
vingone	58		Max WS	SASP	17.61	50.31	51.52		51.75	0.009943	2.12	8.30	12.28	0.82
vingone	58		Max WS	SPSA	24.66	50.31	51.69		51.98	0.009711	2.37	10.43	12.81	0.84
vingone	58		Max WS	SPSP	24.66	50.31	51.69		51.98	0.009711	2.37	10.43	12.81	0.84
vingone	57		Max WS	SASA	17.61	49.56	51.01		51.15	0.004366	1.67	10.57	11.87	0.56
vingone	57		Max WS	SASP	17.61	49.56	51.01		51.15	0.004366	1.67	10.57	11.87	0.56
vingone	57		Max WS	SPSA	24.66	49.56	51.23		51.40	0.004395	1.87	13.22	12.49	0.58
vingone	57		Max WS	SPSP	24.66	49.56	51.23		51.40	0.004395	1.87	13.22	12.49	0.58
vingone	56		Max WS	SASA	17.61	49.37	50.80		50.89	0.003020	1.37	12.81	14.78	0.47
vingone	56		Max WS	SASP	17.61	49.37	50.80		50.89	0.003020	1.37	12.81	14.78	0.47
vingone	56		Max WS	SPSA	24.66	49.37	51.01		51.13	0.003006	1.54	16.00	15.41	0.48
vingone	56		Max WS	SPSP	24.66	49.37	51.01		51.13	0.003006	1.54	16.00	15.41	0.48
vingone	55		Max WS	SASA	17.61	49.29	50.66		50.77	0.003523	1.47	12.01	14.09	0.51
vingone	55		Max WS	SASP	17.61	49.29	50.66		50.77	0.003523	1.47	12.01	14.09	0.51
vingone	55		Max WS	SPSA	24.66	49.29	50.87		51.01	0.003501	1.64	15.01	14.71	0.52
vingone	55		Max WS	SPSP	24.66	49.29	50.87		51.01	0.003501	1.64	15.01	14.71	0.52
vingone	54.7		Max WS	SASA	17.61	49.06	50.40		50.57	0.006775	1.81	9.73	13.50	0.68
vingone	54.7		Max WS	SASP	17.61	49.06	50.40		50.57	0.006775	1.81	9.73	13.50	0.68
vingone	54.7		Max WS	SPSA	24.66	49.06	50.64		50.82	0.005483	1.90	12.98	14.18	0.63
vingone	54.7		Max WS	SPSP	24.66	49.06	50.64		50.82	0.005483	1.90	12.98	14.18	0.63
vingone	54.6		Max WS	SASA	17.61	49.04	50.50	49.67	50.54	0.000987	0.92	19.19	16.36	0.27
vingone	54.6		Max WS	SASP	17.61	49.04	50.50	49.67	50.54	0.000987	0.92	19.19	16.36	0.27
vingone	54.6		Max WS	SPSA	24.66	49.04	50.74	49.83	50.80	0.001069	1.06	23.17	16.37	0.29
vingone	54.6		Max WS	SPSP	24.66	49.04	50.74	49.83	50.80	0.001069	1.06	23.17	16.37	0.29
vingone	54.5				Bridge									
vingone	54.4		Max WS	SASA	17.61	48.92	50.49		50.53	0.000721	0.83	21.21	16.39	0.23
vingone	54.4		Max WS	SASP	17.61	48.92	50.49		50.53	0.000721	0.83	21.21	16.39	0.23
vingone	54.4		Max WS	SPSA	24.66	48.92	50.74		50.79	0.000823	0.98	25.20	16.39	0.25
vingone	54.4		Max WS	SPSP	24.66	48.92	50.74		50.79	0.000823	0.98	25.20	16.39	0.25
vingone	54.3		Max WS	SASA	17.61	48.90	50.40		50.53	0.004110	1.58	11.15	13.00	0.54
vingone	54.3		Max WS	SASP	17.61	48.90	50.40		50.53	0.004110	1.58	11.15	13.00	0.54
vingone	54.3		Max WS	SPSA	24.66	48.90	50.63		50.79	0.003861	1.73	14.23	13.70	0.54
vingone	54.3		Max WS	SPSP	24.66	48.90	50.63		50.79	0.003861	1.73	14.23	13.70	0.54
vingone	54.29				Lat Struct									
vingone	54.28				Lat Struct									
vingone	54.1		Max WS	SASA	17.61	48.62	50.22		50.34	0.003406	1.49	11.83	13.06	0.50
vingone	54.1		Max WS	SASP	17.61	48.62	50.22		50.34	0.003406	1.49	11.83	13.06	0.50
vingone	54.1		Max WS	SPSA	24.66	48.62	50.47		50.61	0.003177	1.63	15.16	13.80	0.50
vingone	54.1		Max WS	SPSP	24.66	48.62	50.47		50.61	0.003177	1.63	15.16	13.80	0.50
vingone	54		Max WS	SASA	17.61	48.39	50.04		50.14	0.002445	1.36	12.93	12.71	0.43
vingone	54		Max WS	SASP	17.61	48.39	50.04		50.14	0.002445	1.36	12.93	12.71	0.43
vingone	54		Max WS	SPSA	24.66	48.39	50.30		50.42	0.002425	1.51	16.28	13.48	0.44
vingone	54		Max WS	SPSP	24.66	48.39	50.30		50.42	0.002425	1.51	16.28	13.48	0.44
vingone	53.8		Max WS	SASA	17.61	48.19	49.64	49.15	49.78	0.003056	1.68	10.50	14.98	0.50
vingone	53.8		Max WS	SASP	17.61	48.19	49.64	49.15	49.78	0.003056	1.68	10.50	14.98	0.50
vingone	53.8		Max WS	SPSA	23.05	48.19	49.92	49.31	50.07	0.002721	1.76	13.10	15.95	0.48
vingone	53.8		Max WS	SPSP	23.05	48.19	49.92	49.31	50.07	0.002721	1.76	13.10	15.95	0.48
vingone	53.5				Bridge									
vingone	53		Max WS	SASA	17.53	48.18	49.38		49.59	0.006037	2.03	8.63	14.12	0.67

HEC-RAS River: vingone Reach: vingone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
