UPPER PEACE RIVER HEC-RAS MODEL DEVELOPMENT REPORT

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1. INTRODUCTION

1.1 OBJECTIVE

The Southwest Florida Water Management District (SWFWMD or District) is developing the technical documentation to reevaluate the minimum flows established for the Upper Peace River (UPR) in Polk County and Hardee County, Florida. In support of this reevaluation, Verdantas was selected to assist the District with developing a U.S. Army Corps of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS) model. Section 373.042 of the Florida Statutes (F.S.) defines the minimum flow for a given watercourse as "the limit at which further withdrawals would be significantly harmful to the water resources or ecology of the area." The statute and the accompanying Section 373.041, F.S., require the use of the best available information when calculating minimum flows and minimum water levels and also require consideration of changes "to watersheds, surface waters, and aquifers and the effects such changes or alterations have had, and the constraints such changes or alterations have placed, on the hydrology of an affected watershed, surface water, or aquifer."

The phased approach presented herein is the process by which the UPR HEC-RAS model was developed and applied in accordance with these statutory requirements to support reevaluation of the UPR minimum flows. Subsections of this document include a review of existing site conditions, compilation of relevant data, evaluation of the utility of unsteady flow modeling, model construction, model calibration/validation, conversion of unsteady to steady flow model, and development of flow profiles and inundation mapping.

1.2 PROJECT DESCRIPTION

The Peace River drains a portion of the southwestern part of the Florida peninsula (

Figure *1*). It originates at the junction of Saddle Creek and Peace Creek northeast of Bartow in Polk County. The river flows south through Polk County and Hardee County and then turns southwest near the border between Hardee County and DeSoto County, flowing through DeSoto County to the Charlotte Harbor Estuary at Punta Gorda in Charlotte County. The Peace River is approximately 105 miles long and has a drainage area of about 2,350 square miles (mi^2). This drainage area extends from Lakeland and Winter Haven (Polk County) in the north to Punta Gorda (Charlotte County) in the south.

For the purpose of minimum flows development and implementation, the Peace River has been divided into three segments: the Upper Peace River or UPR (upstream of Zolfo Springs), the Middle Peace River (from Zolfo Springs to Arcadia), and the Lower Peace River (downstream of Arcadia) (

Figure *1*). The focus of the current study is the Upper Peace River, which has a drainage area of about 826 mi^2. Specifically, the study reach is the portion of the Peace River between approximately 2-miles above the U.S. Geological Survey (USGS) gage *SR-60 at Bartow* (USGS 02294650) at river mile (RM) 104 to approximately half a mile downstream from the *Zolfo Springs* (USGS 02295637) at RM 68.6, a total reach length of about 40.0 miles (

Figure *1*). These two gages are referred to as the *SR-60 at Bartow* gage and *Zolfo Springs* gage in the remainder of the report. The RMs cited throughout this document are referred to a USGS investigation report by Lewelling, Tihansky, & Kindinger (1998) where RMs were defined as a distance in miles from the river mouth.

Note: USGS Gage Names are hereafter referred to in *italics*.

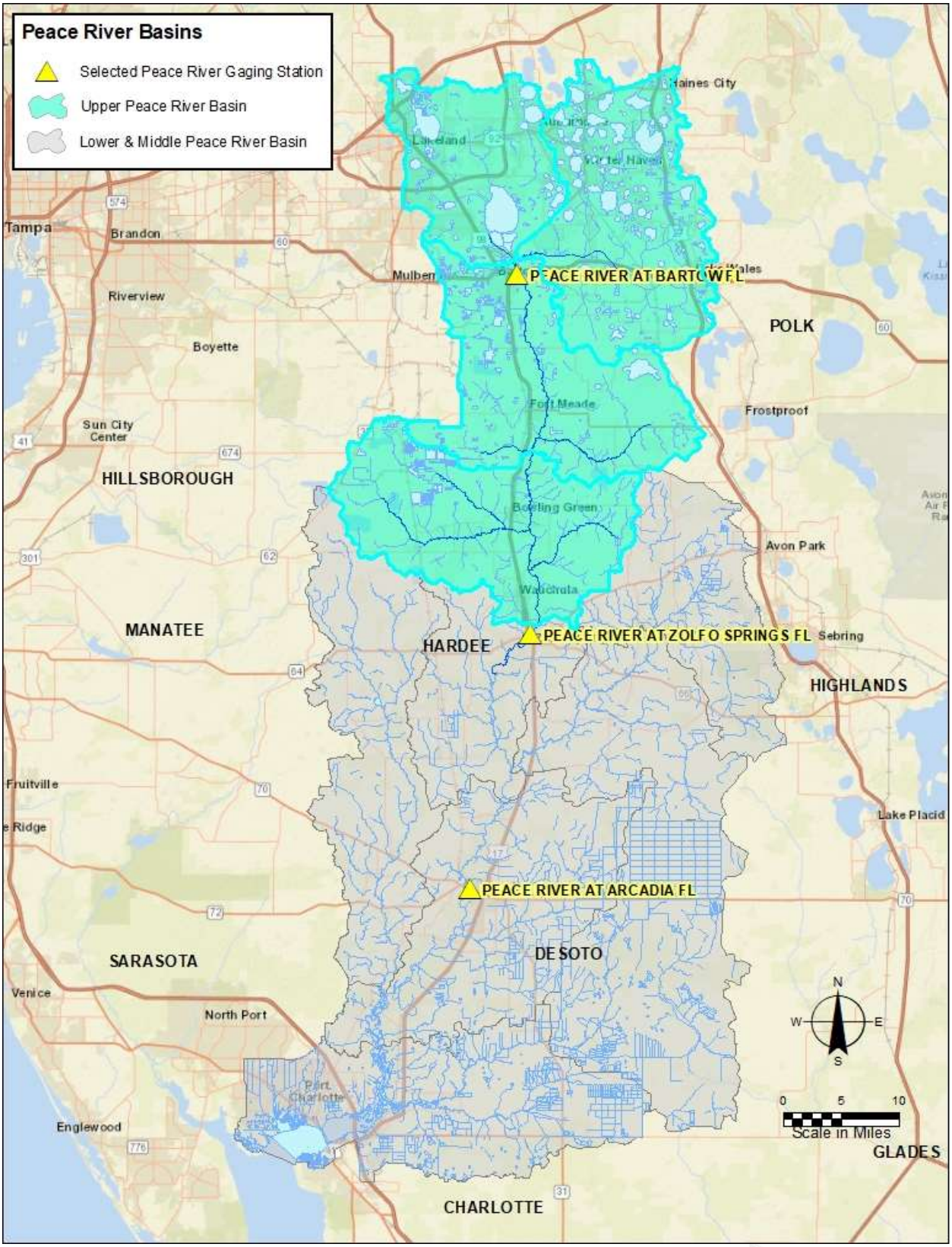


Figure 1. Peace River Basins and U.S. Geological Survey gage locations delineating the Peace River study reach for HEC-RAS model development.

2. SITE VISIT

Verdantas and SWFWMD completed a one-day site visit of the UPR HEC-RAS model study area on 14 December 2021. Field observations completed by the field recon team are summarized in this section. The field recon team included Lei Yang and Hua Zhang of the SWFWMD; and Nigel Lewis, Ken Badgley, Neil Shop, and Steve Melching of Verdantas. Field maps with an overview of key features, including gages, springs, and boat launches are included at the end of this section (Figure 12, Figure 13, Figure 14, Figure 15). The site visit helped inform modeling assumptions and decisions throughout the model development process.

The recon team paddled about 8.5 miles from Bartow (start time around 9:00 am) downstream to Heritage Peace River Landing (end time around 2:00 pm) (Figure 2). Four USGS gaging stations (*Bartow* and *near Bartow* gages (02294650 and 02294655), *Clear Springs* gage (02294775) and *Homeland* gage (02294781) were observed, and no major tributary inflows were observed between the *SR-60 at Bartow* and *Clear Springs* gages. Several small, active tributary inflows were observed on the east bank downstream from Bartow (most likely outfalls from reclaimed mine land). The larger tributaries (Six Mile Creek and Barber Branch) were observed on the west bank but inflows from these channels were not visible (Figure 3). The recon team also inspected some near channel sinks (Figure 4), but the larger karst features known to result in flow losses during low flows in late spring were not accessible.



Figure 2. Left: The bridge downstream of the USGS gage 02294650 Peace River at SR-60 at Bartow. Right: Peace River immediately downstream of the boat launch.

The channel geometry appeared to be stable, therefore, in-channel cross sectional data collected over the last 10 years likely represents current geometrical conditions in the main channel. The main channel is composed of alluvial material, mainly sand and silt (Figure 5). Occasionally, rock shoals were observed but these should not have a major effect on the flow roughness during medium to high flows (Figure 6). About 10-20 channel blockages resulting from trees falling into the channel were observed (Figure 6). These woody debris probably have a stronger influence on the flow resistance than the shoals, but their influence on the overall hydraulics of the modeled reaches should be minimal since they are located far from each other. The team also observed high water marks on the trees about 4 to 6 ft above the water surface (

Figure 7).



Figure 3. Left: Six Mile Creek confluence with the Peace River (RM 100.4). Right: Barber Branch confluence with the Peace River (RM 98.2).

The floodplain between the *SR-60 at Bartow* gage and the Heritage Peace River Landing boat ramp is heavily vegetated (Figure 2 through

Figure 7) and may not provide much flow conveyance. Thus, the floodplain areas may act as storage during higher flows, and they may be characterized by very high flow resistance (i.e., very high Manning's roughness coefficient, n) in the final calibrated model.



Figure 4. Typical sinkhole on the east floodplain between the USGS 02294650 Peace River at SR-60 at Bartow and 02294655 Peace River near Bartow streamflow gages.



Figure 5. The sand bed of the Peace River upstream of the USGS 02294655 Peace River near Bartow, FL gage.



Figure 6. Right: A small rock shoal; Left: A woody debris blockage. Both are located downstream of the USGS 02294655 Peace River near Bartow streamflow gage.



Figure 7. High water marks on cypress trees at the Bartow Boat Launch (RM 104.0) (left) and upstream from the confluence with the Barber Branch (approximately RM 97.8) (right).

The field recon team also visited the following additional areas downstream of the Heritage Peace River Landing, including:

The confluence of the Peace River with Bowlegs Creek

The Peace River in this area had steeper banks and similar coverage of floodplain vegetation as were observed upstream (Figure 8). Also, the channel geometry seemed to be stable.



Figure 8. Left: Shoal approximately 300 ft upstream of the confluence of the Peace River and Bowlegs Creek. Right: Confluence of the Peace River and Bowlegs Creek (RM 87.4).

USGS gage 02295194 Peace River at Bowling Green

The field recon team identified a small shoal about 200-300 ft upstream of the gage (Figure 9). The streambanks at this location were higher and steeper than at the upstream locations. Also, substantial vegetation was observed within the floodplain and the channel geometry appeared to be stable.



Figure 9. Rock shoal 200-300 ft upstream of USGS gage 02295194 Peace River at Bowling Green (RM 80.6, at County Line Road, State Highway 664)

Wauchula Riverside Park

The streambanks at this location were substantially higher and steeper than at the upstream locations. Also, the floodplain areas had substantial vegetation and the channel geometry appeared to be stable (Figure 10).



Figure 10. Streambanks at the Wauchula Riverside Park

Pioneer Park in Zolfo Springs about 0.5 miles (RM 68.1) downstream from the *USGS gage 02295637 Peace River at Zolfo Springs*

The streambanks at this location were higher and steeper than at the upstream locations. Also, the floodplain areas had substantial vegetation and the channel geometry appeared to be stable (Figure 11). The *Zolfo Springs* gage location and data were utilized in setting the downstream boundary condition for the UPR HEC-RAS model. The downstream boundary condition is set approximately 3000 feet downstream from the *Zolfo Springs* gage (Section 6.1.2).



Figure 11. Streambanks at Pioneer Park in Zolfo Springs about 0.5 miles (RM 68.1) downstream from the USGS gage 02295637 Peace River at Zolfo Springs

The field recon concluded at about 5:15 PM near Pioneer Park.

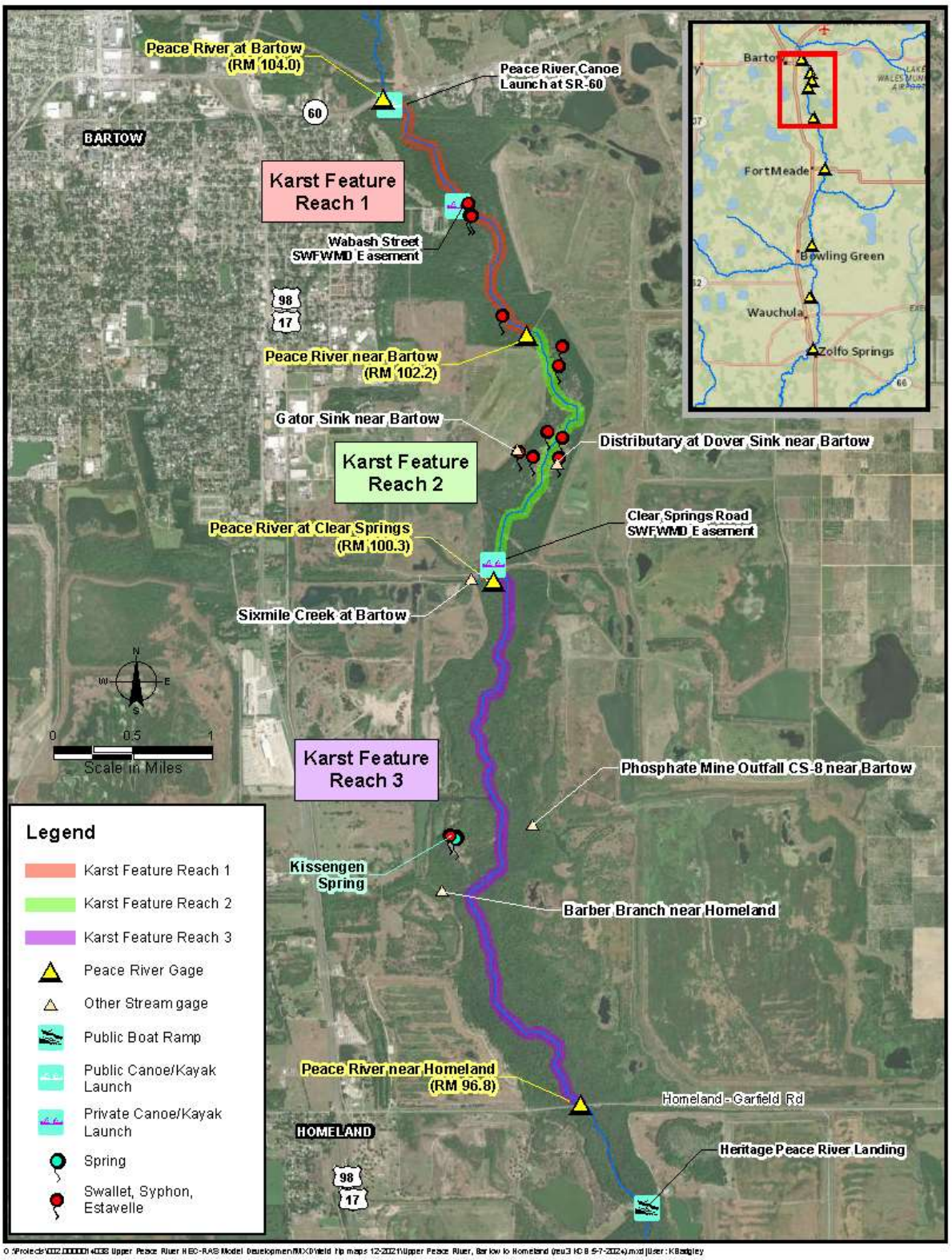


Figure 12. Peace River between the Peace River at Bartow gage to Heritage Peace River Landing. This section of the river includes Karst Feature Reaches 1, 2, and 3 described in Metz & Lewelling (2009).

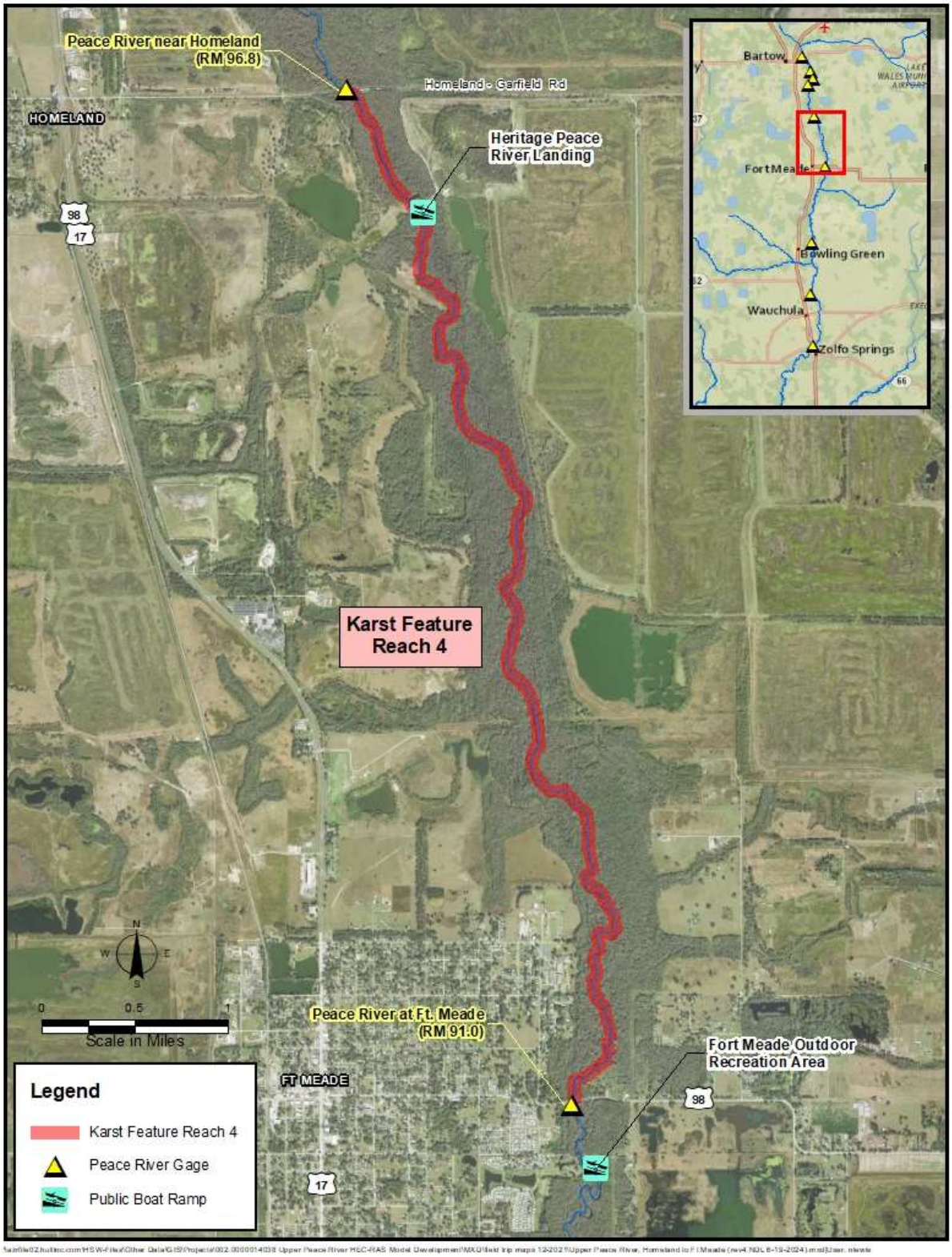


Figure 13. Peace River between the Peace River near Homeland gage to Fort Meade Outdoor Recreation Area. This section of the river includes Karst Feature Reach 4 as described in Metz & Lewelling (2009).

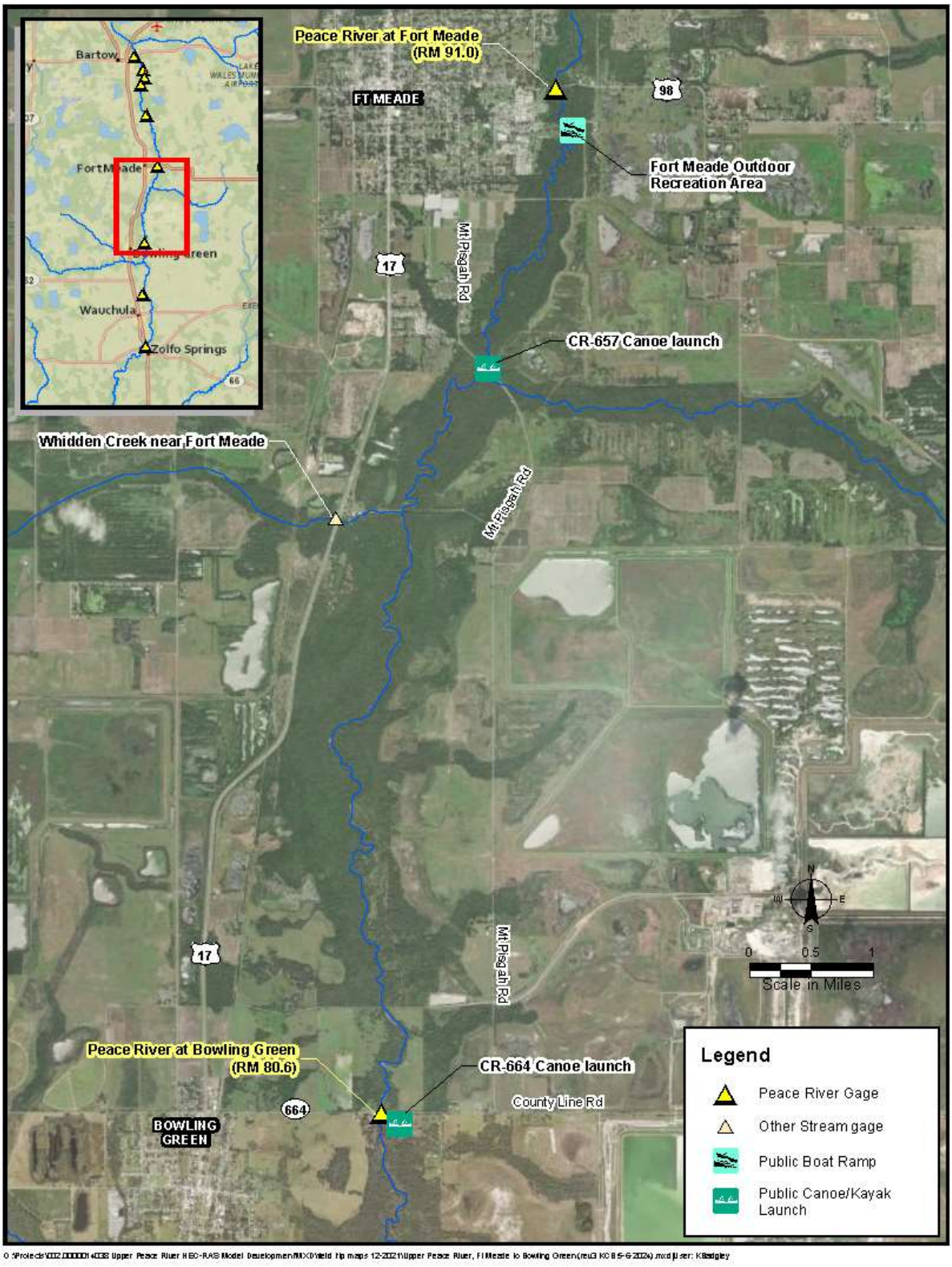


Figure 14. Peace River between the Peace River at Fort Meade gage to the Peace River at Bowling Green gage.

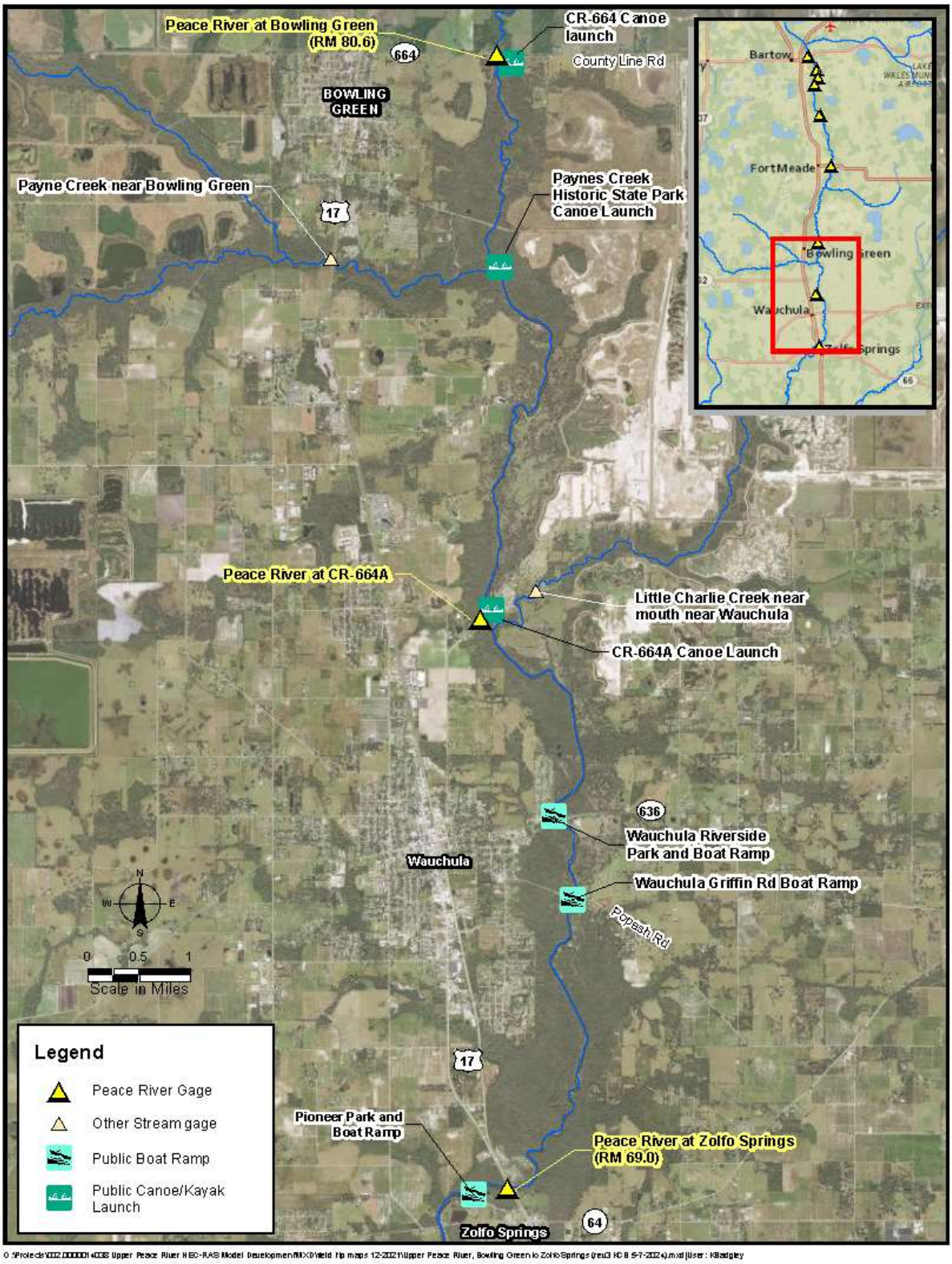


Figure 15. Peace River between the Peace River at Bowling Green gage and the Peace River at Zolfo Springs gage.

3. HEC-RAS MODELING DATA COMPILATION

3.1 INTRODUCTION

This section summarizes data compilation in support of HEC-RAS modeling for the UPR located in Polk County and Hardee County, Florida (

Figure *1*). Included in this section are an introduction (Section 3.1); a summary of relevant literature (Section 3.2); a description of the geometric and hydraulic data (Sections 3.3); a data review in terms of lateral inflows and model calibration and verification (Section 3.4); and conclusions and recommendations (Section 3.5).

Relevant data and documents reviewed include:

- Relevant geometric and hydraulic data
- 2011 steady HEC-RAS Model
- Barners, Ferland, and Associates, Inc.'s (BFA) 2020 Review and Recommendations Memo and Report Data Assessment for HEC-RAS Unsteady Flow Modeling of the Upper Peace River
- Miscellaneous USGS and District Reports related to streamflow losses
- Miscellaneous previous deliverables and work products for the UPR
- Data collected for Systems for Environmental Flow Analysis (SEFA)

3.2 LITERATURE REVIEW

The flows and ecology of the UPR have been substantially impacted by human activities since at least the late-1800s. The most influential anthropogenic activities have been the phosphate mining effects on the drainage basin and channel, and water withdrawals for phosphate mining and agriculture in the watershed.

3.2.1 Phosphate Mining Effects

The following discussion of land use changes and phosphate mining is from the Peace River History document provided by the District (SWFWMD, 2000) unless otherwise noted.

"Over 63 percent of the total land area of the Peace River watershed has been converted from its pre-alteration (pre-European settlement) land cover. Agricultural development and phosphate mining account for the direct conversion of over 50 percent of the total watershed area. Extensive phosphate mining has modified the hydrology of the UPR upstream of Bowling Green [RM 80.6]. Phosphate mining in the Peace River began in 1890. By 1908, production of pebble phosphate from the Peace River itself had ceased, but the mining companies then directed their mining efforts to the floodplain and other regions of the Peace River watershed. Land that either has been or is proposed to be mined for phosphate encompasses about 434 mi^2, or approximately 32% of the total watershed area. More specifically, about 318 mi^2, or 38% of the UPR drainage area (to Zolfo Springs) has been impacted by mining. Many of these lands, termed nonmandatory lands, were mined before land reclamation was first required by the State of Florida in 1975. Specifically, in the UPR, phosphate mining of 120 mi^2 was completed prior to 1975 and these mined areas received no reclamation. For upper portions of the Peace River watershed, phosphate mining and reclamation activities are largely complete."

Much of the pre-mining hydrography has been altered by mining and reclamation (Basso, 2004). Numerous clay-settling areas, which can cover hundreds of acres, are the dominant reclaimed landform type located along the river (Lewelling, Tihansky, & Kindinger, 1998) between Bartow

and Fort Meade. Also, these clay-settling areas dominate the UPR floodplain, from Bartow to Bowling Green (RMs 104.0 to 80.6) and impede natural ground-water recharge and surface-water drainage into the UPR (Lewelling, Tihansky, & Kindinger, 1998). Thus, the surface-water drainage to the UPR, from Bartow to Bowling Green, generally is limited to phosphate mine outfalls and reclaimed stream channels. Lewelling, Tihansky, & Kindinger (1998, p. 22) further summarized the hydrologic changes resulting from reclamation as follows:

"Naturally incised streams drained by a dendritic network are commonly replaced by swales and other poorly drained drainage features during reclamation. Soils of unmined areas tend to be well sorted and allow infiltration of rainfall and runoff, whereas soils altered by reclamation activities commonly are less pervious because of an increased clay content in the surface horizons."

3.2.2 Ground Water Flows and Levels

Along the UPR, a progressive long-term decline in streamflow has occurred since 1931 due to a lowering of the potentiometric surface of the Upper Floridan aquifer (UFA) by as much as 60 ft because of intensive ground-water withdrawals for phosphate mining and agriculture (Lewelling, Tihansky, & Kindinger, 1998). In particular, PBS&J (2007) noted that from the 1940s through the 1970s, the dominant groundwater use in the upper watershed was for phosphorus mining. This long-term decline in Upper Floridan aquifer water levels has reversed the hydraulic gradient between the Peace River and the underlying aquifers, resulting in occasional loss of perennial flow between *SR-60 at Bartow* (RM 104.0) and *Homeland* (RM 96.8) during the spring dry season (Basso, 2004). Another effect from lowering the potentiometric surface has been the cessation of flow at several springs located near and within the Peace River channel, including Kissengen Spring, that once averaged a flow of about 19 million gallons per day [35 cfs] (Lewelling, Tihansky, & Kindinger, 1998). The first cessation of the Kissengen Spring occurred in February 1950, and permanent flow cessation started in April 1960.

The reductions in the groundwater levels in the UPR watershed began to stabilize in the mid-1970s (Lewelling, Tihansky, & Kindinger, 1998) when groundwater use in Polk County reached its historical peak largely due to phosphate mining and agricultural withdrawals. Lewelling, Tihansky, & Kindinger (1998, p. 17) analyzed trends in annual streamflow for the period 1974-1995 for the four long-term USGS streamflow gages on the Peace River, i.e., *SR-60 at Bartow, Fort Meade*, *Zolfo Springs*, and *Arcadia*: A significant trend in annual mean discharge did not exist for 1975 to 1995 (Lewelling, Tihansky, & Kindinger, 1998). PBS&J (2007) completed additional trend analyses for streamflow *SR-60 at Bartow* and *Zolfo Springs* and found no significant trend metrics for flows from the 1970s through 2004. This lack of a trend in stream flows may be related to a recovery in ground-water levels since 1974 (Figure 16 and Figure 17) associated with improved water conservation practices implemented by the phosphorus-mining industry which currently requires less ground-water withdrawals than prior to 1974 (Figure 18) (Lewelling, Tihansky, & Kindinger, 1998). Specifically, PBS&J (2007) noted these conservation practices entailed greater reliance on capturing and recycling surface waters from mining areas.

The May 2007 potentiometric-surface map of the Upper Floridan aquifer indicates a rise in aquifer water levels from the 1975 levels, but levels remain as much as 30 ft below the UPR floodplain elevation (Metz & Lewelling, 2009). Basso and Schultz (2003) found that rainfall averaged over 27 gages in the SWFWMD (i.e., District-wide rainfall) was lowest in the decade of 1971 to 1980 providing another reason for the low UFA water levels in the mid-1970s. Basso and Schultz (2003) also found that the District-wide rainfall substantially increased in the decades of 1981 to 1990 and 1991 to 2000 contributing to the increase in UFA water levels shown in Figure 16 and Figure 17. UFA water levels have continued to rise over the last decade as rainfall conditions have continued to improve and Polk County groundwater use has dropped below 200 mgd – although spring dry

season water levels continue to be more than 20 feet below the UPR bed from *SR-60 at Bartow* to *Homeland*.

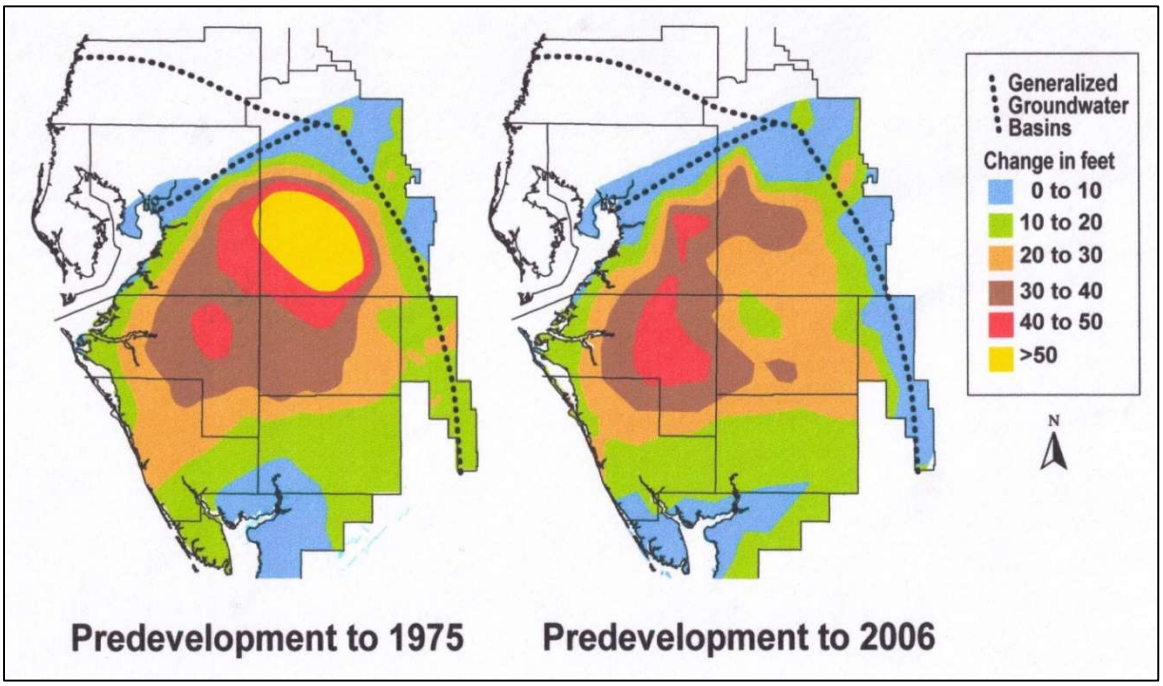


Figure 16. Long term changes in the potentiometric surface of the Upper Floridan Aquifer (Basso, 2021)

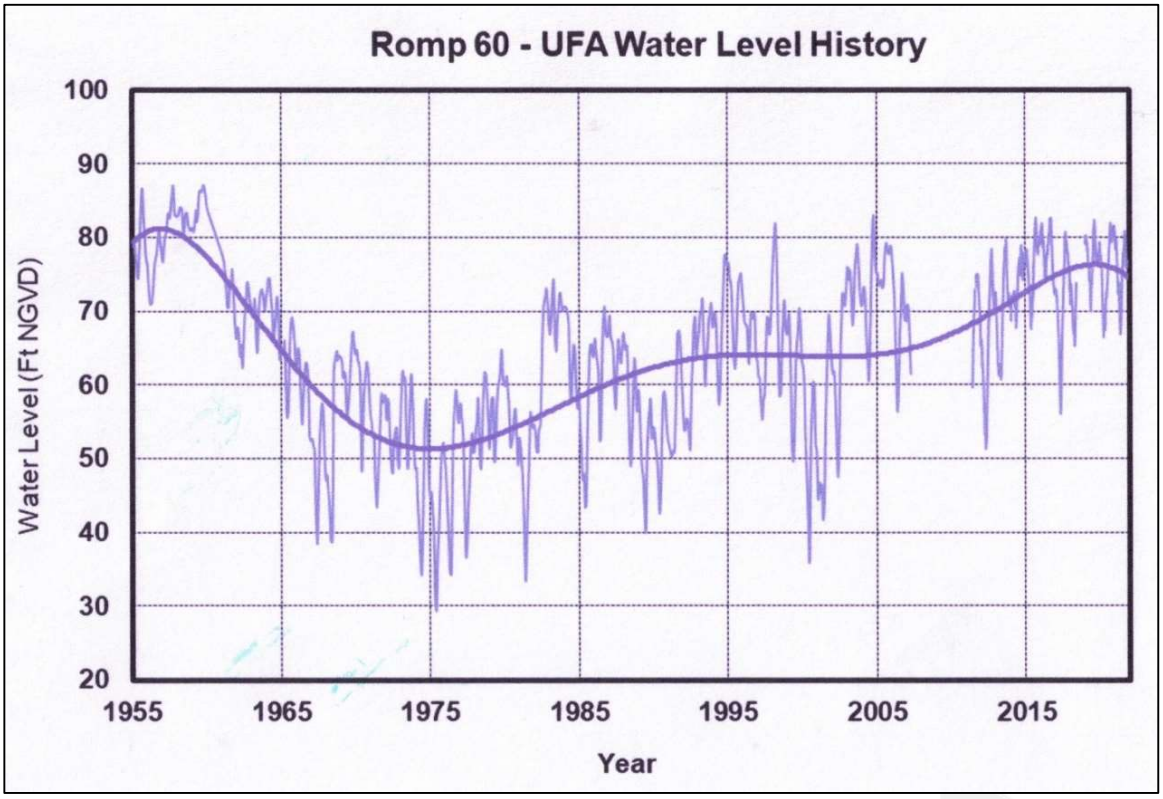


Figure 17. Water level in the Upper Floridan Aquifer at well Romp 60 from 1955 to 2019 (Basso, 2021)

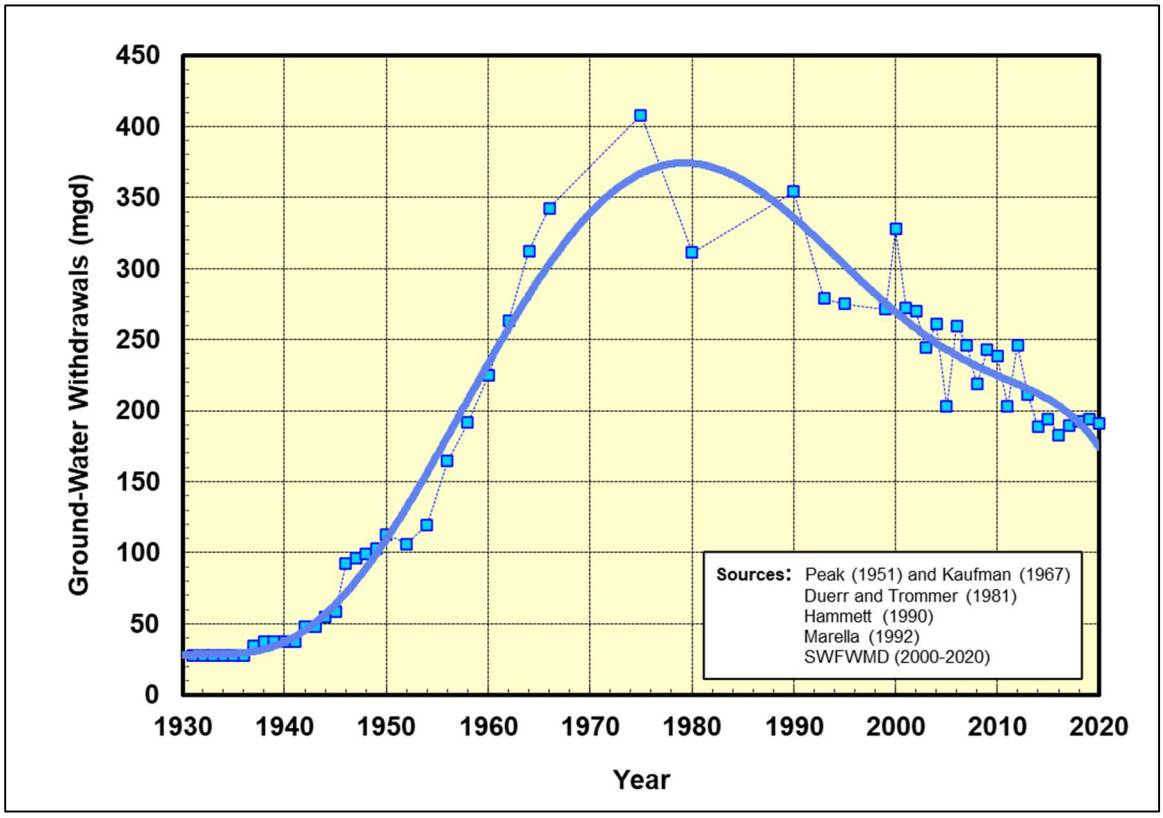


Figure 18. Annual groundwater use history in Polk County (SWFWMD portion) with a 6th-order polynomial fit (1930-2020) (Basso, 2021).

The historic lowering of UFA water levels has resulted in flow reversals (loss of streamflow) at locations where streamflow enters sinkholes along the streambed and floodplain (Lewelling, Tihansky, & Kindinger, 1998). However, during high-flow periods, as water-level differences decrease between the river and the underlying aquifers and the storage in the aquifers is replenished, the potential for streamflow losses declines (Metz & Lewelling, 2009). These findings are based on the reach from *SR-60 at Bartow* to *Homeland* that is prone to be a losing reach during the low flow periods in May and June.

The potentiometric heads fluctuate from below to above the elevation of the UPR channel from near *Fort Meade* to below *Zolfo Springs* (i.e., into the Middle Peace River area) (Lewelling, Tihansky, & Kindinger, 1998). These fluctuating ground-water levels result in head gradients that alternate between downward and upward creating both recharging and discharging ground-water conditions. However, the lack of karst activity below *Fort Meade* and thick clay confinement of the intermediate confining unit (150-250 ft thick) between the surficial aquifer and underlying UFA results in the UFA becoming hydraulically isolated from the river.

3.2.3 Streamflow Loss Estimation and Calibration

Generally, the UPR is characterized by a shallow, buried irregular top of rock, numerous observed sinkholes, and subsidence depressions (Lewelling, Tihansky, & Kindinger, 1998). The downward head gradient resulting from the lowered ground-water levels (Section 3.2.2) provides the potential for the Peace River to lose water to the groundwater system. However, the difference between river stage and aquifer head along the Peace River is not constant throughout the year, it fluctuates between wet and dry seasons, and the transient nature of these changes along the

river is poorly known (USGS, 2004). The aquifer heads in the confined system can also vary several feet due to differing climate and pumping conditions (Basso, 2004). These varying climate, pumping, and other conditions combine to add a degree of uncertainty to estimating streamflow loss from the UPR.

The UPR channel and floodplain are characterized by extensive karst development, with numerous fractures, crevasses, and sinks that have been eroded in the near-surface and underlying carbonate bedrock (Metz & Lewelling, 2009). Along the UPR, from Bartow to Fort Meade, more than 90 sinkholes occurring within 50 identified sinkhole complexes have been mapped (Figure 19). These sinkholes are concentrated in an approximate, 6-mile reach of the UPR, and most of the sinkholes are located along the upper half of this reach (Metz & Lewelling, 2009). More than half of these sinkholes are larger than 10 ft in diameter, with 10 percent exceeding 40 ft in diameter, and the formation of these larger sinkholes probably resulted from the lowering of the groundwater levels previously discussed in Section 3.2.2.

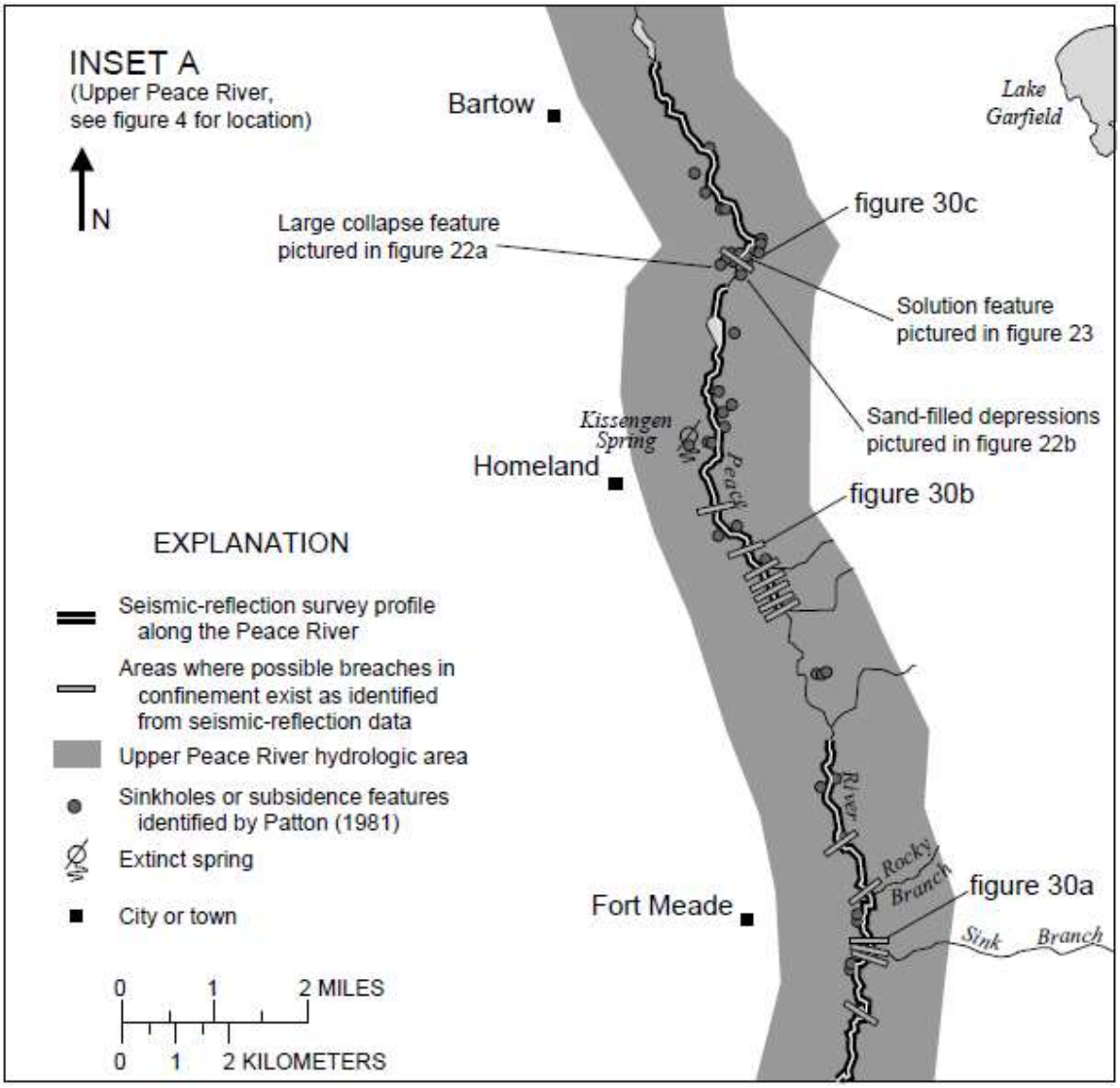


Figure 19. Upper Peace River hydrologic area with locations of identified sinkholes (Patton, 1981).

In field studies conducted by the USGS, the diversion of water from the river to sinkholes has been observed (Table 1). One report indicates the Peace River stopped flowing downstream of the unnamed sinkhole in the channel at RM 101.7, and flow in the river was not observed downstream to RM 98.8, where discharges from a phosphate-mine outfall reached the river. On June 28, 2002, a large flow loss of about 50 cfs, attributed to sink losses, was measured (Metz & Lewelling, 2009). This large loss occurred at the beginning of the summer rainy season when discharge in the river increased, and large volumes of water replenished unfilled cavities and void spaces in the underlying aquifers.

Table 1. Measured streamflow losses to karst features/sinkholes along the Upper Peace River

Name	River Mile	Dates	Amount (cfs)	Source
Wabash Complex	103.1	1995 & 1996 2002, 2003, & 2006	~0.7 0.30-5.50	(Lewelling, Tihansky, & Kindinger, 1998) (Metz & Lewelling, 2009)
Cook's Ripples	102.7	2002	0.45-2.30	(Metz & Lewelling, 2009)
Fricano Fracture	102.4	2002	0.19-0.22	(Metz & Lewelling, 2009)
Ledges Sink	102.3	2002, 2003, & 2006	1.18-7.49	(Metz & Lewelling, 2009)
Midway Sink	102.1	2002	0.85-3.37	(Metz & Lewelling, 2009)
Elephant Graveyard Sink	101.9	2002 & 2003	1.70-2.00	(Metz & Lewelling, 2009)
Unnamed sinkhole in channel	101.7	1995	1.15-1.20	(Lewelling, Tihansky, & Kindinger, 1998)
Crevasses Sink	101.4	2002	3.02	(Metz & Lewelling, 2009)
Gator Sink	101.3	2002	1.38-3.20	(Metz & Lewelling, 2009)
Dover Sink	101.2	2002 & 2006	2.34-16.10	(Metz & Lewelling, 2009)

The six-mile section of the UPR from the Bartow wastewater treatment plant (RM 103.2) to the USGS *Homeland* (02294781) stream gaging site (RM 96.8) is where the highest flow loss occurs during low-flow conditions (Basso, 2004). To better understand the potential for streamflow losses to the ground-water system between the USGS gages *SR-60 at Bartow* and *Fort Meade*, four reaches were defined (Metz & Lewelling, 2009) as follows:

Table 2. Reaches defined to describe the Karst features (Metz & Lewelling, 2009)

Reach	Boundaries	Karst Features	RMs*	Length (mi)
1	*SR-60 at Bartow* to *near Bartow* gages	Yes	104.0-102.2	1.8
2	*near Bartow* gage to at *Clear Springs* gage	Yes	102.2-100.3	1.9
3	at *Clear Springs* gage to *near Homeland* gage	No	100.3-96.8	3.5
4	*near Homeland* gage to *at Fort Meade* gage	No	96.8-91.0	5.8

* Cited from and estimated based on Lewelling, Tihansky, & Kindinger (1998) and Metz & Lewelling (2009).

The conditions under which these reaches can go dry are summarized from the investigation by Metz & Lewelling, (2009) as follows:

- During most low-flow conditions flow is perennial along the upper portion of Reach 1. Reach 1 becomes dry only during prolonged droughts, such as in 2000-2002.
- The Peace River consistently goes dry in Reach 2 during low flow conditions because of karst features in the channel that intercept and drain the surface-water flow.
- Reach 3 and Reach 4 have not been observed to be dry during low-flow conditions.

For the 13 miles downstream from River Mile 104, several elevated clay-settling areas border the floodplain and surface-water drainage to the UPR is limited to phosphate-mine outfalls, stormwater ditches, or reclaimed stream channels (Metz & Lewelling, 2009). These drainage features are generally not present in Reaches 1 and 2. The source of most surface-water contributions between *SR-60 at Bartow* and *Fort Meade* comes from either phosphate mine outfall control structures or from reclaimed phosphate mined stream channels (Lewelling, Tihansky, & Kindinger, 1998). These include Six Mile Creek, Phosphate Mine Outfall CS-8, and Barber Branch that are gaged and discharge into the UPR.

3.2.4 Spatial Distribution of Flows

The spatial distribution of the flows in the steady flow HEC-RAS model were checked against and/or informed by the results of the seepage runs done by Lewelling, Tihansky, & Kindinger (1998) and Metz and Lewelling (2009) as described in Section 7.1.2. The remainder of this section describes details of the seepage evaluation used to inform the flow apportionment in Section 7.1.2.

A seepage run is a series of synoptic streamflow measurements made at selected cross sections along the length of a river and above the mouth of all tributaries. Lewelling, Tihansky, & Kindinger (1998) did three seepage runs and Metz and Lewelling (2009) conducted two seepage runs along the Peace River to evaluate surface water and groundwater exchange, if any, between the river and underlying aquifers.

Lewelling, Tihansky, & Kindinger's (1998) first two seepage runs were baseflow seepage runs done at the end dry season, when annual rainfall was at a minimum and most streamflow was derived from ground-water seepage, rather than runoff. These seepage runs considered the Peace River from the *SR-60 at Bartow* gaging station to the tidally influenced reach at State Highway 760 bridge near Nocatee (Lewelling, Tihansky, & Kindinger, 1998, p. 54). The first was done May 16-18, 1995; and included 175 discharge measurements, 74 along the Peace River channel, 101 near the mouths of tributaries. The second seepage run was conducted May 28-31, 1996, and included 167 discharge measurements, 66 along the Peace River channel and 101 near the mouths of the tributaries. Unfortunately, a storm event on May 30, 1996 impacted downstream seepage calculations and only the flow measurement data from USGS 02294650 *SR-60 at Bartow* to USGS 02295194 at Bowling Green can be used to access groundwater-surface water interaction along the UPR for this run. Lewelling, Tihansky, & Kindinger's (1998) third seepage run focused on a non-baseflow (non-low flow) condition on August 29, 1995 and considered only the 13-mi reach, from USGS 02294650 *SR-60 at Bartow* to USGS 02294898 *at Fort Meade* (i.e., RM 104.0 to RM 91.0). The discharge measurements along this reach were made using standard USGS high flow techniques at five bridges that cross the Peace River, thus, seepage was determined for four reaches between these bridges.

Based on Lewelling, Tihansky, & Kindinger's (1998) findings that most of the streamflow losses to groundwater occurred between *SR-60 at Bartow* and *Fort Meade*. Metz and Lewelling (2009) concentrated their seepage runs on this reach with, again, the goal of documenting streamflow losses to groundwater. Metz and Lewelling's (2009) seepage runs were completed during low flow on May 13-14, 2003, and January 24, 2006. A comparison of the May 1996 and May 2003 seepage runs demonstrated that these two temporally spaced, low-flow seepage runs suggest that the relation between the river and groundwater during low-flow conditions did not change significantly over the 7-year period along Reaches 1 and 2 (Metz & Lewelling, 2009, p. 49). Further, for the January 2006 run, the seepage loss in Reach 2 was 11.6 cfs, which is similar to the losses documented in May 1996 and May 2003 (12.1 and 10.7 cfs, respectively) (Metz & Lewelling, 2009). These findings indicate stationarity in the seepage loss process in the reaches prone to losses (Reaches 1 and 2) over a ten-year period. Further, (Basso, Personal communication, 2022) noted that the Reach 2 losses averaged 13.1 cfs from 11 different seepage runs by the USGS from May

1995 through June 2008, which is similar to the foregoing values. Over Reach 1, mean losses were zero but the median was 5.1 cfs based on the 11 different seepage runs by the USGS over the same time frame. There obviously is a large degree of uncertainty in seepage losses in the UPR but the District has consistently used the median loss values to note a total of 17 cfs flow loss overreaches 1 and 2 – with over 80% occurring from Dover, the Ledges, and the Crevasses karst features in the river. Thus, using the results of the seepage runs of Lewelling, Tihansky, & Kindinger (1998) and Metz and Lewelling (2009) to spatially distribute the streamflow losses between USGS 02294650 *SR-60 at Bartow* and USGS 02294775 at *Clear Springs* should be a reliable way to determine flow distribution in this reach, as detailed in Section 7.1.2.

The reaches downstream of *Clear Springs* are less likely to experience streamflow losses to groundwater. For example, Lewelling, Tihansky, & Kindinger's (1998, p. 2) seepage runs indicate that calculated seepage losses along the Peace River in Hardee and De Soto Counties could not be conclusively determined, because most seepages were within the range of discharge measurement error. Further, for a May 1995 seepage run, Lewelling, Tihansky, & Kindinger (1998, p. 61) concluded the actual seepage along the Peace River from *Homeland* to *Bowling Green* (RM 96.8 to RM 80.6) was probably close to zero.

In the higher flow seepage run of August 1995, Lewelling, Tihansky, & Kindinger (1998, p. 70) found a net seepage loss of 118 cfs (i.e., 10% of the flow) for a 7.2 mi long reach between the *Clear Springs* Mine bridge and the Mobil Mine bridge (RM 100.6 to RM 93.4). However, they speculated that the magnitude of most seepages calculated during the high-flow seepage run may be within the range of discharge measurement error. The overall conclusion of the Lewelling, Tihansky, & Kindinger (1998) and Metz and Lewelling (2009) studies is that streamflow losses downstream of *Clear Springs* are limited.

3.3 DATA SUMMARY

This section describes the basic data requirements for performing the one-dimensional flow calculation with HEC-RAS for the UPR. The basic data needed to perform these calculations are geometric data and steady/unsteady flow data.

3.3.1 Geometric Data

The structure of a stream network is represented by the river centerline, which is assumed to follow the invert of the main channel. The river centerline for the UPR was derived from the high-resolution USGS National Hydrography Dataset (NHD) which was generally developed at a scale of 1:24,000 or 1:12,000. The river centerline was used to assign the river station (RS) values of the cross-sections, measured in feet along the river reach from its downstream boundary below the *Zolfo Springs* gage.

3.3.1.1 Channel Bathymetric Survey and Floodplain Topographic LIDAR Data

At the end of the field recon described in Section 2, Lei Yang (SWFWMD) mentioned that the cross-sectional survey data collected in 2011 (Pickett and Associates, Inc.) that may have been included in Chen's 2011 HEC-RAS model and the cross-sectional survey in 2020 (Pickett and Associates, Inc.) were selected by Xinjian Chen (SWFWMD) to fill in areas where data were limited or outdated in the HEC-RAS model developed by Chen in 2010-2011. The District indicated that the new HEC-RAS model should combine data collected by Pickett Surveying & Photogrammetry in 2011, by Lombardo, Foley & Kolarik, Inc. (2008), and by PBS&J (2003) with the more recent survey by Pickett (2020) and HSW (2021). Further, the latest survey data were to be used in areas of overlap among the various survey datasets (Section 5.2.4). Also, for development of the new HEC-RAS model, the cross-sectional data in Chen's 2011 HEC-RAS model that were not georeferenced were georeferenced. Further, the 2015 Polk and Hardee Counties LIDAR/DEM (SWFWMD, 2015)

were the most recent data available during the model development task and were used for the cross-sections in the floodplain.

Multiple sources of bathymetric/topographic/survey data were provided by the District (Figure 20 and Figure 21) and considered and/or used for development of the new UPR HEC-RAS model. The data include the following:

2011 HEC-RAS (Total 165 cross-sections) - The USGS developed a steady flow HEC-RAS model of the UPR each for the river segment between the *Zolfo Springs* gage (USGS ID 02295637) and) the *Fort Meade* gage (USGS ID 02294898) and the river segment between the *Fort Meade* gage (USGS ID 02294898) and the *SR-60 at Bartow* gage (USGS ID 02294650) in 2002 to support the development of minimum flows for the UPR (SWFWMD 2002) and the two models were merged and revised in 2011 (Chen, 2011). The 2011 model consists of cross section survey data compiled from multiple sources over a period from 2001 through 2011. These sources include the following:

- 119 cross sections were surveyed by multiple entities between 2001 and 2011 including District Staff; Pickett Surveying and Photogrammetry; Lombardo, Foley, & Kolarik, Inc.; and a BCI Engineers and Scientists, Inc., specific details of these surveys are as follows:
    - 18 vegetation transects surveyed by the District in collaboration with PBS&J in (2003) as documented in SWFWMD (2002).
    - The surveyor, Lombardo, Foley, & Kolarik, Inc, surveyed cross sections and hydraulic features in two of the UPR's tributaries Bear Branch and Six Mile Creek in June 2008, and four bridges and their associated cross-sections in the UPR in July 2008 through Ardaman & Associates, Inc. (2008) that contracted with the SWFWMD to provide watershed management program consulting services in the UPR Watershed.
    - Field data at four locations (i.e., Bartow, Fort Meade, Bowling Green, and O'Neal) along the Peace River for use in the Physical Habitat Simulation (PHABSIM) model, which were surveyed in 2010. However, the Bartow, Fort Meade, and Bowling Green sites were resurveyed as part of Pickett's 2011 survey, and the O'Neal site also was part of the 18 vegetation transects surveyed in 2002.
- 46 cross sections were inherited from the source USGS model that were added to the 2011 model to backfill long gaps in the surveyed data.
- LiDAR data were used to supplement the floodplain areas to a minimum 1,000-foot buffer on either side of the channel centerline at each cross section. It is not clear which version of the LiDAR data was used.
- It was further noted that 126 cross sections in the model did not sufficiently extend into the floodplain to accommodate medium and high flows (BFA, 2020).

2014 District Survey (Total 31 cross-sections) - District collected survey data for 31 cross-sections and bridges across Peace Creek, Lower Saddle Creek and the bridge on US 17 near Zolfo Springs. Most of these cross sections are above the Bartow gage and are outside the current HEC-RAS model extent. The US 17 bridge was resurveyed by Pickett (2020). As such, the 2014 District Survey was not considered in the current model construction.

2020 Pickett Survey (Total 93 cross-sections) - The Pickett Survey collected transect data at ninety (90) locations as specified by the District. At eighty-nine (89) typical locations a single transect line was collected and at the one (1) bridge survey (i.e., US 17) a total of four transect lines were collected. The lengths of the transect lines were determined by the distance needed to extend one hundred feet (100 ft) beyond the water boundaries of the LiDAR data

provided by the District. Many of these transects coincide with the existing 2011 HEC-RAS transects. When there was any overlap of the survey data at the same location among different surveys, the latest survey data was used for the HEC-RAS model.

2021-2022 SEFA Survey (Total of 27 cross-sections) - Verdantas collected survey data at 9 SEFA sites (three transects per site) for a total of 27 cross-sections between the *SR-60 at Bartow* and *Zolfo Springs* gages during 2021. These survey data were added to the current HEC-RAS model after extending with the LiDAR data in the floodplain.

A total of 44 cross sections were surveyed by Pickett during 2020 between the *SR-60 at Bartow* and *Fort Meade* gages. Of these 44 cross sections, 38 cross sections overlap the existing HEC-RAS model cross sections (Figure 20) and 6 new cross sections were added. Between Fort Meade and Zolfo Springs, a total of 49 cross sections were surveyed by Pickett during 2020 and 40 of these cross sections overlap the existing HEC-RAS model cross sections (

Figure *21*) and 9 new cross sections were added. Among the 78 overlaps, 45 were to replace outdated USGS surveyed cross sections, 17 to replace previous vegetation transects, 11 to replace previous BCI cross sections, 4 for the bridge on US 17, and 1 for shoal 16 that were used in the 2011 HEC-RAS model. Fifteen newly added cross sections were to fill large spaces between the cross sections in the 2011 HEC-RAS model.

BFA (2020) concluded that the new topographic and bathymetric database consisting of many surveyed cross sections, especially the 2020 survey done by Pickett, and the upcoming statewide LiDAR covering the UPR is sufficient to support the development of unsteady-flow and steady-flow HEC-RAS models of the UPR. Verdantas implemented BFA's conclusion. However, the new statewide LiDAR for both Polk and Hardee counties was not available until December and November 2022, respectively, well after the cross-section extraction was substantially in progress. Thus, the District agreed to use the 2015 LiDAR, which were surveyed along the entire Peace River corridor to facilitate the model development process. These LiDAR data were considered to be sufficient to supplement the geometric data within the floodplain of each cross section developed.

3.3.1.2 Structure Data

The 2011 HEC-RAS model incorporates 14 bridge and culvert crossings from topographic and bathymetric surveys completed by Lombardo, Foley & Kolarik in 2008, and Pickett Surveying & Photogrammetry in 2011. Pertinent data and information about each structure were provided by the District or obtained from the Florida Department of Transportation (FDOT), CSX Railroad, or Polk County for the crossings. One additional crossing at the U.S. 17 bridge upstream of Zolfo Springs was included in the 2020 topographic and bathymetric survey completed by Pickett Surveying & Photogrammetry but was not included in the 2011 HEC-RAS model provided by the District. BFA (2020) concluded that the database compiled for the existing structures in the UPR is sufficient to support the development of an unsteady-flow HEC-RAS model, and subsequent steady-flow HEC-RAS model in support of development of MFLs (Table 3). Verdantas implemented BFA's recommendation and developed the current model accordingly.

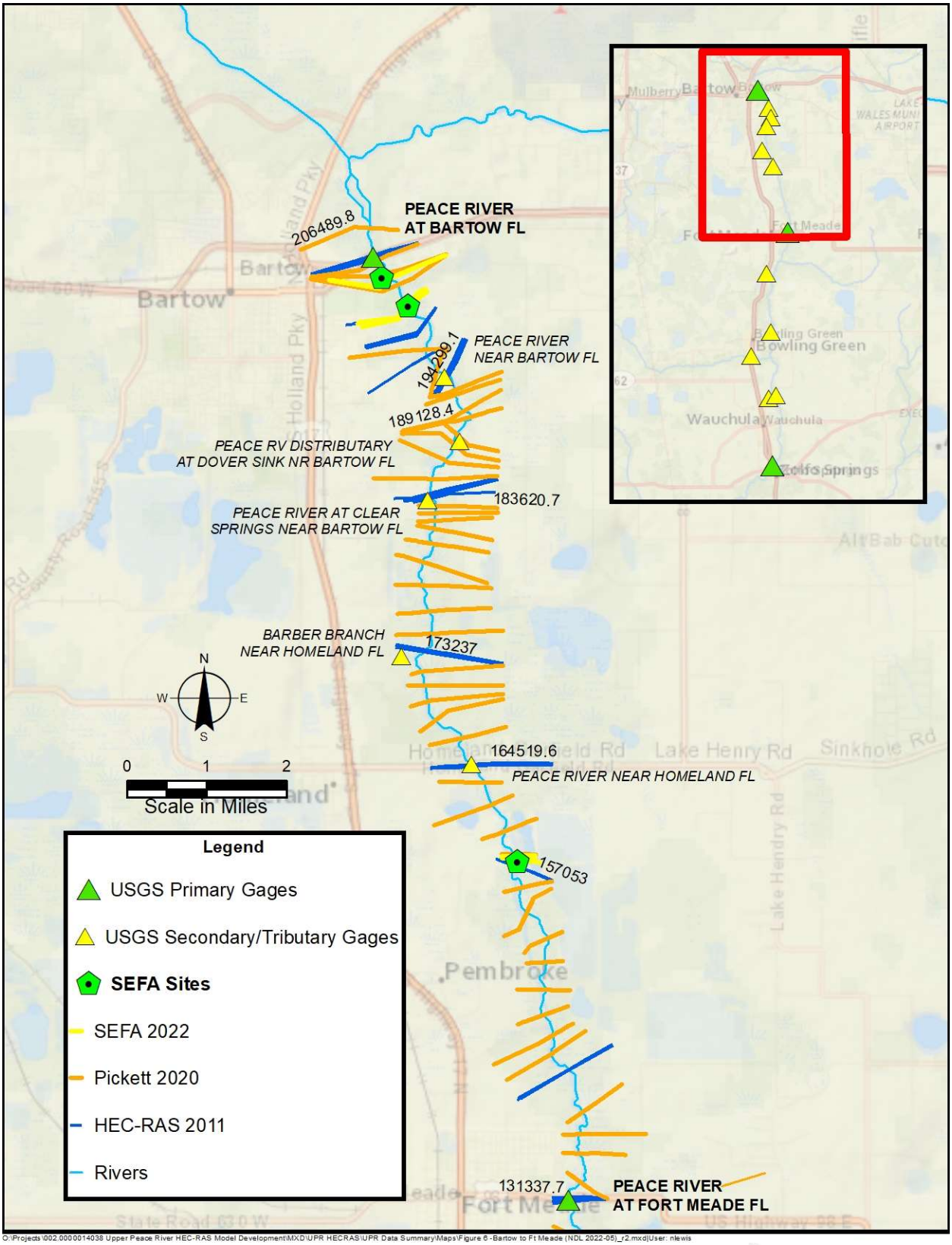


Figure 20. Preliminary cross-section cutlines based on various surveys and the 2011 HEC-RAS model between Bartow and Fort Meade.

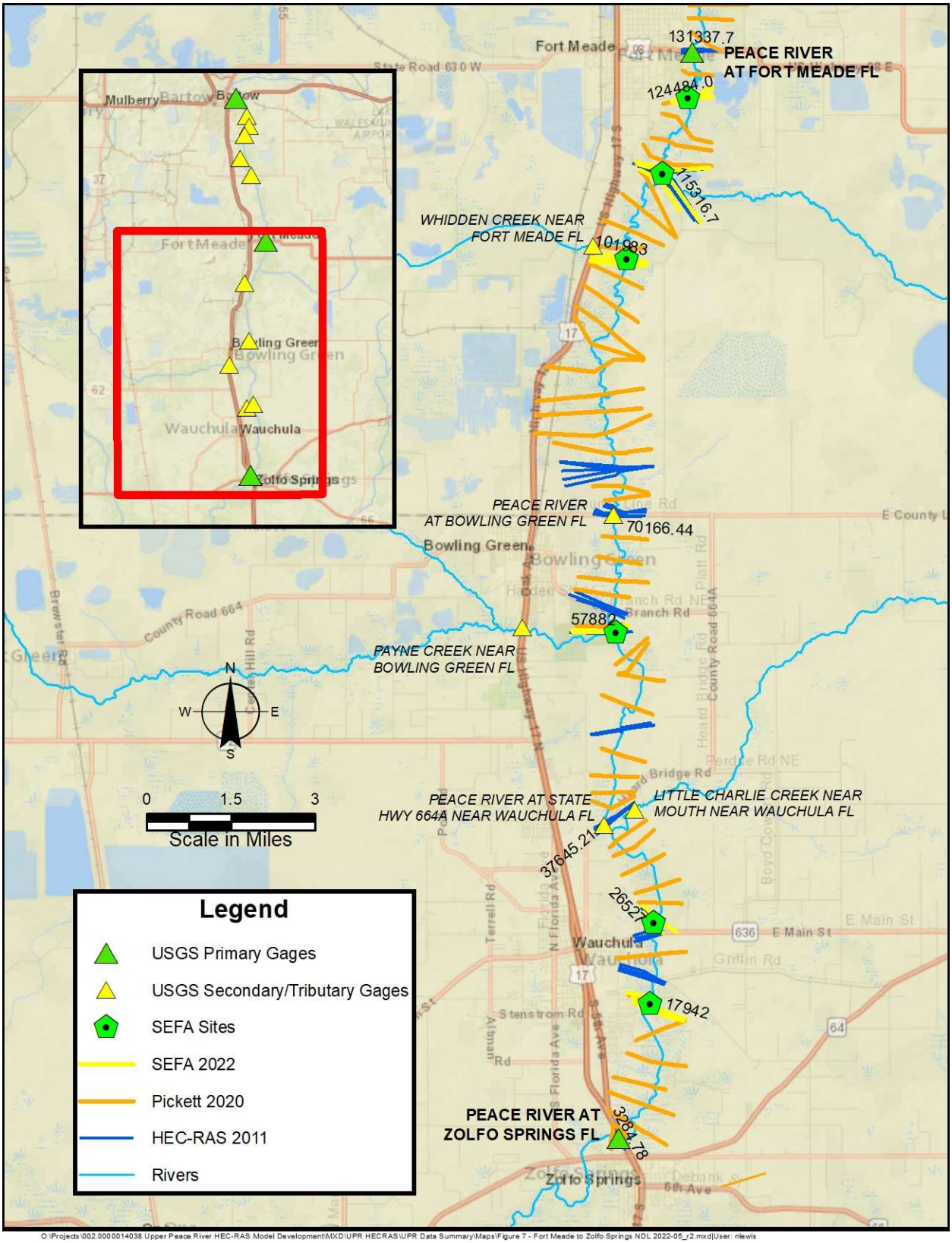


Figure 21. Preliminary cross-section cutlines based on various surveys and the 2011 HEC-RAS model between Fort Meade and Zolfo Springs.

Table 3. Structure (sorted from top/upstream to bottom/downstream) Data Summary

RAS Station ID[1]	Crossing Name	County	Survey Source	Owner	FDOT ID	Year Constructed	Last Inspection
595	SR 60 Bridge at Bartow	Polk	2008, 2010	FDOT	160042	1964	10/19/20
563	Abandoned Phosphate Mine Bridge near Bartow	Polk	2008, 2010	TIITF / DEP	N/A	N/A	N/A
541	Clear Springs Mine Bridge near Bartow	Polk	2008, 2010	TIITF / DEP	N/A	N/A	N/A
537	Three Pipes (66, 48 & 48 cm)	Polk	2008, 2010	TIITF / DEP	N/A	N/A	N/A
499	CR 640 Bridge at Homeland	Polk	2008	Polk County	160108	1969	9/21/21
453	US 98 Bridge	Polk	2011	FDOT	160064	1931	8/30/21
427	Old Railroad Bridge	Polk	2011	TIITF / DEP	N/A	N/A	N/A
419	Mt. Pisgah Road Bridge	Polk	2011	Polk County	160107	1961	7/29/21
389	Pipeline Bridge	Polk	2011	Mosaic Fertilizer	N/A	N/A	N/A
367	County Line Bridge	Hardee	2011	Polk County	160101	1958	N/A
353	Lake Branch Road Bridge	Hardee	2011	Hardee County	060031	1962	2/25/21
315	Heard Road Bridge	Hardee	2011	Hardee County	060017, 064080	1954, 1965	2/25/21
295	SR 64A Main Street Bridge	Hardee	2011	FDOT	060054	1999	1/9/20
287	CR 652 Griffin Road Bridge	Hardee	2011	FDOT	060030	1970	2/23/21
N/A	US 17 Bridge at Zolfo Springs	Hardee	2020	FDOT	060052, 060053	2001, 2001	1/20/20

Note: [1] defined in the 2011 HEC-RAS Model.

3.3.2 Flow and Stage Data

Nineteen gaging stations are located on the UPR (upstream of Zolfo Springs) and its tributaries (Table 4 and Table 5, Figure 23 and Figure 24). Among the gages located on the UPR, the *Zolfo Springs* gage has the longest period of continuous flow record, dating back to 1933 (Table 4 and Figure 22). Periods of missing record of varying degrees exist for all of the gages. The *Bowlegs Creek* gage has the highest count of missing record (39% of data missing during 3/1/1964 - 9/30/2021) and *Little Charlie Creek* gage has the lowest count of missing record (1% data missing during 9/30/2012 - 9/30/2021). The gages on *Whidden Creek*, *Payne Creek*, and *Phosphate Mine Outfall* had about 28%, 19%, and 10% data missing within their periods of record.

Table 4. Upper Peace River Main Channel Stream Gaging Stations and Data Summary

Site Name	USGS ID, Drainage Area (A) in mi², and River Mile (RM)	SWFWMD ID	Parameter	Start Date	End Date	Data Count
Peace River at SR 60 at Bartow, FL (Peace River SR-60 at Bartow)	02294650	24833	Daily Stage (ft)	11/9/1939	9/30/2021	29474
	A = 390		Daily Flow (cfs)	10/1/1939	9/30/2021	29951
	RM=104.0		Water Level Elevation (ft)	10/10/2011	8/25/2020	3620
			Flow Measurements (cfs)	11/9/1939	8/5/2021	768
Peace River near Bartow, FL (Peace River near Bartow)	02294655	670663	Daily Stage (ft)	5/15/2002	9/30/2021	6026
	A = 395		Daily Flow (cfs)	5/15/2002	9/30/2021	7076
	RM=102.2		Water Level Elevation (ft)	10/1/2007	9/30/2021	4243
			Flow Measurements (cfs)	6/24/2002	8/5/2021	137
Peace RV Distributary at Dover Sink near Bartow, FL	02294705	700395	Daily Stage (ft)	1/13/2006	9/30/2021	5589
			Daily Flow (cfs)	-	-	-
			Water Level Elevation (ft)	10/1/2007	8/25/2020	3803
			Flow Measurements (cfs)	4/11/2006	3/23/2007	6
Peace River at Clear Springs near Bartow, FL	02294775	700355	Daily Stage (ft)	5/16/2002	9/30/2021	6739
	A = 396		Daily Flow (cfs)	5/15/2002	9/30/2021	7079
	RM=100.3		Water Level Elevation (ft)	10/1/2007	9/30/2021	4783
			Flow Measurements (cfs)	7/15/2002	8/11/2021	112
Peace River near Homeland, FL	02294781	24823	Daily Stage (ft)	7/18/1998	9/30/2021	8157
	A = 411		Daily Flow (cfs)	10/1/2001	9/30/2021	7305
	RM=97.0		Water Level Elevation (ft)	10/1/2007	9/30/2021	4969
			Flow Measurements (cfs)	7/11/1974	8/12/2021	253
Peace River at Fort Meade, FL	02294898	24805	Daily Stage (ft)	4/22/1964	9/30/2021	19652
	A = 480		Daily Flow (cfs)	6/1/1974	9/30/2021	17289
	RM=91.0		Water Level Elevation (ft)	10/1/2007	9/30/2021	5038
			Flow Measurements (cfs)	5/18/1931	8/12/2021	419
Peace River at Bowling Green, FL	02295194	785819	Daily Stage (ft)	12/11/2010	9/30/2021	3938
	A = 613		Daily Flow (cfs)	12/1/2010	9/30/2021	3957
	RM=80.6		Water Level Elevation (ft)	12/11/2010	8/25/2020	3937

Site Name	USGS ID, Drainage Area (A) in mi², and River Mile (RM)	SWFWMD ID	Parameter	Start Date	End Date	Data Count
			Flow Measurements (cfs)	2/14/1982	8/11/2021	79
Peace River at SH 664A near Bowling Green, FL	02295203	24939	Gage Height (ft)	7/25/1998	9/29/2003	1874
	A = 614		Daily Flow (cfs)	-	-	-
			Water Level Elevation (ft)	-	-	-
			Flow Measurements (cfs)			
Peace River at State HWY 664A near Wauchula, FL	02295440		Daily Stage (ft)	10/17/2016	9/30/2021	1806
	A = 754		Daily Flow (cfs)	-	-	-
	RM=74.7		Water Level Elevation (ft)	-	-	-
			Flow Measurements (cfs)	12/1/1982	5/24/1983	3
Peace River at Wauchula, FL	02295607		Daily Stage (ft)	10/1/1969	2/29/1972	882
	A = 808		Daily Flow (cfs)	-	-	-
			Water Level Elevation (ft)	-	-	-
			Flow Measurements (cfs)	7/11/1974	5/24/1983	5
Peace River at US 17 at Zolfo Springs, FL	02295637	23917	Daily Stage (ft)	9/7/1933	9/30/2021	31617
	A = 826		Daily Flow (cfs)	9/1/1933	9/30/2021	32172
	RM=68.6		Water Level Elevation (ft)	10/1/2007	9/30/2021	5026
			Flow Measurements (cfs)	10/5/1919	8/2/2021	789

Notes: 1) Source: USGS National Water Information System; 2) Drainage areas (A) and River Miles (RM) listed in table obtained from the USGS. RM based on the distance from the discharge point at Charlotte Harbor; 3) The reference system for the datum of gages varies between NGVD29 and NAVD 88. Water level elevation is relative to NAVD 1988; and 4) The cutoff date for data acquisition for this table is 9/30/2021.

Table 5. Upper Peace River Tributary Stream Gaging Stations and Data Summary

Site Name	USGS ID	SWFWMD ID	Parameter	Start Date	End Date	Data Count
Six Mile Creek at Bartow, FL	02294747	700394	Daily Stage (ft)	12/4/2002	9/30/2021	6739
			Daily Flow (cfs)	12/1/2002	9/30/2021	6879
			Water Level Elevation (ft)	10/2/2007	9/30/2021	4991
			Flow Measurements (cfs)	6/20/2002	8/9/2021	141
Phosphate Mine Outfall CS-8 near Bartow, FL	02294759	702863	Daily Stage (ft)	2/4/2003	9/30/2021	4573
			Daily Flow (cfs)	2/1/2003	9/30/2021	6121
			Water Level Elevation (ft)	10/1/2007	9/30/2021	3497
			Flow Measurements (cfs)	1/21/2003	8/9/2021	117
Barber Branch near Homeland, FL	02294760	700356	Daily Stage (ft)	12/4/2002	9/30/2021	6649
			Daily Flow (cfs)	12/1/2002	9/30/2021	6879
			Water Level Elevation (ft)	10/1/2009	9/30/2021	3923
			Flow Measurements (cfs)	8/23/2002	8/12/2021	122
Whidden Creek near Fort Meade, FL	02295163	24879	Daily Stage (ft)	11/21/2000	9/30/2021	7528
			Daily Flow (cfs)	11/21/2000	9/3/2021	5451
			Water Level Elevation (ft)	10/1/2007	9/30/2021	5073
			Flow Measurements (cfs)	5/13/1939	8/11/2021	148
Bowlegs Creek near Fort Meade, FL	02295013	24867	Daily Stage (ft)	2/22/1991	9/30/2021	10534
			Daily Flow (cfs)	3/1/1964	9/30/2021	12852
			Water Level Elevation (ft)	10/1/2007	9/30/2021	4672
			Flow Measurements (cfs)	4/1/1964	8/10/2021	258
Payne Creek near Bowling Green, FL	02295420	24943	Daily Stage (ft)	10/1/1979	9/30/2021	14660
			Daily Flow (cfs)	10/1/1963	9/30/2021	17167
			Water Level Elevation (ft)	10/1/2007	9/30/2021	5063
			Flow Measurements (cfs)	5/14/1939	8/11/2021	377

Site Name	USGS ID	SWFWMD ID	Parameter	Start Date	End Date	Data Count
Little Charlie Creek near Mouth near Wauchula, FL	02295580	893414	Daily Stage (ft)	9/30/2012	9/30/2021	2915
			Daily Flow (cfs)	9/30/2012	9/30/2021	3262
			Water Level Elevation (ft)	9/30/2012	9/30/2021	2903
			Flow Measurements (cfs)	9/11/2012	8/10/2021	63
Thompson Branch near Wauchula, FL	02295630	23939	Daily Stage (ft)			
			Peak Streamflow (cfs)	8/6/1984	7/7/2021	36
			Water Level Elevation (ft)			
			Flow Measurements (cfs)	1/5/1987	5/30/2018	9

Notes: 1) Source: USGS National Water Information System; 2) The reference system for the datum of gages varies between NGVD29 and NAVD 88. Water level elevation is relative to NAVD 1988; and 3) The cutoff date for data acquisition for this table is 9/30/2021.

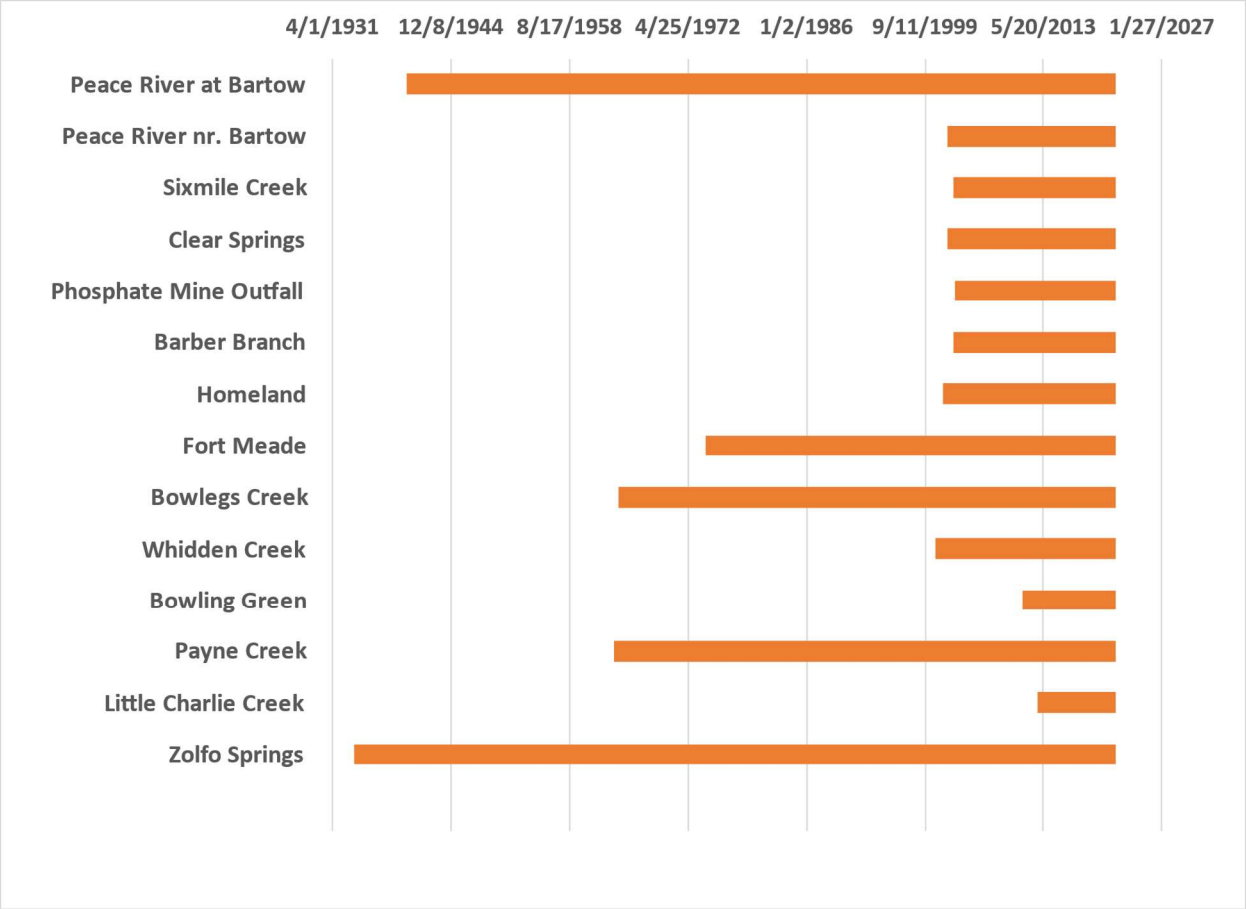


Figure 22. Upper Peace River Long-Term Continuous Gage Flow Summary (additional gages with a short period record of data are not included)

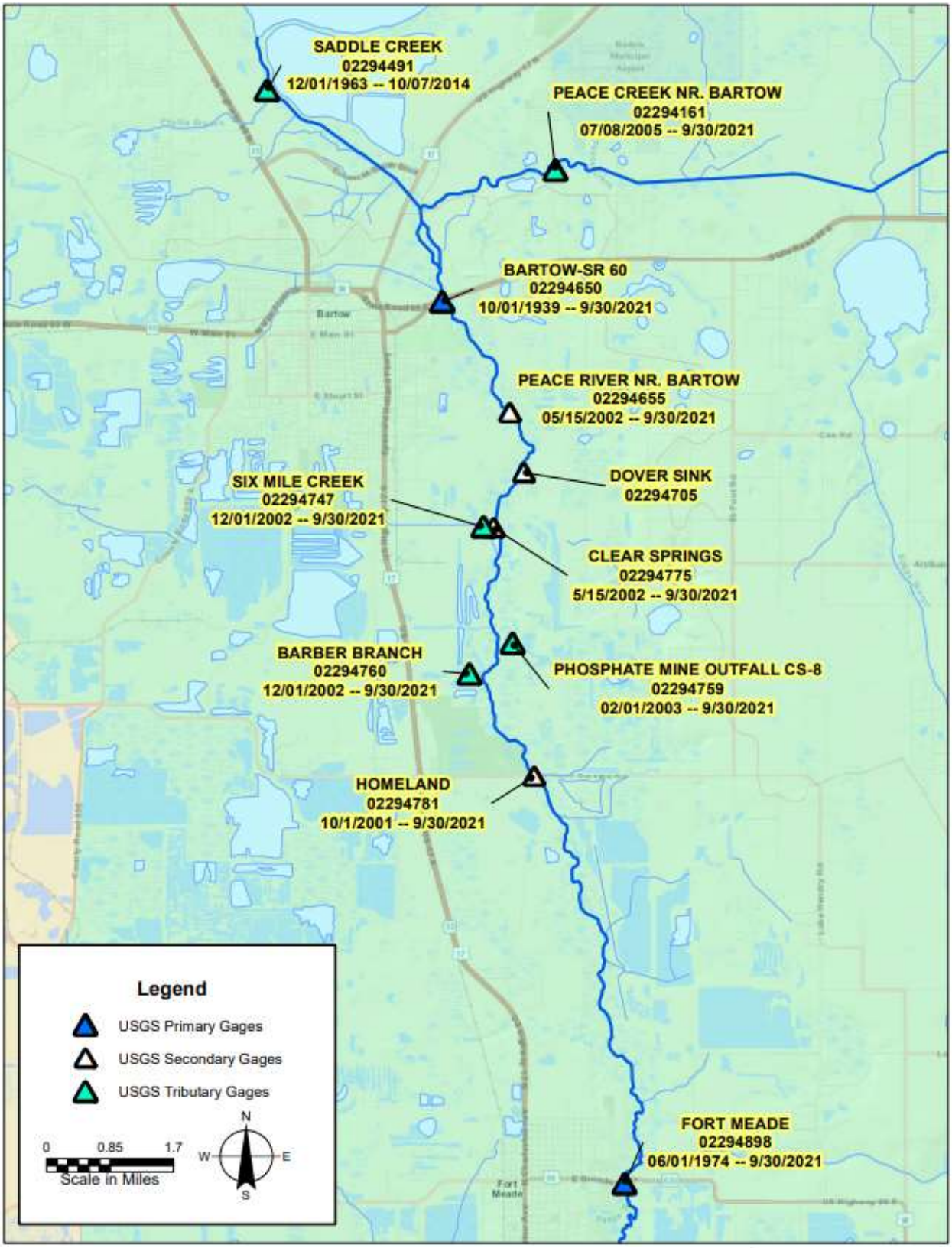


Figure 23. Streamflow gages between Bartow and Fort Meade.