vingone	53	Max WS	SASP	17.53	48.18	49.38		49.59	0.006037	2.03	8.63	14.12	0.67
vingone	53	Max WS	SPSA	24.66	48.18	49.56		49.85	0.006865	2.38	10.35	14.74	0.74
vingone	53	Max WS	SPSP	24.66	48.18	49.56		49.85	0.006865	2.38	10.35	14.74	0.74
vingone	52	Max WS	SASA	16.13	47.73	49.29	48.69	49.36	0.001811	1.22	13.20	12.17	0.37
vingone	52	Max WS	SASP	16.14	47.73	49.29	48.69	49.36	0.001813	1.22	13.20	12.17	0.37
vingone	52	Max WS	SPSA	24.66	47.73	49.45	48.91	49.58	0.002787	1.62	15.23	12.66	0.47
vingone	52	Max WS	SPSP	24.66	47.73	49.45	48.91	49.58	0.002787	1.62	15.23	12.66	0.47
vingone	51.5			Bridge									
vingone	51	Max WS	SASA	17.98	47.73	48.81		49.09	0.010832	2.31	7.79	10.75	0.86
vingone	51	Max WS	SASP	17.98	47.73	48.81		49.09	0.010832	2.31	7.79	10.75	0.86
vingone	51	Max WS	SPSA	24.66	47.73	49.01		49.32	0.009907	2.49	9.91	11.33	0.85
vingone	51	Max WS	SPSP	24.66	47.73	49.01		49.32	0.009907	2.49	9.91	11.33	0.85
vingone	50.999			Lat Struct									
vingone	50.998			Lat Struct									
vingone	50	Max WS	SASA	17.69	46.72	48.48		48.56	0.001813	1.30	13.66	11.42	0.38
vingone	50	Max WS	SASP	17.69	46.72	48.48		48.56	0.001813	1.30	13.66	11.42	0.38
vingone	50	Max WS	SPSA	24.66	46.72	48.77		48.88	0.001850	1.44	17.09	12.23	0.39
vingone	50	Max WS	SPSP	24.66	46.72	48.77		48.88	0.001850	1.44	17.09	12.23	0.39
vingone	49	Max WS	SASA	20.55	46.16	48.00		48.12	0.002552	1.54	13.36	11.02	0.45
vingone	49	Max WS	SASP	20.55	46.16	48.00		48.12	0.002552	1.54	13.36	11.02	0.45
vingone	49	Max WS	SPSA	28.77	46.16	48.24		48.40	0.002930	1.79	16.10	11.68	0.49
vingone	49	Max WS	SPSP	28.77	46.16	48.24		48.40	0.002930	1.79	16.10	11.68	0.49
vingone	48	Max WS	SASA	20.55	45.61	47.79		47.87	0.001635	1.27	16.16	12.51	0.36
vingone	48	Max WS	SASP	20.55	45.61	47.79		47.87	0.001635	1.27	16.16	12.51	0.36
vingone	48	Max WS	SPSA	28.70	45.61	47.99		48.11	0.002049	1.54	18.75	13.44	0.41
vingone	48	Max WS	SPSP	28.70	45.61	47.99		48.11	0.002049	1.54	18.75	13.44	0.41
vingone	47	Max WS	SASA	20.55	45.51	47.57		47.74	0.006084	1.86	11.05	13.17	0.65
vingone	47	Max WS	SASP	20.55	45.51	47.57		47.74	0.006084	1.86	11.05	13.17	0.65
vingone	47	Max WS	SPSA	28.03	45.51	47.76		47.98	0.005992	2.04	13.71	13.94	0.66
vingone	47	Max WS	SPSP	28.03	45.51	47.76		47.98	0.005992	2.04	13.71	13.94	0.66
vingone	46	Max WS	SASA	20.55	45.25	46.93		47.12	0.005370	1.89	10.87	11.58	0.62
vingone	46	Max WS	SASP	20.55	45.25	46.93		47.12	0.005370	1.89	10.87	11.58	0.62
vingone	46	Max WS	SPSA	28.01	45.25	47.14		47.37	0.005457	2.10	13.32	12.16	0.64
vingone	46	Max WS	SPSP	28.01	45.25	47.14		47.37	0.005457	2.10	13.32	12.16	0.64
vingone	45	Max WS	SASA	20.55	44.58	46.47		46.55	0.002014	1.26	16.25	15.58	0.40
vingone	45	Max WS	SASP	20.55	44.58	46.47		46.55	0.002014	1.26	16.25	15.58	0.40
vingone	45	Max WS	SPSA	27.91	44.58	46.74		46.83	0.001777	1.35	20.68	16.69	0.38
vingone	45	Max WS	SPSP	27.91	44.58	46.74		46.83	0.001777	1.35	20.68	16.69	0.38
vingone	44	Max WS	SASA	19.60	44.33	46.26		46.33	0.001277	1.10	17.84	14.79	0.32
vingone	44	Max WS	SASP	19.60	44.33	46.26		46.33	0.001277	1.10	17.84	14.79	0.32
vingone	44	Max WS	SPSA	27.68	44.33	46.57		46.64	0.001286	1.23	22.44	15.77	0.33
vingone	44	Max WS	SPSP	27.68	44.33	46.57		46.64	0.001286	1.23	22.44	15.77	0.33
vingone	43	Max WS	SASA	19.57	44.02	46.06		46.14	0.001779	1.23	15.87	14.15	0.37
vingone	43	Max WS	SASP	19.57	44.02	46.06		46.14	0.001779	1.23	15.87	14.15	0.37
vingone	43	Max WS	SPSA	27.68	44.02	46.37		46.47	0.001676	1.35	20.45	15.53	0.37
vingone	43	Max WS	SPSP	27.68	44.02	46.37		46.47	0.001676	1.35	20.45	15.53	0.37
vingone	42.999			Lat Struct									
vingone	42	Max WS	SASA	19.53	43.85	45.89		45.97	0.001541	1.26	15.54	10.52	0.33
vingone	42	Max WS	SASP	19.53	43.85	45.89		45.97	0.001541	1.26	15.54	10.52	0.33
vingone	42	Max WS	SPSA	27.67	43.85	46.18		46.29	0.001819	1.48	18.68	10.97	0.36
vingone	42	Max WS	SPSP	27.67	43.85	46.18		46.29	0.001819	1.48	18.68	10.97	0.36