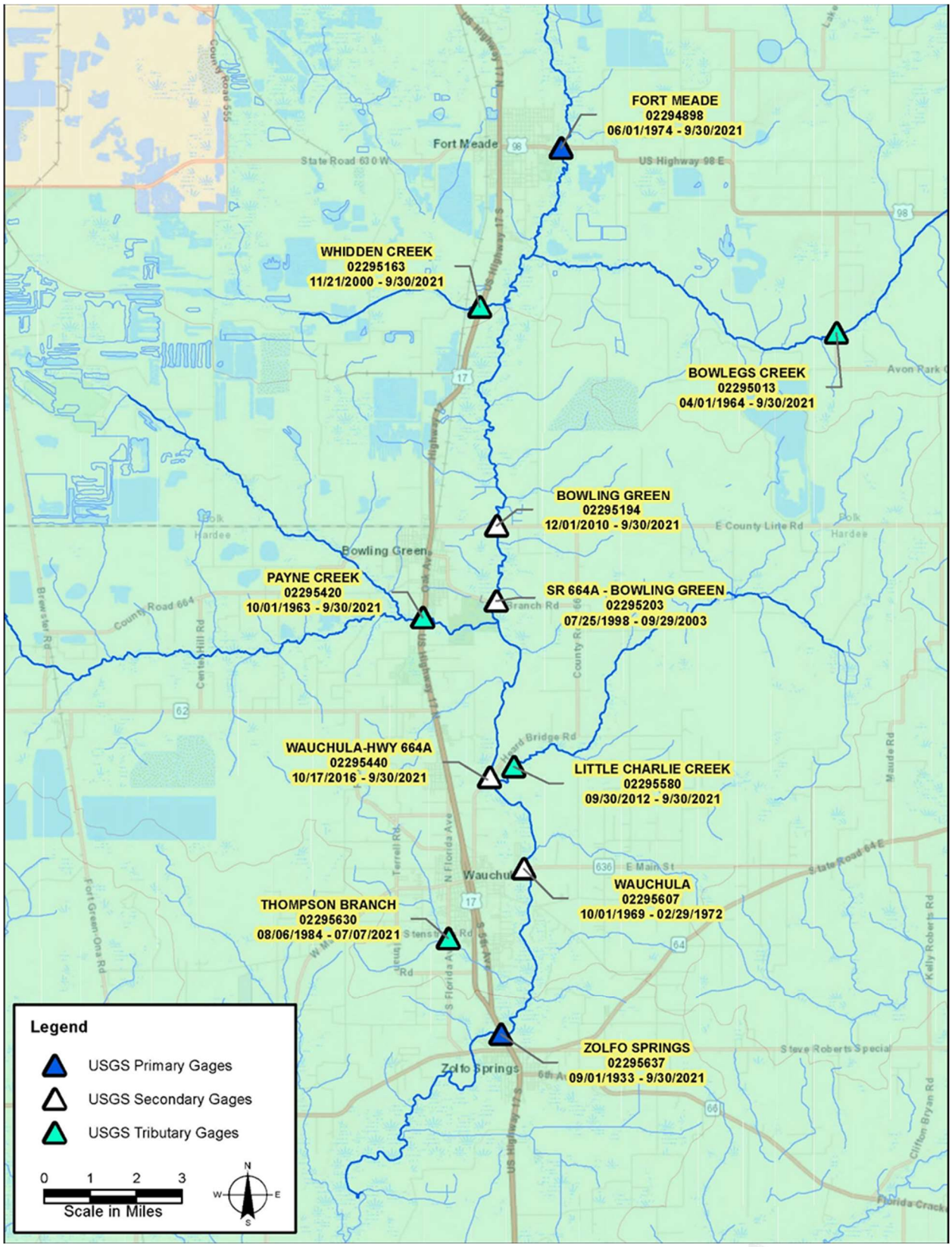


Figure 24. Streamflow gages between Fort Meade and Zolfo Springs.

3.4 DATA REVIEW

As noted in Section 3.2.3, the difference between river stage and aquifer potentiometric head along the UPR is not constant throughout the year, it fluctuates between wet and dry seasons, and the transient nature of these changes along the river is poorly known (USGS, 2004). Thus, it is difficult to determine exactly when streamflow losses will occur along the UPR. When groundwater levels were at their lowest level at the end of the dry season (May and June), there is an increased potential for streamflow losses (Metz & Lewelling, 2009). The field observations indicated that when the flow at the *Peace River at SR-60 at Bartow* gaging station was about 10 cfs, the UPR flow typically terminated at Ledges Sink (River Mile 102.3) (Metz & Lewelling, 2009). Also, during below-average streamflow and groundwater conditions, and when the discharge at the *Peace River at SR-60 at Bartow* was about 20 cfs or less, all the flow in the river drained into various karst features in the channel. In addition, streamflow at *Fort Meade* is less than that *SR-60 at Bartow* 64 percent of the time during low flow conditions (i.e., when streamflow at *Fort Meade* ≤ 27 cfs) (Basso, 2004). To verify these conditions, scattergrams of daily flows for the period May 15, 2002 through November 10, 2021 (the common period of record for most gages on the UPR with approved flows from the USGS at the time of this evaluation) were plotted for the following streamflow gages:

- *Peace River at SR-60 at Bartow* versus *Peace River near Bartow* (Figure 25),
- *Peace River near Bartow* versus *Peace River at Clear Springs* (Figure 26),
- *Peace River at SR-60 at Bartow* versus *Peace River at Clear Springs* (Figure 27),
- *Peace River at Clear Springs* versus *Peace River near Homeland* (Figure 28), and
- *Peace River near Homeland* versus *Peace River at Fort Meade* (Figure 29).

The scattergrams present the downstream gage on the y-axis, so points that plot below the 1:1 line indicate flow losses between the compared gages. Note that Figure 25 through Figure 29 limit compared flows to 50 cfs. These scattergrams illustrate the tendency for flow losses during flows less than 50 cfs from *SR-60 at Bartow* through *near Bartow* to *Clear Springs*, and the tendency for flow gains during flows less than 50 cfs from *Clear Springs* through *Homeland* to *Fort Meade*. The comparisons confirm that when the flow *SR-60 at Bartow* is less than or equal to about 20 cfs, substantial or complete flow losses are expected (Figure 25 through Figure 27). Substantial flow losses between *SR-60 at Bartow* and *Clear Springs* are also often observed for higher flows (e.g., Flows > 100 cfs). These findings are consistent with the other studies (Metz & Lewelling, 2009) that large volumes of streamflow losses occurred along the UPR.

However, for most of the time (more than 90% of the time) flow increases between *Clear Springs* and *Homeland* (Figure 28) and between *Homeland* and *Fort Meade* (Figure 29). The magnitudes of these flow increases are consistent with the observation that the flow gain between Bartow and Fort Meade is usually small compared to the gain in the drainage area (Basso, 2004). In summary, the streamflow losses are generally confined to the reach between USGS 02294650 *Peace River at SR-60 at Bartow* and *USGS 02294775 Peace River at Clear Springs*. This streamflow comparison/evaluation informed the flow apportionment method applied for the steady-flow HEC-RAS model (Section 7.1).

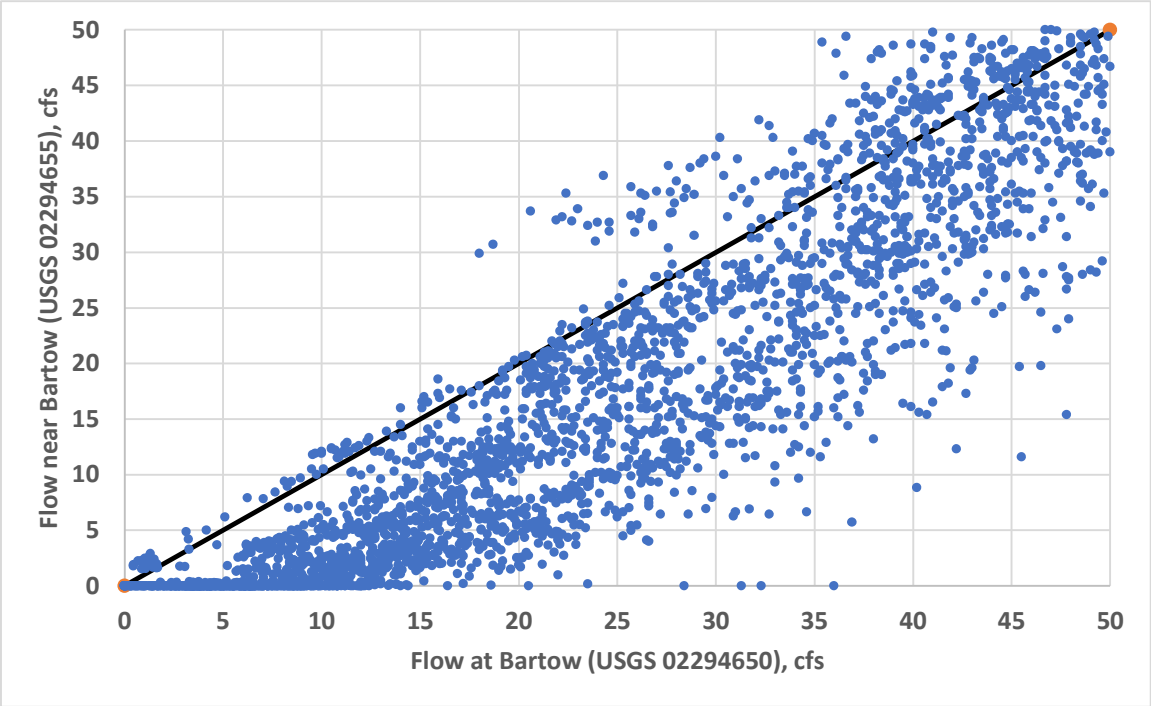


Figure 25. Daily streamflow measured at USGS 02294650 Peace River at SR-60 at Bartow, Florida, and USGS 02294655 Peace River near Bartow, Florida, for May 15, 2002, to November 10, 2021. Flow values in both axes are limited to 50 cfs.

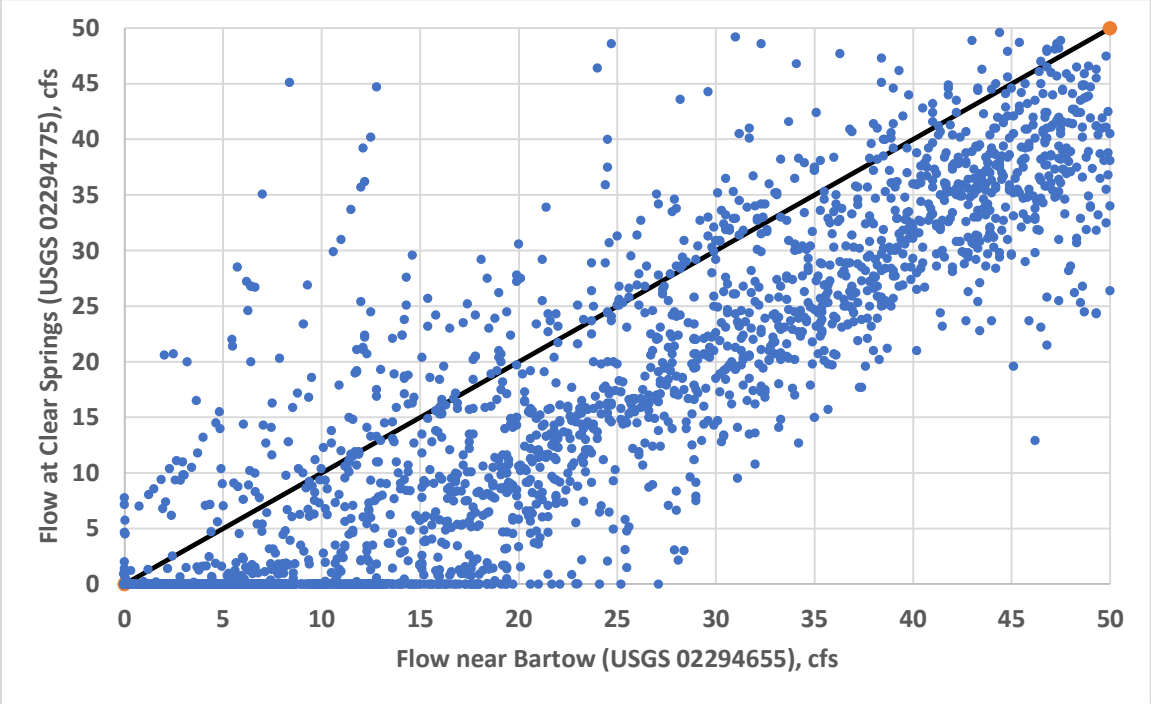


Figure 26. Daily streamflow measured at USGS 02294655 Peace River near Bartow, Florida, and USGS 02294775 Peace River at Clear Springs near Bartow, Florida, for May 15, 2002, to November 10, 2021. Flow values in both axes are limited to 50 cfs.

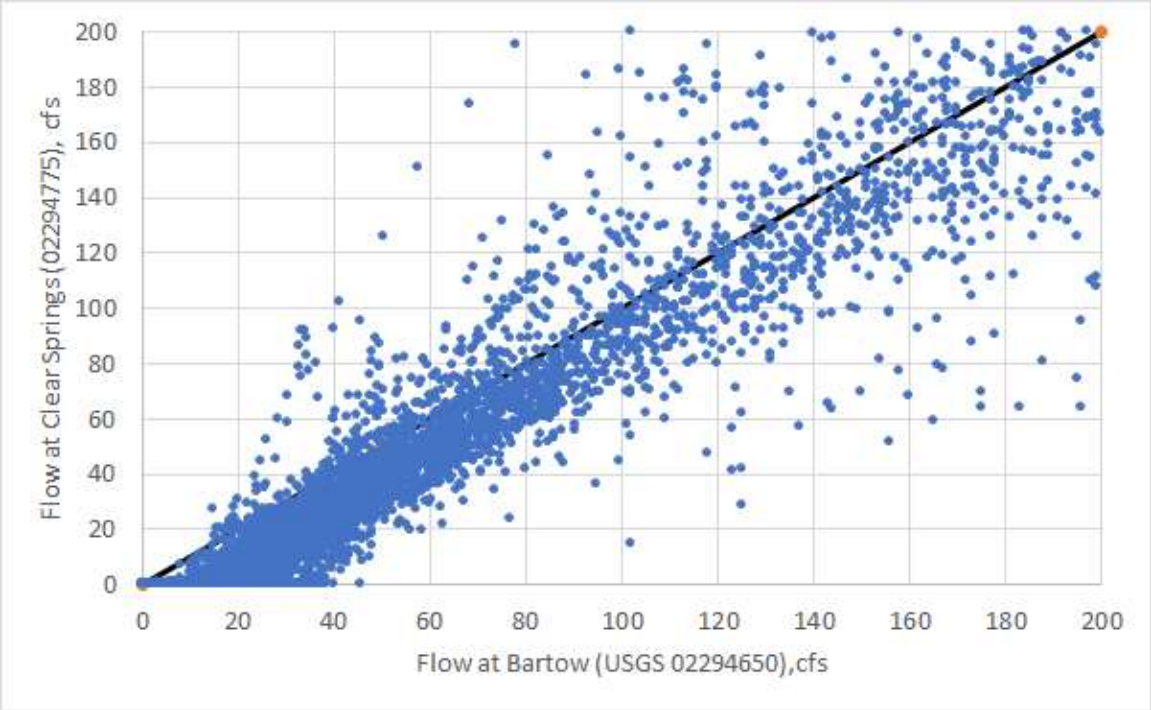


Figure 27. Daily streamflow measured at USGS 02294650 Peace River at SR-60 at Bartow, Florida, and USGS 02294775 Peace River at Clear Springs near Bartow, Florida, for May 15, 2002, to November 10, 2021. Flow values in both axes are limited to 200 cfs.

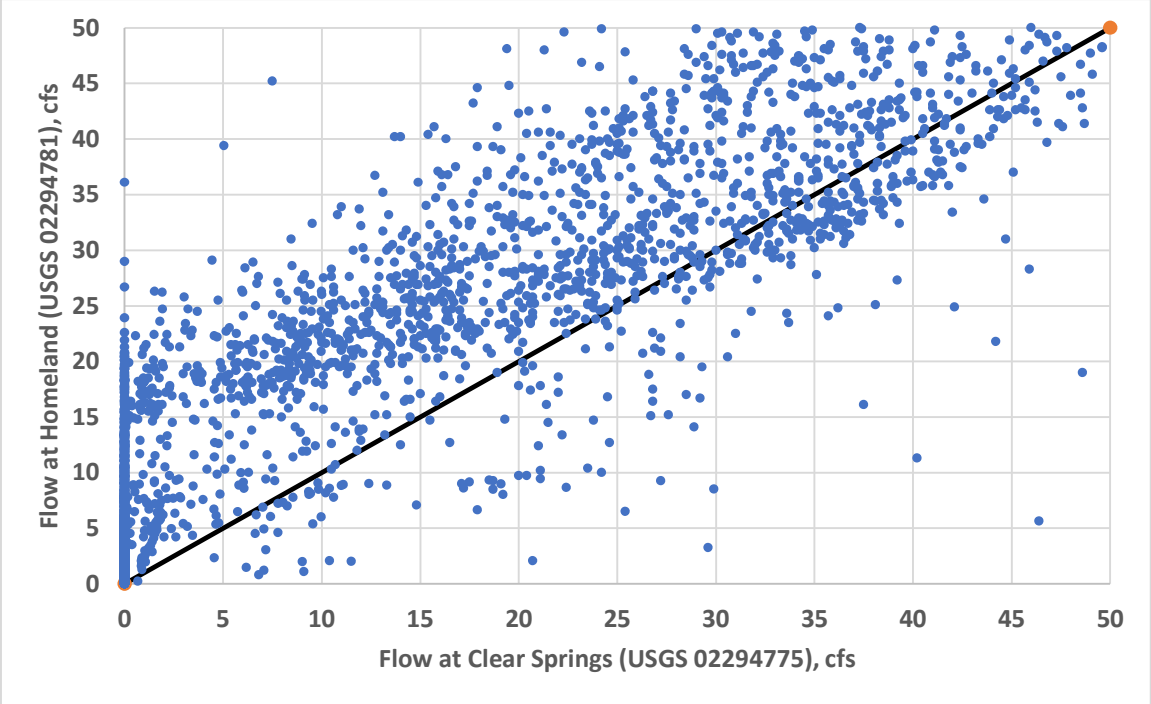


Figure 28. Daily streamflow measured at USGS 02294775 Peace River at Clear Springs near Bartow, Florida, and USGS 02294781 Peace River near Homeland, Florida, for May 15, 2002, to November 10, 2021. Flow values in both axes are limited to 50 cfs.

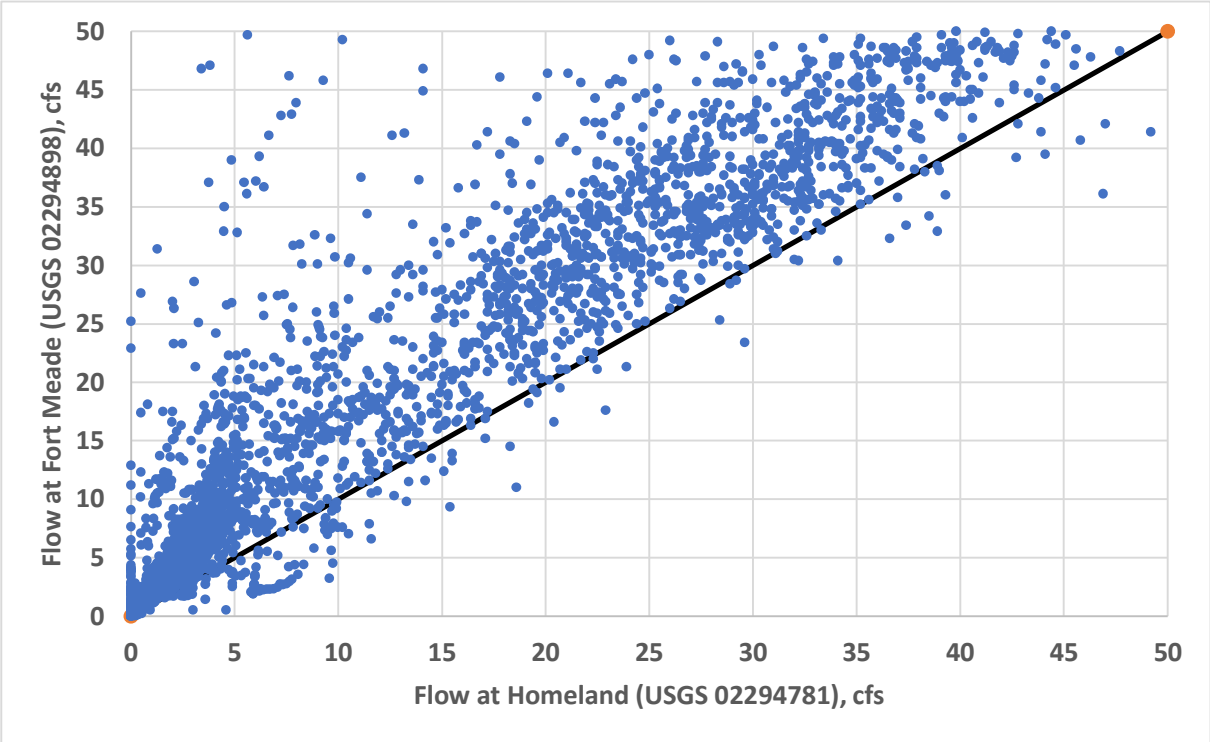


Figure 29. Daily streamflow measured at USGS 02294781 Peace River near Homeland, Florida, and USGS 02294898 Peace River at Fort Meade, Florida, for May 15, 2002, to November 10, 2021. Flow values in both axes are limited to 50 cfs.

3.4.1 Lateral inflows

Based on the occurrence of multiple long-term gages and short-term gages are present on the main channel and the tributaries of the UPR (Table 4 and Table 5, respectively), lateral inflows and outflows along the UPR can be computed using the uniform lateral inflow option within HEC-RAS. For unsteady flow analysis, HEC-RAS offers an option to automatically compute the lateral inflow contribution from an ungaged area given a downstream gaged location with measured stage and flow. HEC-RAS computes the magnitude of the ungaged area inflow (incremental flow) hydrograph based on routing the upstream flow hydrographs and subtracting the resulting computed flow hydrograph from the measured flow hydrograph at the downstream gaged location to get the ungaged inflow (incremental flow) contribution. For example, for the reach between *Clear Springs* and *Fort Meade*, the measured flow at *Clear Springs* and on the tributaries (*Sixmile Creek*, *Phosphate Mine Outfall CS-8* and *Barber Branch*) would be routed downstream to *Fort Meade* and the difference between the computed and measured flow at *Fort Meade* is computed. This incremental inflow or outflow is then distributed uniformly along the reach between *Clear Springs* and *Fort Meade*. This approach has previously been applied in the calibration of the HEC-RAS model used for minimum flows development for the Upper Suwannee River (EAS, 2013).

During the calibration of the unsteady-flow HEC-RAS model of the UPR, the streamflow gages *SR-60 at Bartow*, *Clear Springs*, *Fort Meade*, and *Zolfo Springs* were used to determine the incremental lateral inflows (or outflows). The *Clear Springs* gage was selected since it is downstream of the reach prone to streamflow losses during low flows. Most of the tributary flows along this reach are measured sufficiently close to their confluence with the UPR that no flow adjustments were needed. However, for Bowlegs Creek and Payne Creek the streamflow measurements are made far upstream from the confluence with the UPR (Figure 24) and an adjustment of the measured

flows was required to determine the flow hydrograph at the confluence. This adjustment was made by multiplying the measured flows by the area ratio between the tributary drainage area and the gaged drainage area. Although the *Payne Creek* gage appears to be a significant distance from the confluence with the UPR (Figure 24), the drainage area difference between the gage site and the confluence is small and no multiplier was applied.

3.4.2 Calibration and Validation Hydrology

The hydrologic data required for the calibration and validation of an unsteady flow HEC-RAS model are more robust than the data required for the calibration and validation of a steady flow HEC-RAS model. The flow data at select gages on the UPR were evaluated to determine suitability for calibration and validation of the unsteady flow HEC-RAS model. The calibration and validation should cover the range of flows to be simulated. The most recently activated continuous gage that measures the flow from the tributary Little Charlie Creek along the UPR is the USGS 02295580 *Little Charlie Creek near the mouth near Wauchula, FL* and this gage was established on September 30, 2012 (Table 5). Thus, a full set of concurrent flow and water-surface elevation data was available only for Water Years (WYs) 2013 through 2021 (at the start of model development in 2022).

In the process of testing and calibrating the unsteady flow HEC-RAS model, the water years of 2013 and 2017 were agreed upon for calibration and validation. These two years encompass the extreme high and low flows within the full set of concurrent flow and water-surface elevation data. Water year 2013 was selected for the extended periods of low flows, and water year 2017 was selected based on the occurrence of a major drought during the spring and major flooding in September associated with Hurricane Irma. The two water years were also selected to bracket the initiation of minimum flow recovery efforts for the river associated with the Lake Hancock Lake Level Modification Project. In combination, the two water years represent a wide range of flow conditions in the UPR.

3.5 CONCLUSIONS AND RECOMMENDATIONS

Verdantas implemented BFA's (2020) recommendation that a new topographic and bathymetric database consisting of many surveyed cross sections, especially the 2020 survey done by Pickett and the 2015 LiDAR data covering the UPR would be sufficient to support the development of unsteady flow and steady flow HEC-RAS models of the UPR.

Some of the previous studies (discussed in Section 3.2) that describe flow losses provide quantitative data that informed the flow apportionment along the UPR during low flows as discussed in Section 7.1. Thus, Verdantas concluded that sufficient flow data are available to not only calibrate and validate the HEC-RAS model for unsteady flow (Section 6), but also sufficient information is available to account for the flow losses during low flows.

As discussed in Section 3.4, WYs 2013 and 2017 were selected from the available period of concurrent hydrological records to calibrate and validate the unsteady flow HEC-RAS model. These two water years were selected because they encompass a wide range of flows and water-surface elevations ensuring the calibrated and validated HEC-RAS model will reasonably simulate hydraulics over the full range of flows likely to occur in the UPR.

4. EVALUATION OF UTILITY OF HEC-RAS UNSTEADY FLOW ANALYSIS

This section provides recommendations for unsteady flow analysis to enhance model calibration and validation prior to performing the steady flow analysis. Recommendations provided herein were developed after review of pertinent information and documents for the UPR (e.g., streamflow losses through karst features); review of "Data Assessment for HEC-RAS Unsteady Flow Modeling of the Upper Peace River Review and Recommendation Memo and Report" by BFA (2020); and review of the HEC-RAS steady flow model developed by the District in 2011 (Chen, 2011).

4.1 STEADY VS UNSTEADY FLOW

Steady flow modeling is based on using a specific set of flows spatially, then computing water-surface elevations, velocities, etc., based on those flows (Brunner, Savant, & Heath, 2020). Steady flow analyses assume flow conditions (i.e., depth, velocity) do not change with time and use the energy equation, which does not account for changes in momentum. Some examples of steady flows are:

- Flow in a canal at a constant discharge from upstream
- Natural flow in a river in which the discharge changes gradually with respect to time
- Modeling a very short reach of river, such that the flow rate is effectively constant throughout the reach at any point in time
- Modeling a river network in which the flow in each network segment is effectively constant.

Unsteady flow modeling requires full hydrographs for upstream boundaries in the river system, as well as for any lateral inflows. Unsteady flow equations are used to route the hydrographs and simultaneously calculate the water-surface elevations (Brunner, Savant, & Heath, 2020). Unsteady flow analyses using the de Saint Venant equations (i.e., conservation of mass and momentum) can model a variable discharge over time (i.e., hydrographs). Some examples of unsteady flows are:

- Dam and levee break flood waves
- Tidal-affected bays, estuaries, and streams
- Hydropower releases at reservoirs
- Flash floods
- Tributary flow reversals due to backwater
- Natural floods from rainfall runoff events

4.2 STEADY FLOW ASSUMPTIONS

A primary steady flow assumption is that a given flow is persistent, and this assumption is typically true for shorter reaches in which the water-surface rises and falls slowly (Brunner, Savant, & Heath, 2020). This assumption becomes less valid and may not be appropriate for longer reaches where flow rates may rise and fall quickly (relative to the reach length), such that peak flow rates do not occur at the same time spatially throughout the reach. For example, when a peak flow of about 10,000 cfs occurs at the upstream end of the reach the downstream end of the reach has a flow less than 10,000 cfs, and conversely by the time the 10,000 cfs reaches the downstream end of the reach the flow at the upstream end of the reach has dropped below 10,000 cfs.

The slope of the stream is also an important factor in the validity of the steady flow assumption. For medium to steeply sloping streams, the computed water surface elevation is a function of the terrain roughness (i.e., Manning's roughness coefficient, *n*), and flow in the immediate vicinity of where the water-surface is being computed (except when there is a significant backwater effect). Therefore, using maximum flow rates at all locations is a valid assumption for systems (even for large systems) where the peak flow did not occur simultaneously (Brunner, Savant, & Heath, 2020). This is because the flood wave travel time upstream to downstream is fast enough that the errors resulting from the assumption of simultaneous peak flow are negligible. However, for relatively flat streams, downstream water-surface elevations/flows will impact the computation of the water-surface elevations upstream and the steeper the slope the lesser the impact (Brunner, Savant, & Heath, 2020).

For example, for a steep stream (slope = 5 ft/mile), Brunner, Savant & Heath (2020) demonstrate that the water-surface profile computed using the peak flows at all locations vs. instantaneous flows at the time the same peak flow was at the upstream end resulted in the same water-surface elevation at the upstream end and close agreement in the computed water-surface elevations over the upper 20,000 ft of the reach (Figure 30). However, for a flat stream (slope = 0.5 ft/mile), Brunner, Savant, and Heath (2020) show the water-surface profile computed using the peak flows vs. instantaneous flows differs considerably, even though 9,000 cfs is being used for both profiles at the upstream end. As indicated in their example, there is more than 0.5 ft difference in the upstream water-surface elevation, with the estimated elevations obtained from the simultaneous peak flows steady flow model exceeding the estimated elevations obtained from the instantaneous flow model (Figure 31). The reason for this difference is that an instantaneous peak flow of 9,000 cfs decreased as a result of flow attenuation (due to frictional resistance) as the flow moved downstream whereas for the steady-flow analysis (i.e., Max Flows in Figure 30 and Figure 31) the 9,000 cfs is maintained throughout the entire reach. For the steeper reach, the flow momentum is higher, and this effect counters the flow resistance especially over the upstream 20,000 ft of the reach. For the shallower slope, the flow momentum is much smaller, and the attenuation effects are much higher throughout the reach explaining the larger difference in the instantaneous and steady flow results in Figure 31 compared to Figure 30.

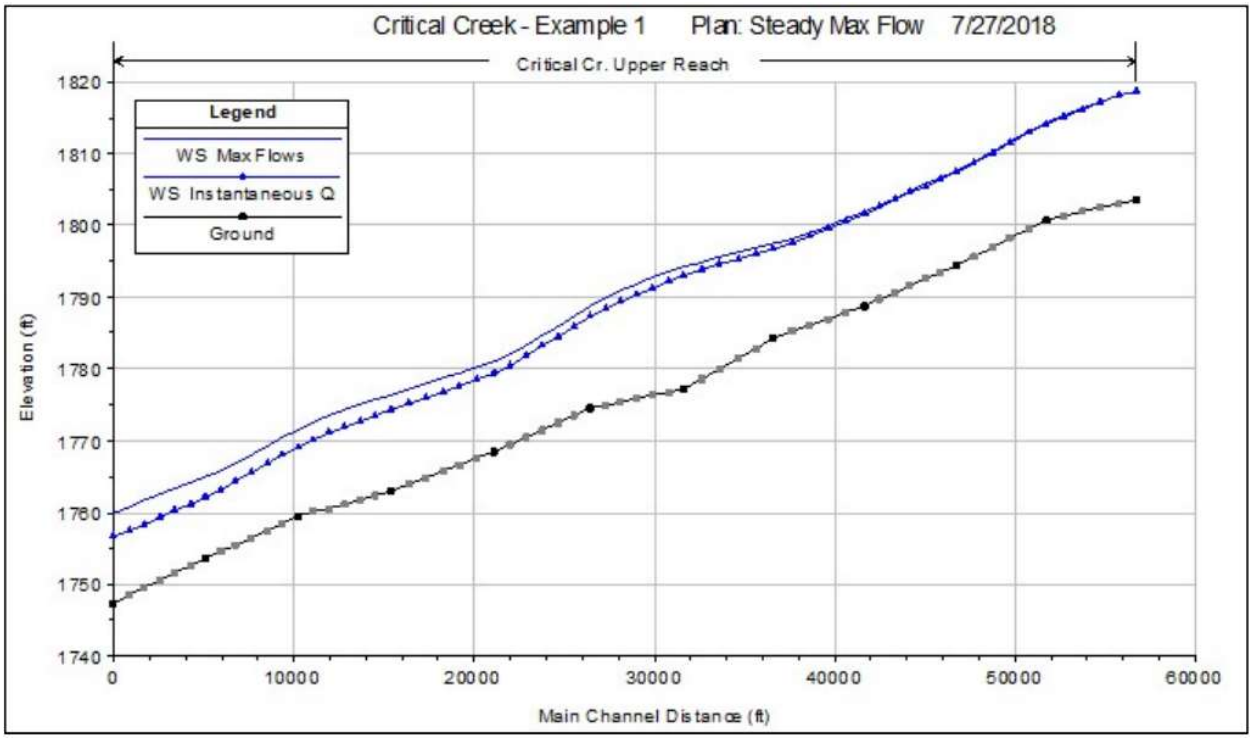


Figure 30. Steep stream (slope = 5 ft/mile) with profiles computed using maximum flows and instantaneous flows reproduced from Brunner, Savant, & Heath (2020).

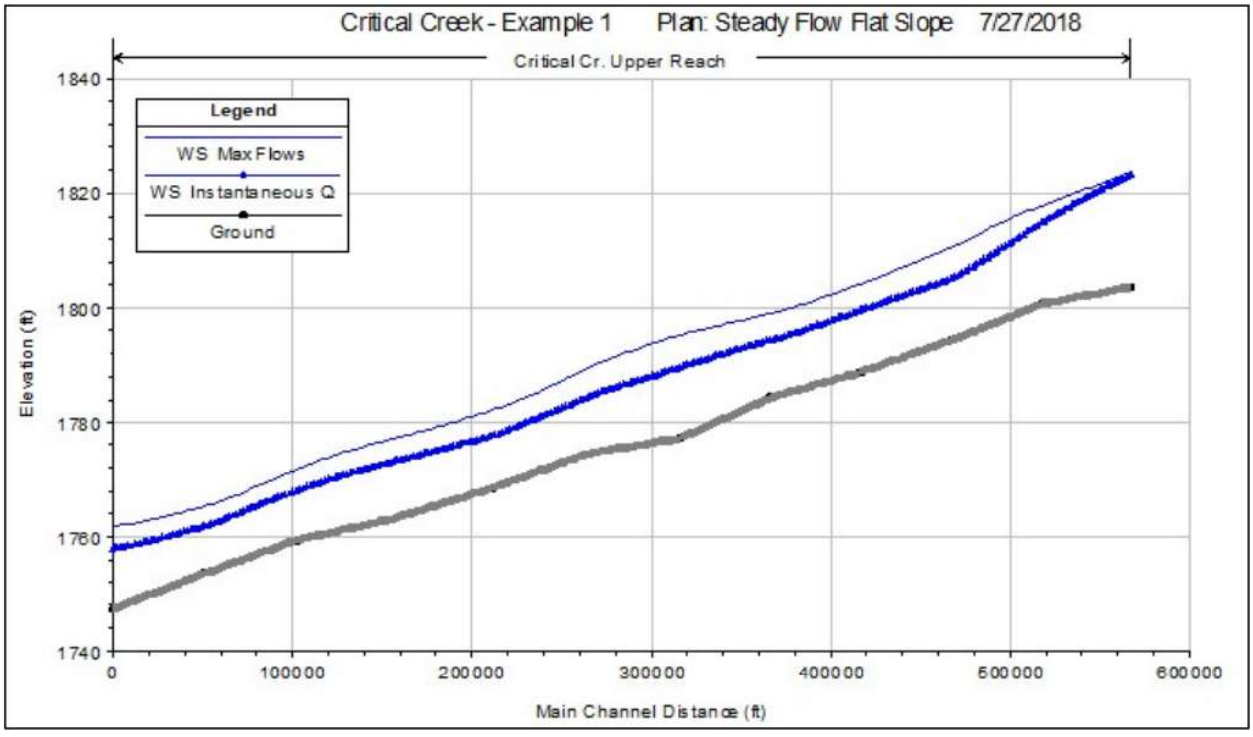


Figure 31. Flat stream (slope = 0.5 ft/mile) with profiles computed using maximum flows and instantaneous flows reproduced from Brunner, Savant, & Heath (2020).

Based on the UPR 2011 HEC-RAS model upstream and downstream thalweg elevations, the slope of the UPR HEC-RAS model is about 1.5 ft/mile (Figure 32). This is a relatively flat slope, and water-surface elevation computations could, therefore, be influenced by downstream flows/stages.

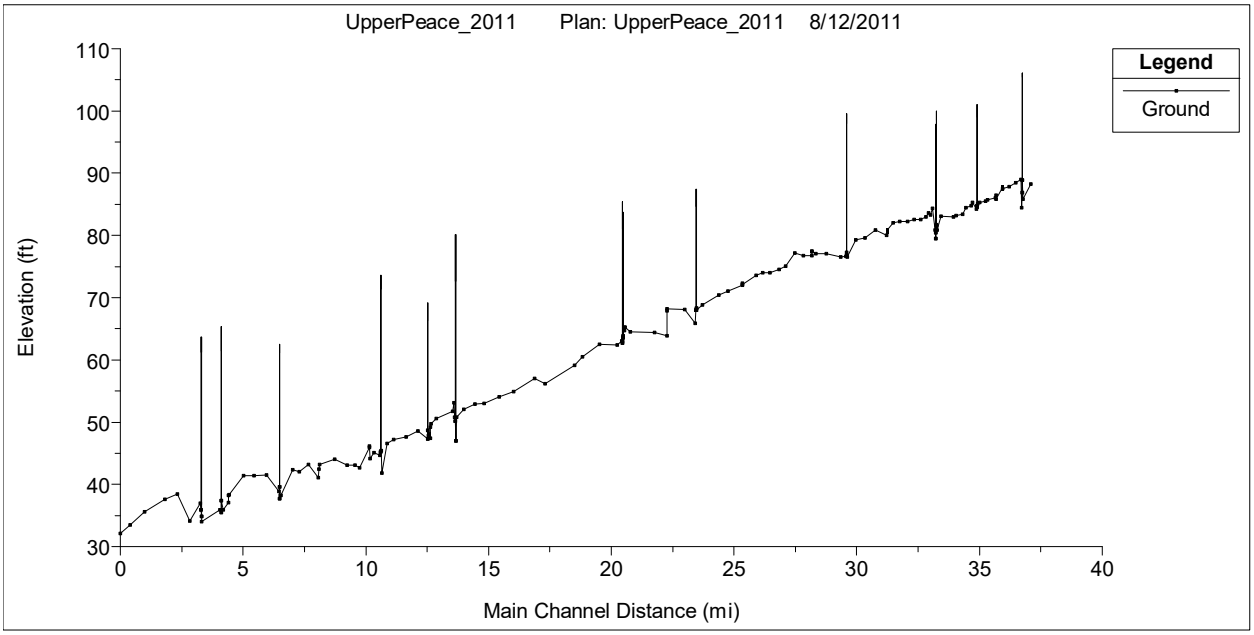


Figure 32. Upper Peace River HEC-RAS 2011 model thalweg elevation profile (Chen, 2011).

4.3 STORAGE/INEFFECTIVE FLOW AREAS

Ineffective flow areas define portions of cross-sections that contain water not actively being conveyed (Figure 33). These areas are often used to describe portions of the cross-sections in which the downstream velocity of water is near zero. In a steady flow model, these areas are used to describe the inactive flow area only. Volume accounting is not done in steady flow modeling, so floodplain storage effects are not explicitly accounted for when computing the water-surface elevation.

In an unsteady flow model, the ineffective flow area is used to compute storage volume between cross-sections (Brunner, Savant, & Heath, 2020). This volume is used in storage calculations in unsteady flow models. Unlike steady flow models, for which flow peak is assumed constant within a stream reach and only conveyance is considered, unsteady models also compute storage along with conveyance within the floodplain (FEMA, 2016). As a hydrograph is routed through a reach containing ineffective flow areas (i.e., storage volume areas) water will exit the channel to fill up these storage volumes and vice versa. Changes in storage in the upstream portion will affect flow and water-surface elevations in the downstream portions of the reach (Brunner, Savant, & Heath, 2020).

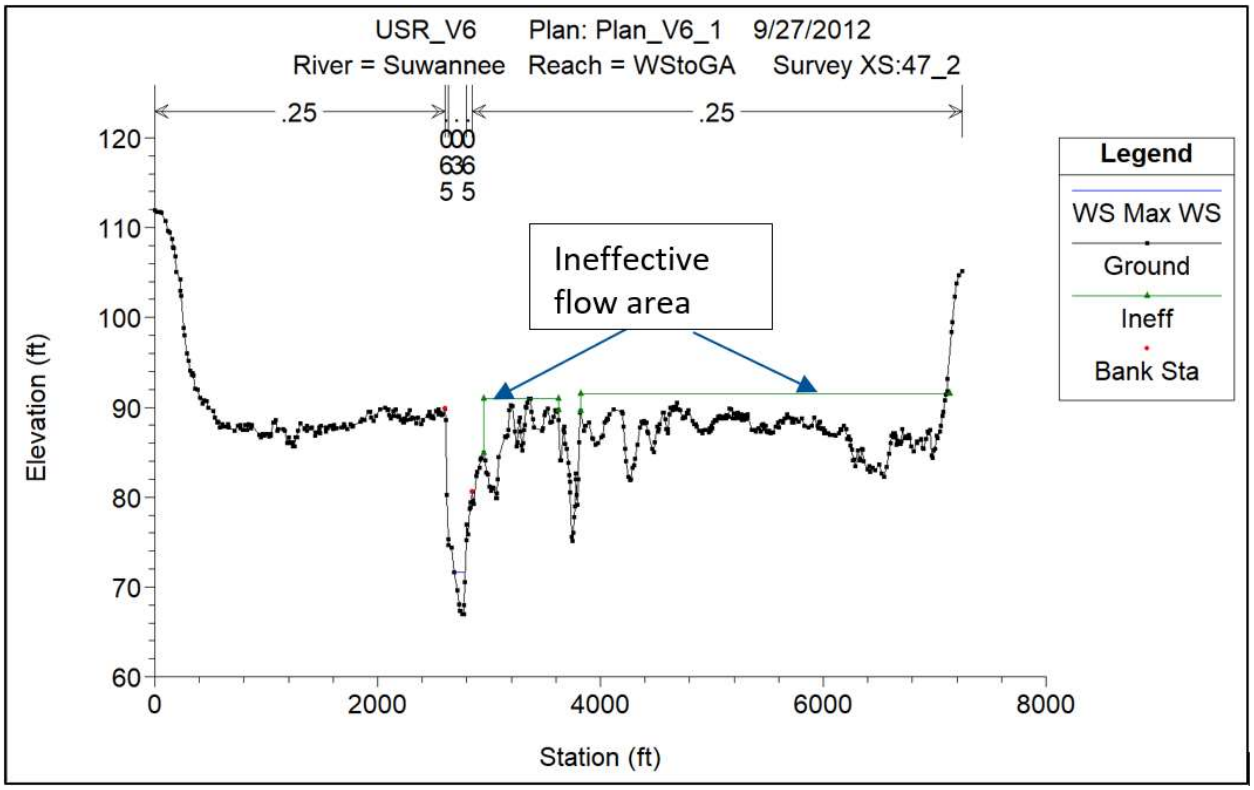


Figure 33. An example of ineffective flow areas on the right bank of the Upper Suwanee River (EAS, 2013).

On the UPR, the floodplain between the Bartow gage and the Heritage Peace River Landing boat ramp is heavily vegetated (Figure 34) and may not provide much flow conveyance (i.e., may be an ineffective flow area). An unsteady flow model will include volume accounting and the floodplain areas may act as storage during higher flows and water may come out of storage into the main channel during medium and low flows.



Figure 34. Floodplain storage in the upper portion of the UPR.

4.4 CALIBRATION

To calibrate a steady flow model, computed water-surface elevations are compared to field measured or gaged elevations. One of the primary inputs that is adjusted during calibration is the Manning's *n* value and this variable often has the most uncertainty and variability amongst the HEC-RAS input parameters (USACE, 2021). Some of the other parameters adjusted during steady flow calibration include contraction and expansion coefficients, and any hydraulic structure coefficients (e.g., bridge coefficients for the UPR). Additional adjustments may be needed for the location of ineffective flow area stations/elevation and cross section levee elevations (Brunner, Savant, & Heath, 2020).

For an unsteady flow model, the entire computed hydrograph (flow/stage vs time) is compared with the measured hydrograph. Manning's *n*, bridge coefficients, and/or floodplain storage can affect both stage (and flow) magnitude and timing. Incorrect roughness coefficients, poor definitions of floodplain storage, or even wrong bridge coefficients could cause differences in timing and magnitude (Brunner, Savant, & Heath, 2020). In addition, flow boundary conditions provided to the steady flow model may, in some cases, not accurately describe the volume of water input to the system and contribute to errors associated with the tracking of storage volume within the system. Similar considerations also apply to the verification of the developed steady flow and unsteady flow models.

4.5 RECOMMENDATIONS

In general, unsteady analyses are more accurate and, therefore, appropriate if a higher degree of accuracy is required, where proper data are available, and time/schedules allow (Shrimpton & Vensel, 2018). Steady flow analyses could be more appropriate for very short or steep reaches as well as for stream networks with multiple watercourses and junctions in which the flow in each network segment is effectively constant. Steady flow analyses may also be appropriate for evaluating rating curves or for simple models where only peak discharges are evaluated and accuracy is less critical.

In summary, unsteady flow models have greater accuracy but are computationally more intensive (Table 6 and Table 7). The unsteady flow de Saint Venant equations are more physically correct than the steady flow model energy equation. From a numerical standpoint, the energy equation can be analytically solved and yields an exact solution. The unsteady flow equations must be reduced to a discrete form (finite difference approximation) to solve resulting in some built-in error. However, this error is inconsequential for river models that use HEC-RAS. The biggest difference is that the steady flow models do not consider the effects of in-channel and off-line storage in the attenuation of hydrograph.

A HEC-RAS model is typically used to relate changes in instream and out of bank flows to quantifiable changes in various environmental values or metrics. For example, a minimum water depth within the study reach is needed to maintain fish passage. HEC-RAS output (depths at the cross-sections) is used to estimate flow (threshold flow) at the USGS gage where the minimum flow is determined (minimum flow gage) that corresponds to this minimum fish passage depth. In the unsteady model, the fish passage depth at a shoal location will be associated with a range of flows at the MFL gage. Whereas, in a steady flow model, the threshold stage/flow at any location will be associated with a single flow value at the MFL gage. Hence, a steady flow HEC-RAS model is needed to translate the threshold flow for the environmental value to a threshold flow value at the MFL gage. This single threshold flow value at the MFL gage represents an "average flow condition" that is associated with the threshold flow determined at any other location within the study area. The accuracy of the stage/flow translation to the MFL gage is dependent on the accuracy of the unsteady model calibration and steady model flow apportionment. The

accuracy of the steady flow apportionment must be verified during the steady flow model verification (see Section 7.1).

A HEC-RAS model is also commonly used to estimate the association between the flows and corresponding floodplain wetland inundation areas. This association is typically estimated using about 20-50 steady flow scenarios (SRWMD, 2013) since it is impractical to use an entire hydrograph and generate thousands of inundation areas to develop the association using an unsteady flow model. The 20-50 steady flow scenarios used to estimate the association between the flows and corresponding floodplain wetland inundation areas are typically selected from 2nd percentile through 98th percentile flows within the study area period of record.

Barnes, Ferland and Associates, Inc (BFA, 2020) reviewed the existing steady-flow HEC-RAS model of the UPR and concluded that both steady and unsteady flow analyses will be required to develop a robust HEC-RAS model and use the model for minimum flows evaluation. The bases for their conclusion are as follows:

- The complexity of karst features in the upper reaches of the UPR and the variability of aquifer water levels throughout the year; the variability in tributary and distributary flows to and from the UPR; and the variability of rainfall over the watershed imply that most of the time the actual river flow in the UPR behaves as an unsteady flow, attenuating as it moves downstream (BFA, 2020).
- Adding unsteady flow analysis as a basis for developing or refining a steady flow model can improve the accuracy of the steady flow model results that are used in minimum flow analysis, based on review of modeling practices reported in support of other minimum flows and levels evaluations (BFA, 2020).

Table 6. Advantages and disadvantages of steady flow analyses (Shrimpton & Vensel, 2018).

Advantages	**Disadvantages**
Greater stability	Reduced accuracy due to simplifying assumptions of the energy equation
Shorter run times	Inability to account for channel and floodplain storage effects
Less time intensive overall	Inability to provide temporally based hydraulic characteristics, like floodwave arrival times, detention durations, overtopping durations, flood volumes, etc.
Peak discharges are input rather than entire hydrographs, making it easy to model many scenarios in a short period of time.	

Table 7. Advantages and disadvantages of unsteady flow analyses (Shrimpton & Vensel, 2018).

Advantages	**Disadvantages**
Greater accuracy given that the more sophisticated de Saint Venant equations are used and account for channel/floodplain storage effects on flood attenuation	Increased computational intensity, longer run times, and increased instability

Advantages	Disadvantages
Temporally based results can be easily obtained	Models can be especially unstable for some geometric and hydraulic conditions like steep or highly irregular reaches, low flood depths, and flashy hydrographs, particularly with one dimensional models
Reservoir routing and dam breach analyses can be simulated	

Similar conclusions were made for the Upper Suwannee River HEC-RAS model development (EAS, 2013). Specifically, that an unsteady flow model can provide hydrographs and rating curves that can be used to develop flow boundary conditions for a steady flow model for selected cross sections where data are not readily available or incomplete (BFA, 2020). This "forced" way of accounting for the storage effect is a reasonable approach and has been used previously for multiple river systems for minimum flow evaluations (SRWMD, 2013; EAS, 2013). The accuracy of calibrated unsteady-flow HEC-RAS model in the simulation of water-surface elevations at locations not calibrated in the Upper Suwannee River model is summarized in Section 6.2.3 for the validation of the unsteady flow HEC-RAS model developed for the UPR.

Another advantage of developing an unsteady flow HEC-RAS model for the UPR is that it will provide additional insight on the flow losses between the *SR-60 at Bartow* and *Clear Springs* gages. The unsteady HEC-RAS model option to compute the incremental inflows based on the measured flows at upstream and downstream gages is applied in this study, and, thus, the seasonal distribution of flow losses can be determined (see Sections 6.2.2 and 7.1).

Following BFA's recommendation, Verdantas calibrated the HEC-RAS model for unsteady flow conditions over selected periods of flow representative of the conditions for which minimum flows will be derived. The calibrated HEC-RAS model was then applied to selected series of steady flows that cover the range for which minimum flows need to be evaluated. The application of this approach is described in the following sections.

5. UPPER PEACE RIVER HEC-RAS MODEL CONSTRUCTION

This section presents the construction of the HEC-RAS model used in support of the reevaluation of minimum flows established for the UPR. Model construction began with a review of the previous hydraulic models as a foundation for the new HEC-RAS model. Relevant model inputs are presented in Appendix A.

5.1 PREVIOUS MODELS

There are three previous hydraulic models along the UPR that inform geometric inputs to the new model. None of these models include geo-referenced geometry data.

In the 1970s, the USGS, in cooperation with the SWFWMD, investigated flood heights, frequencies, and areas subject to inundation using the USGS step-water, flood profile model along 70 miles of the Peace River from Bartow downstream to Acadia (Murphy, Hammett, & Reeter, 1978). The investigation was completed to provide this flood information for use in both guiding orderly future development within the Peace River basin and for avoiding flood losses (Murphy, Hammett, & Reeter, 1978). Of relevance to the current modeling, Murphy et al. (1978) noted the SWFWMD surveyed 183 channel cross sections, provided data on bridge geometry, and supplied detailed photo-base maps. The surveyed cross-sections were compiled using 1-foot contour interval photo-base topographic maps at a scale of 1:2,400, with low water channel geometry obtained by field surveys, and bridge geometries were obtained by field surveys (Murphy, Hammett, & Reeter, 1978).

In 2002, the USGS developed a revised step-water model for the Peace River that incorporates much of the previously collected cross-sectional information (Lewelling 2003). The revised model uses the HEC-RAS program for estimating water surface profiles along the length of the river. As part of the model development, the USGS developed a method for apportioning flows at different cross sections based on drainage basin ratios along the Upper Peace River (Lewelling 2003). The District obtained this version of HEC-RAS model for the Peace River from USGS. The UPR was divided into two segments in the model: from Bartow to Ft. Meade, and from Ft. Meade to Zolfo Springs. The segment between Bartow and Ft. Meade has 60 USGS cross-sections and the segment between Ft. Meade and Zolfo Springs includes 95 USGS cross-sections. Eighteen cross-sections surveyed by the District in 2001 were added to the original USGS geometric data files for the model. Sixteen water surface profiles for steady flow rates were originally included in the HEC-RAS model. To establish minimum flows for the upper river the District added twelve additional low steady flows for simulation. The concurrent flow data for the period 1940-98 at three Peace River gages (i.e., Bartow and Zolfo Springs) was used for percentile flow development.

In 2011, the District extensively revised the HEC-RAS model used in support of the previous UPR minimum flows evaluation for consideration of sinkhole losses between Bartow and Fort Meade, merging of the two separate models (i.e., Bartow to Fort Meade, Fort Meade to Zolf springs) into a single reach model, and replacement of outdated cross-sectional data with newly surveyed cross-sectional data. For this updated model (Chen, 2011), 165 cross sections were included in the revised model, including the 18 extensively surveyed cross sections that had been included in the previous model, 101 new sections that were surveyed between 2000 and 2010, and 46 cross sections extracted from the 2002 USGS HEC-RAS model that was used for development of the minimum flows currently established for the UPR. With the exception of the District's 18 cross sections surveyed in 2001 that extended to the floodplains, all other survey data were limited to the river and tributary channels (Chen, 2011). For the channel surveys, Chen noted the floodplain topography was represented using LiDAR mapping extending 1,000 ft from each bank. In this

revised model, Chen excluded the 1940-1974 data and used the concurrent gaged data from June 1, 1974 to July 12, 2011 for flow profile development.

5.2 HEC-RAS GEOMETRIC INPUTS

Model construction components including, cross-section survey data and HEC-RAS geometric data, were reviewed using HEC-RAS 6.4.1 (RAS Mapper) released by the USACE Hydrologic Engineering Center. ArcGIS 10.2 was also utilized in developing the model.

The HEC-RAS RAS Mapper module is an interface that provides a geospatial visualization of HEC-RAS geometry (terrain, river networks, cross-section locations, cross section parameters, two dimensional (2D) meshes, etc.), simulation results (water surface elevations, velocities, etc.), and other pertinent geospatial data to assist users to efficiently create river hydraulic models. RAS Mapper provides tools to create reaches, cross-sections, flow paths, and many other geometric features as well as providing the tools to edit HEC-RAS data layers and generic shapefiles (USACE, 2022).

The HEC-RAS model is georeferenced based on the geographic coordinate, NAD 1983 HARN State Plance Florida West FIPS 0902. The horizontal datum for the relevant model data is referenced to the Florida State Plane Coordinate System, West Zone (0902), Units US Survey Feet, North American Datum of 1983 (NAD83 HARN). The vertical datum for the relevant model data is referenced to the North American Vertical Datum of 1988 (NAVD 88), Units US Survey Feet.

5.2.1 Upper Peace River Schematic

The primary components of the UPR schematic are the river alignment and the overbank flow paths. The river alignment was derived from the USGS National Hydrography Plus High Resolution (NHDPlus HR) database for hydrologic unit code (HUC) 4 with minor refinements for compatibility with the project terrain. HEC-RAS uses the river alignment to establish river stationing (station 0 at the downstream end) for cross sections and hydraulic structures and to compute the channel length between cross sections and hydraulic structures. In the overbank areas, the distances between cross sections and hydraulic structures are measured along the anticipated path of the centers of mass of overbank flows (Brunner G. W., 2023), which were informed through a coarse HEC-RAS two-dimensional (2D) model of high flows.

5.2.2 Terrain Data

HEC-RAS supports the use of a digital terrain model (DTM) for representing the bare ground surface, which must have representative data in the main channel and the overbank areas. In other words, a quality terrain model is comprised of accurate bathymetric information to supplement the more readily acquired overbank information. Terrain data can be used in HEC-RAS to visualize the floodplain geometry, for preprocessing geometric data, and postprocessing for computing flood depths and inundation boundaries from simulation results.

A 5-ft x 5-ft grid terrain data file was provided by the District to develop surface elevation data outside of the main channel. The terrain data was developed based on 2005 Polk and Hardee County Digital Elevation Model (DEM) and 2015 Peace River Corridor LiDAR Hydrographic & Topographic Survey (Aerial Cartographics of America, Inc. (ACA), 2014). Main channel bathymetry was obtained from a combination of previous survey data that was used in the 2011 HEC-RAS model, 2020 Pickett and Associates, Inc. survey data, and SEFA bathymetry data (Section 5.2.4).

5.2.3 Cross Section Alignments

The District's 2011 HEC-RAS model included 165 cross sections and 14 bridges between the City of Bartow to the Town of Zolfo Springs. Although not included in the original model, the District

provided georeferenced alignment information for these cross sections to support the development of new HEC-RAS models by Verdantas. Some of the channel surveys appeared skewed to the channel, so the cross-section alignment was oriented perpendicular to the channel and the survey points were projected onto the channel alignment. This step was necessary only where the skew was greater than about 18 degrees because this would impose a greater than 5-percent error on cross-sectional area and greater than 10-percent error on friction slope and velocity head.

The District contracted with Pickett and Associates, Inc. to survey channel bathymetry, targeting 91 cross sections in the 2011 HEC-RAS model that didn't have bathymetry data or were represented with older data collected before 2002.

In 2021 and 2022 HSW Engineering, Inc. collected flow, stage, and bathymetry data at 27 cross sections at 9 sites to support a System for Environmental Flows Analysis (SEFA) model. Each site consists of three transects to represent shoal, pool, and run mesohabitats, and each transect was measured during low, medium, and high flow conditions. The channel geometry measured during the medium flow condition was selected for inclusion in the HEC-RAS model. The location of each SEFA transect is approximate because only the left and right benchmarks were surveyed at each transect (Jackson 2022.The bathymetry was collected between these measured benchmarks using non-survey grade equipment.

The current model includes 206 cross sections, 15 bridges, and 508 interpolated cross sections (Appendix A). The cross-section alignments include:

- 86 cross sections – 2011 HEC-RAS channel geometry
- 91 cross sections – 2020 Pickett and Associates, Inc. channel survey
- 27 cross sections – 2021/2022 HSW Engineering, Inc. SEFA channel surveys
- 2 cross sections – estimated channel bathymetry

The two cross sections with estimated channel bathymetry are located downstream of the US-17 Bridge in the Town of Zolfo Springs, as is one of the 91 cross sections in the 2020 Pickett and Associates, Inc. survey. The US-17 Bridge is the additional bridge not included in the 2011 HEC-RAS model. Including this bridge cross section within the model domain during testing informed the simulation of hydrograph translation and attenuation in the lower reaches of the UPR.

In addition, the 508 interpolated cross-sections were generated using the Cross-Section Interpolation tool within HEC-RAS. This tool creates a mathematical approximation of cross-sections between two surveyed alignments. The interpolated geometry is not meant to represent on-the-ground conditions at the location of the interpolated approximation; rather, it is intended to reduce instability of simulations by incrementally transitioning geometric changes between adjacent surveys. Interpolated cross-sections were needed for stability of the unsteady-flow model.

To prevent a "glass-wall" at the cross-section boundary a trial steady flow run was made for the 0.1% exceedance probability flow for the daily flows at the downstream boundary at Zolfo Springs for the period of WYs 2013-2021. This flow was applied to the entire UPR, and it was found that the cross sections were sufficiently wide to handle this high flow and cross-section extents were adjusted during the model calibration process to improve computational efficiency.

5.2.4 Cross-Section Geometry

The HEC-RAS RAS Mapper module uses the terrain and the cross-section alignments to generate cross section geometry cut from the terrain. However, the terrain data does not include the channel bathymetry. Additional processing external to the RAS Mapper module was required to combine the floodplain topography with the channel bathymetry. Three data sources (i.e., surveyed bathymetry) were used to update the cross-section geometry with channels not

represented in the floodplain topographic mapping. To preserve all surveyed points, most of the cross sections contained between 150 and 200 points after the survey points were merged into the floodplain topography. HEC-RAS River Stations (RS) and the associated bathymetric dataset are presented in Appendix A.

5.2.4.1 2011 SWFWMD HEC-RAS Model

Chen (2011) notes the channel geometry for 119 cross sections was based on surveys completed between about 2001 and 2011, and the channel geometry for the remaining 46 cross sections was imported from the USGS investigation (Murphy, Hammett, & Reeter, 1978). No details of accuracy were available.

Verdantas used professional judgment to visually fit the channel bathymetry from the 2011 HEC-RAS model cross sections into the floodplain topography derived from the terrain. This was completed using the graphical cross section edit tool in HEC-RAS.

5.2.4.2 2020 Pickett and Associates, Inc. Survey

The Pickett and Associates, Inc. survey report notes the elevations have an expected accuracy of +/- 0.2 ft and the horizontal positions have an expected accuracy of +/- 0.5 ft (Pickett and Associates, Inc., 2020).

Verdantas used Excel spreadsheets to project survey points across channels onto the cross-section alignments. The horizontal coordinates for the survey points were used to project the surveyed elevation onto the cross-section alignment and derive the corresponding station. The spreadsheet aligned the selected survey points with the floodplain topography.

5.2.4.3 2021/2022 HSW Engineering, Inc. SEFA Data

The HSW Engineering, Inc. surveys of the SEFA transects were tied to the horizontal and vertical control points KCI Technologies, Inc. surveyed in 2022 (KCI Technologies, Inc., 2022). The observed horizontal error was +/- 0.070 ft and the observed vertical error was +/- 0.07 ft, when compared with the designated control stations (Jackson 2022).

Verdantas used Excel spreadsheets to visually merge the channel surveys into the floodplain topography.

5.2.5 Manning's Roughness Values

In HEC-RAS, Manning's n-values are used to evaluate energy losses, and the n-value combines the influences of channel surface roughness, vegetation, channel shape irregularities, sediment transport, and turbulence, among others. These influences can change seasonally and with discharge, so initial values were based on published references (Chow, 1959) and the HEC-RAS Hydraulic Reference Manual (Brunner G. W., 2023). The n-values were varied along cross sections using aerial imagery, categorized by forested floodplain, grassy floodplain, and river channel (Figure 35) and were further adjusted based on published data (Section 6.1.3). The base n-values for the geometry (Table 8 and Appendix A) were further refined along the study reach using flow roughness factors during calibration and validation (Appendix A and Section 6).

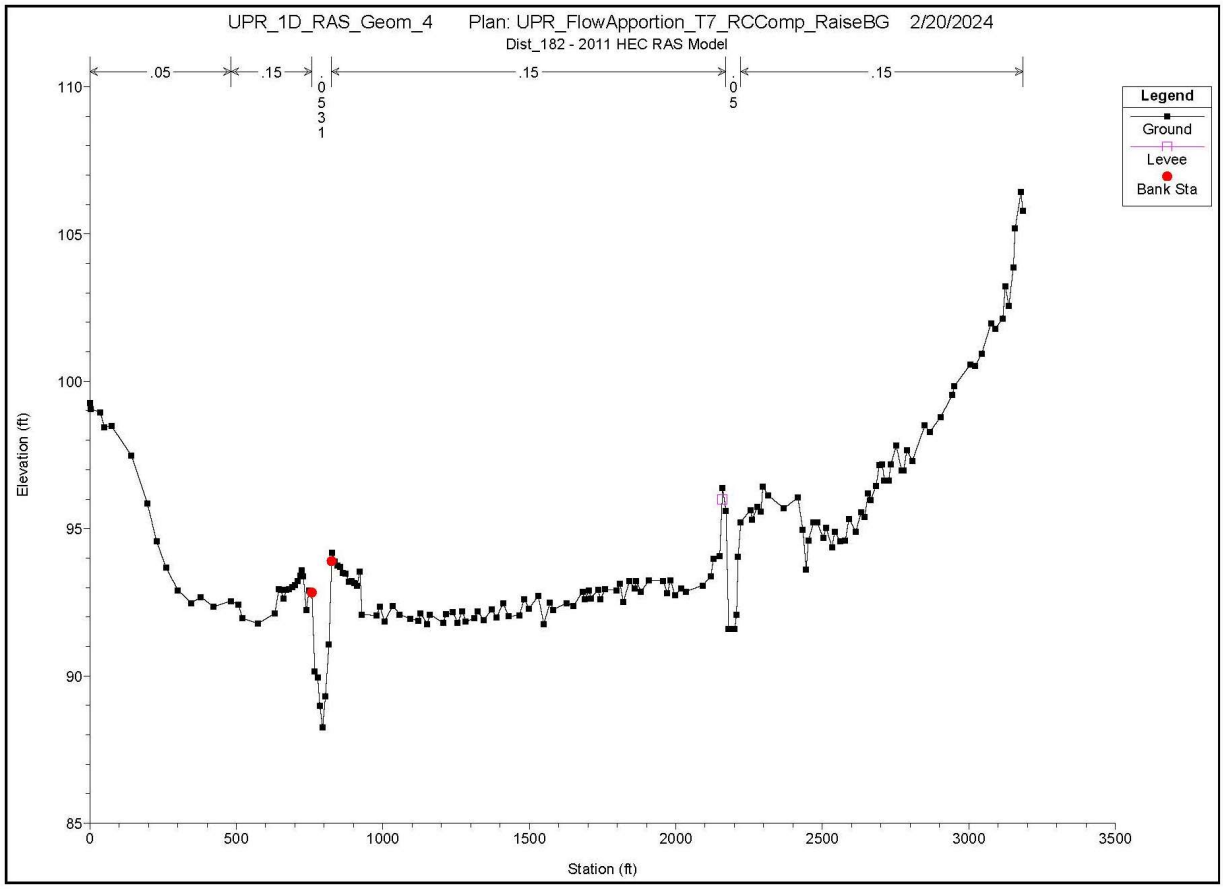


Figure 35. Example of varying Manning's n-values along a cross-section. Screenshot taken from HEC-RAS Cross-Section Data Viewer.

Table 8. Base Manning's n-values for different land cover types within cross-sections.

Land Cover	Initial Manning's n-value
Forested Floodplain	0.15
Grassy Floodplain	0.05
Peace River Channel	0.0531

5.2.6 Contraction and Expansion Coefficients

Contraction and expansion coefficients are used in HEC-RAS to evaluate the energy losses from flow contraction or expansion between adjacent cross sections. The coefficients are multiplied by the change in velocity head, with contraction losses calculated when the downstream velocity head is greater and expansion losses calculated when the upstream velocity head is greater. Guidance in Brunner (2023) was followed to specify values of 0.1 (contraction) and 0.3 (expansion) for gradual transitions, or values of 0.3 (contraction) and 0.5 (expansion) for typical bridge sections. The contraction and expansion coefficients for all river stations but interpolated cross sections are provided in Appendix A.

5.2.7 Ineffective Flow Areas

In HEC-RAS, ineffective flow areas delineate where velocity of flow in the downstream direction is near zero. Guidance in Brunner (2023) was followed to assign the extents of the ineffective flow areas for flow contracting into (1:1 contraction ratio (downstream: lateral) and 2:1 expansion ratio), and expanding out of, a bridge. The terrain was used to guide setting ineffective flow area elevations and professional interpretation of hydraulic conditions guided whether to make the ineffective flow areas permanent when the ineffective flow area elevations get overtopped. The stationing, elevations, and permanence of the ineffective flow areas may have been refined at some locations during model testing and calibration.

5.2.8 Levees

In HEC-RAS, levees establish a station landward of which flow cannot be conveyed until the elevation of the levee is exceeded. Levees were used sparingly because during unsteady flow simulations, the change in conveyance that occurs when levees are overtopped can induce instabilities. The need to use levees was based on interpretations of the terrain and professional judgment.

5.2.9 Bridges

Because of the relatively flat average channel slope along the UPR, the energy losses associated with bridges are expected to have notable influence on simulated water-surface profiles and corresponding hydraulics. HEC-RAS computes energy losses caused by bridges in three parts: downstream of the bridge where a flow expansion occurs, through the bridge, and upstream of the bridge where a flow contraction occurs. Thus, the location of cross sections near bridges is important, but some locations were set by availability of survey data. Cross sections adjacent to the bridge were moved from the 2011 HEC-RAS model to be upstream or downstream of the roadway embankment consistent with the methodology presented in Brunner (2023).

The geometry of the bridge superstructure, piers, and abutments were derived from survey data and supplemented with available imagery interpretation, where available, or else imported from the 2011 HEC-RAS model. Embankment side slopes were calculated from the terrain. The bridge modeling approach was set to use an energy solution for all flows, consistent with the approach specified in the 2011 HEC-RAS model. Fifteen bridges (Table 9) are included in the model, including one (US-17 at Zolfo Springs) that was not included in the 2011 model due to the differing downstream boundary condition for the two models.

Table 9. Summary of Bridge Geometry Sources and Edits.

Bridge	Station (feet)	Notes
SR-60 bridge at Bartow	204,565	Geometry based on 2008 LF&K survey. Roadway profile from terrain. Westbound bridge is shorter than eastbound bridge, so spans reduced to match westbound lengths. Bridge width increased to account for westbound, eastbound, and pedestrian bridges.
Abandoned phosphate mine near Bartow	194,227	Geometry based on 2008 LF&K survey. Roadway profile from terrain.
Clear Spring Mine near Bartow	184,389	Geometry based on 2008 LF&K survey. Roadway profile from terrain.
Three pipes near Bartow	184,265	Geometry based on 2008 LF&K survey. Roadway profile from terrain.

CR-640 at Homeland	164,410	Geometry based on 2008 LF&K survey. Roadway profile from terrain.
US-98 at Fort Meade	131,116	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
Old Rail Road near Fort Meade	115,007	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
Mt. Pisgah Road near Fort Meade	114,909	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
Railroad near Bowling Green	76,300	Geometry estimated from aerial photography, reconnaissance photographs, and 2011 HEC-RAS model. Bridge superstructure extended across ~3,000-feet-wide floodplain.
County Line Road at Bowling Green	70,240	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
Lake Branch Road at Bowling Green	59,960	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
Heard Bridge Road near Wauchula	37,791	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
Main Street at Wauchula	25,079	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
Griffin Road at Wauchula	20,797	Geometry imported from 2011 HEC-RAS. Roadway profile from terrain.
US-17 at Zolfo Springs	3,440	Geometry based on 2020 Pickett & Associates, Inc. survey. Roadway profile from terrain.

5.3 SUMMARY AND CONCLUSIONS

Verdantas developed a new topographic and bathymetric database consisting of many surveyed cross-sections, including, but not limited to, the 2020 survey by Pickett & Associates, Inc., and 2015 LiDAR data. Cross-section data are available in the HEC-RAS model through RAS Mapper. Relevant HEC-RAS hydraulic geometry data were extracted from the HEC-RAS geodatabase using RAS Mapper. Initial values for the model parameters and coefficients were developed using these data and were further adjusted during model calibration as described in Section 6.

6. HEC-RAS CALIBRATION AND VALIDATION

This section presents the setup of the unsteady flow HEC-RAS model for calibration and validation (Section 6.1), model verification, testing, calibration, and validation (Section 6.2), and a summary of calibration and validation results (Section 6.3). The validated unsteady flow HEC-RAS model accompanies the submittal of this project report. Relevant inputs and results are reproduced in Appendix B.

6.1 MODEL SETUP FOR CALIBRATION AND VALIDATION

The HEC-RAS model was setup for unsteady-flow calibration, including specification of an initial condition and boundary conditions, parameterization of the model, and preparation of stage-discharge rating curves as shown below.

6.1.1 Initial Conditions

For unsteady-flow simulations, HEC-RAS requires initial water-surface elevations at each cross section, which HEC-RAS can simulate based on a specified initial flow. The initial flow of 500 cfs was selected to correspond to the range of flows between *SR-60 at Bartow* to *Zolfo Springs* at the start of WYs 2013 and 2017. These were the two periods selected for model calibration and validation (as further described in Section 6.2.2).

6.1.2 Boundary Conditions

For the unsteady-flow simulations, HEC-RAS requires the specification of external boundary conditions and, if needed, internal boundaries. the external boundary conditions included flow hydrographs at locations where water enters the UPR (from upstream of Bartow and from gaged tributaries) and a relationship between water-surface elevation and discharge (i.e., a rating curve) at the most downstream cross section (river station 403) as shown in Table 10. The downstream rating curve was developed such that flows and water-surface elevations at the *USGS Zolfo Springs* gage (river station 3520) closely align with the published USGS rating curve.

HEC-RAS also requires specification of boundary conditions at internal boundaries, such as the Peace River gaging stations where ungaged lateral flows are calculated (Table 10).

Table 10. Upper Peace River HEC-RAS model boundary conditions

Boundary	USGS ID	USGS Gage Name/Location	Boundary Type	HEC-RAS Station
External	02294650	*Peace River at SR-60 at Bartow*	Flow hydrograph, Upstream Boundary	206484
Internal	02294775	*Peace River at Clear Springs near Bartow*	Flow & stage hydrographs	184184
External	02294747	*Six Mile Creek at Bartow*	Flow hydrograph, Tributary	183560
External	02294759	*Phosphate Mine Outfall CS-8 near Bartow*	Flow hydrograph, Tributary	174700
External	02294760	*Barber Branch near Homeland*	Flow hydrograph, Tributary	171686
Internal	02294898	*Peace River at Fort Meade*	Flow & stage hydrographs	131013
External	02295013	*Bowlegs Creek near Fort Meade*	Flow hydrograph, Tributary	113752

Boundary	USGS ID	USGS Gage Name/Location	Boundary Type	HEC-RAS Station
External	02295420	*Payne Creek near Bowling Green*	Flow hydrograph, Tributary	55292
External	02295580	*Little Charlie Creek near mouth near Wauchula*	Flow hydrograph, Tributary	36062
Internal	02295637	*Peace River at US-17 at Zolfo Springs*	Flow & stage hydrographs	3668
External	n/a	*Downstream of US-17 at Zolfo Springs*	Rating curve, Downstream Boundary	403

For the Whidden Creek near Fort Meade gage, the USGS reports "discharge not computed above a gage height of 9.79 ft, since December 6, 2009, due to backwater from the Peace River." The maximum flow recorded at this gage was 40 cfs. Thus, this gaged tributary was omitted as an external boundary and instead this inflow was accounted as part of the ungaged lateral flow.

The 15-minute flow and water surface elevation values for the aforementioned gages were downloaded from the USGS National Water Information System: Web Interface (https://waterdata.usgs.gov/nwis) and saved into HEC-DSS. The data available for each of these gages include numerous periods of missing data. For periods of missing data shorter than one day, simple linear interpolation was applied to infill the respective dataset. For periods of missing record greater than one day the USGS's estimated daily flows were assumed to occur at 12:00 pm (noon) and linear interpolation was used to estimate the 15-minute flow time series to known or assumed neighboring data points. Interpolation of this data was necessary for stability of the model.

6.1.3 Model Parametrization

Initial model parameters were specified based on preliminary steady-flow simulations and comparison of simulated to observed rating curves at USGS gages. The primary parameters were the bridge modeling approaches, the contraction and expansion coefficients, and Manning's n-values. All bridge modeling approaches were set to use the energy method for both low and high flows. As presented in Section 5.2.6 the contraction and expansion coefficients were set consistent with guidance in the HEC-RAS Hydraulic Reference Manual (Brunner G. W., 2023) for gradual transitions and typical bridge sections. As presented in Section 5.2.5 Manning's n-values were selected following guidance in the HEC-RAS Hydraulic Reference Manual (Brunner G. W., 2023) based on visual assessments of land cover in aerial photography. Simulated rating curves from model runs with slightly varied Manning's n-values were compared against published rating curves for all mainstem gaging stations. The simulation with the combination of Manning's n values that resulted in the least variance across all rating curves was utilized as the starting point for calibration.

6.1.4 Rating Curves

Stage-discharge rating curves were downloaded for mainstem gages along the UPR (Table 11). These rating curves were used for model calibration and validation (Appendix B) as parameters were adjusted through the modeling process. Table 11 also includes USGS-provided conversions in feet from recorded gage height to elevation referenced to the North American Vertical Datum of 1988 (NAVD88), allowing for conversion of stage-discharge rating curves to water-surface elevation-discharge rating curves. Table 11 provides the dates the rating curves were downloaded, because the USGS updates the rating curves periodically.

Table 11. Upper Peace River USGS gages rating curve information

Gage Name	Gage Number	USGS Provided Conversion to NAVD88 (feet)*	Date Downloaded
SR-60 at Bartow	02294650	86.69	4/20/2023
Peace River near Bartow	02294655	79.76	4/20/2023
Peace River at Clear Springs	02294775	50.90	4/20/2023
Peace River near Homeland	02294781	-1.62	6/21/2023
Peace River at Fort Meade	02294898	-0.78	4/24/2023
Peace River at Bowling Green	02295194	4.72	4/20/2023
U.S. 17 at Zolfo Springs	02295637	29.30	4/18/2023

* Provided by Kevin Grimsley of the USGS via email communication on April 19, 2023.

6.2 MODEL VERIFICATION, TESTING, CALIBRATION, AND VALIDATION

Numerical models are abstractions of reality, commonly based on conceptual models as a basis for establishing algorithms to process input through implemented equations and solution schemes. Verification in numerical hydraulic modeling is the process of confirming the algorithms, equations, and solution schemes represented in the modeling software are correctly formulated and coded. HEC-RAS is an industry-standard numerical hydraulic modeling software that, since the USACE released the first version in 1995, has been in continuous verification with regular releases of new versions to, in part, address errors. However, verification only confirms that software can be applicable to a particular situation, not that its application to this situation is accurate. Model evaluation targets the application of verified numerical modeling software to a project.

Model evaluation includes testing (such as uncertainty analyses and sensitivity analyses), calibration, and validation. Uncertainty analyses focus on variability in model inputs, appropriate algorithms and solution schemes, and inputs not explicitly quantified or poorly quantified. Sensitivity analyses are usually a preliminary screening to identify which parameters or algorithms have the greatest influence on model results. Calibration is the process of adjusting model parameters and solution schemes to minimize deviation/maximize agreement between simulated results and measured/observed data. Validation is the process of checking calibration using an independent set of measurements/observations. Application of numerical modeling software to inform water management decisions, such as those associated with the reevaluation of minimum flows for the UPR, requires calibration and validation of industry-standard software.

6.2.1 Calibration Considerations

Section 4 presents considerations of both steady-flow and unsteady-flow calibration. An unsteady-flow calibration was recommended to enhance model calibration and validation prior to performing the steady-flow simulations required to support reevaluation of the UPR minimum flows. The calibration recommendations in Section 4 build on the model construction process documented in Section 5.

6.2.2 Model Testing and Calibration

The first step in model calibration was to compare steady-flow simulations of water-surface elevation-discharge ratings to the USGS's published ratings at all relevant gaging stations along the UPR between *SR-60 at Bartow* and *Zolfo Springs* (Table 11). This required coordination with the USGS to fix issues with rating shifts the USGS left in place after Hurricane Ian in September 2022. Further coordination with the USGS was required to confirm that ratings recently changed with

frequent shifts to each rating. The USGS has no way to provide historical ratings and shift information. Thus, with the USGS's support, and working closely with SWFWMD staff, reasonable agreement was achieved between the steady-flow water-surface elevation-discharge ratings and the current rating curves. The purpose of this step in the calibration process was to reduce potential for instabilities during preliminary unsteady-flow testing. Flows modeled in the steady-flow simulations described in this step ranged from 15 to 15,000 cfs at sufficient intervals for suitable resolution of the ratings.

The next step in calibration was to compare the unsteady-flow simulations of water-surface elevation-discharge ratings to the USGS's measurements at gaging stations along the study reach. Unlike the USGS's published ratings that have a monotonically increasing relationship between discharge and water-surface elevation, the USGS's measurements on which the ratings are based show scatter in stage for measured discharges. This scatter represents the natural variability in conditions, some of which is explained by hysteresis that can be simulated with an unsteady-flow simulation. Flow roughness factors were used to further adjust roughness coefficients (Sections 5.2.5 and 6.1.3) as a function of discharge to align simulated stages with observed measurements. The flow roughness factors were informed by the concept of relative roughness (Limerinos, 1970) that decreases the hydraulic influence of bed roughness as flow depth increases, and vice versa, and were varied by sub-reaches along the study reach.

However, implementation of flow roughness factors alone was not sufficient for stabilizing simulations at the lowest flows. Additionally, the occurrence of zero-flow events throughout WYs 2013 and 2017 caused the HEC-RAS model to crash. Through coordination with SWFWMD staff, and consistent with the recommendation in BFA (2020), a 13 cfs flow threshold was used (i.e., "floor") at the upstream boundary, or the USGS Bartow gage, to prevent fatal model instabilities during simulations of the lowest flows. This allowed for comparison of unsteady-flow simulations to observed ratings but was insufficient to compare simulated and observed stage and flow hydrographs, as further discussed below, because gaged and ungaged lateral flows had not yet been introduced to the model.

Ungaged lateral outflows and inflows needed to be estimated prior to the comparison of water-surface elevation hydrographs and flow hydrographs. This functionality was not working correctly in the HEC-RAS software, the HEC-RAS Development Team was contacted to request release of an updated version of the software that could correctly simulate the ungaged lateral flows. SWFWMD staff agreed to proceed with the new version 6.4.1 of the software rather than the originally scoped version of 6.2 so that the functionality for simulating ungaged lateral flows could be applied.

Three ungaged lateral flow reaches were considered:

1. Bartow to Clear Springs
2. Clear Springs to Fort Meade
3. Fort Meade to Zolfo Springs

The ungaged lateral flow reaches were parameterized as indicated in Table 12. Ungaged lateral flows (inflows and outflows) were spatially distributed uniformly along each respective reach, and the *SR-60 at Bartow* to *Clear Springs* reach encompassed the karst losses. HEC-RAS requires double boundary conditions (DBCs) at the downstream gaging station of each ungaged lateral flow reach. These DBCs cannot have large temporal gaps in either observed flows or water-surface elevations, so daily average values were input to fill the gaps in the 15-minute data as discussed in Section 6.1.2. The need to smoothly transition daily average flows and stages was identified rather than abruptly transitioning between days using a single value, and this resulted in successful simulations of ungaged lateral flows over WYs 2013 and 2017. The successful simulations allowed for comparisons between simulated and observed hydrographs of flow and water-surface elevation (see Appendix B).

Table 12. Summary of ungaged lateral flow calculation parameters (note: U/S denotes upstream, and D/S denotes downstream)

Reach	U/S Gage	D/S Gage	Iterations	Flow Convergence Criterion (cfs)	Smoothing Window (hours)	Lag Time (hours)	Spatial Distribution
1	*SR-60 at Bartow*	*Clear Springs*	10	5	4	4	Uniform
2	*Clear Springs*	*Fort Meade*	10	5	4	5.5	Uniform
3	*Fort Meade*	*Zolfo Springs*	10	5	4	6	Uniform

Graphical techniques were used as a preliminary evaluation of model performance. Statistical techniques were subsequently used to quantitatively evaluate model performance. Statistical techniques included percent bias (PBIAS) between observed and simulated values, the ratio of the root mean square error to the standard deviation of observations (RSR), and the Nash-Sutcliffe efficiency (NSE) for both flow and water-surface elevation (Nash & Sutcliffe, 1970). Criteria for rating model performance are listed in Table 13.

Table 13. Model performance evaluation criteria

Performance Rating	PBIAS (%)[1]	RSR[2]	NSE[1]
Very Good	PBIAS < ±5	0 ≤ RSR ≤ 0.5	NSE > 0.8
Good	±5 ≤ PBIAS < ±10	0.5 < RSR ≤ 0.6	0.7 < NSE ≤ 0.8
Satisfactory	±10 ≤ PBIAS < ±15	0.6 < RSR ≤ 0.7	0.5 < NSE ≤ 0.7
Unsatisfactory	±15 ≤ PBIAS	0.7 < RSR	0.5 ≥ NSE

Notes:
[1] Table 9 in Moriasi et al. (2015), for flow at daily, monthly, and annual temporal scales.
[2] Table 4 in Moriasi et al. (2007), for flow at a monthly temporal scale.
No 15-minute temporal scale criteria are available, but criteria are relaxed as temporal scale decreases, so applying daily criteria to 15-minute scale performance is conservative.

The optimal value of PBIAS is zero with positive values indicating model underestimation bias and negative values indicating model overestimation bias. The optimal value of RSR is zero, and the lower the RSR the better the agreement between the simulation and observations. The optimal value of NSE is one, with values less than zero indicating that the mean observed value is a better predictor than the simulated value (i.e., model performance is unacceptable, note: even NSE values less than 0.5 are unacceptable as per Table 16).

The calibrated performance of the UPR HEC-RAS model based on these statistical techniques is listed in Table 14 and Table 15. Note that extended periods during WYs 2013 and 2017 associated with use of the 13 cfs flow minimum were excluded from the model calibration performance calculations (Table 16).

Table 14. Upper Peace River HEC-RAS flow calibration performance

USGS Gage	Water Year 2013			Water Year 2017			Combined 2013 & 2017		
	PBIAS	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*
SR-60 at Bartow	0.9	0.0	1.0	-0.1	0.0	1.0	0.2	0.0	1.0
Clear Springs	-0.1	0.0	1.0	-0.1	0.0	1.0	-0.1	0.0	1.0
Fort Meade	0.3	0.0	1.0	-0.1	0.0	1.0	0.0	0.0	1.0
Zolfo Springs	0.4	0.0	1.0	0.6	0.0	1.0	0.5	0.0	1.0

Table 15. Upper Peace River HEC-RAS stage calibration performance

USGS Gage	Water Year 2013			Water Year 2017			Combined 2013 & 2017		
	PBIAS	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*
SR-60 at Bartow	0.1	0.2	1.0	0.0	0.1	1.0	0.1	0.1	1.0
Clear Springs	0.4	0.3	0.9	0.1	0.1	1.0	0.2	0.2	1.0
Fort Meade	0.1	0.1	1.0	-0.1	0.1	1.0	0.0	0.1	1.0
Zolfo Springs	0.5	0.1	1.0	0.1	0.1	1.0	0.3	0.1	1.0

Table 16. Periods excluded from the model calibration performance analysis based on their association with extended use of the 13 cfs flow minimum for model stability

Water Year	SR-60 at Bartow
2013	1/22/13 – 2/14/13, 2/20/13 – 6/6/13
2017	5/5/17 – 6/7/17

The calibration results shown in Table 14 and Table 15 demonstrate the *Very Good* performance of the Upper Peace River HEC-RAS model for simulating unsteady flows and water-surface elevations at the evaluated USGS gages.

6.2.3 Model Validation

The performance of the calibrated hydraulic model was evaluated through validation using four USGS gages over the same period of WYs 2013 and 2017 (Table 17 and Table 18 and Appendix B). Each of the gages are located within a separate ungaged lateral flow reach (see Section 6.2.2 for discussion of the three reaches). Note that extended UPR HEC-RAS water-surface elevation calibration performance periods during WYs 2013 and 2017 associated with use of the 13 cfs flow minimum were excluded from the model validation performance calculations (Table 19). Hydrographs were visually inspected to compare the simulated and observed gage data as exampled in Figure 36 All comparisons of hydrographs may be found in Appendix B.

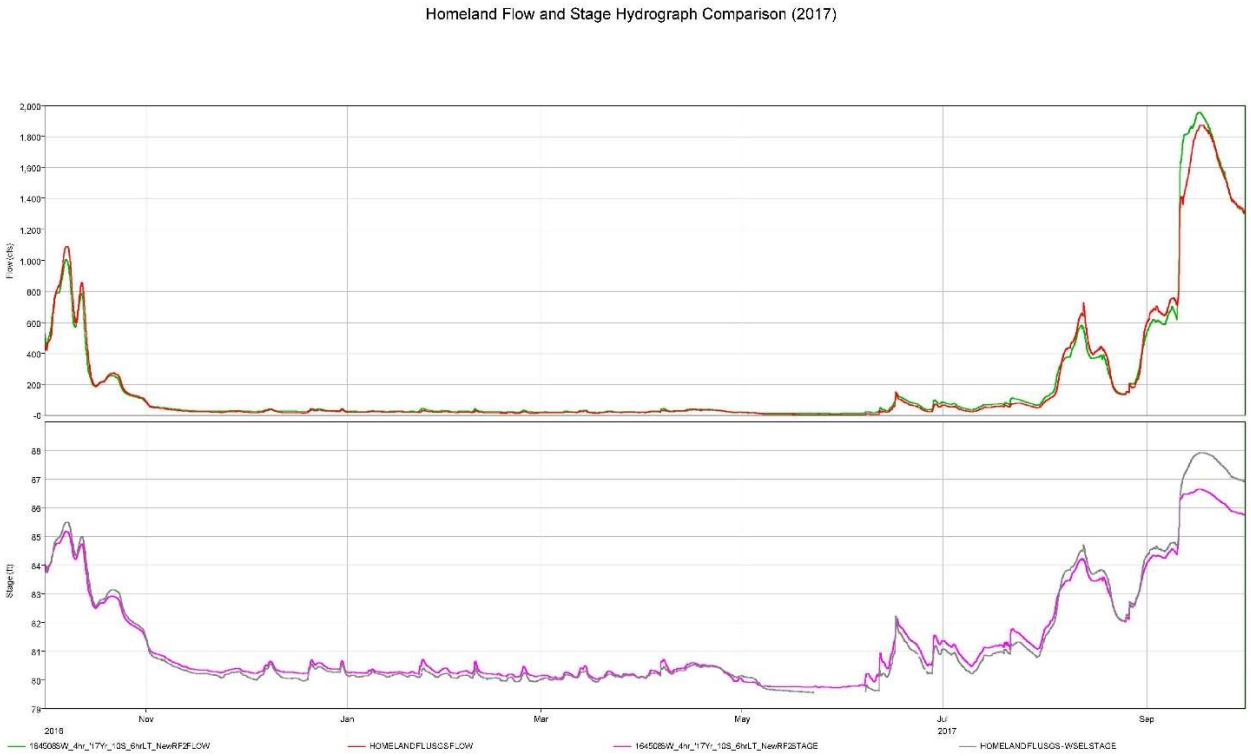


Figure 36. Comparison hydrograph of simulated vs. observed data for Homeland Gage for WY 2017.

Table 17. Upper Peace River HEC-RAS flow validation performance

USGS Gage	Water Year 2013			Water Year 2017			Combined 2013 & 2017		
	PBIAS	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*
near Bartow	12.3	0.2	0.9	-2.0	0.1	1.0	2.7	0.1	1.0
Homeland	-16.6	0.3	0.9	-0.6	0.1	1.0	-6.7	0.1	1.0
Bowling Green	6.1	0.2	1.0	13.3	0.2	0.9	10.3	0.2	0.9

Table 18. Upper Peace River HEC-RAS stage validation performance

USGS Gage	Water Year 2013			Water Year 2017			Combined 2013 & 2017		
	PBIAS	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*	*PBIAS*	*RSR*	*NSE*
Near Bartow	0.4	0.3	0.9	0.3	0.0	1.0	0.4	0.0	1.0
Homeland	0.1	0.2	1.0	0.0	0.2	1.0	0.0	0.2	1.0
Bowling Green	1.2	0.3	0.9	0.6	0.2	1.0	0.9	0.3	0.9
Wauchula	n/a	n/a	n/a	-2.5	0.0	1.0	n/a	n/a	n/a

Table 19. Periods excluded from the model validation performance analysis based on their association with extended use of the 13 cfs flow minimum for model stability.