vingone	41.9	Max WS	SASA	19.53	43.61	45.68		45.90	0.004485	2.07	9.42	6.27	0.54
vingone	41.9	Max WS	SASP	19.53	43.61	45.68		45.90	0.004485	2.07	9.42	6.27	0.54
vingone	41.9	Max WS	SPSA	27.67	43.61	45.85		46.20	0.006722	2.64	10.50	6.50	0.66
vingone	41.9	Max WS	SPSP	27.67	43.61	45.85		46.20	0.006722	2.64	10.50	6.50	0.66
vingone	41.8	Max WS	SASA	19.53	43.60	45.63	44.98	45.88	0.005523	2.24	8.72	4.72	0.53
vingone	41.8	Max WS	SASP	19.53	43.60	45.63	44.98	45.88	0.005523	2.24	8.72	4.72	0.53
vingone	41.8	Max WS	SPSA	27.67	43.60	45.71	45.30	46.18	0.009834	3.04	9.11	4.72	0.70
vingone	41.8	Max WS	SPSP	27.67	43.60	45.71	45.30	46.18	0.009834	3.04	9.11	4.72	0.70
vingone	41.7			Bridge									
vingone	41.6	Max WS	SASA	21.32	43.60	45.08	45.06	45.69	0.017538	3.48	6.13	4.72	0.97
vingone	41.6	Max WS	SASP	21.32	43.60	45.08	45.06	45.69	0.017538	3.48	6.13	4.72	0.97
vingone	41.6	Max WS	SPSA	27.67	43.60	45.28	45.30	46.06	0.019611	3.91	7.09	4.72	1.02
vingone	41.6	Max WS	SPSP	27.67	43.60	45.28	45.30	46.06	0.019611	3.91	7.09	4.72	1.02
vingone	41.599			Lat Struct									
vingone	41.598			Lat Struct									
vingone	41	Max WS	SASA	20.98	43.60	44.94	44.99	45.52	0.016972	3.37	6.23	6.16	1.07
vingone	41	Max WS	SASP	20.98	43.60	44.94	44.99	45.52	0.016972	3.37	6.23	6.16	1.07
vingone	41	Max WS	SPSA	27.67	43.60	45.13	45.21	45.84	0.017691	3.72	7.45	6.40	1.10
vingone	41	Max WS	SPSP	27.67	43.60	45.13	45.21	45.84	0.017691	3.72	7.45	6.40	1.10
vingone	40	Max WS	SASA	20.55	42.82	44.64		44.72	0.002256	1.30	15.87	15.82	0.41
vingone	40	Max WS	SASP	20.55	42.82	44.64		44.72	0.002256	1.30	15.87	15.82	0.41
vingone	40	Max WS	SPSA	27.67	42.82	44.83		44.94	0.002397	1.46	18.94	16.44	0.43
vingone	40	Max WS	SPSP	27.67	42.82	44.83		44.94	0.002397	1.46	18.94	16.44	0.43
vingone	39	Max WS	SASA	20.55	42.44	44.42		44.49	0.001728	1.21	16.93	15.36	0.37
vingone	39	Max WS	SASP	20.55	42.44	44.42		44.49	0.001728	1.21	16.93	15.36	0.37
vingone	39	Max WS	SPSA	27.67	42.44	44.59		44.69	0.002071	1.41	19.66	16.34	0.41

HEC-RAS River: vingone Reach: vingone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
vingone	39	Max WS	SPSP	27.67	42.44	44.59		44.69	0.002071	1.41	19.66	16.34	0.41
vingone	38	Max WS	SASA	20.55	42.06	44.25		44.30	0.000717	0.92	22.39	15.96	0.25
vingone	38	Max WS	SASP	20.55	42.06	44.25		44.30	0.000717	0.92	22.39	15.96	0.25
vingone	38	Max WS	SPSA	27.67	42.06	44.37		44.44	0.001018	1.14	24.36	16.34	0.30
vingone	38	Max WS	SPSP	27.67	42.06	44.37		44.44	0.001018	1.14	24.36	16.34	0.30
vingone	37	Max WS	SASA	20.55	41.83	44.18		44.22	0.000626	0.91	22.47	14.33	0.23
vingone	37	Max WS	SASP	20.55	41.83	44.18		44.22	0.000626	0.91	22.47	14.33	0.23
vingone	37	Max WS	SPSA	27.38	41.83	44.27		44.34	0.000942	1.15	23.97	17.92	0.29
vingone	37	Max WS	SPSP	27.38	41.83	44.27		44.34	0.000942	1.15	23.97	17.92	0.29
vingone	36	Max WS	SASA	20.55	41.58	44.15		44.19	0.000567	0.88	23.39	14.55	0.22
vingone	36	Max WS	SASP	20.55	41.58	44.15		44.19	0.000567	0.88	23.39	14.55	0.22
vingone	36	Max WS	SPSA	26.61	41.58	44.22		44.28	0.000831	1.09	24.50	14.71	0.27
vingone	36	Max WS	SPSP	26.61	41.58	44.22		44.28	0.000831	1.09	24.50	14.71	0.27
vingone	35.998			Lat Struct									
vingone	35.3	Max WS	SASA	14.45	41.68	44.14		44.16	0.000352	0.66	21.93	14.32	0.17
vingone	35.3	Max WS	SASP	14.45	41.68	44.14		44.16	0.000352	0.66	21.93	14.32	0.17
vingone	35.3	Max WS	SPSA	15.50	41.68	44.24		44.26	0.000334	0.66	23.40	14.46	0.17
vingone	35.3	Max WS	SPSP	15.50	41.68	44.24		44.26	0.000334	0.66	23.40	14.46	0.17
vingone	35.2	Max WS	SASA	15.46	41.55	44.02		44.14	0.002377	1.53	10.07	6.93	0.41
vingone	35.2	Max WS	SASP	15.46	41.55	44.02		44.14	0.002377	1.53	10.07	6.93	0.41
vingone	35.2	Max WS	SPSA	16.11	41.55	44.14		44.25	0.002104	1.48	10.88	7.18	0.38
vingone	35.2	Max WS	SPSP	16.11	41.55	44.14		44.25	0.002104	1.48	10.88	7.18	0.38
vingone	35	Max WS	SASA	16.62	41.73	43.73		43.98	0.005632	2.18	7.62	5.68	0.60