Water Year	Peace River near Bartow	Peace River at Homeland	Peace River at Bowling Green
2013	12/26/12 – 6/6/13	12/2/12 – 12/9/12 2/1/13 – 6/7/13	NA
2017	5/5/17 – 6/11/17	5/6/17 – 6/11/17	5/7/17 – 6/6/17

The validated performance of the UPR HEC-RAS model for simulation of unsteady flows and water surface elevations at the evaluated USGS gages rates *Very Good* for the RSR and NSE statistics for all comparisons in Table 17 and Table 18. The PBIAS technique indicates potential issues with the hydrologic routing model (perhaps the uniform distribution of ungaged lateral flows is not representing the spatial distribution of the ungaged lateral flows), rather than the simulated hydraulics, because these discrepancies at the validation gages are resolved at the calibration gages. Although the three validation gages at *near Bartow*, *Homeland*, and *Bowling Green* have greater bias in flow predictions compared to the calibration gages, no persistent pattern was observed in both selected water years. In addition, the *Wauchula* gage validation demonstrates a small bias in stage predictions (Table 18), but because only water-surface elevation data for the site are available, it is impossible to determine whether the bias is due to hydrologic or hydraulic influences. Finally, it should be noted that PBIAS only was unacceptable at *Homeland* for WY 2013, but considering both water years the overall PBIAS at *Homeland* moves into the *Good* range. Thus, the validation of the calibrated unsteady-flow model was judged to achieve a reasonable fit to support the reevaluation of the UPR minimum flows.

6.3 SUMMARY

The calibration and validation results in Table 14, Table 15, Table 17, and Table 18 demonstrate *Very Good* performance of the UPR HEC-RAS model for simulating unsteady flows and water-surface elevations at the evaluated USGS gages. The validation of the calibrated unsteady-flow model was judged to be reasonable and sufficient for supporting the reevaluation of the UPR minimum flows.

A 13 cfs floor (i.e., flow minimum) was used to resolve model instabilities caused by ungaged lateral flow calculations during the unsteady-flow model calibration. BFA (2020) recommended using a floor during unsteady flow simulation during low flow periods. This recommendation was implemented because the selected calibration/validation water years included extreme low flows. Verdantas and the District selected the WYs 2013 and 2017 as representative of the complete range of flows (up to a peak of approximately 11,300 cfs during Hurricane Irma) that must be considered for reevaluation of the UPR River minimum flows.

7. CONVERSION OF HEC-RAS UNSTEADY FLOW TO STEADY FLOW

This section summarizes the conversion of the calibrated and validated unsteady-flow HEC-RAS model for the UPR to a steady-flow HEC-RAS model. The conversion of the steady-flow model to an unsteady-flow model included a method to apportion flows (Section 7.1) and adjustment of modeling parameters (Section 7.2).

7.1 FLOW APPORTIONMENT

Section 3 compiled available data to inform development of the flow apportionment method, which was needed to provide a defensible and scientific basis for specifying flow changes for steady-flow simulations along the modeled reach of the UPR. The four key aspects of the flow apportionment method are presented in Table 20 and are further described in the following subsections.

Table 20. Upper Peace River flow apportionment aspects

Flow Apportionment Aspect	Description	Further Information in Section
Gaged Lateral Inflow	Known gaged inflows are attributed to their respective tributaries and connection point with the mainstem.	7.1.1
Karst Sink Area	Flow losses during low flows between the *SR-60 at Bartow* and *Clear Springs* gages are attributed to karst sink areas.	7.1.2
Ungaged Tributary	Unaccounted for inflows are attributed to major ungaged tributaries according to their proportional watershed areas.	7.1.3
Uniform Flow Change Point	Remaining unaccounted for flows are attributed to uniformly spaced flow change points and can be either negative or positive flow changes.	7.1.4

7.1.1 Common Flow Period Determination and Data Supplementation

Thirteen USGS streamflow gages were identified as sources of daily average flow data in the creation of flow duration curves for use in the flow apportionment method for the UPR. Flow duration curves were needed to establish flow exceedance values for each gage, which served as the basis of the flow apportionment methodology. Seven of these gages are mainstem gages and six are located on tributaries (Table 21).

Table 21. Upper Peace River gages periods of record for daily flow

Gage Name/Location	USGS ID	Available Period of Record	Gage Type
Peace River at SR-60 at Bartow, FL	02294650	10/01/39-10/01/23	Mainstem
Peace River near Bartow, FL	02294655	05/15/02-10/01/23	Mainstem
Peace River at Clear Springs Near Bartow, FL	02294775	05/15/02-10/01/23	Mainstem
Sixmile Creek at Bartow, FL	02294747	12/01/02-10/01/23	Tributary

Phosphate Mine Outfall CS-8 Near Bartow, FL	02294759	02/01/03-10/01/23	Tributary
Barber Branch Near Homeland, FL	02294760	12/01/02-10/01/23	Tributary
Peace River Near Homeland, FL	02294781	10/01/01-10/01/23	Mainstem
Peace River at Fort Meade, FL	02294898	06/01/74-10/01/23	Mainstem
Bowlegs Creek Near Fort Meade, FL	02295013	03/01/64-10/01/23	Tributary
Peace River at Bowling Green, FL	02295194	12/01/10-10/01/23	Mainstem
Payne Creek Near Bowling Green, FL	02295420	10/01/63-10/01/23	Tributary
Little Charlie Creek Near Mouth Near Wauchula, FL	02295580	09/30/12-10/01/23	Tributary
Peace River at US 17 at Zolfo Springs, FL	02295637	09/01/33-10/01/23	Mainstem

The periods of record for each of these gages were compared to determine a common period. The most restrictive period of record is observed at the *Little Charlie Creek near Wauchula* tributary gage, which reported inconsistent readings since being brought online in 2012. However, the common period from 12/01/10 – 10/01/23 was agreed upon, as the most restrictive period of all mainstem gages (Peace River at Bowling Green). The common period for available USGS approved data ended on 10/01/23 at the time this task was done. Although this common period is short relative to the available periods of record at the *SR-60 at Bartow* and *Zolfo Springs* gages, comparison of the flow duration curves for both periods, as an example, for the *Zolfo Springs* gage indicates the common period is representative (Figure 37).

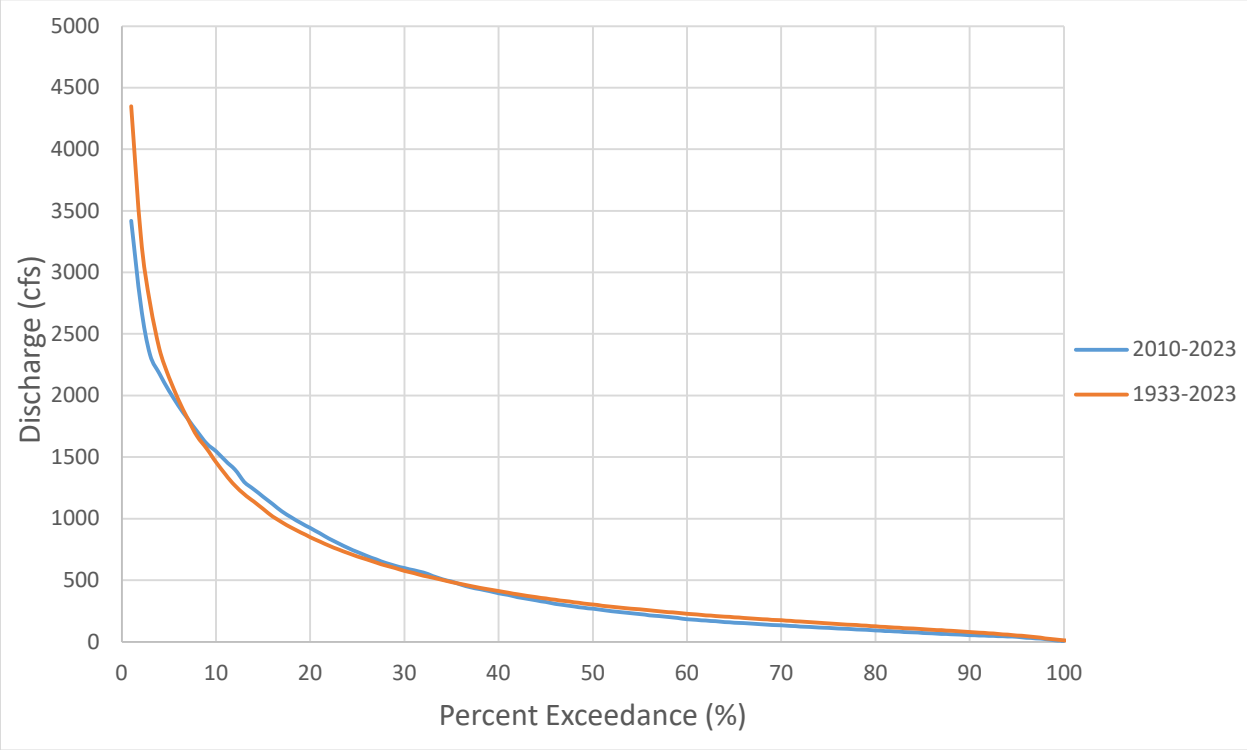


Figure 37. Comparison of Zolfo Springs Flow Duration Curves Created from the Concurrent Period of Record (12/01/2010 – 10/01/2023) and Historical Period of Record (09/01/1933 – 10/17/2023)

Two additional years of gage data for all gages was considered more advantageous than censoring the mainstem gage records based on the limited record at one tributary gage. Supplemental data for *Little Charlie Creek* was, therefore, generated from 12/01/10 – 9/30/12 to match the common period.

Data gaps in flow data were filled within the common period for the *Peace River near Bartow*, *Phosphate Mine Outfall CS-8 near Bartow*, *Barber Branch near Homeland*, *Bowlegs Creek near Fort Meade*, and *Little Charlie Creek near Wauchula* USGS gages. Missing data were estimated via linear interpolation between two known data points if just a singular data point was missing; using the associated published rating curves to derive flow values from available gage height data for multiple missing data points; or using statistical mean daily values for each date when no gage height data were available. To clarify this last method, for consecutive dates which had both missing flow and gage height data, the "*mean of daily mean values for each day for water year of record*" as presented on the Daily Statistics page of each gage on the USGS National Water Information System website was used at each of these three gages, i.e., *Phosphate Mine Outfall CS-8 near Bartow*, *Barber Branch near Homeland*, and *Little Charlie Creek near Wauchula*. This method was used for the approximately two years of non-existent data for the *Little Charlie Creek near Wauchula* between 12/01/10 - 9/30/12. The data supplementation method and the number of missing data values are summarized for these gages in Table 22.

Table 22. Upper Peace River Data Supplementation Methods for the period 12/01/2010 through 10/01/2023 by gage

Gage	Data Supplementation Method (# of Data Values)
Peace River Near Bartow	Interpolation (3)
Phosphate Mine Outfall CS-8 Near Bartow	Rating Curve (149) and Daily Mean Values (2)
Barber Branch Near Homeland	Daily Mean Values (3)
Bowlegs Creek Near Fort Meade	Interpolation (2)
Little Charlie Creek Near Wauchula	Rating Curve (26) and Daily Mean Values (669)

After all gage datasets had a consistent number of data points, flow duration curves for each gage dataset were created using a function within HEC-DSSVue. The generated flow duration curves are available in Appendix C.

The percent flow exceedance values for each gage were collated, such that flow values correspond to each District-specified flow exceedance percentage at the mainstem gages and at each tributary gage. These relationships between gaged flows established the foundation for the flow distribution, which is shown as the rows shaded in blue (mainstem) and dark green (tributary) in Appendix C. Mainstem gage flow values were used as known flows at each of their respective river stations, and tributary gage flow values were utilized as inflows between the mainstem gages, therefore, attributing a portion of the difference between the mainstem gages to the tributary inflows. Based on these apportionment values, any unaccounted flows between mainstem gages were addressed by attributing them to karst losses, major ungaged tributaries, and uniform flow change points.

7.1.2 Karst Feature Losses

The upper portion of the study reach has a large concentration of known karst features that can decrease flow in the river. As identified by Metz & Lewelling (2009) and studies cited therein, the major karst features which result in flow loss are the Wabash Complex, Cooks Ripple, Fricano Fracture, Ledges Sink, Midway Sink, Elephant Graveyard, Crevasses, Gator Sink, and Dover Sink (

Figure *38*).

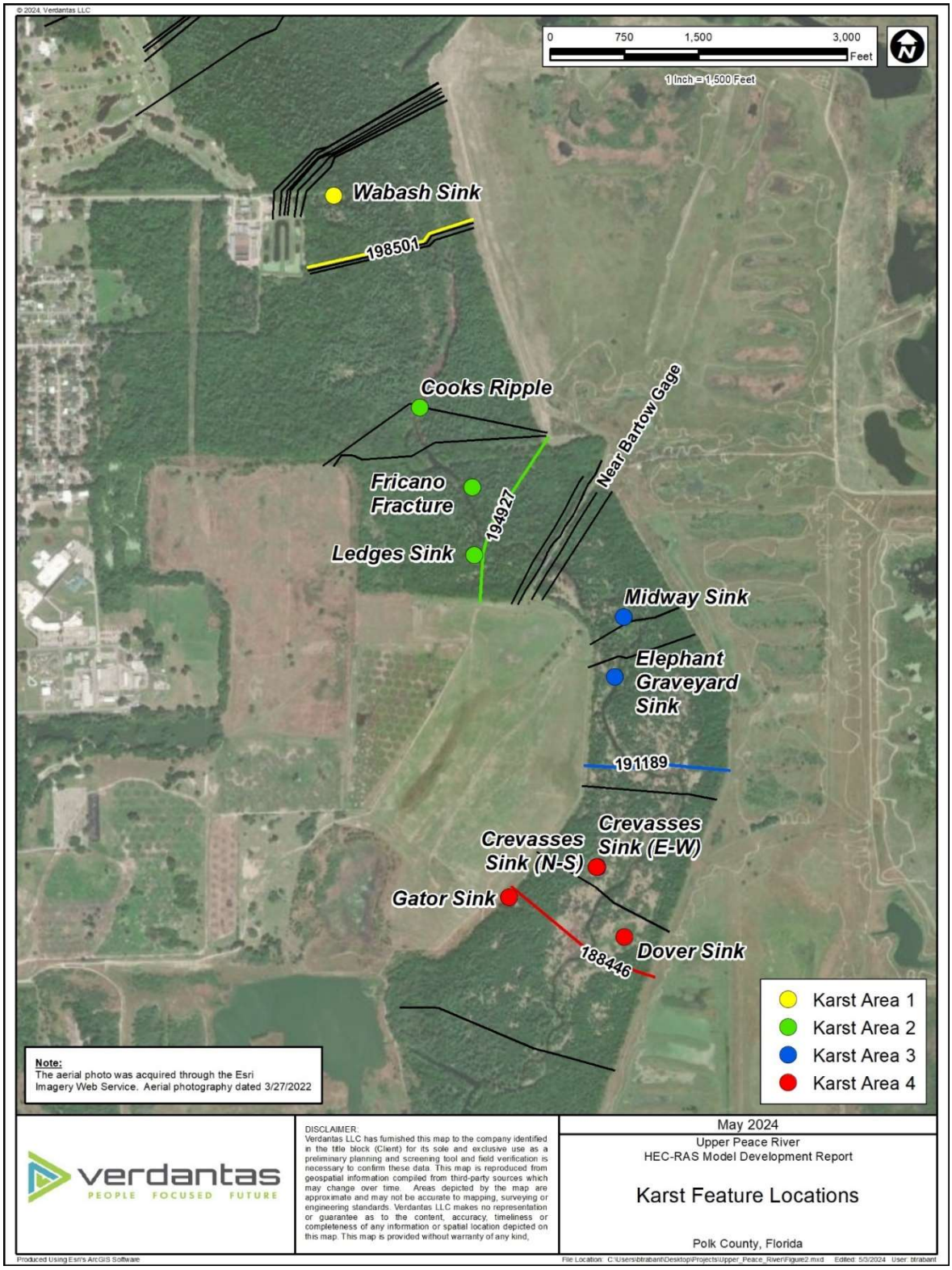


Figure 38. Karst feature locations in the Upper Peace River between SR-60 at Bartow and Clear Springs. (note: The labelled lines indicate the stationing for the measured cross-section at this location which indicate the boundaries of the color-coded Karst areas, unlabeled lines represent other measured cross-sections in this portion of the UPR HEC-RAS model.)

At higher percent-exceedance flows (therefore lower discharge value), a loss of flow is observed between *SR-60 at Bartow* and *Clear Springs*, as shown in Table 23 (both red rows).

Table 23. Excerpt from Appendix C that identifies flows (blue rows) and flow changes (red rows) in the Upper Peace River between SR-60 and Clear Springs for flows ranging from the 70th to the maximum (100th) percent exceedance.

Location Name	70	75	80	85	90	91	92	93	94	95	96	97	98	99	99.5	99.75	100
SR60	41.0	36.6	31.2	24.6	18.6	16.6	15.0	13.8	12.1	10.2	8.4	6.2	4.4	2.6	1.4	1.0	0.2
Total Net Flow Change	-2.9	-5.0	-6.2	-7.9	-11.9	-11.4	-11.0	-10.9	-10.0	-8.6	-8.2	-6.2	-4.4	-2.6	-1.4	-1.0	-0.2
Peace River near Bartow	38.1	31.6	25.0	16.7	6.7	5.2	4.0	2.9	2.1	1.6	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Total Net Flow Change	-7.1	-7.4	-8.6	-8.6	-6.7	-5.2	-4.0	-2.9	-2.1	-1.6	-0.2	0.0	0.0	0.0	0.0	0.0	0.0
Clear Springs	31.0	24.2	16.4	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

These losses are attributed to the known karst features. Metz & Lewelling (2009) provide known measured losses for these individual features. The known loss values were reviewed for each feature, and using engineering judgement the approximate maximum measured loss for each feature was identified. These approximate maximum losses were then compared amongst each feature present in each sub-reach between mainstem gages (*SR-60 at Bartow*, *near Bartow*, and *Clear Springs*), to create an estimated flow loss proportion. For example, Wabash Complex, Cooks Ripple, Fricano Fracture, and Ledges Sink are all in the reach between *SR-60 at Bartow* and *near Bartow*. Therefore, the estimated maximum losses at each of these features were proportioned in relation to the total estimated maximum loss in this reach. The total loss was estimated to be 14.75 cfs for these four features, and the Wabash Complex has an estimated maximum loss of 5 cfs, therefore, it is assumed that approximately 1/3 of all flow losses in this reach are associated with the Wabash Complex.

This process was repeated for the following reach and each major karst feature. Lastly, given the local proximity of the known karst features and the relatively coarse cross-section spacing of the model, certain features were paired together as "Karst Areas" (

Figure *38*). Each of these karst areas were then assigned a river station within the flow apportionment method and whenever there is a loss of flow in these two reaches, the loss is proportioned accordingly to each of these karst areas.

7.1.3 Ungaged Tributary Inflows

The study reach contains multiple major, ungaged tributaries to the UPR. These tributaries include Rocky Branch, Sink Branch, Whidden Creek (see Section 6.1.2 for rationale), Hog Branch, Max Branch, Thompson Branch, and Hickory Branch. Unaccounted inflows within sub-reaches were proportioned according to the tributary's watershed area compared to the sub-reach watershed area. For instance, the sub-reach between *Homeland* and *Fort Meade* has a total watershed area of 69 mi^2, and Sink Branch has an approximate watershed area of 14 mi^2, therefore, approximately 20% of any unaccounted-for inflows was attributed to this tributary. The USGS HUC-12 watershed boundary GIS layers were referenced to determine contributing watershed areas, and when finer resolution was required, Verdantas used topographic mapping to generate an approximate watershed area. The estimated ungaged tributary areas and their respective contribution ratio within their respective sub-reach are summarized in Appendix C.

7.1.4 Uniform Flow Change Locations

Because the gaged and ungaged tributaries did not fully account for the total sub-reach watershed areas, a method of uniformly distributing any remaining unaccounted flow was necessary. These unaccounted flow change locations were spatially distributed uniformly within sub-reaches of the study reach.

Based on a sensitivity analysis of flow change magnitude at each location, Verdantas determined that flow change locations at ½ mile increments were sufficient for the upstream two sub-reaches (SR-60 to Clear Springs) and 1-mile increments were appropriate for the downstream sub-reaches (*Clear Springs* to *Zolfo Springs*). For all sub-reaches, whenever any positive flow between two mainstem gages was not accounted for amongst gaged inflows or ungaged tributary inflows, the remaining flow was distributed between the uniform flow change locations. These inflows can be overland flow to the river, groundwater discharge, and smaller ungaged tributaries. When there was an apparent outflow between two mainstem gages, those losses were solely attributed to the known karst areas in the first two reaches and distributed evenly amongst the uniform flow change locations for downstream sub-reaches (where minimal known karst features are present). These uniformly distributed outflows can be losses to groundwater, floodplain storage, and potential losses to unknown karst features.

7.1.5 Summary

The results of this developed flow apportionment method are presented in Appendix C. All flows are accounted for via mainstem and tributary gages, karst sink area losses, ungaged known tributaries, and uniform flow change points within the framework described herein. These flows may be updated when more flow data and karst information become available. With District agreement, duration curves for all 13 gages were used as the basis of this method as the best approximation of flows throughout the reach for varying conditions. Flow values were rounded to three significant digits as that is the precision of the source information from the USGS.

7.2 UNSTEADY-FLOW TO STEADY FLOW MODEL CONVERSION

To apply the flow apportionment profiles to the calibrated and validated model described in Section 6 HEC-RAS Calibration and Validation, the model had to be converted from unsteady-flow simulations to a steady-flow simulation. To verify the converted steady-flow model is consistent with the calibrated and validated unsteady model, both models simulated equal discharges and flow profiles were compared.

7.2.1 Model Parameters and Conversion

Verdantas reviewed and checked input parameters for consistency with the calibrated and validated unsteady-flow model. In the calibrated unsteady-flow HEC-RAS plans (which define what geometry, unsteady flow data, and various other parameters and options are to be used in simulations) flow roughness factors were used to calibrate and validate flow profiles. The roughness factor values are applied within the unsteady-flow plan file options. This is not an option for steady-flow simulation plans; therefore, flow roughness factors were applied within the model geometry file. Verdantas also reviewed boundary conditions to confirm they were consistent in the steady-flow and unsteady-flow plans. Friction slope computation methods were considered and updated to the default settings for steady-flow simulations to replace the unsteady-flow simulation defaults. These differences in default settings provided the best consistency between steady-flow and unsteady-flow water-surface profiles.

7.2.2 Conversion Accuracy Validation

Modeling consistency was validated through reviewing the results of multiple flow simulations. Unsteady-flow plans were created for various flow profiles (20, 50, 100, 500, 1,000 cfs, etc.) at upstream boundaries, and a steady-flow plan with matching flow profiles was also created. The water-surface profile results were then compared to ensure consistency was maintained in the conversion (Figure 39).

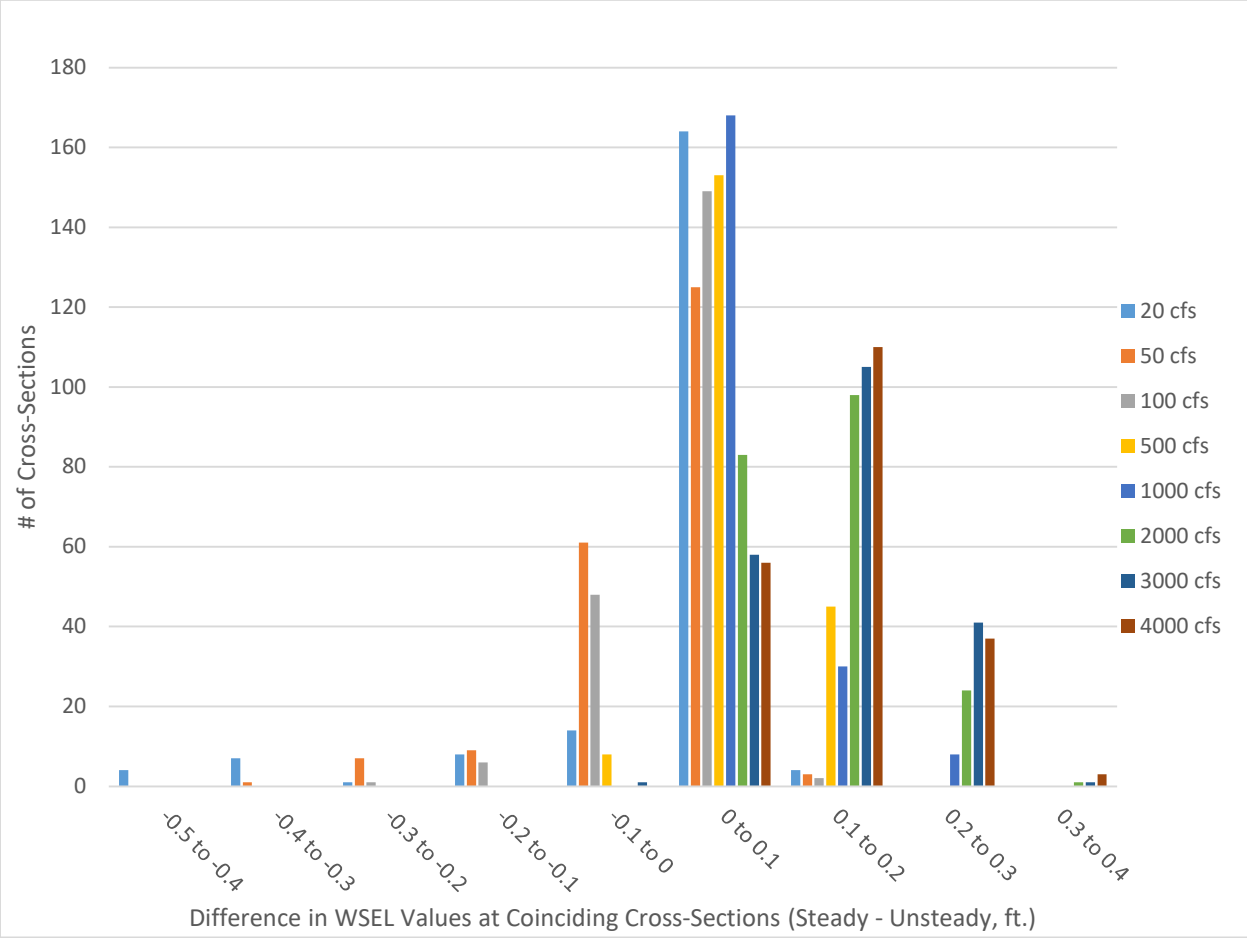


Figure 39. Model Conversion (Unsteady-Flow to Steady-Flow) Validation Results (WSEL = Water Surface Elevation)

For flows between 20 and 1,000 cfs, approximately 80 to 95% of surveyed cross-sections had water-surface elevation differences within ± 0.1 feet. Above 1,000 cfs, at least 80% of surveyed cross-sections had water-surface elevation differences within ± 0.2 feet. At *Fort Meade*, approximately the mid-point of the study reach, the flow duration analysis shows flows exceed 1,000 cfs only about 5% of the time. Based on these results, this conversion is validated between unsteady-flow and steady-flow hydraulics and provides a steady-flow modeling platform that can be used to accurately reevaluate MFLs for the Upper Peace River.

Additionally, the steady flow simulated profiles were compared with both the USGS's published measurements within the selected period of analysis (2010-2023), as well as the USGS's rating curves for each of the seven mainstem gaging stations. The comparison indicates the converted steady-flow model was consistent with observed measurements and reported rating curves for

most of the seven gages as presented in Appendix D. The only notable deviations are observed for the Clear Spring gage at extreme high flows, i.e., above 1,500 cfs (Figure 40). These extreme flows are either moderately or heavily influenced by debris as noted by the USGS. Considering the reasonably good comparisons for other gages within the extreme high flow range, additional factors may be contributing to these deviations. In addition, the extreme high flows less than the 1 percent exceedance flow range at the *Clear Springs* gage may have little effect on the minimum flow assessment. When future extreme flow measurements become available, the rating curve could be adjusted, if desired.

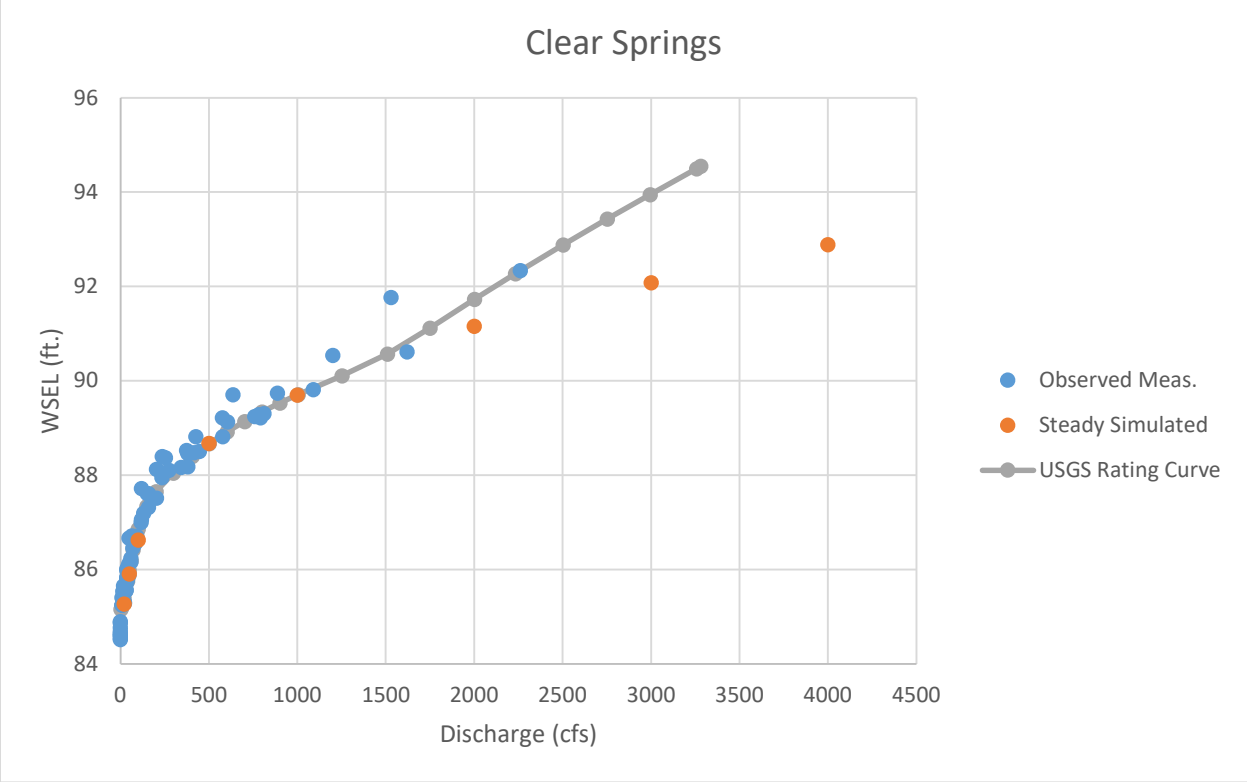


Figure 40. Comparison of converted steady-flow model results (orange) with published USGS rating curve (gray) and observed measurements (what the rating curve is based on, blue).

7.3 APPLICATION OF FLOW APPORTIONMENT METHOD

The flow apportionment method described herein was used to create a new set of flow profiles based on the Zolfo Springs full period of record flows as described in Section 8. The existing flow apportionment ratios determine the flow relationship between the river cross-sections. The ratios established are used to implement a flow series with *Zolfo Springs* as an index gage, as determined by the District. The selected flow exceedance profiles have been run through the steady-flow HEC-RAS model as detailed in Section 8.

8. SIMULATION OF SURFACE WATER FLOW PROFILES AND INUNDATION MAPPING

This section presents the application of the previously developed flow apportionment method (Section 7) to create percentile surface water flow profiles, based on the full, USGS-approved, historical flow record of the *Peace River at Zolfo Springs* gage and their associated inundation mapping and analysis.

8.1 DEVELOPMENT OF SURFACE WATER FLOW PROFILES

In the flow apportionment methodology developed for the UPR in Section 7, flow gains and losses were allocated at each flow change point under each percentile. Flow change points were selected based on the locations of mainstem and tributary gages, karst sink area losses, ungaged known tributaries, and uniform flow change locations. An apportionment ratio between a flow change point and the downstream end of the reach (the *Zolfo Springs* USGS gage, i.e., the District identified index location) was, thus, calculated. The ratio represents the amount of water contributed towards the total amount of water drained at the downstream end of the UPR. This ratio is then used to calculate the future flow at the flow change point given the downstream percentile flow, which is based on the full period of record as discussed below.

The downstream end of the UPR study reach is near the USGS Peace River at Zolfo Springs gage. A unique ratio was calculated for each of the 31 select flow profiles at each of 59 flow change points within the reach. As an example, the ratio value calculated for the 99 percent flow exceedance profile at Bowling Green is 0.231 which indicates the flow at this location is calculated as 23.1% of the flow at Zolfo Springs for this flow profile (Table 24). Therefore, the 99 percent flow exceedance value at Zolfo Springs of 20.0 cfs results in the corresponding flow at Bowling Green of 4.62 cfs for this profile (Appendix C). This process is repeated at all flow change points, for all flow profiles.

Table 24. Example of a partial of flow apportionment ratios (99 -100 percent) developed for different flow change points and flow profiles. Full table in Appendix C.

Location Name	Type	Station #	99	99.5	99.75	100
Bowling Green	River Gage	70166	0.231	0.182	0.115	0.000
Uniform Flow Change 26	Uniform Ungaged Flow Change	65424	0.277	0.233	0.171	0.066
Uniform Flow Change 27	Uniform Ungaged Flow Change	59729	0.323	0.284	0.226	0.131
Payne Creek	Gaged Lateral	55292	0.385	0.329	0.272	0.174
Uniform Flow Change 28	Uniform Ungaged Flow Change	54404	0.431	0.380	0.328	0.240
Uniform Flow Change 29	Uniform Ungaged Flow Change	49921	0.477	0.431	0.385	0.306
Hog Branch	Ungaged Lateral	46429	0.503	0.459	0.416	0.343
Uniform Flow Change 30	Uniform Ungaged Flow Change	44105	0.549	0.510	0.472	0.409
Uniform Inflow 31	Uniform Ungaged Flow Change	38067	0.595	0.561	0.528	0.474
Little Charlie Creek	Gaged Lateral	36062	0.630	0.593	0.552	0.474
Uniform Flow Change 32	Uniform Ungaged Flow Change	32210	0.676	0.644	0.608	0.540
Uniform Flow Change 33	Uniform Ungaged Flow Change	28562	0.722	0.695	0.665	0.606
Max Branch	Ungaged Lateral	26860	0.739	0.713	0.684	0.629
Uniform Flow Change 34	Uniform Ungaged Flow Change	23088	0.785	0.764	0.741	0.694
Uniform Flow Change 35	Uniform Ungaged Flow Change	17942	0.831	0.815	0.797	0.760
Uniform Flow Change 36	Uniform Ungaged Flow Change	12927	0.877	0.865	0.852	0.826
Thompson & Hickory Branch	Ungaged Lateral	10508	0.908	0.898	0.889	0.869
Uniform Flow Change 37	Uniform Ungaged Flow Change	5339	0.954	0.945	0.945	0.934
Zolfo Springs	River Gage	**3520**	20.0	13.0	10.0	4.0

As described in Section 7, there are periods during which sections of the UPR have no flow due to karst features. When flows are zero during these periods, they are represented in the apportionment with a ratio value of zero, therefore, flows calculated from this ratio will be zero. Because the HEC-RAS program is not able to model flows of zero, those values were substituted before being input into the model for simulation. Any calculated flows of zero derived from the ratio values of zero were, therefore, replaced by a flow value of 0.1 cfs before being input into the model for simulation (Appendix C).

A new set of surface water flow profiles were developed based on a flow duration curve using the daily average flow data for the *Zolfo Springs* gage for the full, approved period of record (9/1/1933 – 10/18/2023). Because the *Zolfo Springs* gage has the longest period of record in the study reach, the flow profile set developed using this index gage provides a historical basis for understanding flows in the UPR.

The flow duration curve for the *Zolfo Springs* gage was created in the HEC-DSSVue application, a utility program that allows users to plot, tabulate, edit, and manipulate data in a HEC-DSS database file. Flow values were extracted for 31 specified flow profiles and applied to the *Zolfo Springs* flow change points. The *Zolfo Springs* gage is the last flow change point in the developed flow apportionment methodology. The upstream flow values at each flow change point were then calculated using the aforementioned flow apportionment ratios for each flow profile. The flow values for all profiles and flow change points are included in Appendix C.

8.2 INUNDATION MAPPING AND ANALYSIS

Once the historical flow profiles were created (see Appendix C), they were input into the steady-flow model and each water-surface profile was simulated. The inundation area associated with each flow profile was calculated based on the greater than zero water depths at all computed locations. Depending on the flow profiles, the inundation area may contain both main channel and overbank areas. For percent exceedance profiles 1-20 (Table 25), the inundation area was calculated from the inundation polygons produced within the RAS Mapper module of HEC-RAS. An example of one of these inundation polygons is shown below in Figure 41.

Table 25. Flow profiles used in the inundation analysis and their respective inundation areas from the calculated inundation area polygons within RAS Mapper and the developed alternative calculation method.

Percent Exceedance Profile	Inundation Area Calculated Using HEC-RAS Results (acres)	Inundation Area Generated Using RAS-Mapper (acres)	Percent Exceedance Profile	Inundation Area Calculated Using HEC-RAS Results (acres)	Inundation Area Generated Using RAS-Mapper (acres)
1	-	7,690	80	329	-
5	-	4,040	85	319	-
10	-	2,770	90	298	-
15	-	1,910	91	292	-
20	-	1,210	92	288	-
25	981	-	93	282	-
30	724	-	94	277	-
35	585	-	95	273	-
40	484	-	96	268	-
45	432	-	97	260	-
50	403	-	98	245	-
55	382	-	99	233	-
60	366	-	99.5	215	-
65	355	-	99.75	207	-
70	346	-	100	174	-
75	337	-			

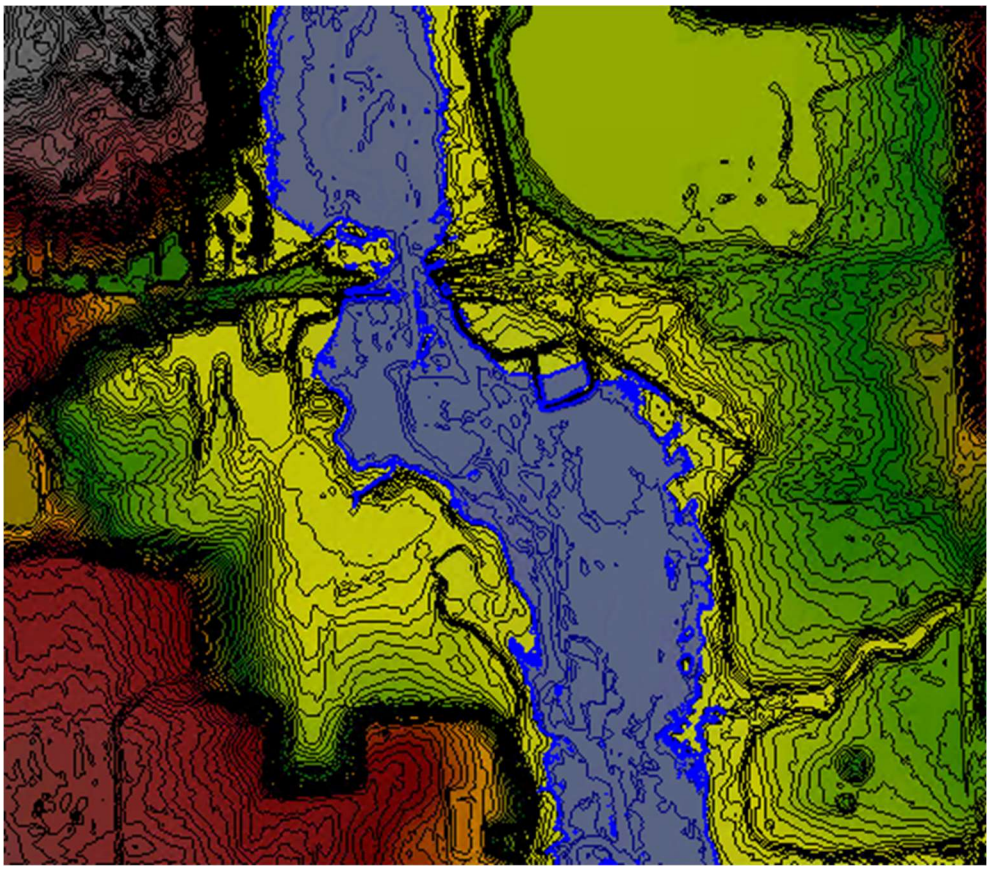


Figure 41. Example of a portion of the inundation polygon (outlined in blue) for the 5 percent exceedance flow profile.

The inundation polygons for the 25-100 percent exceedance profiles were, however, not generated using RAS Mapper (Table 25) because the LiDAR data did not accurately represent channel bathymetry. This inaccuracy was caused by the limitations of the 2015 LiDAR survey associated with poor light penetration in the highly tannic, turbid water, and likely the presence of aquatic vegetation extending above the water surface in some portions of the river. The limitations of the LiDAR survey led to the topography of the main channel being characterized as a "flat" surface associated with the water-surface elevations at the times the LiDAR data were collected.

The HEC-RAS model was not affected by the LiDAR survey limitations because the model geometry was developed using surveyed bathymetry (Section 5.2.4). The LiDAR survey limitations did, however, contribute to errors in the estimation of inundation areas that were based on simulated water-surface elevation (WSEL). When the WSEL was lower than the elevation included in the LiDAR data, the inundation polygon was not properly delineated, and the model predicted no inundation or underestimated channel inundation. These errors were expressed as an incomplete representation of the inundation surface within the channel and riverbanks. As a result, several sub-reaches appeared as gaps in the inundation polygon (Figure 42).

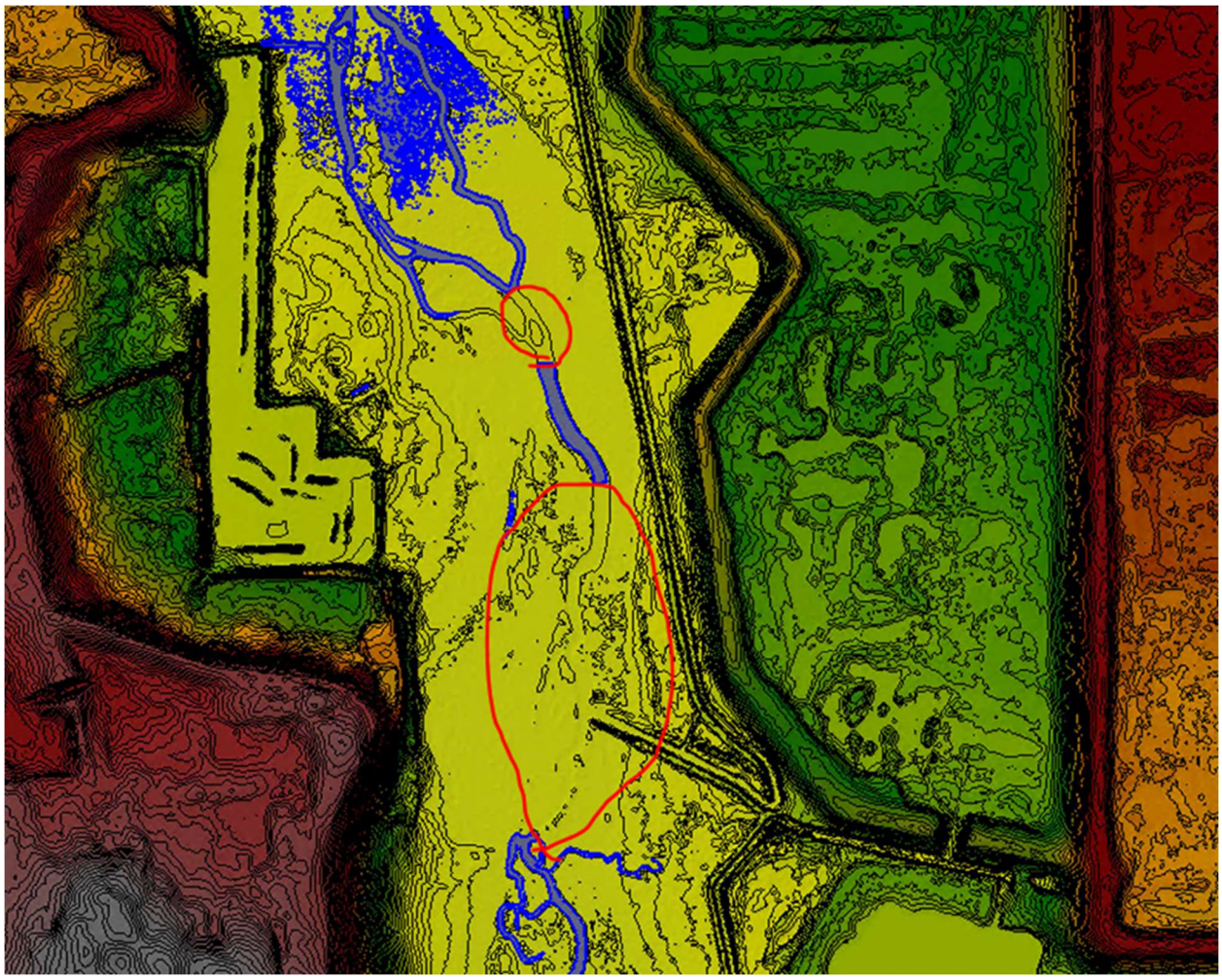


Figure 42. Example of gaps in the inundation polygons for percent exceedance flow profiles between 25 – 100 percent (Table 25). Inundation polygon is outlined in blue, and red circles highlight areas where gaps are present. Gaps are caused by a simulated WSEL lower than the LiDAR terrain elevation near the river channel.

An alternate method was, therefore, used to calculate the inundation area for exceedance profiles between 25-100 percent. The top width values (representing the top width of the total cross section water surface from the HEC-RAS simulation results) were multiplied by channel length between each non-interpolated cross-section to approximate the inundation area. For each surveyed cross-section in the model, the calculated WSEL top width and length to the next cross-section were extracted. Except the beginning and ending cross-sections, the top width value was multiplied by half of the lengths to the next upstream and to the next downstream surveyed cross-sections, and these two values were summed to approximate an inundation surface area at a cross-section in between. An example of the wetted top widths can be seen in Figure 43.

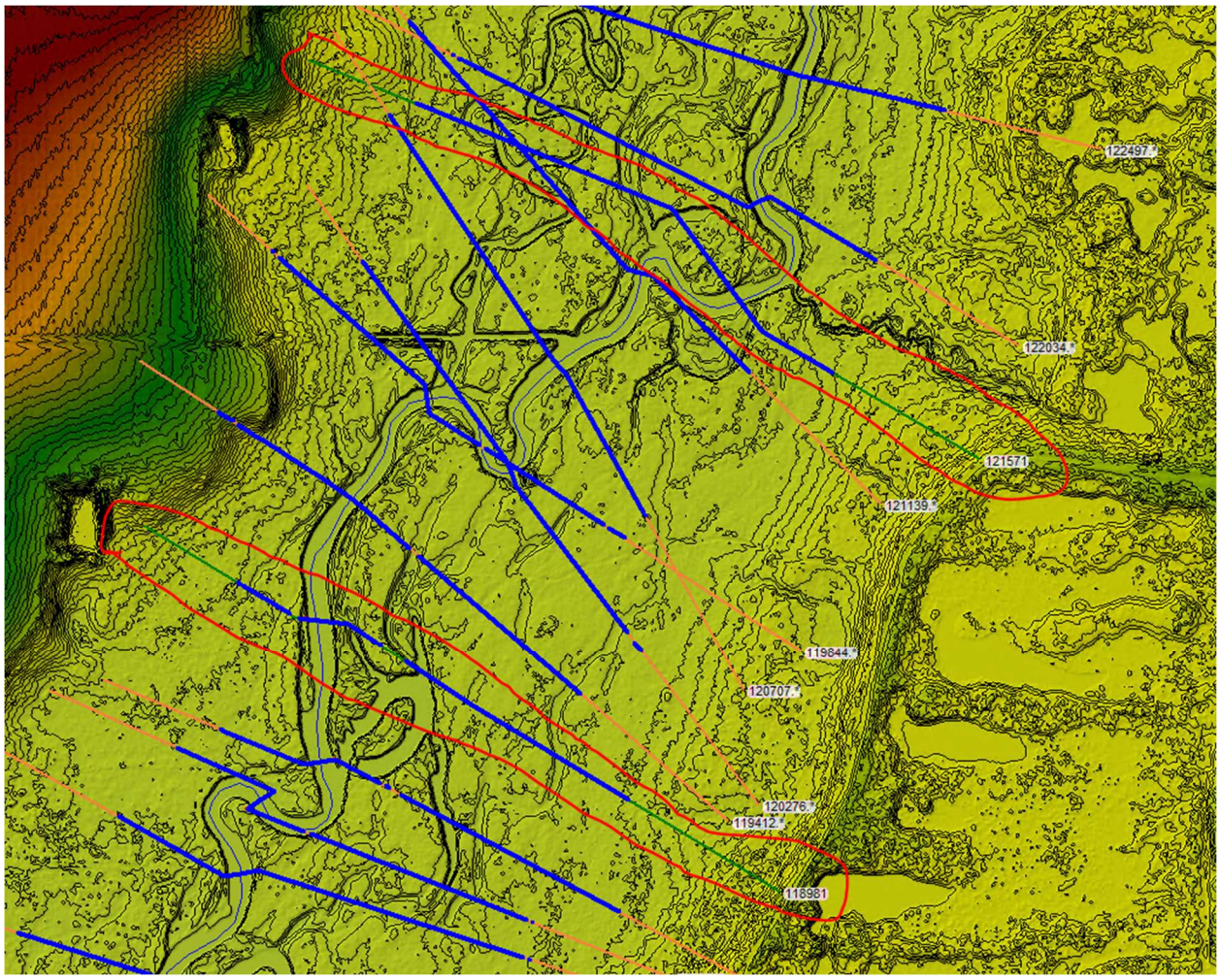


Figure 43. Example of simulated wetted top widths of surveyed (non-interpolated) cross-sections. The wetted top width is represented by the blue lines overtop the green surveyed cross-section lines (circled in red for clarity). Wetted top widths shown for the 5 percent exceedance flow profile.

This process was repeated for every surveyed cross-section and the sum of the incremental surface areas produced the total inundation area. This calculation process was completed for every profile. Figure 44, shows the inundation areas calculated using both the RAS Mapper polygons and the alternative calculation method for every profile.

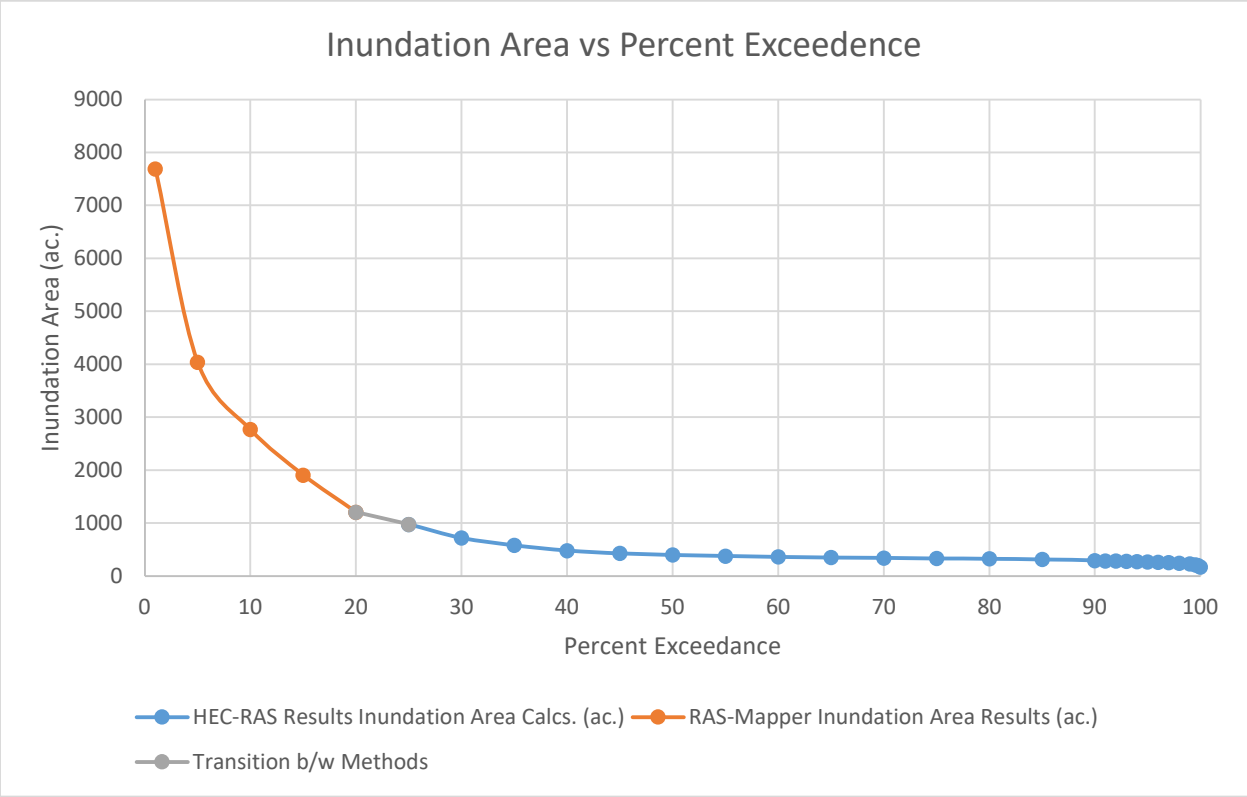


Figure 44. Inundation area results in acres from the calculated inundation area polygons within RAS Mapper (orange) and the alternative calculation method (blue), with the transition between the two calculation methods shown in gray.

The inundation area calculated using the alternative method are greater than the RAS Mapper inundation polygon areas; however, there is general agreement between the two methods. The RAS mapper polygon method is biased low, due to the inaccurate representation of WSELs below the LiDAR mapping water surface in the main channel. Tabulated results for both methods are presented in Table 25. We recommend use of the RAS Mapper inundation polygons for flow exceedance profiles 1-20 as these are consistent along the reach. Similarly, the HEC-RAS results inundation area calculations are recommended for profiles 25-100, due to the gaps observed in the inundation polygons which increase with the percent exceedance (i.e., lower flows).

9. SUMMARY AND CONCLUSION

In the pursuit of reevaluating the minimum flows of the Upper Peace River for the Southwest Florida Water Management District, Verdantas used the latest version of HEC-RAS 6.4.1 to develop a one-dimensional, single reach HEC-RAS model for the river segment from the USGS Bartow gage downstream to the Zolfo Springs gage. This modeling process involved a site visit, review of previous studies, compilation of data for model construction, and review of an existing steady flow model. The unsteady flow HEC-RAS model was developed first for robust calibration and validation using historical flow and stage data from the numerous gages present on the UPR and its tributaries. The model was calibrated and validated to standards acceptable to the District. Subsequently, the unsteady flow model was converted into a steady flow model for flow profile simulation and inundation mapping and analysis.

A flow apportionment methodology was developed for conversion of the unsteady model to steady flow models. The apportionment approach incorporated flow losses to karst features, gaged and ungaged tributary inflows, and measured flows along the mainstem of the river. The apportionment methodology was applied to the converted steady flow model to define the flow changes along the river. Subsequently, the steady flow model was used to simulate various flow profiles and to map associated inundation areas. The flow profiles of interest were developed for selected flow exceedances over the period of record at the Zolfo Springs gage. The converted steady flow HEC-RAS model as a tool and its results, such as rating curves and inundation areas, are needed to support the reevaluation of the minimum flows of the Upper Peace River.

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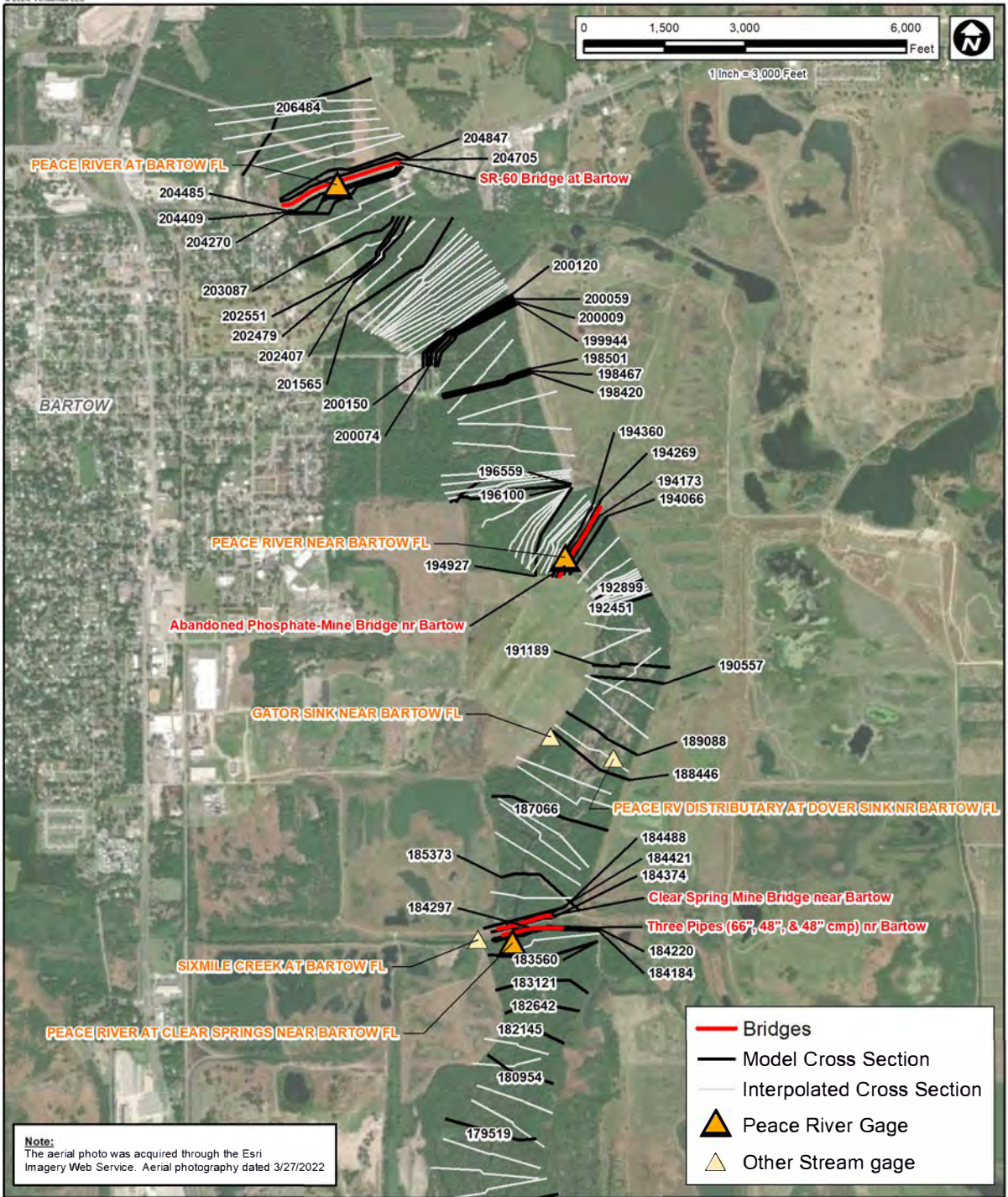
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APPENDIX A | HEC-RAS RIVER STATIONS & MODEL INPUTS

MODEL CROSS-SECTION FIGURES (1-8)
CROSS-SECTION GEOMETRY SOURCES
CONTRACTION AND EXPANSION COEFFICIENTS
MANNING'S N-VALUE FLOW ROUGHNESS FACTORS

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Note:
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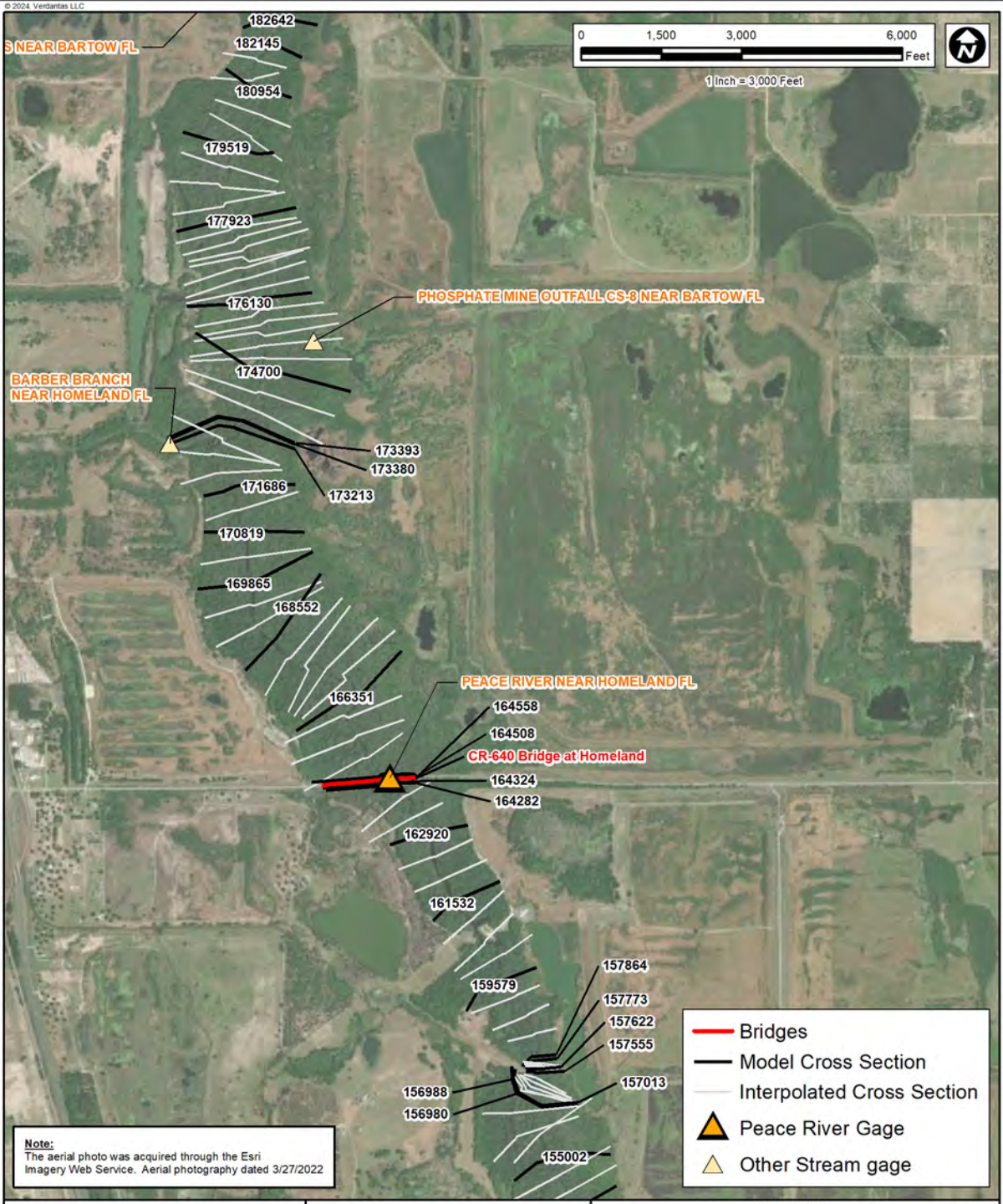
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Upper Peace River
HEC-RAS Model Development Report

Model Cross Sections
Sheet 1

Polk County, Florida

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Upper Peace River
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Model Cross Sections
Sheet 2

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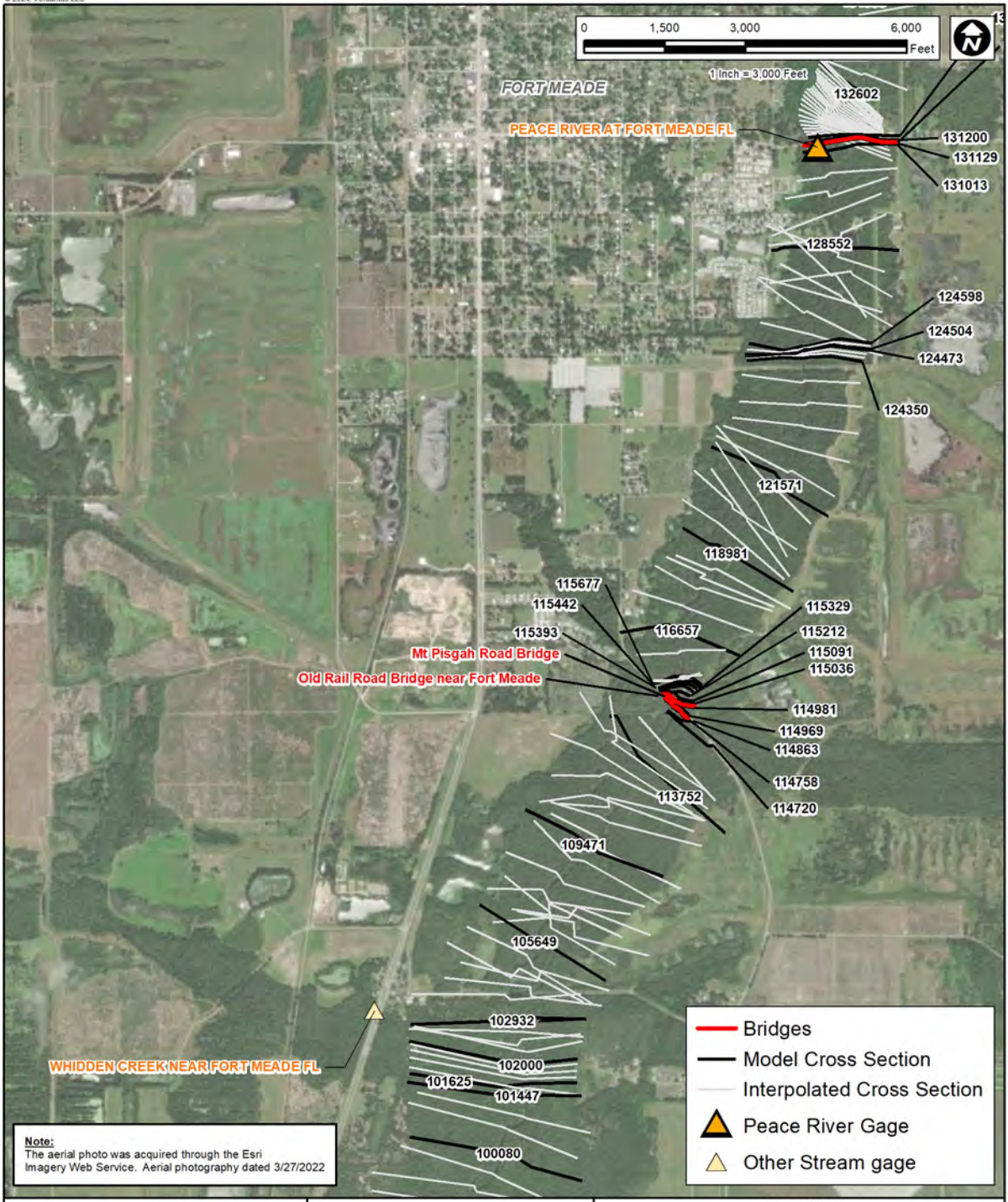
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Upper Peace River
HEC-RAS Model Development Report

Model Cross Sections Sheet 3

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Upper Peace River
HEC-RAS Model Development Report

Model Cross Sections
Sheet 4

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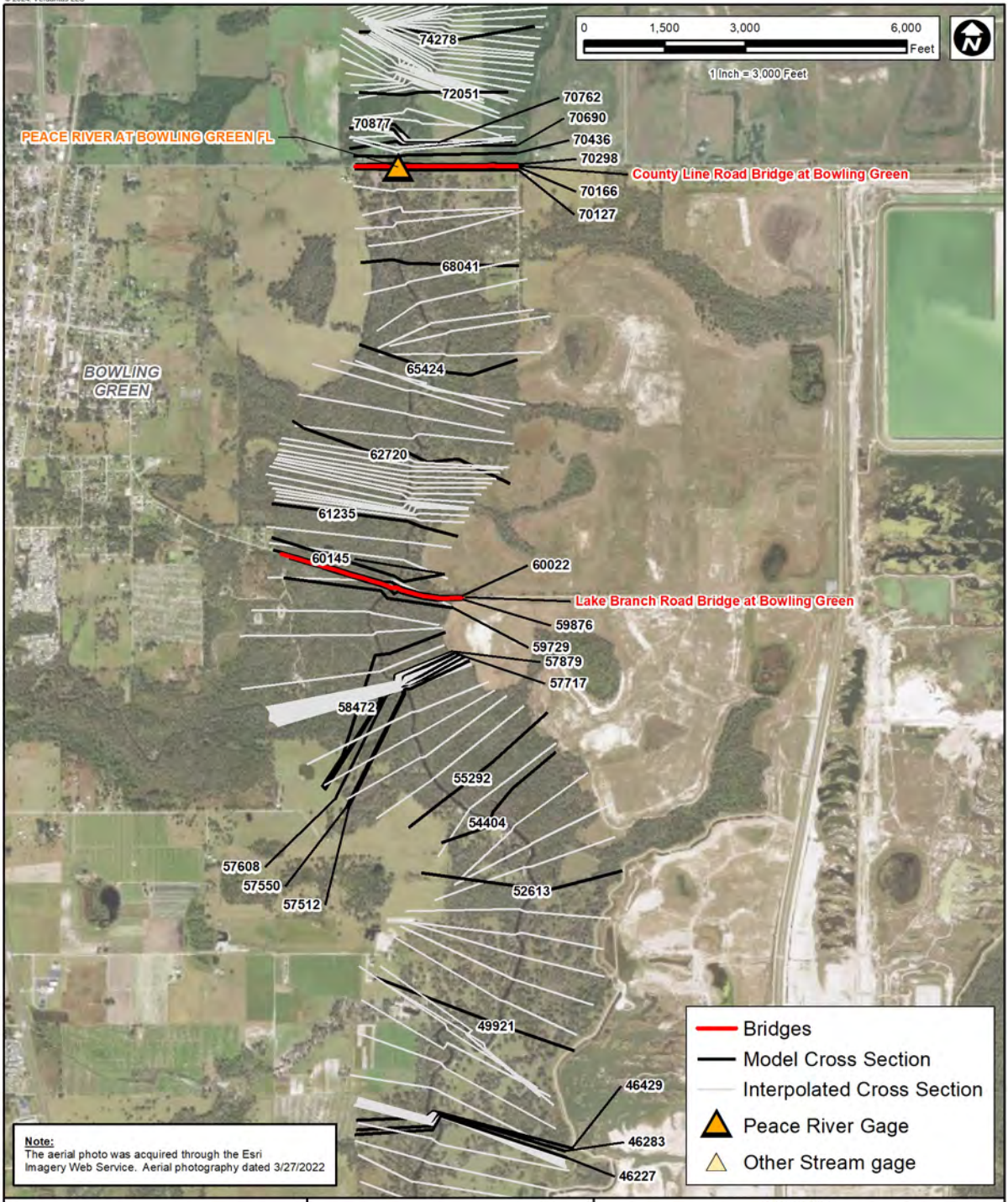
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Model Cross Sections
Sheet 5

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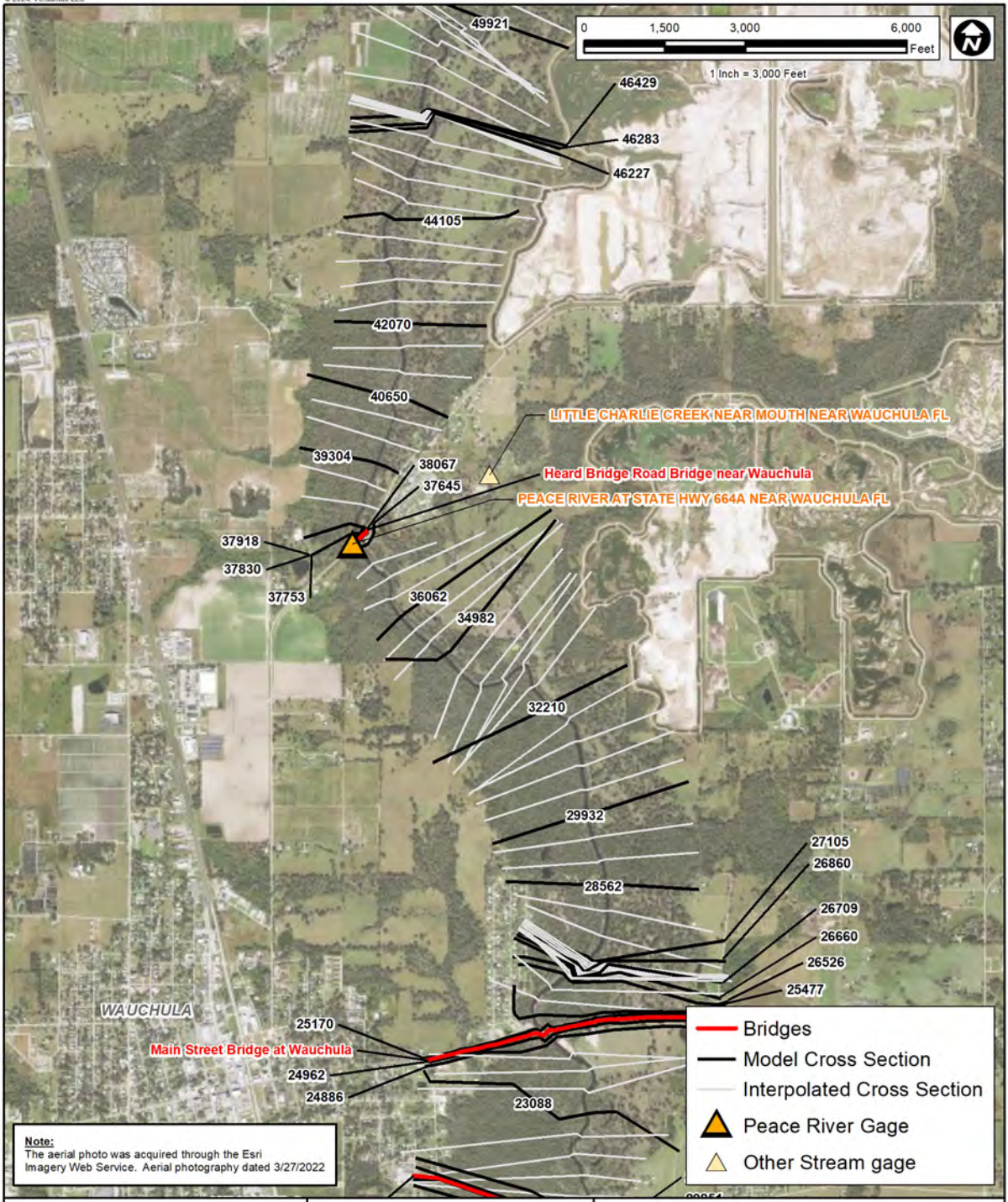
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Upper Peace River
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Model Cross Sections
Sheet 6

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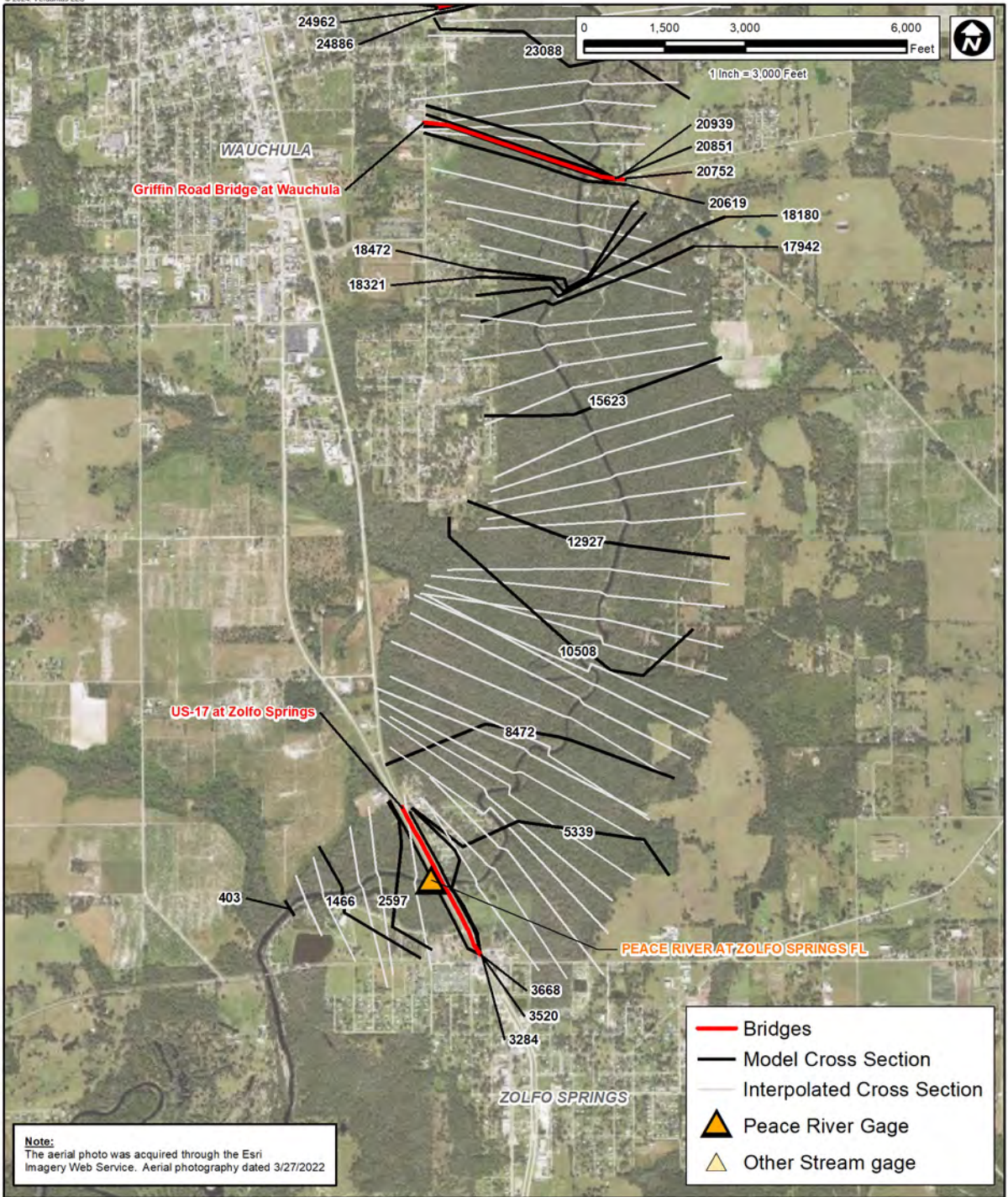
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Upper Peace River
HEC-RAS Model Development Report

Model Cross Sections
Sheet 7

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Upper Peace River
HEC-RAS Model Development Report

Model Cross Sections
Sheet 8

Polk County, Florida

UPR HEC-RAS Cross-Section Geometry Sources			
River Station	Source of Bathymetric Data (Interpolated Cross-Sections Not Listed)	Distance to Next DS XS (ft.)	# of Interpolated XS's to Next Surveyed XS
206484	2020 Pickett and Associates channel survey	1637	6
204847	2011 HEC-RAS channel geometry	142	0
204705	2011 HEC-RAS channel geometry	140	0
204565	Bridge Cross-section	80	0
204485	2011 HEC-RAS channel geometry	76	0
204409	2011 HEC-RAS channel geometry	139	0
204270	2020 Pickett and Associates channel survey	1183	2
203087	2020 Pickett and Associates channel survey	536	1
202551	2021/2022 HSW Engineering SEFA channel surveys	72	0
202479	2021/2022 HSW Engineering SEFA channel surveys	72	2
202407	2021/2022 HSW Engineering SEFA channel surveys	842	1
201565	2020 Picket and Associates channel survey	1415	14
200150	2021/2022 HSW Engineering SEFA channel surveys	30	2
200120	2011 HEC-RAS channel geometry	46	0
200074	2011 HEC-RAS channel geometry	15	0
200059	2021/2022 HSW Engineering SEFA channel surveys	50	0
200009	2011 HEC-RAS channel geometry	65	0
199944	2021/2022 HSW Engineering SEFA channel surveys	1443	2
198501	2011 HEC-RAS channel geometry	34	0
198467	2011 HEC-RAS channel geometry	47	0
198420	2011 HEC-RAS channel geometry	1861	3
196559	2020 Picket and Associates channel survey	459	4
196100	2011 HEC-RAS channel geometry	1173	5
194927	2020 Picket and Associates channel survey	567	5
194360	2011 HEC-RAS channel geometry	91	0
194269	2011 HEC-RAS channel geometry	42	0
194227	Bridge Cross-section	54	0
194173	2011 HEC-RAS channel geometry	107	0
194066	2011 HEC-RAS channel geometry	1167	6
192899	2020 Picket and Associates channel survey	448	4
192451	2020 Picket and Associates channel survey	1262	2
191189	2020 Picket and Associates channel survey	632	1
190557	2020 Picket and Associates channel survey	1469	2
189088	2020 Picket and Associates channel survey	642	1
188446	2020 Picket and Associates channel survey	1380	2
187066	2020 Picket and Associates channel survey	1693	3
185373	2020 Picket and Associates channel survey	885	1
184488	2011 HEC-RAS channel geometry	67	0
184421	2011 HEC-RAS channel geometry	32	0
184389	Bridge Cross-section	15	0
184374	2011 HEC-RAS channel geometry	77	0
184297	2011 HEC-RAS channel geometry	32	0
184265	Bridge Cross-section	45	0
184220	2011 HEC-RAS channel geometry	36	0
184184	2011 HEC-RAS channel geometry	624	1
183560	2020 Picket and Associates channel survey	439	0
183121	2020 Picket and Associates channel survey	479	0
182642	2020 Picket and Associates channel survey	497	0
182145	2020 Picket and Associates channel survey	1191	2
180954	2020 Picket and Associates channel survey	1435	2
179519	2020 Picket and Associates channel survey	1596	3
177923	2020 Picket and Associates channel survey	1793	7
176130	2020 Picket and Associates channel survey	1430	5
174700	2020 Picket and Associates channel survey	1307	2
173393	2011 HEC-RAS channel geometry	13	0
173380	2011 HEC-RAS channel geometry	167	0
173213	2011 HEC-RAS channel geometry	1527	3
171686	2020 Picket and Associates channel survey	867	1
170819	2020 Picket and Associates channel survey	954	1
169865	2020 Picket and Associates channel survey	1313	2
168552	2020 Picket and Associates channel survey	2201	4
166351	2020 Picket and Associates channel survey	1793	3
164558	2011 HEC-RAS channel geometry	50	0
164508	2011 HEC-RAS channel geometry	98	0
164410	Bridge Cross-section	86	0
164324	2011 HEC-RAS channel geometry	42	0
164282	2011 HEC-RAS channel geometry	1362	2
162920	2020 Picket and Associates channel survey	1388	2

UPR HEC-RAS Cross-Section Geometry Sources			
River Station	Source of Bathymetric Data (Interpolated Cross-Sections Not Listed)	Distance to Next DS XS (ft.)	# of Interpolated XS's to Next Surveyed XS
161532	2020 Picket and Associates channel survey	1953	3
159579	2020 Picket and Associates channel survey	1715	3
157864	2020 Picket and Associates channel survey	91	0
157773	2021/2022 HSW Engineering SEFA channel surveys	151	3
157622	2021/2022 HSW Engineering SEFA channel surveys	67	0
157555	2021/2022 HSW Engineering SEFA channel surveys	542	5
157013	2011 HEC-RAS channel geometry	25	0
156988	2011 HEC-RAS channel geometry	8	0
156980	2011 HEC-RAS channel geometry	1978	3
155002	2020 Picket and Associates channel survey	1114	2
153888	2020 Picket and Associates channel survey	2457	4
151431	2020 Picket and Associates channel survey	1559	3
149872	2020 Picket and Associates channel survey	1908	3
147964	2020 Picket and Associates channel survey	1694	3
146270	2020 Picket and Associates channel survey	1617	3
144653	2020 Picket and Associates channel survey	1301	2
143352	2020 Picket and Associates channel survey	1716	3
141636	2011 HEC-RAS channel geometry	28	0
141608	2011 HEC-RAS channel geometry	23	0
141585	2011 HEC-RAS channel geometry	3218	6
138367	2020 Picket and Associates channel survey	2158	4
136209	2020 Picket and Associates channel survey	1406	0
134803	2020 Picket and Associates channel survey	2201	4
132602	2020 Picket and Associates channel survey	1317	26
131285	2011 HEC-RAS channel geometry	85	0
131200	2011 HEC-RAS channel geometry	34	0
131166	Bridge Cross-section	37	0
131129	2011 HEC-RAS channel geometry	116	0
131013	2011 HEC-RAS channel geometry	2461	4
128552	2020 Picket and Associates channel survey	3954	7
124598	2021/2022 HSW Engineering SEFA channel surveys	94	1
124504	2020 Picket and Associates channel survey	31	0
124473	2021/2022 HSW Engineering SEFA channel surveys	123	2
124350	2021/2022 HSW Engineering SEFA channel surveys	2779	5
121571	2020 Picket and Associates channel survey	2590	5
118981	2020 Picket and Associates channel survey	2324	4
116657	2020 Picket and Associates channel survey	980	1
115677	2021/2022 HSW Engineering SEFA channel surveys	235	4
115442	2011 HEC-RAS channel geometry	49	0
115393	2011 HEC-RAS channel geometry	64	0
115329	2011 HEC-RAS channel geometry	117	0
115212	2021/2022 HSW Engineering SEFA channel surveys	121	0
115091	2011 HEC-RAS channel geometry	55	0
115036	2011 HEC-RAS channel geometry	29	0
115007	Bridge Cross-section	26	0
114981	2011 HEC-RAS channel geometry	12	0
114969	2011 HEC-RAS channel geometry	60	0
114909	Bridge Cross-section	46	0
114863	2011 HEC-RAS channel geometry	105	0
114758	2011 HEC-RAS channel geometry	38	0
114720	2021/2022 HSW Engineering SEFA channel surveys	968	1
113752	2020 Picket and Associates channel survey	4281	8
109471	2020 Picket and Associates channel survey	3822	7
105649	2020 Picket and Associates channel survey	2717	5
102932	2020 Picket and Associates channel survey	932	3
102000	2021/2022 HSW Engineering SEFA channel surveys	375	3
101625	2021/2022 HSW Engineering SEFA channel surveys	178	1
101447	2021/2022 HSW Engineering SEFA channel surveys	1367	2
100080	2020 Picket and Associates channel survey	3631	7
96449	2020 Picket and Associates channel survey	2257	4
94192	2020 Picket and Associates channel survey	2110	4
92082	2020 Picket and Associates channel survey	2495	4
89587	2020 Picket and Associates channel survey	3261	6
86326	2020 Picket and Associates channel survey	3472	6
82854	2020 Picket and Associates channel survey	2018	4
80836	2020 Picket and Associates channel survey	2612	5
78224	2020 Picket and Associates channel survey	1699	3
76525	2011 HEC-RAS channel geometry	146	0

UPR HEC-RAS Cross-Section Geometry Sources			
River Station	Source of Bathymetric Data (Interpolated Cross-Sections Not Listed)	Distance to Next DS XS (ft.)	# of Interpolated XS's to Next Surveyed XS
76379	2011 HEC-RAS channel geometry	79	0
76300	Bridge Cross-section	149	0
76151	2011 HEC-RAS channel geometry	28	0
76123	2011 HEC-RAS channel geometry	123	0
76000	2011 HEC-RAS channel geometry	270	2
75730	2011 HEC-RAS channel geometry	1452	14
74278	2020 Picket and Associates channel survey	2227	22
72051	2020 Picket and Associates channel survey	1174	2
70877	2011 HEC-RAS channel geometry	115	2
70762	2011 HEC-RAS channel geometry	72	1
70690	2011 HEC-RAS channel geometry	254	2
70436	2011 HEC-RAS channel geometry	138	0
70298	2011 HEC-RAS channel geometry	58	0
70240	Bridge Cross-section	74	0
70166	2011 HEC-RAS channel geometry	39	0
70127	2011 HEC-RAS channel geometry	2086	4
68041	2020 Picket and Associates channel survey	2617	5
65424	2020 Picket and Associates channel survey	2704	5
62720	2020 Picket and Associates channel survey	1485	14
61235	2020 Picket and Associates channel survey	1090	2
60145	2011 HEC-RAS channel geometry	123	1
60022	2011 HEC-RAS channel geometry	62	0
59960	Bridge Cross-section	84	0
59876	2011 HEC-RAS channel geometry	147	0
59729	2011 HEC-RAS channel geometry	1257	2
58472	2020 Picket and Associates channel survey	593	1
57879	2021/2022 HSW Engineering SEFA channel surveys	162	5
57717	2021/2022 HSW Engineering SEFA channel surveys	109	10
57608	2021/2022 HSW Engineering SEFA channel surveys	58	5
57550	2011 HEC-RAS channel geometry	38	3
57512	2011 HEC-RAS channel geometry	2220	4
55292	2020 Picket and Associates channel survey	888	1
54404	2020 Picket and Associates channel survey	1791	3
52613	2020 Picket and Associates channel survey	2692	5
49921	2020 Picket and Associates channel survey	3492	6
46429	2011 HEC-RAS channel geometry	146	5
46283	2011 HEC-RAS channel geometry	56	2
46227	2011 HEC-RAS channel geometry	2122	4
44105	2020 Picket and Associates channel survey	2035	4
42070	2020 Picket and Associates channel survey	1420	2
40650	2020 Picket and Associates channel survey	1346	2
39304	2020 Picket and Associates channel survey	1237	2
38067	2011 HEC-RAS channel geometry	149	0
37918	2011 HEC-RAS channel geometry	88	0
37830	2011 HEC-RAS channel geometry	39	0
37791	Bridge Cross-section	38	0
37753	2011 HEC-RAS channel geometry	108	0
37645	2011 HEC-RAS channel geometry	1583	3
36062	2020 Picket and Associates channel survey	1080	2
34982	2020 Picket and Associates channel survey	2772	5
32210	2020 Picket and Associates channel survey	2278	4
29932	2020 Picket and Associates channel survey	1370	2
28562	2020 Picket and Associates channel survey	1457	2
27105	2021/2022 HSW Engineering SEFA channel surveys	245	4
26860	2011 HEC-RAS channel geometry	151	3
26709	2021/2022 HSW Engineering SEFA channel surveys	49	0
26660	2011 HEC-RAS channel geometry	134	2
26526	2021/2022 HSW Engineering SEFA channel surveys	1049	2
25477	2011 HEC-RAS channel geometry	307	0
25170	2011 HEC-RAS channel geometry	91	0
25079	Bridge Cross-section	117	0
24962	2011 HEC-RAS channel geometry	76	0
24886	2011 HEC-RAS channel geometry	1798	3
23088	2020 Picket and Associates channel survey	2149	4
20939	2011 HEC-RAS channel geometry	88	0
20851	2011 HEC-RAS channel geometry	54	0
20797	Bridge Cross-section	45	0
20752	2011 HEC-RAS channel geometry	133	0