vingone	35	Max WS	SASP	16.62	41.73	43.73		43.98	0.005632	2.18	7.62	5.68	0.60
vingone	35	Max WS	SPSA	18.27	41.73	43.81		44.07	0.005836	2.26	8.07	5.82	0.61
vingone	35	Max WS	SPSP	18.27	41.73	43.81		44.07	0.005836	2.26	8.07	5.82	0.61
vingone	34.998			Lat Struct									
vingone	34.5	Max WS	SASA	16.62	41.56	43.47		43.77	0.007782	2.44	6.82	5.85	0.72
vingone	34.5	Max WS	SASP	16.62	41.56	43.47		43.77	0.007782	2.44	6.82	5.85	0.72
vingone	34.5	Max WS	SPSA	18.27	41.56	43.54		43.86	0.008073	2.53	7.23	6.03	0.74
vingone	34.5	Max WS	SPSP	18.27	41.56	43.54		43.86	0.008073	2.53	7.23	6.03	0.74
vingone	34	Max WS	SASA	16.62	41.38	42.99	43.04	43.55	0.018068	3.32	5.01	5.15	1.07
vingone	34	Max WS	SASP	16.62	41.38	42.99	43.04	43.55	0.018068	3.32	5.01	5.15	1.07
vingone	34	Max WS	SPSA	18.27	41.38	43.05	43.12	43.65	0.018666	3.44	5.31	5.29	1.10
vingone	34	Max WS	SPSP	18.27	41.38	43.05	43.12	43.65	0.018666	3.44	5.31	5.29	1.10
vingone	33.999			Lat Struct									
vingone	33.9	Max WS	SASA	16.62	40.87	42.82		42.90	0.002756	1.24	13.42	16.74	0.44
vingone	33.9	Max WS	SASP	16.62	40.87	42.82		42.90	0.002756	1.24	13.42	16.74	0.44
vingone	33.9	Max WS	SPSA	18.27	40.87	42.88		42.96	0.002723	1.28	14.32	16.90	0.44
vingone	33.9	Max WS	SPSP	18.27	40.87	42.88		42.96	0.002723	1.28	14.32	16.90	0.44
vingone	33	Max WS	SASA	16.52	40.65	42.42		42.49	0.001655	1.14	14.53	14.16	0.36
vingone	33	Max WS	SASP	16.52	40.65	42.42		42.49	0.001655	1.14	14.53	14.16	0.36
vingone	33	Max WS	SPSA	17.81	40.65	42.48		42.55	0.001632	1.16	15.43	17.68	0.36
vingone	33	Max WS	SPSP	17.81	40.65	42.48		42.55	0.001632	1.16	15.43	17.68	0.36
vingone	32	Max WS	SASA	16.52	40.53	42.27		42.32	0.001382	1.02	16.20	16.50	0.33
vingone	32	Max WS	SASP	16.52	40.53	42.27		42.32	0.001382	1.02	16.20	16.50	0.33
vingone	32	Max WS	SPSA	17.74	40.53	42.33		42.38	0.001314	1.03	17.25	16.69	0.32
vingone	32	Max WS	SPSP	17.74	40.53	42.33		42.38	0.001314	1.03	17.25	16.69	0.32
vingone	31	Max WS	SASA	16.52	40.42	42.19		42.22	0.000688	0.80	20.77	18.13	0.24
vingone	31	Max WS	SASP	16.52	40.42	42.19		42.22	0.000688	0.80	20.77	18.13	0.24
vingone	31	Max WS	SPSA	17.74	40.42	42.26		42.29	0.000665	0.81	22.01	18.34	0.23
vingone	31	Max WS	SPSP	17.74	40.42	42.26		42.29	0.000665	0.81	22.01	18.34	0.23
vingone	30.9	Max WS	SASA	16.52	40.24	41.97		42.13	0.003703	1.74	9.49	7.69	0.50
vingone	30.9	Max WS	SASP	16.52	40.24	41.97		42.13	0.003703	1.74	9.49	7.69	0.50
vingone	30.9	Max WS	SPSA	17.74	40.24	42.04		42.20	0.003674	1.78	9.99	7.77	0.50
vingone	30.9	Max WS	SPSP	17.74	40.24	42.04		42.20	0.003674	1.78	9.99	7.77	0.50
vingone	30.8	Max WS	SASA	16.52	40.09	41.95	41.22	42.07	0.002484	1.53	10.77	6.89	0.39
vingone	30.8	Max WS	SASP	16.52	40.09	41.95	41.22	42.07	0.002484	1.53	10.77	6.89	0.39
vingone	30.8	Max WS	SPSA	17.74	40.09	42.01	41.26	42.14	0.002557	1.58	11.20	6.89	0.40
vingone	30.8	Max WS	SPSP	17.74	40.09	42.01	41.26	42.14	0.002557	1.58	11.20	6.89	0.40
vingone	30.7			Bridge									
vingone	30.6	Max WS	SASA	16.52	40.07	41.93		42.05	0.002489	1.54	10.76	6.89	0.39
vingone	30.6	Max WS	SASP	16.52	40.07	41.93		42.05	0.002489	1.54	10.76	6.89	0.39
vingone	30.6	Max WS	SPSA	17.74	40.07	41.99		42.12	0.002563	1.59	11.19	6.89	0.40
vingone	30.6	Max WS	SPSP	17.74	40.07	41.99		42.12	0.002563	1.59	11.19	6.89	0.40
vingone	30.599			Lat Struct									
vingone	30.598			Lat Struct									
vingone	30	Max WS	SASA	16.52	39.82	41.72		41.95	0.006626	2.15	7.67	6.89	0.65
vingone	30	Max WS	SASP	16.52	39.82	41.72		41.95	0.006626	2.15	7.67	6.89	0.65
vingone	30	Max WS	SPSA	17.74	39.82	41.78		42.02	0.006581	2.19	8.10	7.06	0.65
vingone	30	Max WS	SPSP	17.74	39.82	41.78		42.02	0.006581	2.19	8.10	7.06	0.65
vingone	29	Max WS	SASA	16.52	39.57	41.51		41.59	0.001987	1.28	12.93	11.76	0.39
vingone	29	Max WS	SASP	16.52	39.57	41.51		41.59	0.001987	1.28	12.93	11.76	0.39
vingone	29	Max WS	SPSA	17.74	39.57	41.61		41.69	0.001788	1.26	14.07	12.05	0.37
vingone	29	Max WS	SPSP	17.74	39.57	41.61		41.69	0.001788	1.26	14.07	12.05	0.37
vingone	28.2	Max WS	SASA	16.52	39.10	41.22		41.32	0.002400	1.36	12.16	11.40	0.42
vingone	28.2	Max WS	SASP	16.52	39.10	41.22		41.32	0.002400	1.36	12.16	11.40	0.42

HEC-RAS River: vingone Reach: vingone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
vingone	28.2	Max WS	SPSA	17.74	39.10	41.37		41.45	0.001894	1.28	13.84	11.83	0.38
vingone	28.2	Max WS	SPSP	17.74	39.10	41.37		41.45	0.001894	1.28	13.84	11.83	0.38
vingone	27.3	Max WS	SASA	21.56	38.87	40.92		41.01	0.001692	1.31	16.42	15.45	0.37
vingone	27.3	Max WS	SASP	21.56	38.87	40.92		41.01	0.001692	1.31	16.42	15.45	0.37
vingone	27.3	Max WS	SPSA	24.78	38.87	41.06		41.16	0.001625	1.36	18.19	15.79	0.37
vingone	27.3	Max WS	SPSP	24.78	38.87	41.06		41.16	0.001625	1.36	18.19	15.79	0.37
vingone	27.298			Lat Struct									
vingone	27	Max WS	SASA	21.56	38.97	40.90		40.97	0.001201	1.18	18.33	13.01	0.32
vingone	27	Max WS	SASP	21.56	38.97	40.90		40.97	0.001201	1.18	18.33	13.01	0.32
vingone	27	Max WS	SPSA	24.78	38.97	41.04		41.12	0.001207	1.23	20.16	13.39	0.32
vingone	27	Max WS	SPSP	24.78	38.97	41.04		41.12	0.001207	1.23	20.16	13.39	0.32
vingone	26.5	Max WS	SASA	21.56	38.74	40.82		40.88	0.001003	1.09	19.74	13.76	0.29
vingone	26.5	Max WS	SASP	21.56	38.74	40.82		40.88	0.001003	1.09	19.74	13.76	0.29
vingone	26.5	Max WS	SPSA	24.78	38.74	40.96		41.03	0.001012	1.14	21.69	14.18	0.29
vingone	26.5	Max WS	SPSP	24.78	38.74	40.96		41.03	0.001012	1.14	21.69	14.18	0.29
vingone	26	Max WS	SASA	21.56	38.68	40.77		40.82	0.000781	1.00	21.49	14.11	0.26
vingone	26	Max WS	SASP	21.56	38.68	40.77		40.82	0.000781	1.00	21.49	14.11	0.26
vingone	26	Max WS	SPSA	24.78	38.68	40.91		40.96	0.000799	1.06	23.48	14.49	0.26
vingone	26	Max WS	SPSP	24.77	38.68	40.91		40.96	0.000799	1.06	23.48	14.49	0.26
vingone	25.5	Max WS	SASA	21.56	38.48	40.70		40.77	0.001232	1.17	18.47	13.50	0.32
vingone	25.5	Max WS	SASP	21.56	38.48	40.70		40.77	0.001232	1.17	18.47	13.50	0.32
vingone	25.5	Max WS	SPSA	24.77	38.48	40.84		40.91	0.001228	1.22	20.37	13.92	0.32
vingone	25.5	Max WS	SPSP	24.77	38.48	40.84		40.91	0.001228	1.22	20.37	13.92	0.32
vingone	25	Max WS	SASA	21.55	38.41	40.54		40.64	0.002179	1.40	15.42	13.06	0.41
vingone	25	Max WS	SASP	21.55	38.41	40.54		40.64	0.002179	1.40	15.42	13.06	0.41
vingone	25	Max WS	SPSA	24.77	38.41	40.69		40.79	0.002040	1.43	17.33	13.48	0.40
vingone	25	Max WS	SPSP	24.77	38.41	40.69		40.79	0.002040	1.43	17.33	13.48	0.40
vingone	24.5	Max WS	SASA	21.55	37.75	39.99		40.42	0.010643	2.87	7.50	5.41	0.78
vingone	24.5	Max WS	SASP	21.55	37.75	39.99		40.42	0.010643	2.87	7.50	5.41	0.78
vingone	24.5	Max WS	SPSA	24.77	37.75	40.10		40.58	0.011637	3.06	8.09	5.73	0.82
vingone	24.5	Max WS	SPSP	24.77	37.75	40.10		40.58	0.011637	3.06	8.09	5.73	0.82
vingone	24	Max WS	SASA	21.55	37.32	39.90	38.76	40.04	0.001319	1.67	12.87	7.69	0.35
vingone	24	Max WS	SASP	21.55	37.32	39.90	38.76	40.04	0.001319	1.67	12.87	7.69	0.35
vingone	24	Max WS	SPSA	24.76	37.32	39.98	38.87	40.15	0.001555	1.86	13.32	7.77	0.39
vingone	24	Max WS	SPSP	24.75	37.32	39.98	38.87	40.15	0.001554	1.86	13.32	7.77	0.39
vingone	23.9			Bridge									
vingone	23.8	Max WS	SASA	21.55	37.70	39.86		40.02	0.001468	1.76	12.27	6.52	0.39
vingone	23.8	Max WS	SASP	21.55	37.70	39.86		40.02	0.001468	1.76	12.27	6.52	0.39
vingone	23.8	Max WS	SPSA	24.75	37.70	39.93		40.13	0.001727	1.95	12.70	6.54	0.43
vingone	23.8	Max WS	SPSP	24.75	37.70	39.93		40.13	0.001727	1.95	12.70	6.54	0.43
vingone	23.799			Lat Struct									
vingone	23.798			Lat Struct									
vingone	23.6	Max WS	SASA	21.55	37.75	39.80		39.98	0.003363	1.85	11.62	7.94	0.49
vingone	23.6	Max WS	SASP	21.55	37.75	39.80		39.98	0.003363	1.85	11.62	7.94	0.49
vingone	23.6	Max WS	SPSA	24.75	37.75	39.87		40.08	0.003943	2.04	12.13	8.08	0.53
vingone	23.6	Max WS	SPSP	24.75	37.75	39.87		40.08	0.003942	2.04	12.13	8.08	0.53