UPR HEC-RAS Cross-Section Geometry Sources			
River Station	Source of Bathymetric Data (Interpolated Cross-Sections Not Listed)	Distance to Next DS XS (ft.)	# of Interpolated XS's to Next Surveyed XS
20619	2011 HEC-RAS channel geometry	2147	4
18472	2021/2022 HSW Engineering SEFA channel surveys	151	0
18321	2020 Picket and Associates channel survey	141	0
18180	2021/2022 HSW Engineering SEFA channel surveys	238	0
17942	2021/2022 HSW Engineering SEFA channel surveys	2319	4
15623	2020 Picket and Associates channel survey	2696	5
12927	2020 Picket and Associates channel survey	2419	4
10508	2020 Picket and Associates channel survey	2036	4
8472	2020 Picket and Associates channel survey	3133	6
5339	2020 Picket and Associates channel survey	1671	3
3668	2020 Picket and Associates channel survey	148	0
3520	2011 HEC-RAS channel geometry	76	0
3440	Bridge Cross-section	160	0
3284	2011 HEC-RAS channel geometry	687	1
2597	2020 Picket and Associates channel survey	1131	2
1466	Estimated Channel Bathymetry	1063	2
403	Estimated Channel Bathymetry	403	0
		Total Interpolated (Not listed):	508
		Total 2011:	86
		Total Pickett:	91
		Total SEFA:	27
		Total Estimated:	2
		Total Bridge:	15
		Total Cross-Sections:	729

UPR HEC-RAS Contraction and Expansion Coefficients					
River Station	Contraction	Expansion	River Station	Contraction	Expansion
206484	0.1	0.3	115036	0.3	0.5
204847	0.3	0.5	115007	Bridge	
204705	0.3	0.5	114981	0.3	0.5
204565	Bridge		114969	0.3	0.5
204485	0.3	0.5	114909	Bridge	
204409	0.3	0.5	114863	0.3	0.5
204270	0.3	0.5	114758	0.3	0.5
203087	0.1	0.3	114720	0.1	0.3
202551	0.1	0.3	113752	0.1	0.3
202479	0.1	0.3	109471	0.1	0.3
202407	0.1	0.3	105649	0.1	0.3
201565	0.1	0.3	102932	0.1	0.3
200150	0.1	0.3	102000	0.1	0.3
200120	0.1	0.3	101625	0.1	0.3
200074	0.1	0.3	101447	0.1	0.3
200059	0.1	0.3	100080	0.1	0.3
200009	0.1	0.3	96449	0.1	0.3
199944	0.1	0.3	94192	0.1	0.3
198501	0.1	0.3	92082	0.1	0.3
198467	0.1	0.3	89587	0.1	0.3
198420	0.1	0.3	86326	0.1	0.3
196559	0.1	0.3	82854	0.1	0.3
196100	0.1	0.3	80836	0.1	0.3
194927	0.1	0.3	78224	0.1	0.3
194360	0.3	0.5	76525	0.3	0.5
194269	0.3	0.5	76379	0.3	0.5
194227	Bridge		76300	Bridge	
194173	0.3	0.5	76151	0.3	0.5
194066	0.3	0.5	76123	0.3	0.5
192899	0.1	0.3	76000	0.3	0.5
192451	0.1	0.3	75730	0.1	0.3
191189	0.1	0.3	74278	0.1	0.3
190557	0.1	0.3	72051	0.1	0.3
189088	0.1	0.3	70877	0.1	0.3
188446	0.1	0.3	70762	0.1	0.3
187066	0.1	0.3	70690	0.1	0.3
185373	0.1	0.3	70436	0.3	0.5
184488	0.3	0.5	70298	0.3	0.5
184421	0.3	0.5	70240	Bridge	
184389	Bridge		70166	0.3	0.5

184374	0.3	0.5	70127	0.3	0.5
184297	0.3	0.5	68041	0.1	0.3
184265	Bridge		65424	0.1	0.3
184220	0.3	0.5	62720	0.1	0.3
184184	0.3	0.5	61235	0.1	0.3
183560	0.3	0.5	60145	0.3	0.5
183121	0.1	0.3	60022	0.3	0.5
182642	0.1	0.3	59960	Bridge	
182145	0.1	0.3	59876	0.3	0.5
180954	0.1	0.3	59729	0.3	0.5
179519	0.1	0.3	58472	0.1	0.3
177923	0.1	0.3	57879	0.1	0.3
176130	0.1	0.3	57717	0.1	0.3
174700	0.1	0.3	57608	0.1	0.3
173393	0.1	0.3	57550	0.1	0.3
173380	0.1	0.3	57512	0.1	0.3
173213	0.1	0.3	55292	0.1	0.3
171686	0.1	0.3	54404	0.1	0.3
170819	0.1	0.3	52613	0.1	0.3
169865	0.1	0.3	49921	0.1	0.3
168552	0.1	0.3	46429	0.1	0.3
166351	0.1	0.3	46283	0.1	0.3
164558	0.3	0.5	46227	0.1	0.3
164508	0.3	0.5	44105	0.1	0.3
164410	Bridge		42070	0.1	0.3
164324	0.3	0.5	40650	0.1	0.3
164282	0.3	0.5	39304	0.1	0.3
162920	0.1	0.3	38067	0.3	0.5
161532	0.1	0.3	37918	0.3	0.5
159579	0.1	0.3	37830	0.3	0.5
157864	0.1	0.3	37791	Bridge	
157773	0.1	0.3	37753	0.3	0.5
157622	0.1	0.3	37645	0.3	0.5
157555	0.1	0.3	36062	0.1	0.3
157013	0.1	0.3	34982	0.1	0.3
156988	0.1	0.3	32210	0.1	0.3
156980	0.1	0.3	29932	0.1	0.3
155002	0.1	0.3	28562	0.1	0.3
153888	0.1	0.3	27105	0.1	0.3
151431	0.1	0.3	26860	0.1	0.3
149872	0.1	0.3	26709	0.1	0.3
147964	0.1	0.3	26660	0.1	0.3
146270	0.3	0.5	26526	0.3	0.5

144653	0.3	0.5	25477	0.3	0.5
143352	0.1	0.3	25170	0.3	0.5
141636	0.1	0.3	25079	Bridge	
141608	0.1	0.3	24962	0.3	0.5
141585	0.1	0.3	24886	0.3	0.5
138367	0.1	0.3	23088	0.1	0.3
136209	0.1	0.3	20939	0.3	0.5
134803	0.1	0.3	20851	0.3	0.5
132602	0.1	0.3	20797	Bridge	
131285	0.3	0.5	20752	0.3	0.5
131200	0.3	0.5	20619	0.3	0.5
131166	Bridge		18472	0.1	0.3
131129	0.3	0.5	18321	0.1	0.3
131013	0.3	0.5	18180	0.1	0.3
128552	0.1	0.3	17942	0.1	0.3
124598	0.1	0.3	15623	0.1	0.3
124504	0.1	0.3	12927	0.1	0.3
124473	0.1	0.3	10508	0.1	0.3
124350	0.1	0.3	8472	0.1	0.3
121571	0.1	0.3	5339	0.3	0.5
118981	0.1	0.3	3668	0.3	0.5
116657	0.1	0.3	3520	0.3	0.5
115677	0.1	0.3	3440	Bridge	
115442	0.1	0.3	3284	0.3	0.5
115393	0.1	0.3	2597	0.3	0.5
115329	0.1	0.3	1466	0.1	0.3
115212	0.1	0.3	403	0.1	0.3
115091	0.3	0.5			

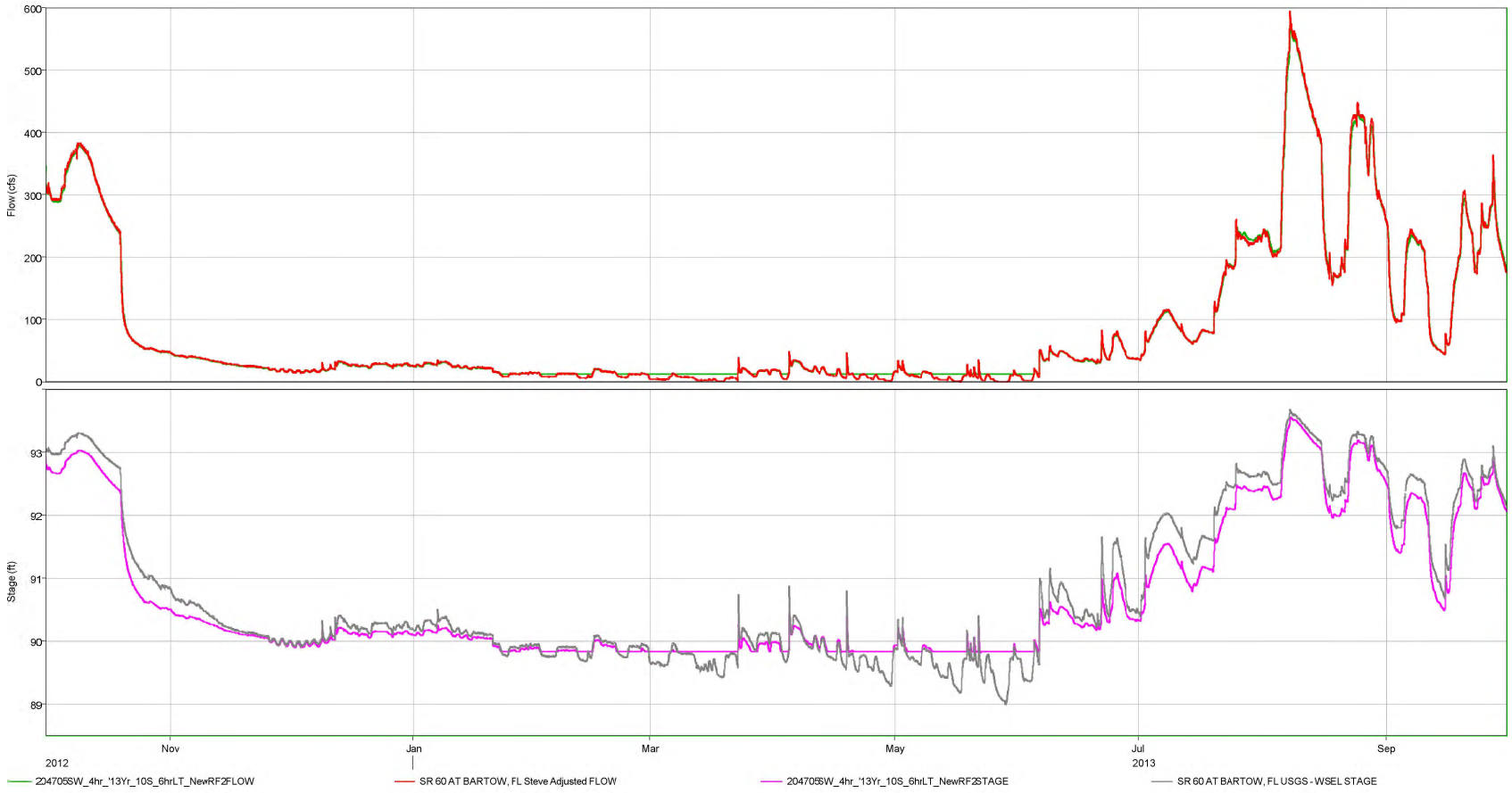
Manning's N-Value Flow Roughness Factors Applied to River Reaches in UPR Model																				
Reach RS Bounds:	206484 to 204705		204485 to 194173		194066 to 184220		184184 to 164508		164324 to 131200		131013 to 115677		115630 to 70298		70166 to 59876		59729 to 3668		3520 to 403	
	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor	Flow	Roughness Factor
	0	1	0	1	0	1	0	1.413	0	1.66	0	1.8	0	1.8	0	1.77	0	1.77	0	0.8
	15	1	15	1	15	1	15	1.2	15	1.66	15	1.8	15	1.8	15	1.77	20	1.77	20	0.8
	20	0.96	20	0.96	20	1.1	20	1.14	20	1.53	20	1.6	20	1.6	20	1.62	30	1.62	30	0.8
	30	0.91	30	0.91	30	1.1	30	1.06	30	1.38	30	1.5	30	1.5	30	1.45	50	1.45	50	0.75
	40	0.88	40	0.88	40	1.1	40	1.02	40	1.3	40	1.4	40	1.4	40	1.35	60	1.35	60	0.75
	50	0.86	50	0.86	50	1.1	50	0.99	50	1.24	50	1.3	50	1.3	50	1.3	75	1.3	75	0.75
	75	0.95	75	0.95	75	1.1	75	0.94	75	1.16	75	1.3	75	1.3	75	1.2	125	1.2	125	0.75
	100	0.95	100	0.95	100	1.1	100	0.9	100	1.1	100	1.28	100	1.28	100	1.14	175	1.14	175	0.75
	200	0.76	200	0.76	200	0.9	200	0.84	200	1	200	1.1	200	1.1	200	1.03	320	1	320	0.95
	800	1	800	1	500	0.9	300	0.75	300	0.9	300	1.1	300	1.1	500	0.94	750	1	750	0.95
	1200	1.1	1200	1.1	1000	1	700	0.7	600	0.95	400	1.18	400	1.18	1500	1.1	2000	1.3	2000	1.3
					1400	1.15	1200	0.8			600	1.24	600	1.24			3000	1.35	3000	1.4
							1400	0.83			800	1.24	800	1.24			4000	1.45	4000	1.45
							1600	0.85			1400	1.18	1400	1.18			5000	1.3	5000	1.3

Base Manning's N-Values	
Forested Floodplain	0.15
Grassy Floodplain	0.05
Peace River Channel	0.0531

APPENDIX B | CALIBRATION AND VALIDATION HYDROGRAPHS, RATING CURVES, AND X-Y PLOTS

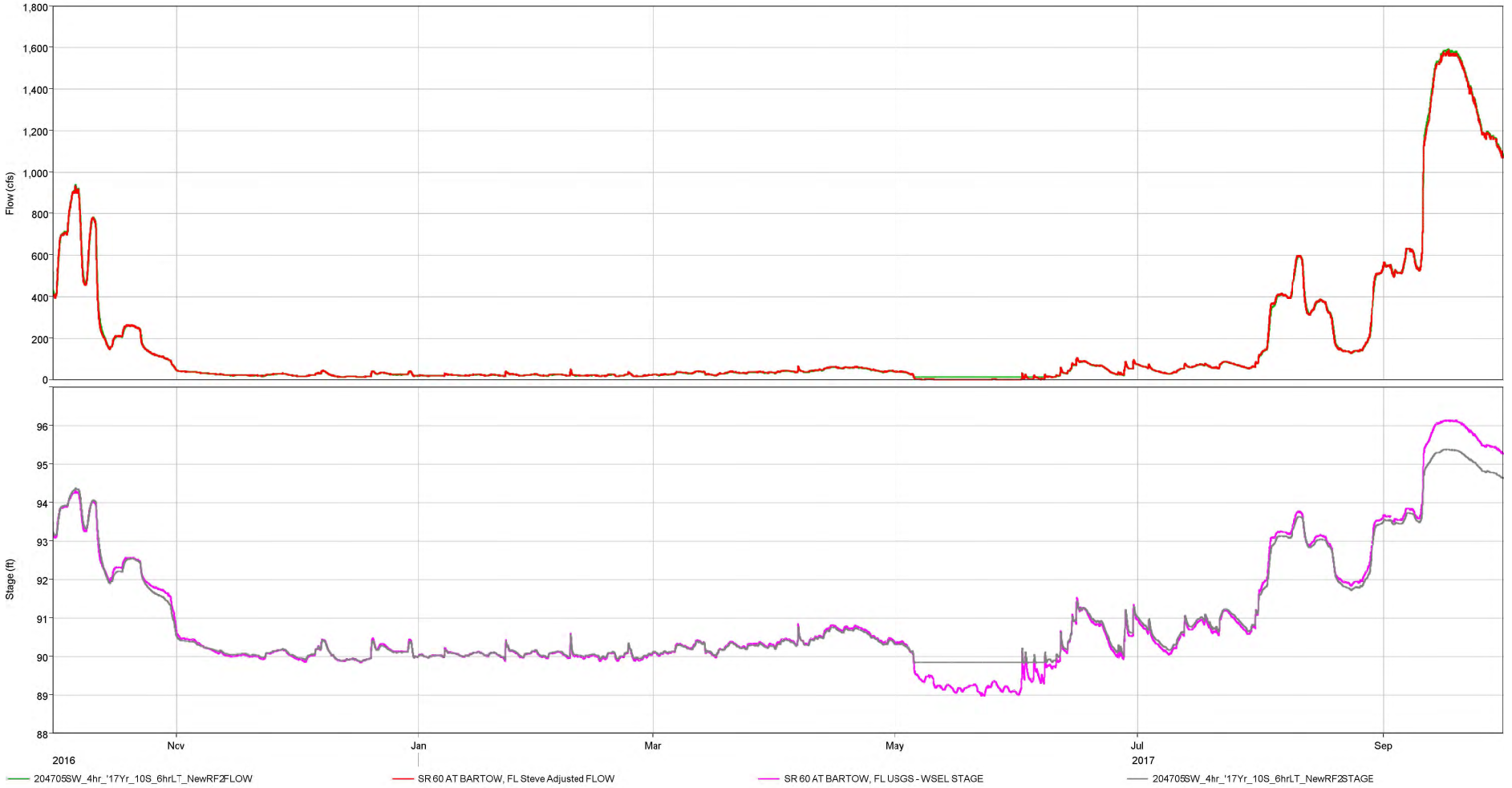
FLOW AND STAGE HYDROGRAPH COMPARISON
UNSTEADY FLOW SIMULATED VS OBSERVED X-Y PLOTS
UNSTEADY FLOW SIMULATED VS OBSERVED RATING CURVE COMPARISON

SR-60 at Bartow Flow and Stage Hydrograph Comparison (2013)



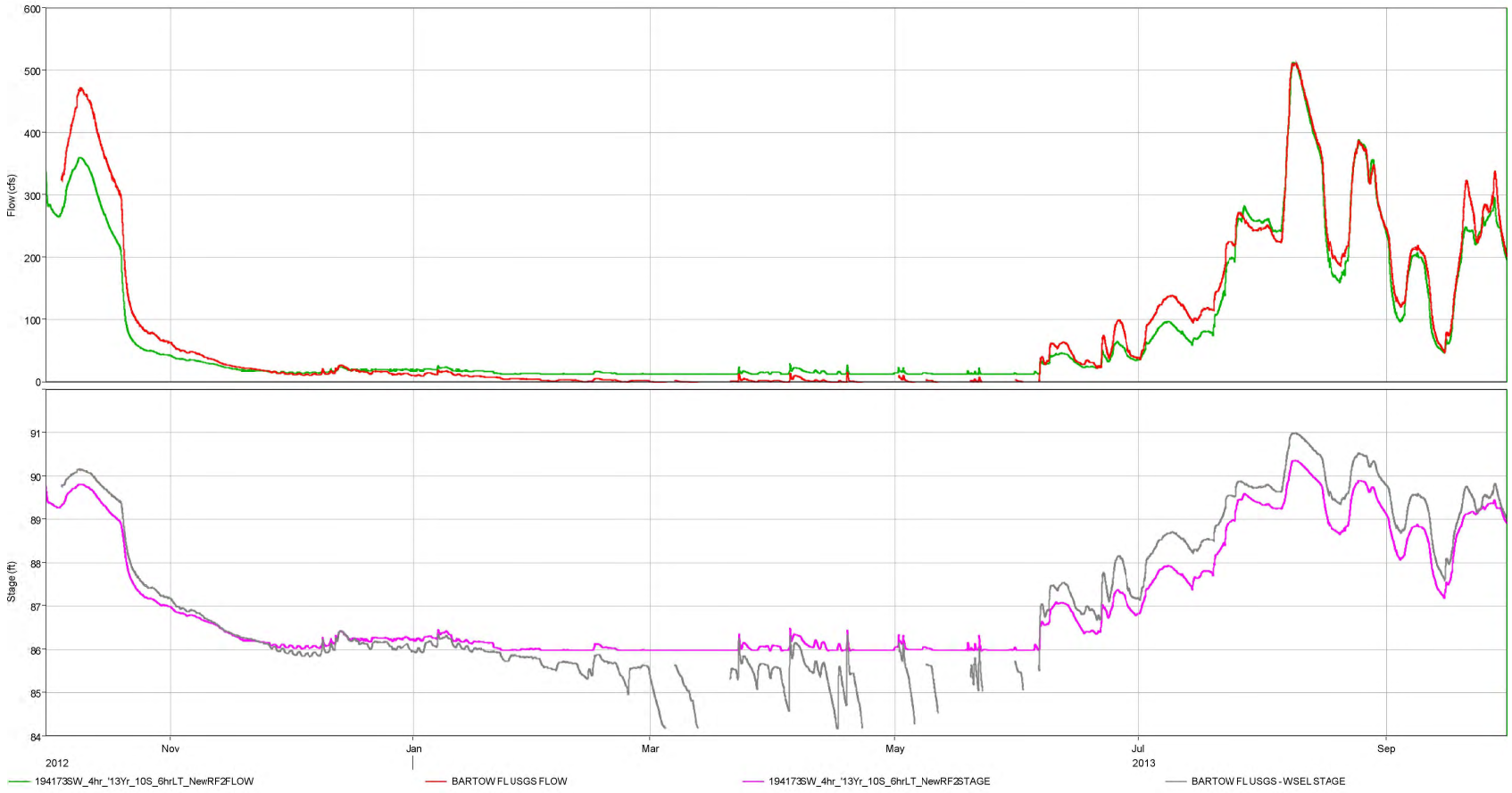
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

SR-60 at Bartow Flow and Stage Hydrograph Comparison (2017)



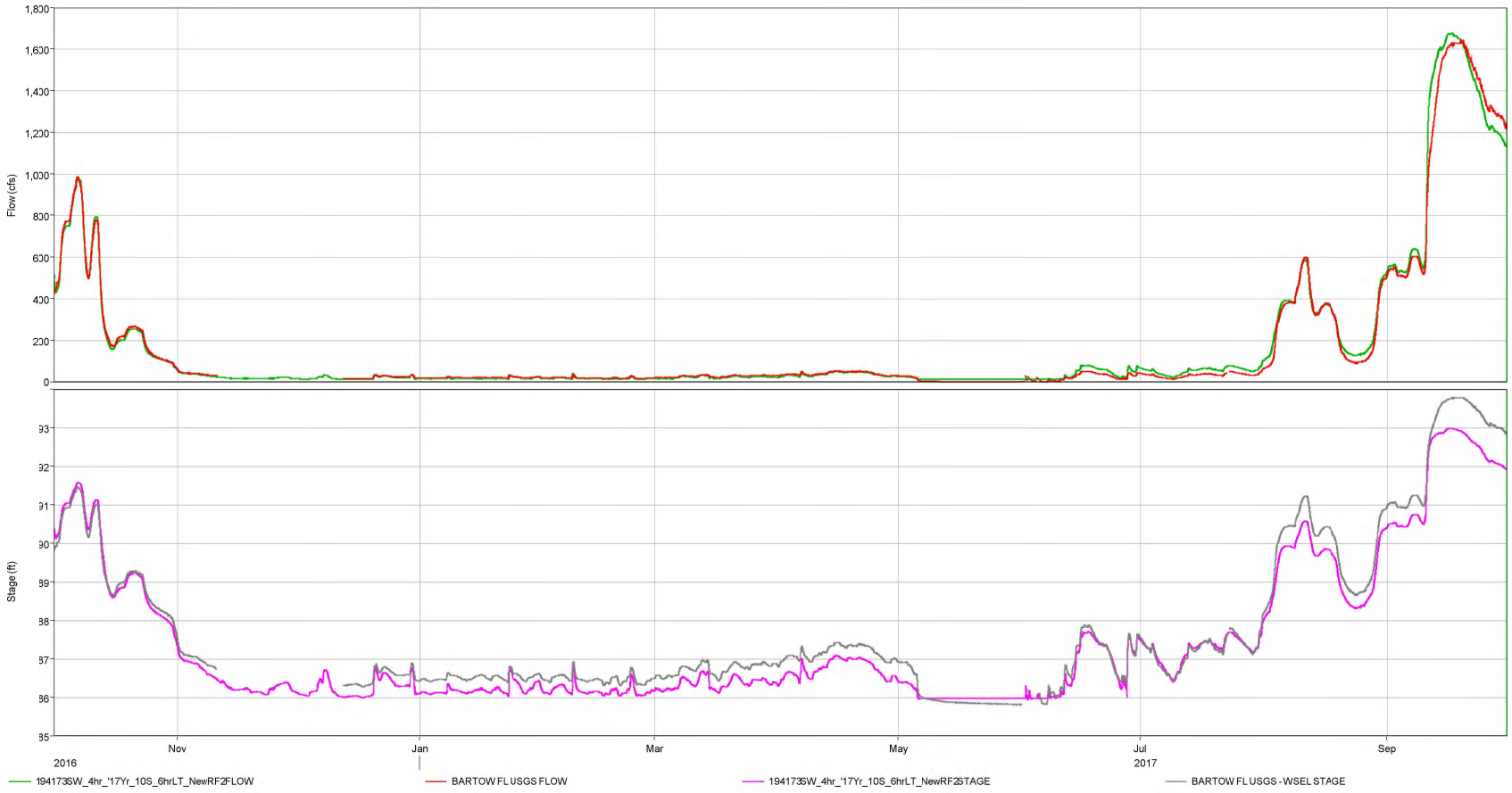
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Peace River near Bartow Flow and Stage Hydrograph Comparison (2013)



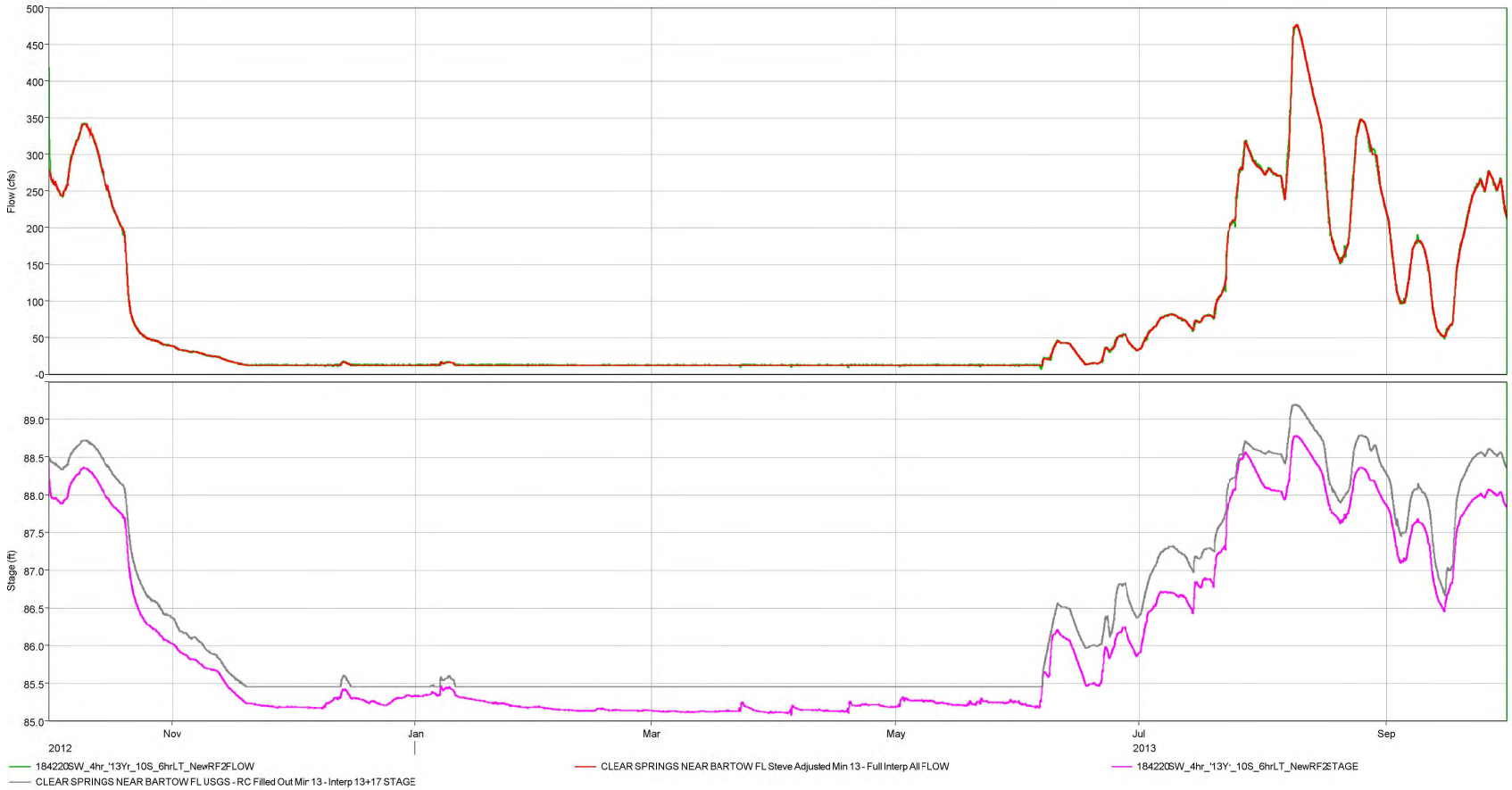
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Peace River near Bartow Flow and Stage Hydrograph Comparison (2017)



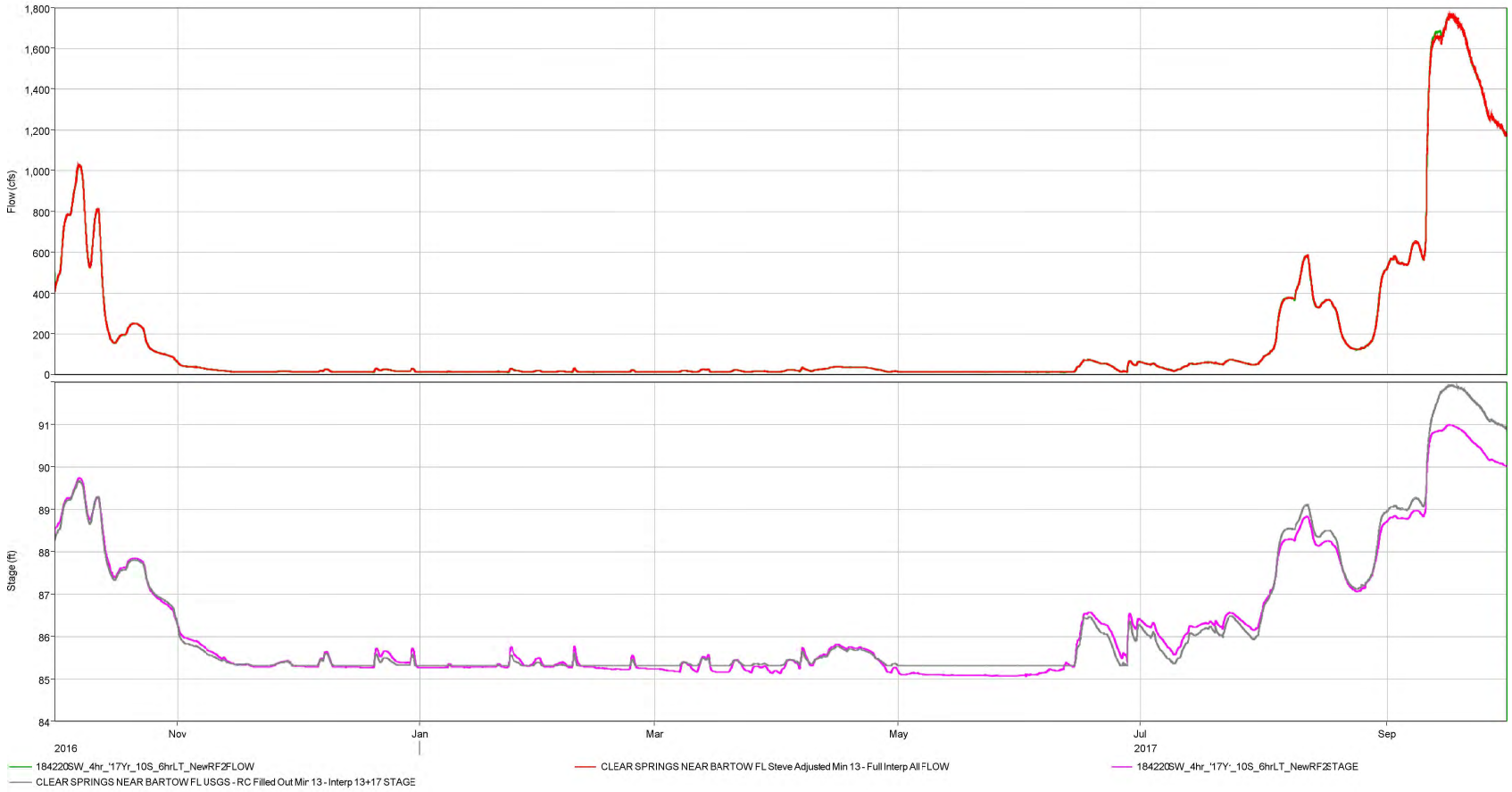
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Clear Springs Flow and Stage Hydrograph Comparison (2013)



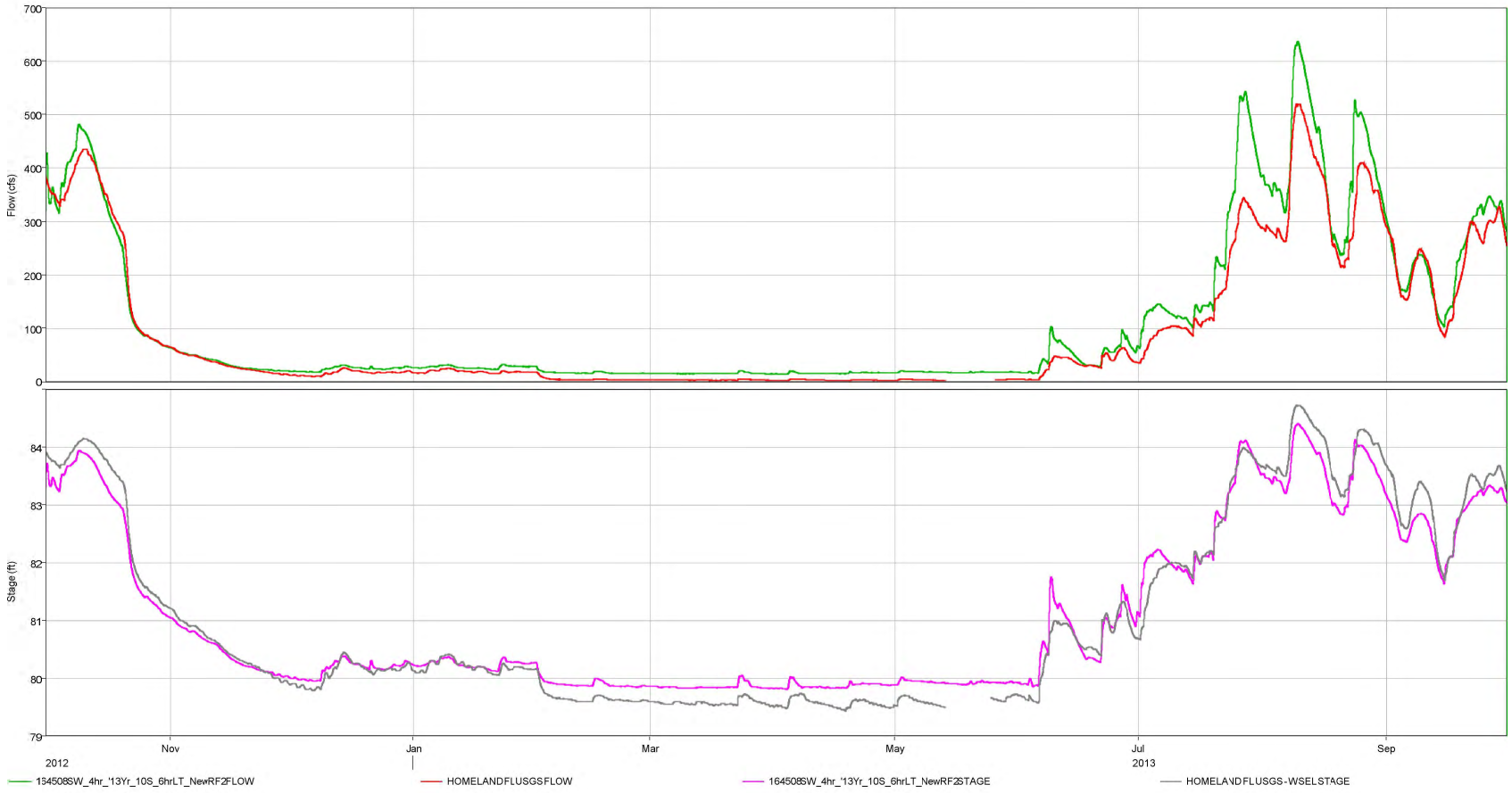
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Clear Springs Flow and Stage Hydrograph Comparison (2017)



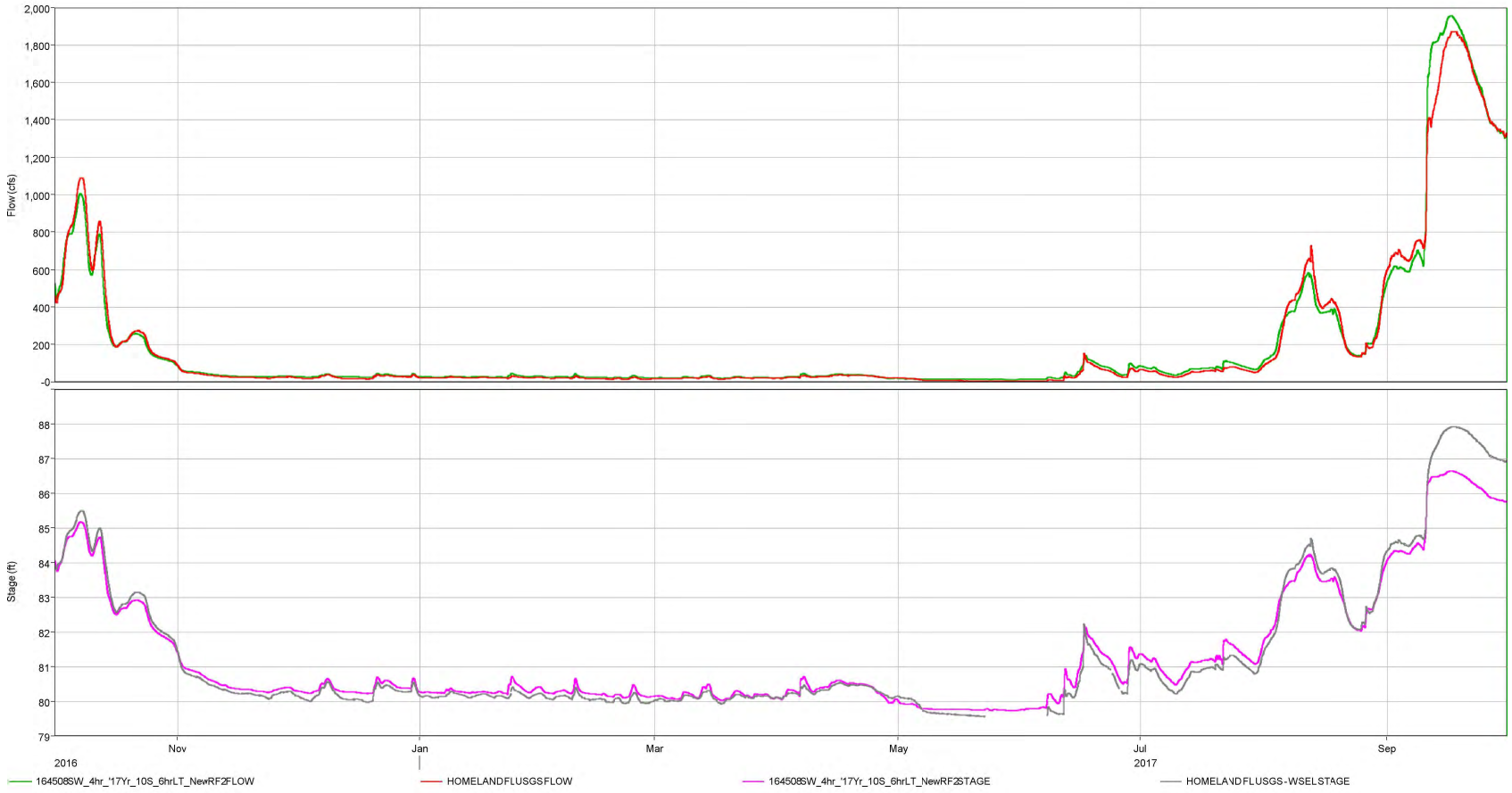
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Homeland Flow and Stage Hydrograph Comparison (2013)



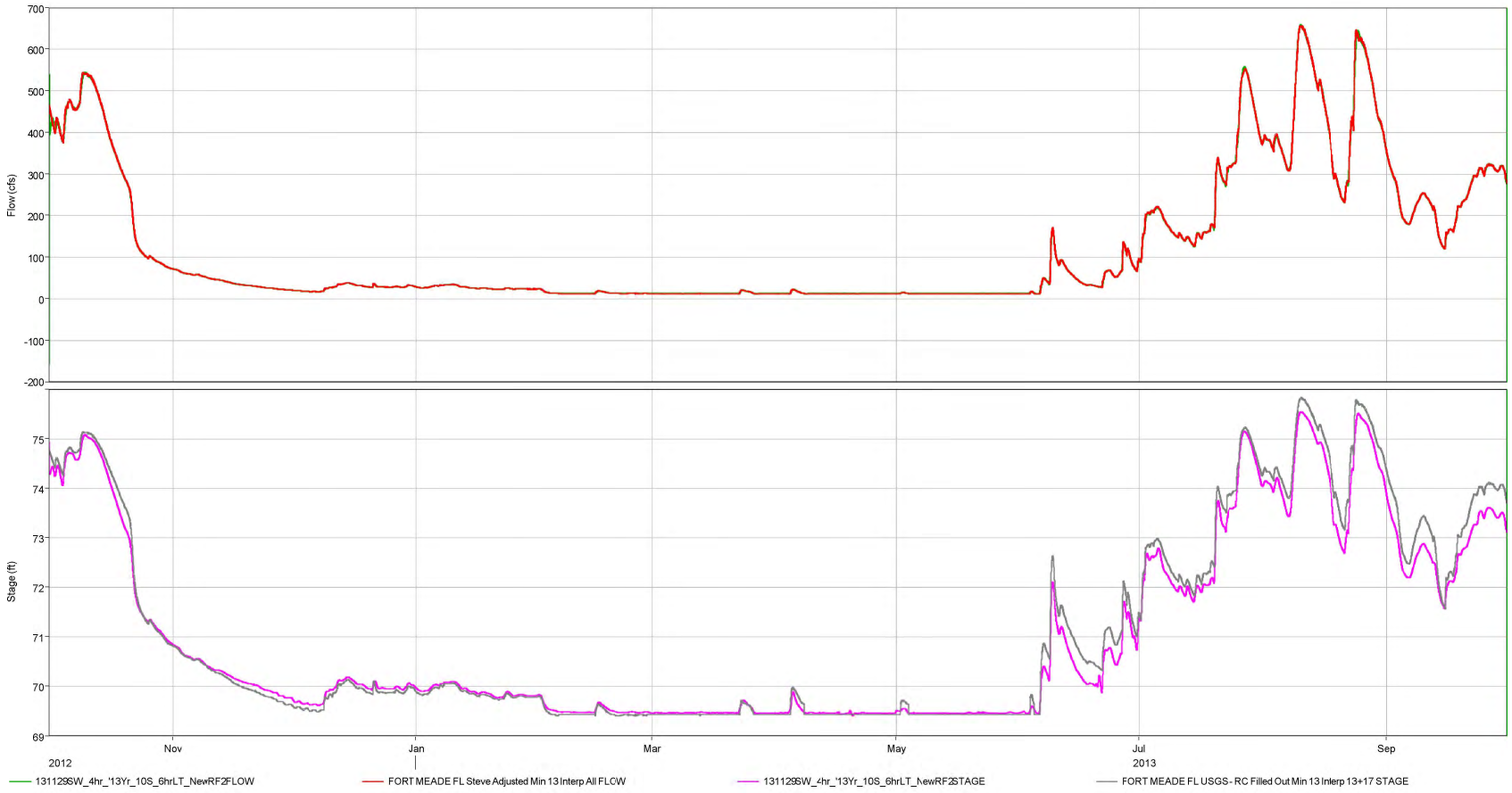
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Homeland Flow and Stage Hydrograph Comparison (2017)



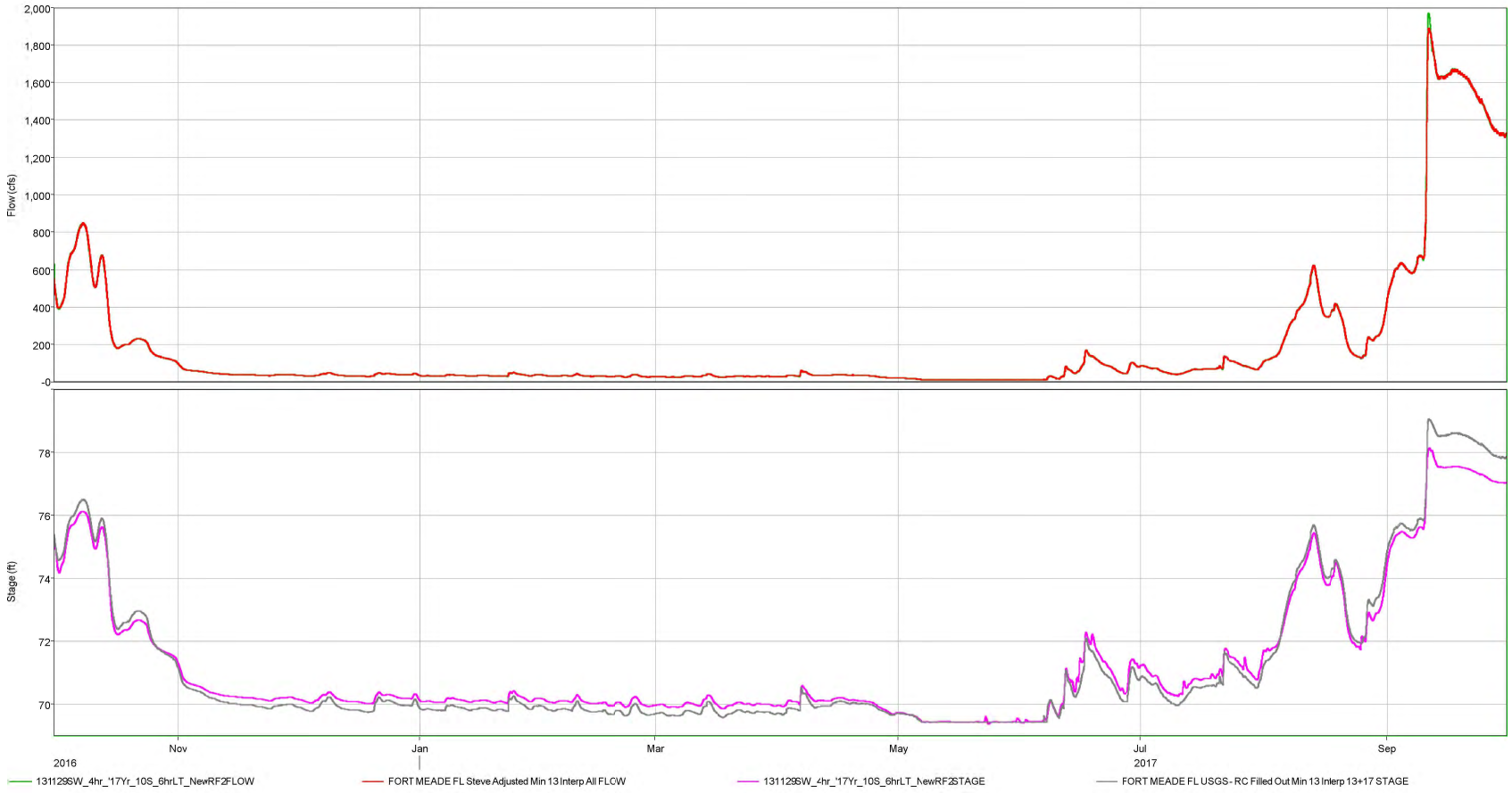
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Fort Meade Flow and Stage Hydrograph Comparison (2013)



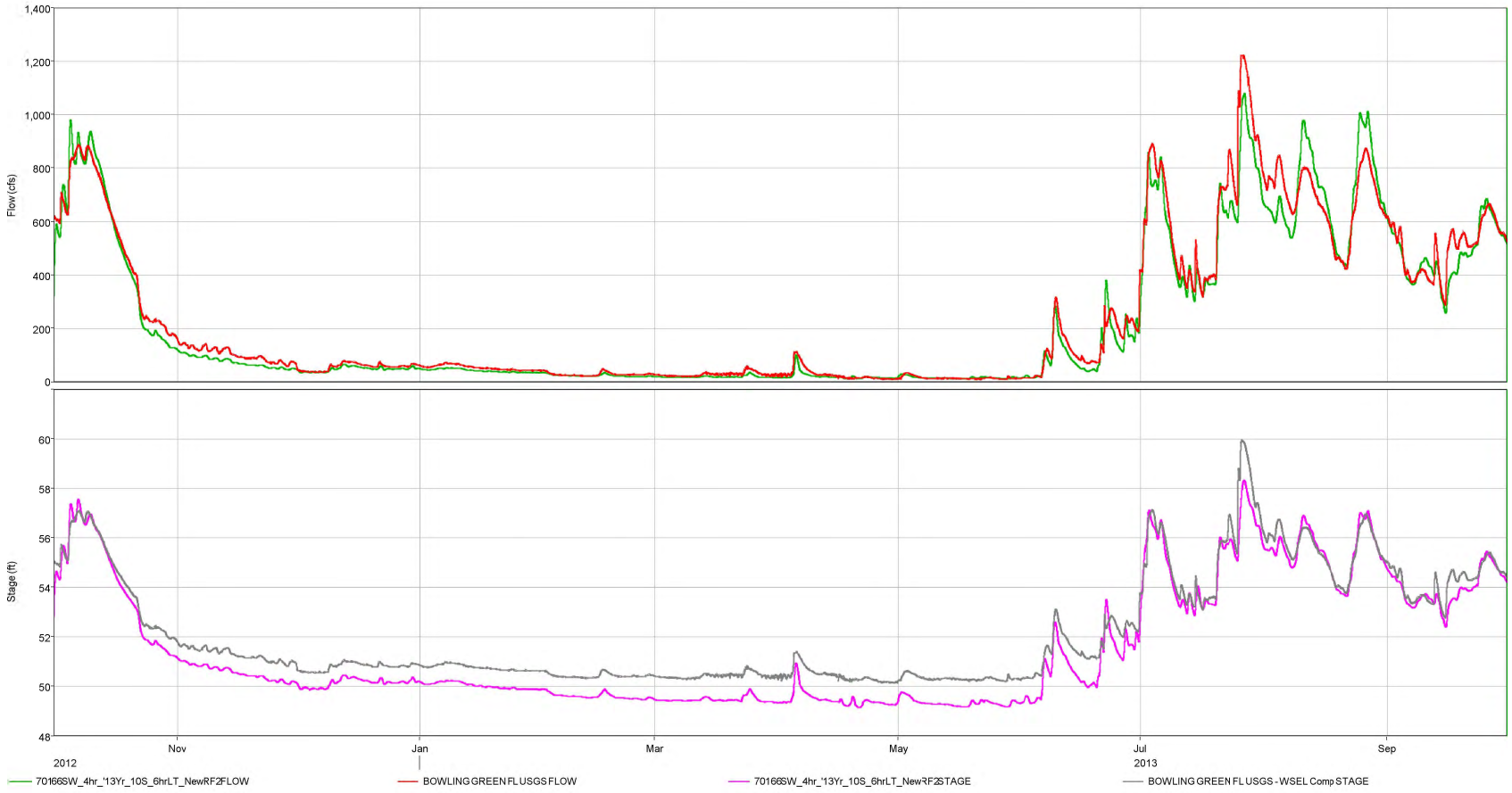
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Fort Meade Flow and Stage Hydrograph Comparison (2017)



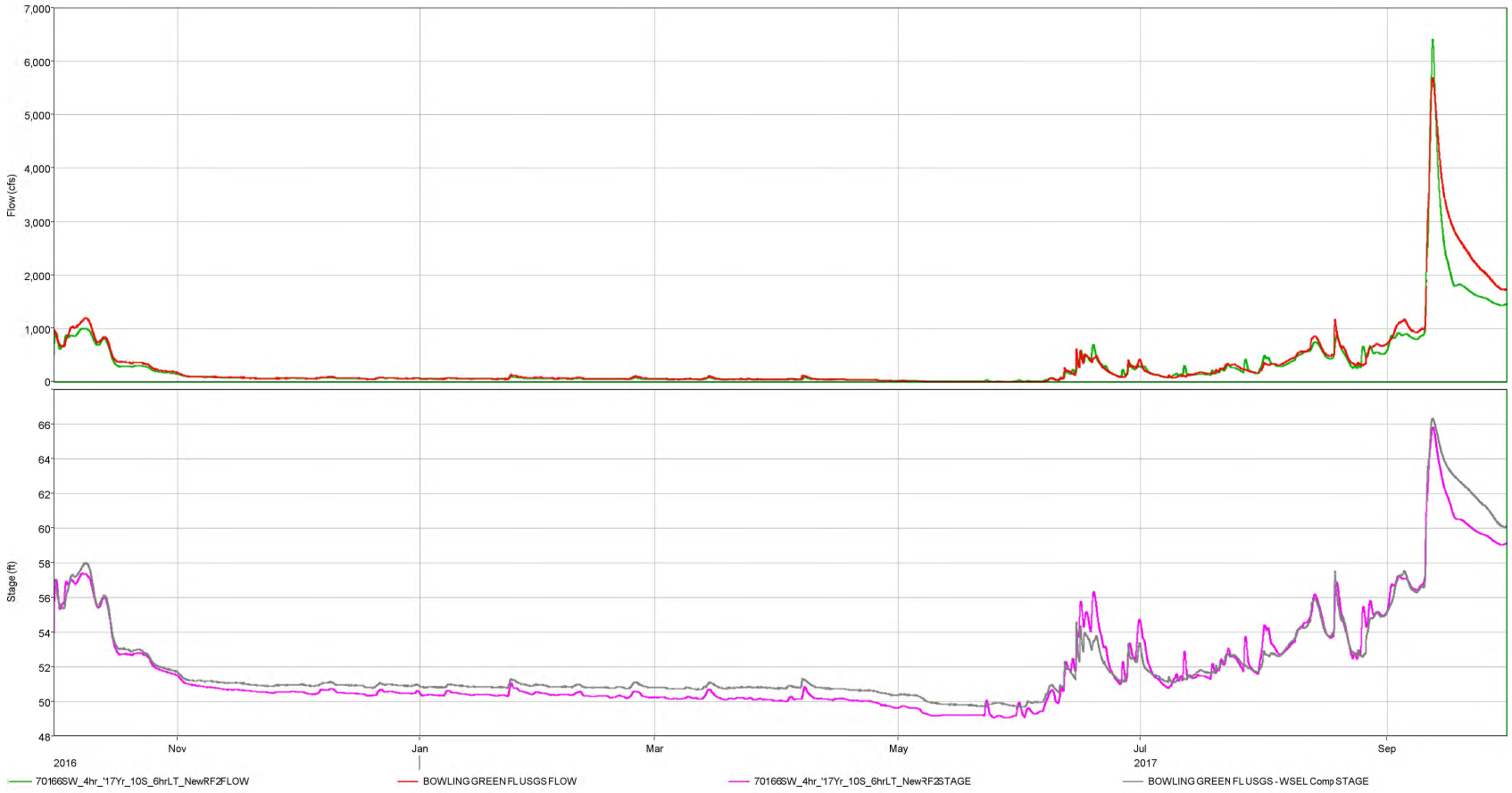
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Bowling Green Flow and Stage Hydrograph Comparison (2013)



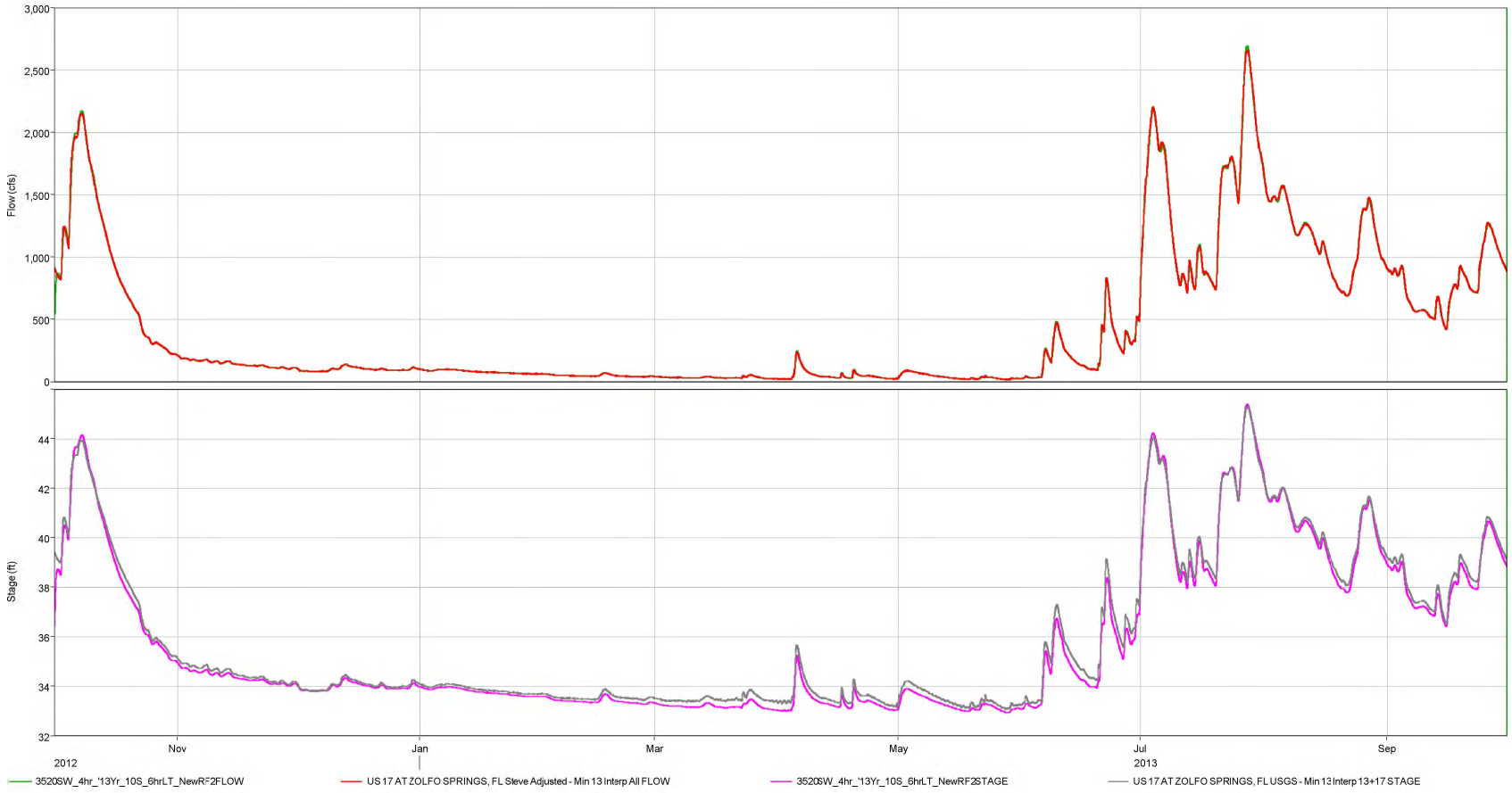
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Bowling Green Flow and Stage Hydrograph Comparison (2017)



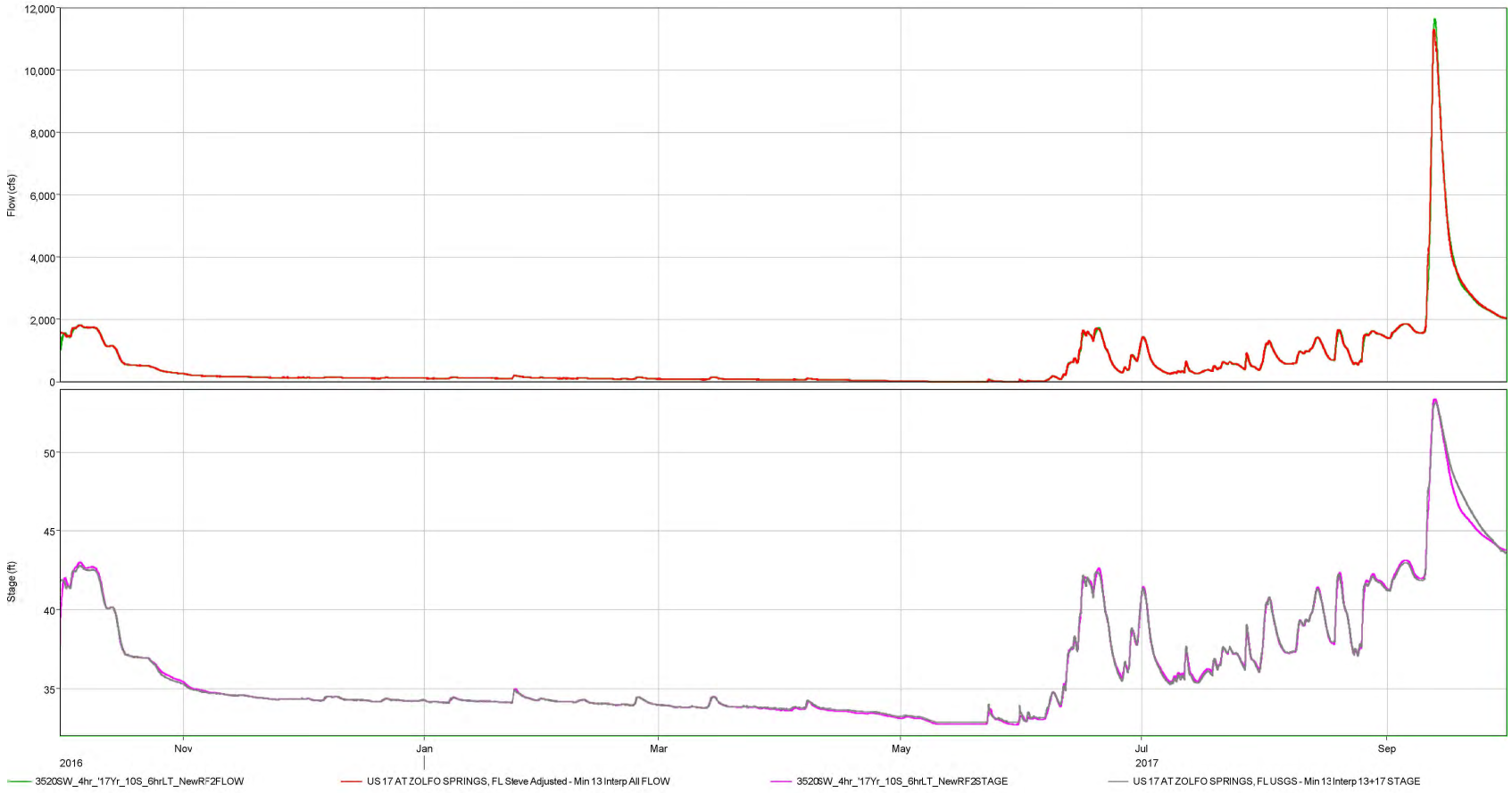
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

Zolfo Springs Flow and Stage Hydrograph Comparison (2013)

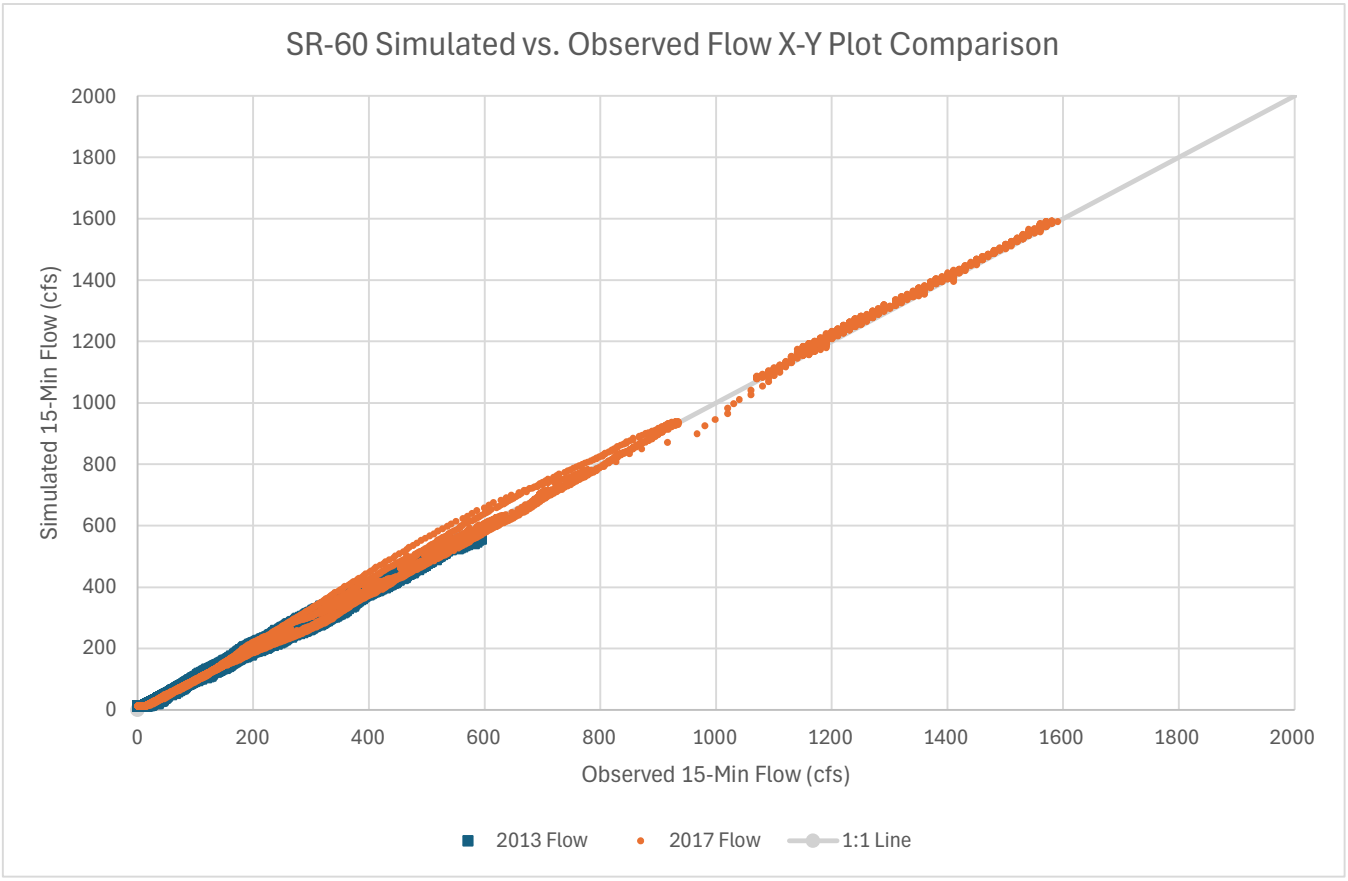


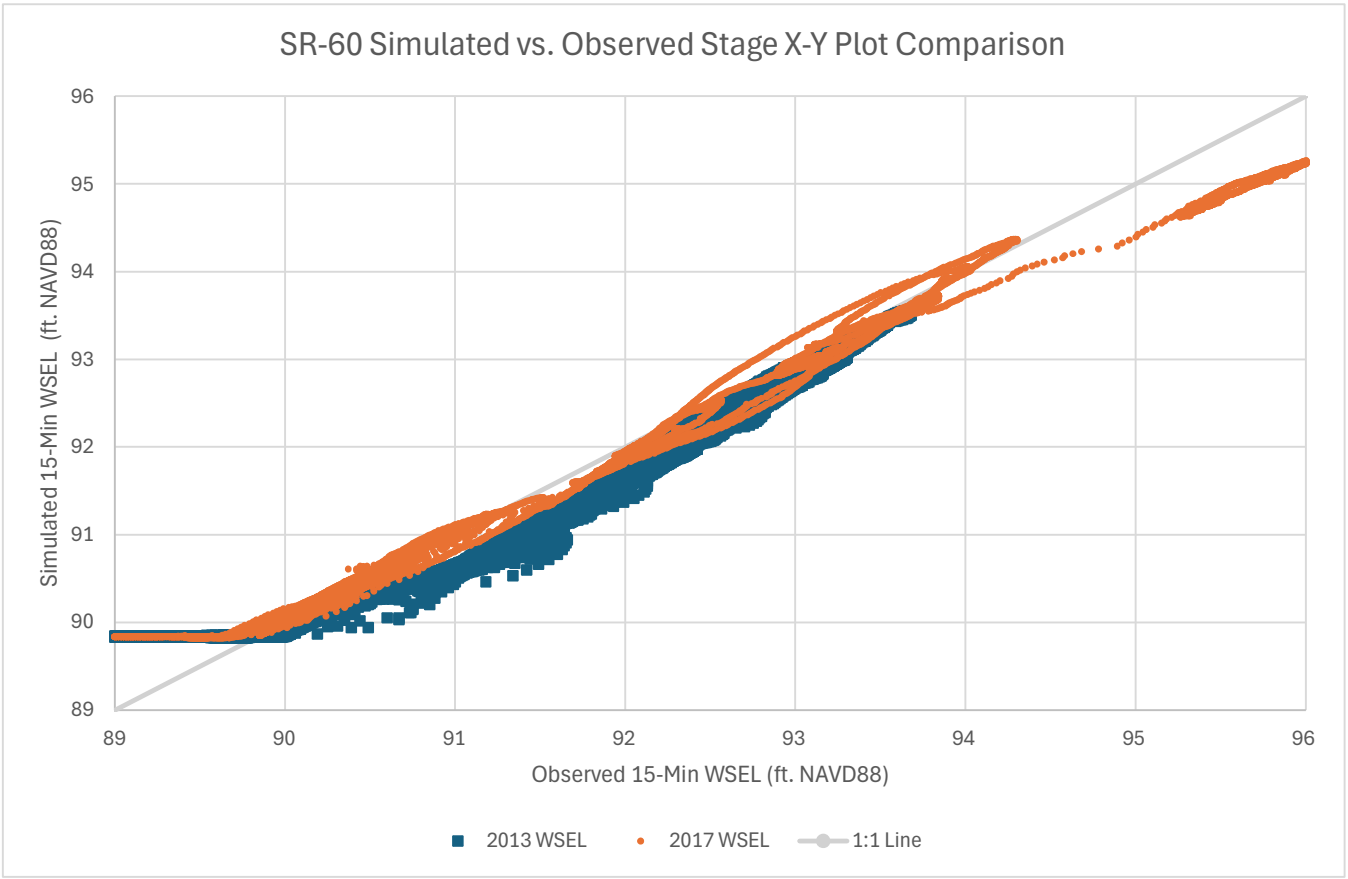
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

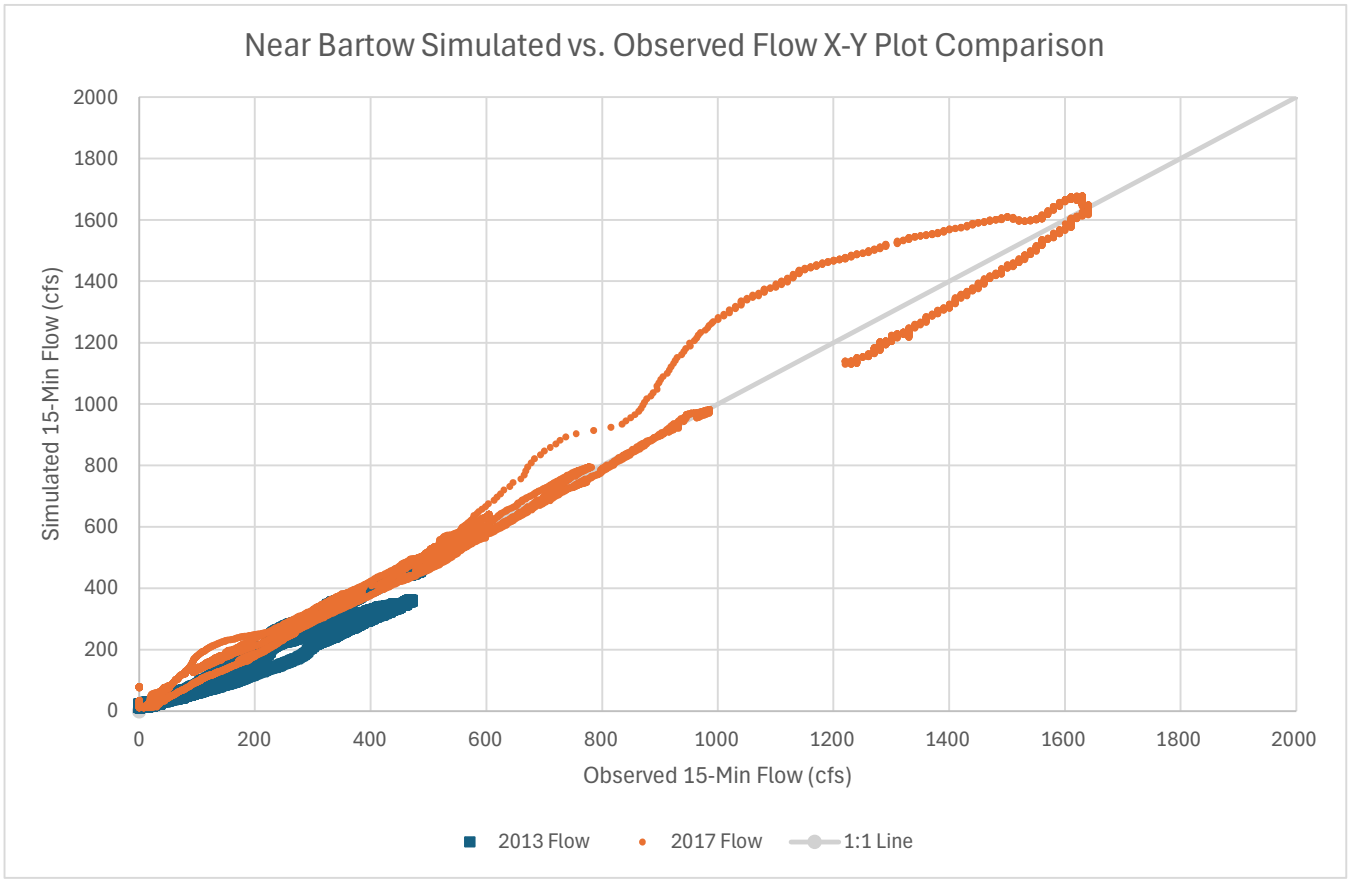
Zolfo Springs Flow and Stage Hydrograph Comparison (2017)

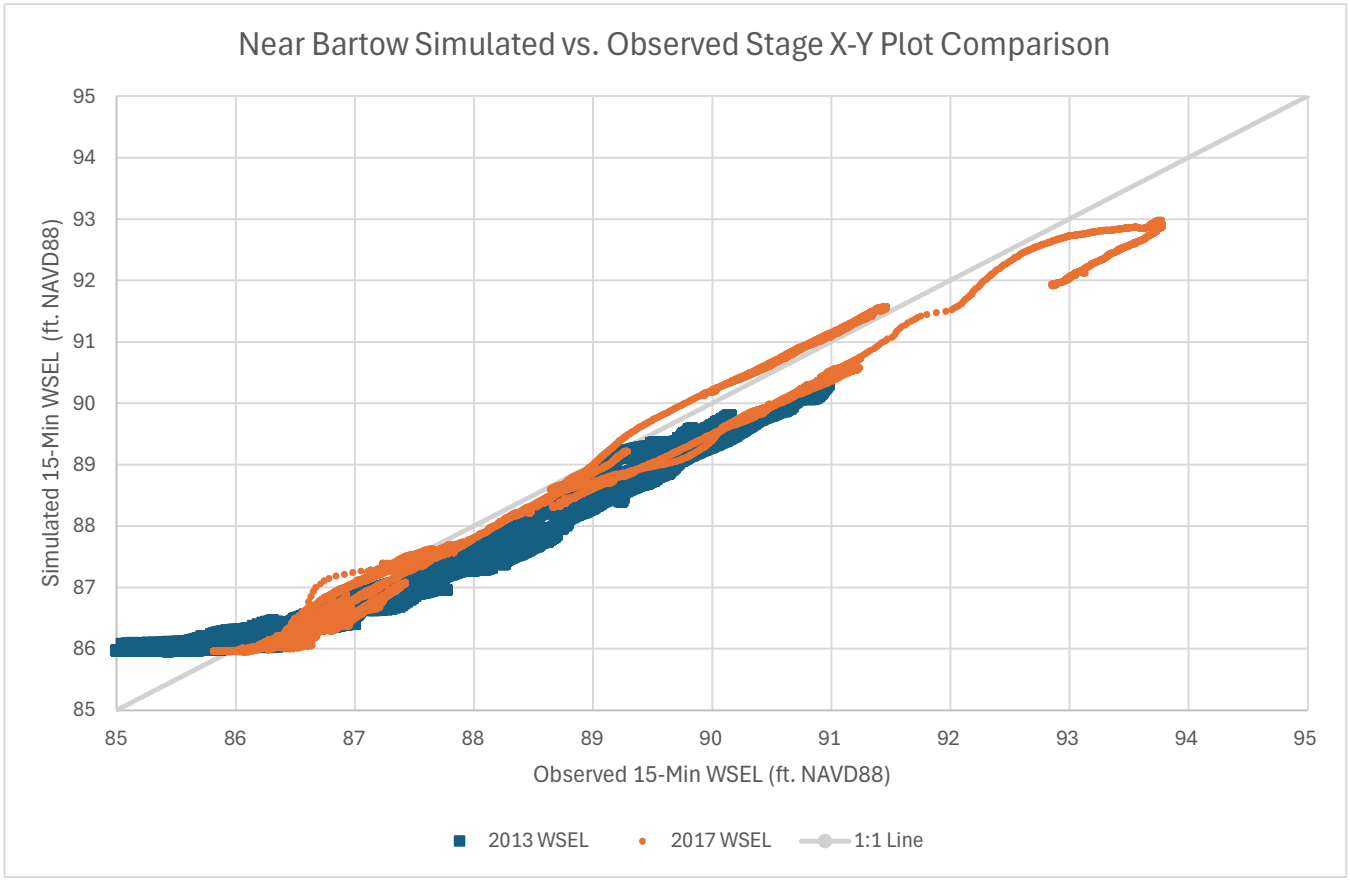


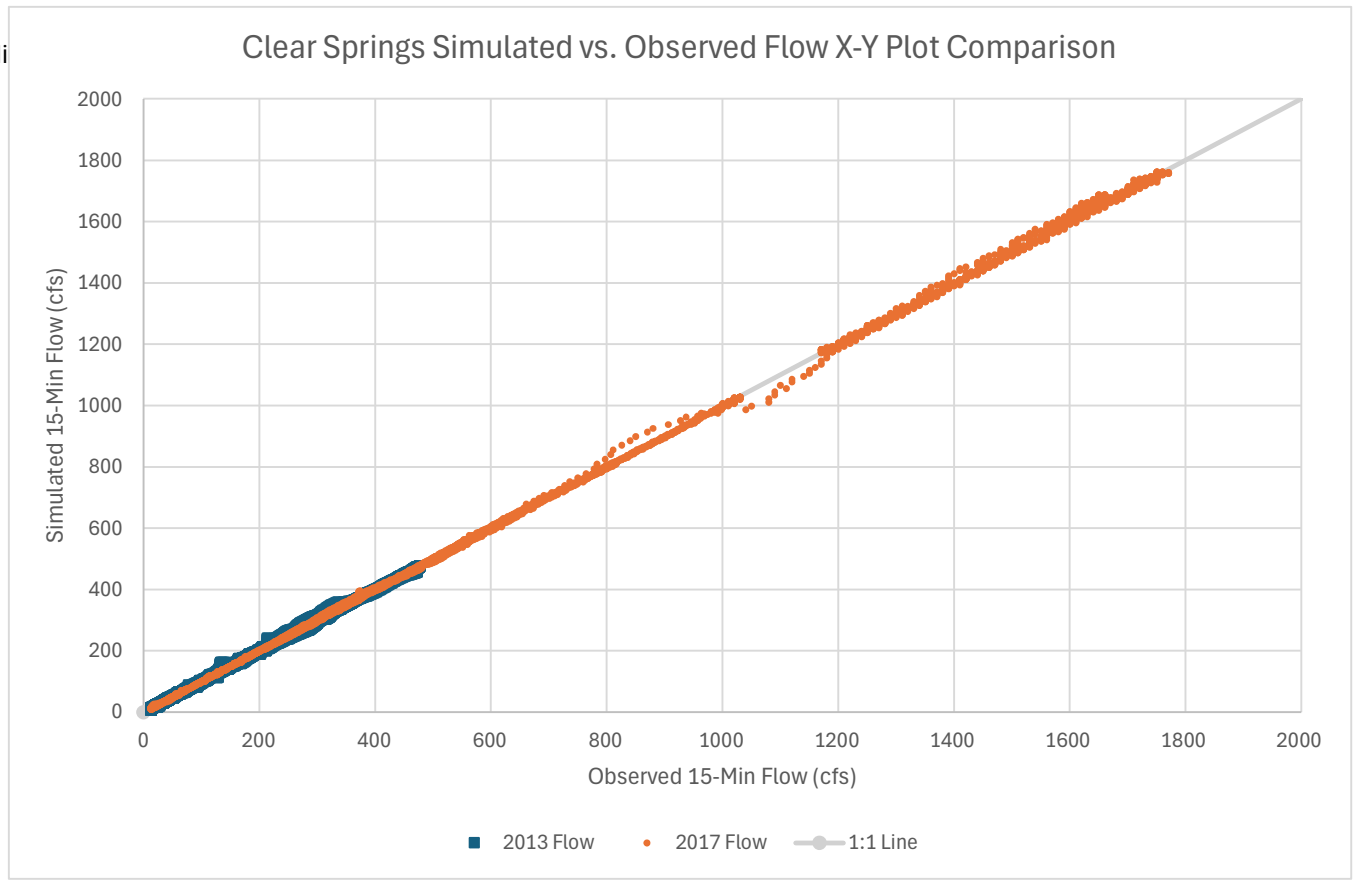
Note: Green = Simulated Flow, Red = Historical Flow Record, Pink = Simulated Stage, Grey = Historical Stage Record

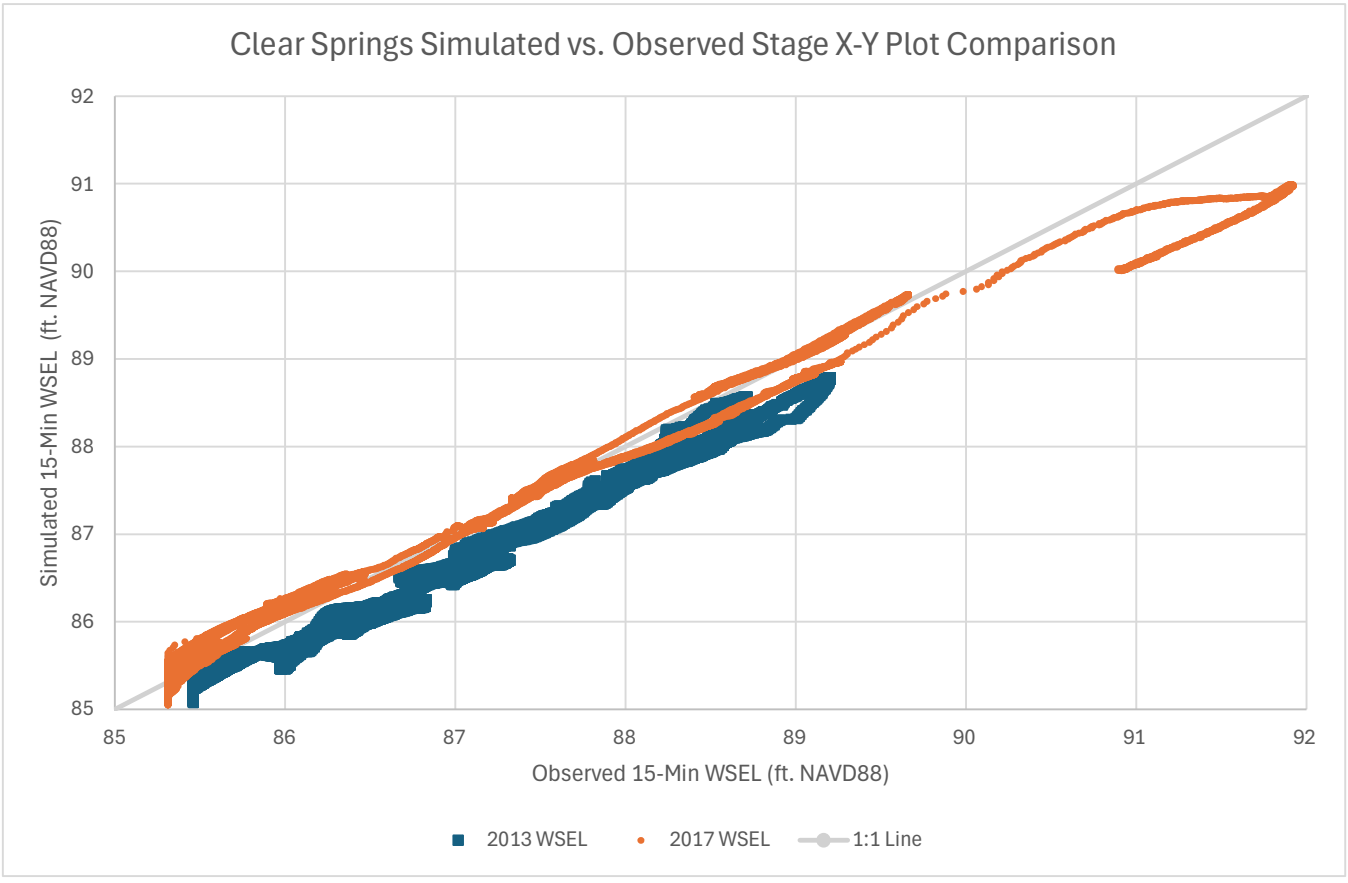

SR-60 Simulated vs. Observed Flow X-Y Plot Comparison
Simulated 15-Min Flow (cfs)
Observed 15-Min Flow (cfs)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2013 Flow
2017 Flow
1:1 Line

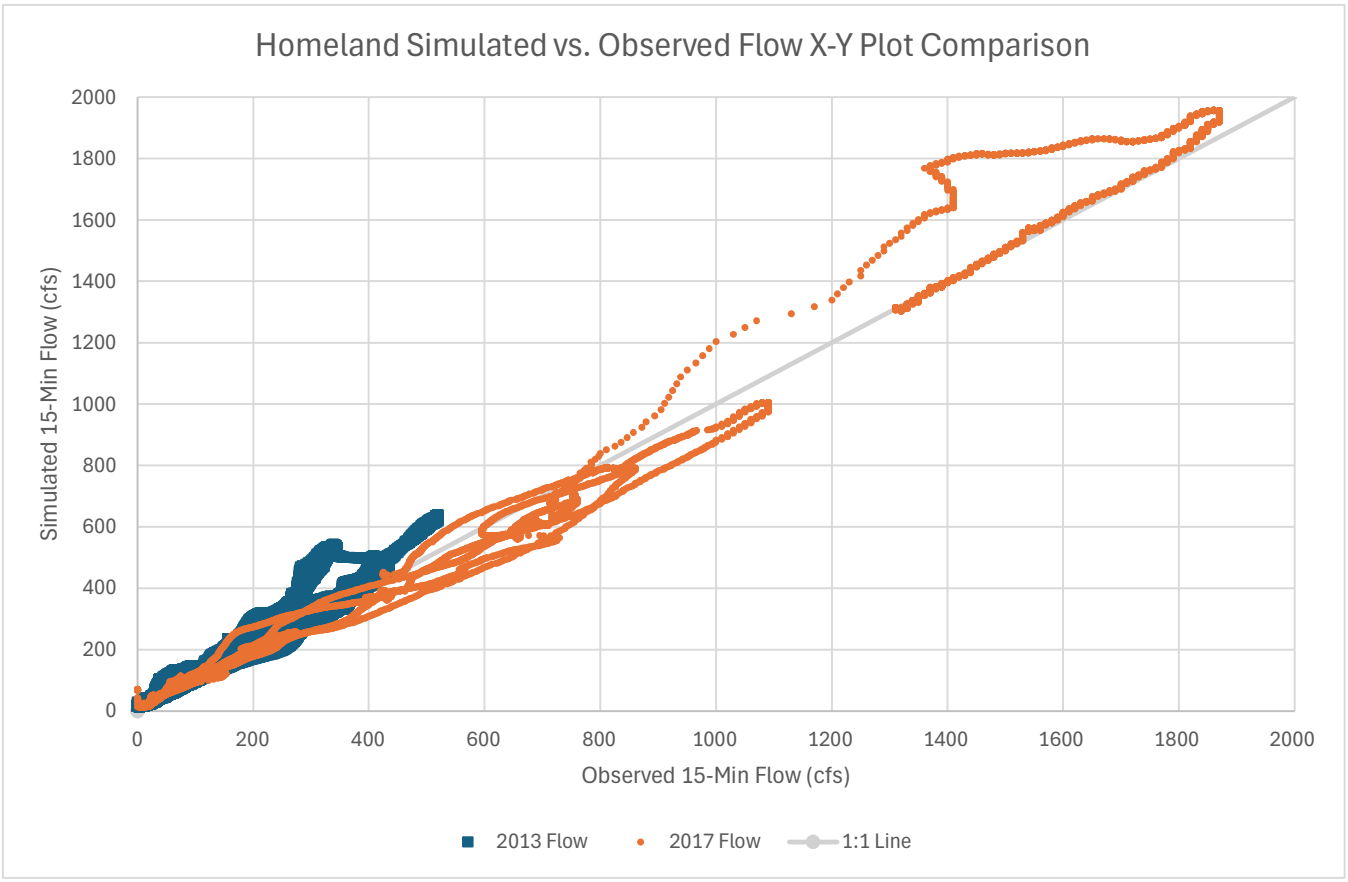

SR-60 Simulated vs. Observed Stage X-Y Plot Comparison
Simulated 15-Min WSEL (ft. NAVD88)
Observed 15-Min WSEL (ft. NAVD88)
89
90
91
92
93
94
95
96
2013 WSEL
2017 WSEL
1:1 Line