vingone	23.5	Max WS	SASA	21.55	37.60	39.81		39.90	0.001823	1.32	16.36	13.19	0.38
vingone	23.5	Max WS	SASP	21.55	37.60	39.81		39.90	0.001823	1.32	16.36	13.19	0.38
vingone	23.5	Max WS	SPSA	24.75	37.60	39.88		39.99	0.002033	1.43	17.32	13.41	0.40
vingone	23.5	Max WS	SPSP	24.75	37.60	39.88		39.99	0.002033	1.43	17.32	13.41	0.40
vingone	22	Max WS	SASA	21.55	37.06	39.61		39.66	0.000690	0.95	22.79	14.62	0.24
vingone	22	Max WS	SASP	21.55	37.06	39.61		39.66	0.000690	0.95	22.79	14.62	0.24
vingone	22	Max WS	SPSA	24.73	37.06	39.65		39.71	0.000852	1.06	23.32	14.72	0.27
vingone	22	Max WS	SPSP	24.73	37.06	39.65		39.71	0.000852	1.06	23.32	14.72	0.27
vingone	21.999			Lat Struct									
vingone	21.5	Max WS	SASA	21.55	37.08	39.61		39.63	0.000301	0.67	32.35	19.68	0.17
vingone	21.5	Max WS	SASP	21.55	37.08	39.61		39.63	0.000301	0.67	32.35	19.68	0.17
vingone	21.5	Max WS	SPSA	24.73	37.08	39.64		39.67	0.000373	0.75	33.03	19.79	0.19
vingone	21.5	Max WS	SPSP	24.73	37.08	39.64		39.67	0.000373	0.75	33.03	19.79	0.19
vingone	20	Max WS	SASA	21.55	36.87	39.56		39.59	0.000356	0.73	29.54	17.49	0.18
vingone	20	Max WS	SASP	21.55	36.87	39.56		39.59	0.000356	0.73	29.54	17.49	0.18
vingone	20	Max WS	SPSA	24.73	36.87	39.58		39.61	0.000452	0.83	29.92	17.57	0.20
vingone	20	Max WS	SPSP	24.73	36.87	39.58		39.61	0.000452	0.83	29.92	17.57	0.20
vingone	18	Max WS	SASA	21.55	36.40	39.54		39.55	0.000135	0.50	43.37	22.15	0.11
vingone	18	Max WS	SASP	21.55	36.40	39.54		39.55	0.000135	0.50	43.37	22.15	0.11
vingone	18	Max WS	SPSA	24.73	36.40	39.55		39.57	0.000174	0.57	43.71	22.21	0.13
vingone	18	Max WS	SPSP	24.73	36.40	39.55		39.57	0.000174	0.57	43.71	22.21	0.13
vingone	17	Max WS	SASA	21.55	36.06	39.51		39.53	0.000170	0.55	38.87	19.73	0.13
vingone	17	Max WS	SASP	21.55	36.06	39.51		39.53	0.000170	0.55	38.87	19.73	0.13
vingone	17	Max WS	SPSA	24.73	36.06	39.52		39.54	0.000222	0.63	39.03	19.76	0.14
vingone	17	Max WS	SPSP	24.73	36.06	39.52		39.54	0.000222	0.63	39.03	19.76	0.14
vingone	16.1	Max WS	SASA	11.68	36.02	39.34		39.36	0.000148	0.51	23.08	9.91	0.11
vingone	16.1	Max WS	SASP	10.96	36.02	39.35		39.36	0.000130	0.47	23.10	9.92	0.10
vingone	16.1	Max WS	SPSA	2.58	36.02	39.30		39.30	0.000008	0.11	22.67	9.85	0.02
vingone	16.1	Max WS	SPSP	2.59	36.02	39.30		39.30	0.000008	0.11	22.68	9.85	0.02
vingone	16.099			Lat Struct									
vingone	16	Max WS	SASA	11.19	35.93	39.34		39.35	0.000140	0.43	25.81	14.67	0.10

HEC-RAS River: vingone Reach: vingone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
vingone	16	Max WS	SASP	10.65	35.93	39.35		39.35	0.000126	0.41	25.85	14.67	0.10
vingone	16	Max WS	SPSA	2.45	35.93	39.30		39.30	0.000007	0.10	25.21	14.65	0.02
vingone	16	Max WS	SPSP	2.45	35.93	39.30		39.30	0.000007	0.10	25.21	14.65	0.02
vingone	15	Max WS	SASA	8.96	35.82	39.34		39.35	0.000045	0.27	32.92	16.95	0.06
vingone	15	Max WS	SASP	9.04	35.82	39.35		39.35	0.000046	0.27	32.96	16.95	0.06
vingone	15	Max WS	SPSA	1.31	35.82	39.30		39.30	0.000001	0.04	32.21	16.88	0.01
vingone	15	Max WS	SPSP	1.31	35.82	39.30		39.30	0.000001	0.04	32.21	16.88	0.01
vingone	14.8	Max WS	SASA	20.12	35.76	39.35	36.67	39.36	0.000065	0.51	39.08	14.12	0.09
vingone	14.8	Max WS	SASP	7.83	35.76	39.35	36.35	39.35	0.000010	0.20	39.10	14.12	0.03
vingone	14.8	Max WS	SPSA	1.02	35.76	39.30	36.03	39.30	0.000000	0.03	38.56	14.11	0.00
vingone	14.8	Max WS	SPSP	1.00	35.76	39.30	36.03	39.30	0.000000	0.03	38.57	14.11	0.00
vingone	14.7			Bridge									
vingone	14.6	Max WS	SASA	7.73	35.83	39.34		39.35	0.000009	0.19	39.96	18.76	0.03
vingone	14.6	Max WS	SASP	7.77	35.83	39.35		39.35	0.000009	0.19	39.99	18.77	0.03
vingone	14.6	Max WS	SPSA	0.98	35.83	39.30		39.30	0.000000	0.02	39.45	18.54	0.00
vingone	14.6	Max WS	SPSP	1.00	35.83	39.30		39.30	0.000000	0.03	39.45	18.54	0.00
vingone	14.599			Lat Struct									
vingone	14.598			Lat Struct									