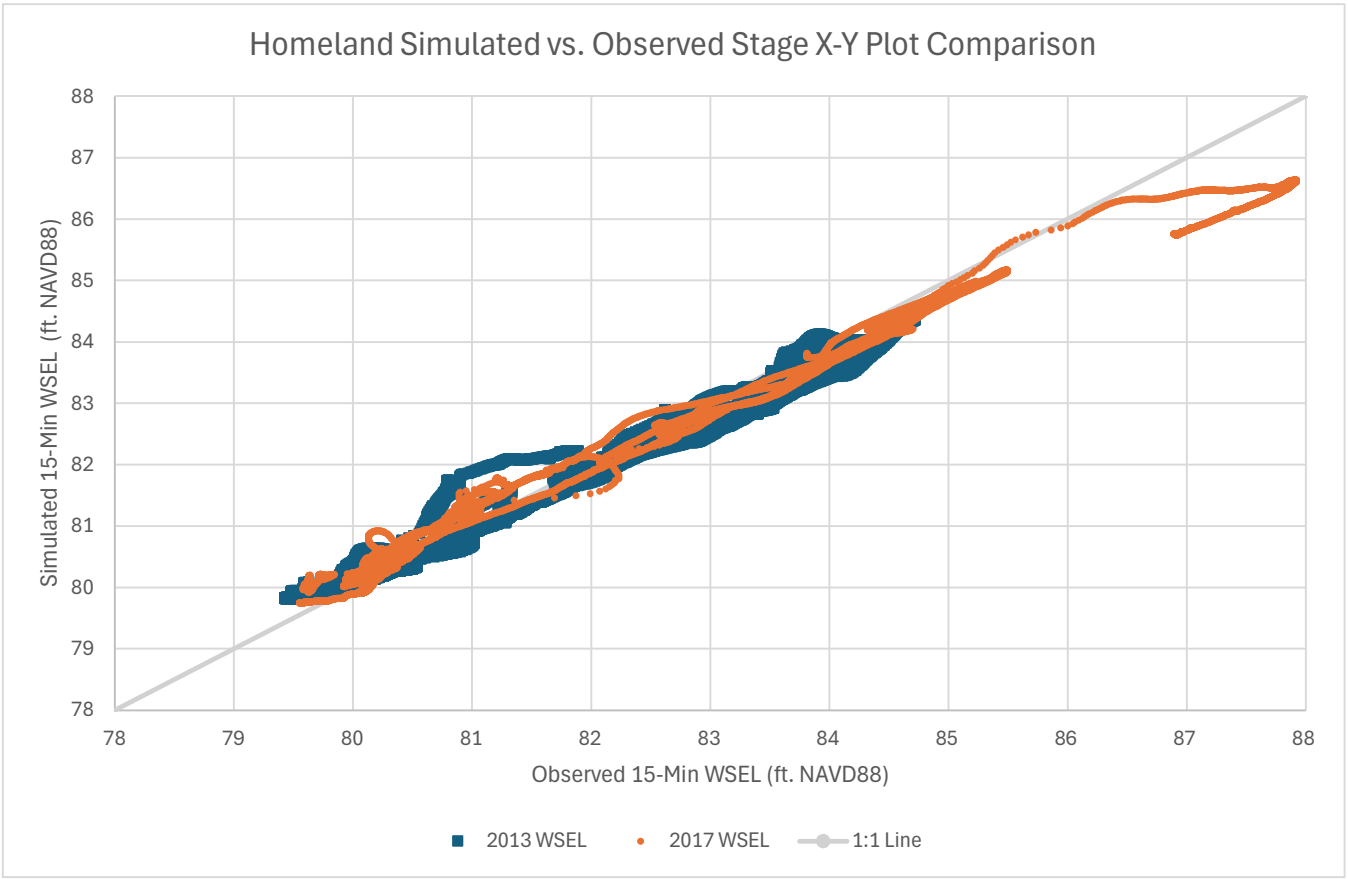

Near Bartow Simulated vs. Observed Flow X-Y Plot Comparison
Simulated 15-Min Flow (cfs)
Observed 15-Min Flow (cfs)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2013 Flow
2017 Flow
1:1 Line

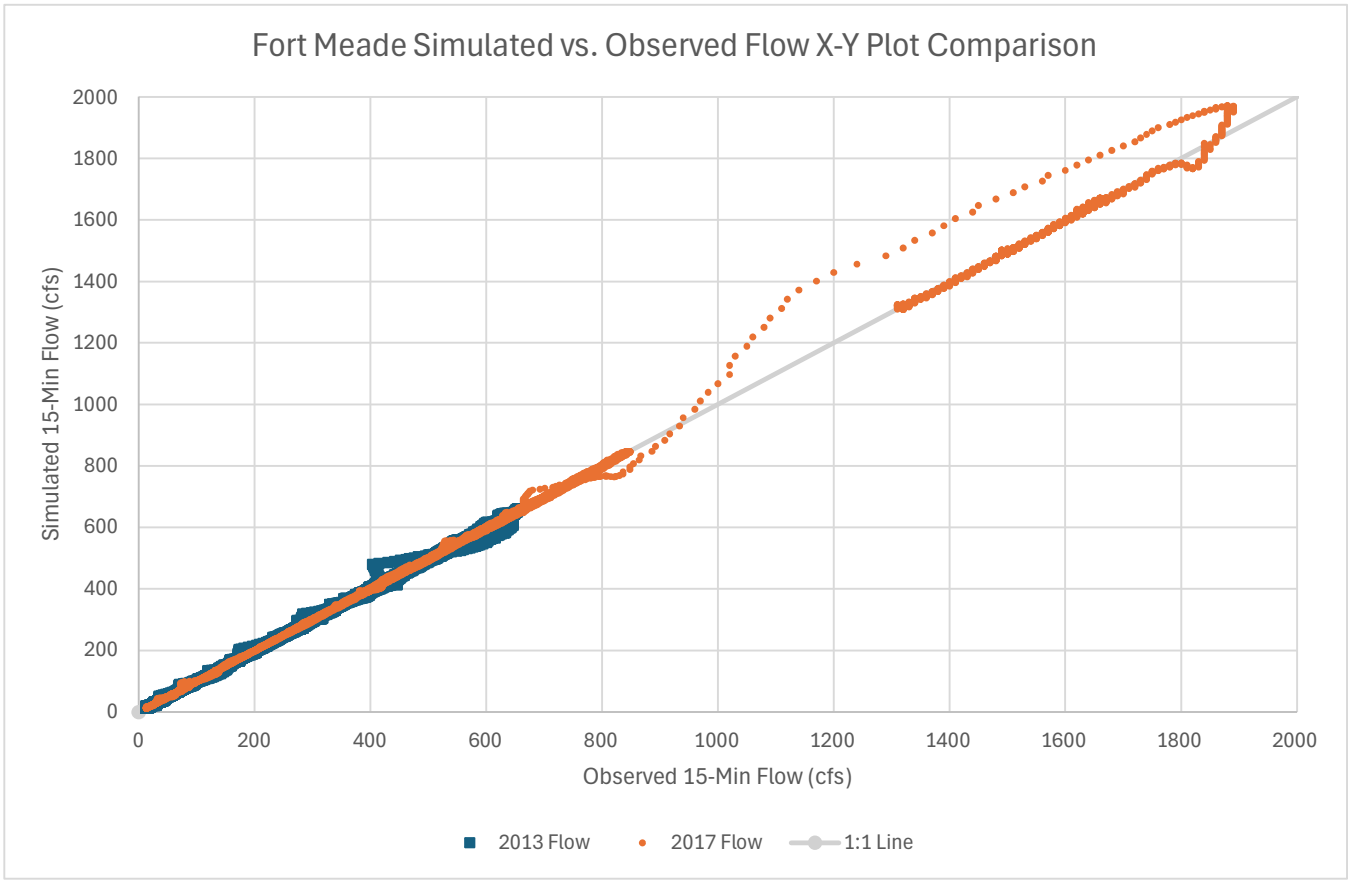

Near Bartow Simulated vs. Observed Stage X-Y Plot Comparison
Simulated 15-Min WSEL (ft. NAVD88)
Observed 15-Min WSEL (ft. NAVD88)
85
86
87
88
89
90
91
92
93
94
95
2013 WSEL
2017 WSEL
1:1 Line

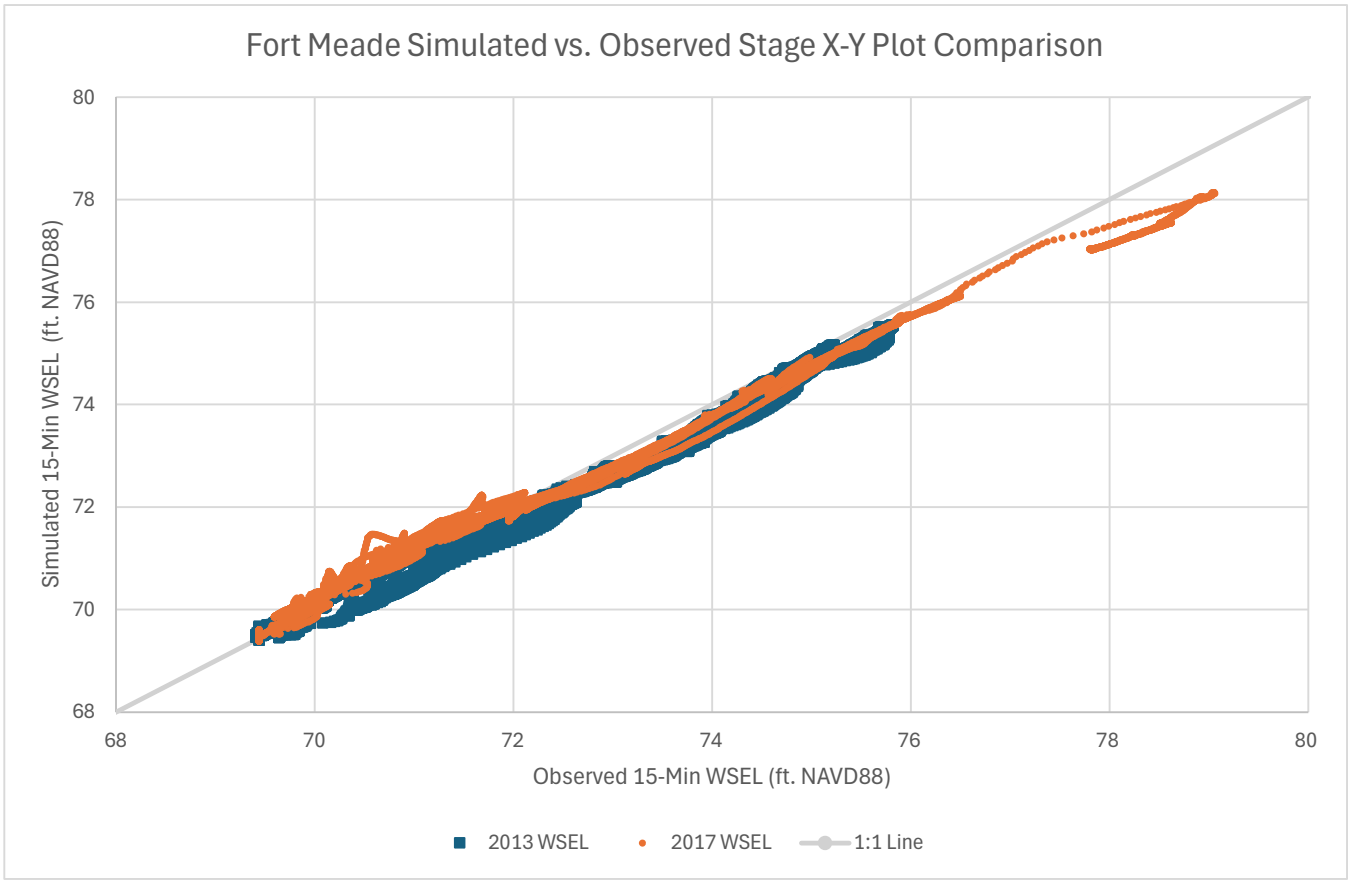

Clear Springs Simulated vs. Observed Flow X-Y Plot Comparison
Simulated 15-Min Flow (cfs)
Observed 15-Min Flow (cfs)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2013 Flow
2017 Flow
1:1 Line

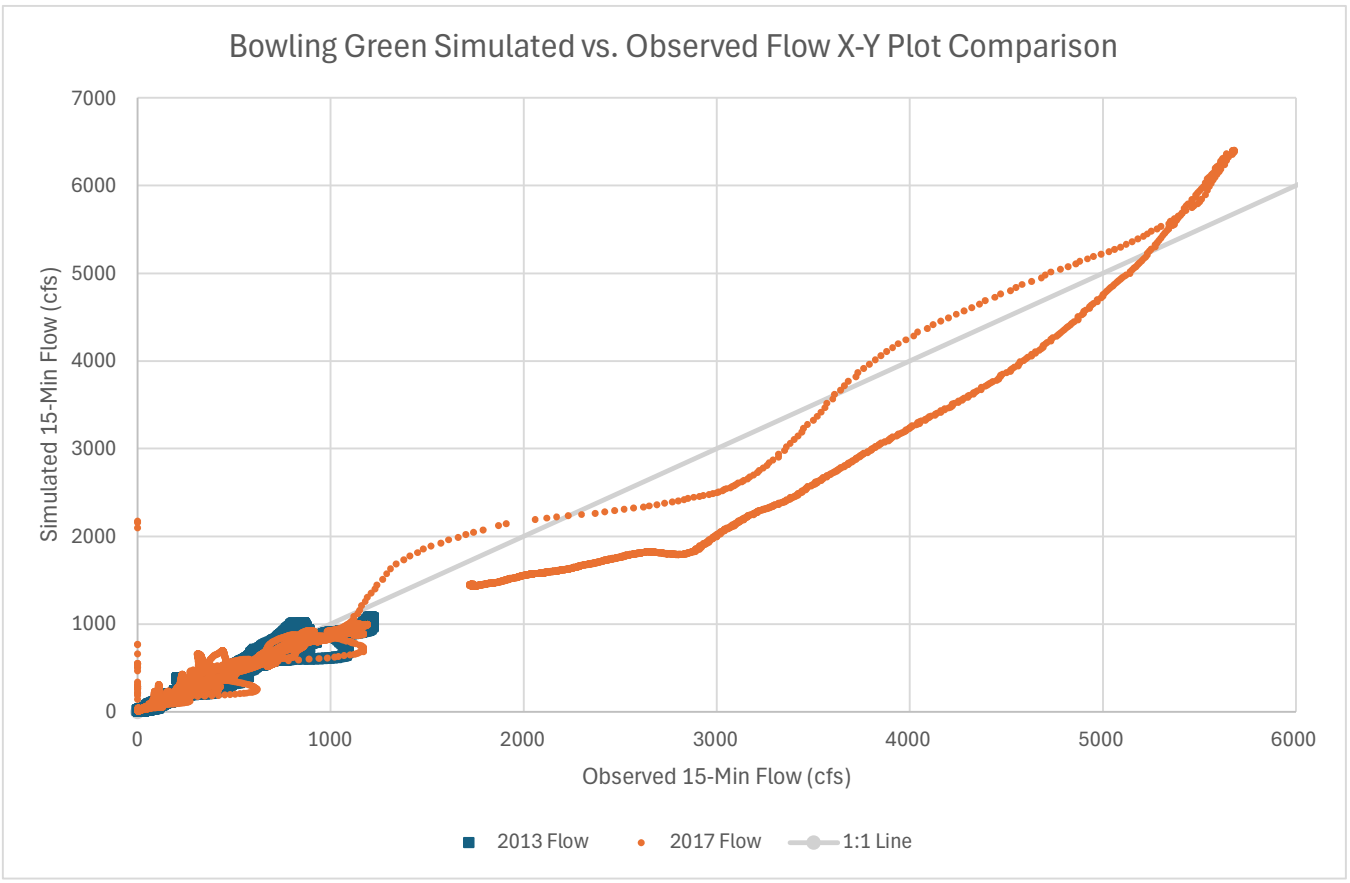

Clear Springs Simulated vs. Observed Stage X-Y Plot Comparison
Simulated 15-Min WSEL (ft. NAVD88)
Observed 15-Min WSEL (ft. NAVD88)
85
86
87
88
89
90
91
92
2013 WSEL
2017 WSEL
1:1 Line

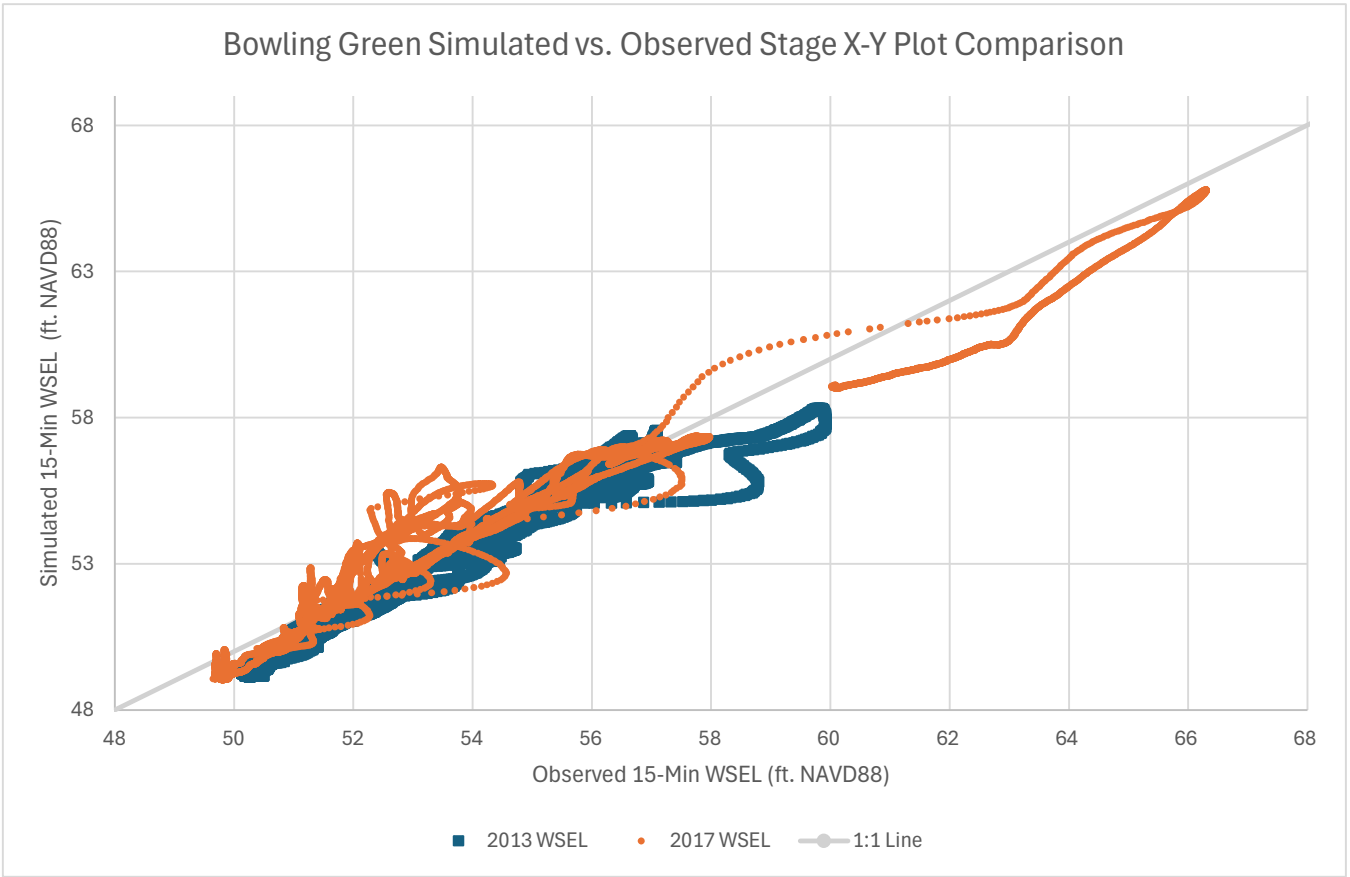

Homeland Simulated vs. Observed Flow X-Y Plot Comparison
Simulated 15-Min Flow (cfs)
Observed 15-Min Flow (cfs)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2013 Flow
2017 Flow
1:1 Line

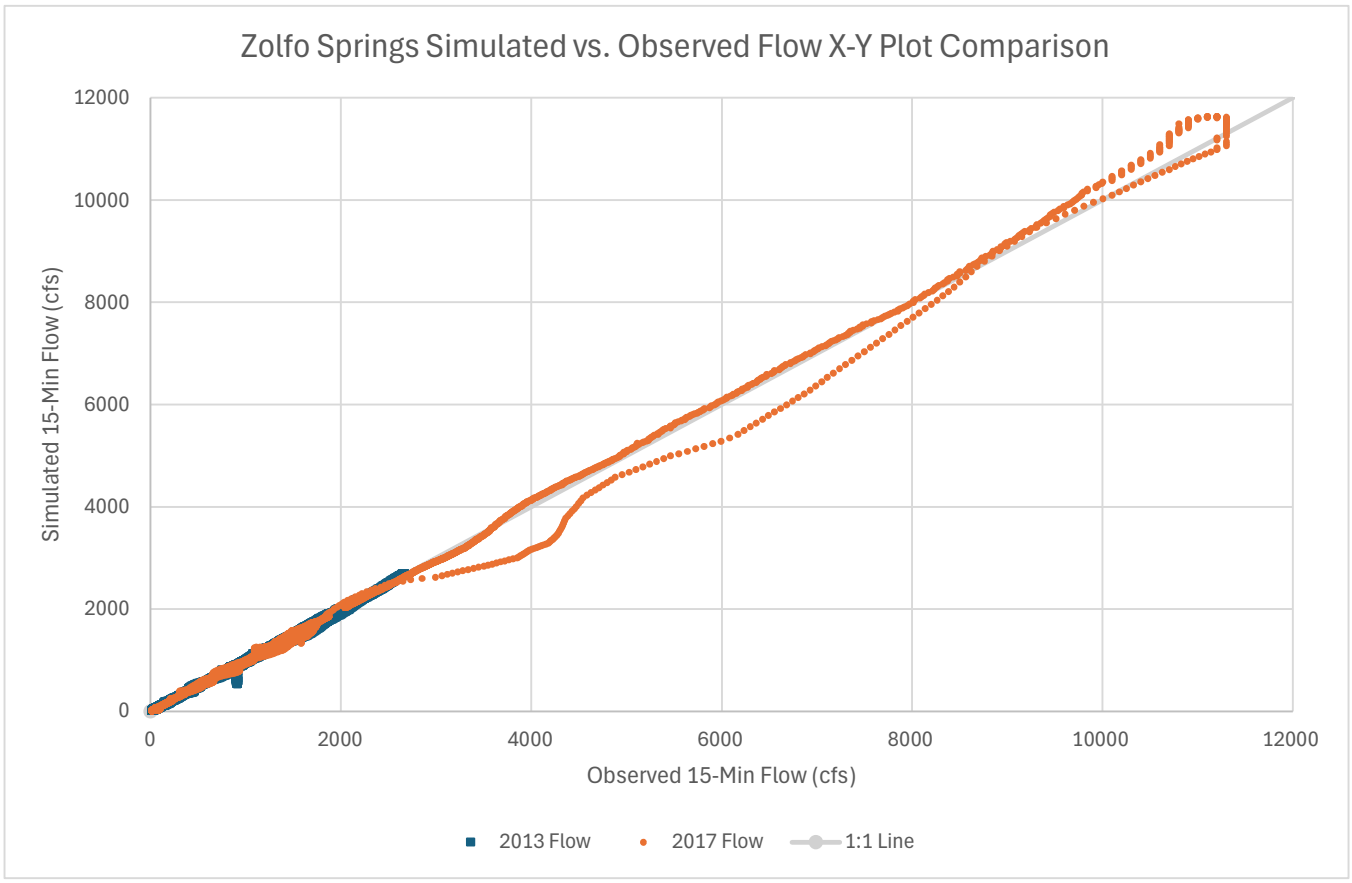

Homeland Simulated vs. Observed Stage X-Y Plot Comparison
Simulated 15-Min WSEL (ft. NAVD88)
Observed 15-Min WSEL (ft. NAVD88)
78
79
80
81
82
83
84
85
86
87
88
2013 WSEL
2017 WSEL
1:1 Line

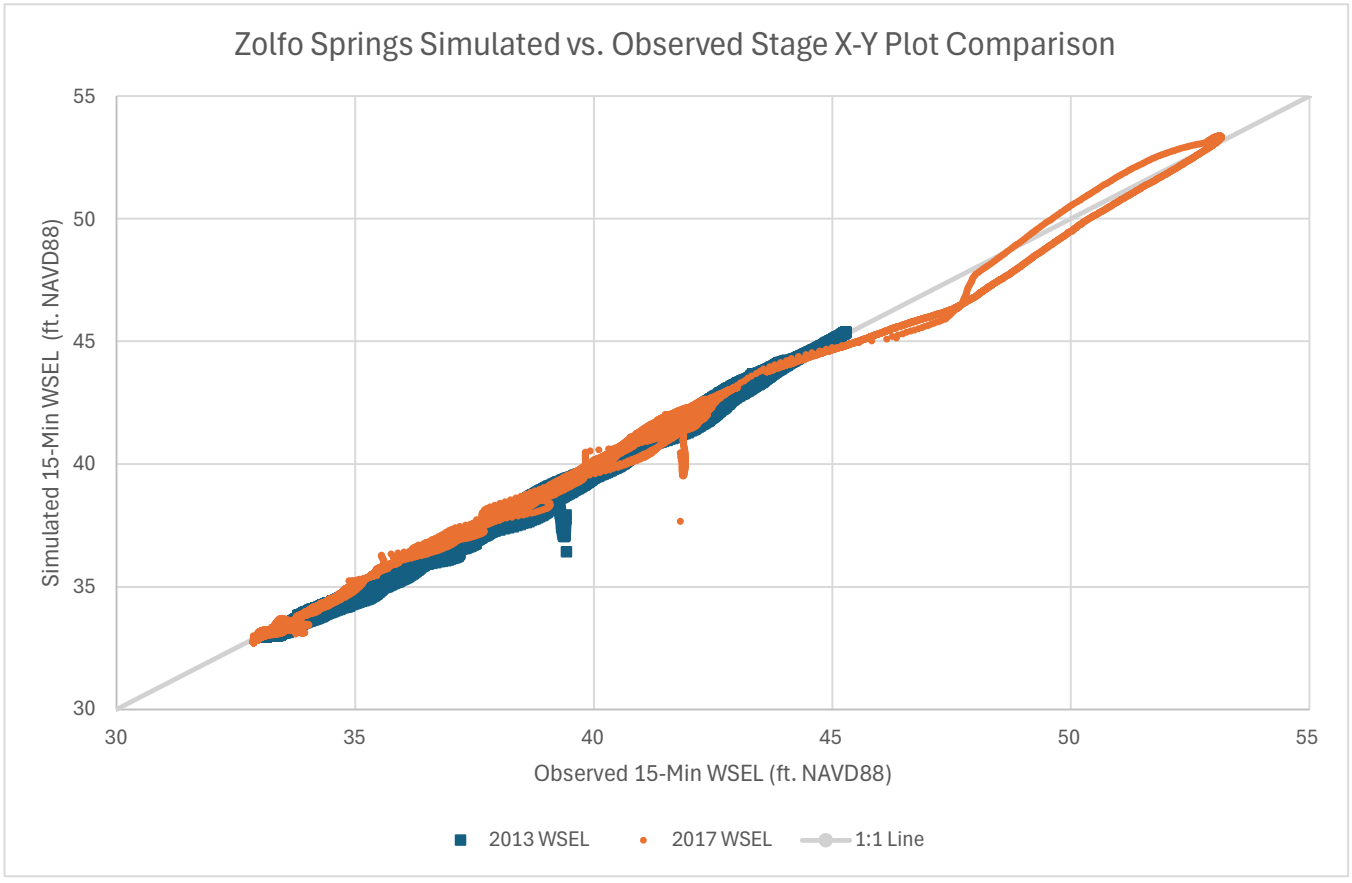

Fort Meade Simulated vs. Observed Flow X-Y Plot Comparison
Simulated 15-Min Flow (cfs)
Observed 15-Min Flow (cfs)
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2013 Flow
2017 Flow
1:1 Line

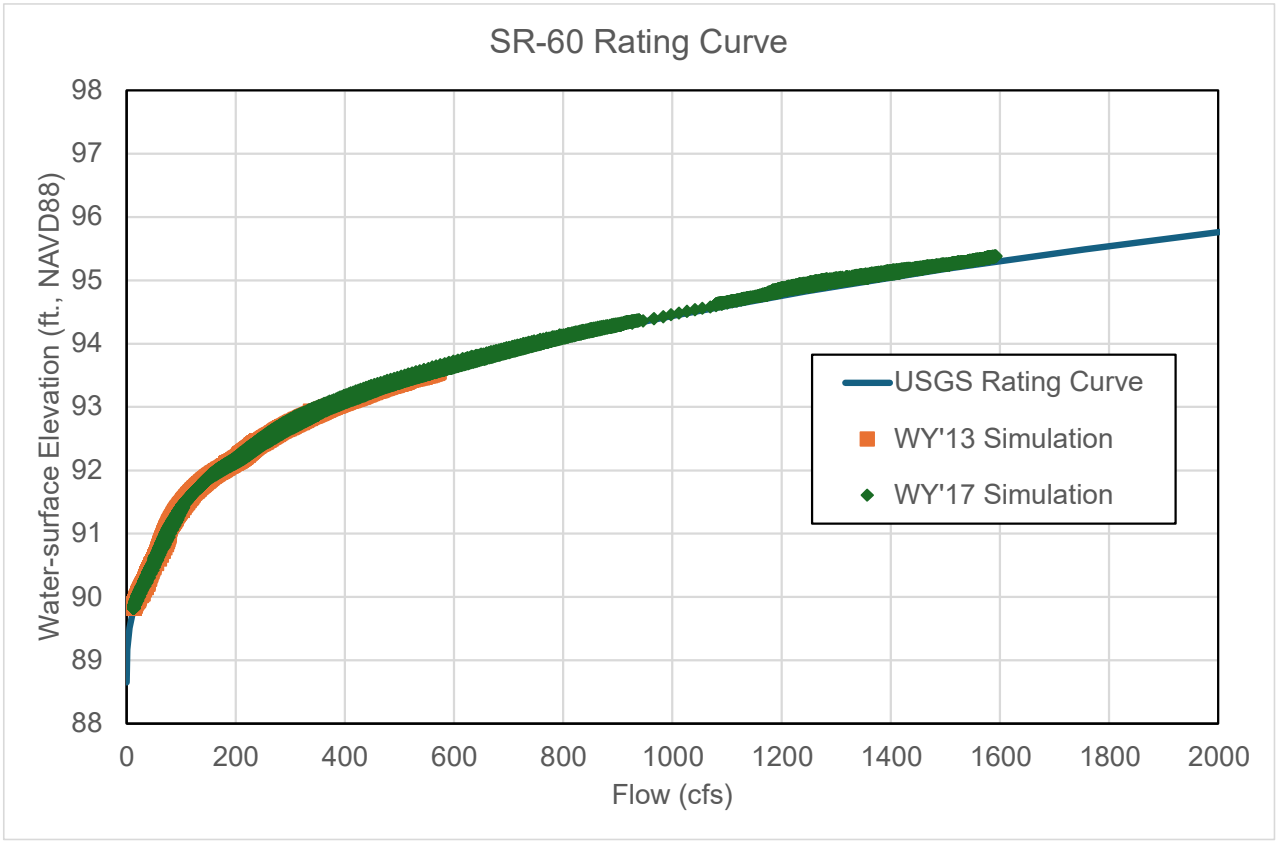

Fort Meade Simulated vs. Observed Stage X-Y Plot Comparison
Simulated 15-Min WSEL (ft. NAVD88)
Observed 15-Min WSEL (ft. NAVD88)
68
70
72
74
76
78
80
2013 WSEL
2017 WSEL
1:1 Line

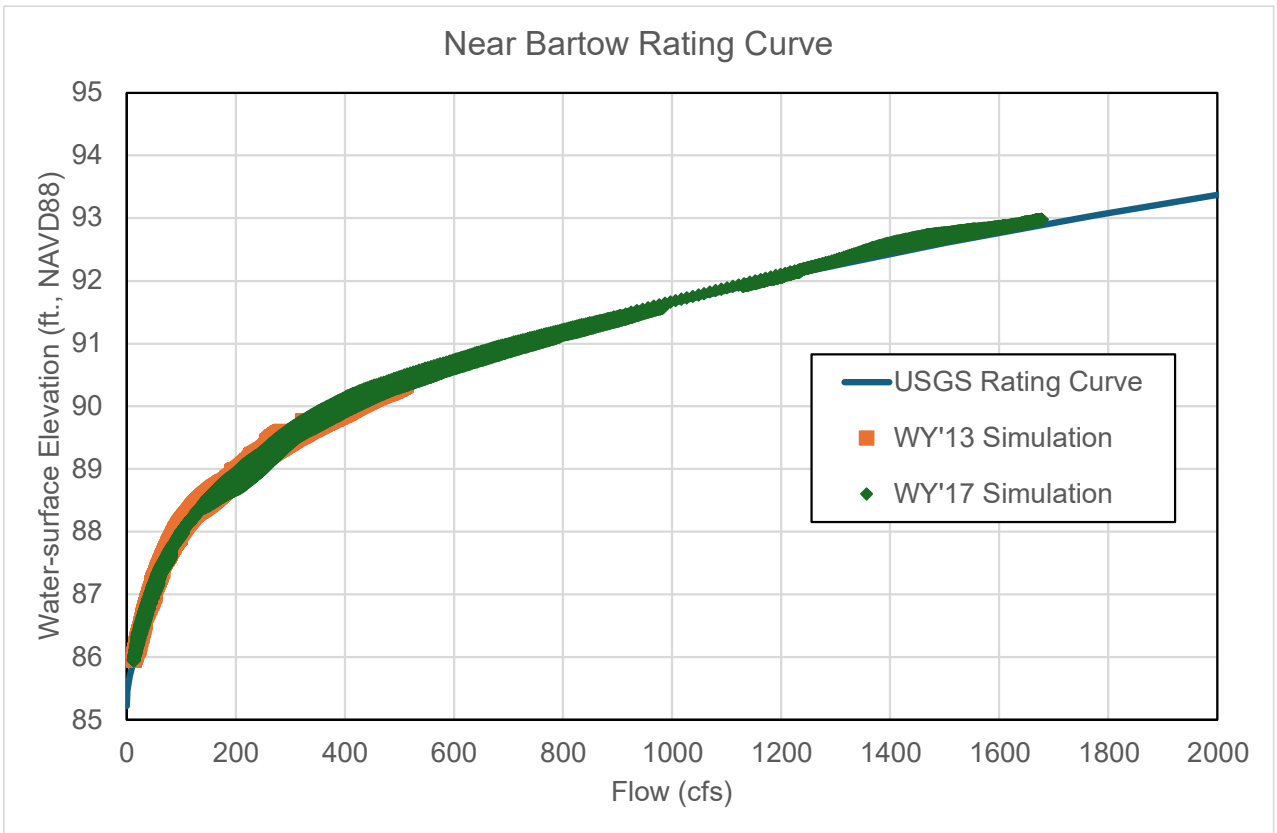

Bowling Green Simulated vs. Observed Flow X-Y Plot Comparison
Simulated 15-Min Flow (cfs)
Observed 15-Min Flow (cfs)
0
1000
2000
3000
4000
5000
6000
7000
2013 Flow
2017 Flow
1:1 Line

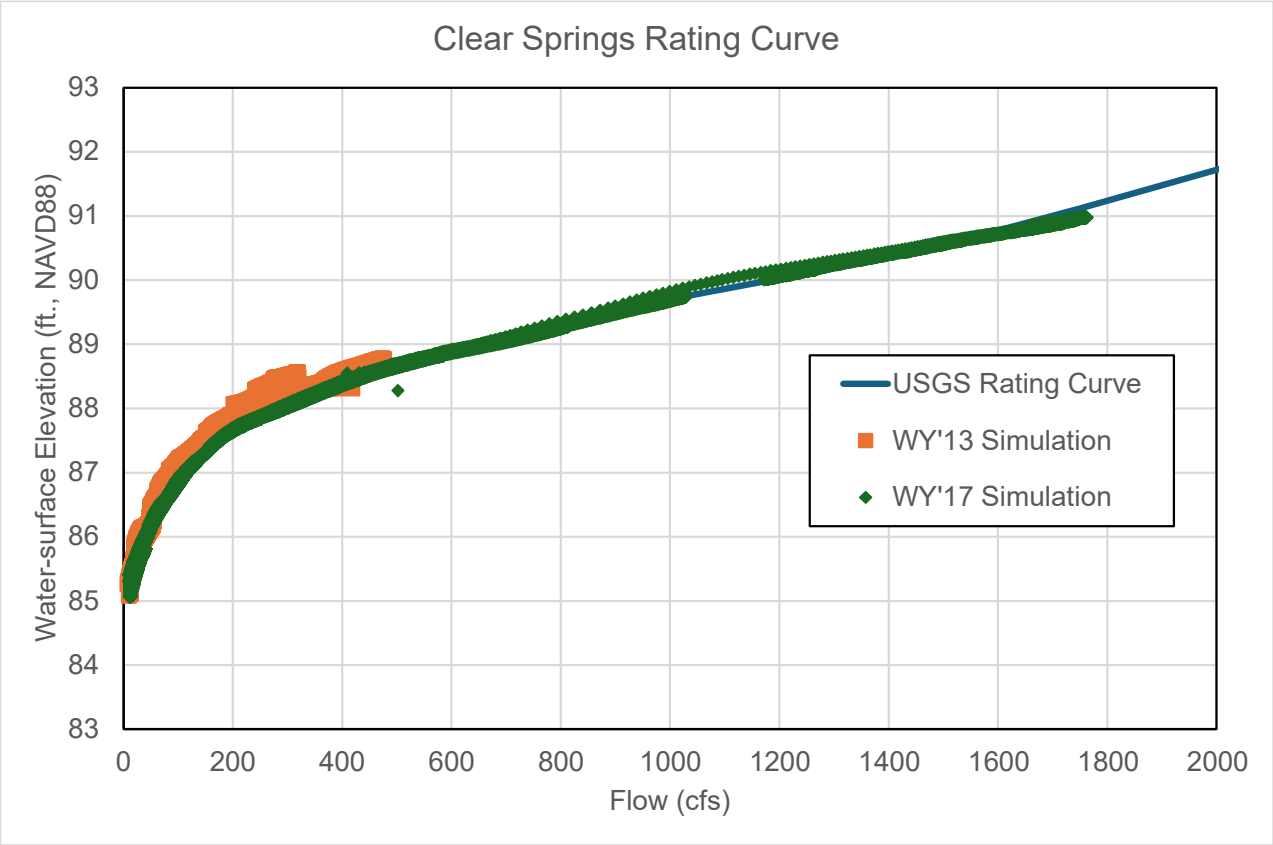

Bowling Green Simulated vs. Observed Stage X-Y Plot Comparison
Simulated 15-Min WSEL (ft. NAVD88)
Observed 15-Min WSEL (ft. NAVD88)
48
50
52
54
56
58
60
62
64
66
68
2013 WSEL
2017 WSEL
1:1 Line

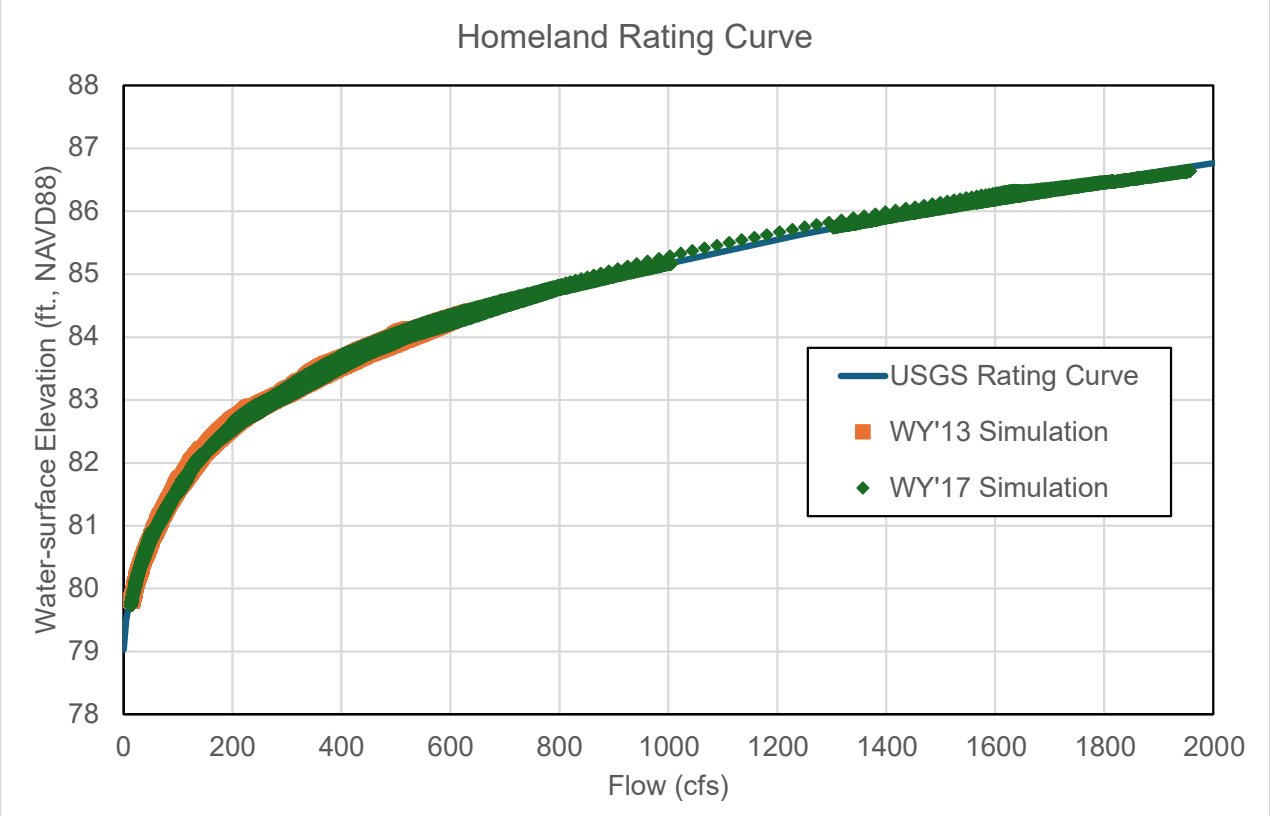

Zolfo Springs Simulated vs. Observed Flow X-Y Plot Comparison
Simulated 15-Min Flow (cfs)
Observed 15-Min Flow (cfs)
0
2000
4000
6000
8000
10000
12000
2013 Flow
2017 Flow
1:1 Line

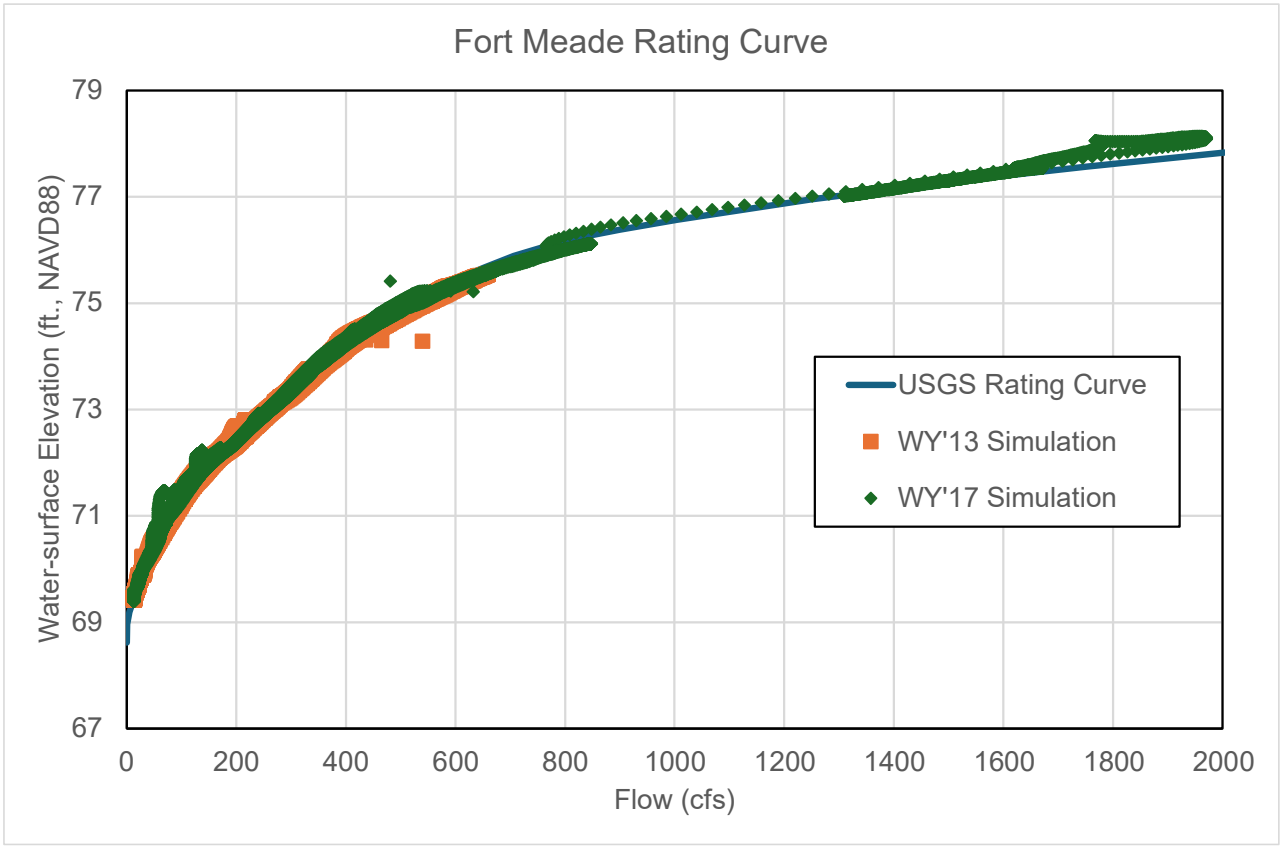

Zolfo Springs Simulated vs. Observed Stage X-Y Plot Comparison
Simulated 15-Min WSEL (ft. NAVD88)
Observed 15-Min WSEL (ft. NAVD88)
30
35
40
45
50
55
2013 WSEL
2017 WSEL
1:1 Line

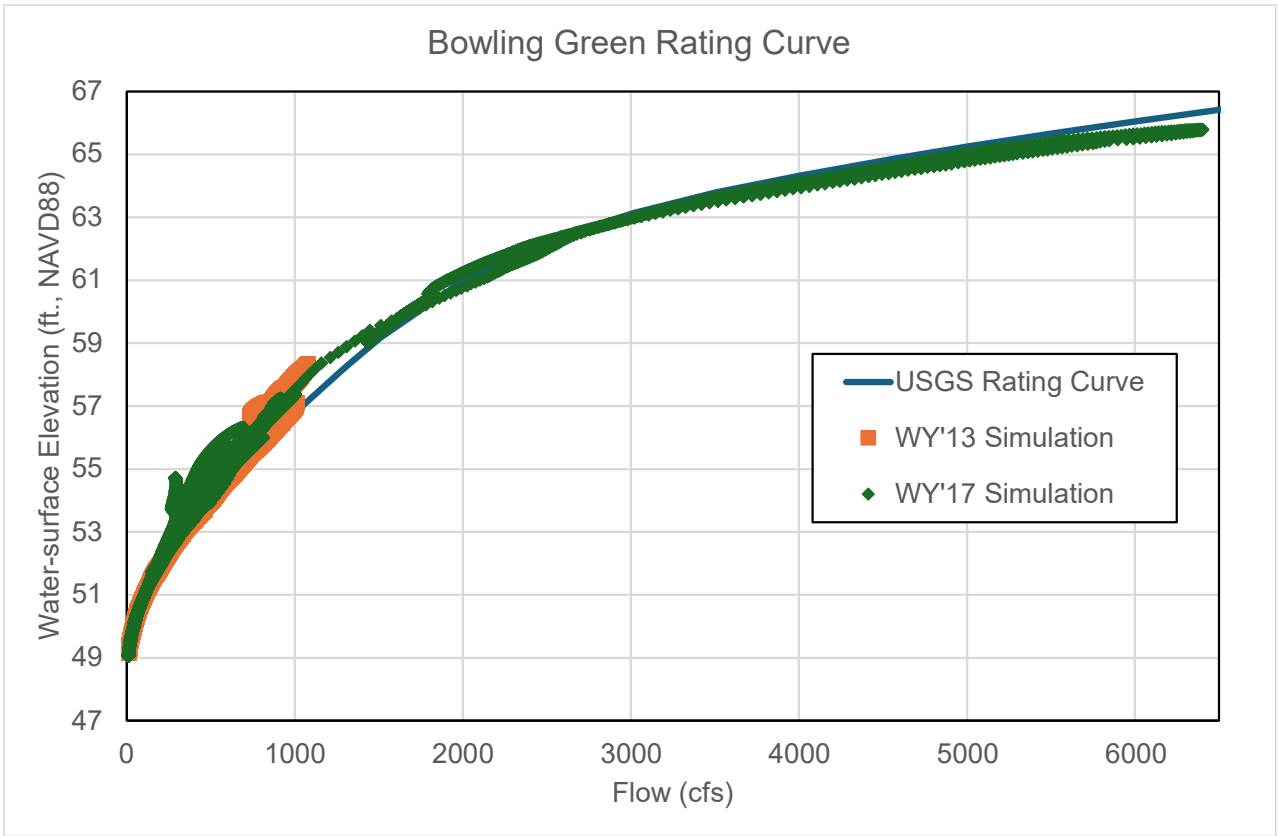

SR-60 Rating Curve
Water-surface Elevation (ft., NAVD88)
98
97
96
95
94
93
92
91
90
89
88
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Flow (cfs)
USGS Rating Curve
WY'13 Simulation
WY'17 Simulation

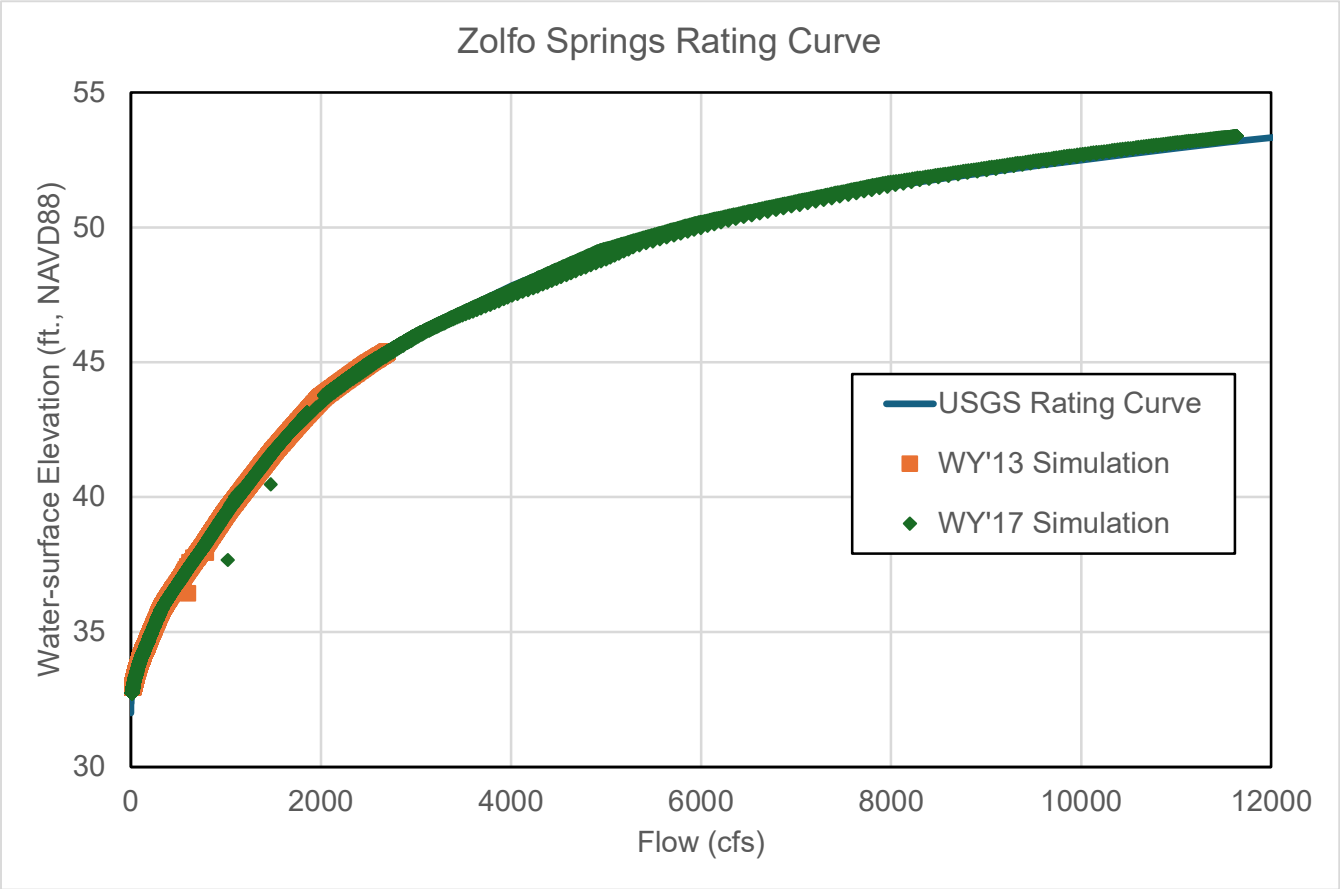

Near Bartow Rating Curve
Water-surface Elevation (ft., NAVD88)
95
94
93
92
91
90
89
88
87
86
85
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Flow (cfs)
USGS Rating Curve
WY'13 Simulation
WY'17 Simulation


Clear Springs Rating Curve
Water-surface Elevation (ft., NAVD88)
93
92
91
90
89
88
87
86
85
84
83
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Flow (cfs)
USGS Rating Curve
WY'13 Simulation
WY'17 Simulation


Homeland Rating Curve
Water-surface Elevation (ft., NAVD88)
88
87
86
85
84
83
82
81
80
79
78
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Flow (cfs)
USGS Rating Curve
WY'13 Simulation
WY'17 Simulation


Fort Meade Rating Curve
Water-surface Elevation (ft., NAVD88)
79
77
75
73
71
69
67
0
200
400
600
800
1000
1200
1400
1600
1800
2000
Flow (cfs)
USGS Rating Curve
WY'13 Simulation
WY'17 Simulation


Bowling Green Rating Curve
Water-surface Elevation (ft., NAVD88)
67
65
63
61
59
57
55
53
51
49
47
0
1000
2000
3000
4000
5000
6000
Flow (cfs)
USGS Rating Curve
WY'13 Simulation
WY'17 Simulation


Zolfo Springs Rating Curve
Water-surface Elevation (ft., NAVD88)
55
50
45
40
35
30
0
2000
4000
6000
8000
10000
12000
Flow (cfs)
USGS Rating Curve
WY'13 Simulation
WY'17 Simulation

APPENDIX C | FINAL FLOW APPORTIONMENT VALUES

UNGAGED TRIBUTARY DRAINAGE AREA CONTRIBUTION
FLOW DURATION VALUES FOR USGS STREAM GAGES ALONG THE UPPER PEACE RIVER (2010-2023) FLOW APPORTIONMENT RATIOS
FLOW APPORTIONMENT VALUES FOR 2010-2023 DATA
FLOW APPORTIONMENT VALUES FOR ZOLFO SPRINGS FULL PERIOD OF RECORD (1933-2023)

Note: Ungaged tributary areas used to determine how much unaccounted for flow to be attributed to known ungaged tributaries and to be uniformly distributed.

		Area (sq. mi)	Total Area Change	%
Clear Springs (Gage)	184220			
Homeland (Gage)	164508		15	
Rocky Branch (Ungaged lateral)	132602	5.50		0.080
Sink Branch (Ungaged lateral)	132602	13.75		0.199
Remaining for uniform dist.				0.721
Fort Meade (Gage)	131129		69	
Whidden Creek (Lateral, partially gaged, not in model)	101625	43.00		0.323
Remaining for uniform dist.				0.677
Bowling Green (Gage)	70166		133	
Hog Branch (Ungaged)	46429	8.20		0.038
Max Branch (Ungaged)	26860	5.30		0.025
Thompson Branch (Ungaged)	10508	6.50		0.031
Hickory Branch (Ungaged)	10508	3.00		0.014
Remaining for uniform dist.				0.892
Zolfo Springs (Gage)	3520		213	

Flow Duration Values for USGS Stream Gages Along the Upper Peace River (2010-2023)

SR 60		Bartow		Clear Springs		6 Mile Creek	
% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)
1	1440	1	1380	1	1550	1	122
5	930	5	917	5	929	5	61.6
10	555	10	581	10	580	10	44.0
15	429	15	451	15	432	15	33.0
20	339	20	358	20	326	20	25.6
25	259	25	275	25	255	25	20.9
30	197	30	212	30	177	30	17.8
35	151	35	161	35	132	35	15.3
40	112	40	116	40	95.8	40	13.1
45	85.9	45	88.7	45	73.1	45	11.4
50	71.2	50	69.3	50	59.9	50	10.2
55	61.4	55	57.9	55	50.3	55	9.17
60	52.9	60	49.3	60	42.1	60	8.49
65	46.3	65	44.0	65	36.4	65	7.82
70	41.0	70	38.1	70	31.0	70	7.08
75	36.6	75	31.5	75	24.2	75	6.45
80	31.2	80	25.0	80	16.4	80	5.64
85	24.6	85	16.7	85	8.10	85	4.75
90	18.6	90	6.70	90	0.00	90	3.73
91	16.6	91	5.20	91	0.00	91	3.51
92	15.0	92	4.00	92	0.00	92	3.32
93	13.8	93	2.82	93	0.00	93	3.10
94	12.1	94	2.10	94	0.00	94	2.94
95	10.1	95	1.60	95	0.00	95	2.70
96	8.36	96	0.20	96	0.00	96	2.27
97	6.20	97	0.00	97	0.00	97	1.91
98	4.35	98	0.00	98	0.00	98	1.51
99	2.60	99	0.00	99	0.00	99	0.788
99.5	1.40	99.5	0.00	99.5	0.00	99.5	0.480
99.75	0.971	99.75	0.00	99.75	0.00	99.75	0.390

Flow Duration Values for USGS Stream Gages Along the Upper Peace River (2010-2023)

Phosphate Mine CS-8		Barber Branch		Homeland		Fort Meade	
% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)
1	59.4	1	23.3	1	1580	1	1630
5	10.0	5	14.6	5	1040	5	954
10	4.20	10	9.81	10	659	10	651
15	2.50	15	7.27	15	474	15	493
20	1.90	20	5.63	20	372	20	388
25	1.40	25	4.50	25	283	25	296
30	1.10	30	3.74	30	213	30	231
35	0.80	35	3.12	35	159	35	185
40	0.60	40	2.73	40	119	40	143
45	0.40	45	2.36	45	92.9	45	118
50	0.30	50	2.13	50	73.1	50	96.6
55	0.20	55	1.90	55	59.5	55	79.7
60	0.10	60	1.69	60	48.9	60	64.0
65	0.10	65	1.46	65	40.4	65	52.0
70	0.00	70	1.30	70	34.3	70	43.8
75	0.00	75	1.10	75	29.6	75	38.3
80	0.00	80	0.920	80	25.2	80	33.9
85	0.00	85	0.730	85	19.5	85	29.1
90	0.00	90	0.560	90	8.69	90	16.6
91	0.00	91	0.520	91	6.70	91	14.4
92	0.00	92	0.480	92	5.40	92	12.1
93	0.00	93	0.430	93	4.52	93	9.70
94	0.00	94	0.390	94	4.00	94	8.30
95	0.00	95	0.350	95	3.70	95	7.25
96	0.00	96	0.300	96	3.40	96	5.60
97	0.00	97	0.237	97	2.47	97	4.30
98	0.00	98	0.150	98	1.08	98	2.60
99	0.00	99	0.0790	99	0.400	99	1.60
99.5	0.00	99.5	0.00	99.5	0.00	99.5	1.10
99.75	0.00	99.75	0.00	99.75	0.00	99.75	0.800

Flow Duration Values for USGS Stream Gages Along the Upper Peace River (2010-2023)

Bowlegs Creek		Bowling Green		Payne Creek		Little Charlie Creek	
% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)	% Exceedence	Flow (CFS)
1	397	1	2510	1	870	1	393
5	180	5	1420	5	519	5	185
10	112	10	940	10	350	10	116
15	74.8	15	719	15	241	15	80.9
20	53.1	20	581	20	183	20	56.9
25	37.0	25	463	25	151	25	40.4
30	27.8	30	375	30	125	30	28.8
35	20.3	35	302	35	107	35	20.3
40	15.3	40	243	40	88.1	40	14.0
45	11.4	45	200	45	76.5	45	10.4
50	9.00	50	166	50	63.8	50	7.79
55	7.30	55	140	55	54.2	55	6.49
60	5.80	60	117	60	44.8	60	5.42
65	4.70	65	96.0	65	37.0	65	4.26
70	4.00	70	79.0	70	31.0	70	3.32
75	3.40	75	67.0	75	26.1	75	2.70
80	2.90	80	56.0	80	19.4	80	2.11
85	2.20	85	46.0	85	13.6	85	1.58
90	1.60	90	32.9	90	8.70	90	1.21
91	1.50	91	29.0	91	7.90	91	1.14
92	1.40	92	26.0	92	7.40	92	1.08
93	1.30	93	23.2	93	6.60	93	1.04
94	1.20	94	19.0	94	5.40	94	0.960
95	1.10	95	15.0	95	4.40	95	0.870
96	1.06	96	12.0	96	3.60	96	0.770
97	1.00	97	9.00	97	2.50	97	0.680
98	0.900	98	6.00	98	1.50	98	0.590
99	0.700	99	3.00	99	0.800	99	0.449
99.5	0.600	99.5	2.00	99.5	0.500	99.5	0.350
99.75	0.400	99.75	1.00	99.75	0.400	99.75	0.217

Flow Duration Values for USGS Stream Gages Along the Upper Peace River (2010-2023)

Zolfo Springs	
% Exceedence	Flow (CFS)
1	3420
5	2040
10	1540
15	1180
20	923
25	730
30	599
35	490
40	396
45	324
50	270
55	227
60	185
65	157
70	135
75	114
80	94.0
85	74.0
90	56.0
91	53.0
92	50.0
93	48.0
94	45.0
95	41.5
96	35.0
97	30.0
98	24.0
99	13.0
99.5	11.0
99.75	8.71

Ratio Values in Reference to Zolfo Springs Developed by Flow Apportionment Methodology to be Used for Future Apportionment

			Flow Percent Exceedence Profiles																														
Location Name	**Type**	**Station #**	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**	**99.5**	**99.75**	**100**
Top of Reach	Top of Reach	206484	0.421	0.456	0.360	0.364	0.367	0.355	0.329	0.308	0.283	0.265	0.264	0.270	0.286	0.295	0.304	0.321	0.332	0.332	0.332	0.313	0.300	0.288	0.269	0.243	0.239	0.207	0.181	0.200	0.127	0.111	0.029
SR60	River Gage	204705	0.421	0.456	0.360	0.364	0.367	0.355	0.329	0.308	0.283	0.265	0.264	0.270	0.286	0.295	0.304	0.321	0.332	0.332	0.332	0.313	0.300	0.288	0.269	0.243	0.239	0.207	0.181	0.200	0.127	0.111	0.029
Uniform Flow Change 1	Uniform Ungaged Flow Change	202407	0.421	0.456	0.365	0.368	0.373	0.360	0.336	0.312	0.285	0.267	0.264	0.270	0.286	0.295	0.304	0.321	0.332	0.332	0.332	0.313	0.300	0.288	0.269	0.243	0.239	0.207	0.181	0.200	0.127	0.111	0.029
Uniform Flow Change 2	Uniform Ungaged Flow Change	199944	0.421	0.456	0.369	0.373	0.378	0.366	0.342	0.318	0.288	0.269	0.264	0.270	0.286	0.295	0.304	0.321	0.332	0.332	0.332	0.313	0.300	0.288	0.269	0.243	0.239	0.207	0.181	0.200	0.127	0.111	0.029
Sink Area 1 (Wabash Complex and Cooks Ripple)	Karst Sink	198501	0.415	0.454	0.369	0.373	0.378	0.366	0.342	0.318	0.288	0.269	0.261	0.265	0.279	0.290	0.296	0.306	0.310	0.296	0.261	0.240	0.226	0.210	0.194	0.175	0.160	0.137	0.120	0.132	0.084	0.074	0.019
Uniform Flow Change 3	Uniform Ungaged Flow Change	196559	0.415	0.454	0.373	0.377	0.382	0.371	0.347	0.322	0.290	0.272	0.261	0.265	0.279	0.290	0.296	0.306	0.310	0.296	0.261	0.240	0.226	0.210	0.194	0.175	0.160	0.137	0.120	0.132	0.084	0.074	0.019
Sink Area 2 (Fricano Fracture and Ledges)	Karst Sink	194927	0.404	0.450	0.373	0.377	0.382	0.371	0.347	0.322	0.290	0.272	0.257	0.255	0.266	0.280	0.282	0.276	0.266	0.226	0.120	0.098	0.080	0.059	0.047	0.039	0.006	0.000	0.000	0.000	0.000	0.000	0.000
Peace River near Bartow	River Gage	194173	0.404	0.450	0.377	0.382	0.388	0.377	0.354	0.329	0.293	0.274	0.257	0.255	0.266	0.280	0.282	0.276	0.266	0.226	0.120	0.098	0.080	0.059	0.047	0.039	0.006	0.000	0.000	0.000	0.000	0.000	0.000
Sink Area 3 (Midway Sink and Elephant Graveyard)	Karst Sink	191189	0.404	0.450	0.377	0.379	0.381	0.371	0.344	0.318	0.283	0.265	0.250	0.249	0.259	0.271	0.273	0.265	0.249	0.204	0.098	0.080	0.065	0.048	0.038	0.031	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Flow Change 4	Uniform Ungaged Flow Change	191189	0.415	0.451	0.377	0.379	0.381	0.371	0.344	0.318	0.283	0.265	0.250	0.249	0.259	0.271	0.273	0.265	0.249	0.204	0.098	0.080	0.065	0.048	0.038	0.031	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Flow Change 5	Uniform Ungaged Flow Change	189088	0.430	0.452	0.377	0.379	0.381	0.371	0.344	0.318	0.283	0.265	0.250	0.249	0.259	0.271	0.273	0.265	0.249	0.204	0.098	0.080	0.065	0.048	0.038	0.031	0.005	0.000	0.000	0.000	0.000	0.000	0.000
Sink Area 4 (Crevasses, Gator Sink, and Dover Sink)	Karst Sink	188446	0.430	0.452	0.377	0.366	0.353	0.349	0.295	0.269	0.242	0.226	0.222	0.222	0.228	0.232	0.230	0.212	0.174	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Flow Change 6	Uniform Ungaged Flow Change	187066	0.442	0.454	0.377	0.366	0.353	0.349	0.295	0.269	0.242	0.226	0.222	0.222	0.228	0.232	0.230	0.212	0.174	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clear Springs	River Gage	184220	0.453	0.455	0.377	0.366	0.353	0.349	0.295	0.269	0.242	0.226	0.222	0.222	0.228	0.232	0.230	0.212	0.174	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sixmile Creek	Gaged Lateral	183560	0.488	0.486	0.405	0.394	0.381	0.378	0.326	0.300	0.275	0.261	0.260	0.262	0.273	0.282	0.282	0.269	0.234	0.174	0.067	0.066	0.066	0.065	0.065	0.065	0.065	0.064	0.063	0.061	0.044	0.045	0.029
Uniform Flow Change 7	Uniform Ungaged Flow Change	179519	0.477	0.489	0.408	0.394	0.385	0.378	0.331	0.304	0.280	0.265	0.260	0.260	0.269	0.273	0.273	0.264	0.240	0.193	0.086	0.079	0.074	0.070	0.069	0.069	0.071	0.066	0.057	0.052	0.033	0.034	0.021
Phoshate Mine Outfall	Gaged Lateral	174700	0.494	0.495	0.411	0.396	0.387	0.381	0.332	0.306	0.280	0.266	0.261	0.261	0.269	0.274	0.273	0.264	0.240	0.193	0.086	0.079	0.074	0.070	0.069	0.069	0.071	0.066	0.057	0.052	0.033	0.034	0.021
Uniform Flow Change 8	Uniform Ungaged Flow Change	173393	0.482	0.495	0.415	0.396	0.390	0.381	0.339	0.310	0.285	0.271	0.261	0.258	0.264	0.265	0.263	0.260	0.247	0.214	0.106	0.092	0.082	0.075	0.073	0.073	0.077	0.069	0.051	0.043	0.022	0.022	0.014
Barber Branch	Gaged Lateral	171686	0.488	0.505	0.421	0.402	0.397	0.386	0.344	0.316	0.293	0.278	0.270	0.267	0.274	0.275	0.273	0.269	0.256	0.223	0.116	0.101	0.092	0.084	0.082	0.081	0.085	0.077	0.057	0.049	0.022	0.022	0.014
Uniform Flow Change 9	Uniform Ungaged Flow Change	168552	0.477	0.505	0.425	0.402	0.400	0.388	0.351	0.320	0.295	0.282	0.270	0.264	0.269	0.266	0.264	0.264	0.262	0.243	0.136	0.114	0.100	0.089	0.085	0.085	0.091	0.080	0.051	0.040	0.011	0.011	0.007
Homeland	River Gage	164508	0.462	0.510	0.428	0.402	0.403	0.388	0.356	0.324	0.301	0.287	0.271	0.262	0.264	0.257	0.254	0.260	0.268	0.264	0.155	0.126	0.108	0.094	0.089	0.089	0.097	0.082	0.045	0.031	0.000	0.000	0.000
Uniform Flow Change 10	Uniform Ungaged Flow Change	159579	0.465	0.505	0.427	0.403	0.405	0.390	0.359	0.331	0.308	0.296	0.281	0.273	0.274	0.266	0.262	0.268	0.279	0.280	0.172	0.144	0.124	0.107	0.100	0.100	0.105	0.090	0.053	0.042	0.012	0.011	0.005
Uniform Flow Change 11	Uniform Ungaged Flow Change	153888	0.465	0.495	0.426	0.406	0.407	0.392	0.362	0.337	0.316	0.305	0.291	0.284	0.284	0.275	0.271	0.278	0.290	0.295	0.189	0.161	0.140	0.120	0.112	0.110	0.112	0.097	0.060	0.053	0.024	0.022	0.010
Uniform Flow Change 12	Uniform Ungaged Flow Change	147964	0.468	0.489	0.425	0.408	0.410	0.395	0.367	0.343	0.323	0.315	0.302	0.294	0.294	0.284	0.279	0.287	0.301	0.311	0.205	0.179	0.156	0.133	0.123	0.120	0.120	0.104	0.068	0.064	0.036	0.033	0.015
Uniform Flow Change 13	Uniform Ungaged Flow Change	143352	0.471	0.482	0.425	0.409	0.412	0.396	0.371	0.349	0.331	0.324	0.313	0.305	0.303	0.293	0.288	0.296	0.313	0.326	0.223	0.196	0.172	0.146	0.135	0.130	0.127	0.112	0.075	0.075	0.048	0.044	0.021
Uniform Flow Change 14	Uniform Ungaged Flow Change	138367	0.471	0.475	0.423	0.411	0.414	0.399	0.374	0.357	0.338	0.333	0.323	0.316	0.313	0.302	0.296	0.305	0.323	0.342	0.239	0.213	0.189	0.159	0.146	0.140	0.135	0.119	0.083	0.086	0.060	0.055	0.026
Rocky Branch & Sink Branch	Ungaged Lateral	132602	0.474	0.475	0.423	0.416	0.418	0.403	0.382	0.371	0.354	0.355	0.347	0.341	0.336	0.322	0.316	0.327	0.350	0.378	0.279	0.255	0.226	0.189	0.173	0.164	0.153	0.136	0.101	0.112	0.088	0.081	0.038
Fort Meade	River Gage	131129	0.477	0.468	0.423	0.418	0.420	0.405	0.386	0.378	0.361	0.364	0.358	0.351	0.346	0.331	0.324	0.336	0.361	0.393	0.296	0.272	0.242	0.202	0.184	0.175	0.160	0.143	0.108	0.123	0.100	0.092	0.043
Uniform Flow Change 15	Uniform Ungaged Flow Change	124598	0.482	0.474	0.427	0.424	0.428	0.414	0.396	0.388	0.374	0.377	0.370	0.363	0.359	0.345	0.337	0.347	0.371	0.404	0.311	0.285	0.256	0.217	0.196	0.183	0.168	0.149	0.113	0.125	0.100	0.088	0.036
Uniform Flow Change 16	Uniform Ungaged Flow Change	121571	0.485	0.479	0.432	0.429	0.434	0.423	0.406	0.398	0.384	0.386	0.381	0.376	0.373	0.358	0.349	0.360	0.382	0.415	0.325	0.298	0.268	0.229	0.207	0.191	0.176	0.156	0.118	0.126	0.100	0.085	0.029
Uniform Flow Change 17	Uniform Ungaged Flow Change	115329	0.491	0.485	0.437	0.435	0.442	0.432	0.416	0.408	0.396	0.398	0.393	0.388	0.386	0.371	0.361	0.371	0.393	0.424	0.339	0.311	0.282	0.244	0.218	0.200	0.183	0.162	0.123	0.128	0.101	0.081	0.022
Bowlegs Creek	Gaged Lateral	113752	0.661	0.613	0.542	0.526	0.525	0.505	0.482	0.467	0.452	0.451	0.441	0.435	0.432	0.415	0.404	0.414	0.437	0.468	0.380	0.353	0.322	0.283	0.258	0.238	0.227	0.210	0.178	0.206	0.179	0.147	0.063
Uniform Flow Change 18	Uniform Ungaged Flow Change	109471	0.667	0.618	0.547	0.532	0.532	0.514	0.492	0.478	0.462	0.460	0.452	0.449	0.445	0.428	0.416	0.426	0.448	0.478	0.395	0.366	0.336	0.296	0.269	0.246	0.235	0.216	0.183	0.208	0.180	0.144	0.056
Uniform Flow Change 19	Uniform Ungaged Flow Change	105649	0.670	0.623	0.551	0.538	0.540	0.522	0.503	0.488	0.472	0.472	0.467	0.458	0.459	0.441	0.429	0.438	0.459	0.489	0.409	0.379	0.350	0.310	0.280	0.255	0.243	0.222	0.188	0.209	0.180	0.140	0.049
Whidden Creek	Ungaged Lateral	101625	0.699	0.657	0.578	0.570	0.580	0.573	0.558	0.545	0.535	0.537	0.533	0.529	0.537	0.518	0.499	0.505	0.520	0.549	0.489	0.455	0.426	0.388	0.344	0.304	0.289	0.257	0.215	0.219	0.181	0.137	0.042
Uniform Flow Change 20	Uniform Ungaged Flow Change	100080	0.705	0.662	0.582	0.575	0.587	0.581	0.568	0.555	0.548	0.549	0.544	0.542	0.551	0.531	0.512	0.518	0.531	0.559	0.504	0.468	0.440	0.402	0.356	0.311	0.297	0.263	0.220	0.221	0.181	0.133	0.035
Uniform Flow Change 21	Uniform Ungaged Flow Change	94192	0.711	0.667	0.588	0.581	0.594	0.590	0.578	0.565	0.558	0.562	0.556	0.555	0.562	0.545	0.524	0.529	0.543	0.569	0.518	0.481	0.454	0.417	0.367	0.320	0.303	0.269	0.225	0.222	0.181	0.130	0.028
Uniform Flow Change 22	Uniform Ungaged Flow Change	89587	0.713	0.672	0.592	0.586	0.601	0.599	0.588	0.576	0.571	0.571	0.567	0.568	0.578	0.558	0.536	0.540	0.553	0.580	0.532	0.494	0.466	0.429	0.378	0.328	0.311	0.276	0.230	0.224	0.181	0.125	0.021
Uniform Flow Change 23	Uniform Ungaged Flow Change	82854	0.719	0.681	0.597	0.592	0.608	0.608	0.598	0.586	0.581	0.583	0.578	0.581	0.589	0.571	0.548	0.553	0.564	0.591	0.545	0.508	0.480	0.444	0.389	0.337	0.320	0.282	0.235	0.225	0.181	0.122	0.014
Uniform Flow Change 24	Uniform Ungaged Flow Change	78224	0.725	0.686	0.601	0.598	0.615	0.616	0.606	0.596	0.591	0.596	0.593	0.590	0.605	0.585	0.561	0.564	0.574	0.601	0.559	0.521	0.494	0.456	0.400	0.345	0.329	0.288	0.240	0.228	0.182	0.118	0.007
Uniform Flow Change 25	Uniform Ungaged Flow Change	72051	0.728	0.691	0.606	0.603	0.622	0.625	0.616	0.606	0.604	0.605	0.604	0.604	0.616	0.598	0.573	0.576	0.585	0.611	0.573	0.534	0.506	0.471	0.411	0.354	0.334	0.294	0.245	0.229	0.182	0.115	0.000
Bowling Green	River Gage	70166	0.734	0.696	0.610	0.609	0.629	0.634	0.626	0.616	0.614	0.617	0.615	0.617	0.632	0.611	0.585	0.588	0.596	0.622	0.588	0.547	0.520	0.483	0.422	0.361	0.343	0.300	0.250	0.231	0.182	0.115	0.000
Uniform Flow Change 26	Uniform Ungaged Flow Change	65424	0.725	0.691	0.616	0.617	0.637	0.641	0.634	0.624	0.621	0.627	0.622	0.626	0.638	0.620	0.596	0.598	0.607	0.634	0.604	0.566	0.542	0.508	0.451	0.398	0.380	0.340	0.295	0.277	0.233	0.171	0.066
Uniform Flow Change 27	Uniform Ungaged Flow Change	59729	0.719	0.691	0.623	0.625	0.645	0.648	0.643	0.633	0.631	0.633	0.630	0.634	0.643	0.629	0.607	0.610	0.620	0.646	0.620	0.587	0.562	0.533	0.482	0.431	0.417	0.380	0.341	0.323	0.284	0.226	0.131
Payne Creek	Gaged Lateral	55292	0.974	0.946	0.851	0.829	0.843	0.855	0.851	0.851	0.854	0.870	0.867	0.872	0.886	0.866	0.837	0.839	0.826	0.830	0.775	0.736	0.710	0.671	0.602	0.537	0.520	0.463	0.403	0.385	0.329	0.272	0.174
Uniform Flow Change 28	Uniform Ungaged Flow Change	54404	0.965	0.941	0.857	0.837	0.850	0.862	0.860	0.859	0.864	0.877	0.874	0.881	0.892	0.873	0.844	0.849	0.838	0.841	0.791	0.755	0.732	0.696	0.631	0.573	0.554	0.507	0.450	0.431	0.380	0.328	0.240
Uniform Flow Change 29	Uniform Ungaged Flow Change	49921	0.956	0.936	0.864	0.845	0.858	0.870	0.866	0.869	0.871	0.886	0.885	0.885	0.903	0.879	0.859	0.861	0.850	0.853	0.807	0.774	0.754	0.719	0.662	0.607	0.591	0.547	0.496	0.477	0.431	0.385	0.306
Hog Branch	Ungaged Lateral	46429	0.956	0.936	0.864	0.847	0.862	0.873	0.871	0.873	0.876	0.889	0.889	0.890	0.903	0.885	0.867	0.867	0.856	0.859	0.816	0.785	0.766	0.733	0.678	0.627	0.611	0.570	0.521	0.503	0.459	0.416	0.343
Uniform Flow Change 30	Uniform Ungaged Flow Change	44105	0.950	0.936	0.870	0.856	0.870	0.881	0.880	0.882	0.886	0.898	0.896	0.899	0.914	0.898	0.874	0.877	0.869	0.872	0.832	0.804	0.786	0.758	0.709	0.663	0.649	0.610	0.567	0.549	0.510	0.472	0.409
Uniform Inflow 31	Uniform Ungaged Flow Change	38067	0.942	0.931	0.877	0.864	0.878	0.888	0.888	0.890	0.894	0.904	0.904	0.907	0.919	0.904	0.889	0.886	0.881	0.884	0.848	0.823	0.808	0.781	0.738	0.696	0.686	0.650	0.613	0.595	0.561	0.528	0.474
Little Charlie Creek	Gaged Lateral	36062	1.056	1.020	0.955	0.932	0.939	0.942	0.937	0.933	0.929	0.938	0.933	0.938	0.946	0.930	0.911	0.912	0.903	0.905	0.871	0.845	0.830	0.804	0.760	0.718	0.709	0.673	0.638	0.630	0.593	0.552	0.474
Uniform Flow Change 32	Uniform Ungaged Flow Change	32210	1.047	1.020	0.961	0.941	0.947	0.949	0.943	0.941	0.939	0.944	0.941	0.943	0.951	0.943	0.926	0.921	0.916	0.916	0.888	0.864	0.850	0.829	0.789	0.754	0.743	0.713	0.679	0.676	0.644	0.608	0.540
Uniform Flow Change 33	Uniform Ungaged Flow Change	28562	1.041	1.015	0.968	0.949	0.954	0.958	0.952	0.949	0.947	0.954	0.952	0.952	0.962	0.949	0.933	0.930	0.928	0.928	0.904	0.883	0.872	0.852	0.820	0.788	0.780	0.753	0.725	0.722	0.695	0.665	0.606
Max Branch	Ungaged Lateral	26860	1.041	1.015	0.968	0.949	0.958	0.959	0.955	0.951	0.949	0.957	0.952	0.956	0.962	0.949	0.941	0.939	0.932	0.932	0.909	0.891	0.880	0.863	0.831	0.800	0.794	0.770	0.742	0.739	0.713	0.684	0.629
Uniform Flow Change 34	Uniform Ungaged Flow Change	23088	1.032	1.015	0.974	0.958	0.965	0.967	0.963	0.961	0.960	0.963	0.963	0.965	0.968	0.962	0.948	0.947	0.944	0.945	0.925	0.909	0.900	0.885	0.860	0.836	0.831	0.810	0.788	0.785	0.764	0.741	0.694
Uniform Flow Change 35	Uniform Ungaged Flow Change	17942	1.023	1.010	0.981	0.966	0.973	0.974	0.972	0.969	0.967	0.972	0.970	0.969	0.978	0.968	0.963	0.956	0.956	0.957	0.941	0.930	0.922	0.910	0.891	0.870	0.866	0.850	0.833	0.831	0.815	0.797	0.760
Uniform Flow Change 36	Uniform Ungaged Flow Change	12927	1.015	1.005	0.987	0.975	0.980	0.981	0.978	0.978	0.977	0.978	0.978	0.978	0.984	0.975	0.970	0.974	0.968	0.969	0.957	0.949	0.944	0.935	0.920	0.906	0.903	0.893	0.879	0.877	0.865	0.852	0.826
Thompson & Hickory Branch	Ungaged Lateral	10508	1.015	1.005	0.987	0.983	0.985	0.985	0.985	0.984	0.982	0.985	0.985	0.982	0.989	0.981	0.978	0.982	0.976	0.976	0.968	0.960	0.958	0.952	0.940	0.928	0.926	0.920	0.908	0.908	0.898	0.889	0.869
Uniform Flow Change 37	Uniform Ungaged Flow Change	5339	1.009	1.005	0.994	0.992	0.992	0.993	0.992	0.992	0.992	0.991	0.993	0.991	0.995	0.994	0.993	0.991	0.988	0.988	0.984	0.981	0.978	0.975	0.971	0.964	0.963	0.960	0.954	0.954	0.945	0.945	0.934
Zolfo Springs	River Gage	**3520**	4350.0	2150.0	1460.0	1080.0	852.0	696.0	578.0	487.0	414.0	353.0	304.0	265.0	229.0	201.0	176.0	151.0	127.0	104.0	81.0	76.0	71.0	65.0	59.0	53.0	47.0	40.0	30.0	20.0	13.0	10.0	4.0

Note: Ratios developed from Apportionment in Section 7 (2010-2023) and used in Section 8 for full Zolfo Springs historical period of record apportionment.
Station 206484 represents the top XS for the model, and has the same flows as 204705.
Two lines for 191189 were necessary due to two types of flow changes at this location, the second line is used for flow values in modeling.

Developed Flow Apportionment Values for 2010-2023 Period

			Flow Percent Exceedence Profiles																																
Location Name	**Type**	**Station #**	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**	**99.5**	**99.75**	**100**
Top of Reach	Top of Reach	206484	1440.0	930.0	555.0	429.0	339.0	259.0	197.0	151.0	112.0	85.9	71.2	61.4	52.9	46.3	41.0	36.6	31.2	24.6	18.6	16.6	15.0	13.8	12.1	10.1	8.36	6.20	4.35	2.60	1.40	0.97	0.200
SR60	River Gage	204705	1440.0	930.0	555.0	429.0	339.0	259.0	197.0	151.0	112.0	85.9	71.2	61.4	52.9	46.3	41.0	36.6	31.2	24.6	18.6	16.6	15.0	13.8	12.1	10.1	8.36	6.20	4.35	2.60	1.40	0.97	0.200
Uniform Flow Change 1	Uniform Ungaged Flow Change	202407	1440.0	930.0	562.0	434.0	344.0	263.0	201.0	153.0	113.0	86.6	71.2	61.4	52.9	46.3	41.0	36.6	31.2	24.6	18.6	16.6	15.0	13.8	12.1	10.1	8.36	6.20	4.35	2.60	1.40	0.97	0.200
Uniform Flow Change 2	Uniform Ungaged Flow Change	199944	1440.0	930.0	568.0	440.0	349.0	267.0	205.0	156.0	114.0	87.3	71.2	61.4	52.9	46.3	41.0	36.6	31.2	24.6	18.6	16.6	15.0	13.8	12.1	10.1	8.36	6.20	4.35	2.60	1.40	0.97	0.200
Sink Area 1 (Wabash Complex and Cooks Ripple)	Karst Sink	198501	1420.0	926.0	568.0	440.0	349.0	267.0	205.0	156.0	114.0	87.3	70.5	60.2	51.7	45.5	40.0	34.9	29.1	21.9	14.6	12.7	11.3	10.1	8.71	7.25	5.59	4.10	2.88	1.72	0.925	0.642	0.132
Uniform Flow Change 3	Uniform Ungaged Flow Change	196559	1420.0	926.0	575.0	445.0	353.0	271.0	208.0	158.0	115.0	88.0	70.5	60.2	51.7	45.5	40.0	34.9	29.1	21.9	14.6	12.7	11.3	10.1	8.71	7.25	5.59	4.10	2.88	1.72	0.925	0.642	0.132
Sink Area 2 (Fricano Fracture and Ledges)	Karst Sink	194927	1380.0	917.0	575.0	445.0	353.0	271.0	208.0	158.0	115.0	88.0	69.3	57.9	49.3	44.0	38.1	31.5	25.0	16.7	6.70	5.20	4.00	2.82	2.10	1.60	0.200	0.000	0.000	0.000	0.000	0.000	0.000
Peace River near Bartow	River Gage	194173	1380.0	917.0	581.0	451.0	358.0	275.0	212.0	161.0	116.0	88.7	69.3	57.9	49.3	44.0	38.1	31.5	25.0	16.7	6.70	5.20	4.00	2.82	2.10	1.60	0.200	0.000	0.000	0.000	0.000	0.000	0.000
Sink Area 3 (Midway Sink and Elephant Graveyard)	Karst Sink	191189	1380.0	917.0	581.0	447.0	352.0	271.0	206.0	156.0	112.0	85.8	67.5	56.5	48.0	42.6	36.8	30.2	23.4	15.1	5.46	4.24	3.26	2.30	1.71	1.30	0.163	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Flow Change 4	Uniform Ungaged Flow Change	191189	1420.0	920.0	581.0	447.0	352.0	271.0	206.0	156.0	112.0	85.8	67.5	56.5	48.0	42.6	36.8	30.2	23.4	15.1	5.46	4.24	3.26	2.30	1.71	1.30	0.163	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Flow Change 5	Uniform Ungaged Flow Change	189088	1470.0	923.0	581.0	447.0	352.0	271.0	206.0	156.0	112.0	85.8	67.5	56.5	48.0	42.6	36.8	30.2	23.4	15.1	5.46	4.24	3.26	2.30	1.71	1.30	0.163	0.000	0.000	0.000	0.000	0.000	0.000
Sink Area 4 (Crevasses, Gator Sink, and Dover Sink)	Karst Sink	188446	1470.0	923.0	580.0	432.0	326.0	255.0	177.0	132.0	95.8	73.1	59.9	50.3	42.1	36.4	31.0	24.2	16.4	8.10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Uniform Flow Change 6	Uniform Ungaged Flow Change	187066	1510.0	926.0	580.0	432.0	326.0	255.0	177.0	132.0	95.8	73.1	59.9	50.3	42.1	36.4	31.0	24.2	16.4	8.10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Clear Springs	River Gage	184220	1550.0	929.0	580.0	432.0	326.0	255.0	177.0	132.0	95.8	73.1	59.9	50.3	42.1	36.4	31.0	24.2	16.4	8.10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sixmile Creek	Gaged Lateral	183560	1670.0	991.0	624.0	465.0	352.0	276.0	195.0	147.0	109.0	84.5	70.1	59.5	50.5	44.2	38.1	30.7	22.0	12.9	3.73	3.51	3.32	3.10	2.94	2.70	2.27	1.91	1.51	0.788	0.480	0.390	0.200
Uniform Flow Change 7	Uniform Ungaged Flow Change	179519	1630.0	997.0	629.0	465.0	355.0	276.0	198.0	149.0	111.0	85.9	70.2	59.0	49.7	42.9	36.8	30.1	22.6	14.3	4.83	4.18	3.72	3.35	3.11	2.87	2.47	1.99	1.36	0.671	0.360	0.293	0.150
Phoshate Mine Outfall	Gaged Lateral	174700	1690.0	1010.0	633.0	467.0	357.0	278.0	199.0	150.0	111.0	86.3	70.5	59.2	49.8	43.0	36.8	30.1	22.6	14.3	4.83	4.18	3.72	3.35	3.11	2.87	2.47	1.99	1.36	0.671	0.360	0.293	0.150
Uniform Flow Change 8	Uniform Ungaged Flow Change	173393	1650.0	1010.0	639.0	467.0	360.0	278.0	203.0	152.0	113.0	87.7	70.6	58.6	48.9	41.6	35.5	29.6	23.2	15.8	5.93	4.85	4.12	3.60	3.28	3.03	2.68	2.07	1.22	0.555	0.240	0.195	0.100
Barber Branch	Gaged Lateral	171686	1670.0	1030.0	649.0	474.0	366.0	282.0	206.0	155.0	116.0	90.1	72.8	60.5	50.6	43.1	36.8	30.7	24.1	16.5	6.49	5.37	4.60	4.03	3.67	3.38	2.98	2.31	1.37	0.634	0.240	0.195	0.100
Uniform Flow Change 9	Uniform Ungaged Flow Change	168552	1630.0	1030.0	654.0	474.0	369.0	283.0	210.0	157.0	117.0	91.5	72.9	60.0	49.8	41.7	35.6	30.1	24.6	18.0	7.59	6.03	5.00	4.28	3.83	3.54	3.19	2.39	1.22	0.517	0.120	0.098	0.050
Homeland	River Gage	164508	1580.0	1040.0	659.0	474.0	372.0	283.0	213.0	159.0	119.0	92.9	73.1	59.5	48.9	40.4	34.3	29.6	25.2	19.5	8.69	6.70	5.40	4.52	4.00	3.70	3.40	2.47	1.08	0.400	0.000	0.000	0.000
Uniform Flow Change 10	Uniform Ungaged Flow Change	159579	1590.0	1030.0	658.0	476.0	374.0	285.0	215.0	162.0	122.0	95.9	75.9	61.9	50.7	41.8	35.4	30.6	26.2	20.7	9.64	7.63	6.21	5.15	4.52	4.13	3.66	2.69	1.26	0.544	0.132	0.096	0.036
Uniform Flow Change 11	Uniform Ungaged Flow Change	153888	1590.0	1010.0	656.0	479.0	376.0	286.0	217.0	165.0	125.0	98.9	78.7	64.4	52.5	43.2	36.6	31.7	27.3	21.8	10.6	8.55	7.01	5.77	5.03	4.55	3.93	2.91	1.44	0.688	0.264	0.192	0.072
Uniform Flow Change 12	Uniform Ungaged Flow Change	147964	1600.0	997.0	655.0	481.0	378.0	288.0	220.0	168.0	128.0	102.0	81.5	66.8	54.3	44.6	37.7	32.7	28.3	23.0	11.5	9.48	7.82	6.39	5.55	4.98	4.19	3.13	1.63	0.833	0.397	0.288	0.108
Uniform Flow Change 13	Uniform Ungaged Flow Change	143352	1610.0	983.0	654.0	483.0	380.0	289.0	222.0	171.0	131.0	105.0	84.4	69.2	56.1	46.0	38.9	33.8	29.4	24.1	12.5	10.4	8.62	7.01	6.07	5.40	4.46	3.35	1.81	0.977	0.529	0.385	0.144
Uniform Flow Change 14	Uniform Ungaged Flow Change	138367	1610.0	969.0	652.0	485.0	382.0	291.0	224.0	175.0	134.0	108.0	87.2	71.7	57.9	47.4	40.0	34.8	30.4	25.3	13.4	11.3	9.43	7.63	6.58	5.83	4.72	3.57	1.99	1.12	0.661	0.481	0.180
Rocky Branch & Sink Branch	Ungaged Lateral	132602	1620.0	969.0	652.0	491.0	386.0	294.0	229.0	182.0	140.0	115.0	93.8	77.3	62.1	50.6	42.7	37.3	32.9	28.0	15.6	13.5	11.3	9.08	7.78	6.82	5.34	4.08	2.42	1.46	0.968	0.704	0.264
Fort Meade	River Gage	131129	1630.0	954.0	651.0	493.0	388.0	296.0	231.0	185.0	143.0	118.0	96.6	79.7	64.0	52.0	43.8	38.3	33.9	29.1	16.6	14.4	12.1	9.70	8.30	7.25	5.60	4.30	2.60	1.60	1.10	0.800	0.300
Uniform Flow Change 15	Uniform Ungaged Flow Change	124598	1650.0	966.0	658.0	500.0	395.0	302.0	237.0	190.0	148.0	122.0	99.8	82.5	66.5	54.1	45.5	39.6	34.9	29.9	17.4	15.1	12.8	10.4	8.81	7.59	5.87	4.48	2.72	1.62	1.10	0.768	0.251
Uniform Flow Change 16	Uniform Ungaged Flow Change	121571	1660.0	977.0	665.0	506.0	401.0	309.0	243.0	195.0	152.0	125.0	103.0	85.3	69.0	56.2	47.1	41.0	35.9	30.7	18.2	15.8	13.4	11.0	9.31	7.94	6.15	4.67	2.84	1.64	1.10	0.737	0.202
Uniform Flow Change 17	Uniform Ungaged Flow Change	115329	1680.0	989.0	673.0	513.0	408.0	315.0	249.0	200.0	157.0	129.0	106.0	88.1	71.5	58.3	48.8	42.3	36.9	31.4	19.0	16.5	14.1	11.7	9.82	8.29	6.42	4.85	2.95	1.67	1.11	0.705	0.153
Bowlegs Creek	Gaged Lateral	113752	2260.0	1250.0	835.0	621.0	485.0	369.0	289.0	229.0	179.0	146.0	119.0	98.7	79.9	65.1	54.6	47.2	41.1	34.6	21.3	18.7	16.1	13.6	11.6	9.88	7.96	6.30	4.26	2.68	1.97	1.28	0.442
Uniform Flow Change 18	Uniform Ungaged Flow Change	109471	2280.0	1260.0	842.0	628.0	491.0	375.0	295.0	234.0	183.0	149.0	122.0	102.0	82.4	67.2	56.2	48.6	42.1	35.4	22.1	19.4	16.8	14.2	12.1	10.2	8.23	6.48	4.38	2.70	1.98	1.25	0.393
Uniform Flow Change 19	Uniform Ungaged Flow Change	105649	2290.0	1270.0	849.0	635.0	498.0	381.0	301.0	239.0	187.0	153.0	126.0	104.0	84.9	69.3	57.9	49.9	43.1	36.2	22.9	20.1	17.5	14.9	12.6	10.6	8.50	6.67	4.50	2.72	1.98	1.22	0.344
Whidden Creek	Ungaged Lateral	101625	2390.0	1340.0	890.0	673.0	535.0	418.0	334.0	267.0	212.0	174.0	144.0	120.0	99.4	81.3	67.4	57.6	48.9	40.6	27.4	24.1	21.3	18.6	15.5	12.6	10.1	7.72	5.17	2.85	1.99	1.19	0.295
Uniform Flow Change 20	Uniform Ungaged Flow Change	100080	2410.0	1350.0	897.0	679.0	542.0	424.0	340.0	272.0	217.0	178.0	147.0	123.0	102.0	83.4	69.1	59.0	49.9	41.4	28.2	24.8	22.0	19.3	16.0	12.9	10.4	7.90	5.29	2.87	1.99	1.16	0.246
Uniform Flow Change 21	Uniform Ungaged Flow Change	94192	2430.0	1360.0	905.0	686.0	548.0	431.0	346.0	277.0	221.0	182.0	150.0	126.0	104.0	85.5	70.7	60.3	51.0	42.1	29.0	25.5	22.7	20.0	16.5	13.3	10.6	8.08	5.41	2.89	1.99	1.13	0.197
Uniform Flow Change 22	Uniform Ungaged Flow Change	89587	2440.0	1370.0	912.0	692.0	555.0	437.0	352.0	282.0	226.0	185.0	153.0	129.0	107.0	87.6	72.4	61.6	52.0	42.9	29.8	26.2	23.3	20.6	17.0	13.6	10.9	8.27	5.53	2.91	1.99	1.09	0.147
Uniform Flow Change 23	Uniform Ungaged Flow Change	82854	2460.0	1390.0	919.0	699.0	561.0	444.0	358.0	287.0	230.0	189.0	156.0	132.0	109.0	89.7	74.0	63.0	53.0	43.7	30.5	26.9	24.0	21.3	17.5	14.0	11.2	8.45	5.65	2.93	1.99	1.06	0.098
Uniform Flow Change 24	Uniform Ungaged Flow Change	78224	2480.0	1400.0	926.0	706.0	568.0	450.0	363.0	292.0	234.0	193.0	160.0	134.0	112.0	91.8	75.7	64.3	54.0	44.5	31.3	27.6	24.7	21.9	18.0	14.3	11.5	8.63	5.76	2.96	2.00	1.03	0.049
Uniform Flow Change 25	Uniform Ungaged Flow Change	72051	2490.0	1410.0	933.0	712.0	574.0	456.0	369.0	297.0	239.0	196.0	163.0	137.0	114.0	93.9	77.3	65.7	55.0	45.2	32.1	28.3	25.3	22.6	18.5	14.7	11.7	8.82	5.88	2.98	2.00	1.00	0.000
Bowling Green	River Gage	70166	2510.0	1420.0	940.0	719.0	581.0	463.0	375.0	302.0	243.0	200.0	166.0	140.0	117.0	96.0	79.0	67.0	56.0	46.0	32.9	29.0	26.0	23.2	19.0	15.0	12.0	9.00	6.00	3.00	2.00	1.00	0.000
Uniform Flow Change 26	Uniform Ungaged Flow Change	65424	2480.0	1410.0	949.0	728.0	588.0	468.0	380.0	306.0	246.0	203.0	168.0	142.0	118.0	97.4	80.5	68.2	57.1	46.9	33.8	30.0	27.1	24.4	20.3	16.5	13.3	10.2	7.09	3.60	2.56	1.49	0.460
Uniform Flow Change 27	Uniform Ungaged Flow Change	59729	2460.0	1410.0	959.0	738.0	595.0	473.0	385.0	310.0	250.0	205.0	170.0	144.0	119.0	98.7	82.0	69.5	58.3	47.8	34.7	31.1	28.1	25.6	21.7	17.9	14.6	11.4	8.18	4.20	3.12	1.97	0.919
Payne Creek	Gaged Lateral	55292	3330.0	1930.0	1310.0	978.0	778.0	624.0	510.0	417.0	338.0	282.0	234.0	198.0	164.0	136.0	113.0	95.6	77.6	61.4	43.4	39.0	35.5	32.2	27.1	22.3	18.2	13.9	9.68	5.00	3.62	2.37	1.22
Uniform Flow Change 28	Uniform Ungaged Flow Change	54404	3300.0	1920.0	1320.0	988.0	785.0	629.0	515.0	421.0	342.0	284.0	236.0	200.0	165.0	137.0	114.0	96.8	78.8	62.2	44.3	40.0	36.6	33.4	28.4	23.8	19.4	15.2	10.8	5.60	4.18	2.86	1.68
Uniform Flow Change 29	Uniform Ungaged Flow Change	49921	3270.0	1910.0	1330.0	997.0	792.0	635.0	519.0	426.0	345.0	287.0	239.0	201.0	167.0	138.0	116.0	98.1	79.9	63.1	45.2	41.0	37.7	34.5	29.8	25.2	20.7	16.4	11.9	6.20	4.74	3.35	2.14
Hog Branch	Ungaged Lateral	46429	3270.0	1910.0	1330.0	1000.0	796.0	637.0	522.0	428.0	347.0	288.0	240.0	202.0	167.0	139.0	117.0	98.8	80.5	63.6	45.7	41.6	38.3	35.2	30.5	26.0	21.4	17.1	12.5	6.54	5.05	3.62	2.40
Uniform Flow Change 30	Uniform Ungaged Flow Change	44105	3250.0	1910.0	1340.0	1010.0	803.0	643.0	527.0	432.0	351.0	291.0	242.0	204.0	169.0	141.0	118.0	100.0	81.7	64.5	46.6	42.6	39.3	36.4	31.9	27.5	22.7	18.3	13.6	7.14	5.61	4.11	2.86
Uniform Inflow 31	Uniform Ungaged Flow Change	38067	3220.0	1900.0	1350.0	1020.0	810.0	648.0	532.0	436.0	354.0	293.0	244.0	206.0	170.0	142.0	120.0	101.0	82.8	65.4	47.5	43.6	40.4	37.5	33.2	28.9	24.0	19.5	14.7	7.74	6.17	4.60	3.32
Little Charlie Creek	Gaged Lateral	36062	3610.0	2080.0	1470.0	1100.0	867.0	688.0	561.0	457.0	368.0	304.0	252.0	213.0	175.0	146.0	123.0	104.0	84.9	67.0	48.8	44.8	41.5	38.6	34.2	29.8	24.8	20.2	15.3	8.19	6.52	4.81	3.32
Uniform Flow Change 32	Uniform Ungaged Flow Change	32210	3580.0	2080.0	1480.0	1110.0	874.0	693.0	565.0	461.0	372.0	306.0	254.0	214.0	176.0	148.0	125.0	105.0	86.1	67.8	49.7	45.8	42.5	39.8	35.5	31.3	26.0	21.4	16.3	8.79	7.08	5.30	3.78
Uniform Flow Change 33	Uniform Ungaged Flow Change	28562	3560.0	2070.0	1490.0	1120.0	881.0	699.0	570.0	465.0	375.0	309.0	257.0	216.0	178.0	149.0	126.0	106.0	87.2	68.7	50.6	46.8	43.6	40.9	36.9	32.7	27.3	22.6	17.4	9.39	7.64	5.79	4.24
Max Branch	Ungaged Lateral	26860	3560.0	2070.0	1490.0	1120.0	884.0	700.0	572.0	466.0	376.0	310.0	257.0	217.0	178.0	149.0	127.0	107.0	87.6	69.0	50.9	47.2	44.0	41.4	37.4	33.2	27.8	23.1	17.8	9.61	7.84	5.96	4.40
Uniform Flow Change 34	Uniform Ungaged Flow Change	23088	3530.0	2070.0	1500.0	1130.0	891.0	706.0	577.0	471.0	380.0	312.0	260.0	219.0	179.0	151.0	128.0	108.0	88.7	69.9	51.8	48.2	45.0	42.5	38.7	34.7	29.1	24.3	18.9	10.2	8.40	6.45	4.86

Note: Station 206484 represents the top XS for the model, and has the same flows as 204705.
Two lines for 191189 were necessary due to two types of flow changes at this location, the second line is used for flow values in modeling.

Developed Flow Apportionment Values for 2010-2023 Period

Uniform Flow Change 35	Uniform Ungaged Flow Change	17942	3500.0	2060.0	1510.0	1140.0	898.0	711.0	582.0	475.0	383.0	315.0	262.0	220.0	181.0	152.0	130.0	109.0	89.9	70.8	52.7	49.3	46.1	43.7	40.1	36.1	30.3	25.5	20.0	10.8	8.96	6.94	5.32
Uniform Flow Change 36	Uniform Ungaged Flow Change	12927	3470.0	2050.0	1520.0	1150.0	905.0	716.0	586.0	479.0	387.0	317.0	264.0	222.0	182.0	153.0	131.0	111.0	91.0	71.7	53.6	50.3	47.2	44.9	41.4	37.6	31.6	26.8	21.1	11.4	9.52	7.42	5.78
Thompson & Hickory Branch	Ungaged Lateral	10508	3470.0	2050.0	1520.0	1160.0	909.0	719.0	590.0	482.0	389.0	319.0	266.0	223.0	183.0	154.0	132.0	112.0	91.7	72.2	54.2	50.9	47.9	45.7	42.3	38.5	32.4	27.6	21.8	11.8	9.88	7.74	6.08
Uniform Flow Change 37	Uniform Ungaged Flow Change	5339	3450.0	2050.0	1530.0	1170.0	916.0	725.0	594.0	486.0	393.0	321.0	268.0	225.0	184.0	156.0	134.0	113.0	92.9	73.1	55.1	52.0	48.9	46.8	43.7	40.0	33.7	28.8	22.9	12.4	10.4	8.23	6.54
Zolfo Springs	River Gage	**3520**	3420.0	2040.0	1540.0	1180.0	923.0	730.0	599.0	490.0	396.0	324.0	270.0	227.0	185.0	157.0	135.0	114.0	94.0	74.0	56.0	53.0	50.0	48.0	45.0	41.5	35.0	30.0	24.0	13.0	11.0	8.71	7.00

Note: Station 206484 represents the top XS for the model, and has the same flows as 204705.
Two lines for 191189 were necessary due to two types of flow changes at this location, the second line is used for flow values in modeling.

Flow Apportionment Calculated from Full Zolfo Springs Historical Period of Record (1933-2023)

			Flow Percent Exceedence Profiles																																
Location Name	**Type**	**Station #**	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**	**65**	**70**	**75**	**80**	**85**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**	**99.5**	**99.75**	**100**
Top of Reach	Top of Reach	206484	1830	980	526	393	313	247	190	150	117	93.6	80.2	71.7	65.5	59.3	53.5	48.5	42.2	34.6	26.9	23.8	21.3	18.7	15.9	12.9	11.2	8.27	5.44	4.00	1.65	1.11	0.114
SR60	River Gage	204705	1830	980	526	393	313	247	190	150	117	93.6	80.2	71.7	65.5	59.3	53.5	48.5	42.2	34.6	26.9	23.8	21.3	18.7	15.9	12.9	11.2	8.27	5.44	4.00	1.65	1.11	0.114
Uniform Flow Change 1	Uniform Ungaged Flow Change	202407	1830	980	533	397	318	251	194	152	118	94.4	80.2	71.7	65.5	59.3	53.5	48.5	42.2	34.6	26.9	23.8	21.3	18.7	15.9	12.9	11.2	8.27	5.44	4.00	1.65	1.11	0.114
Uniform Flow Change 2	Uniform Ungaged Flow Change	199944	1830	980	538	403	322	255	198	155	119	95.1	80.2	71.7	65.5	59.3	53.5	48.5	42.2	34.6	26.9	23.8	21.3	18.7	15.9	12.9	11.2	8.27	5.44	4.00	1.65	1.11	0.114
Sink Area 1 (Wabash Complex and Cooks Ripple)	Karst Sink	198501	1810	976	538	403	322	255	198	155	119	95.1	79.4	70.3	64.0	58.3	52.1	46.2	39.3	30.8	21.1	18.2	16.0	13.7	11.4	9.26	7.51	5.47	3.60	2.65	1.09	0.737	0.0754
Uniform Flow Change 3	Uniform Ungaged Flow Change	196559	1810	976	545	407	326	258	201	157	120	95.9	79.4	70.3	64.0	58.3	52.1	46.2	39.3	30.8	21.1	18.2	16.0	13.7	11.4	9.26	7.51	5.47	3.60	2.65	1.09	0.737	0.0754
Sink Area 2 (Fricano Fracture and Ledges)	Karst Sink	194927	1760	966	545	407	326	258	201	157	120	95.9	78.0	67.6	61.0	56.3	49.7	41.7	33.8	23.5	9.69	7.46	5.68	3.82	2.75	2.04	0.269	0.100	0.100	0.100	0.100	0.100	0.100
Peace River near Bartow	River Gage	194173	1760	966	551	413	330	262	205	160	121	96.6	78.0	67.6	61.0	56.3	49.7	41.7	33.8	23.5	9.69	7.46	5.68	3.82	2.75	2.04	0.269	0.100	0.100	0.100	0.100	0.100	0.100
Sink Area 3 (Midway Sink and Elephant Graveyard)	Karst Sink	191189	1760	966	551	409	325	258	199	155	117	93.5	76.0	66.0	59.4	54.5	48.0	40.0	31.6	21.2	7.90	6.08	4.63	3.11	2.24	1.66	0.219	0.100	0.100	0.100	0.100	0.100	0.100
Uniform Flow Change 4	Uniform Ungaged Flow Change	191189	1810	970	551	409	325	258	199	155	117	93.5	76.0	66.0	59.4	54.5	48.0	40.0	31.6	21.2	7.90	6.08	4.63	3.11	2.24	1.66	0.219	0.100	0.100	0.100	0.100	0.100	0.100
Uniform Flow Change 5	Uniform Ungaged Flow Change	189088	1870	973	551	409	325	258	199	155	117	93.5	76.0	66.0	59.4	54.5	48.0	40.0	31.6	21.2	7.90	6.08	4.63	3.11	2.24	1.66	0.219	0.100	0.100	0.100	0.100	0.100	0.100
Sink Area 4 (Crevasses, Gator Sink, and Dover Sink)	Karst Sink	188446	1870	973	550	395	301	243	171	131	100	79.6	67.4	58.7	52.1	46.6	40.4	32.1	22.2	11.4	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Uniform Flow Change 6	Uniform Ungaged Flow Change	187066	1920	976	550	395	301	243	171	131	100	79.6	67.4	58.7	52.1	46.6	40.4	32.1	22.2	11.4	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Clear Springs	River Gage	184220	1970	979	550	395	301	243	171	131	100	79.6	67.4	58.7	52.1	46.6	40.4	32.1	22.2	11.4	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100
Sixmile Creek	Gaged Lateral	183560	2120	1040	592	426	325	263	188	146	114	92.1	78.9	69.5	62.5	56.6	49.7	40.7	29.7	18.1	5.40	5.03	4.71	4.20	3.85	3.45	3.05	2.55	1.89	1.21	0.567	0.448	0.114
Uniform Flow Change 7	Uniform Ungaged Flow Change	179519	2070	1050	596	426	328	263	191	148	116	93.6	79.0	68.9	61.5	54.9	48.0	39.9	30.5	20.1	6.99	5.99	5.28	4.54	4.08	3.67	3.32	2.65	1.70	1.03	0.425	0.336	0.0857
Phoshate Mine Outfall	Gaged Lateral	174700	2150	1060	600	427	330	265	192	149	116	94.0	79.4	69.1	61.6	55.1	48.0	39.9	30.5	20.1	6.99	5.99	5.28	4.54	4.08	3.67	3.32	2.65	1.70	1.03	0.425	0.336	0.0857
Uniform Flow Change 8	Uniform Ungaged Flow Change	173393	2100	1060	606	427	332	265	196	151	118	95.5	79.5	68.4	60.5	53.3	46.3	39.2	31.3	22.2	8.58	6.95	5.85	4.88	4.30	3.87	3.60	2.76	1.53	0.854	0.284	0.224	0.0571
Barber Branch	Gaged Lateral	171686	2120	1090	615	434	338	269	199	154	121	98.2	82.0	70.6	62.6	55.2	48.0	40.7	32.6	23.2	9.39	7.70	6.53	5.46	4.81	4.32	4.00	3.08	1.71	0.975	0.284	0.224	0.0571
Uniform Flow Change 9	Uniform Ungaged Flow Change	168552	2070	1090	620	434	341	270	203	156	122	99.7	82.1	70.0	61.6	53.4	46.4	39.9	33.2	25.3	11.0	8.65	7.10	5.80	5.02	4.52	4.28	3.19	1.53	0.795	0.142	0.112	0.0286
Homeland	River Gage	164508	2010	1100	625	434	343	270	206	158	124	101	82.3	69.5	60.5	51.7	44.7	39.2	34.0	27.4	12.6	9.61	7.67	6.12	5.24	4.73	4.57	3.29	1.35	0.615	0.100	0.100	0.100
Uniform Flow Change 10	Uniform Ungaged Flow Change	159579	2020	1090	624	436	345	272	207	161	128	104	85.5	72.3	62.8	53.5	46.2	40.5	35.4	29.1	13.9	10.9	8.82	6.97	5.93	5.27	4.91	3.59	1.58	0.837	0.156	0.110	0.0206
Uniform Flow Change 11	Uniform Ungaged Flow Change	153888	2020	1060	622	438	347	273	209	164	131	108	88.6	75.2	65.0	55.3	47.7	42.0	36.9	30.6	15.3	12.3	9.95	7.81	6.59	5.81	5.28	3.88	1.80	1.06	0.312	0.220	0.0412
Uniform Flow Change 12	Uniform Ungaged Flow Change	147964	2040	1050	621	440	349	275	212	167	134	111	91.8	78.0	67.2	57.1	49.1	43.3	38.2	32.3	16.6	13.6	11.1	8.65	7.28	6.36	5.63	4.17	2.04	1.28	0.469	0.331	0.0617
Uniform Flow Change 13	Uniform Ungaged Flow Change	143352	2050	1040	620	442	351	276	214	170	137	114	95.0	80.8	69.4	58.9	50.7	44.8	39.7	33.9	18.1	14.9	12.2	9.49	7.96	6.90	5.99	4.47	2.26	1.50	0.625	0.442	0.0823
Uniform Flow Change 14	Uniform Ungaged Flow Change	138367	2050	1020	618	444	353	277	216	174	140	118	98.2	83.7	71.7	60.7	52.1	46.1	41.1	35.6	19.4	16.2	13.4	10.3	8.63	7.45	6.34	4.76	2.49	1.72	0.781	0.552	0.103
Rocky Branch & Sink Branch	Ungaged Lateral	132602	2060	1020	618	449	356	280	221	181	146	125	106	90.2	76.9	64.8	55.7	49.4	44.5	39.4	22.6	19.4	16.0	12.3	10.2	8.71	7.17	5.44	3.03	2.25	1.14	0.808	0.151
Fort Meade	River Gage	131129	2070	1010	617	451	358	282	223	184	150	129	109	93.0	79.2	66.6	57.1	50.7	45.8	40.9	24.0	20.6	17.2	13.1	10.9	9.26	7.52	5.73	3.25	2.46	1.30	0.918	0.171
Uniform Flow Change 15	Uniform Ungaged Flow Change	124598	2100	1020	624	458	365	288	229	189	155	133	112	96.3	82.3	69.3	59.3	52.5	47.2	42.0	25.2	21.7	18.2	14.1	11.6	9.69	7.88	5.97	3.40	2.49	1.30	0.882	0.143
Uniform Flow Change 16	Uniform Ungaged Flow Change	121571	2110	1030	630	463	370	295	234	194	159	136	116	99.6	85.4	72.0	61.4	54.3	48.5	43.1	26.3	22.7	19.0	14.9	12.2	10.1	8.26	6.23	3.55	2.52	1.30	0.846	0.115
Uniform Flow Change 17	Uniform Ungaged Flow Change	115329	2140	1040	638	470	377	300	240	199	164	141	119	103	88.5	74.6	63.6	56.0	49.9	44.1	27.5	23.7	20.0	15.8	12.9	10.6	8.62	6.47	3.69	2.57	1.31	0.809	0.0874
Bowlegs Creek	Gaged Lateral	113752	2870	1320	792	568	448	352	279	228	187	159	134	115	98.9	83.3	71.2	62.5	55.5	48.6	30.8	26.8	22.9	18.4	15.2	12.6	10.7	8.40	5.33	4.12	2.33	1.47	0.253
Uniform Flow Change 18	Uniform Ungaged Flow Change	109471	2900	1330	798	575	453	358	285	233	191	162	137	119	102	86.0	73.3	64.4	56.9	49.8	32.0	27.8	23.9	19.2	15.9	13.0	11.1	8.64	5.48	4.15	2.34	1.44	0.225
Uniform Flow Change 19	Uniform Ungaged Flow Change	105649	2910	1340	805	581	460	363	290	238	196	167	142	121	105	88.7	75.5	66.1	58.2	50.9	33.1	28.8	24.9	20.2	16.5	13.5	11.4	8.89	5.63	4.18	2.34	1.40	0.197
Whidden Creek	Ungaged Lateral	101625	3040	1410	844	616	494	399	322	265	222	190	162	140	123	104	87.9	76.3	66.1	57.1	39.6	34.6	30.2	25.2	20.3	16.1	13.6	10.3	6.46	4.38	2.35	1.37	0.169
Uniform Flow Change 20	Uniform Ungaged Flow Change	100080	3070	1420	850	621	500	404	328	270	227	194	166	144	126	107	90.1	78.1	67.4	58.2	40.8	35.6	31.2	26.1	21.0	16.5	14.0	10.5	6.61	4.42	2.35	1.33	0.141
Uniform Flow Change 21	Uniform Ungaged Flow Change	94192	3090	1430	858	628	506	411	334	275	231	198	169	147	129	109	92.2	79.9	68.9	59.2	41.9	36.6	32.2	27.1	21.6	17.0	14.2	10.8	6.76	4.45	2.35	1.30	0.113
Uniform Flow Change 22	Uniform Ungaged Flow Change	89587	3100	1440	865	633	512	417	340	280	236	202	172	151	132	112	94.4	81.6	70.3	60.3	43.1	37.6	33.1	27.9	22.3	17.4	14.6	11.0	6.91	4.48	2.35	1.25	0.0840
Uniform Flow Change 23	Uniform Ungaged Flow Change	82854	3130	1460	871	640	518	423	345	285	240	206	176	154	135	115	96.5	83.4	71.6	61.4	44.1	38.6	34.1	28.8	22.9	17.9	15.0	11.3	7.06	4.51	2.35	1.22	0.0562
Uniform Flow Change 24	Uniform Ungaged Flow Change	78224	3150	1480	878	646	524	429	350	290	245	210	180	156	139	118	98.7	85.2	73.0	62.5	45.3	39.6	35.1	29.7	23.6	18.3	15.4	11.5	7.2	4.55	2.36	1.18	0.0281
Uniform Flow Change 25	Uniform Ungaged Flow Change	72051	3170	1490	885	652	530	435	356	295	250	214	184	160	141	120	101	87.0	74.3	63.5	46.4	40.6	35.9	30.6	24.3	18.8	15.7	11.8	7.35	4.58	2.36	1.15	0.100
Bowling Green	River Gage	70166	3190	1500	891	658	536	441	362	300	254	218	187	163	145	123	103	88.7	75.7	64.6	47.6	41.6	36.9	31.4	24.9	19.2	16.1	12.0	7.50	4.62	2.36	1.15	0.100
Uniform Flow Change 26	Uniform Ungaged Flow Change	65424	3150	1490	900	666	543	446	367	304	257	221	189	166	146	125	105	90.3	77.1	65.9	48.9	43.0	38.5	33.0	26.6	21.1	17.9	13.6	8.86	5.54	3.03	1.71	0.263
Uniform Flow Change 27	Uniform Ungaged Flow Change	59729	3130	1490	909	675	549	451	372	308	261	223	191	168	147	126	107	92.1	78.8	67.2	50.2	44.6	39.9	34.7	28.5	22.9	19.6	15.2	10.2	6.46	3.69	2.26	0.525
Payne Creek	Gaged Lateral	55292	4240	2030	1240	895	718	595	492	414	353	307	263	231	203	174	147	127	105	86.3	62.8	55.9	50.4	43.6	35.5	28.5	24.4	18.5	12.1	7.69	4.28	2.72	0.697
Uniform Flow Change 28	Uniform Ungaged Flow Change	54404	4200	2020	1250	904	725	600	497	418	358	309	266	233	204	175	149	128	106	87.4	64.1	57.4	52	45.2	37.2	30.4	26.1	20.3	13.5	8.62	4.94	3.28	0.960
Uniform Flow Change 29	Uniform Ungaged Flow Change	49921	4160	2010	1260	913	731	605	501	423	361	313	269	235	207	177	151	130	108	88.7	65.4	58.8	53.5	46.7	39.1	32.2	27.8	21.9	14.9	9.54	5.60	3.85	1.22
Hog Branch	Ungaged Lateral	46429	4160	2010	1260	915	735	607	504	425	363	314	270	236	207	178	153	131	109	89.4	66.1	59.7	54.4	47.7	40.0	33.2	28.7	22.8	15.6	10.1	5.97	4.16	1.37
Uniform Flow Change 30	Uniform Ungaged Flow Change	44105	4130	2010	1270	924	741	613	509	429	367	317	272	238	209	181	154	132	110	90.6	67.4	61.1	55.8	49.3	41.8	35.1	30.5	24.4	17.0	11.0	6.63	4.72	1.63
Uniform Inflow 31	Uniform Ungaged Flow Change	38067	4100	2000	1280	934	748	618	513	433	370	319	275	240	210	182	156	134	112	91.9	68.7	62.5	57.4	50.8	43.5	36.9	32.2	26	18.4	11.9	7.29	5.28	1.90
Little Charlie Creek	Gaged Lateral	36062	4590	2190	1390	1010	800	656	541	454	385	331	284	249	217	187	160	138	115	94.2	70.6	64.2	58.9	52.3	44.8	38.1	33.3	26.9	19.1	12.6	7.71	5.52	1.90
Uniform Flow Change 32	Uniform Ungaged Flow Change	32210	4550	2190	1400	1020	807	661	545	458	389	333	286	250	218	189	163	139	116	95.3	71.9	65.7	60.4	53.9	46.5	40.0	34.9	28.5	20.4	13.5	8.37	6.08	2.16
Uniform Flow Change 33	Uniform Ungaged Flow Change	28562	4530	2180	1410	1030	813	666	550	462	392	337	289	252	220	191	164	140	118	96.6	73.2	67.1	61.9	55.4	48.4	41.8	36.7	30.1	21.8	14.4	9.03	6.65	2.42
Max Branch	Ungaged Lateral	26860	4530	2180	1410	1030	816	667	552	463	393	338	289	253	220	191	166	142	118	97.0	73.6	67.7	62.5	56.1	49.0	42.4	37.3	30.8	22.3	14.8	9.27	6.84	2.51
Uniform Flow Change 34	Uniform Ungaged Flow Change	23088	4490	2180	1420	1030	822	673	557	468	397	340	293	256	222	193	167	143	120	98.2	74.9	69.1	63.9	57.6	50.7	44.3	39.1	32.4	23.6	15.7	9.93	7.41	2.78
Uniform Flow Change 35	Uniform Ungaged Flow Change	17942	4450	2170	1430	1040	829	678	562	472	400	343	295	257	224	195	169	144	121	99.5	76.2	70.7	65.5	59.2	52.6	46.1	40.7	34	25	16.6	10.6	7.97	3.04
Uniform Flow Change 36	Uniform Ungaged Flow Change	12927	4410	2160	1440	1050	835	683	565	476	405	345	297	259	225	196	171	147	123	101	77.5	72.1	67.0	60.8	54.3	48.0	42.4	35.7	26.4	17.5	11.3	8.52	3.30
Thompson & Hickory Branch	Ungaged Lateral	10508	4410	2160	1440	1060	839	686	569	479	407	348	299	260	227	197	172	148	124	101	78.4	73.0	68.0	61.9	55.5	49.2	43.5	36.8	27.3	18.2	11.7	8.89	3.47
Uniform Flow Change 37	Uniform Ungaged Flow Change	5339	4390	2160	1450	1070	846	691	573	483	411	350	302	263	228	200	175	150	126	103	79.7	74.6	69.4	63.4	57.3	51.1	45.3	38.4	28.6	19.1	12.3	9.45	3.74
Zolfo Springs	River Gage	**3520**	4350	2150	1460	1080	852	696	578	487	414	353	304	265	229	201	176	151	127	104	81.0	76.0	71.0	65.0	59.0	53.0	47.0	40.0	30.0	20.0	13.0	10.0	4.00

Note: Station 206484 represents the top XS for the model, and has the same flows as 204705.
Two lines for 191189 were necessary due to two types of flow changes at this location, the second line is used for flow values in modeling.

APPENDIX D | CONVERTED STEADY-FLOW MODEL RESULTS

HEC-RAS PROFILE RESULTS TABLE
STEADY FLOW SIMULATED VS PUBLISHED RATING CURVE COMPARISON

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	206484	1	1830.00	88.26	95.89	92.86	95.89	0.000102	0.81	6546.62	1962.99	0.06	0.04	68.58
Reach 1	206484	5	980.00	88.26	94.68	92.37	94.68	0.000106	0.74	4188.16	1927.11	0.06	0.03	68.58
Reach 1	206484	10	526.00	88.26	93.71	91.01	93.72	0.000114	0.78	2360.16	1838.96	0.07	0.03	67.95
Reach 1	206484	15	393.00	88.26	93.34	90.70	93.34	0.000131	0.83	1681.76	1765.04	0.08	0.03	66.61
Reach 1	206484	20	313.00	88.26	93.05	90.50	93.06	0.000150	0.88	1199.78	1541.27	0.09	0.03	65.57
Reach 1	206484	25	247.00	88.26	92.73	90.32	92.74	0.000195	0.98	764.17	1191.90	0.10	0.03	64.06
Reach 1	206484	30	190.00	88.26	92.39	90.14	92.40	0.000263	1.07	408.98	837.14	0.12	0.04	61.53
Reach 1	206484	35	150.00	88.26	92.17	89.90	92.19	0.000309	1.01	253.18	659.38	0.12	0.05	59.96
Reach 1	206484	40	117.00	88.26	91.90	89.74	91.91	0.000344	0.94	131.24	200.22	0.11	0.05	57.91
Reach 1	206484	45	93.60	88.26	91.62	89.60	91.63	0.000353	0.86	108.59	55.30	0.11	0.04	55.86
Reach 1	206484	50	80.20	88.26	91.40	89.52	91.41	0.000367	0.83	96.71	53.74	0.11	0.04	54.24
Reach 1	206484	55	71.70	88.26	91.25	89.46	91.26	0.000372	0.81	88.58	52.65	0.11	0.04	53.10
Reach 1	206484	60	65.50	88.26	91.12	89.42	91.13	0.000375	0.80	81.92	51.74	0.11	0.04	52.16
Reach 1	206484	65	59.30	88.26	90.99	89.37	91.00	0.000376	0.79	75.29	50.56	0.11	0.03	50.95
Reach 1	206484	70	53.50	88.26	90.87	89.32	90.88	0.000374	0.77	69.19	49.28	0.12	0.03	49.64
Reach 1	206484	75	48.50	88.26	90.77	89.28	90.78	0.000374	0.76	64.22	48.22	0.12	0.03	48.56
Reach 1	206484	80	42.20	88.26	90.66	89.22	90.66	0.000378	0.72	58.80	47.03	0.11	0.03	47.35
Reach 1	206484	85	34.60	88.26	90.50	89.15	90.51	0.000390	0.67	51.70	45.42	0.11	0.03	45.71
Reach 1	206484	90	26.90	88.26	90.34	89.07	90.34	0.000396	0.61	44.40	43.71	0.11	0.02	43.97
Reach 1	206484	91	23.80	88.26	90.27	89.03	90.27	0.000398	0.58	41.34	42.97	0.10	0.02	43.21
Reach 1	206484	92	21.30	88.26	90.21	88.99	90.21	0.000398	0.55	38.73	42.34	0.10	0.02	42.56
Reach 1	206484	93	18.70	88.26	90.14	88.96	90.14	0.000395	0.52	35.84	41.08	0.10	0.02	41.30
Reach 1	206484	94	15.90	88.26	90.05	88.91	90.06	0.000353	0.49	32.59	36.69	0.09	0.02	36.89
Reach 1	206484	95	12.90	88.26	89.95	88.86	89.95	0.000281	0.45	28.95	31.05	0.08	0.02	31.24
Reach 1	206484	96	11.20	88.26	89.88	88.82	89.88	0.000254	0.41	27.01	29.89	0.08	0.01	30.08
Reach 1	206484	97	8.27	88.26	89.75	88.77	89.75	0.000210	0.36	23.21	28.03	0.07	0.01	28.20
Reach 1	206484	98	5.44	88.26	89.60	88.69	89.60	0.000154	0.28	19.19	25.91	0.06	0.01	26.06
Reach 1	206484	99	4.00	88.26	89.52	88.64	89.52	0.000117	0.24	17.00	24.69	0.05	0.01	24.82
Reach 1	206484	99.5	1.65	88.26	89.33	88.53	89.33	0.000046	0.13	12.61	22.01	0.03	0.00	22.12
Reach 1	206484	99.75	1.11	88.26	89.27	88.49	89.27	0.000028	0.10	11.36	21.13	0.02	0.00	21.23
Reach 1	206484	100	0.11	88.26	89.07	88.35	89.07	0.000001	0.02	7.50	17.93	0.00	0.00	18.01
Reach 1	204847	1	1830.00	85.84	95.78	89.89	95.78	0.000097	1.00	4410.37	2090.61	0.06	0.05	74.79
Reach 1	204847	5	980.00	85.84	94.56	88.73	94.57	0.000083	0.88	2910.30	1980.63	0.06	0.04	74.79
Reach 1	204847	10	526.00	85.84	93.61	87.88	93.61	0.000059	0.79	1733.19	1928.67	0.06	0.02	74.79
Reach 1	204847	15	393.00	85.84	93.23	87.58	93.24	0.000046	0.71	1296.52	1771.54	0.05	0.02	74.79
Reach 1	204847	20	313.00	85.84	92.93	87.38	92.94	0.000040	0.66	994.21	1660.63	0.05	0.01	74.68
Reach 1	204847	25	247.00	85.84	92.58	87.19	92.59	0.000035	0.62	691.26	1465.87	0.05	0.01	74.28
Reach 1	204847	30	190.00	85.84	92.22	87.02	92.23	0.000030	0.54	449.85	1067.35	0.04	0.01	73.85
Reach 1	204847	35	150.00	85.84	92.00	86.89	92.00	0.000026	0.46	362.15	570.88	0.04	0.01	73.42
Reach 1	204847	40	117.00	85.84	91.73	86.76	91.73	0.000022	0.38	309.83	177.21	0.03	0.01	72.34
Reach 1	204847	45	93.60	85.84	91.46	86.67	91.46	0.000019	0.32	289.53	68.88	0.03	0.00	71.28
Reach 1	204847	50	80.20	85.84	91.24	86.61	91.24	0.000016	0.29	274.88	68.20	0.03	0.00	70.44
Reach 1	204847	55	71.70	85.84	91.10	86.57	91.10	0.000014	0.27	264.89	67.73	0.02	0.00	69.86
Reach 1	204847	60	65.50	85.84	90.97	86.54	90.98	0.000012	0.26	256.73	67.34	0.02	0.00	69.38
Reach 1	204847	65	59.30	85.84	90.85	86.50	90.85	0.000010	0.24	248.54	66.95	0.02	0.00	68.90
Reach 1	204847	70	53.50	85.84	90.74	86.47	90.74	0.000009	0.22	240.89	66.58	0.02	0.00	68.45
Reach 1	204847	75	48.50	85.84	90.64	86.44	90.64	0.000008	0.21	234.49	66.28	0.02	0.00	68.07
Reach 1	204847	80	42.20	85.84	90.53	86.41	90.53	0.000007	0.19	227.25	65.93	0.02	0.00	67.64
Reach 1	204847	85	34.60	85.84	90.38	86.36	90.38	0.000005	0.16	217.48	65.45	0.02	0.00	67.05
Reach 1	204847	90	26.90	85.84	90.23	86.31	90.23	0.000004	0.13	207.33	64.48	0.01	0.00	65.93
Reach 1	204847	91	23.80	85.84	90.16	86.29	90.16	0.000003	0.12	203.04	63.92	0.01	0.00	65.29
Reach 1	204847	92	21.30	85.84	90.10	86.27	90.10	0.000003	0.11	199.38	63.44	0.01	0.00	64.75
Reach 1	204847	93	18.70	85.84	90.04	86.25	90.04	0.000002	0.10	195.33	62.91	0.01	0.00	64.14
Reach 1	204847	94	15.90	85.84	89.97	86.22	89.97	0.000002	0.08	190.72	62.36	0.01	0.00	63.52
Reach 1	204847	95	12.90	85.84	89.87	86.19	89.87	0.000001	0.07	185.08	62.02	0.01	0.00	63.12
Reach 1	204847	96	11.20	85.84	89.82	86.17	89.82	0.000001	0.06	181.61	61.81	0.01	0.00	62.87
Reach 1	204847	97	8.27	85.84	89.70	86.13	89.70	0.000001	0.05	174.39	61.37	0.00	0.00	62.35
Reach 1	204847	98	5.44	85.84	89.57	86.08	89.57	0.000000	0.03	166.27	60.88	0.00	0.00	61.76
Reach 1	204847	99	4.00	85.84	89.49	86.06	89.49	0.000000	0.02	161.60	60.40	0.00	0.00	61.24
Reach 1	204847	99.5	1.65	85.84	89.32	85.99	89.32	0.000000	0.01	151.30	59.07	0.00	0.00	59.87
Reach 1	204847	99.75	1.11	85.84	89.26	85.97	89.26	0.000000	0.01	148.08	58.65	0.00	0.00	59.43
Reach 1	204847	100	0.11	85.84	89.07	85.89	89.07	0.000000	0.00	136.91	57.16	0.00	0.00	57.89
Reach 1	204705	1	1830.00	88.85	95.75	92.96	95.76	0.000247	1.36	2967.38	2190.56	0.10	0.08	78.16
Reach 1	204705	5	980.00	88.85	94.53	91.90	94.55	0.000304	1.28	1848.26	2065.34	0.11	0.08	78.16
Reach 1	204705	10	526.00	88.85	93.56	91.06	93.58	0.000452	1.32	971.73	1617.00	0.13	0.09	78.16
Reach 1	204705	15	393.00	88.85	93.18	90.76	93.20	0.000508	1.29	672.47	1121.27	0.13	0.09	78.16
Reach 1	204705	20	313.00	88.85	92.87	90.54	92.89	0.000561	1.26	494.38	815.51	0.14	0.09	78.16
Reach 1	204705	25	247.00	88.85	92.51	90.34	92.53	0.000685	1.27	321.53	580.47	0.15	0.10	77.45
Reach 1	204705	30	190.00	88.85	92.14	90.14	92.16	0.000778	1.24	188.43	296.47	0.15	0.10	75.01
Reach 1	204705	35	150.00	88.85	91.93	89.99	91.95	0.000700	1.11	144.18	164.37	0.14	0.08	73.63
Reach 1	204705	40	117.00	88.85	91.66	89.85	91.67	0.000667	1.01	115.96	68.32	0.14	0.07	70.29
Reach 1	204705	45	93.60	88.85	91.39	89.74	91.41	0.000669	0.95	98.32	63.33	0.13	0.06	65.20
Reach 1	204705	50	80.20	88.85	91.17	89.68	91.19	0.000727	0.94	85.00	59.00	0.14	0.06	60.77
Reach 1	204705	55	71.70	88.85	91.02	89.63	91.04	0.000775	0.94	76.35	55.98	0.14	0.06	57.68
Reach 1	204705	60	65.50	88.85	90.90	89.60	90.91	0.000831	0.94	69.52	53.43	0.15	0.07	55.08
Reach 1	204705	65	59.30	88.85	90.77	89.57	90.79	0.000889	0.94	62.94	50.86	0.15	0.07	52.45
Reach 1	204705	70	53.50	88.85	90.65	89.53	90.67	0.000940	0.94	57.08	48.45	0.15	0.07	49.99
Reach 1	204705	75	48.50	88.85	90.56	89.50	90.57	0.000971	0.93	52.42	46.45	0.15	0.07	47.95
Reach 1	204705	80	42.20	88.85	90.45	89.46	90.46	0.000964	0.89	47.52	44.58	0.15	0.06	46.01
Reach 1	204705	85	34.60	88.85	90.31	89.41	90.32	0.000891	0.83	41.49	40.32	0.14	0.06	41.59
Reach 1	204705	90	26.90	88.85	90.16	89.35	90.17	0.000817	0.75	35.72	38.01	0.14	0.05	39.12
Reach 1	204705	91	23.80	88.85	90.09	89.32	90.10	0.000785	0.71	33.33	37.32	0.13	0.04	38.36
Reach 1	204705	92	21.30	88.85	90.04	89.30	90.05	0.000757	0.68	31.32	36.72	0.13	0.04	37.71
Reach 1	204705	93	18.70	88.85	89.98	89.27	89.99	0.000726	0.64	29.10	36.06	0.13	0.04	36.98
Reach 1	204705	94	15.90	88.85	89.91	89.25	89.92	0.000686	0.60	26.61	35.29	0.12	0.03	36.14
Reach 1	204705	95	12.90	88.85	89.82	89.22	89.83	0.000649	0.55	23.58	34.34	0.12	0.03	35.10
Reach 1	204705	96	11.20	88.85	89.77	89.20	89.77	0.000625	0.51	21.76	33.76	0.11	0.02	34.46
Reach 1	204705	97	8.27	88.85	89.65	89.16	89.66	0.000614	0.46	17.94	32.50	0.11	0.02	33.08
Reach 1	204705	98	5.44	88.85	89.52	89.11	89.53	0.000598	0.39	13.79	31.04	0.10	0.02	31.49

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	204705	99	4.00	88.85	89.45	89.09	89.45	0.000566	0.35	11.52	30.22	0.10	0.01	30.59
Reach 1	204705	99.5	1.65	88.85	89.28	89.03	89.29	0.000466	0.24	6.84	26.82	0.08	0.01	27.05
Reach 1	204705	99.75	1.11	88.85	89.24	89.01	89.24	0.000406	0.20	5.52	25.76	0.08	0.01	25.94
Reach 1	204705	100	0.11	88.85	89.06	88.92	89.06	0.000155	0.07	1.61	17.40	0.04	0.00	17.47
Reach 1	204565		Bridge											
Reach 1	204485	1	1830.00	86.91	95.64	92.69	95.65	0.000240	1.17	2163.82	1548.57	0.09	0.08	98.96
Reach 1	204485	5	980.00	86.91	94.43	91.43	94.44	0.000271	1.11	1260.72	822.69	0.10	0.07	98.96
Reach 1	204485	10	526.00	86.91	93.47	90.42	93.48	0.000247	1.04	695.13	510.71	0.10	0.05	98.96
Reach 1	204485	15	393.00	86.91	93.09	90.00	93.11	0.000249	1.02	517.00	438.12	0.11	0.04	98.96
Reach 1	204485	20	313.00	86.91	92.79	89.77	92.80	0.000274	1.03	391.59	374.27	0.12	0.04	98.96
Reach 1	204485	25	247.00	86.91	92.42	89.54	92.43	0.000327	1.09	271.19	287.16	0.13	0.04	93.04
Reach 1	204485	30	190.00	86.91	92.03	89.33	92.05	0.000379	1.10	183.01	166.98	0.14	0.05	86.61
Reach 1	204485	35	150.00	86.91	91.82	89.15	91.84	0.000395	0.98	154.57	109.70	0.12	0.05	82.87
Reach 1	204485	40	117.00	86.91	91.55	88.98	91.57	0.000373	0.88	133.06	69.55	0.11	0.04	72.88
Reach 1	204485	45	93.60	86.91	91.29	88.84	91.30	0.000333	0.81	115.97	59.90	0.10	0.04	63.06
Reach 1	204485	50	80.20	86.91	91.07	88.76	91.08	0.000298	0.77	103.78	52.45	0.10	0.03	55.46
Reach 1	204485	55	71.70	86.91	90.92	88.70	90.93	0.000281	0.75	96.07	49.75	0.09	0.03	52.64
Reach 1	204485	60	65.50	86.91	90.80	88.65	90.80	0.000267	0.73	89.91	48.25	0.09	0.03	51.03
Reach 1	204485	65	59.30	86.91	90.67	88.61	90.68	0.000254	0.71	83.83	47.00	0.09	0.03	49.66
Reach 1	204485	70	53.50	86.91	90.55	88.55	90.56	0.000239	0.68	78.31	45.82	0.09	0.02	48.37
Reach 1	204485	75	48.50	86.91	90.45	88.47	90.46	0.000227	0.66	73.84	44.85	0.09	0.02	47.31
Reach 1	204485	80	42.20	86.91	90.35	88.39	90.35	0.000187	0.61	69.26	39.78	0.08	0.02	42.15
Reach 1	204485	85	34.60	86.91	90.21	88.29	90.22	0.000165	0.54	64.02	38.73	0.07	0.02	40.94
Reach 1	204485	90	26.90	86.91	90.07	88.15	90.07	0.000137	0.46	58.54	37.59	0.06	0.01	39.65
Reach 1	204485	91	23.80	86.91	90.01	88.08	90.01	0.000125	0.42	56.26	37.11	0.06	0.01	39.09
Reach 1	204485	92	21.30	86.91	89.96	88.03	89.96	0.000113	0.39	54.34	36.70	0.06	0.01	38.62
Reach 1	204485	93	18.70	86.91	89.90	87.97	89.90	0.000101	0.36	52.19	36.24	0.05	0.01	38.09
Reach 1	204485	94	15.90	86.91	89.83	87.90	89.83	0.000088	0.32	49.78	35.71	0.05	0.01	37.48
Reach 1	204485	95	12.90	86.91	89.75	87.82	89.75	0.000070	0.28	46.90	35.06	0.04	0.01	36.75
Reach 1	204485	96	11.20	86.91	89.70	87.77	89.70	0.000059	0.25	45.16	34.67	0.04	0.00	36.29
Reach 1	204485	97	8.27	86.91	89.58	87.67	89.58	0.000042	0.20	41.25	33.77	0.03	0.00	35.26
Reach 1	204485	98	5.44	86.91	89.45	87.56	89.45	0.000025	0.15	36.90	32.73	0.02	0.00	34.07
Reach 1	204485	99	4.00	86.91	89.38	87.48	89.38	0.000016	0.12	34.56	32.08	0.02	0.00	33.35
Reach 1	204485	99.5	1.65	86.91	89.23	87.31	89.23	0.000004	0.06	29.73	30.28	0.01	0.00	31.40
Reach 1	204485	99.75	1.11	86.91	89.18	87.25	89.18	0.000002	0.04	28.44	29.74	0.01	0.00	30.81
Reach 1	204485	100	0.11	86.91	88.94	87.05	88.94	0.000000	0.01	21.67	26.70	0.00	0.00	27.55
Reach 1	204409	1	1830.00	84.47	95.63	88.35	95.63	0.000066	0.87	3487.75	1470.26	0.05	0.04	83.95
Reach 1	204409	5	980.00	84.47	94.42	87.32	94.42	0.000050	0.74	2341.49	1364.90	0.05	0.02	83.95
Reach 1	204409	10	526.00	84.47	93.46	86.60	93.47	0.000031	0.62	1450.82	1305.95	0.04	0.01	83.95
Reach 1	204409	15	393.00	84.47	93.09	86.36	93.09	0.000024	0.56	1129.42	1212.15	0.04	0.01	83.95
Reach 1	204409	20	313.00	84.47	92.78	86.19	92.78	0.000020	0.52	895.37	1048.87	0.04	0.01	83.57
Reach 1	204409	25	247.00	84.47	92.41	86.04	92.41	0.000017	0.48	663.25	747.52	0.03	0.01	82.38
Reach 1	204409	30	190.00	84.47	92.03	85.90	92.03	0.000014	0.42	488.87	416.61	0.03	0.00	80.92
Reach 1	204409	35	150.00	84.47	91.81	85.77	91.82	0.000012	0.35	442.59	211.87	0.03	0.00	79.95
Reach 1	204409	40	117.00	84.47	91.55	85.62	91.55	0.000010	0.28	414.53	85.69	0.02	0.00	78.72
Reach 1	204409	45	93.60	84.47	91.28	85.50	91.28	0.000008	0.24	393.09	77.19	0.02	0.00	77.52
Reach 1	204409	50	80.20	84.47	91.07	85.42	91.07	0.000006	0.21	376.99	72.91	0.02	0.00	76.56
Reach 1	204409	55	71.70	84.47	90.91	85.35	90.92	0.000005	0.20	366.06	72.49	0.02	0.00	76.04
Reach 1	204409	60	65.50	84.47	90.79	85.30	90.79	0.000005	0.18	356.96	72.14	0.01	0.00	75.60
Reach 1	204409	65	59.30	84.47	90.66	85.25	90.66	0.000004	0.17	347.81	71.78	0.01	0.00	75.16
Reach 1	204409	70	53.50	84.47	90.54	85.20	90.54	0.000003	0.16	339.32	71.45	0.01	0.00	74.75
Reach 1	204409	75	48.50	84.47	90.44	85.16	90.45	0.000003	0.15	332.30	71.18	0.01	0.00	74.41
Reach 1	204409	80	42.20	84.47	90.34	85.11	90.34	0.000002	0.13	324.94	70.89	0.01	0.00	74.05
Reach 1	204409	85	34.60	84.47	90.21	85.04	90.21	0.000002	0.11	315.52	70.52	0.01	0.00	73.58
Reach 1	204409	90	26.90	84.47	90.06	84.97	90.06	0.000001	0.09	305.45	70.12	0.01	0.00	73.09
Reach 1	204409	91	23.80	84.47	90.00	84.94	90.00	0.000001	0.08	301.19	69.95	0.01	0.00	72.88
Reach 1	204409	92	21.30	84.47	89.95	84.91	89.95	0.000001	0.07	297.58	69.81	0.01	0.00	72.70
Reach 1	204409	93	18.70	84.47	89.89	84.88	89.89	0.000001	0.06	293.49	69.65	0.01	0.00	72.49
Reach 1	204409	94	15.90	84.47	89.83	84.85	89.83	0.000001	0.06	288.85	69.46	0.00	0.00	72.26
Reach 1	204409	95	12.90	84.47	89.75	84.80	89.75	0.000000	0.05	283.24	69.24	0.00	0.00	71.98
Reach 1	204409	96	11.20	84.47	89.70	84.79	89.70	0.000000	0.04	279.81	69.10	0.00	0.00	71.81
Reach 1	204409	97	8.27	84.47	89.58	84.74	89.58	0.000000	0.03	271.97	68.78	0.00	0.00	71.41
Reach 1	204409	98	5.44	84.47	89.45	84.69	89.45	0.000000	0.02	263.02	68.42	0.00	0.00	70.96
Reach 1	204409	99	4.00	84.47	89.38	84.66	89.38	0.000000	0.02	258.10	68.22	0.00	0.00	70.71
Reach 1	204409	99.5	1.65	84.47	89.23	84.60	89.23	0.000000	0.01	247.63	67.79	0.00	0.00	70.17
Reach 1	204409	99.75	1.11	84.47	89.18	84.58	89.18	0.000000	0.00	244.72	67.67	0.00	0.00	70.03
Reach 1	204409	100	0.11	84.47	88.94	84.52	88.94	0.000000	0.00	228.56	67.00	0.00	0.00	69.19
Reach 1	204270	1	1830.00	85.11	95.60	88.83	95.62	0.000166	1.29	2940.74	1159.94	0.08	0.08	107.35
Reach 1	204270	5	980.00	85.11	94.40	87.74	94.41	0.000110	0.99	1930.78	1084.93	0.07	0.05	107.35
Reach 1	204270	10	526.00	85.11	93.46	86.97	93.46	0.000055	0.74	1185.94	995.77	0.05	0.02	107.35
Reach 1	204270	15	393.00	85.11	93.08	86.69	93.09	0.000039	0.63	933.85	888.98	0.05	0.01	107.35
Reach 1	204270	20	313.00	85.11	92.78	86.50	92.78	0.000030	0.56	747.95	826.90	0.04	0.01	107.35
Reach 1	204270	25	247.00	85.11	92.41	86.34	92.41	0.000024	0.49	564.16	544.85	0.04	0.01	105.38
Reach 1	204270	30	190.00	85.11	92.03	86.17	92.03	0.000018	0.42	461.17	133.57	0.03	0.01	101.96
Reach 1	204270	35	150.00	85.11	91.81	86.05	91.81	0.000015	0.34	435.90	104.51	0.03	0.00	98.74
Reach 1	204270	40	117.00	85.11	91.54	85.93	91.54	0.000012	0.29	410.11	93.16	0.02	0.00	94.69
Reach 1	204270	45	93.60	85.11	91.28	85.84	91.28	0.000010	0.24	386.10	89.83	0.02	0.00	91.31
Reach 1	204270	50	80.20	85.11	91.06	85.79	91.06	0.000008	0.22	366.86	87.78	0.02	0.00	89.20
Reach 1	204270	55	71.70	85.11	90.91	85.75	90.91	0.000007	0.20	353.78	86.36	0.02	0.00	87.74
Reach 1	204270	60	65.50	85.11	90.79	85.72	90.79	0.000006	0.19	343.00	85.17	0.02	0.00	86.52
Reach 1	204270	65	59.30	85.11	90.66	85.70	90.66	0.000005	0.18	332.26	83.96	0.02	0.00	85.28
Reach 1	204270	70	53.50	85.11	90.54	85.67	90.54	0.000004	0.17	322.38	82.84	0.01	0.00	84.13
Reach 1	204270	75	48.50	85.11	90.44	85.65	90.44	0.000004	0.15	314.27	81.91	0.01	0.00	83.17
Reach 1	204270	80	42.20	85.11	90.34	85.61	90.34	0.000003	0.14	305.84	80.93	0.01	0.00	82.16
Reach 1	204270	85	34.60	85.11	90.21	85.57	90.21	0.000003	0.12	295.15	79.67	0.01	0.00	80.87
Reach 1	204270	90	26.90	85.11	90.06	85.53	90.06	0.000002	0.09	283.86	78.32	0.01	0.00	79.48
Reach 1	204270	91	23.80	85.11	90.00	85.50	90.00	0.000002	0.09	279.12	77.74	0.01	0.00	78.89

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	204270	92	21.30	85.11	89.95	85.48	89.95	0.000001	0.08	275.11	77.25	0.01	0.00	78.38
Reach 1	204270	93	18.70	85.11	89.89	85.46	89.89	0.000001	0.07	270.59	76.71	0.01	0.00	77.83
Reach 1	204270	94	15.90	85.11	89.83	85.44	89.83	0.000001	0.06	265.50	76.23	0.01	0.00	77.33
Reach 1	204270	95	12.90	85.11	89.75	85.42	89.75	0.000001	0.05	259.35	75.64	0.00	0.00	76.72
Reach 1	204270	96	11.20	85.11	89.70	85.41	89.70	0.000000	0.04	255.61	75.29	0.00	0.00	76.35
Reach 1	204270	97	8.27	85.11	89.58	85.38	89.58	0.000000	0.03	247.11	74.46	0.00	0.00	75.49
Reach 1	204270	98	5.44	85.11	89.45	85.34	89.45	0.000000	0.02	237.45	73.52	0.00	0.00	74.51
Reach 1	204270	99	4.00	85.11	89.38	85.31	89.38	0.000000	0.02	232.18	73.00	0.00	0.00	73.97
Reach 1	204270	99.5	1.65	85.11	89.23	85.26	89.23	0.000000	0.01	221.02	71.89	0.00	0.00	72.81
Reach 1	204270	99.75	1.11	85.11	89.18	85.23	89.18	0.000000	0.01	217.94	71.58	0.00	0.00	72.49
Reach 1	204270	100	0.11	85.11	88.94	85.16	88.94	0.000000	0.00	200.97	69.85	0.00	0.00	70.69
Reach 1	203087	1	1830.00	88.41	95.28	92.57	95.30	0.000354	1.50	3908.14	1801.10	0.11	0.12	76.42
Reach 1	203087	5	980.00	88.41	94.12	91.24	94.14	0.000405	1.45	2052.42	1511.08	0.12	0.11	76.42
Reach 1	203087	10	526.00	88.41	93.27	90.49	93.29	0.000309	1.29	1123.61	943.53	0.12	0.07	76.42
Reach 1	203087	15	393.00	88.41	92.93	90.21	92.94	0.000269	1.20	814.83	856.59	0.12	0.05	75.65
Reach 1	203087	20	313.00	88.41	92.64	90.03	92.65	0.000252	1.15	582.33	725.37	0.12	0.05	74.89
Reach 1	203087	25	247.00	88.41	92.27	89.86	92.29	0.000271	1.14	369.68	472.52	0.12	0.05	73.92
Reach 1	203087	30	190.00	88.41	91.89	89.70	91.91	0.000300	1.09	215.99	309.40	0.13	0.04	72.92
Reach 1	203087	35	150.00	88.41	91.68	89.58	91.70	0.000304	0.96	168.38	176.67	0.11	0.04	71.28
Reach 1	203087	40	117.00	88.41	91.43	89.46	91.44	0.000305	0.85	137.60	67.59	0.11	0.04	68.13
Reach 1	203087	45	93.60	88.41	91.17	89.38	91.18	0.000303	0.77	120.78	64.55	0.10	0.04	65.03
Reach 1	203087	50	80.20	88.41	90.96	89.32	90.96	0.000314	0.75	107.18	62.04	0.10	0.03	62.46
Reach 1	203087	55	71.70	88.41	90.81	89.27	90.82	0.000320	0.73	98.09	60.76	0.10	0.03	61.14
Reach 1	203087	60	65.50	88.41	90.68	89.23	90.69	0.000323	0.72	90.67	59.69	0.10	0.03	60.03
Reach 1	203087	65	59.30	88.41	90.56	89.20	90.57	0.000322	0.71	83.36	58.27	0.10	0.03	58.60
Reach 1	203087	70	53.50	88.41	90.45	89.16	90.45	0.000319	0.70	76.77	56.89	0.11	0.03	57.19
Reach 1	203087	75	48.50	88.41	90.35	89.13	90.36	0.000318	0.68	71.39	55.73	0.11	0.03	56.02
Reach 1	203087	80	42.20	88.41	90.25	89.09	90.26	0.000314	0.64	65.91	54.53	0.10	0.02	54.80
Reach 1	203087	85	34.60	88.41	90.12	89.04	90.13	0.000306	0.59	59.07	52.99	0.10	0.02	53.24
Reach 1	203087	90	26.90	88.41	89.99	88.98	89.99	0.000289	0.52	52.05	51.36	0.09	0.02	51.59
Reach 1	203087	91	23.80	88.41	89.93	88.96	89.94	0.000277	0.48	49.17	50.68	0.09	0.02	50.90
Reach 1	203087	92	21.30	88.41	89.89	88.94	89.89	0.000265	0.46	46.77	50.10	0.08	0.02	50.31
Reach 1	203087	93	18.70	88.41	89.83	88.91	89.83	0.000254	0.42	44.06	49.44	0.08	0.01	49.65
Reach 1	203087	94	15.90	88.41	89.77	88.89	89.77	0.000239	0.39	41.03	48.70	0.07	0.01	48.89
Reach 1	203087	95	12.90	88.41	89.70	88.86	89.70	0.000210	0.34	37.52	47.82	0.07	0.01	48.00
Reach 1	203087	96	11.20	88.41	89.65	88.84	89.65	0.000188	0.32	35.43	47.28	0.06	0.01	47.46
Reach 1	203087	97	8.27	88.41	89.55	88.80	89.55	0.000164	0.27	30.45	45.99	0.06	0.01	46.15
Reach 1	203087	98	5.44	88.41	89.42	88.75	89.42	0.000132	0.22	24.92	44.51	0.05	0.00	44.65
Reach 1	203087	99	4.00	88.41	89.36	88.72	89.36	0.000106	0.18	22.01	43.72	0.05	0.00	43.84
Reach 1	203087	99.5	1.65	88.41	89.22	88.63	89.22	0.000038	0.10	16.38	36.76	0.03	0.00	36.85
Reach 1	203087	99.75	1.11	88.41	89.18	88.59	89.18	0.000022	0.07	14.97	34.70	0.02	0.00	34.78
Reach 1	203087	100	0.11	88.41	88.94	88.48	88.94	0.000002	0.01	7.60	28.89	0.01	0.00	28.94
Reach 1	202551	1	1830.00	85.96	95.09	93.16	95.11	0.000515	1.89	3419.24	1263.57	0.13	0.19	47.57
Reach 1	202551	5	980.00	85.96	93.83	90.66	93.86	0.000789	2.13	1768.42	1204.08	0.17	0.24	47.57
Reach 1	202551	10	526.00	85.96	92.98	89.43	93.04	0.000722	2.14	769.96	1118.95	0.18	0.18	47.19
Reach 1	202551	15	393.00	85.96	92.66	88.90	92.72	0.000617	2.01	439.80	909.62	0.18	0.14	46.79
Reach 1	202551	20	313.00	85.96	92.40	88.57	92.46	0.000513	1.84	252.83	474.40	0.17	0.11	46.25
Reach 1	202551	25	247.00	85.96	92.07	88.25	92.11	0.000398	1.63	165.14	105.33	0.15	0.09	43.94
Reach 1	202551	30	190.00	85.96	91.72	87.96	91.75	0.000316	1.39	137.57	54.41	0.13	0.06	42.45
Reach 1	202551	35	150.00	85.96	91.53	87.72	91.55	0.000278	1.16	129.16	39.05	0.11	0.05	41.65
Reach 1	202551	40	117.00	85.96	91.29	87.51	91.30	0.000237	0.98	119.73	37.46	0.10	0.04	39.91
Reach 1	202551	45	93.60	85.96	91.05	87.34	91.06	0.000192	0.84	111.03	35.10	0.08	0.04	37.42
Reach 1	202551	50	80.20	85.96	90.84	87.23	90.85	0.000162	0.77	103.94	33.05	0.08	0.03	35.25
Reach 1	202551	55	71.70	85.96	90.70	87.16	90.71	0.000140	0.72	99.38	31.85	0.07	0.03	33.98
Reach 1	202551	60	65.50	85.96	90.58	87.10	90.59	0.000124	0.68	95.66	31.47	0.07	0.02	33.53
Reach 1	202551	65	59.30	85.96	90.46	87.05	90.47	0.000108	0.64	91.99	31.09	0.07	0.02	33.09
Reach 1	202551	70	53.50	85.96	90.36	86.99	90.36	0.000094	0.60	88.67	30.75	0.06	0.02	32.68
Reach 1	202551	75	48.50	85.96	90.27	86.94	90.27	0.000082	0.56	85.90	30.46	0.06	0.01	32.34
Reach 1	202551	80	42.20	85.96	90.17	86.87	90.18	0.000071	0.51	83.06	30.16	0.05	0.01	31.98
Reach 1	202551	85	34.60	85.96	90.05	86.77	90.06	0.000057	0.44	79.47	29.77	0.05	0.01	31.53
Reach 1	202551	90	26.90	85.96	89.93	86.67	89.93	0.000042	0.36	75.76	29.37	0.04	0.01	31.05
Reach 1	202551	91	23.80	85.96	89.88	86.63	89.88	0.000036	0.32	74.25	29.20	0.04	0.01	30.86
Reach 1	202551	92	21.30	85.96	89.83	86.60	89.83	0.000031	0.29	72.98	29.06	0.03	0.00	30.69
Reach 1	202551	93	18.70	85.96	89.78	86.55	89.78	0.000026	0.26	71.52	28.90	0.03	0.00	30.50
Reach 1	202551	94	15.90	85.96	89.72	86.51	89.73	0.000021	0.23	69.88	28.71	0.03	0.00	30.29
Reach 1	202551	95	12.90	85.96	89.66	86.46	89.66	0.000015	0.19	68.01	28.50	0.02	0.00	30.04
Reach 1	202551	96	11.20	85.96	89.62	86.43	89.62	0.000012	0.17	66.89	28.38	0.02	0.00	29.89
Reach 1	202551	97	8.27	85.96	89.52	86.36	89.52	0.000008	0.13	64.04	28.05	0.02	0.00	29.51
Reach 1	202551	98	5.44	85.96	89.40	86.29	89.40	0.000004	0.09	60.84	26.81	0.01	0.00	28.22
Reach 1	202551	99	4.00	85.96	89.34	86.25	89.34	0.000002	0.07	59.22	25.98	0.01	0.00	27.37
Reach 1	202551	99.5	1.65	85.96	89.21	86.14	89.21	0.000000	0.03	55.95	25.10	0.00	0.00	26.44
Reach 1	202551	99.75	1.11	85.96	89.18	86.11	89.18	0.000000	0.02	55.02	24.91	0.00	0.00	26.23
Reach 1	202551	100	0.11	85.96	88.94	86.01	88.94	0.000000	0.00	49.36	23.80	0.00	0.00	25.02
Reach 1	202479	1	1830.00	86.63	95.06	92.98	95.08	0.000445	1.74	3659.08	1408.52	0.12	0.16	54.73
Reach 1	202479	5	980.00	86.63	93.78	90.78	93.82	0.000683	1.95	1875.83	1271.88	0.16	0.20	54.50
Reach 1	202479	10	526.00	86.63	92.95	89.82	92.99	0.000585	1.93	833.97	1165.91	0.16	0.15	52.17
Reach 1	202479	15	393.00	86.63	92.63	89.48	92.68	0.000498	1.81	489.50	1001.25	0.16	0.12	51.68
Reach 1	202479	20	313.00	86.63	92.38	89.23	92.42	0.000417	1.66	287.83	603.30	0.15	0.09	51.24
Reach 1	202479	25	247.00	86.63	92.05	89.00	92.08	0.000343	1.48	175.55	125.22	0.14	0.07	50.42
Reach 1	202479	30	190.00	86.63	91.70	88.80	91.73	0.000282	1.26	150.62	49.65	0.13	0.05	49.60
Reach 1	202479	35	150.00	86.63	91.52	88.63	91.53	0.000256	1.06	141.54	47.50	0.11	0.05	49.16
Reach 1	202479	40	117.00	86.63	91.27	88.48	91.29	0.000229	0.90	130.19	45.91	0.09	0.04	47.95
Reach 1	202479	45	93.60	86.63	91.03	88.30	91.04	0.000202	0.78	119.41	44.61	0.08	0.03	46.54
Reach 1	202479	50	80.20	86.63	90.83	88.20	90.84	0.000184	0.73	110.35	43.14	0.08	0.03	44.99
Reach 1	202479	55	71.70	86.63	90.69	88.14	90.70	0.000168	0.69	104.38	42.27	0.08	0.02	44.04
Reach 1	202479	60	65.50	86.63	90.57	88.09	90.58	0.000154	0.66	99.48	41.79	0.08	0.02	43.49
Reach 1	202479	65	59.30	86.63	90.46	88.04	90.46	0.000139	0.63	94.65	41.32	0.07	0.02	42.94
Reach 1	202479	70	53.50	86.63	90.35	87.98	90.35	0.000125	0.59	90.27	40.88	0.07	0.02	42.44

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	202479	75	48.50	86.63	90.26	87.92	90.26	0.000114	0.56	86.62	40.52	0.07	0.01	42.02
Reach 1	202479	80	42.20	86.63	90.17	87.83	90.17	0.000101	0.51	82.88	40.14	0.06	0.01	41.58
Reach 1	202479	85	34.60	86.63	90.05	87.75	90.05	0.000085	0.44	78.13	39.65	0.06	0.01	41.01
Reach 1	202479	90	26.90	86.63	89.92	87.63	89.93	0.000067	0.37	73.23	39.14	0.05	0.01	40.43
Reach 1	202479	91	23.80	86.63	89.87	87.58	89.87	0.000059	0.33	71.23	38.93	0.04	0.01	40.19
Reach 1	202479	92	21.30	86.63	89.83	87.55	89.83	0.000052	0.31	69.56	38.76	0.04	0.01	39.98
Reach 1	202479	93	18.70	86.63	89.78	87.49	89.78	0.000045	0.28	67.63	38.55	0.04	0.00	39.75
Reach 1	202479	94	15.90	86.63	89.72	87.43	89.72	0.000038	0.24	65.46	38.32	0.03	0.00	39.48
Reach 1	202479	95	12.90	86.63	89.66	87.36	89.66	0.000028	0.20	62.98	38.06	0.03	0.00	39.17
Reach 1	202479	96	11.20	86.63	89.62	87.32	89.62	0.000023	0.18	61.50	37.90	0.03	0.00	38.99
Reach 1	202479	97	8.27	86.63	89.52	87.24	89.52	0.000015	0.14	57.71	37.49	0.02	0.00	38.51
Reach 1	202479	98	5.44	86.63	89.40	87.15	89.40	0.000008	0.10	53.43	35.97	0.01	0.00	36.94
Reach 1	202479	99	4.00	86.63	89.34	87.10	89.34	0.000005	0.08	51.25	35.48	0.01	0.00	36.44
Reach 1	202479	99.5	1.65	86.63	89.21	86.93	89.21	0.000001	0.04	46.77	34.39	0.01	0.00	35.31
Reach 1	202479	99.75	1.11	86.63	89.18	86.88	89.18	0.000001	0.02	45.50	34.15	0.00	0.00	35.06
Reach 1	202479	100	0.11	86.63	88.94	86.71	88.94	0.000000	0.00	37.69	32.82	0.00	0.00	33.65
Reach 1	202407	1	1830.00	88.72	95.03	92.85	95.04	0.000342	1.37	4110.20	1522.05	0.11	0.11	82.31
Reach 1	202407	5	980.00	88.72	93.74	91.48	93.76	0.000591	1.56	2084.25	1393.28	0.14	0.14	82.31
Reach 1	202407	10	533.00	88.72	92.91	90.74	92.94	0.000638	1.63	954.01	1292.12	0.16	0.12	81.26
Reach 1	202407	15	397.00	88.72	92.60	90.48	92.63	0.000618	1.60	570.80	1156.96	0.17	0.10	80.06
Reach 1	202407	20	318.00	88.72	92.35	90.31	92.38	0.000616	1.57	309.32	824.03	0.17	0.10	79.07
Reach 1	202407	25	251.00	88.72	92.02	90.16	92.05	0.000592	1.48	172.16	108.85	0.17	0.08	77.36
Reach 1	202407	30	194.00	88.72	91.67	90.01	91.70	0.000583	1.35	144.06	74.56	0.17	0.07	75.55
Reach 1	202407	35	152.00	88.72	91.49	89.88	91.51	0.000599	1.17	130.26	73.71	0.15	0.07	74.56
Reach 1	202407	40	118.00	88.72	91.24	89.78	91.26	0.000627	1.05	112.66	69.69	0.15	0.06	70.32
Reach 1	202407	45	94.40	88.72	91.00	89.70	91.02	0.000662	0.98	96.60	65.52	0.14	0.06	66.01
Reach 1	202407	50	80.20	88.72	90.80	89.65	90.81	0.000685	0.96	83.61	59.77	0.14	0.06	60.24
Reach 1	202407	55	71.70	88.72	90.66	89.62	90.67	0.000717	0.95	75.39	57.60	0.15	0.06	58.05
Reach 1	202407	60	65.50	88.72	90.54	89.60	90.55	0.000763	0.95	68.69	56.82	0.15	0.06	57.23
Reach 1	202407	65	59.30	88.72	90.42	89.58	90.44	0.000818	0.96	62.09	56.03	0.16	0.06	56.41
Reach 1	202407	70	53.50	88.72	90.32	89.54	90.33	0.000873	0.95	56.14	55.31	0.17	0.05	55.66
Reach 1	202407	75	48.50	88.72	90.22	89.50	90.24	0.000941	0.95	51.17	54.71	0.17	0.05	55.03
Reach 1	202407	80	42.20	88.72	90.13	89.46	90.14	0.001017	0.91	46.12	53.94	0.17	0.05	54.23
Reach 1	202407	85	34.60	88.72	90.01	89.40	90.02	0.001134	0.87	39.77	52.59	0.18	0.05	52.86
Reach 1	202407	90	26.90	88.72	89.89	89.35	89.90	0.001269	0.81	33.36	51.26	0.18	0.05	51.50
Reach 1	202407	91	23.80	88.72	89.84	89.32	89.85	0.001331	0.77	30.77	50.87	0.18	0.05	51.10
Reach 1	202407	92	21.30	88.72	89.80	89.31	89.80	0.001381	0.74	28.62	50.55	0.17	0.05	50.76
Reach 1	202407	93	18.70	88.72	89.75	89.28	89.75	0.001486	0.72	26.08	50.16	0.18	0.05	50.36
Reach 1	202407	94	15.90	88.72	89.69	89.26	89.70	0.001631	0.68	23.25	49.73	0.18	0.05	49.92
Reach 1	202407	95	12.90	88.72	89.62	89.22	89.63	0.001758	0.64	20.05	49.23	0.18	0.04	49.41
Reach 1	202407	96	11.20	88.72	89.59	89.21	89.59	0.001831	0.62	18.16	48.94	0.18	0.04	49.10
Reach 1	202407	97	8.27	88.72	89.48	89.17	89.49	0.001925	0.61	13.63	39.08	0.18	0.04	39.21
Reach 1	202407	98	5.44	88.72	89.37	89.13	89.37	0.002122	0.57	9.53	32.21	0.19	0.04	32.31
Reach 1	202407	99	4.00	88.72	89.31	89.10	89.31	0.002198	0.52	7.64	30.26	0.18	0.03	30.34
Reach 1	202407	99.5	1.65	88.72	89.18	88.99	89.18	0.002806	0.42	3.91	25.69	0.19	0.03	25.73
Reach 1	202407	99.75	1.11	88.72	89.14	88.96	89.14	0.002989	0.38	2.95	24.19	0.19	0.02	24.22
Reach 1	202407	100	0.11	88.72	88.90	88.81	88.90	0.003206	0.33	0.35	3.74	0.19	0.02	3.76
Reach 1	201565	1	1830.00	87.03	94.88	92.36	94.88	0.000151	0.99	6711.30	2341.37	0.07	0.05	67.23
Reach 1	201565	5	980.00	87.03	93.43	90.70	93.44	0.000299	1.21	3332.42	2195.04	0.10	0.08	67.23
Reach 1	201565	10	533.00	87.03	92.46	89.79	92.48	0.000491	1.53	1288.11	1830.32	0.15	0.10	67.23
Reach 1	201565	15	397.00	87.03	92.10	89.43	92.13	0.000556	1.64	689.18	1469.06	0.17	0.10	65.31
Reach 1	201565	20	318.00	87.03	91.84	89.19	91.87	0.000558	1.63	369.01	905.37	0.17	0.10	63.38
Reach 1	201565	25	251.00	87.03	91.56	88.96	91.59	0.000477	1.52	203.41	211.79	0.16	0.08	60.16
Reach 1	201565	30	194.00	87.03	91.27	88.75	91.30	0.000386	1.33	153.35	160.46	0.15	0.06	56.79
Reach 1	201565	35	152.00	87.03	91.10	88.56	91.12	0.000348	1.12	135.89	56.06	0.12	0.05	55.20
Reach 1	201565	40	118.00	87.03	90.86	88.39	90.88	0.000319	0.96	123.22	52.24	0.11	0.05	53.00
Reach 1	201565	45	94.40	87.03	90.63	88.26	90.64	0.000293	0.85	111.14	50.11	0.10	0.04	50.81
Reach 1	201565	50	80.20	87.03	90.42	88.18	90.43	0.000276	0.79	100.96	48.23	0.10	0.04	48.88
Reach 1	201565	55	71.70	87.03	90.28	88.12	90.28	0.000262	0.76	94.15	46.93	0.09	0.03	47.56
Reach 1	201565	60	65.50	87.03	90.15	88.08	90.16	0.000249	0.74	88.45	45.82	0.09	0.03	46.42
Reach 1	201565	65	59.30	87.03	90.03	88.04	90.04	0.000234	0.72	82.82	44.69	0.09	0.03	45.26
Reach 1	201565	70	53.50	87.03	89.91	87.99	89.91	0.000219	0.69	77.43	43.59	0.09	0.02	44.13
Reach 1	201565	75	48.50	87.03	89.80	87.95	89.80	0.000210	0.67	72.77	42.61	0.09	0.02	43.12
Reach 1	201565	80	42.20	87.03	89.69	87.91	89.69	0.000197	0.62	68.16	41.62	0.09	0.02	42.11
Reach 1	201565	85	34.60	87.03	89.54	87.83	89.55	0.000180	0.56	62.29	40.32	0.08	0.02	40.78
Reach 1	201565	90	26.90	87.03	89.38	87.75	89.38	0.000158	0.48	55.82	38.72	0.07	0.01	39.14
Reach 1	201565	91	23.80	87.03	89.31	87.72	89.31	0.000147	0.45	53.15	37.95	0.07	0.01	38.36
Reach 1	201565	92	21.30	87.03	89.25	87.69	89.26	0.000136	0.42	50.93	37.30	0.06	0.01	37.70
Reach 1	201565	93	18.70	87.03	89.19	87.65	89.19	0.000124	0.39	48.50	36.57	0.06	0.01	36.95
Reach 1	201565	94	15.90	87.03	89.07	87.61	89.07	0.000121	0.36	44.28	35.27	0.06	0.01	35.63
Reach 1	201565	95	12.90	87.03	88.96	87.56	88.97	0.000103	0.32	40.64	34.11	0.05	0.01	34.45
Reach 1	201565	96	11.20	87.03	88.90	87.53	88.90	0.000091	0.29	38.52	33.41	0.05	0.01	33.74
Reach 1	201565	97	8.27	87.03	88.79	87.47	88.79	0.000065	0.24	34.90	32.19	0.04	0.00	32.50
Reach 1	201565	98	5.44	87.03	88.66	87.41	88.66	0.000040	0.18	30.84	30.76	0.03	0.00	31.05
Reach 1	201565	99	4.00	87.03	88.58	87.36	88.58	0.000028	0.14	28.28	29.83	0.03	0.00	30.09
Reach 1	201565	99.5	1.65	87.03	88.38	87.26	88.38	0.000009	0.07	22.52	27.61	0.01	0.00	27.83
Reach 1	201565	99.75	1.11	87.03	88.32	87.23	88.32	0.000005	0.05	21.05	27.01	0.01	0.00	27.23
Reach 1	201565	100	0.11	87.03	88.18	87.11	88.18	0.000000	0.01	17.17	25.37	0.00	0.00	25.56
Reach 1	200150	1	1830.00	82.67	94.69	88.91	94.70	0.000108	1.10	6910.33	1929.63	0.06	0.06	39.93
Reach 1	200150	5	980.00	82.67	93.14	87.28	93.15	0.000135	1.16	3906.70	1816.12	0.07	0.06	39.93
Reach 1	200150	10	533.00	82.67	92.10	86.19	92.11	0.000122	1.19	2064.33	1744.11	0.08	0.05	39.93
Reach 1	200150	15	397.00	82.67	91.75	85.75	91.76	0.000105	1.14	1456.09	1716.27	0.07	0.04	39.93
Reach 1	200150	20	318.00	82.67	91.53	85.46	91.54	0.000088	1.06	1090.65	1590.54	0.07	0.03	39.93
Reach 1	200150	25	251.00	82.67	91.33	85.19	91.34	0.000069	0.95	782.41	1419.00	0.06	0.02	39.93
Reach 1	200150	30	194.00	82.67	91.09	84.88	91.10	0.000053	0.83	486.71	1142.03	0.06	0.02	39.93
Reach 1	200150	35	152.00	82.67	90.95	84.61	90.95	0.000046	0.69	335.67	873.83	0.05	0.02	39.93
Reach 1	200150	40	118.00	82.67	90.73	84.36	90.73	0.000037	0.56	221.15	215.76	0.04	0.01	39.93
Reach 1	200150	45	94.40	82.67	90.51	84.18	90.52	0.000029	0.47	203.07	35.46	0.03	0.01	39.91

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	200150	50	80.20	82.67	90.32	84.05	90.32	0.000023	0.41	196.24	34.88	0.03	0.01	39.71
Reach 1	200150	55	71.70	82.67	90.18	83.98	90.19	0.000019	0.37	191.64	34.06	0.03	0.01	39.57
Reach 1	200150	60	65.50	82.67	90.07	83.92	90.07	0.000016	0.35	187.77	33.66	0.03	0.00	39.45
Reach 1	200150	65	59.30	82.67	89.95	83.85	89.96	0.000014	0.32	183.89	33.33	0.02	0.00	39.33
Reach 1	200150	70	53.50	82.67	89.84	83.79	89.84	0.000011	0.30	180.11	33.01	0.02	0.00	39.22
Reach 1	200150	75	48.50	82.67	89.74	83.73	89.74	0.000010	0.27	176.73	32.79	0.02	0.00	39.08
Reach 1	200150	80	42.20	82.67	89.63	83.66	89.64	0.000008	0.24	173.35	32.74	0.02	0.00	38.86
Reach 1	200150	85	34.60	82.67	89.50	83.55	89.50	0.000006	0.20	168.92	32.66	0.02	0.00	38.58
Reach 1	200150	90	26.90	82.67	89.34	83.44	89.34	0.000004	0.16	163.85	32.58	0.01	0.00	38.26
Reach 1	200150	91	23.80	82.67	89.28	83.39	89.28	0.000004	0.15	161.71	32.54	0.01	0.00	38.12
Reach 1	200150	92	21.30	82.67	89.22	83.35	89.22	0.000003	0.13	159.90	32.51	0.01	0.00	38.01
Reach 1	200150	93	18.70	82.67	89.16	83.31	89.16	0.000003	0.12	157.87	32.48	0.01	0.00	37.88
Reach 1	200150	94	15.90	82.67	89.04	83.26	89.04	0.000002	0.10	154.13	32.41	0.01	0.00	37.64
Reach 1	200150	95	12.90	82.67	88.94	83.19	88.94	0.000001	0.09	150.89	32.36	0.01	0.00	37.43
Reach 1	200150	96	11.20	82.67	88.88	83.15	88.88	0.000001	0.08	148.96	32.33	0.01	0.00	37.31
Reach 1	200150	97	8.27	82.67	88.78	83.09	88.78	0.000001	0.06	145.58	32.27	0.00	0.00	37.09
Reach 1	200150	98	5.44	82.67	88.66	83.01	88.66	0.000000	0.04	141.58	32.20	0.00	0.00	36.83
Reach 1	200150	99	4.00	82.67	88.57	82.97	88.57	0.000000	0.03	138.93	32.16	0.00	0.00	36.66
Reach 1	200150	99.5	1.65	82.67	88.38	82.87	88.38	0.000000	0.01	132.60	32.05	0.00	0.00	36.25
Reach 1	200150	99.75	1.11	82.67	88.32	82.83	88.32	0.000000	0.01	130.89	32.02	0.00	0.00	36.14
Reach 1	200150	100	0.11	82.67	88.18	82.74	88.18	0.000000	0.00	126.18	31.94	0.00	0.00	35.84
Reach 1	200120	1	1830.00	87.51	94.69	91.68	94.69	0.000125	0.91	6681.90	1997.09	0.07	0.04	57.04
Reach 1	200120	5	980.00	87.51	93.14	91.33	93.14	0.000176	0.93	3855.98	1905.55	0.08	0.05	57.04
Reach 1	200120	10	533.00	87.51	92.10	90.03	92.11	0.000252	1.08	1986.76	1718.77	0.11	0.05	57.04
Reach 1	200120	15	397.00	87.51	91.75	89.71	91.76	0.000301	1.16	1388.58	1691.84	0.12	0.05	57.04
Reach 1	200120	20	318.00	87.51	91.52	89.51	91.54	0.000346	1.23	1013.80	1654.00	0.13	0.06	57.04
Reach 1	200120	25	251.00	87.51	91.31	89.32	91.33	0.000396	1.29	678.16	1514.56	0.14	0.06	57.04
Reach 1	200120	30	194.00	87.51	91.07	89.14	91.10	0.000471	1.35	355.36	1130.56	0.16	0.07	55.55
Reach 1	200120	35	152.00	87.51	90.93	88.98	90.95	0.000497	1.23	212.47	773.61	0.15	0.07	53.64
Reach 1	200120	40	118.00	87.51	90.71	88.86	90.73	0.000492	1.11	115.78	178.50	0.13	0.06	50.86
Reach 1	200120	45	94.40	87.51	90.50	88.75	90.51	0.000467	0.99	96.49	61.07	0.12	0.06	49.40
Reach 1	200120	50	80.20	87.51	90.30	88.68	90.32	0.000457	0.93	86.28	47.35	0.12	0.05	48.09
Reach 1	200120	55	71.70	87.51	90.17	88.65	90.18	0.000445	0.90	80.05	46.45	0.12	0.05	47.14
Reach 1	200120	60	65.50	87.51	90.06	88.61	90.07	0.000432	0.88	74.82	45.59	0.12	0.04	46.25
Reach 1	200120	65	59.30	87.51	89.94	88.58	89.95	0.000418	0.85	69.61	44.73	0.12	0.04	45.36
Reach 1	200120	70	53.50	87.51	89.83	88.54	89.84	0.000405	0.83	64.58	43.85	0.12	0.04	44.44
Reach 1	200120	75	48.50	87.51	89.72	88.50	89.73	0.000405	0.81	60.13	43.19	0.12	0.03	43.75
Reach 1	200120	80	42.20	87.51	89.62	88.45	89.63	0.000398	0.76	55.76	42.55	0.12	0.03	43.09
Reach 1	200120	85	34.60	87.51	89.49	88.39	89.50	0.000389	0.69	50.11	41.73	0.11	0.03	42.21
Reach 1	200120	90	26.90	87.51	89.34	88.32	89.34	0.000381	0.61	43.77	40.77	0.10	0.03	41.22
Reach 1	200120	91	23.80	87.51	89.27	88.27	89.28	0.000374	0.58	41.14	40.37	0.10	0.02	40.79
Reach 1	200120	92	21.30	87.51	89.21	88.24	89.22	0.000366	0.55	38.92	40.03	0.10	0.02	40.43
Reach 1	200120	93	18.70	87.51	89.15	88.21	89.16	0.000356	0.51	36.46	39.43	0.09	0.02	39.82
Reach 1	200120	94	15.90	87.51	89.04	88.17	89.04	0.000400	0.50	31.98	38.28	0.10	0.02	38.65
Reach 1	200120	95	12.90	87.51	88.94	88.13	88.94	0.000391	0.46	28.23	37.28	0.09	0.02	37.63
Reach 1	200120	96	11.20	87.51	88.88	88.10	88.88	0.000378	0.43	26.04	36.69	0.09	0.02	37.03
Reach 1	200120	97	8.27	87.51	88.78	88.05	88.78	0.000333	0.37	22.30	35.69	0.08	0.01	36.01
Reach 1	200120	98	5.44	87.51	88.65	87.97	88.65	0.000283	0.30	17.97	34.59	0.07	0.01	34.87
Reach 1	200120	99	4.00	87.51	88.57	87.93	88.57	0.000248	0.26	15.20	32.68	0.07	0.01	32.95
Reach 1	200120	99.5	1.65	87.51	88.37	87.83	88.38	0.000145	0.17	9.53	25.60	0.05	0.00	25.81
Reach 1	200120	99.75	1.11	87.51	88.32	87.78	88.32	0.000101	0.14	8.21	24.40	0.04	0.00	24.59
Reach 1	200120	100	0.11	87.51	88.18	87.62	88.18	0.000003	0.02	5.24	17.59	0.01	0.00	17.74
Reach 1	200074	1	1830.00	87.28	94.68	91.55	94.69	0.000128	0.94	6500.80	1924.97	0.07	0.05	59.83
Reach 1	200074	5	980.00	87.28	93.13	91.23	93.13	0.000185	0.97	3706.30	1717.59	0.08	0.05	59.83
Reach 1	200074	10	533.00	87.28	92.09	89.89	92.09	0.000234	1.07	1950.26	1639.11	0.10	0.05	59.83
Reach 1	200074	15	397.00	87.28	91.73	89.58	91.74	0.000261	1.11	1381.35	1568.30	0.11	0.05	59.83
Reach 1	200074	20	318.00	87.28	91.51	89.38	91.52	0.000285	1.15	1035.92	1520.63	0.12	0.05	59.83
Reach 1	200074	25	251.00	87.28	91.30	89.20	91.32	0.000312	1.18	721.25	1461.54	0.13	0.05	59.83
Reach 1	200074	30	194.00	87.28	91.06	89.03	91.08	0.000371	1.22	400.12	1162.39	0.14	0.05	59.83
Reach 1	200074	35	152.00	87.28	90.91	88.85	90.93	0.000405	1.11	247.05	843.32	0.13	0.06	59.18
Reach 1	200074	40	118.00	87.28	90.69	88.72	90.71	0.000407	1.01	130.59	240.49	0.12	0.05	55.97
Reach 1	200074	45	94.40	87.28	90.48	88.61	90.49	0.000383	0.90	105.13	56.11	0.11	0.05	53.94
Reach 1	200074	50	80.20	87.28	90.29	88.54	90.30	0.000371	0.84	94.94	51.63	0.11	0.04	52.23
Reach 1	200074	55	71.70	87.28	90.15	88.50	90.16	0.000358	0.81	88.19	50.48	0.11	0.04	51.05
Reach 1	200074	60	65.50	87.28	90.04	88.46	90.05	0.000346	0.79	82.53	49.50	0.11	0.04	50.04
Reach 1	200074	65	59.30	87.28	89.92	88.43	89.93	0.000333	0.77	76.90	48.51	0.11	0.03	49.02
Reach 1	200074	70	53.50	87.28	89.81	88.39	89.82	0.000321	0.75	71.47	47.53	0.11	0.03	48.02
Reach 1	200074	75	48.50	87.28	89.71	88.35	89.72	0.000318	0.73	66.66	46.74	0.11	0.03	47.21
Reach 1	200074	80	42.20	87.28	89.61	88.31	89.61	0.000309	0.68	61.94	45.97	0.10	0.03	46.41
Reach 1	200074	85	34.60	87.28	89.47	88.24	89.48	0.000298	0.62	55.86	44.96	0.10	0.02	45.36
Reach 1	200074	90	26.90	87.28	89.32	88.16	89.33	0.000286	0.55	49.05	43.80	0.09	0.02	44.17
Reach 1	200074	91	23.80	87.28	89.26	88.12	89.26	0.000278	0.51	46.23	43.31	0.09	0.02	43.66
Reach 1	200074	92	21.30	87.28	89.20	88.08	89.20	0.000268	0.49	43.87	42.90	0.08	0.02	43.23
Reach 1	200074	93	18.70	87.28	89.14	88.04	89.14	0.000259	0.45	41.25	42.43	0.08	0.02	42.75
Reach 1	200074	94	15.90	87.28	89.02	87.98	89.03	0.000291	0.44	36.34	41.55	0.08	0.02	41.83
Reach 1	200074	95	12.90	87.28	88.92	87.93	88.93	0.000253	0.40	32.40	38.02	0.08	0.01	38.30
Reach 1	200074	96	11.20	87.28	88.87	87.89	88.87	0.000234	0.37	30.21	37.19	0.07	0.01	37.45
Reach 1	200074	97	8.27	87.28	88.76	87.82	88.77	0.000188	0.31	26.50	35.94	0.06	0.01	36.18
Reach 1	200074	98	5.44	87.28	88.64	87.74	88.64	0.000138	0.24	22.25	34.46	0.05	0.01	34.67
Reach 1	200074	99	4.00	87.28	88.56	87.68	88.56	0.000111	0.20	19.51	33.47	0.05	0.00	33.67
Reach 1	200074	99.5	1.65	87.28	88.37	87.56	88.37	0.000058	0.12	13.32	30.08	0.03	0.00	30.25
Reach 1	200074	99.75	1.11	87.28	88.32	87.52	88.32	0.000036	0.09	11.82	28.20	0.03	0.00	28.35
Reach 1	200074	100	0.11	87.28	88.18	87.38	88.18	0.000001	0.01	8.19	22.14	0.00	0.00	22.26
Reach 1	200059	1	1830.00	88.03	94.68	91.58	94.68	0.000132	0.92	6466.96	1889.73	0.07	0.05	60.91
Reach 1	200059	5	980.00	88.03	93.13	91.26	93.13	0.000192	0.94	3695.83	1696.32	0.08	0.05	60.91
Reach 1	200059	10	533.00	88.03	92.08	90.10	92.09	0.000254	1.04	1946.11	1612.50	0.11	0.05	60.91
Reach 1	200059	15	397.00	88.03	91.73	89.79	91.74	0.000289	1.11	1387.37	1555.56	0.12	0.05	59.60
Reach 1	200059	20	318.00	88.03	91.50	89.59	91.52	0.000320	1.17	1042.49	1513.34	0.13	0.05	58.04