vingone	14	Max WS	SASA	6.95	35.50	39.34		39.35	0.000022	0.21	33.08	14.62	0.04
vingone	14	Max WS	SASP	6.69	35.50	39.35		39.35	0.000021	0.20	33.12	14.62	0.04
vingone	14	Max WS	SPSA	0.79	35.50	39.30		39.30	0.000000	0.02	32.48	14.62	0.00
vingone	14	Max WS	SPSP	0.81	35.50	39.30		39.30	0.000000	0.03	32.48	14.62	0.01
vingone	13.5	Max WS	SASA	7.33	35.37	39.34		39.34	0.000021	0.21	36.18	19.42	0.04
vingone	13.5	Max WS	SASP	7.33	35.37	39.34		39.35	0.000021	0.21	36.23	19.42	0.04
vingone	13.5	Max WS	SPSA	-0.06	35.37	39.30		39.30	0.000000	0.00	35.41	19.42	0.00
vingone	13.5	Max WS	SPSP	-0.06	35.37	39.30		39.30	0.000000	0.00	35.42	19.42	0.00
vingone	13.3	Max WS	SASA	3.96	35.45	39.34		39.34	0.000006	0.12	36.02	24.10	0.02
vingone	13.3	Max WS	SASP	3.98	35.45	39.35		39.35	0.000006	0.12	36.08	24.10	0.02
vingone	13.3	Max WS	SPSA	-2.54	35.45	39.30		39.30	0.000003	-0.08	35.04	22.34	0.01
vingone	13.3	Max WS	SPSP	-2.54	35.45	39.30		39.30	0.000003	-0.08	35.04	22.34	0.01
vingone	13.2	Max WS	SASA	2.45	35.19	39.34	35.54	39.34	0.000001	0.06	42.00	23.42	0.01
vingone	13.2	Max WS	SASP	2.29	35.19	39.35	35.53	39.35	0.000001	0.05	42.05	23.49	0.01
vingone	13.2	Max WS	SPSA	-3.32	35.19	39.30		39.30	0.000003	-0.08	41.35	22.41	0.02
vingone	13.2	Max WS	SPSP	-3.33	35.19	39.30		39.30	0.000003	-0.08	41.35	22.42	0.02
vingone	13.1			Bridge									
vingone	13	Max WS	SASA	2.34	35.18	39.34		39.34	0.000001	0.06	41.09	24.71	0.01
vingone	13	Max WS	SASP	2.19	35.18	39.35		39.35	0.000001	0.05	41.13	24.77	0.01
vingone	13	Max WS	SPSA	-3.34	35.18	39.30		39.30	0.000003	-0.08	40.44	23.70	0.02
vingone	13	Max WS	SPSP	-3.33	35.18	39.30		39.30	0.000003	-0.08	40.44	23.70	0.02
vingone	12.99	Max WS	SASA	2.27	35.18	39.34		39.34	0.000001	0.06	41.09	24.71	0.01
vingone	12.99	Max WS	SASP	2.19	35.18	39.35		39.35	0.000001	0.05	41.13	24.77	0.01
vingone	12.99	Max WS	SPSA	-3.34	35.18	39.30		39.30	0.000003	-0.08	40.44	23.70	0.02
vingone	12.99	Max WS	SPSP	-3.33	35.18	39.30		39.30	0.000003	-0.08	40.44	23.70	0.02
vingone	12.949			Lat Struct									
vingone	12.948			Lat Struct									
vingone	12.8	Max WS	SASA	-2.40	34.95	39.34		39.34	0.000002	-0.06	37.11	14.44	0.01
vingone	12.8	Max WS	SASP	-2.71	34.95	39.35		39.35	0.000003	-0.07	37.15	14.44	0.01
vingone	12.8	Max WS	SPSA	-6.08	34.95	39.30		39.30	0.000013	-0.17	36.47	14.39	0.03
vingone	12.8	Max WS	SPSP	-6.10	34.95	39.30		39.30	0.000013	-0.17	36.47	14.39	0.03
vingone	12	Max WS	SASA	-8.69	34.94	39.34		39.34	0.000021	-0.22	40.31	15.20	0.04
vingone	12	Max WS	SASP	-8.87	34.94	39.34		39.35	0.000022	-0.22	40.35	15.20	0.04
vingone	12	Max WS	SPSA	-7.95	34.94	39.30		39.30	0.000018	-0.20	39.68	15.14	0.04
vingone	12	Max WS	SPSP	-7.94	34.94	39.30		39.30	0.000018	-0.20	39.68	15.14	0.04
vingone	11.999			Lat Struct									
vingone	11	Max WS	SASA	-13.11	34.79	39.34		39.34	0.000029	-0.27	49.02	15.86	0.05
vingone	11	Max WS	SASP	-13.36	34.79	39.34		39.35	0.000030	-0.27	49.05	15.87	0.05
vingone	11	Max WS	SPSA	-11.47	34.79	39.30		39.30	0.000023	-0.24	48.36	15.73	0.04
vingone	11	Max WS	SPSP	-11.49	34.79	39.30		39.30	0.000023	-0.24	48.36	15.73	0.04
vingone	10.8	Max WS	SASA	-13.11	34.84	39.34		39.34	0.000033	-0.33	39.58	13.66	0.05
vingone	10.8	Max WS	SASP	-13.36	34.84	39.34		39.35	0.000034	-0.34	39.60	13.67	0.05
vingone	10.8	Max WS	SPSA	-11.47	34.84	39.30		39.30	0.000026	-0.29	39.20	13.46	0.05
vingone	10.8	Max WS	SPSP	-11.50	34.84	39.30		39.30	0.000026	-0.29	39.20	13.46	0.05
vingone	10.7			Bridge									
vingone	10.6	Max WS	SASA	-13.12	34.51	39.35		39.36	0.000018	-0.30	43.14	17.19	0.05
vingone	10.6	Max WS	SASP	-13.37	34.51	39.35		39.36	0.000019	-0.31	43.17	17.19	0.05
vingone	10.6	Max WS	SPSA	-11.66	34.51	39.31		39.31	0.000015	-0.27	42.73	17.18	0.04
vingone	10.6	Max WS	SPSP	-11.68	34.51	39.31		39.31	0.000015	-0.27	42.73	17.18	0.04
vingone	10.599			Lat Struct									
vingone	10.598			Lat Struct									
vingone	10	Max WS	SASA	-20.02	34.26	39.35		39.35	0.000029	-0.29	70.18	27.61	0.05