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	200059	25	251.00	88.03	91.29	89.41	91.31	0.000352	1.21	731.66	1412.37	0.14	0.05	56.88
Reach 1	200059	30	194.00	88.03	91.05	89.21	91.07	0.000432	1.30	412.47	1165.02	0.15	0.06	55.08
Reach 1	200059	35	152.00	88.03	90.90	89.06	90.92	0.000492	1.21	251.52	938.79	0.15	0.07	54.03
Reach 1	200059	40	118.00	88.03	90.68	88.93	90.70	0.000540	1.12	119.28	275.52	0.14	0.07	52.84
Reach 1	200059	45	94.40	88.03	90.47	88.83	90.48	0.000529	1.01	93.92	58.59	0.13	0.06	51.69
Reach 1	200059	50	80.20	88.03	90.27	88.76	90.29	0.000533	0.96	83.96	49.94	0.13	0.06	50.44
Reach 1	200059	55	71.70	88.03	90.14	88.72	90.16	0.000527	0.93	77.43	48.81	0.13	0.05	49.28
Reach 1	200059	60	65.50	88.03	90.03	88.70	90.04	0.000519	0.91	71.98	47.69	0.13	0.05	48.13
Reach 1	200059	65	59.30	88.03	89.91	88.66	89.93	0.000511	0.89	66.56	46.74	0.13	0.05	47.16
Reach 1	200059	70	53.50	88.03	89.80	88.63	89.81	0.000507	0.87	61.34	45.81	0.13	0.04	46.20
Reach 1	200059	75	48.50	88.03	89.70	88.60	89.71	0.000517	0.86	56.69	45.00	0.13	0.04	45.36
Reach 1	200059	80	42.20	88.03	89.60	88.57	89.61	0.000519	0.81	52.16	44.18	0.13	0.04	44.52
Reach 1	200059	85	34.60	88.03	89.46	88.52	89.47	0.000524	0.75	46.34	43.12	0.13	0.03	43.42
Reach 1	200059	90	26.90	88.03	89.31	88.47	89.32	0.000503	0.67	39.88	39.89	0.12	0.03	40.16
Reach 1	200059	91	23.80	88.03	89.25	88.44	89.25	0.000498	0.64	37.32	39.37	0.12	0.03	39.62
Reach 1	200059	92	21.30	88.03	89.19	88.42	89.20	0.000491	0.61	35.19	38.93	0.11	0.03	39.17
Reach 1	200059	93	18.70	88.03	89.13	88.40	89.14	0.000486	0.57	32.82	38.44	0.11	0.03	38.66
Reach 1	200059	94	15.90	88.03	89.01	88.38	89.02	0.000579	0.56	28.34	37.49	0.11	0.03	37.67
Reach 1	200059	95	12.90	88.03	88.92	88.35	88.92	0.000594	0.52	24.70	36.69	0.11	0.02	36.86
Reach 1	200059	96	11.20	88.03	88.86	88.33	88.86	0.000593	0.50	22.58	36.22	0.11	0.02	36.37
Reach 1	200059	97	8.27	88.03	88.76	88.30	88.76	0.000560	0.44	18.98	35.41	0.10	0.02	35.53
Reach 1	200059	98	5.44	88.03	88.64	88.27	88.64	0.000534	0.37	14.79	34.39	0.10	0.01	34.48
Reach 1	200059	99	4.00	88.03	88.56	88.25	88.56	0.000553	0.33	12.06	33.63	0.10	0.01	33.71
Reach 1	200059	99.5	1.65	88.03	88.36	88.18	88.36	0.001011	0.29	5.72	30.96	0.12	0.01	31.00
Reach 1	200059	99.75	1.11	88.03	88.31	88.16	88.31	0.001380	0.27	4.07	30.18	0.13	0.01	30.21
Reach 1	200059	100	0.11	88.03	88.14	88.09	88.14	0.004922	0.24	0.48	11.31	0.20	0.01	11.32
Reach 1	200009	1	1830.00	87.71	94.67	91.58	94.68	0.000133	0.96	6416.38	1811.85	0.07	0.05	54.40
Reach 1	200009	5	980.00	87.71	93.12	91.24	93.12	0.000190	0.98	3677.11	1656.36	0.08	0.05	54.40
Reach 1	200009	10	533.00	87.71	92.07	90.07	92.08	0.000242	1.08	1961.00	1606.55	0.10	0.05	54.40
Reach 1	200009	15	397.00	87.71	91.72	89.76	91.73	0.000281	1.15	1392.23	1593.59	0.12	0.05	54.40
Reach 1	200009	20	318.00	87.71	91.49	89.55	91.50	0.000311	1.20	1035.94	1545.34	0.13	0.05	54.40
Reach 1	200009	25	251.00	87.71	91.28	89.35	91.29	0.000345	1.24	720.47	1422.31	0.14	0.05	54.40
Reach 1	200009	30	194.00	87.71	91.03	89.17	91.05	0.000435	1.31	399.09	1118.47	0.15	0.06	54.40
Reach 1	200009	35	152.00	87.71	90.87	88.99	90.89	0.000507	1.22	241.66	874.70	0.15	0.07	54.33
Reach 1	200009	40	118.00	87.71	90.65	88.85	90.67	0.000562	1.13	114.23	273.62	0.14	0.07	53.37
Reach 1	200009	45	94.40	87.71	90.44	88.74	90.46	0.000555	1.02	93.03	56.10	0.13	0.06	52.46
Reach 1	200009	50	80.20	87.71	90.25	88.66	90.26	0.000544	0.96	83.16	49.37	0.13	0.06	49.99
Reach 1	200009	55	71.70	87.71	90.12	88.62	90.13	0.000530	0.93	76.78	47.82	0.13	0.05	48.41
Reach 1	200009	60	65.50	87.71	90.00	88.59	90.02	0.000517	0.92	71.46	46.61	0.13	0.05	47.18
Reach 1	200009	65	59.30	87.71	89.89	88.55	89.90	0.000506	0.90	66.20	45.62	0.13	0.05	46.16
Reach 1	200009	70	53.50	87.71	89.78	88.52	89.79	0.000497	0.88	61.12	44.64	0.13	0.04	45.15
Reach 1	200009	75	48.50	87.71	89.67	88.48	89.69	0.000503	0.86	56.59	43.76	0.13	0.04	44.23
Reach 1	200009	80	42.20	87.71	89.57	88.44	89.58	0.000497	0.81	52.19	42.75	0.13	0.04	43.19
Reach 1	200009	85	34.60	87.71	89.44	88.38	89.45	0.000485	0.74	46.61	41.15	0.12	0.03	41.56
Reach 1	200009	90	26.90	87.71	89.29	88.30	89.29	0.000477	0.66	40.47	39.74	0.12	0.03	40.09
Reach 1	200009	91	23.80	87.71	89.22	88.26	89.23	0.000470	0.63	37.94	39.18	0.11	0.03	39.52
Reach 1	200009	92	21.30	87.71	89.17	88.24	89.17	0.000460	0.59	35.83	38.71	0.11	0.03	39.03
Reach 1	200009	93	18.70	87.71	89.11	88.21	89.11	0.000419	0.56	33.53	36.20	0.10	0.02	36.50
Reach 1	200009	94	15.90	87.71	88.99	88.18	88.99	0.000486	0.55	29.16	35.23	0.11	0.02	35.50
Reach 1	200009	95	12.90	87.71	88.89	88.15	88.89	0.000470	0.50	25.76	34.09	0.10	0.02	34.34
Reach 1	200009	96	11.20	87.71	88.83	88.12	88.84	0.000448	0.47	23.82	33.42	0.10	0.02	33.65
Reach 1	200009	97	8.27	87.71	88.73	88.08	88.74	0.000378	0.40	20.59	32.27	0.09	0.01	32.49
Reach 1	200009	98	5.44	87.71	88.62	88.03	88.62	0.000299	0.32	16.88	30.90	0.08	0.01	31.10
Reach 1	200009	99	4.00	87.71	88.54	87.96	88.54	0.000261	0.28	14.44	29.97	0.07	0.01	30.15
Reach 1	200009	99.5	1.65	87.71	88.34	87.86	88.34	0.000176	0.19	8.89	25.04	0.05	0.00	25.16
Reach 1	200009	99.75	1.11	87.71	88.27	87.83	88.27	0.000120	0.15	7.47	21.97	0.04	0.00	22.08
Reach 1	200009	100	0.11	87.71	88.02	87.73	88.02	0.000040	0.05	2.34	16.22	0.02	0.00	16.27
Reach 1	199944	1	1830.00	87.82	94.67	91.47	94.67	0.000122	0.92	6473.54	1843.45	0.07	0.04	60.98
Reach 1	199944	5	980.00	87.82	93.11	91.14	93.11	0.000161	0.91	3758.37	1639.83	0.08	0.04	60.98
Reach 1	199944	10	538.00	87.82	92.06	89.93	92.07	0.000201	0.99	2052.19	1607.87	0.09	0.04	60.98
Reach 1	199944	15	403.00	87.82	91.70	89.65	91.71	0.000228	1.04	1481.11	1588.19	0.11	0.04	60.98
Reach 1	199944	20	322.00	87.82	91.48	89.47	91.49	0.000248	1.07	1122.54	1554.95	0.11	0.04	60.94
Reach 1	199944	25	255.00	87.82	91.26	89.31	91.27	0.000274	1.11	797.10	1486.55	0.12	0.04	60.35
Reach 1	199944	30	198.00	87.82	91.01	89.16	91.02	0.000345	1.20	443.42	1274.88	0.14	0.05	59.72
Reach 1	199944	35	155.00	87.82	90.85	89.02	90.86	0.000403	1.12	257.33	976.69	0.13	0.06	59.39
Reach 1	199944	40	119.00	87.82	90.62	88.91	90.64	0.000434	1.01	130.21	216.21	0.13	0.05	58.94
Reach 1	199944	45	95.10	87.82	90.41	88.82	90.42	0.000431	0.91	105.06	65.32	0.12	0.05	58.10
Reach 1	199944	50	80.20	87.82	90.22	88.76	90.23	0.000425	0.85	94.08	55.84	0.12	0.04	56.52
Reach 1	199944	55	71.70	87.82	90.09	88.73	90.10	0.000421	0.83	86.83	54.72	0.12	0.04	55.38
Reach 1	199944	60	65.50	87.82	89.98	88.70	89.99	0.000416	0.81	80.75	53.77	0.12	0.04	54.40
Reach 1	199944	65	59.30	87.82	89.86	88.67	89.87	0.000412	0.79	74.69	52.97	0.12	0.04	53.56
Reach 1	199944	70	53.50	87.82	89.75	88.65	89.76	0.000413	0.78	68.77	52.22	0.12	0.03	52.77
Reach 1	199944	75	48.50	87.82	89.65	88.62	89.65	0.000428	0.76	63.41	51.54	0.12	0.03	52.05
Reach 1	199944	80	42.20	87.82	89.54	88.58	89.55	0.000435	0.73	58.20	50.86	0.12	0.03	51.33
Reach 1	199944	85	34.60	87.82	89.41	88.53	89.42	0.000451	0.67	51.47	49.98	0.12	0.03	50.41
Reach 1	199944	90	26.90	87.82	89.26	88.46	89.26	0.000486	0.61	43.86	49.34	0.11	0.03	49.70
Reach 1	199944	91	23.80	87.82	89.19	88.44	89.20	0.000501	0.58	40.69	49.07	0.11	0.03	49.40
Reach 1	199944	92	21.30	87.82	89.14	88.41	89.14	0.000512	0.56	38.03	48.85	0.11	0.02	49.15
Reach 1	199944	93	18.70	87.82	89.08	88.37	89.08	0.000516	0.53	35.13	47.72	0.11	0.02	47.99
Reach 1	199944	94	15.90	87.82	88.95	88.33	88.95	0.000683	0.55	29.16	45.56	0.12	0.03	45.76
Reach 1	199944	95	12.90	87.82	88.85	88.29	88.85	0.000793	0.53	24.57	44.99	0.13	0.03	45.15
Reach 1	199944	96	11.20	87.82	88.79	88.27	88.79	0.000864	0.51	21.90	44.54	0.13	0.03	44.68
Reach 1	199944	97	8.27	87.82	88.69	88.22	88.69	0.000962	0.47	17.52	43.58	0.13	0.02	43.70
Reach 1	199944	98	5.44	87.82	88.57	88.16	88.57	0.001126	0.44	12.42	38.88	0.14	0.02	38.98
Reach 1	199944	99	4.00	87.82	88.49	88.11	88.49	0.001124	0.42	9.61	32.45	0.13	0.02	32.54
Reach 1	199944	99.5	1.65	87.82	88.29	88.02	88.30	0.001021	0.35	4.75	19.56	0.12	0.02	19.61
Reach 1	199944	99.75	1.11	87.82	88.23	87.98	88.23	0.001210	0.32	3.50	18.75	0.13	0.01	18.79
Reach 1	199944	100	0.11	87.82	87.96	87.88	87.96	0.001602	0.22	0.52	5.97	0.13	0.01	5.98

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	198501	1	1810.00	85.84	94.47	91.23	94.47	0.000221	1.25	5068.84	1604.98	0.09	0.08	65.83
Reach 1	198501	5	976.00	85.84	92.82	90.66	92.83	0.000312	1.27	2598.67	1249.14	0.11	0.09	65.83
Reach 1	198501	10	538.00	85.84	91.66	89.23	91.68	0.000404	1.38	1259.43	1072.50	0.13	0.08	65.83
Reach 1	198501	15	403.00	85.84	91.21	88.84	91.23	0.000513	1.50	783.83	987.01	0.16	0.09	65.83
Reach 1	198501	20	322.00	85.84	90.88	88.56	90.91	0.000641	1.61	483.02	836.87	0.18	0.10	65.83
Reach 1	198501	25	255.00	85.84	90.53	88.30	90.58	0.000821	1.71	244.50	542.53	0.20	0.11	65.83
Reach 1	198501	30	198.00	85.84	90.15	88.00	90.20	0.000813	1.68	119.15	76.01	0.20	0.10	58.15
Reach 1	198501	35	155.00	85.84	89.97	87.78	90.01	0.000764	1.43	108.21	53.95	0.18	0.09	55.21
Reach 1	198501	40	119.00	85.84	89.77	87.58	89.79	0.000684	1.22	97.52	50.71	0.16	0.08	51.86
Reach 1	198501	45	95.10	85.84	89.59	87.43	89.61	0.000601	1.07	88.61	47.85	0.14	0.07	48.90
Reach 1	198501	50	79.40	85.84	89.42	87.31	89.43	0.000529	0.98	80.67	45.14	0.13	0.06	46.10
Reach 1	198501	55	70.30	85.84	89.29	87.24	89.30	0.000480	0.94	74.96	43.09	0.13	0.05	43.97
Reach 1	198501	60	64.00	85.84	89.19	87.19	89.20	0.000437	0.90	70.72	41.50	0.12	0.05	42.33
Reach 1	198501	65	58.30	85.84	89.10	87.14	89.11	0.000397	0.87	66.93	40.03	0.12	0.04	40.80
Reach 1	198501	70	52.10	85.84	88.99	87.08	89.00	0.000355	0.83	62.80	38.61	0.11	0.04	39.33
Reach 1	198501	75	46.20	85.84	88.90	87.02	88.91	0.000324	0.78	59.42	37.67	0.11	0.03	38.33
Reach 1	198501	80	39.30	85.84	88.80	86.96	88.81	0.000286	0.71	55.73	36.38	0.10	0.03	37.00
Reach 1	198501	85	30.80	85.84	88.66	86.86	88.67	0.000233	0.61	50.71	34.00	0.09	0.02	34.61
Reach 1	198501	90	21.10	85.84	88.42	86.75	88.43	0.000186	0.49	43.01	31.14	0.07	0.02	31.70
Reach 1	198501	91	18.20	85.84	88.35	86.69	88.35	0.000168	0.45	40.67	30.25	0.07	0.01	30.80
Reach 1	198501	92	16.00	85.84	88.28	86.63	88.28	0.000153	0.41	38.72	29.49	0.06	0.01	30.03
Reach 1	198501	93	13.70	85.84	88.19	86.59	88.19	0.000134	0.38	36.14	28.05	0.06	0.01	28.58
Reach 1	198501	94	11.40	85.84	88.09	86.53	88.09	0.000109	0.34	33.44	26.05	0.05	0.01	26.56
Reach 1	198501	95	9.26	85.84	87.99	86.48	87.99	0.000088	0.30	30.81	24.66	0.05	0.01	25.15
Reach 1	198501	96	7.51	85.84	87.90	86.43	87.90	0.000071	0.26	28.73	24.11	0.04	0.01	24.57
Reach 1	198501	97	5.47	85.84	87.77	86.36	87.77	0.000052	0.21	25.64	23.26	0.04	0.00	23.68
Reach 1	198501	98	3.60	85.84	87.61	86.28	87.61	0.000036	0.16	21.93	22.20	0.03	0.00	22.57
Reach 1	198501	99	2.65	85.84	87.51	86.23	87.51	0.000026	0.13	19.71	21.45	0.02	0.00	21.79
Reach 1	198501	99.5	1.09	85.84	87.30	86.11	87.30	0.000009	0.07	15.41	19.53	0.01	0.00	19.81
Reach 1	198501	99.75	0.74	85.84	87.24	86.07	87.24	0.000005	0.05	14.25	18.98	0.01	0.00	19.25
Reach 1	198501	100	0.08	85.84	87.16	85.93	87.16	0.000000	0.01	12.83	18.34	0.00	0.00	18.60
Reach 1	198467	1	1810.00	86.44	94.46	90.18	94.47	0.000116	0.86	5286.98	1646.32	0.06	0.04	205.58
Reach 1	198467	5	976.00	86.44	92.82	89.68	92.82	0.000133	0.77	2806.93	1235.26	0.07	0.03	205.58
Reach 1	198467	10	538.00	86.44	91.66	89.19	91.67	0.000136	0.73	1475.86	1084.72	0.08	0.02	205.58
Reach 1	198467	15	403.00	86.44	91.21	88.86	91.22	0.000147	0.72	1000.05	1008.68	0.08	0.02	205.58
Reach 1	198467	20	322.00	86.44	90.88	88.67	90.89	0.000164	0.71	691.92	873.89	0.09	0.02	205.58
Reach 1	198467	25	255.00	86.44	90.54	88.30	90.55	0.000198	0.72	429.99	623.88	0.10	0.02	205.58
Reach 1	198467	30	198.00	86.44	90.16	88.08	90.17	0.000269	0.73	273.37	250.65	0.11	0.02	202.28
Reach 1	198467	35	155.00	86.44	89.97	87.89	89.98	0.000322	0.66	233.97	197.49	0.11	0.02	198.59
Reach 1	198467	40	119.00	86.44	89.76	87.70	89.77	0.000410	0.62	192.95	193.46	0.11	0.03	194.44
Reach 1	198467	45	95.10	86.44	89.58	87.55	89.58	0.000543	0.60	157.47	189.90	0.12	0.03	190.78
Reach 1	198467	50	79.40	86.44	89.40	87.44	89.41	0.000654	0.63	126.24	164.66	0.13	0.03	165.44
Reach 1	198467	55	70.30	86.44	89.28	87.38	89.28	0.000553	0.65	108.01	121.05	0.12	0.03	121.75
Reach 1	198467	60	64.00	86.44	89.18	87.34	89.18	0.000505	0.66	96.85	102.85	0.12	0.03	103.48
Reach 1	198467	65	58.30	86.44	89.09	87.30	89.09	0.000445	0.66	88.15	87.95	0.12	0.03	88.51
Reach 1	198467	70	52.10	86.44	88.98	87.25	88.99	0.000384	0.65	79.67	75.29	0.11	0.03	75.78
Reach 1	198467	75	46.20	86.44	88.89	87.19	88.90	0.000375	0.63	73.18	71.54	0.11	0.02	72.01
Reach 1	198467	80	39.30	86.44	88.79	87.13	88.80	0.000360	0.59	66.29	67.33	0.11	0.02	67.77
Reach 1	198467	85	30.80	86.44	88.65	87.06	88.66	0.000338	0.54	57.16	61.31	0.10	0.02	61.72
Reach 1	198467	90	21.10	86.44	88.42	86.95	88.42	0.000190	0.46	45.84	37.27	0.07	0.01	37.64
Reach 1	198467	91	18.20	86.44	88.34	86.91	88.34	0.000173	0.42	43.07	36.05	0.07	0.01	36.41
Reach 1	198467	92	16.00	86.44	88.28	86.88	88.28	0.000162	0.39	40.75	35.21	0.06	0.01	35.56
Reach 1	198467	93	13.70	86.44	88.19	86.85	88.19	0.000150	0.36	37.67	34.07	0.06	0.01	34.39
Reach 1	198467	94	11.40	86.44	88.09	86.81	88.09	0.000134	0.33	34.35	32.78	0.06	0.01	33.09
Reach 1	198467	95	9.26	86.44	87.98	86.77	87.99	0.000117	0.30	31.02	31.44	0.05	0.01	31.72
Reach 1	198467	96	7.51	86.44	87.90	86.73	87.90	0.000098	0.26	28.40	30.19	0.05	0.01	30.46
Reach 1	198467	97	5.47	86.44	87.77	86.69	87.77	0.000075	0.22	24.63	27.85	0.04	0.00	28.09
Reach 1	198467	98	3.60	86.44	87.61	86.64	87.61	0.000053	0.18	20.34	24.92	0.03	0.00	25.12
Reach 1	198467	99	2.65	86.44	87.51	86.61	87.51	0.000040	0.15	17.91	23.45	0.03	0.00	23.63
Reach 1	198467	99.5	1.09	86.44	87.30	86.55	87.30	0.000017	0.08	13.21	21.46	0.02	0.00	21.59
Reach 1	198467	99.75	0.74	86.44	87.24	86.53	87.24	0.000010	0.06	11.95	20.90	0.01	0.00	21.02
Reach 1	198467	100	0.08	86.44	87.16	86.47	87.16	0.000000	0.01	10.39	20.19	0.00	0.00	20.29
Reach 1	198420	1	1810.00	86.04	94.45	91.36	94.46	0.000236	1.31	5055.20	1643.12	0.09	0.09	56.87
Reach 1	198420	5	976.00	86.04	92.80	90.12	92.81	0.000336	1.35	2523.35	1215.33	0.11	0.10	56.87
Reach 1	198420	10	538.00	86.04	91.63	89.15	91.65	0.000477	1.54	1192.03	1068.68	0.15	0.10	56.87
Reach 1	198420	15	403.00	86.04	91.16	88.78	91.20	0.000627	1.71	708.07	960.84	0.17	0.12	56.87
Reach 1	198420	20	322.00	86.04	90.82	88.54	90.86	0.000809	1.86	399.36	779.91	0.20	0.13	56.87
Reach 1	198420	25	255.00	86.04	90.46	88.33	90.52	0.000922	1.94	177.27	415.99	0.22	0.14	53.90
Reach 1	198420	30	198.00	86.04	90.09	88.13	90.14	0.000792	1.79	110.33	46.85	0.21	0.11	48.04
Reach 1	198420	35	155.00	86.04	89.92	87.95	89.95	0.000723	1.51	102.43	45.04	0.18	0.10	46.18
Reach 1	198420	40	119.00	86.04	89.72	87.75	89.74	0.000629	1.27	93.67	42.94	0.15	0.08	44.03
Reach 1	198420	45	95.10	86.04	89.54	87.60	89.56	0.000548	1.10	86.10	41.42	0.14	0.07	42.46
Reach 1	198420	50	79.40	86.04	89.37	87.49	89.38	0.000487	1.00	79.12	40.26	0.13	0.06	41.24
Reach 1	198420	55	70.30	86.04	89.25	87.43	89.26	0.000442	0.95	74.25	39.43	0.12	0.05	40.37
Reach 1	198420	60	64.00	86.04	89.15	87.39	89.16	0.000406	0.91	70.49	38.78	0.12	0.04	39.69
Reach 1	198420	65	58.30	86.04	89.06	87.34	89.07	0.000371	0.87	67.09	38.18	0.12	0.04	39.06
Reach 1	198420	70	52.10	86.04	88.96	87.30	88.97	0.000334	0.82	63.27	37.49	0.11	0.03	38.34
Reach 1	198420	75	46.20	86.04	88.87	87.25	88.88	0.000306	0.77	60.05	36.91	0.11	0.03	37.73
Reach 1	198420	80	39.30	86.04	88.78	87.20	88.78	0.000274	0.70	56.50	36.25	0.10	0.03	37.04
Reach 1	198420	85	30.80	86.04	88.64	87.12	88.64	0.000235	0.60	51.51	35.39	0.09	0.02	36.14
Reach 1	198420	90	21.10	86.04	88.41	87.00	88.41	0.000202	0.48	43.55	34.05	0.08	0.02	34.72
Reach 1	198420	91	18.20	86.04	88.33	86.96	88.34	0.000188	0.44	41.02	33.61	0.07	0.01	34.25
Reach 1	198420	92	16.00	86.04	88.27	86.92	88.27	0.000177	0.41	38.87	33.24	0.07	0.01	33.85
Reach 1	198420	93	13.70	86.04	88.18	86.87	88.18	0.000167	0.38	35.96	32.72	0.06	0.01	33.30
Reach 1	198420	94	11.40	86.04	88.08	86.81	88.08	0.000154	0.35	32.76	32.14	0.06	0.01	32.69
Reach 1	198420	95	9.26	86.04	87.98	86.76	87.98	0.000141	0.31	29.48	31.54	0.06	0.01	32.05
Reach 1	198420	96	7.51	86.04	87.89	86.70	87.90	0.000119	0.28	26.87	30.21	0.05	0.01	30.69
Reach 1	198420	97	5.47	86.04	87.77	86.61	87.77	0.000089	0.24	23.19	27.10	0.04	0.00	27.52
Reach 1	198420	98	3.60	86.04	87.60	86.52	87.61	0.000062	0.19	19.12	23.80	0.04	0.00	24.14

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	198420	99	2.65	86.04	87.50	86.46	87.50	0.000050	0.16	16.77	23.07	0.03	0.00	23.39
Reach 1	198420	99.5	1.09	86.04	87.30	86.34	87.30	0.000023	0.09	12.12	21.57	0.02	0.00	21.82
Reach 1	198420	99.75	0.74	86.04	87.24	86.29	87.24	0.000015	0.07	10.86	21.14	0.02	0.00	21.37
Reach 1	198420	100	0.08	86.04	87.16	86.14	87.16	0.000000	0.01	9.28	20.60	0.00	0.00	20.80
Reach 1	196559	1	1810.00	86.29	94.20	89.12	94.21	0.000101	0.86	3741.07	1926.79	0.06	0.04	249.96
Reach 1	196559	5	976.00	86.29	92.49	88.27	92.50	0.000096	0.71	2318.19	1490.10	0.06	0.03	249.96
Reach 1	196559	10	545.00	86.29	91.27	87.75	91.28	0.000081	0.62	1305.39	1299.71	0.06	0.02	249.96
Reach 1	196559	15	407.00	86.29	90.75	87.53	90.75	0.000079	0.58	886.54	1063.71	0.06	0.01	249.96
Reach 1	196559	20	326.00	86.29	90.35	87.41	90.35	0.000083	0.55	628.95	558.80	0.06	0.01	249.57
Reach 1	196559	25	258.00	86.29	89.98	87.28	89.98	0.000084	0.52	502.45	274.24	0.06	0.01	246.50
Reach 1	196559	30	201.00	86.29	89.65	87.17	89.65	0.000086	0.49	415.33	251.84	0.07	0.01	243.71
Reach 1	196559	35	157.00	86.29	89.49	87.08	89.49	0.000088	0.42	376.15	246.25	0.06	0.01	242.39
Reach 1	196559	40	120.00	86.29	89.33	86.99	89.33	0.000087	0.36	336.37	240.44	0.05	0.01	241.02
Reach 1	196559	45	95.90	86.29	89.19	86.93	89.19	0.000085	0.32	302.38	237.97	0.05	0.01	239.82
Reach 1	196559	50	79.40	86.29	89.05	86.88	89.05	0.000076	0.29	270.31	219.72	0.05	0.01	221.54
Reach 1	196559	55	70.30	86.29	88.95	86.85	88.95	0.000062	0.28	250.31	191.92	0.04	0.01	193.72
Reach 1	196559	60	64.00	86.29	88.87	86.83	88.88	0.000050	0.27	237.00	168.53	0.04	0.00	170.32
Reach 1	196559	65	58.30	86.29	88.81	86.81	88.81	0.000040	0.26	226.23	152.66	0.04	0.00	154.44
Reach 1	196559	70	52.10	86.29	88.73	86.79	88.73	0.000033	0.24	214.76	141.40	0.03	0.00	143.17
Reach 1	196559	75	46.20	86.29	88.66	86.77	88.66	0.000029	0.23	205.20	138.47	0.03	0.00	140.24
Reach 1	196559	80	39.30	86.29	88.58	86.74	88.58	0.000025	0.20	194.44	135.06	0.03	0.00	136.82
Reach 1	196559	85	30.80	86.29	88.47	86.71	88.47	0.000021	0.17	179.19	130.45	0.03	0.00	132.20
Reach 1	196559	90	21.10	86.29	88.26	86.66	88.26	0.000017	0.14	152.66	122.46	0.02	0.00	124.18
Reach 1	196559	91	18.20	86.29	88.19	86.63	88.19	0.000015	0.13	144.95	120.60	0.02	0.00	122.32
Reach 1	196559	92	16.00	86.29	88.14	86.62	88.14	0.000014	0.12	138.00	118.91	0.02	0.00	120.62
Reach 1	196559	93	13.70	86.29	88.06	86.60	88.06	0.000013	0.11	128.81	116.63	0.02	0.00	118.33
Reach 1	196559	94	11.40	86.29	87.97	86.57	87.97	0.000011	0.10	118.76	114.08	0.02	0.00	115.78
Reach 1	196559	95	9.26	86.29	87.88	86.55	87.88	0.000010	0.09	108.81	111.50	0.02	0.00	113.19
Reach 1	196559	96	7.51	86.29	87.81	86.53	87.81	0.000007	0.07	101.70	98.57	0.01	0.00	100.20
Reach 1	196559	97	5.47	86.29	87.70	86.49	87.70	0.000005	0.06	91.07	92.92	0.01	0.00	94.43
Reach 1	196559	98	3.60	86.29	87.56	86.45	87.56	0.000003	0.05	78.02	86.78	0.01	0.00	88.12
Reach 1	196559	99	2.65	86.29	87.47	86.44	87.47	0.000002	0.04	70.24	84.89	0.01	0.00	86.12
Reach 1	196559	99.5	1.09	86.29	87.28	86.38	87.28	0.000001	0.02	54.83	81.02	0.00	0.00	82.03
Reach 1	196559	99.75	0.74	86.29	87.23	86.37	87.23	0.000001	0.01	50.54	79.90	0.00	0.00	80.85
Reach 1	196559	100	0.08	86.29	87.16	86.32	87.16	0.000000	0.00	45.30	78.52	0.00	0.00	79.39
Reach 1	196100	1	1810.00	85.54	94.04	88.91	94.12	0.000686	2.30	819.93	964.48	0.16	0.28	121.75
Reach 1	196100	5	976.00	85.54	92.37	88.04	92.41	0.000483	1.67	585.42	718.25	0.13	0.14	121.75
Reach 1	196100	10	545.00	85.54	91.19	87.48	91.22	0.000263	1.23	443.31	490.29	0.11	0.06	116.72
Reach 1	196100	15	407.00	85.54	90.68	87.28	90.70	0.000192	1.05	386.22	347.93	0.10	0.04	111.43
Reach 1	196100	20	326.00	85.54	90.29	87.14	90.30	0.000160	0.95	343.91	150.62	0.09	0.03	107.34
Reach 1	196100	25	258.00	85.54	89.93	87.02	89.94	0.000130	0.84	306.73	102.15	0.09	0.02	103.62
Reach 1	196100	30	201.00	85.54	89.61	86.89	89.62	0.000104	0.73	274.16	98.89	0.08	0.02	100.25
Reach 1	196100	35	157.00	85.54	89.46	86.78	89.46	0.000092	0.61	259.14	97.35	0.07	0.02	98.65
Reach 1	196100	40	120.00	85.54	89.30	86.66	89.30	0.000074	0.49	243.93	95.07	0.05	0.01	96.32
Reach 1	196100	45	95.90	85.54	89.16	86.55	89.16	0.000060	0.42	230.96	92.86	0.05	0.01	94.08
Reach 1	196100	50	79.40	85.54	89.02	86.48	89.03	0.000048	0.36	218.58	90.71	0.04	0.01	91.88
Reach 1	196100	55	70.30	85.54	88.93	86.44	88.93	0.000040	0.33	210.08	89.19	0.04	0.01	90.35
Reach 1	196100	60	64.00	85.54	88.86	86.41	88.86	0.000035	0.31	203.68	88.04	0.04	0.00	89.17
Reach 1	196100	65	58.30	85.54	88.79	86.39	88.79	0.000030	0.29	197.99	87.00	0.03	0.00	88.11
Reach 1	196100	70	52.10	85.54	88.72	86.35	88.72	0.000025	0.27	191.34	85.77	0.03	0.00	86.86
Reach 1	196100	75	46.20	85.54	88.65	86.32	88.65	0.000021	0.25	185.63	85.13	0.03	0.00	86.19
Reach 1	196100	80	39.30	85.54	88.57	86.28	88.57	0.000018	0.22	179.08	84.69	0.03	0.00	85.73
Reach 1	196100	85	30.80	85.54	88.46	86.23	88.46	0.000014	0.18	169.56	84.06	0.02	0.00	85.06
Reach 1	196100	90	21.10	85.54	88.25	86.13	88.25	0.000010	0.14	152.19	82.90	0.02	0.00	83.82
Reach 1	196100	91	18.20	85.54	88.19	86.10	88.19	0.000009	0.12	146.99	82.55	0.02	0.00	83.44
Reach 1	196100	92	16.00	85.54	88.13	86.08	88.13	0.000008	0.11	142.26	82.23	0.02	0.00	83.10
Reach 1	196100	93	13.70	85.54	88.05	86.04	88.05	0.000007	0.10	135.91	81.79	0.01	0.00	82.64
Reach 1	196100	94	11.40	85.54	87.97	86.01	87.97	0.000005	0.09	128.86	81.31	0.01	0.00	82.12
Reach 1	196100	95	9.26	85.54	87.88	85.98	87.88	0.000004	0.08	121.76	80.82	0.01	0.00	81.60
Reach 1	196100	96	7.51	85.54	87.81	85.94	87.81	0.000003	0.06	116.32	80.44	0.01	0.00	81.20
Reach 1	196100	97	5.47	85.54	87.70	85.89	87.70	0.000002	0.05	107.47	79.82	0.01	0.00	80.54
Reach 1	196100	98	3.60	85.54	87.56	85.83	87.56	0.000001	0.04	95.93	79.08	0.01	0.00	79.74
Reach 1	196100	99	2.65	85.54	87.47	85.79	87.47	0.000001	0.03	88.80	78.68	0.00	0.00	79.30
Reach 1	196100	99.5	1.09	85.54	87.28	85.72	87.28	0.000000	0.01	74.30	77.86	0.00	0.00	78.40
Reach 1	196100	99.75	0.74	85.54	87.23	85.69	87.23	0.000000	0.01	70.17	77.62	0.00	0.00	78.14
Reach 1	196100	100	0.08	85.54	87.16	85.60	87.16	0.000000	0.00	65.05	77.33	0.00	0.00	77.82
Reach 1	194927	1	1760.00	86.84	93.67	89.89	93.68	0.000135	0.89	4826.05	1578.81	0.07	0.04	183.87
Reach 1	194927	5	966.00	86.84	91.98	89.33	91.99	0.000206	0.90	2596.62	1550.71	0.08	0.05	183.87
Reach 1	194927	10	545.00	86.84	90.87	88.91	90.88	0.000311	0.99	1132.87	1526.64	0.11	0.05	183.87
Reach 1	194927	15	407.00	86.84	90.36	88.71	90.38	0.000435	1.07	546.09	1121.83	0.14	0.05	183.87
Reach 1	194927	20	326.00	86.84	89.95	88.57	89.97	0.000624	1.14	326.06	356.29	0.16	0.06	183.45
Reach 1	194927	25	258.00	86.84	89.57	88.45	89.59	0.000918	1.22	216.27	308.71	0.20	0.07	175.01
Reach 1	194927	30	201.00	86.84	89.20	88.34	89.22	0.001554	1.36	147.52	213.47	0.25	0.09	162.11
Reach 1	194927	35	157.00	86.84	89.01	88.24	89.04	0.001969	1.32	119.04	190.32	0.25	0.10	140.85
Reach 1	194927	40	120.00	86.84	88.85	88.14	88.87	0.002150	1.22	98.03	170.70	0.24	0.11	122.85
Reach 1	194927	45	95.90	86.84	88.72	88.06	88.74	0.002163	1.15	83.16	107.28	0.23	0.10	107.70
Reach 1	194927	50	78.00	86.84	88.59	87.99	88.61	0.002208	1.11	70.34	97.72	0.23	0.10	98.09
Reach 1	194927	55	67.60	86.84	88.49	87.95	88.51	0.002378	1.12	60.62	92.15	0.24	0.10	92.48
Reach 1	194927	60	61.00	86.84	88.43	87.89	88.45	0.002438	1.11	54.84	88.67	0.25	0.09	88.98
Reach 1	194927	65	56.30	86.84	88.38	87.86	88.40	0.002511	1.11	50.60	86.03	0.26	0.09	86.32
Reach 1	194927	70	49.70	86.84	88.31	87.79	88.33	0.002607	1.11	44.93	82.37	0.26	0.09	82.63
Reach 1	194927	75	41.70	86.84	88.24	87.71	88.26	0.002789	1.06	39.32	78.58	0.26	0.09	78.81
Reach 1	194927	80	33.80	86.84	88.16	87.62	88.18	0.003058	1.02	33.16	72.63	0.27	0.09	72.84
Reach 1	194927	85	23.50	86.84	88.02	87.51	88.04	0.003725	0.98	24.00	60.27	0.27	0.09	60.43
Reach 1	194927	90	9.69	86.84	87.65	87.31	87.67	0.003616	0.98	9.84	21.90	0.26	0.10	21.97
Reach 1	194927	91	7.46	86.84	87.58	87.27	87.59	0.003566	0.91	8.20	20.37	0.25	0.09	20.44
Reach 1	194927	92	5.68	86.84	87.51	87.23	87.52	0.003395	0.83	6.88	19.05	0.24	0.08	19.11
Reach 1	194927	93	3.82	86.84	87.41	87.16	87.42	0.003533	0.74	5.14	17.15	0.24	0.07	17.19

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	194927	94	2.75	86.84	87.35	87.13	87.36	0.003540	0.67	4.09	15.89	0.23	0.06	15.93
Reach 1	194927	95	2.04	86.84	87.30	87.09	87.31	0.003270	0.60	3.38	14.56	0.22	0.05	14.60
Reach 1	194927	96	0.27	86.84	87.06	86.95	87.06	0.003029	0.35	0.76	6.91	0.19	0.02	6.93
Reach 1	194927	97	0.10	86.84	86.99	86.91	86.99	0.003301	0.28	0.35	4.69	0.18	0.02	4.70
Reach 1	194927	98	0.10	86.84	86.99	86.91	86.99	0.003207	0.28	0.35	4.72	0.18	0.02	4.73
Reach 1	194927	99	0.10	86.84	86.99	86.91	86.99	0.003476	0.29	0.34	4.65	0.19	0.02	4.66
Reach 1	194927	99.5	0.10	86.84	86.99	86.91	86.99	0.003367	0.29	0.35	4.67	0.19	0.02	4.69
Reach 1	194927	99.75	0.10	86.84	86.99	86.91	86.99	0.003265	0.28	0.35	4.70	0.18	0.02	4.71
Reach 1	194927	100	0.10	86.84	86.99	86.91	86.99	0.003491	0.29	0.34	4.64	0.19	0.02	4.65
Reach 1	194360	1	1760.00	85.07	93.47	88.48	93.52	0.000522	2.06	1556.46	1127.93	0.14	0.22	101.99
Reach 1	194360	5	966.00	85.07	91.76	87.56	91.80	0.000490	1.73	851.39	605.61	0.14	0.15	101.99
Reach 1	194360	10	545.00	85.07	90.67	86.93	90.70	0.000297	1.34	493.42	389.29	0.12	0.07	100.10
Reach 1	194360	15	407.00	85.07	90.19	86.67	90.21	0.000223	1.16	369.08	252.67	0.11	0.05	96.75
Reach 1	194360	20	326.00	85.07	89.76	86.49	89.78	0.000191	1.06	308.60	92.95	0.10	0.04	93.73
Reach 1	194360	25	258.00	85.07	89.36	86.32	89.37	0.000161	0.95	271.78	88.84	0.10	0.03	89.55
Reach 1	194360	30	201.00	85.07	88.90	86.16	88.91	0.000145	0.87	231.86	84.17	0.09	0.02	84.78
Reach 1	194360	35	157.00	85.07	88.59	86.03	88.60	0.000152	0.76	206.55	81.24	0.08	0.02	81.78
Reach 1	194360	40	120.00	85.07	88.25	85.90	88.26	0.000157	0.67	179.80	78.10	0.08	0.02	78.57
Reach 1	194360	45	95.90	85.07	87.97	85.81	87.97	0.000160	0.61	157.72	75.41	0.07	0.02	75.82
Reach 1	194360	50	78.00	85.07	87.69	85.73	87.70	0.000160	0.57	137.59	72.88	0.07	0.02	73.22
Reach 1	194360	55	67.60	85.07	87.52	85.67	87.52	0.000151	0.54	125.00	71.25	0.07	0.02	71.55
Reach 1	194360	60	61.00	85.07	87.40	85.64	87.40	0.000146	0.52	116.26	70.09	0.07	0.02	70.37
Reach 1	194360	65	56.30	85.07	87.30	85.62	87.30	0.000144	0.51	109.36	69.16	0.07	0.01	69.42
Reach 1	194360	70	49.70	85.07	87.16	85.58	87.16	0.000141	0.50	99.73	67.85	0.07	0.01	68.07
Reach 1	194360	75	41.70	85.07	86.97	85.54	86.98	0.000154	0.48	87.42	66.13	0.07	0.01	66.32
Reach 1	194360	80	33.80	85.07	86.76	85.49	86.76	0.000175	0.46	73.56	62.37	0.07	0.01	62.53
Reach 1	194360	85	23.50	85.07	86.45	85.42	86.46	0.000208	0.42	55.53	56.39	0.08	0.01	56.52
Reach 1	194360	90	9.69	85.07	85.91	85.29	85.92	0.000297	0.35	27.94	45.75	0.08	0.01	45.82
Reach 1	194360	91	7.46	85.07	85.81	85.26	85.82	0.000297	0.32	23.48	43.78	0.08	0.01	43.84
Reach 1	194360	92	5.68	85.07	85.72	85.24	85.73	0.000280	0.29	19.69	40.69	0.07	0.01	40.74
Reach 1	194360	93	3.82	85.07	85.62	85.21	85.62	0.000251	0.24	15.62	38.13	0.07	0.01	38.17
Reach 1	194360	94	2.75	85.07	85.50	85.19	85.50	0.000351	0.24	11.28	35.48	0.08	0.01	35.51
Reach 1	194360	95	2.04	85.07	85.43	85.18	85.43	0.000416	0.23	8.70	32.95	0.08	0.01	32.97
Reach 1	194360	96	0.27	85.07	85.17	85.12	85.17	0.002466	0.20	1.34	24.31	0.15	0.01	24.32
Reach 1	194360	97	0.10	85.07	85.14	85.11	85.14	0.003603	0.16	0.61	19.98	0.17	0.01	19.99
Reach 1	194360	98	0.10	85.07	85.14	85.11	85.14	0.003391	0.16	0.62	20.22	0.16	0.01	20.22
Reach 1	194360	99	0.10	85.07	85.14	85.11	85.14	0.003658	0.16	0.61	19.92	0.17	0.01	19.93
Reach 1	194360	99.5	0.10	85.07	85.14	85.11	85.14	0.003656	0.16	0.61	19.92	0.17	0.01	19.93
Reach 1	194360	99.75	0.10	85.07	85.14	85.11	85.14	0.003605	0.16	0.61	19.98	0.17	0.01	19.98
Reach 1	194360	100	0.10	85.07	85.14	85.11	85.14	0.003436	0.16	0.62	20.17	0.16	0.01	20.17
Reach 1	194269	1	1760.00	84.56	93.34	88.41	93.44	0.000891	2.62	810.66	446.68	0.18	0.36	100.85
Reach 1	194269	5	966.00	84.56	91.68	87.45	91.74	0.000645	1.98	530.30	197.67	0.16	0.20	97.71
Reach 1	194269	10	545.00	84.56	90.64	86.81	90.67	0.000320	1.42	394.08	114.58	0.12	0.08	94.95
Reach 1	194269	15	407.00	84.56	90.16	86.56	90.19	0.000234	1.20	340.73	108.46	0.11	0.05	93.69
Reach 1	194269	20	326.00	84.56	89.74	86.40	89.76	0.000194	1.08	301.77	88.20	0.10	0.04	89.51
Reach 1	194269	25	258.00	84.56	89.34	86.25	89.36	0.000160	0.97	267.15	84.14	0.10	0.03	85.34
Reach 1	194269	30	201.00	84.56	88.88	86.11	88.89	0.000139	0.88	229.57	79.07	0.09	0.02	80.17
Reach 1	194269	35	157.00	84.56	88.58	85.99	88.58	0.000142	0.76	205.87	76.12	0.08	0.02	77.14
Reach 1	194269	40	120.00	84.56	88.24	85.88	88.25	0.000144	0.66	180.73	73.57	0.07	0.02	74.49
Reach 1	194269	45	95.90	84.56	87.95	85.81	87.96	0.000144	0.60	159.87	71.38	0.07	0.02	72.22
Reach 1	194269	50	78.00	84.56	87.68	85.74	87.69	0.000140	0.55	140.79	69.32	0.07	0.02	70.07
Reach 1	194269	55	67.60	84.56	87.51	85.70	87.51	0.000130	0.52	128.86	68.00	0.07	0.02	68.70
Reach 1	194269	60	61.00	84.56	87.38	85.67	87.39	0.000123	0.51	120.54	67.06	0.07	0.01	67.73
Reach 1	194269	65	56.30	84.56	87.28	85.65	87.29	0.000120	0.49	113.94	66.31	0.07	0.01	66.95
Reach 1	194269	70	49.70	84.56	87.14	85.62	87.15	0.000115	0.47	104.73	65.25	0.07	0.01	65.84
Reach 1	194269	75	41.70	84.56	86.96	85.59	86.96	0.000122	0.45	92.80	63.85	0.07	0.01	64.38
Reach 1	194269	80	33.80	84.56	86.74	85.56	86.75	0.000138	0.43	79.13	62.20	0.07	0.01	62.67
Reach 1	194269	85	23.50	84.56	86.44	85.37	86.44	0.000171	0.39	60.42	59.87	0.07	0.01	60.25
Reach 1	194269	90	9.69	84.56	85.89	85.16	85.89	0.000321	0.33	29.09	53.48	0.08	0.01	53.72
Reach 1	194269	91	7.46	84.56	85.78	85.10	85.78	0.000365	0.31	23.70	52.24	0.08	0.01	52.46
Reach 1	194269	92	5.68	84.56	85.69	85.05	85.69	0.000433	0.30	18.95	51.12	0.09	0.01	51.32
Reach 1	194269	93	3.82	84.56	85.58	84.99	85.58	0.000607	0.29	13.35	49.78	0.10	0.01	49.94
Reach 1	194269	94	2.75	84.56	85.47	84.94	85.47	0.000391	0.30	9.17	22.85	0.08	0.01	23.00
Reach 1	194269	95	2.04	84.56	85.39	84.90	85.39	0.000366	0.27	7.52	20.74	0.08	0.01	20.88
Reach 1	194269	96	0.27	84.56	85.06	84.71	85.06	0.000156	0.12	2.21	10.65	0.05	0.00	10.77
Reach 1	194269	97	0.10	84.56	84.98	84.66	84.98	0.000058	0.07	1.48	8.19	0.03	0.00	8.31
Reach 1	194269	98	0.10	84.56	84.97	84.66	84.97	0.000063	0.07	1.43	8.00	0.03	0.00	8.11
Reach 1	194269	99	0.10	84.56	84.97	84.66	84.97	0.000068	0.07	1.39	7.80	0.03	0.00	7.92
Reach 1	194269	99.5	0.10	84.56	84.97	84.66	84.97	0.000068	0.07	1.39	7.81	0.03	0.00	7.93
Reach 1	194269	99.75	0.10	84.56	84.97	84.66	84.97	0.000063	0.07	1.43	7.97	0.03	0.00	8.09
Reach 1	194269	100	0.10	84.56	84.97	84.66	84.97	0.000062	0.07	1.44	8.01	0.03	0.00	8.13
Reach 1	194227		Bridge											
Reach 1	194173	1	1760.00	84.76	93.27	88.43	93.35	0.000790	2.46	952.91	1106.47	0.17	0.34	89.97
Reach 1	194173	5	966.00	84.76	91.63	87.47	91.68	0.000521	1.94	601.55	746.53	0.15	0.17	89.97
Reach 1	194173	10	551.00	84.76	90.61	86.82	90.64	0.000319	1.43	415.90	342.98	0.12	0.08	89.97
Reach 1	194173	15	413.00	84.76	90.14	86.57	90.16	0.000264	1.22	347.14	169.25	0.11	0.06	89.97
Reach 1	194173	20	330.00	84.76	89.72	86.39	89.74	0.000248	1.10	300.57	92.16	0.10	0.05	89.31
Reach 1	194173	25	262.00	84.76	89.32	86.23	89.34	0.000221	0.99	265.86	84.55	0.10	0.04	85.51
Reach 1	194173	30	205.00	84.76	88.87	86.09	88.88	0.000208	0.90	228.30	79.58	0.09	0.04	80.45
Reach 1	194173	35	160.00	84.76	88.56	85.96	88.57	0.000207	0.78	204.33	76.85	0.08	0.03	77.64
Reach 1	194173	40	121.00	84.76	88.22	85.83	88.23	0.000204	0.68	178.99	74.01	0.08	0.03	74.72
Reach 1	194173	45	96.60	84.76	87.94	85.75	87.94	0.000203	0.61	158.04	71.58	0.07	0.03	72.22
Reach 1	194173	50	78.00	84.76	87.67	85.68	87.67	0.000195	0.56	138.97	69.29	0.07	0.02	69.87
Reach 1	194173	55	67.60	84.76	87.49	85.64	87.50	0.000191	0.53	127.11	67.83	0.07	0.02	68.36
Reach 1	194173	60	61.00	84.76	87.37	85.60	87.37	0.000191	0.51	118.85	66.79	0.07	0.02	67.30
Reach 1	194173	65	56.30	84.76	87.27	85.58	87.28	0.000193	0.50	112.31	65.96	0.07	0.02	66.44
Reach 1	194173	70	49.70	84.76	87.13	85.55	87.14	0.000195	0.48	103.17	64.77	0.07	0.02	65.23

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	194173	75	41.70	84.76	86.95	85.49	86.95	0.000199	0.46	91.31	63.21	0.07	0.02	63.61
Reach 1	194173	80	33.80	84.76	86.73	85.42	86.73	0.000215	0.43	77.70	61.36	0.07	0.02	61.71
Reach 1	194173	85	23.50	84.76	86.42	85.33	86.42	0.000233	0.40	59.34	57.26	0.07	0.01	57.56
Reach 1	194173	90	9.69	84.76	85.86	85.14	85.86	0.000284	0.33	29.26	49.54	0.08	0.01	49.73
Reach 1	194173	91	7.46	84.76	85.75	85.09	85.75	0.000308	0.31	24.12	48.09	0.08	0.01	48.26
Reach 1	194173	92	5.68	84.76	85.65	85.06	85.65	0.000348	0.29	19.49	46.51	0.08	0.01	46.66
Reach 1	194173	93	3.82	84.76	85.53	85.01	85.53	0.000400	0.28	13.84	39.81	0.08	0.01	39.94
Reach 1	194173	94	2.75	84.76	85.43	84.98	85.43	0.000376	0.26	10.54	31.47	0.08	0.01	31.58
Reach 1	194173	95	2.04	84.76	85.36	84.95	85.36	0.000378	0.24	8.34	27.58	0.08	0.01	27.67
Reach 1	194173	96	0.27	84.76	85.04	84.85	85.04	0.000221	0.13	2.15	13.05	0.05	0.00	13.07
Reach 1	194173	97	0.10	84.76	84.97	84.82	84.97	0.000134	0.08	1.31	11.46	0.04	0.00	11.47
Reach 1	194173	98	0.10	84.76	84.96	84.82	84.96	0.000166	0.08	1.22	11.28	0.04	0.00	11.29
Reach 1	194173	99	0.10	84.76	84.95	84.82	84.95	0.000211	0.09	1.13	11.08	0.05	0.00	11.09
Reach 1	194173	99.5	0.10	84.76	84.96	84.82	84.96	0.000210	0.09	1.13	11.09	0.05	0.00	11.10
Reach 1	194173	99.75	0.10	84.76	84.96	84.82	84.96	0.000171	0.08	1.21	11.25	0.04	0.00	11.26
Reach 1	194173	100	0.10	84.76	84.96	84.82	84.96	0.000163	0.08	1.23	11.29	0.04	0.00	11.30
Reach 1	194066	1	1760.00	84.26	93.23	87.67	93.27	0.000336	1.69	1465.69	1191.00	0.11	0.15	95.10
Reach 1	194066	5	966.00	84.26	91.60	86.79	91.62	0.000245	1.42	944.81	1144.77	0.10	0.09	95.10
Reach 1	194066	10	551.00	84.26	90.59	86.21	90.61	0.000167	1.13	623.35	1067.57	0.09	0.05	95.10
Reach 1	194066	15	413.00	84.26	90.12	85.99	90.14	0.000145	0.99	474.21	956.67	0.08	0.04	95.10
Reach 1	194066	20	330.00	84.26	89.71	85.83	89.72	0.000132	0.89	370.25	196.23	0.08	0.03	93.83
Reach 1	194066	25	262.00	84.26	89.31	85.67	89.32	0.000112	0.78	334.04	89.14	0.07	0.03	90.65
Reach 1	194066	30	205.00	84.26	88.85	85.52	88.86	0.000099	0.70	294.14	85.77	0.07	0.02	87.11
Reach 1	194066	35	160.00	84.26	88.55	85.39	88.55	0.000095	0.60	268.08	84.03	0.06	0.02	85.23
Reach 1	194066	40	121.00	84.26	88.21	85.26	88.21	0.000088	0.50	240.17	82.12	0.05	0.02	83.19
Reach 1	194066	45	96.60	84.26	87.92	85.17	87.93	0.000083	0.45	216.78	80.49	0.05	0.01	81.43
Reach 1	194066	50	78.00	84.26	87.65	85.09	87.66	0.000075	0.40	195.26	78.96	0.04	0.01	79.79
Reach 1	194066	55	67.60	84.26	87.48	85.04	87.48	0.000070	0.37	181.71	77.98	0.04	0.01	78.73
Reach 1	194066	60	61.00	84.26	87.36	85.02	87.36	0.000067	0.35	172.20	77.28	0.04	0.01	77.99
Reach 1	194066	65	56.30	84.26	87.26	84.99	87.26	0.000066	0.34	164.60	76.72	0.04	0.01	77.38
Reach 1	194066	70	49.70	84.26	87.12	84.96	87.12	0.000063	0.32	153.93	75.93	0.04	0.01	76.53
Reach 1	194066	75	41.70	84.26	86.93	84.91	86.94	0.000060	0.30	139.94	74.87	0.04	0.01	75.40
Reach 1	194066	80	33.80	84.26	86.71	84.87	86.72	0.000058	0.27	123.66	73.63	0.04	0.01	74.06
Reach 1	194066	85	23.50	84.26	86.40	84.81	86.41	0.000053	0.23	101.10	71.87	0.03	0.00	72.17
Reach 1	194066	90	9.69	84.26	85.84	84.66	85.84	0.000035	0.16	61.60	65.86	0.03	0.00	65.98
Reach 1	194066	91	7.46	84.26	85.73	84.62	85.73	0.000028	0.14	54.80	62.80	0.03	0.00	62.91
Reach 1	194066	92	5.68	84.26	85.63	84.58	85.63	0.000023	0.12	48.69	59.91	0.02	0.00	60.01
Reach 1	194066	93	3.82	84.26	85.50	84.54	85.50	0.000017	0.09	41.19	56.16	0.02	0.00	56.25
Reach 1	194066	94	2.75	84.26	85.41	84.50	85.41	0.000013	0.08	36.09	53.46	0.02	0.00	53.54
Reach 1	194066	95	2.04	84.26	85.34	84.48	85.34	0.000010	0.06	32.19	51.30	0.01	0.00	51.37
Reach 1	194066	96	0.27	84.26	85.03	84.36	85.03	0.000001	0.02	17.58	43.14	0.00	0.00	43.19
Reach 1	194066	97	0.10	84.26	84.96	84.32	84.96	0.000000	0.01	14.86	41.50	0.00	0.00	41.54
Reach 1	194066	98	0.10	84.26	84.95	84.32	84.95	0.000000	0.01	14.42	41.22	0.00	0.00	41.26
Reach 1	194066	99	0.10	84.26	84.94	84.32	84.94	0.000000	0.01	14.12	41.04	0.00	0.00	41.08
Reach 1	194066	99.5	0.10	84.26	84.94	84.32	84.94	0.000000	0.01	14.13	41.04	0.00	0.00	41.09
Reach 1	194066	99.75	0.10	84.26	84.95	84.32	84.95	0.000000	0.01	14.36	41.18	0.00	0.00	41.23
Reach 1	194066	100	0.10	84.26	84.95	84.32	84.95	0.000000	0.01	14.46	41.25	0.00	0.00	41.29
Reach 1	192899	1	1760.00	84.80	92.87	89.12	92.89	0.000476	1.80	2952.57	921.62	0.13	0.19	69.87
Reach 1	192899	5	966.00	84.80	91.16	87.81	91.20	0.000658	1.99	1387.71	896.94	0.16	0.19	69.87
Reach 1	192899	10	551.00	84.80	90.12	87.00	90.17	0.000736	1.95	568.75	680.24	0.18	0.16	69.87
Reach 1	192899	15	413.00	84.80	89.64	86.68	89.69	0.000725	1.82	311.01	366.40	0.18	0.15	67.46
Reach 1	192899	20	330.00	84.80	89.26	86.45	89.30	0.000650	1.67	228.56	115.16	0.17	0.12	62.60
Reach 1	192899	25	262.00	84.80	88.91	86.26	88.95	0.000553	1.50	192.59	95.85	0.15	0.10	58.26
Reach 1	192899	30	205.00	84.80	88.48	86.08	88.51	0.000530	1.38	154.60	80.19	0.15	0.09	55.09
Reach 1	192899	35	160.00	84.80	88.17	85.92	88.20	0.000538	1.21	132.97	62.96	0.13	0.08	53.09
Reach 1	192899	40	121.00	84.80	87.85	85.77	87.87	0.000530	1.05	115.27	50.18	0.12	0.07	50.95
Reach 1	192899	45	96.60	84.80	87.58	85.66	87.59	0.000528	0.95	101.62	48.31	0.12	0.07	49.00
Reach 1	192899	50	78.00	84.80	87.33	85.57	87.34	0.000493	0.87	89.94	46.66	0.11	0.06	47.27
Reach 1	192899	55	67.60	84.80	87.17	85.51	87.18	0.000479	0.82	82.44	45.56	0.11	0.05	46.12
Reach 1	192899	60	61.00	84.80	87.05	85.48	87.06	0.000477	0.79	77.04	44.76	0.11	0.05	45.28
Reach 1	192899	65	56.30	84.80	86.95	85.46	86.95	0.000487	0.78	72.50	44.07	0.11	0.05	44.56
Reach 1	192899	70	49.70	84.80	86.81	85.42	86.82	0.000492	0.75	66.47	43.14	0.11	0.05	43.59
Reach 1	192899	75	41.70	84.80	86.62	85.37	86.63	0.000504	0.71	58.70	41.92	0.11	0.04	42.30
Reach 1	192899	80	33.80	84.80	86.39	85.32	86.40	0.000570	0.69	49.08	40.34	0.11	0.04	40.66
Reach 1	192899	85	23.50	84.80	86.07	85.23	86.07	0.000695	0.65	36.34	38.16	0.12	0.04	38.37
Reach 1	192899	90	9.69	84.80	85.47	85.07	85.48	0.001400	0.63	15.31	32.53	0.16	0.04	32.61
Reach 1	192899	91	7.46	84.80	85.39	85.04	85.39	0.001582	0.60	12.48	31.62	0.17	0.04	31.68
Reach 1	192899	92	5.68	84.80	85.31	85.01	85.31	0.001741	0.57	10.02	29.60	0.17	0.04	29.65
Reach 1	192899	93	3.82	84.80	85.20	84.97	85.21	0.002037	0.53	7.19	26.30	0.18	0.03	26.34
Reach 1	192899	94	2.75	84.80	85.14	84.95	85.14	0.002217	0.49	5.57	24.22	0.18	0.03	24.25
Reach 1	192899	95	2.04	84.80	85.09	84.93	85.10	0.002315	0.46	4.48	22.71	0.18	0.03	22.73
Reach 1	192899	96	0.27	84.80	84.91	84.85	84.91	0.003066	0.27	1.00	13.74	0.18	0.01	13.75
Reach 1	192899	97	0.10	84.80	84.87	84.83	84.87	0.003264	0.20	0.50	11.40	0.17	0.01	11.41
Reach 1	192899	98	0.10	84.80	84.87	84.83	84.87	0.002473	0.18	0.55	11.65	0.15	0.01	11.66
Reach 1	192899	99	0.10	84.80	84.88	84.83	84.88	0.001812	0.16	0.61	11.95	0.13	0.01	11.96
Reach 1	192899	99.5	0.10	84.80	84.88	84.83	84.88	0.001842	0.16	0.61	11.94	0.13	0.01	11.94
Reach 1	192899	99.75	0.10	84.80	84.87	84.83	84.87	0.002357	0.18	0.56	11.70	0.14	0.01	11.70
Reach 1	192899	100	0.10	84.80	84.87	84.83	84.87	0.002556	0.18	0.54	11.62	0.15	0.01	11.63
Reach 1	192451	1	1760.00	83.66	92.75	87.22	92.76	0.000192	1.34	3995.82	1034.49	0.08	0.10	77.02
Reach 1	192451	5	966.00	83.66	91.02	86.29	91.03	0.000179	1.28	2221.85	1013.05	0.09	0.07	77.02
Reach 1	192451	10	551.00	83.66	89.98	85.69	89.99	0.000140	1.10	1196.47	927.64	0.08	0.05	77.02
Reach 1	192451	15	413.00	83.66	89.51	85.44	89.52	0.000122	0.97	809.63	675.37	0.08	0.04	77.02
Reach 1	192451	20	330.00	83.66	89.12	85.26	89.14	0.000113	0.89	615.97	417.59	0.07	0.03	77.02
Reach 1	192451	25	262.00	83.66	88.79	85.10	88.80	0.000097	0.78	486.17	328.31	0.07	0.02	77.02
Reach 1	192451	30	205.00	83.66	88.36	84.95	88.37	0.000090	0.70	378.78	197.07	0.06	0.02	76.87
Reach 1	192451	35	160.00	83.66	88.06	84.81	88.06	0.000088	0.60	325.16	166.13	0.06	0.02	76.09
Reach 1	192451	40	121.00	83.66	87.74	84.68	87.74	0.000083	0.51	273.78	156.37	0.05	0.02	75.27
Reach 1	192451	45	96.60	83.66	87.46	84.57	87.46	0.000078	0.45	233.46	119.98	0.05	0.01	74.56

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	192451	50	78.00	83.66	87.22	84.49	87.23	0.000067	0.40	207.62	103.38	0.04	0.01	73.96
Reach 1	192451	55	67.60	83.66	87.07	84.43	87.07	0.000062	0.37	191.71	97.26	0.04	0.01	73.55
Reach 1	192451	60	61.00	83.66	86.95	84.40	86.95	0.000059	0.35	180.52	92.62	0.04	0.01	73.25
Reach 1	192451	65	56.30	83.66	86.85	84.37	86.85	0.000058	0.34	171.19	88.57	0.04	0.01	72.98
Reach 1	192451	70	49.70	83.66	86.71	84.33	86.71	0.000055	0.32	159.40	83.16	0.04	0.01	72.63
Reach 1	192451	75	41.70	83.66	86.53	84.28	86.53	0.000051	0.29	144.80	77.16	0.04	0.01	72.16
Reach 1	192451	80	33.80	83.66	86.28	84.21	86.28	0.000051	0.27	126.93	71.03	0.04	0.01	71.54
Reach 1	192451	85	23.50	83.66	85.95	84.12	85.95	0.000047	0.23	103.34	68.92	0.03	0.00	69.37
Reach 1	192451	90	9.69	83.66	85.27	83.95	85.27	0.000034	0.16	59.39	59.38	0.03	0.00	59.67
Reach 1	192451	91	7.46	83.66	85.16	83.91	85.16	0.000028	0.14	53.01	57.13	0.03	0.00	57.41
Reach 1	192451	92	5.68	83.66	85.06	83.89	85.06	0.000023	0.12	47.17	54.99	0.02	0.00	55.26
Reach 1	192451	93	3.82	83.66	84.93	83.85	84.93	0.000016	0.09	40.38	52.40	0.02	0.00	52.64
Reach 1	192451	94	2.75	83.66	84.85	83.83	84.85	0.000012	0.08	36.11	50.70	0.02	0.00	50.93
Reach 1	192451	95	2.04	83.66	84.78	83.81	84.78	0.000009	0.06	32.76	49.33	0.01	0.00	49.55
Reach 1	192451	96	0.27	83.66	84.63	83.72	84.63	0.000000	0.01	25.49	45.11	0.00	0.00	45.30
Reach 1	192451	97	0.10	83.66	84.59	83.70	84.59	0.000000	0.00	23.81	43.48	0.00	0.00	43.66
Reach 1	192451	98	0.10	83.66	84.55	83.70	84.55	0.000000	0.00	21.89	41.65	0.00	0.00	41.82
Reach 1	192451	99	0.10	83.66	84.44	83.70	84.44	0.000000	0.01	17.64	37.54	0.00	0.00	37.68
Reach 1	192451	99.5	0.10	83.66	84.48	83.70	84.48	0.000000	0.01	19.35	39.24	0.00	0.00	39.39
Reach 1	192451	99.75	0.10	83.66	84.51	83.70	84.51	0.000000	0.00	20.34	40.20	0.00	0.00	40.35
Reach 1	192451	100	0.10	83.66	84.56	83.70	84.56	0.000000	0.00	22.21	41.95	0.00	0.00	42.12
Reach 1	191189	1	1810.00	83.40	92.57	87.51	92.58	0.000049	0.62	5153.68	1394.79	0.04	0.02	110.82
Reach 1	191189	5	970.00	83.40	90.85	86.68	90.85	0.000059	0.65	2782.38	1319.98	0.05	0.02	110.82
Reach 1	191189	10	551.00	83.40	89.83	85.92	89.84	0.000063	0.64	1501.02	1134.25	0.05	0.02	110.82
Reach 1	191189	15	409.00	83.40	89.37	85.57	89.37	0.000074	0.65	1011.62	933.70	0.06	0.02	110.82
Reach 1	191189	20	325.00	83.40	88.98	85.33	88.99	0.000091	0.67	702.67	639.07	0.06	0.02	110.82
Reach 1	191189	25	258.00	83.40	88.66	85.13	88.67	0.000102	0.67	520.30	536.73	0.07	0.02	110.21
Reach 1	191189	30	199.00	83.40	88.23	84.94	88.24	0.000125	0.67	314.87	335.97	0.07	0.02	108.72
Reach 1	191189	35	155.00	83.40	87.92	84.77	87.93	0.000133	0.59	261.16	114.46	0.07	0.02	106.08
Reach 1	191189	40	117.00	83.40	87.61	84.61	87.61	0.000132	0.51	228.17	102.29	0.06	0.02	102.87
Reach 1	191189	45	93.50	83.40	87.34	84.49	87.34	0.000133	0.47	200.72	99.60	0.06	0.02	100.12
Reach 1	191189	50	76.00	83.40	87.11	84.40	87.12	0.000125	0.43	178.69	97.38	0.06	0.01	97.85
Reach 1	191189	55	66.00	83.40	86.96	84.34	86.96	0.000123	0.40	163.94	95.86	0.05	0.01	96.30
Reach 1	191189	60	59.40	83.40	86.84	84.30	86.85	0.000124	0.39	152.93	94.71	0.05	0.01	95.12
Reach 1	191189	65	54.50	83.40	86.74	84.27	86.74	0.000127	0.38	143.16	93.17	0.05	0.01	93.55
Reach 1	191189	70	48.00	83.40	86.61	84.22	86.61	0.000115	0.37	131.39	84.28	0.05	0.01	84.63
Reach 1	191189	75	40.00	83.40	86.43	84.16	86.43	0.000100	0.34	117.40	75.64	0.05	0.01	75.97
Reach 1	191189	80	31.60	83.40	86.19	84.09	86.19	0.000094	0.32	99.76	68.06	0.05	0.01	68.36
Reach 1	191189	85	21.20	83.40	85.86	83.98	85.86	0.000074	0.27	78.95	57.85	0.04	0.01	58.11
Reach 1	191189	90	7.90	83.40	85.22	83.79	85.22	0.000031	0.17	47.60	42.71	0.03	0.00	42.90
Reach 1	191189	91	6.08	83.40	85.12	83.76	85.12	0.000023	0.14	43.46	41.26	0.02	0.00	41.44
Reach 1	191189	92	4.63	83.40	85.02	83.72	85.02	0.000018	0.12	39.60	39.87	0.02	0.00	40.04
Reach 1	191189	93	3.11	83.40	84.91	83.67	84.91	0.000011	0.09	35.23	38.23	0.02	0.00	38.38
Reach 1	191189	94	2.24	83.40	84.84	83.64	84.84	0.000007	0.07	32.42	37.14	0.01	0.00	37.28
Reach 1	191189	95	1.66	83.40	84.77	83.61	84.77	0.000005	0.06	30.14	36.23	0.01	0.00	36.36
Reach 1	191189	96	0.22	83.40	84.63	83.49	84.63	0.000000	0.01	25.12	34.15	0.00	0.00	34.26
Reach 1	191189	97	0.10	83.40	84.59	83.47	84.59	0.000000	0.00	23.85	33.59	0.00	0.00	33.70
Reach 1	191189	98	0.10	83.40	84.55	83.47	84.55	0.000000	0.00	22.34	32.93	0.00	0.00	33.03
Reach 1	191189	99	0.10	83.40	84.44	83.47	84.44	0.000000	0.01	18.89	31.36	0.00	0.00	31.45
Reach 1	191189	99.5	0.10	83.40	84.48	83.47	84.48	0.000000	0.00	20.30	32.01	0.00	0.00	32.10
Reach 1	191189	99.75	0.10	83.40	84.51	83.47	84.51	0.000000	0.00	21.10	32.38	0.00	0.00	32.47
Reach 1	191189	100	0.10	83.40	84.56	83.47	84.56	0.000000	0.00	22.60	33.05	0.00	0.00	33.15
Reach 1	190557	1	1810.00	84.27	92.50	88.65	92.51	0.000233	1.40	4553.80	1288.17	0.09	0.11	57.87
Reach 1	190557	5	970.00	84.27	90.74	87.17	90.76	0.000297	1.52	2309.82	1271.42	0.11	0.10	57.87
Reach 1	190557	10	551.00	84.27	89.70	86.43	89.73	0.000338	1.55	1038.30	1100.59	0.13	0.10	57.87
Reach 1	190557	15	409.00	84.27	89.22	86.13	89.25	0.000359	1.50	587.41	768.30	0.13	0.09	57.87
Reach 1	190557	20	325.00	84.27	88.82	85.93	88.85	0.000373	1.42	364.70	382.55	0.13	0.09	57.87
Reach 1	190557	25	258.00	84.27	88.51	85.76	88.54	0.000340	1.28	267.79	250.08	0.12	0.07	57.87
Reach 1	190557	30	199.00	84.27	88.08	85.59	88.10	0.000338	1.16	190.74	132.60	0.12	0.06	57.87
Reach 1	190557	35	155.00	84.27	87.76	85.44	87.78	0.000365	1.02	155.54	99.31	0.11	0.06	57.87
Reach 1	190557	40	117.00	84.27	87.45	85.28	87.46	0.000367	0.88	133.32	58.05	0.10	0.05	57.78
Reach 1	190557	45	93.50	84.27	87.18	85.16	87.19	0.000359	0.79	118.10	55.51	0.10	0.05	56.16
Reach 1	190557	50	76.00	84.27	86.97	85.06	86.98	0.000324	0.71	106.51	54.16	0.09	0.04	54.74
Reach 1	190557	55	66.00	84.27	86.82	85.00	86.83	0.000309	0.67	98.55	53.21	0.09	0.04	53.75
Reach 1	190557	60	59.40	84.27	86.71	84.96	86.71	0.000303	0.64	92.49	52.48	0.09	0.03	52.98
Reach 1	190557	65	54.50	84.27	86.60	84.93	86.61	0.000307	0.63	87.03	51.81	0.09	0.03	52.28
Reach 1	190557	70	48.00	84.27	86.48	84.89	86.48	0.000302	0.60	80.51	51.00	0.08	0.03	51.42
Reach 1	190557	75	40.00	84.27	86.30	84.83	86.31	0.000298	0.56	71.83	49.90	0.08	0.03	50.27
Reach 1	190557	80	31.60	84.27	86.05	84.76	86.06	0.000333	0.53	59.46	48.30	0.08	0.03	48.58
Reach 1	190557	85	21.20	84.27	85.73	84.67	85.73	0.000376	0.48	44.09	45.57	0.09	0.02	45.78
Reach 1	190557	90	7.90	84.27	85.11	84.52	85.11	0.000437	0.41	19.15	32.25	0.09	0.02	32.36
Reach 1	190557	91	6.08	84.27	85.02	84.49	85.02	0.000399	0.37	16.47	30.61	0.09	0.01	30.71
Reach 1	190557	92	4.63	84.27	84.94	84.46	84.94	0.000376	0.33	13.93	28.97	0.08	0.01	29.06
Reach 1	190557	93	3.11	84.27	84.84	84.43	84.84	0.000313	0.28	11.30	27.17	0.08	0.01	27.25
Reach 1	190557	94	2.24	84.27	84.78	84.41	84.78	0.000254	0.23	9.70	26.02	0.07	0.01	26.09
Reach 1	190557	95	1.66	84.27	84.73	84.39	84.73	0.000219	0.20	8.35	25.00	0.06	0.00	25.06
Reach 1	190557	96	0.22	84.27	84.63	84.32	84.63	0.000011	0.04	5.95	23.08	0.01	0.00	23.13
Reach 1	190557	97	0.10	84.27	84.59	84.31	84.59	0.000003	0.02	5.12	22.39	0.01	0.00	22.42
Reach 1	190557	98	0.10	84.27	84.55	84.31	84.55	0.000007	0.02	4.12	21.51	0.01	0.00	21.54
Reach 1	190557	99	0.10	84.27	84.42	84.31	84.42	0.000144	0.07	1.52	17.43	0.04	0.00	17.44
Reach 1	190557	99.5	0.10	84.27	84.37	84.31	84.38	0.000693	0.12	0.86	13.66	0.08	0.00	13.67
Reach 1	190557	99.75	0.10	84.27	84.37	84.31	84.37	0.000885	0.13	0.79	13.18	0.09	0.00	13.19
Reach 1	190557	100	0.10	84.27	84.36	84.31	84.36	0.001216	0.14	0.70	12.60	0.11	0.00	12.61
Reach 1	189088	1	1870.00	82.83	92.31	86.44	92.31	0.000051	0.66	5222.94	1425.01	0.04	0.02	149.86
Reach 1	189088	5	973.00	82.83	90.52	85.79	90.52	0.000058	0.68	2724.33	1364.76	0.05	0.02	149.86
Reach 1	189088	10	551.00	82.83	89.47	85.26	89.48	0.000060	0.66	1338.80	1224.77	0.05	0.02	149.86
Reach 1	189088	15	409.00	82.83	88.99	85.01	89.00	0.000059	0.61	830.88	873.12	0.05	0.02	149.86
Reach 1	189088	20	325.00	82.83	88.60	84.71	88.61	0.000056	0.56	618.16	240.64	0.05	0.01	149.72

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	189088	25	258.00	82.83	88.32	84.53	88.32	0.000047	0.49	550.84	237.08	0.05	0.01	149.40
Reach 1	189088	30	199.00	82.83	87.89	84.25	87.89	0.000044	0.44	458.22	160.55	0.04	0.01	148.93
Reach 1	189088	35	155.00	82.83	87.56	84.07	87.56	0.000047	0.38	408.76	145.96	0.04	0.01	148.28
Reach 1	189088	40	117.00	82.83	87.24	83.90	87.24	0.000045	0.32	363.27	144.47	0.04	0.01	146.55
Reach 1	189088	45	93.50	82.83	86.98	83.78	86.98	0.000044	0.29	324.70	143.19	0.03	0.01	145.07
Reach 1	189088	50	76.00	82.83	86.78	83.68	86.79	0.000038	0.26	297.44	142.27	0.03	0.00	144.02
Reach 1	189088	55	66.00	82.83	86.64	83.62	86.64	0.000036	0.24	277.48	141.60	0.03	0.00	143.24
Reach 1	189088	60	59.40	82.83	86.53	83.57	86.53	0.000036	0.23	261.52	141.06	0.03	0.00	142.62
Reach 1	189088	65	54.50	82.83	86.42	83.54	86.42	0.000036	0.22	246.07	140.54	0.03	0.00	142.01
Reach 1	189088	70	48.00	82.83	86.29	83.49	86.30	0.000036	0.21	228.41	139.94	0.03	0.00	141.32
Reach 1	189088	75	40.00	82.83	86.12	83.43	86.12	0.000036	0.20	204.36	139.12	0.03	0.00	140.36
Reach 1	189088	80	31.60	82.83	85.83	83.37	85.83	0.000046	0.19	164.30	137.73	0.03	0.00	138.77
Reach 1	189088	85	21.20	82.83	85.43	83.27	85.43	0.000047	0.19	113.89	102.73	0.03	0.00	103.44
Reach 1	189088	90	7.90	82.83	84.80	83.11	84.80	0.000025	0.13	59.23	62.53	0.02	0.00	62.81
Reach 1	189088	91	6.08	82.83	84.77	83.07	84.77	0.000015	0.11	57.67	58.76	0.02	0.00	59.04
Reach 1	189088	92	4.63	82.83	84.75	83.05	84.75	0.000008	0.08	56.31	52.92	0.01	0.00	53.19
Reach 1	189088	93	3.11	82.83	84.71	83.01	84.71	0.000004	0.06	54.39	48.91	0.01	0.00	49.18
Reach 1	189088	94	2.24	82.83	84.68	82.99	84.68	0.000002	0.04	53.22	48.58	0.01	0.00	48.84
Reach 1	189088	95	1.66	82.83	84.65	82.97	84.65	0.000001	0.03	51.86	48.19	0.01	0.00	48.45
Reach 1	189088	96	0.22	82.83	84.63	82.90	84.63	0.000000	0.00	50.45	47.79	0.00	0.00	48.04
Reach 1	189088	97	0.10	82.83	84.59	82.88	84.59	0.000000	0.00	48.83	47.32	0.00	0.00	47.56
Reach 1	189088	98	0.10	82.83	84.54	82.88	84.54	0.000000	0.00	46.64	46.67	0.00	0.00	46.91
Reach 1	189088	99	0.10	82.83	84.39	82.88	84.39	0.000000	0.00	39.74	39.25	0.00	0.00	39.47
Reach 1	189088	99.5	0.10	82.83	84.20	82.88	84.20	0.000000	0.00	33.10	33.91	0.00	0.00	34.10
Reach 1	189088	99.75	0.10	82.83	84.15	82.88	84.15	0.000000	0.00	31.47	33.32	0.00	0.00	33.51
Reach 1	189088	100	0.10	82.83	84.05	82.88	84.05	0.000000	0.00	28.10	32.07	0.00	0.00	32.24
Reach 1	188446	1	1870.00	83.85	92.28	87.15	92.28	0.000043	0.54	6066.52	1578.66	0.04	0.02	284.54
Reach 1	188446	5	973.00	83.85	90.49	86.56	90.49	0.000047	0.52	3278.77	1543.38	0.04	0.01	284.54
Reach 1	188446	10	550.00	83.85	89.44	85.92	89.44	0.000053	0.50	1682.19	1491.60	0.05	0.01	284.54
Reach 1	188446	15	395.00	83.85	88.96	85.64	88.96	0.000057	0.47	1001.80	1225.40	0.05	0.01	284.42
Reach 1	188446	20	301.00	83.85	88.57	85.42	88.57	0.000056	0.43	704.14	287.99	0.05	0.01	282.41
Reach 1	188446	25	243.00	83.85	88.29	85.26	88.29	0.000054	0.39	625.84	279.23	0.05	0.01	280.97
Reach 1	188446	30	171.00	83.85	87.86	85.00	87.86	0.000060	0.34	506.20	277.36	0.04	0.01	278.75
Reach 1	188446	35	131.00	83.85	87.52	84.84	87.52	0.000081	0.32	412.73	275.90	0.05	0.01	277.00
Reach 1	188446	40	100.00	83.85	87.20	84.71	87.20	0.000118	0.31	324.46	274.51	0.05	0.01	275.35
Reach 1	188446	45	79.60	83.85	86.93	84.61	86.93	0.000136	0.31	254.76	234.59	0.05	0.01	235.20
Reach 1	188446	50	67.40	83.85	86.73	84.55	86.73	0.000154	0.32	211.43	207.68	0.06	0.01	208.12
Reach 1	188446	55	58.70	83.85	86.59	84.50	86.59	0.000176	0.32	182.30	195.45	0.06	0.01	195.78
Reach 1	188446	60	52.10	83.85	86.47	84.45	86.48	0.000180	0.32	161.09	174.17	0.06	0.01	174.50
Reach 1	188446	65	46.60	83.85	86.37	84.42	86.37	0.000151	0.32	143.98	136.29	0.06	0.01	136.60
Reach 1	188446	70	40.40	83.85	86.24	84.38	86.24	0.000142	0.32	127.74	119.48	0.05	0.01	119.77
Reach 1	188446	75	32.10	83.85	86.06	84.31	86.06	0.000128	0.30	107.89	102.23	0.05	0.01	102.50
Reach 1	188446	80	22.20	83.85	85.76	84.23	85.76	0.000118	0.28	80.57	80.81	0.05	0.01	81.03
Reach 1	188446	85	11.40	83.85	85.37	84.11	85.37	0.000070	0.21	53.33	61.29	0.04	0.00	61.44
Reach 1	188446	90	0.10	83.85	84.77	83.88	84.77	0.000000	0.00	24.78	38.10	0.00	0.00	38.18
Reach 1	188446	91	0.10	83.85	84.76	83.88	84.76	0.000000	0.00	24.15	37.74	0.00	0.00	37.81
Reach 1	188446	92	0.10	83.85	84.74	83.88	84.74	0.000000	0.00	23.45	37.32	0.00	0.00	37.40
Reach 1	188446	93	0.10	83.85	84.70	83.88	84.70	0.000000	0.00	22.19	36.57	0.00	0.00	36.64
Reach 1	188446	94	0.10	83.85	84.68	83.88	84.68	0.000000	0.00	21.38	36.08	0.00	0.00	36.15
Reach 1	188446	95	0.10	83.85	84.65	83.88	84.65	0.000000	0.00	20.41	35.48	0.00	0.00	35.55
Reach 1	188446	96	0.10	83.85	84.63	83.88	84.63	0.000000	0.01	19.43	34.86	0.00	0.00	34.93
Reach 1	188446	97	0.10	83.85	84.59	83.88	84.59	0.000000	0.01	18.25	34.11	0.00	0.00	34.17
Reach 1	188446	98	0.10	83.85	84.54	83.88	84.54	0.000000	0.01	16.68	33.08	0.00	0.00	33.14
Reach 1	188446	99	0.10	83.85	84.39	83.88	84.39	0.000000	0.01	11.70	29.57	0.00	0.00	29.61
Reach 1	188446	99.5	0.10	83.85	84.20	83.88	84.20	0.000002	0.02	6.57	25.45	0.01	0.00	25.48
Reach 1	188446	99.75	0.10	83.85	84.15	83.88	84.15	0.000003	0.02	5.35	24.38	0.01	0.00	24.40
Reach 1	188446	100	0.10	83.85	84.04	83.88	84.04	0.000023	0.03	2.89	21.77	0.02	0.00	21.79
Reach 1	187066	1	1920.00	83.40	92.18	87.88	92.19	0.000113	0.96	7005.25	2168.02	0.06	0.05	74.58
Reach 1	187066	5	976.00	83.40	90.38	86.46	90.39	0.000135	1.00	3684.29	1935.32	0.08	0.05	74.58
Reach 1	187066	10	550.00	83.40	89.30	85.64	89.31	0.000196	1.14	1707.31	1847.82	0.10	0.05	74.58
Reach 1	187066	15	395.00	83.40	88.80	85.28	88.82	0.000211	1.10	858.67	1537.01	0.10	0.05	74.58
Reach 1	187066	20	301.00	83.40	88.42	85.02	88.43	0.000204	1.01	498.21	384.67	0.10	0.04	74.58
Reach 1	187066	25	243.00	83.40	88.15	84.85	88.16	0.000186	0.91	420.70	268.52	0.09	0.04	74.58
Reach 1	187066	30	171.00	83.40	87.72	84.60	87.72	0.000189	0.78	306.29	239.98	0.08	0.03	74.58
Reach 1	187066	35	131.00	83.40	87.35	84.44	87.36	0.000226	0.72	228.71	190.51	0.08	0.03	74.58
Reach 1	187066	40	100.00	83.40	87.00	84.29	87.00	0.000235	0.66	170.12	150.66	0.08	0.03	68.62
Reach 1	187066	45	79.60	83.40	86.71	84.19	86.72	0.000201	0.60	134.96	94.08	0.07	0.03	61.24
Reach 1	187066	50	67.40	83.40	86.52	84.12	86.53	0.000175	0.56	121.07	56.25	0.07	0.02	56.83
Reach 1	187066	55	58.70	83.40	86.38	84.07	86.38	0.000157	0.52	113.01	53.68	0.06	0.02	54.24
Reach 1	187066	60	52.10	83.40	86.26	84.03	86.26	0.000145	0.49	106.83	52.60	0.06	0.02	53.14
Reach 1	187066	65	46.60	83.40	86.15	83.99	86.16	0.000135	0.46	101.36	51.63	0.06	0.02	52.15
Reach 1	187066	70	40.40	83.40	86.03	83.94	86.03	0.000122	0.43	94.82	50.44	0.05	0.01	50.93
Reach 1	187066	75	32.10	83.40	85.85	83.88	85.85	0.000103	0.37	85.96	48.79	0.05	0.01	49.24
Reach 1	187066	80	22.20	83.40	85.60	83.79	85.60	0.000075	0.30	74.20	46.51	0.04	0.01	46.90
Reach 1	187066	85	11.40	83.40	85.29	83.69	85.29	0.000030	0.19	60.33	43.67	0.03	0.00	43.99
Reach 1	187066	90	0.10	83.40	84.77	83.45	84.77	0.000000	0.00	38.86	38.78	0.00	0.00	38.98
Reach 1	187066	91	0.10	83.40	84.76	83.45	84.76	0.000000	0.00	38.21	38.62	0.00	0.00	38.82
Reach 1	187066	92	0.10	83.40	84.74	83.45	84.74	0.000000	0.00	37.49	38.44	0.00	0.00	38.63
Reach 1	187066	93	0.10	83.40	84.70	83.45	84.70	0.000000	0.00	36.19	38.10	0.00	0.00	38.29
Reach 1	187066	94	0.10	83.40	84.68	83.45	84.68	0.000000	0.00	35.34	37.89	0.00	0.00	38.07
Reach 1	187066	95	0.10	83.40	84.65	83.45	84.65	0.000000	0.00	34.32	37.62	0.00	0.00	37.80
Reach 1	187066	96	0.10	83.40	84.63	83.45	84.63	0.000000	0.00	33.27	37.35	0.00	0.00	37.52
Reach 1	187066	97	0.10	83.40	84.59	83.45	84.59	0.000000	0.00	32.00	36.97	0.00	0.00	37.14
Reach 1	187066	98	0.10	83.40	84.54	83.45	84.54	0.000000	0.00	30.29	36.29	0.00	0.00	36.44
Reach 1	187066	99	0.10	83.40	84.39	83.45	84.39	0.000000	0.00	24.70	33.95	0.00	0.00	34.09
Reach 1	187066	99.5	0.10	83.40	84.20	83.45	84.20	0.000000	0.01	18.59	31.20	0.00	0.00	31.31
Reach 1	187066	99.75	0.10	83.40	84.15	83.45	84.15	0.000000	0.01	17.07	30.47	0.00	0.00	30.57
Reach 1	187066	100	0.10	83.40	84.03	83.45	84.03	0.000000	0.01	13.70	28.80	0.00	0.00	28.89