vingone	10	Max WS	SASP	-20.44	34.26	39.35		39.36	0.000030	-0.30	70.26	27.61	0.06
vingone	10	Max WS	SPSA	-16.76	34.26	39.31		39.31	0.000021	-0.25	69.00	27.61	0.05
vingone	10	Max WS	SPSP	-16.80	34.26	39.31		39.31	0.000021	-0.25	69.00	27.61	0.05
vingone	9	Max WS	SASA	-29.18	34.37	39.35		39.35	0.000040	-0.35	82.96	30.91	0.07
vingone	9	Max WS	SASP	-29.80	34.37	39.35		39.36	0.000042	-0.36	83.04	30.91	0.07

Reach		River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Ch
vingone	9		Max WS	SPSA	-23.30	34.37	39.31		39.31	0.000027	-0.29	81.68	30.91	0.05
vingone	9		Max WS	SPSP	-23.33	34.37	39.31		39.31	0.000027	-0.29	81.69	30.91	0.05
vingone	8		Max WS	SASA	-51.95	33.95	39.34		39.36	0.000072	-0.53	100.27	31.97	0.09
vingone	8		Max WS	SASP	-52.85	33.95	39.34		39.36	0.000075	-0.53	100.36	31.97	0.09
vingone	8		Max WS	SPSA	-44.09	33.95	39.30		39.31	0.000054	-0.45	98.94	31.97	0.08
vingone	8		Max WS	SPSP	-44.11	33.95	39.30		39.31	0.000054	-0.45	98.95	31.97	0.08
vingone	7		Max WS	SASA	-72.85	33.60	39.34		39.36	0.000134	-0.73	100.89	31.31	0.12
vingone	7		Max WS	SASP	-73.96	33.60	39.34		39.37	0.000138	-0.74	100.97	31.31	0.12
vingone	7		Max WS	SPSA	-62.26	33.60	39.29		39.31	0.000102	-0.63	99.62	31.31	0.11
vingone	7		Max WS	SPSP	-62.33	33.60	39.30		39.32	0.000102	-0.63	99.63	31.31	0.11
vingone	6.9		Max WS	SASA	-75.11	33.58	39.34		39.36	0.000135	-0.73	104.82	38.64	0.12
vingone	6.9		Max WS	SASP	-76.25	33.58	39.34		39.37	0.000138	-0.74	104.93	38.64	0.12
vingone	6.9		Max WS	SPSA	-64.19	33.58	39.30		39.32	0.000102	-0.63	103.25	38.64	0.11
vingone	6.9		Max WS	SPSP	-64.30	33.58	39.30		39.32	0.000103	-0.63	103.26	38.64	0.11
vingone	6.8				Bridge									
vingone	6.7		Max WS	SASA	-75.12	33.58	39.36		39.39	0.000131	-0.72	105.69	38.31	0.12
vingone	6.7		Max WS	SASP	-76.26	33.58	39.36		39.39	0.000135	-0.73	105.83	38.31	0.12
vingone	6.7		Max WS	SPSA	-64.82	33.58	39.31		39.33	0.000102	-0.63	103.87	38.31	0.11
vingone	6.7		Max WS	SPSP	-64.93	33.58	39.31		39.33	0.000103	-0.63	103.88	38.31	0.11
vingone	6.699				Lat Struct									
vingone	6.698				Lat Struct									
vingone	6.6		Max WS	SASA	-90.83	33.35	39.35		39.38	0.000172	-0.84	109.53	36.04	0.14
vingone	6.6		Max WS	SASP	-92.23	33.35	39.35		39.39	0.000176	-0.85	109.64	36.04	0.14
vingone	6.6		Max WS	SPSA	-77.41	33.35	39.30		39.33	0.000130	-0.73	107.97	36.04	0.12
vingone	6.6		Max WS	SPSP	-77.50	33.35	39.30		39.33	0.000130	-0.73	107.98	36.04	0.12
vingone	6.599				Lat Struct									
vingone	6.4		Max WS	SASA	-94.35	33.01	39.36	35.60	39.36	0.000143	0.00	119.85	32.63	0.00
vingone	6.4		Max WS	SASP	-95.63	33.01	39.36	35.61	39.36	0.000147	0.00	119.97	32.63	0.00
vingone	6.4		Max WS	SPSA	-92.40	33.01	39.31	35.58	39.31	0.000143	0.00	118.31	32.24	0.00
vingone	6.4		Max WS	SPSP	-92.52	33.01	39.31	35.58	39.31	0.000143	0.00	118.32	32.24	0.00
vingone	6.35				Int Struct									
vingone	6.3		Max WS	SASA	-94.36	32.51	39.38		39.41	0.000133	-0.77	123.68	32.59</	

HEC-RAS River: vingone Reach: vingone Profile: Max WS (Continued)

Reach	River Sta	Profile	Plan	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope (m/m)	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
vingone	2.398			Lat Struct									
vingone	2	Max WS	SASA	-213.33	27.93	39.58		39.58	0.000010	-0.30	942.62	224.63	0.04
vingone	2	Max WS	SASP	-217.42	27.93	39.58		39.59	0.000011	-0.31	944.06	224.63	0.04
vingone	2	Max WS	SPSA	-230.28	27.93	39.56		39.56	0.000012	-0.33	938.71	224.63	0.04
vingone	2	Max WS	SPSP	-231.54	27.93	39.56		39.57	0.000012	-0.33	939.13	224.63	0.04
vingone	1	Max WS	SASA	-213.35	27.19	39.58		39.58	0.000009	-0.25	1077.05	282.70	0.03
vingone	1	Max WS	SASP	-217.42	27.19	39.58		39.59	0.000009	-0.26	1078.86	282.70	0.04
vingone	1	Max WS	SPSA	-230.28	27.19	39.56		39.56	0.000011	-0.27	1072.23	282.70	0.04
vingone	1	Max WS	SPSP	-231.55	27.19	39.56		39.57	0.000011	-0.27	1072.74	282.70	0.04