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	185373	1	1920.00	80.20	91.77	84.91	91.81	0.000353	1.70	1823.46	877.98	0.11	0.16	138.30
Reach 1	185373	5	976.00	80.20	90.01	83.54	90.03	0.000200	1.23	998.41	526.55	0.09	0.07	138.30
Reach 1	185373	10	550.00	80.20	89.01	82.74	89.02	0.000101	0.87	697.73	398.19	0.07	0.03	131.37
Reach 1	185373	15	395.00	80.20	88.56	82.37	88.57	0.000066	0.69	585.77	283.89	0.06	0.02	125.25
Reach 1	185373	20	301.00	80.20	88.22	82.11	88.22	0.000047	0.57	526.92	122.44	0.05	0.01	120.52
Reach 1	185373	25	243.00	80.20	87.98	81.93	87.99	0.000036	0.49	499.65	114.46	0.04	0.01	117.52
Reach 1	185373	30	171.00	80.20	87.57	81.68	87.57	0.000025	0.38	455.05	107.52	0.03	0.01	110.37
Reach 1	185373	35	131.00	80.20	87.21	81.52	87.21	0.000023	0.31	415.93	105.73	0.03	0.01	108.37
Reach 1	185373	40	100.00	80.20	86.86	81.39	86.86	0.000020	0.26	379.88	104.06	0.02	0.00	106.49
Reach 1	185373	45	79.60	80.20	86.60	81.28	86.60	0.000016	0.23	352.80	102.57	0.02	0.00	104.86
Reach 1	185373	50	67.40	80.20	86.43	81.22	86.43	0.000012	0.20	335.46	98.06	0.02	0.00	100.27
Reach 1	185373	55	58.70	80.20	86.29	81.17	86.29	0.000010	0.18	322.41	94.53	0.02	0.00	96.67
Reach 1	185373	60	52.10	80.20	86.18	81.14	86.18	0.000009	0.17	312.28	92.83	0.02	0.00	94.91
Reach 1	185373	65	46.60	80.20	86.09	81.10	86.09	0.000008	0.15	303.25	91.40	0.01	0.00	93.44
Reach 1	185373	70	40.40	80.20	85.97	81.06	85.97	0.000006	0.14	292.36	89.65	0.01	0.00	91.63
Reach 1	185373	75	32.10	80.20	85.80	80.99	85.80	0.000005	0.12	277.64	87.24	0.01	0.00	89.13
Reach 1	185373	80	22.20	80.20	85.57	80.89	85.57	0.000003	0.09	257.84	83.87	0.01	0.00	85.66
Reach 1	185373	85	11.40	80.20	85.28	80.72	85.28	0.000001	0.05	234.37	80.19	0.01	0.00	81.83
Reach 1	185373	90	0.10	80.20	84.77	80.28	84.77	0.000000	0.00	195.14	74.03	0.00	0.00	75.42
Reach 1	185373	91	0.10	80.20	84.76	80.28	84.76	0.000000	0.00	193.91	73.83	0.00	0.00	75.21
Reach 1	185373	92	0.10	80.20	84.74	80.28	84.74	0.000000	0.00	192.54	73.60	0.00	0.00	74.97
Reach 1	185373	93	0.10	80.20	84.70	80.28	84.70	0.000000	0.00	190.03	73.19	0.00	0.00	74.54
Reach 1	185373	94	0.10	80.20	84.68	80.28	84.68	0.000000	0.00	188.41	72.92	0.00	0.00	74.26
Reach 1	185373	95	0.10	80.20	84.65	80.28	84.65	0.000000	0.00	186.44	72.59	0.00	0.00	73.92
Reach 1	185373	96	0.10	80.20	84.63	80.28	84.63	0.000000	0.00	184.41	72.25	0.00	0.00	73.56
Reach 1	185373	97	0.10	80.20	84.59	80.28	84.59	0.000000	0.00	181.95	71.73	0.00	0.00	73.02
Reach 1	185373	98	0.10	80.20	84.54	80.28	84.54	0.000000	0.00	178.63	70.56	0.00	0.00	71.83
Reach 1	185373	99	0.10	80.20	84.39	80.28	84.39	0.000000	0.00	167.71	66.57	0.00	0.00	67.76
Reach 1	185373	99.5	0.10	80.20	84.20	80.28	84.20	0.000000	0.00	155.67	61.87	0.00	0.00	62.98
Reach 1	185373	99.75	0.10	80.20	84.15	80.28	84.15	0.000000	0.00	152.63	61.10	0.00	0.00	62.18
Reach 1	185373	100	0.10	80.20	84.03	80.28	84.03	0.000000	0.00	145.76	59.92	0.00	0.00	60.94
Reach 1	184488	1	1920.00	80.85	91.45	84.82	91.50	0.000420	1.76	1118.96	1151.08	0.12	0.17	164.46
Reach 1	184488	5	976.00	80.85	89.84	83.75	89.86	0.000175	1.16	843.46	839.28	0.09	0.06	153.90
Reach 1	184488	10	550.00	80.85	88.93	82.99	88.94	0.000080	0.78	709.20	700.90	0.06	0.02	149.64
Reach 1	184488	15	395.00	80.85	88.51	82.64	88.51	0.000053	0.61	649.14	474.97	0.05	0.01	147.70
Reach 1	184488	20	301.00	80.85	88.18	82.40	88.18	0.000039	0.50	602.31	141.36	0.04	0.01	146.17
Reach 1	184488	25	243.00	80.85	87.95	82.23	87.96	0.000030	0.43	570.42	140.41	0.04	0.01	145.12
Reach 1	184488	30	171.00	80.85	87.55	81.98	87.55	0.000024	0.33	514.26	138.73	0.03	0.01	143.25
Reach 1	184488	35	131.00	80.85	87.18	81.82	87.19	0.000023	0.28	463.83	137.19	0.03	0.00	141.56
Reach 1	184488	40	100.00	80.85	86.84	81.67	86.84	0.000021	0.24	417.19	135.76	0.02	0.00	139.97
Reach 1	184488	45	79.60	80.85	86.58	81.56	86.59	0.000017	0.21	382.33	130.83	0.02	0.00	134.91
Reach 1	184488	50	67.40	80.85	86.41	81.50	86.42	0.000012	0.19	361.63	114.85	0.02	0.00	118.81
Reach 1	184488	55	58.70	80.85	86.28	81.45	86.28	0.000010	0.17	346.74	107.68	0.02	0.00	111.54
Reach 1	184488	60	52.10	80.85	86.17	81.41	86.17	0.000008	0.16	335.54	102.57	0.02	0.00	106.34
Reach 1	184488	65	46.60	80.85	86.08	81.38	86.08	0.000007	0.14	325.66	101.06	0.01	0.00	104.76
Reach 1	184488	70	40.40	80.85	85.96	81.34	85.96	0.000006	0.13	313.74	99.22	0.01	0.00	102.82
Reach 1	184488	75	32.10	80.85	85.79	81.27	85.79	0.000004	0.11	297.60	96.66	0.01	0.00	100.13
Reach 1	184488	80	22.20	80.85	85.56	81.20	85.56	0.000002	0.08	275.83	93.11	0.01	0.00	96.39
Reach 1	184488	85	11.40	80.85	85.28	81.09	85.28	0.000001	0.05	250.01	88.70	0.00	0.00	91.76
Reach 1	184488	90	0.10	80.85	84.77	80.88	84.77	0.000000	0.00	206.99	80.84	0.00	0.00	83.49
Reach 1	184488	91	0.10	80.85	84.76	80.88	84.76	0.000000	0.00	205.64	80.58	0.00	0.00	83.22
Reach 1	184488	92	0.10	80.85	84.74	80.88	84.74	0.000000	0.00	204.14	80.29	0.00	0.00	82.92
Reach 1	184488	93	0.10	80.85	84.70	80.88	84.70	0.000000	0.00	201.41	79.97	0.00	0.00	82.55
Reach 1	184488	94	0.10	80.85	84.68	80.88	84.68	0.000000	0.00	199.63	79.86	0.00	0.00	82.40
Reach 1	184488	95	0.10	80.85	84.65	80.88	84.65	0.000000	0.00	197.47	79.70	0.00	0.00	82.20
Reach 1	184488	96	0.10	80.85	84.63	80.88	84.63	0.000000	0.00	195.24	79.53	0.00	0.00	81.98
Reach 1	184488	97	0.10	80.85	84.59	80.88	84.59	0.000000	0.00	192.52	79.32	0.00	0.00	81.72
Reach 1	184488	98	0.10	80.85	84.54	80.88	84.54	0.000000	0.00	188.83	79.03	0.00	0.00	81.35
Reach 1	184488	99	0.10	80.85	84.39	80.88	84.39	0.000000	0.00	176.33	78.04	0.00	0.00	80.11
Reach 1	184488	99.5	0.10	80.85	84.20	80.88	84.20	0.000000	0.00	161.80	76.87	0.00	0.00	78.65
Reach 1	184488	99.75	0.10	80.85	84.15	80.88	84.15	0.000000	0.00	158.01	76.57	0.00	0.00	78.26
Reach 1	184488	100	0.10	80.85	84.03	80.88	84.03	0.000000	0.00	149.35	75.82	0.00	0.00	77.35
Reach 1	184421	1	1920.00	81.53	91.42	85.57	91.47	0.000411	1.68	1150.72	505.89	0.12	0.16	181.55
Reach 1	184421	5	976.00	81.53	89.83	84.70	89.85	0.000175	1.12	869.44	178.80	0.09	0.06	165.94
Reach 1	184421	10	550.00	81.53	88.92	84.13	88.93	0.000081	0.76	723.37	157.28	0.06	0.02	159.38
Reach 1	184421	15	395.00	81.53	88.51	83.79	88.51	0.000054	0.60	658.52	153.79	0.05	0.01	155.78
Reach 1	184421	20	301.00	81.53	88.18	83.51	88.18	0.000040	0.49	608.49	150.58	0.04	0.01	152.50
Reach 1	184421	25	243.00	81.53	87.95	83.28	87.95	0.000030	0.42	575.03	145.85	0.04	0.01	147.75
Reach 1	184421	30	171.00	81.53	87.55	83.03	87.55	0.000023	0.33	517.13	142.81	0.03	0.01	144.58
Reach 1	184421	35	131.00	81.53	87.18	82.87	87.18	0.000022	0.28	465.33	140.59	0.03	0.00	142.24
Reach 1	184421	40	100.00	81.53	86.84	82.73	86.84	0.000021	0.24	417.67	138.51	0.02	0.00	140.06
Reach 1	184421	45	79.60	81.53	86.58	82.63	86.58	0.000017	0.21	382.12	136.94	0.02	0.00	138.41
Reach 1	184421	50	67.40	81.53	86.41	82.56	86.41	0.000015	0.19	358.95	135.91	0.02	0.00	137.32
Reach 1	184421	55	58.70	81.53	86.28	82.51	86.28	0.000014	0.17	340.84	135.10	0.02	0.00	136.47
Reach 1	184421	60	52.10	81.53	86.17	82.47	86.17	0.000012	0.16	326.45	134.45	0.02	0.00	135.79
Reach 1	184421	65	46.60	81.53	86.08	82.43	86.08	0.000011	0.15	313.45	133.86	0.02	0.00	135.17
Reach 1	184421	70	40.40	81.53	85.96	82.38	85.96	0.000010	0.14	297.57	133.14	0.02	0.00	134.41
Reach 1	184421	75	32.10	81.53	85.79	82.31	85.79	0.000008	0.12	275.72	132.14	0.01	0.00	133.35
Reach 1	184421	80	22.20	81.53	85.56	82.20	85.56	0.000006	0.09	245.59	130.75	0.01	0.00	131.89
Reach 1	184421	85	11.40	81.53	85.28	82.04	85.28	0.000002	0.05	210.51	117.59	0.01	0.00	118.61
Reach 1	184421	90	0.10	81.53	84.77	81.61	84.77	0.000000	0.00	153.68	106.69	0.00	0.00	107.48
Reach 1	184421	91	0.10	81.53	84.76	81.61	84.76	0.000000	0.00	151.90	106.34	0.00	0.00	107.13
Reach 1	184421	92	0.10	81.53	84.74	81.61	84.74	0.000000	0.00	149.92	105.95	0.00	0.00	106.73
Reach 1	184421	93	0.10	81.53	84.70	81.61	84.70	0.000000	0.00	146.32	105.24	0.00	0.00	106.00
Reach 1	184421	94	0.10	81.53	84.68	81.61	84.68	0.000000	0.00	143.99	104.78	0.00	0.00	105.52
Reach 1	184421	95	0.10	81.53	84.65	81.61	84.65	0.000000	0.00	141.15	104.30	0.00	0.00	105.03
Reach 1	184421	96	0.10	81.53	84.63	81.61	84.63	0.000000	0.00	138.24	103.54	0.00	0.00	104.26
Reach 1	184421	97	0.10	81.53	84.59	81.61	84.59	0.000000	0.00	134.71	102.94	0.00	0.00	103.64
Reach 1	184421	98	0.10	81.53	84.54	81.61	84.54	0.000000	0.00	129.92	102.12	0.00	0.00	102.80

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	184421	99	0.10	81.53	84.39	81.61	84.39	0.000000	0.00	113.90	98.94	0.00	0.00	99.55
Reach 1	184421	99.5	0.10	81.53	84.20	81.61	84.20	0.000000	0.00	96.60	85.56	0.00	0.00	86.07
Reach 1	184421	99.75	0.10	81.53	84.15	81.61	84.15	0.000000	0.00	92.45	82.03	0.00	0.00	82.52
Reach 1	184421	100	0.10	81.53	84.03	81.61	84.03	0.000000	0.00	83.59	74.09	0.00	0.00	74.53
Reach 1	184389		Bridge											
Reach 1	184374	1	1920.00	81.75	91.36	85.62	91.41	0.000536	1.92	998.35	155.29	0.13	0.21	158.16
Reach 1	184374	5	976.00	81.75	89.81	84.61	89.83	0.000242	1.28	762.92	149.08	0.10	0.08	152.72
Reach 1	184374	10	550.00	81.75	88.91	84.01	88.92	0.000117	0.87	630.63	145.64	0.07	0.03	148.85
Reach 1	184374	15	395.00	81.75	88.50	83.70	88.51	0.000081	0.69	570.90	143.86	0.06	0.02	146.87
Reach 1	184374	20	301.00	81.75	88.17	83.39	88.18	0.000062	0.57	524.15	142.38	0.05	0.01	145.25
Reach 1	184374	25	243.00	81.75	87.95	83.23	87.95	0.000049	0.49	492.31	141.37	0.05	0.01	144.14
Reach 1	184374	30	171.00	81.75	87.55	83.00	87.55	0.000040	0.39	436.15	138.80	0.04	0.01	141.43
Reach 1	184374	35	131.00	81.75	87.18	82.85	87.18	0.000034	0.34	388.52	120.04	0.03	0.01	122.49
Reach 1	184374	40	100.00	81.75	86.84	82.72	86.84	0.000030	0.29	348.53	114.42	0.03	0.01	116.67
Reach 1	184374	45	79.60	81.75	86.58	82.62	86.58	0.000024	0.25	319.60	110.17	0.03	0.00	112.28
Reach 1	184374	50	67.40	81.75	86.41	82.55	86.41	0.000020	0.22	301.15	107.37	0.02	0.00	109.39
Reach 1	184374	55	58.70	81.75	86.28	82.50	86.28	0.000017	0.20	286.97	105.17	0.02	0.00	107.11
Reach 1	184374	60	52.10	81.75	86.17	82.46	86.17	0.000015	0.19	275.86	103.42	0.02	0.00	105.29
Reach 1	184374	65	46.60	81.75	86.08	82.42	86.08	0.000014	0.18	265.92	101.82	0.02	0.00	103.64
Reach 1	184374	70	40.40	81.75	85.96	82.37	85.96	0.000012	0.16	253.94	99.98	0.02	0.00	101.73
Reach 1	184374	75	32.10	81.75	85.79	82.30	85.79	0.000009	0.14	237.69	97.53	0.02	0.00	99.18
Reach 1	184374	80	22.20	81.75	85.56	82.20	85.56	0.000006	0.10	215.74	94.12	0.01	0.00	95.63
Reach 1	184374	85	11.40	81.75	85.28	82.06	85.28	0.000002	0.06	189.65	89.90	0.01	0.00	91.24
Reach 1	184374	90	0.10	81.75	84.77	81.77	84.77	0.000000	0.00	146.07	81.59	0.00	0.00	82.67
Reach 1	184374	91	0.10	81.75	84.76	81.77	84.76	0.000000	0.00	144.71	81.30	0.00	0.00	82.37
Reach 1	184374	92	0.10	81.75	84.74	81.77	84.74	0.000000	0.00	143.19	80.97	0.00	0.00	82.04
Reach 1	184374	93	0.10	81.75	84.70	81.77	84.70	0.000000	0.00	140.44	80.40	0.00	0.00	81.45
Reach 1	184374	94	0.10	81.75	84.68	81.77	84.68	0.000000	0.00	138.66	80.09	0.00	0.00	81.12
Reach 1	184374	95	0.10	81.75	84.65	81.77	84.65	0.000000	0.00	136.49	79.80	0.00	0.00	80.80
Reach 1	184374	96	0.10	81.75	84.63	81.77	84.63	0.000000	0.00	134.26	79.52	0.00	0.00	80.50
Reach 1	184374	97	0.10	81.75	84.59	81.77	84.59	0.000000	0.00	131.55	79.18	0.00	0.00	80.13
Reach 1	184374	98	0.10	81.75	84.54	81.77	84.54	0.000000	0.00	127.86	78.72	0.00	0.00	79.62
Reach 1	184374	99	0.10	81.75	84.39	81.77	84.39	0.000000	0.00	115.46	77.14	0.00	0.00	77.90
Reach 1	184374	99.5	0.10	81.75	84.20	81.77	84.20	0.000000	0.00	101.18	74.91	0.00	0.00	75.50
Reach 1	184374	99.75	0.10	81.75	84.15	81.77	84.15	0.000000	0.00	97.50	74.05	0.00	0.00	74.61
Reach 1	184374	100	0.10	81.75	84.03	81.77	84.03	0.000000	0.00	89.20	72.08	0.00	0.00	72.57
Reach 1	184297	1	1920.00	80.49	91.31	84.72	91.37	0.000452	2.04	987.69	162.34	0.13	0.22	119.33
Reach 1	184297	5	976.00	80.49	89.79	83.89	89.82	0.000174	1.28	764.35	115.38	0.09	0.07	119.33
Reach 1	184297	10	550.00	80.49	88.90	83.31	88.91	0.000071	0.83	664.40	110.25	0.06	0.03	116.32
Reach 1	184297	15	395.00	80.49	88.49	83.02	88.50	0.000044	0.64	619.51	108.66	0.05	0.01	114.48
Reach 1	184297	20	301.00	80.49	88.17	82.80	88.17	0.000031	0.52	584.37	107.18	0.04	0.01	112.81
Reach 1	184297	25	243.00	80.49	87.94	82.64	87.95	0.000023	0.43	560.53	106.00	0.03	0.01	111.51
Reach 1	184297	30	171.00	80.49	87.54	82.39	87.55	0.000016	0.33	518.26	105.28	0.03	0.00	110.39
Reach 1	184297	35	131.00	80.49	87.18	82.21	87.18	0.000014	0.27	479.96	104.74	0.02	0.00	109.48
Reach 1	184297	40	100.00	80.49	86.84	82.01	86.84	0.000012	0.23	444.34	104.23	0.02	0.00	108.63
Reach 1	184297	45	79.60	80.49	86.58	81.85	86.58	0.000009	0.19	417.56	103.85	0.02	0.00	107.98
Reach 1	184297	50	67.40	80.49	86.41	81.76	86.41	0.000008	0.17	399.99	103.60	0.02	0.00	107.56
Reach 1	184297	55	58.70	80.49	86.28	81.69	86.28	0.000006	0.15	386.19	103.40	0.01	0.00	107.23
Reach 1	184297	60	52.10	80.49	86.17	81.63	86.17	0.000006	0.14	375.19	103.24	0.01	0.00	106.96
Reach 1	184297	65	46.60	80.49	86.07	81.58	86.08	0.000005	0.13	365.22	103.10	0.01	0.00	106.72
Reach 1	184297	70	40.40	80.49	85.96	81.51	85.96	0.000004	0.11	352.99	102.92	0.01	0.00	106.42
Reach 1	184297	75	32.10	80.49	85.79	81.42	85.79	0.000003	0.10	336.09	102.68	0.01	0.00	106.01
Reach 1	184297	80	22.20	80.49	85.56	81.29	85.56	0.000002	0.07	312.63	102.34	0.01	0.00	105.44
Reach 1	184297	85	11.40	80.49	85.28	81.10	85.28	0.000001	0.04	283.68	101.91	0.00	0.00	104.73
Reach 1	184297	90	0.10	80.49	84.77	80.58	84.77	0.000000	0.00	232.17	101.16	0.00	0.00	103.46
Reach 1	184297	91	0.10	80.49	84.76	80.58	84.76	0.000000	0.00	230.49	101.14	0.00	0.00	103.42
Reach 1	184297	92	0.10	80.49	84.74	80.58	84.74	0.000000	0.00	228.60	101.11	0.00	0.00	103.37
Reach 1	184297	93	0.10	80.49	84.70	80.58	84.70	0.000000	0.00	225.15	101.06	0.00	0.00	103.28
Reach 1	184297	94	0.10	80.49	84.68	80.58	84.68	0.000000	0.00	222.91	101.02	0.00	0.00	103.23
Reach 1	184297	95	0.10	80.49	84.65	80.58	84.65	0.000000	0.00	220.17	101.00	0.00	0.00	103.17
Reach 1	184297	96	0.10	80.49	84.63	80.58	84.63	0.000000	0.00	217.33	100.97	0.00	0.00	103.10
Reach 1	184297	97	0.10	80.49	84.59	80.58	84.59	0.000000	0.00	213.89	100.95	0.00	0.00	103.02
Reach 1	184297	98	0.10	80.49	84.54	80.58	84.54	0.000000	0.00	209.18	100.92	0.00	0.00	102.92
Reach 1	184297	99	0.10	80.49	84.39	80.58	84.39	0.000000	0.00	193.12	100.80	0.00	0.00	102.57
Reach 1	184297	99.5	0.10	80.49	84.20	80.58	84.20	0.000000	0.00	174.23	100.67	0.00	0.00	102.15
Reach 1	184297	99.75	0.10	80.49	84.15	80.58	84.15	0.000000	0.00	169.25	100.63	0.00	0.00	102.04
Reach 1	184297	100	0.10	80.49	84.03	80.58	84.03	0.000000	0.00	157.83	100.55	0.00	0.00	101.79
Reach 1	184265		Bridge											
Reach 1	184220	1	1970.00	79.47	91.26	83.87	91.32	0.000188	1.92	1447.53	1615.20	0.11	0.10	107.88
Reach 1	184220	5	979.00	79.47	89.78	82.87	89.80	0.000073	1.20	992.46	1010.68	0.08	0.03	107.88
Reach 1	184220	10	550.00	79.47	88.90	82.32	88.91	0.000032	0.78	757.55	383.72	0.05	0.01	107.75
Reach 1	184220	15	395.00	79.47	88.49	82.01	88.50	0.000022	0.59	673.89	206.67	0.04	0.01	107.25
Reach 1	184220	20	301.00	79.47	88.17	81.80	88.17	0.000015	0.48	632.43	113.75	0.03	0.01	106.18
Reach 1	184220	25	243.00	79.47	87.94	81.63	87.94	0.000013	0.40	608.29	105.43	0.03	0.00	105.38
Reach 1	184220	30	171.00	79.47	87.54	81.37	87.54	0.000009	0.30	568.07	100.02	0.02	0.00	103.95
Reach 1	184220	35	131.00	79.47	87.18	81.16	87.18	0.000007	0.25	531.80	98.98	0.02	0.00	102.64
Reach 1	184220	40	100.00	79.47	86.84	80.93	86.84	0.000005	0.20	498.23	98.01	0.02	0.00	101.42
Reach 1	184220	45	79.60	79.47	86.58	80.70	86.58	0.000004	0.17	473.12	97.28	0.01	0.00	100.49
Reach 1	184220	50	67.40	79.47	86.41	80.59	86.41	0.000003	0.15	456.70	96.80	0.01	0.00	99.89
Reach 1	184220	55	58.70	79.47	86.28	80.50	86.28	0.000003	0.13	443.82	96.42	0.01	0.00	99.41
Reach 1	184220	60	52.10	79.47	86.17	80.44	86.17	0.000003	0.12	433.58	96.11	0.01	0.00	99.03
Reach 1	184220	65	46.60	79.47	86.07	80.37	86.07	0.000002	0.11	424.30	95.84	0.01	0.00	98.68
Reach 1	184220	70	40.40	79.47	85.96	80.30	85.96	0.000002	0.10	412.95	95.50	0.01	0.00	98.25
Reach 1	184220	75	32.10	79.47	85.79	80.20	85.79	0.000001	0.08	397.30	95.03	0.01	0.00	97.66
Reach 1	184220	80	22.20	79.47	85.56	80.05	85.56	0.000001	0.06	375.63	94.38	0.01	0.00	96.84
Reach 1	184220	85	11.40	79.47	85.28	79.86	85.28	0.000000	0.03	349.00	93.57	0.00	0.00	95.82

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	184220	90	0.10	79.47	84.77	79.49	84.77	0.000000	0.00	301.90	92.13	0.00	0.00	94.00
Reach 1	184220	91	0.10	79.47	84.76	79.49	84.76	0.000000	0.00	300.37	92.08	0.00	0.00	93.94
Reach 1	184220	92	0.10	79.47	84.74	79.49	84.74	0.000000	0.00	298.65	92.00	0.00	0.00	93.86
Reach 1	184220	93	0.10	79.47	84.70	79.49	84.70	0.000000	0.00	295.51	91.84	0.00	0.00	93.68
Reach 1	184220	94	0.10	79.47	84.68	79.49	84.68	0.000000	0.00	293.48	91.74	0.00	0.00	93.57
Reach 1	184220	95	0.10	79.47	84.65	79.49	84.65	0.000000	0.00	290.99	91.62	0.00	0.00	93.44
Reach 1	184220	96	0.10	79.47	84.63	79.49	84.63	0.000000	0.00	288.42	91.51	0.00	0.00	93.31
Reach 1	184220	97	0.10	79.47	84.59	79.49	84.59	0.000000	0.00	285.30	91.38	0.00	0.00	93.17
Reach 1	184220	98	0.10	79.47	84.54	79.49	84.54	0.000000	0.00	281.04	91.20	0.00	0.00	92.96
Reach 1	184220	99	0.10	79.47	84.39	79.49	84.39	0.000000	0.00	266.57	90.59	0.00	0.00	92.27
Reach 1	184220	99.5	0.10	79.47	84.20	79.49	84.20	0.000000	0.00	249.65	89.88	0.00	0.00	91.45
Reach 1	184220	99.75	0.10	79.47	84.15	79.49	84.15	0.000000	0.00	245.21	89.69	0.00	0.00	91.24
Reach 1	184220	100	0.10	79.47	84.03	79.49	84.03	0.000000	0.00	235.05	89.26	0.00	0.00	90.74
Reach 1	184184	1	1970.00	80.82	91.26	85.16	91.30	0.000235	1.84	1624.86	1752.24	0.12	0.10	133.59
Reach 1	184184	5	979.00	80.82	89.77	84.03	89.80	0.000117	1.25	1066.23	1670.44	0.09	0.04	133.59
Reach 1	184184	10	550.00	80.82	88.89	83.23	88.90	0.000065	0.87	737.51	1529.18	0.07	0.02	133.59
Reach 1	184184	15	395.00	80.82	88.49	82.87	88.49	0.000049	0.70	600.71	1207.30	0.06	0.01	133.03
Reach 1	184184	20	301.00	80.82	88.16	82.62	88.17	0.000035	0.57	525.98	356.83	0.05	0.01	125.72
Reach 1	184184	25	243.00	80.82	87.94	82.44	87.94	0.000030	0.49	497.39	119.66	0.04	0.01	120.69
Reach 1	184184	30	171.00	80.82	87.54	82.19	87.54	0.000022	0.38	451.07	113.36	0.03	0.01	114.34
Reach 1	184184	35	131.00	80.82	87.18	82.03	87.18	0.000017	0.32	410.62	108.79	0.03	0.00	109.71
Reach 1	184184	40	100.00	80.82	86.84	81.89	86.84	0.000014	0.27	374.31	104.52	0.02	0.00	105.38
Reach 1	184184	45	79.60	80.82	86.58	81.78	86.58	0.000011	0.23	347.87	101.29	0.02	0.00	102.12
Reach 1	184184	50	67.40	80.82	86.41	81.72	86.41	0.000010	0.20	330.92	99.17	0.02	0.00	99.97
Reach 1	184184	55	58.70	80.82	86.28	81.66	86.28	0.000009	0.18	317.82	97.50	0.02	0.00	98.28
Reach 1	184184	60	52.10	80.82	86.17	81.62	86.17	0.000008	0.17	307.53	96.17	0.02	0.00	96.93
Reach 1	184184	65	46.60	80.82	86.07	81.58	86.07	0.000007	0.16	298.30	94.95	0.02	0.00	95.70
Reach 1	184184	70	40.40	80.82	85.96	81.54	85.96	0.000006	0.14	287.12	93.47	0.01	0.00	94.19
Reach 1	184184	75	32.10	80.82	85.79	81.47	85.79	0.000005	0.12	271.94	91.41	0.01	0.00	92.11
Reach 1	184184	80	22.20	80.82	85.56	81.38	85.56	0.000003	0.09	251.36	88.60	0.01	0.00	89.26
Reach 1	184184	85	11.40	80.82	85.28	81.24	85.28	0.000001	0.05	226.72	85.42	0.01	0.00	86.04
Reach 1	184184	90	0.10	80.82	84.77	80.89	84.77	0.000000	0.00	184.81	79.84	0.00	0.00	80.36
Reach 1	184184	91	0.10	80.82	84.76	80.89	84.76	0.000000	0.00	183.48	79.65	0.00	0.00	80.17
Reach 1	184184	92	0.10	80.82	84.74	80.89	84.74	0.000000	0.00	182.00	79.45	0.00	0.00	79.96
Reach 1	184184	93	0.10	80.82	84.70	80.89	84.70	0.000000	0.00	179.29	79.07	0.00	0.00	79.58
Reach 1	184184	94	0.10	80.82	84.68	80.89	84.68	0.000000	0.00	177.54	78.83	0.00	0.00	79.33
Reach 1	184184	95	0.10	80.82	84.65	80.89	84.65	0.000000	0.00	175.41	78.53	0.00	0.00	79.03
Reach 1	184184	96	0.10	80.82	84.63	80.89	84.63	0.000000	0.00	173.21	78.22	0.00	0.00	78.71
Reach 1	184184	97	0.10	80.82	84.59	80.89	84.59	0.000000	0.00	170.54	77.92	0.00	0.00	78.41
Reach 1	184184	98	0.10	80.82	84.54	80.89	84.54	0.000000	0.00	166.92	77.46	0.00	0.00	77.94
Reach 1	184184	99	0.10	80.82	84.39	80.89	84.39	0.000000	0.00	154.71	75.89	0.00	0.00	76.32
Reach 1	184184	99.5	0.10	80.82	84.20	80.89	84.20	0.000000	0.00	140.65	74.04	0.00	0.00	74.42
Reach 1	184184	99.75	0.10	80.82	84.15	80.89	84.15	0.000000	0.00	137.00	73.55	0.00	0.00	73.92
Reach 1	184184	100	0.10	80.82	84.03	80.89	84.03	0.000000	0.00	128.79	70.40	0.00	0.00	70.75
Reach 1	183560	1	2120.00	83.34	91.09	87.97	91.13	0.000364	2.11	2859.67	1852.45	0.15	0.14	80.01
Reach 1	183560	5	1040.00	83.34	89.63	86.22	89.67	0.000309	1.81	1567.08	1724.03	0.15	0.09	80.01
Reach 1	183560	10	592.00	83.34	88.77	85.45	88.80	0.000262	1.57	825.87	1413.78	0.14	0.06	80.01
Reach 1	183560	15	426.00	83.34	88.38	85.09	88.40	0.000240	1.36	544.86	850.12	0.13	0.05	80.01
Reach 1	183560	20	325.00	83.34	88.07	84.85	88.09	0.000217	1.20	397.39	487.19	0.12	0.04	80.01
Reach 1	183560	25	263.00	83.34	87.86	84.68	87.87	0.000201	1.06	318.24	357.52	0.11	0.04	78.61
Reach 1	183560	30	188.00	83.34	87.47	84.45	87.49	0.000181	0.88	239.42	149.64	0.09	0.03	74.74
Reach 1	183560	35	146.00	83.34	87.12	84.31	87.13	0.000169	0.79	190.98	110.46	0.09	0.03	70.54
Reach 1	183560	40	114.00	83.34	86.78	84.19	86.79	0.000155	0.71	162.23	75.34	0.08	0.02	66.75
Reach 1	183560	45	92.10	83.34	86.53	84.10	86.54	0.000143	0.63	145.35	63.35	0.07	0.02	64.04
Reach 1	183560	50	78.90	83.34	86.37	84.04	86.37	0.000135	0.58	135.02	61.60	0.07	0.02	62.26
Reach 1	183560	55	69.50	83.34	86.24	84.00	86.24	0.000129	0.55	127.08	60.22	0.07	0.02	60.86
Reach 1	183560	60	62.50	83.34	86.13	83.97	86.14	0.000124	0.52	120.89	59.12	0.06	0.02	59.74
Reach 1	183560	65	56.60	83.34	86.04	83.93	86.04	0.000119	0.49	115.35	58.13	0.06	0.01	58.72
Reach 1	183560	70	49.70	83.34	85.92	83.89	85.93	0.000112	0.46	108.69	56.90	0.06	0.01	57.47
Reach 1	183560	75	40.70	83.34	85.76	83.85	85.77	0.000102	0.41	99.71	55.21	0.05	0.01	55.75
Reach 1	183560	80	29.70	83.34	85.54	83.78	85.54	0.000085	0.34	87.66	52.88	0.05	0.01	53.37
Reach 1	183560	85	18.10	83.34	85.26	83.70	85.27	0.000064	0.25	73.48	50.15	0.04	0.01	50.57
Reach 1	183560	90	5.40	83.34	84.77	83.52	84.77	0.000024	0.11	49.81	45.27	0.02	0.00	45.58
Reach 1	183560	91	5.03	83.34	84.75	83.51	84.75	0.000022	0.10	49.08	45.11	0.02	0.00	45.42
Reach 1	183560	92	4.71	83.34	84.73	83.51	84.73	0.000020	0.10	48.25	44.93	0.02	0.00	45.23
Reach 1	183560	93	4.20	83.34	84.70	83.50	84.70	0.000018	0.09	46.74	44.61	0.02	0.00	44.90
Reach 1	183560	94	3.85	83.34	84.68	83.49	84.68	0.000016	0.08	45.76	44.39	0.01	0.00	44.68
Reach 1	183560	95	3.45	83.34	84.65	83.48	84.65	0.000014	0.08	44.58	44.13	0.01	0.00	44.41
Reach 1	183560	96	3.05	83.34	84.62	83.47	84.62	0.000012	0.07	43.36	43.86	0.01	0.00	44.14
Reach 1	183560	97	2.55	83.34	84.59	83.46	84.59	0.000010	0.06	41.88	43.54	0.01	0.00	43.80
Reach 1	183560	98	1.89	83.34	84.54	83.44	84.54	0.000006	0.05	39.89	43.09	0.01	0.00	43.34
Reach 1	183560	99	1.21	83.34	84.38	83.42	84.38	0.000005	0.04	33.16	41.55	0.01	0.00	41.76
Reach 1	183560	99.5	0.57	83.34	84.20	83.39	84.20	0.000002	0.02	25.56	39.73	0.00	0.00	39.90
Reach 1	183560	99.75	0.45	83.34	84.15	83.39	84.15	0.000002	0.02	23.61	39.25	0.00	0.00	39.41
Reach 1	183560	100	0.11	83.34	84.03	83.36	84.03	0.000000	0.01	19.22	38.15	0.00	0.00	38.28
Reach 1	183121	1	2120.00	82.45	90.95	88.41	90.96	0.000272	1.83	4364.05	1560.91	0.13	0.10	52.93
Reach 1	183121	5	1040.00	82.45	89.50	86.97	89.52	0.000300	1.78	2201.69	1385.05	0.14	0.09	52.93
Reach 1	183121	10	592.00	82.45	88.64	86.08	88.67	0.000327	1.76	1117.77	1110.40	0.15	0.08	52.93
Reach 1	183121	15	426.00	82.45	88.24	85.69	88.27	0.000352	1.66	710.46	916.12	0.15	0.08	52.93
Reach 1	183121	20	325.00	82.45	87.90	85.43	87.94	0.000444	1.71	374.86	669.06	0.17	0.09	52.93
Reach 1	183121	25	263.00	82.45	87.70	85.24	87.73	0.000424	1.53	262.03	356.45	0.15	0.08	52.93
Reach 1	183121	30	188.00	82.45	87.33	85.00	87.35	0.000412	1.29	180.84	150.19	0.14	0.07	52.30
Reach 1	183121	35	146.00	82.45	86.97	84.81	87.00	0.000413	1.17	140.02	93.36	0.13	0.06	50.84
Reach 1	183121	40	114.00	82.45	86.64	84.58	86.66	0.000421	1.07	113.42	75.71	0.13	0.06	49.90
Reach 1	183121	45	92.10	82.45	86.40	84.42	86.41	0.000428	0.98	95.41	63.50	0.12	0.05	49.39
Reach 1	183121	50	78.90	82.45	86.23	84.30	86.25	0.000428	0.91	86.51	48.58	0.12	0.05	48.48
Reach 1	183121	55	69.50	82.45	86.11	84.20	86.12	0.000424	0.86	80.55	46.22	0.12	0.04	47.38
Reach 1	183121	60	62.50	82.45	86.01	84.11	86.02	0.000419	0.82	75.93	45.38	0.11	0.04	46.50

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	183121	65	56.60	82.45	85.91	84.04	85.92	0.000415	0.79	71.79	44.61	0.11	0.04	45.71
Reach 1	183121	70	49.70	82.45	85.80	83.97	85.81	0.000405	0.74	66.87	43.68	0.11	0.04	44.74
Reach 1	183121	75	40.70	82.45	85.65	83.84	85.66	0.000389	0.68	60.28	42.41	0.10	0.03	43.41
Reach 1	183121	80	29.70	82.45	85.44	83.68	85.44	0.000360	0.58	51.49	40.64	0.09	0.03	41.57
Reach 1	183121	85	18.10	82.45	85.18	83.46	85.18	0.000311	0.44	41.28	38.48	0.07	0.02	39.33
Reach 1	183121	90	5.40	82.45	84.73	83.07	84.73	0.000129	0.21	25.43	29.34	0.04	0.01	30.05
Reach 1	183121	91	5.03	82.45	84.72	83.05	84.72	0.000115	0.20	25.05	28.81	0.04	0.01	29.52
Reach 1	183121	92	4.71	82.45	84.71	83.04	84.71	0.000105	0.19	24.60	28.17	0.04	0.01	28.87
Reach 1	183121	93	4.20	82.45	84.68	83.02	84.68	0.000089	0.18	23.79	26.95	0.03	0.00	27.65
Reach 1	183121	94	3.85	82.45	84.66	83.00	84.66	0.000078	0.17	23.28	26.17	0.03	0.00	26.86
Reach 1	183121	95	3.45	82.45	84.63	82.97	84.63	0.000066	0.15	22.67	25.20	0.03	0.00	25.89
Reach 1	183121	96	3.05	82.45	84.61	82.95	84.61	0.000055	0.14	22.06	24.65	0.03	0.00	25.33
Reach 1	183121	97	2.55	82.45	84.58	82.91	84.58	0.000042	0.12	21.32	24.07	0.02	0.00	24.73
Reach 1	183121	98	1.89	82.45	84.54	82.86	84.54	0.000026	0.09	20.33	23.25	0.02	0.00	23.91
Reach 1	183121	99	1.21	82.45	84.38	82.79	84.38	0.000017	0.07	16.93	20.22	0.01	0.00	20.83
Reach 1	183121	99.5	0.57	82.45	84.20	82.70	84.20	0.000006	0.04	13.53	16.65	0.01	0.00	17.21
Reach 1	183121	99.75	0.45	82.45	84.15	82.68	84.15	0.000004	0.04	12.74	15.70	0.01	0.00	16.24
Reach 1	183121	100	0.11	82.45	84.03	82.58	84.03	0.000000	0.01	11.09	14.00	0.00	0.00	14.51
Reach 1	182642	1	2120.00	83.53	90.82	87.69	90.84	0.000267	1.78	3931.10	1184.79	0.13	0.10	61.16
Reach 1	182642	5	1040.00	83.53	89.37	86.77	89.39	0.000250	1.59	2227.03	1164.42	0.13	0.07	61.16
Reach 1	182642	10	592.00	83.53	88.51	85.98	88.53	0.000254	1.51	1234.77	1119.37	0.14	0.06	61.16
Reach 1	182642	15	426.00	83.53	88.10	85.63	88.12	0.000261	1.38	812.33	931.74	0.13	0.05	61.16
Reach 1	182642	20	325.00	83.53	87.74	85.39	87.76	0.000276	1.29	534.55	569.42	0.13	0.05	61.16
Reach 1	182642	25	263.00	83.53	87.49	85.22	87.52	0.000461	1.50	225.87	327.74	0.16	0.08	61.16
Reach 1	182642	30	188.00	83.53	87.12	85.00	87.15	0.000446	1.27	169.23	275.83	0.14	0.07	59.75
Reach 1	182642	35	146.00	83.53	86.77	84.86	86.79	0.000460	1.16	131.81	195.70	0.14	0.06	57.58
Reach 1	182642	40	114.00	83.53	86.43	84.75	86.45	0.000484	1.07	107.84	153.50	0.14	0.06	55.51
Reach 1	182642	45	92.10	83.53	86.17	84.65	86.19	0.000508	0.99	92.80	131.10	0.13	0.05	53.94
Reach 1	182642	50	78.90	83.53	86.00	84.59	86.02	0.000529	0.94	83.93	121.98	0.13	0.05	52.68
Reach 1	182642	55	69.50	83.53	85.87	84.55	85.89	0.000544	0.90	77.23	114.37	0.13	0.05	51.44
Reach 1	182642	60	62.50	83.53	85.77	84.51	85.78	0.000558	0.87	72.00	108.17	0.13	0.05	50.45
Reach 1	182642	65	56.60	83.53	85.68	84.49	85.69	0.000573	0.84	67.31	93.65	0.13	0.05	49.55
Reach 1	182642	70	49.70	83.53	85.56	84.44	85.57	0.000589	0.81	61.73	83.33	0.13	0.05	48.45
Reach 1	182642	75	40.70	83.53	85.41	84.38	85.42	0.000608	0.75	54.42	67.22	0.12	0.04	46.98
Reach 1	182642	80	29.70	83.53	85.19	84.30	85.20	0.000640	0.66	44.73	56.14	0.12	0.04	44.96
Reach 1	182642	85	18.10	83.53	84.94	84.21	84.94	0.000692	0.54	33.51	44.38	0.11	0.03	42.49
Reach 1	182642	90	5.40	83.53	84.47	83.93	84.47	0.000984	0.37	14.78	35.56	0.10	0.03	35.64
Reach 1	182642	91	5.03	83.53	84.44	83.92	84.44	0.001074	0.37	13.68	34.61	0.10	0.03	34.69
Reach 1	182642	92	4.71	83.53	84.41	83.92	84.42	0.001105	0.36	12.97	33.99	0.10	0.03	34.07
Reach 1	182642	93	4.20	83.53	84.38	83.90	84.39	0.001121	0.35	11.97	33.09	0.10	0.03	33.17
Reach 1	182642	94	3.85	83.53	84.36	83.88	84.36	0.001151	0.34	11.20	32.38	0.10	0.02	32.46
Reach 1	182642	95	3.45	83.53	84.33	83.87	84.34	0.001178	0.33	10.33	31.57	0.10	0.02	31.64
Reach 1	182642	96	3.05	83.53	84.31	83.85	84.31	0.001202	0.32	9.46	30.72	0.10	0.02	30.79
Reach 1	182642	97	2.55	83.53	84.27	83.83	84.27	0.001251	0.31	8.29	29.56	0.10	0.02	29.62
Reach 1	182642	98	1.89	83.53	84.21	83.80	84.21	0.001328	0.28	6.67	27.86	0.10	0.02	27.92
Reach 1	182642	99	1.21	83.53	84.10	83.75	84.10	0.001162	0.29	4.12	14.54	0.10	0.02	14.59
Reach 1	182642	99.5	0.57	83.53	83.98	83.69	83.98	0.000898	0.22	2.58	11.51	0.08	0.01	11.55
Reach 1	182642	99.75	0.45	83.53	83.95	83.68	83.95	0.000827	0.20	2.23	10.71	0.08	0.01	10.74
Reach 1	182642	100	0.11	83.53	83.77	83.62	83.77	0.001119	0.16	0.72	6.06	0.08	0.01	6.08
Reach 1	182145	1	2120.00	83.11	90.64	87.24	90.68	0.000366	2.08	2768.94	952.53	0.15	0.14	92.49
Reach 1	182145	5	1040.00	83.11	89.22	85.92	89.26	0.000288	1.71	1530.15	837.12	0.14	0.08	92.49
Reach 1	182145	10	592.00	83.11	88.39	85.27	88.41	0.000213	1.39	871.54	715.16	0.13	0.05	92.49
Reach 1	182145	15	426.00	83.11	87.99	84.99	88.01	0.000193	1.19	622.09	524.16	0.11	0.04	92.49
Reach 1	182145	20	325.00	83.11	87.63	84.79	87.64	0.000183	1.06	460.31	361.90	0.11	0.03	92.49
Reach 1	182145	25	263.00	83.11	87.37	84.67	87.38	0.000187	0.96	375.67	297.89	0.10	0.03	92.49
Reach 1	182145	30	188.00	83.11	86.97	84.45	86.98	0.000192	0.83	278.69	200.83	0.09	0.03	90.17
Reach 1	182145	35	146.00	83.11	86.61	84.29	86.62	0.000196	0.77	213.46	159.65	0.09	0.03	84.10
Reach 1	182145	40	114.00	83.11	86.27	84.18	86.27	0.000189	0.71	168.24	110.69	0.09	0.02	76.25
Reach 1	182145	45	92.10	83.11	86.00	84.08	86.01	0.000191	0.65	142.40	85.41	0.08	0.02	73.52
Reach 1	182145	50	78.90	83.11	85.83	84.03	85.83	0.000195	0.61	128.60	75.22	0.08	0.02	72.00
Reach 1	182145	55	69.50	83.11	85.69	83.99	85.70	0.000199	0.59	118.76	70.52	0.08	0.02	70.83
Reach 1	182145	60	62.50	83.11	85.59	83.95	85.59	0.000202	0.56	111.23	69.28	0.08	0.02	69.90
Reach 1	182145	65	56.60	83.11	85.49	83.92	85.49	0.000207	0.54	104.36	68.47	0.08	0.02	69.03
Reach 1	182145	70	49.70	83.11	85.37	83.89	85.37	0.000211	0.52	96.18	67.49	0.08	0.02	67.99
Reach 1	182145	75	40.70	83.11	85.20	83.83	85.21	0.000215	0.48	85.43	66.18	0.07	0.02	66.60
Reach 1	182145	80	29.70	83.11	84.98	83.77	84.98	0.000224	0.42	70.89	64.36	0.07	0.02	64.66
Reach 1	182145	85	18.10	83.11	84.70	83.69	84.71	0.000240	0.34	53.43	61.53	0.06	0.01	61.74
Reach 1	182145	90	5.40	83.11	84.18	83.54	84.18	0.000191	0.21	25.99	42.63	0.05	0.01	42.75
Reach 1	182145	91	5.03	83.11	84.12	83.49	84.12	0.000223	0.21	23.62	41.69	0.05	0.01	41.80
Reach 1	182145	92	4.71	83.11	84.09	83.48	84.09	0.000233	0.21	22.34	41.18	0.05	0.01	41.28
Reach 1	182145	93	4.20	83.11	84.04	83.47	84.04	0.000245	0.21	20.45	40.40	0.05	0.01	40.50
Reach 1	182145	94	3.85	83.11	84.01	83.46	84.01	0.000254	0.20	19.15	39.86	0.05	0.01	39.95
Reach 1	182145	95	3.45	83.11	83.97	83.45	83.97	0.000261	0.19	17.71	39.25	0.05	0.01	39.34
Reach 1	182145	96	3.05	83.11	83.94	83.42	83.94	0.000266	0.19	16.29	38.64	0.05	0.01	38.73
Reach 1	182145	97	2.55	83.11	83.88	83.41	83.88	0.000290	0.18	14.17	37.71	0.05	0.01	37.79
Reach 1	182145	98	1.89	83.11	83.80	83.37	83.80	0.000351	0.17	11.06	36.31	0.05	0.01	36.37
Reach 1	182145	99	1.21	83.11	83.71	83.33	83.71	0.000427	0.15	7.87	34.77	0.06	0.01	34.83
Reach 1	182145	99.5	0.57	83.11	83.60	83.27	83.60	0.000633	0.13	4.35	32.70	0.06	0.01	32.74
Reach 1	182145	99.75	0.45	83.11	83.58	83.25	83.58	0.000645	0.12	3.66	30.68	0.06	0.00	30.72
Reach 1	182145	100	0.11	83.11	83.39	83.20	83.39	0.000429	0.11	1.04	7.46	0.05	0.00	7.48
Reach 1	180954	1	2120.00	82.60	90.30	88.15	90.32	0.000331	2.05	3669.34	1287.45	0.14	0.13	59.59
Reach 1	180954	5	1040.00	82.60	88.88	85.87	88.91	0.000360	2.00	1813.18	1204.65	0.16	0.11	59.59
Reach 1	180954	10	592.00	82.60	88.03	85.02	88.08	0.000392	1.99	810.97	1153.29	0.17	0.10	59.59
Reach 1	180954	15	426.00	82.60	87.65	84.64	87.70	0.000366	1.76	427.30	730.12	0.16	0.09	59.59
Reach 1	180954	20	325.00	82.60	87.32	84.37	87.35	0.000330	1.54	279.07	206.53	0.15	0.07	59.59
Reach 1	180954	25	263.00	82.60	87.06	84.18	87.09	0.000320	1.37	230.20	186.10	0.14	0.06	59.59
Reach 1	180954	30	188.00	82.60	86.68	83.92	86.70	0.000295	1.13	171.36	124.78	0.12	0.05	58.55
Reach 1	180954	35	146.00	82.60	86.33	83.74	86.34	0.000277	1.00	145.58	55.71	0.11	0.04	56.49

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	180954	40	114.00	82.60	86.00	83.60	86.01	0.000257	0.89	127.61	53.19	0.10	0.04	53.88
Reach 1	180954	45	92.10	82.60	85.74	83.49	85.75	0.000241	0.81	114.29	51.24	0.10	0.03	51.87
Reach 1	180954	50	78.90	82.60	85.57	83.42	85.58	0.000232	0.75	105.66	49.94	0.09	0.03	50.52
Reach 1	180954	55	69.50	82.60	85.44	83.36	85.45	0.000224	0.70	99.20	48.94	0.09	0.03	49.49
Reach 1	180954	60	62.50	82.60	85.34	83.31	85.34	0.000217	0.66	94.16	48.15	0.08	0.03	48.67
Reach 1	180954	65	56.60	82.60	85.24	83.27	85.25	0.000212	0.63	89.50	47.41	0.08	0.02	47.90
Reach 1	180954	70	49.70	82.60	85.12	83.23	85.13	0.000202	0.59	84.04	46.52	0.08	0.02	46.99
Reach 1	180954	75	40.70	82.60	84.97	83.16	84.98	0.000184	0.53	77.10	45.37	0.07	0.02	45.80
Reach 1	180954	80	29.70	82.60	84.77	83.07	84.77	0.000155	0.44	67.98	43.81	0.06	0.01	44.18
Reach 1	180954	85	18.10	82.60	84.51	82.95	84.52	0.000116	0.32	57.11	41.87	0.05	0.01	42.18
Reach 1	180954	90	5.40	82.60	84.07	82.78	84.07	0.000040	0.14	39.33	37.13	0.02	0.00	37.35
Reach 1	180954	91	5.03	82.60	84.00	82.78	84.00	0.000043	0.14	36.73	36.28	0.02	0.00	36.48
Reach 1	180954	92	4.71	82.60	83.96	82.78	83.96	0.000041	0.13	35.54	35.88	0.02	0.00	36.08
Reach 1	180954	93	4.20	82.60	83.92	82.76	83.92	0.000038	0.12	33.86	35.32	0.02	0.00	35.50
Reach 1	180954	94	3.85	82.60	83.88	82.75	83.88	0.000036	0.12	32.73	34.93	0.02	0.00	35.11
Reach 1	180954	95	3.45	82.60	83.85	82.75	83.85	0.000032	0.11	31.56	34.53	0.02	0.00	34.70
Reach 1	180954	96	3.05	82.60	83.82	82.74	83.82	0.000028	0.10	30.46	34.14	0.02	0.00	34.31
Reach 1	180954	97	2.55	82.60	83.76	82.73	83.76	0.000024	0.09	28.54	33.46	0.02	0.00	33.62
Reach 1	180954	98	1.89	82.60	83.67	82.71	83.67	0.000019	0.07	25.39	32.32	0.01	0.00	32.45
Reach 1	180954	99	1.21	82.60	83.57	82.70	83.57	0.000011	0.05	22.48	31.01	0.01	0.00	31.13
Reach 1	180954	99.5	0.57	82.60	83.45	82.67	83.45	0.000004	0.03	18.80	29.22	0.01	0.00	29.32
Reach 1	180954	99.75	0.45	82.60	83.41	82.67	83.41	0.000003	0.03	17.73	28.68	0.01	0.00	28.77
Reach 1	180954	100	0.11	82.60	83.27	82.64	83.27	0.000000	0.01	13.77	26.57	0.00	0.00	26.65
Reach 1	179519	1	2070.00	83.00	89.93	87.24	89.95	0.000226	1.60	4603.49	1739.37	0.12	0.08	78.90
Reach 1	179519	5	1050.00	83.00	88.44	85.73	88.46	0.000285	1.63	2120.71	1431.95	0.14	0.08	78.90
Reach 1	179519	10	596.00	83.00	87.54	85.01	87.57	0.000329	1.62	1026.79	1106.18	0.15	0.07	78.90
Reach 1	179519	15	426.00	83.00	87.15	84.68	87.18	0.000339	1.48	622.26	977.49	0.15	0.06	78.90
Reach 1	179519	20	328.00	83.00	86.84	84.48	86.86	0.000343	1.38	373.39	476.40	0.14	0.06	77.64
Reach 1	179519	25	263.00	83.00	86.58	84.33	86.61	0.000346	1.25	293.88	243.71	0.14	0.06	76.27
Reach 1	179519	30	191.00	83.00	86.21	84.15	86.23	0.000367	1.10	211.81	197.79	0.13	0.05	74.26
Reach 1	179519	35	148.00	83.00	85.86	84.02	85.88	0.000398	1.02	152.80	116.72	0.13	0.05	71.46
Reach 1	179519	40	116.00	83.00	85.54	83.92	85.56	0.000414	0.95	124.02	77.78	0.12	0.05	67.40
Reach 1	179519	45	93.60	83.00	85.30	83.85	85.31	0.000427	0.89	105.97	67.71	0.12	0.04	64.26
Reach 1	179519	50	79.00	83.00	85.12	83.80	85.13	0.000441	0.83	94.89	61.99	0.12	0.04	62.33
Reach 1	179519	55	68.90	83.00	84.99	83.74	85.00	0.000455	0.79	86.86	60.70	0.12	0.04	61.01
Reach 1	179519	60	61.50	83.00	84.89	83.68	84.90	0.000467	0.76	80.67	59.69	0.12	0.04	59.97
Reach 1	179519	65	54.90	83.00	84.79	83.65	84.80	0.000483	0.73	74.71	58.69	0.11	0.04	58.96
Reach 1	179519	70	48.00	83.00	84.67	83.61	84.68	0.000507	0.71	68.04	57.56	0.11	0.04	57.80
Reach 1	179519	75	39.90	83.00	84.53	83.56	84.54	0.000539	0.66	60.08	56.18	0.11	0.04	56.39
Reach 1	179519	80	30.50	83.00	84.36	83.50	84.36	0.000587	0.61	50.29	54.43	0.11	0.03	54.61
Reach 1	179519	85	20.10	83.00	84.14	83.41	84.14	0.000677	0.52	38.58	52.26	0.11	0.03	52.40
Reach 1	179519	90	6.99	83.00	83.77	83.26	83.77	0.000888	0.35	19.89	48.26	0.10	0.02	48.32
Reach 1	179519	91	5.99	83.00	83.70	83.24	83.71	0.000800	0.35	17.19	38.38	0.09	0.02	38.43
Reach 1	179519	92	5.28	83.00	83.66	83.22	83.66	0.000862	0.34	15.42	36.94	0.09	0.02	36.99
Reach 1	179519	93	4.54	83.00	83.62	83.21	83.62	0.000839	0.32	14.09	35.83	0.09	0.02	35.87
Reach 1	179519	94	4.08	83.00	83.59	83.20	83.60	0.000837	0.31	13.13	35.01	0.09	0.02	35.05
Reach 1	179519	95	3.67	83.00	83.57	83.19	83.57	0.000836	0.30	12.25	34.23	0.09	0.02	34.27
Reach 1	179519	96	3.32	83.00	83.54	83.18	83.55	0.000846	0.29	11.42	33.48	0.09	0.02	33.51
Reach 1	179519	97	2.65	83.00	83.50	83.16	83.50	0.000849	0.27	9.83	32.00	0.09	0.02	32.03
Reach 1	179519	98	1.70	83.00	83.42	83.14	83.42	0.000808	0.23	7.46	29.65	0.08	0.01	29.67
Reach 1	179519	99	1.03	83.00	83.34	83.11	83.34	0.000837	0.20	5.23	26.27	0.08	0.01	26.29
Reach 1	179519	99.5	0.43	83.00	83.24	83.08	83.24	0.000837	0.15	2.79	20.42	0.07	0.01	20.42
Reach 1	179519	99.75	0.34	83.00	83.22	83.07	83.22	0.000773	0.14	2.42	19.23	0.07	0.01	19.24
Reach 1	179519	100	0.09	83.00	83.13	83.05	83.13	0.000568	0.08	1.02	13.77	0.05	0.00	13.77
Reach 1	177923	1	2070.00	81.45	89.62	86.02	89.63	0.000212	1.57	4418.09	1769.30	0.11	0.08	94.27
Reach 1	177923	5	1050.00	81.45	88.02	84.73	88.04	0.000257	1.55	2025.81	1283.17	0.13	0.07	94.27
Reach 1	177923	10	596.00	81.45	87.02	83.93	87.06	0.000325	1.61	822.51	1083.51	0.15	0.07	93.03
Reach 1	177923	15	426.00	81.45	86.63	83.58	86.66	0.000325	1.45	440.24	812.91	0.14	0.06	91.88
Reach 1	177923	20	328.00	81.45	86.34	83.35	86.36	0.000289	1.27	270.58	258.04	0.13	0.05	91.03
Reach 1	177923	25	263.00	81.45	86.10	83.17	86.12	0.000272	1.12	235.87	97.57	0.12	0.04	90.33
Reach 1	177923	30	191.00	81.45	85.73	82.94	85.75	0.000249	0.94	203.77	83.92	0.11	0.04	84.88
Reach 1	177923	35	148.00	81.45	85.39	82.78	85.40	0.000231	0.84	175.92	77.04	0.10	0.03	77.89
Reach 1	177923	40	116.00	81.45	85.08	82.65	85.09	0.000212	0.76	152.92	70.75	0.09	0.03	71.52
Reach 1	177923	45	93.60	81.45	84.84	82.55	84.85	0.000191	0.68	136.66	65.95	0.08	0.02	66.66
Reach 1	177923	50	79.00	81.45	84.67	82.48	84.68	0.000175	0.63	125.83	62.55	0.08	0.02	63.21
Reach 1	177923	55	68.90	81.45	84.54	82.43	84.55	0.000163	0.58	117.92	59.95	0.07	0.02	60.58
Reach 1	177923	60	61.50	81.45	84.44	82.35	84.45	0.000152	0.55	111.99	57.92	0.07	0.02	58.52
Reach 1	177923	65	54.90	81.45	84.34	82.30	84.34	0.000141	0.52	106.26	55.88	0.07	0.02	56.46
Reach 1	177923	70	48.00	81.45	84.22	82.24	84.22	0.000135	0.48	99.53	54.96	0.06	0.02	55.50
Reach 1	177923	75	39.90	81.45	84.07	82.17	84.07	0.000127	0.44	91.40	54.00	0.06	0.01	54.49
Reach 1	177923	80	30.50	81.45	83.88	82.09	83.88	0.000115	0.38	81.04	52.76	0.05	0.01	53.17
Reach 1	177923	85	20.10	81.45	83.62	81.97	83.62	0.000101	0.30	67.79	51.12	0.05	0.01	51.44
Reach 1	177923	90	6.99	81.45	83.07	81.76	83.07	0.000065	0.17	41.59	42.82	0.03	0.00	43.00
Reach 1	177923	91	5.99	81.45	83.01	81.73	83.01	0.000060	0.15	38.74	41.80	0.03	0.00	41.97
Reach 1	177923	92	5.28	81.45	82.95	81.72	82.95	0.000056	0.14	36.60	41.03	0.03	0.00	41.19
Reach 1	177923	93	4.54	81.45	82.90	81.70	82.90	0.000051	0.13	34.28	40.18	0.03	0.00	40.33
Reach 1	177923	94	4.08	81.45	82.86	81.69	82.86	0.000047	0.12	32.77	39.62	0.02	0.00	39.77
Reach 1	177923	95	3.67	81.45	82.82	81.67	82.82	0.000044	0.12	31.29	39.06	0.02	0.00	39.20
Reach 1	177923	96	3.32	81.45	82.79	81.66	82.79	0.000041	0.11	30.07	38.59	0.02	0.00	38.73
Reach 1	177923	97	2.65	81.45	82.72	81.64	82.72	0.000034	0.10	27.58	37.62	0.02	0.00	37.75
Reach 1	177923	98	1.70	81.45	82.62	81.60	82.62	0.000022	0.07	23.66	36.03	0.02	0.00	36.15
Reach 1	177923	99	1.03	81.45	82.52	81.57	82.52	0.000013	0.05	20.24	34.60	0.01	0.00	34.70
Reach 1	177923	99.5	0.43	81.45	82.40	81.54	82.40	0.000004	0.03	16.29	31.53	0.01	0.00	31.61
Reach 1	177923	99.75	0.34	81.45	82.38	81.53	82.38	0.000003	0.02	15.51	29.09	0.01	0.00	29.17
Reach 1	177923	100	0.09	81.45	82.29	81.50	82.29	0.000000	0.01	13.26	25.39	0.00	0.00	25.46
Reach 1	176130	1	2070.00	79.41	89.15	82.68	89.18	0.000146	1.38	1504.23	257.99	0.10	0.06	229.86
Reach 1	176130	5	1050.00	79.41	87.68	81.95	87.69	0.000064	0.90	1171.27	213.83	0.07	0.02	215.56
Reach 1	176130	10	596.00	79.41	86.81	81.52	86.82	0.000030	0.60	989.01	207.07	0.05	0.01	208.41

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	176130	15	426.00	79.41	86.47	81.33	86.47	0.000020	0.46	918.62	201.38	0.04	0.01	202.66
Reach 1	176130	20	328.00	79.41	86.21	81.21	86.21	0.000014	0.38	867.86	193.50	0.03	0.00	194.76
Reach 1	176130	25	263.00	79.41	85.99	81.10	85.99	0.000011	0.32	825.06	186.75	0.03	0.00	187.99
Reach 1	176130	30	191.00	79.41	85.64	80.95	85.64	0.000009	0.25	760.36	182.18	0.02	0.00	183.35
Reach 1	176130	35	148.00	79.41	85.30	80.85	85.30	0.000007	0.21	699.61	178.95	0.02	0.00	180.05
Reach 1	176130	40	116.00	79.41	85.00	80.76	85.00	0.000006	0.18	645.69	176.23	0.02	0.00	177.26
Reach 1	176130	45	93.60	79.41	84.77	80.71	84.77	0.000005	0.15	605.37	174.17	0.01	0.00	175.14
Reach 1	176130	50	79.00	79.41	84.60	80.66	84.60	0.000004	0.14	577.14	172.71	0.01	0.00	173.64
Reach 1	176130	55	68.90	79.41	84.48	80.63	84.48	0.000004	0.12	555.73	171.59	0.01	0.00	172.50
Reach 1	176130	60	61.50	79.41	84.38	80.59	84.38	0.000003	0.11	539.19	170.73	0.01	0.00	171.61
Reach 1	176130	65	54.90	79.41	84.28	80.57	84.29	0.000003	0.11	522.71	169.86	0.01	0.00	170.72
Reach 1	176130	70	48.00	79.41	84.17	80.54	84.17	0.000003	0.10	502.70	168.60	0.01	0.00	169.44
Reach 1	176130	75	39.90	79.41	84.02	80.48	84.02	0.000002	0.08	478.45	167.04	0.01	0.00	167.84
Reach 1	176130	80	30.50	79.41	83.83	80.32	83.83	0.000002	0.07	447.27	165.00	0.01	0.00	165.76
Reach 1	176130	85	20.10	79.41	83.59	80.17	83.59	0.000001	0.05	406.74	162.31	0.01	0.00	163.02
Reach 1	176130	90	6.99	79.41	83.05	79.91	83.05	0.000000	0.02	322.13	152.70	0.00	0.00	153.33
Reach 1	176130	91	5.99	79.41	82.99	79.88	82.99	0.000000	0.02	312.19	150.81	0.00	0.00	151.43
Reach 1	176130	92	5.28	79.41	82.94	79.86	82.94	0.000000	0.02	304.66	149.36	0.00	0.00	149.98
Reach 1	176130	93	4.54	79.41	82.88	79.83	82.88	0.000000	0.02	296.42	147.76	0.00	0.00	148.37
Reach 1	176130	94	4.08	79.41	82.85	79.81	82.85	0.000000	0.01	291.03	146.88	0.00	0.00	147.49
Reach 1	176130	95	3.67	79.41	82.81	79.79	82.81	0.000000	0.01	285.67	146.28	0.00	0.00	146.88
Reach 1	176130	96	3.32	79.41	82.78	79.78	82.78	0.000000	0.01	281.22	145.78	0.00	0.00	146.38
Reach 1	176130	97	2.65	79.41	82.72	79.75	82.72	0.000000	0.01	272.03	144.75	0.00	0.00	145.34
Reach 1	176130	98	1.70	79.41	82.61	79.69	82.61	0.000000	0.01	257.18	143.06	0.00	0.00	143.64
Reach 1	176130	99	1.03	79.41	82.52	79.64	82.52	0.000000	0.00	243.76	141.51	0.00	0.00	142.08
Reach 1	176130	99.5	0.43	79.41	82.40	79.57	82.40	0.000000	0.00	227.56	139.63	0.00	0.00	140.18
Reach 1	176130	99.75	0.34	79.41	82.38	79.56	82.38	0.000000	0.00	224.01	139.21	0.00	0.00	139.76
Reach 1	176130	100	0.09	79.41	82.29	79.50	82.29	0.000000	0.00	212.32	137.87	0.00	0.00	138.40
Reach 1	174700	1	2150.00	82.02	88.76	86.32	88.77	0.000171	1.32	6045.42	2494.64	0.10	0.06	84.77
Reach 1	174700	5	1060.00	82.02	87.37	84.99	87.38	0.000196	1.28	3001.79	1900.37	0.11	0.05	84.77
Reach 1	174700	10	600.00	82.02	86.60	84.35	86.62	0.000219	1.28	1625.97	1712.38	0.12	0.04	84.77
Reach 1	174700	15	427.00	82.02	86.31	84.04	86.32	0.000235	1.20	1126.14	1637.35	0.12	0.04	84.77
Reach 1	174700	20	330.00	82.02	86.07	83.82	86.09	0.000250	1.16	761.33	1501.12	0.12	0.04	84.77
Reach 1	174700	25	265.00	82.02	85.86	83.65	85.87	0.000288	1.12	468.45	1121.29	0.12	0.05	84.77
Reach 1	174700	30	192.00	82.02	85.51	83.42	85.53	0.000335	1.02	230.88	297.89	0.12	0.05	84.46
Reach 1	174700	35	149.00	82.02	85.18	83.24	85.19	0.000361	0.95	169.46	140.06	0.12	0.04	81.06
Reach 1	174700	40	116.00	82.02	84.88	83.09	84.89	0.000380	0.87	133.75	94.04	0.12	0.04	78.00
Reach 1	174700	45	94.00	82.02	84.65	82.99	84.66	0.000399	0.81	115.47	75.27	0.12	0.04	75.69
Reach 1	174700	50	79.40	82.02	84.49	82.91	84.50	0.000418	0.77	103.53	73.67	0.11	0.04	74.04
Reach 1	174700	55	69.10	82.02	84.37	82.85	84.38	0.000436	0.73	94.54	72.44	0.11	0.04	72.78
Reach 1	174700	60	61.60	82.02	84.27	82.81	84.28	0.000452	0.70	87.67	71.49	0.11	0.03	71.81
Reach 1	174700	65	55.10	82.02	84.18	82.77	84.19	0.000463	0.68	80.94	69.09	0.11	0.03	69.38
Reach 1	174700	70	48.00	82.02	84.06	82.73	84.07	0.000476	0.66	73.03	65.53	0.11	0.03	65.80
Reach 1	174700	75	39.90	82.02	83.92	82.67	83.92	0.000489	0.62	64.00	61.12	0.11	0.03	61.37
Reach 1	174700	80	30.50	82.02	83.74	82.60	83.74	0.000493	0.57	53.33	55.31	0.10	0.03	55.53
Reach 1	174700	85	20.10	82.02	83.49	82.50	83.50	0.000492	0.49	40.95	47.69	0.09	0.03	47.88
Reach 1	174700	90	6.99	82.02	82.97	82.33	82.98	0.000486	0.34	20.45	32.82	0.08	0.02	32.93
Reach 1	174700	91	5.99	82.02	82.91	82.31	82.91	0.000502	0.33	18.33	31.72	0.08	0.02	31.82
Reach 1	174700	92	5.28	82.02	82.86	82.30	82.86	0.000516	0.32	16.75	30.88	0.08	0.02	30.97
Reach 1	174700	93	4.54	82.02	82.80	82.28	82.80	0.000529	0.30	15.06	29.95	0.07	0.02	30.03
Reach 1	174700	94	4.08	82.02	82.77	82.27	82.77	0.000539	0.29	13.98	29.34	0.07	0.02	29.41
Reach 1	174700	95	3.67	82.02	82.73	82.26	82.73	0.000563	0.29	12.86	28.69	0.08	0.02	28.77
Reach 1	174700	96	3.32	82.02	82.70	82.25	82.70	0.000571	0.28	12.00	28.19	0.07	0.02	28.25
Reach 1	174700	97	2.65	82.02	82.63	82.23	82.63	0.000596	0.26	10.23	27.11	0.07	0.01	27.17
Reach 1	174700	98	1.70	82.02	82.53	82.19	82.53	0.000640	0.23	7.48	25.08	0.07	0.01	25.12
Reach 1	174700	99	1.03	82.02	82.44	82.16	82.44	0.000648	0.19	5.29	22.33	0.07	0.01	22.36
Reach 1	174700	99.5	0.43	82.02	82.32	82.12	82.32	0.000709	0.15	2.83	18.69	0.07	0.01	18.70
Reach 1	174700	99.75	0.34	82.02	82.29	82.11	82.29	0.000694	0.14	2.41	17.48	0.07	0.01	17.49
Reach 1	174700	100	0.09	82.02	82.17	82.07	82.17	0.001000	0.11	0.76	9.90	0.07	0.00	9.90
Reach 1	173393	1	2100.00	80.89	88.45	86.25	88.47	0.000271	1.77	4702.53	1820.39	0.13	0.10	47.18
Reach 1	173393	5	1060.00	80.89	87.02	84.97	87.04	0.000334	1.80	2389.66	1472.10	0.15	0.09	47.18
Reach 1	173393	10	606.00	80.89	86.13	84.06	86.18	0.000536	2.14	1108.31	1397.81	0.20	0.12	47.18
Reach 1	173393	15	427.00	80.89	85.73	83.63	85.79	0.000738	2.26	577.04	1184.59	0.22	0.15	47.18
Reach 1	173393	20	332.00	80.89	85.41	83.35	85.49	0.000915	2.31	251.77	798.54	0.24	0.17	47.18
Reach 1	173393	25	265.00	80.89	85.13	83.10	85.20	0.000965	2.13	127.44	122.11	0.23	0.16	47.18
Reach 1	173393	30	196.00	80.89	84.79	82.84	84.84	0.000926	1.80	109.14	44.98	0.20	0.14	46.08
Reach 1	173393	35	151.00	80.89	84.47	82.65	84.51	0.000883	1.59	94.89	43.25	0.19	0.12	44.23
Reach 1	173393	40	118.00	80.89	84.18	82.49	84.21	0.000850	1.43	82.65	41.70	0.18	0.10	42.58
Reach 1	173393	45	95.50	80.89	83.96	82.37	83.98	0.000826	1.30	73.41	40.50	0.17	0.09	41.30
Reach 1	173393	50	79.50	80.89	83.79	82.27	83.81	0.000810	1.19	66.63	39.59	0.16	0.08	40.33
Reach 1	173393	55	68.40	80.89	83.65	82.20	83.67	0.000806	1.12	61.29	38.86	0.16	0.08	39.55
Reach 1	173393	60	60.50	80.89	83.54	82.15	83.56	0.000808	1.06	57.10	38.28	0.15	0.07	38.93
Reach 1	173393	65	53.30	80.89	83.43	82.09	83.45	0.000801	1.01	52.86	37.11	0.15	0.07	37.72
Reach 1	173393	70	46.30	80.89	83.32	82.03	83.33	0.000773	0.95	48.69	35.40	0.14	0.07	35.98
Reach 1	173393	75	39.20	80.89	83.19	81.96	83.20	0.000733	0.88	44.38	33.54	0.14	0.06	34.07
Reach 1	173393	80	31.30	80.89	83.03	81.87	83.04	0.000717	0.80	39.11	32.23	0.13	0.05	32.70
Reach 1	173393	85	22.20	80.89	82.82	81.76	82.83	0.000704	0.68	32.46	30.49	0.12	0.05	30.88
Reach 1	173393	90	8.58	80.89	82.33	81.51	82.34	0.000708	0.46	18.71	26.18	0.10	0.03	26.39
Reach 1	173393	91	6.95	80.89	82.24	81.45	82.25	0.000715	0.42	16.39	25.31	0.09	0.03	25.50
Reach 1	173393	92	5.85	80.89	82.18	81.41	82.18	0.000720	0.40	14.68	24.58	0.09	0.03	24.75
Reach 1	173393	93	4.88	80.89	82.11	81.38	82.11	0.000715	0.37	13.06	23.60	0.09	0.02	23.75
Reach 1	173393	94	4.30	80.89	82.07	81.36	82.07	0.000692	0.36	12.07	22.69	0.09	0.02	22.83
Reach 1	173393	95	3.87	80.89	82.03	81.33	82.03	0.000666	0.34	11.31	21.77	0.08	0.02	21.91
Reach 1	173393	96	3.60	80.89	82.01	81.32	82.01	0.000646	0.33	10.82	21.16	0.08	0.02	21.31
Reach 1	173393	97	2.76	80.89	81.94	81.28	81.94	0.000551	0.29	9.37	19.25	0.07	0.02	19.38
Reach 1	173393	98	1.53	80.89	81.71	81.20	81.71	0.000771	0.28	5.47	15.33	0.08	0.02	15.44
Reach 1	173393	99	0.85	80.89	81.55	81.13	81.55	0.000968	0.26	3.24	11.60	0.09	0.02	11.69
Reach 1	173393	99.5	0.28	80.89	81.28	81.05	81.28	0.001484	0.26	1.11	5.71	0.10	0.02	5.76
Reach 1	173393	99.75	0.22	80.89	81.24	81.03	81.24	0.001613	0.25	0.90	5.14	0.10	0.02	5.19

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	173393	100	0.06	80.89	81.08	80.97	81.08	0.003143	0.23	0.25	2.72	0.13	0.02	2.75
Reach 1	173380	1	2100.00	80.50	88.45	86.14	88.46	0.000243	1.66	4757.92	1730.22	0.12	0.09	53.51
Reach 1	173380	5	1060.00	80.50	87.02	84.86	87.03	0.000287	1.65	2489.21	1458.57	0.14	0.08	53.51
Reach 1	173380	10	606.00	80.50	86.13	83.97	86.17	0.000431	1.89	1213.98	1401.86	0.18	0.10	53.51
Reach 1	173380	15	427.00	80.50	85.73	83.53	85.78	0.000600	2.00	663.51	1304.31	0.20	0.12	53.51
Reach 1	173380	20	332.00	80.50	85.41	83.26	85.47	0.000765	2.07	295.83	899.74	0.22	0.13	53.51
Reach 1	173380	25	265.00	80.50	85.13	83.04	85.19	0.000819	1.93	149.47	129.46	0.21	0.13	52.86
Reach 1	173380	30	196.00	80.50	84.79	82.66	84.83	0.000796	1.64	121.94	63.42	0.19	0.12	51.16
Reach 1	173380	35	151.00	80.50	84.46	82.39	84.50	0.000784	1.47	103.15	52.47	0.18	0.10	49.54
Reach 1	173380	40	118.00	80.50	84.17	82.17	84.20	0.000762	1.32	89.10	46.46	0.17	0.09	47.33
Reach 1	173380	45	95.50	80.50	83.95	82.01	83.97	0.000729	1.21	78.90	44.23	0.16	0.08	45.05
Reach 1	173380	50	79.50	80.50	83.78	81.88	83.80	0.000703	1.11	71.55	42.55	0.15	0.07	43.34
Reach 1	173380	55	68.40	80.50	83.64	81.77	83.66	0.000687	1.04	65.84	41.21	0.14	0.07	41.97
Reach 1	173380	60	60.50	80.50	83.53	81.70	83.55	0.000681	0.99	61.40	40.35	0.14	0.06	41.08
Reach 1	173380	65	53.30	80.50	83.42	81.62	83.44	0.000680	0.94	56.93	39.45	0.14	0.06	40.16
Reach 1	173380	70	46.30	80.50	83.31	81.54	83.32	0.000677	0.88	52.45	38.54	0.13	0.06	39.21
Reach 1	173380	75	39.20	80.50	83.18	81.46	83.19	0.000670	0.82	47.70	37.47	0.13	0.05	38.11
Reach 1	173380	80	31.30	80.50	83.02	81.35	83.03	0.000629	0.75	41.92	34.65	0.12	0.05	35.25
Reach 1	173380	85	22.20	80.50	82.81	81.21	82.82	0.000540	0.63	34.99	29.96	0.10	0.04	30.52
Reach 1	173380	90	8.58	80.50	82.33	80.93	82.33	0.000243	0.36	23.53	20.54	0.06	0.02	21.00
Reach 1	173380	91	6.95	80.50	82.24	80.88	82.24	0.000206	0.32	21.71	19.79	0.05	0.01	20.22
Reach 1	173380	92	5.85	80.50	82.17	80.85	82.17	0.000179	0.29	20.37	19.36	0.05	0.01	19.78
Reach 1	173380	93	4.88	80.50	82.10	80.82	82.10	0.000153	0.26	19.09	18.94	0.04	0.01	19.34
Reach 1	173380	94	4.30	80.50	82.06	80.80	82.06	0.000136	0.23	18.30	18.68	0.04	0.01	19.06
Reach 1	173380	95	3.87	80.50	82.03	80.78	82.03	0.000123	0.22	17.66	18.46	0.04	0.01	18.83
Reach 1	173380	96	3.60	80.50	82.00	80.77	82.01	0.000114	0.21	17.25	18.25	0.04	0.01	18.61
Reach 1	173380	97	2.76	80.50	81.93	80.74	81.93	0.000084	0.17	15.97	17.60	0.03	0.00	17.95
Reach 1	173380	98	1.53	80.50	81.70	80.68	81.70	0.000055	0.13	12.17	15.51	0.03	0.00	15.80
Reach 1	173380	99	0.85	80.50	81.54	80.64	81.54	0.000032	0.09	9.79	14.05	0.02	0.00	14.30
Reach 1	173380	99.5	0.28	80.50	81.27	80.59	81.27	0.000012	0.05	6.30	11.68	0.01	0.00	11.85
Reach 1	173380	99.75	0.22	80.50	81.23	80.58	81.23	0.000009	0.04	5.84	11.36	0.01	0.00	11.53
Reach 1	173380	100	0.06	80.50	81.06	80.55	81.06	0.000002	0.01	4.00	9.99	0.00	0.00	10.11
Reach 1	173213	1	2100.00	79.99	88.41	86.05	88.42	0.000274	1.76	4269.28	1633.75	0.13	0.10	66.62
Reach 1	173213	5	1060.00	79.99	86.97	84.27	86.99	0.000294	1.67	2212.48	1293.27	0.14	0.08	66.62
Reach 1	173213	10	606.00	79.99	86.07	83.38	86.10	0.000397	1.82	1056.77	1259.41	0.17	0.09	66.62
Reach 1	173213	15	427.00	79.99	85.65	82.88	85.69	0.000497	1.82	545.70	1106.45	0.18	0.10	66.62
Reach 1	173213	20	332.00	79.99	85.31	82.58	85.36	0.000540	1.75	244.65	634.66	0.18	0.10	65.38
Reach 1	173213	25	265.00	79.99	85.03	82.33	85.07	0.000515	1.57	169.44	69.30	0.17	0.09	63.26
Reach 1	173213	30	196.00	79.99	84.69	82.02	84.72	0.000475	1.32	148.90	58.76	0.15	0.07	60.71
Reach 1	173213	35	151.00	79.99	84.37	81.79	84.39	0.000443	1.16	130.33	56.44	0.13	0.06	58.30
Reach 1	173213	40	118.00	79.99	84.08	81.59	84.10	0.000415	1.03	114.48	54.38	0.13	0.05	56.15
Reach 1	173213	45	95.50	79.99	83.86	81.46	83.88	0.000390	0.93	102.62	52.63	0.12	0.05	54.33
Reach 1	173213	50	79.50	79.99	83.70	81.35	83.71	0.000361	0.85	94.08	50.48	0.11	0.04	52.16
Reach 1	173213	55	68.40	79.99	83.56	81.26	83.57	0.000330	0.78	87.55	47.70	0.10	0.04	49.36
Reach 1	173213	60	60.50	79.99	83.46	81.20	83.47	0.000302	0.73	82.60	45.19	0.10	0.03	46.83
Reach 1	173213	65	53.30	79.99	83.35	81.14	83.35	0.000274	0.69	77.79	42.74	0.09	0.03	44.33
Reach 1	173213	70	46.30	79.99	83.23	81.09	83.24	0.000253	0.63	73.02	41.33	0.08	0.03	42.84
Reach 1	173213	75	39.20	79.99	83.11	81.02	83.12	0.000227	0.58	68.05	39.81	0.08	0.02	41.23
Reach 1	173213	80	31.30	79.99	82.96	80.94	82.96	0.000196	0.50	62.05	37.89	0.07	0.02	39.20
Reach 1	173213	85	22.20	79.99	82.76	80.85	82.76	0.000155	0.41	54.68	35.39	0.06	0.01	36.56
Reach 1	173213	90	8.58	79.99	82.30	80.65	82.30	0.000070	0.22	39.88	30.16	0.03	0.01	31.01
Reach 1	173213	91	6.95	79.99	82.22	80.61	82.22	0.000057	0.19	37.33	29.17	0.03	0.00	29.97
Reach 1	173213	92	5.85	79.99	82.15	80.57	82.15	0.000047	0.17	35.44	28.42	0.03	0.00	29.17
Reach 1	173213	93	4.88	79.99	82.09	80.53	82.09	0.000039	0.15	33.64	27.69	0.02	0.00	28.39
Reach 1	173213	94	4.30	79.99	82.05	80.49	82.05	0.000033	0.13	32.53	27.23	0.02	0.00	27.90
Reach 1	173213	95	3.87	79.99	82.01	80.46	82.01	0.000029	0.12	31.64	26.85	0.02	0.00	27.50
Reach 1	173213	96	3.60	79.99	81.99	80.46	81.99	0.000027	0.12	31.07	26.61	0.02	0.00	27.24
Reach 1	173213	97	2.76	79.99	81.93	80.40	81.93	0.000019	0.09	29.28	25.82	0.02	0.00	26.40
Reach 1	173213	98	1.53	79.99	81.70	80.32	81.70	0.000010	0.06	23.73	23.17	0.01	0.00	23.60
Reach 1	173213	99	0.85	79.99	81.54	80.25	81.54	0.000005	0.04	20.14	22.07	0.01	0.00	22.45
Reach 1	173213	99.5	0.28	79.99	81.27	80.16	81.27	0.000002	0.02	14.43	20.26	0.00	0.00	20.55
Reach 1	173213	99.75	0.22	79.99	81.23	80.14	81.23	0.000001	0.02	13.64	19.99	0.00	0.00	20.28
Reach 1	173213	100	0.06	79.99	81.06	80.08	81.06	0.000000	0.01	10.30	18.84	0.00	0.00	19.07
Reach 1	171686	1	2120.00	80.75	88.07	84.62	88.09	0.000240	1.70	3857.41	1318.66	0.12	0.09	92.09
Reach 1	171686	5	1090.00	80.75	86.62	83.59	86.64	0.000225	1.50	2076.58	1077.98	0.12	0.07	92.09
Reach 1	171686	10	615.00	80.75	85.60	82.96	85.63	0.000248	1.46	1014.78	1006.10	0.14	0.06	92.09
Reach 1	171686	15	434.00	80.75	85.05	82.67	85.08	0.000296	1.39	504.41	756.82	0.14	0.06	92.09
Reach 1	171686	20	338.00	80.75	84.67	82.51	84.69	0.000311	1.28	344.09	219.41	0.14	0.05	92.09
Reach 1	171686	25	269.00	80.75	84.36	82.36	84.39	0.000334	1.18	278.70	206.04	0.13	0.05	92.09
Reach 1	171686	30	199.00	80.75	84.03	82.20	84.05	0.000364	1.03	214.41	174.11	0.13	0.05	92.09
Reach 1	171686	35	154.00	80.75	83.72	82.08	83.73	0.000406	0.95	166.83	123.48	0.13	0.04	91.53
Reach 1	171686	40	121.00	80.75	83.44	81.99	83.46	0.000425	0.88	137.38	88.41	0.12	0.04	87.08
Reach 1	171686	45	98.20	80.75	83.23	81.93	83.24	0.000437	0.82	119.48	83.39	0.12	0.04	83.67
Reach 1	171686	50	82.00	80.75	83.09	81.87	83.09	0.000445	0.76	107.25	80.99	0.12	0.04	81.25
Reach 1	171686	55	70.60	80.75	82.97	81.83	82.98	0.000450	0.72	98.06	79.14	0.11	0.03	79.39
Reach 1	171686	60	62.60	80.75	82.88	81.80	82.89	0.000453	0.69	91.31	77.76	0.11	0.03	77.99
Reach 1	171686	65	55.20	80.75	82.79	81.77	82.80	0.000458	0.65	84.37	76.02	0.11	0.03	76.24
Reach 1	171686	70	48.00	80.75	82.70	81.74	82.71	0.000464	0.62	77.28	74.13	0.11	0.03	74.34
Reach 1	171686	75	40.70	80.75	82.60	81.71	82.60	0.000471	0.58	69.82	72.10	0.10	0.03	72.30
Reach 1	171686	80	32.60	80.75	82.47	81.66	82.48	0.000484	0.54	60.86	69.58	0.10	0.03	69.76
Reach 1	171686	85	23.20	80.75	82.30	81.52	82.30	0.000520	0.47	49.30	65.99	0.10	0.02	66.15
Reach 1	171686	90	9.39	80.75	81.96	81.28	81.96	0.000619	0.33	28.20	58.79	0.08	0.02	58.92
Reach 1	171686	91	7.70	80.75	81.91	81.25	81.91	0.000641	0.31	24.84	57.56	0.08	0.02	57.68
Reach 1	171686	92	6.53	80.75	81.86	81.21	81.86	0.000665	0.29	22.27	56.61	0.08	0.02	56.72
Reach 1	171686	93	5.46	80.75	81.82	81.18	81.82	0.000695	0.28	19.75	55.65	0.08	0.02	55.76
Reach 1	171686	94	4.81	80.75	81.79	81.16	81.79	0.000721	0.27	18.09	55.01	0.08	0.01	55.12
Reach 1	171686	95	4.32	80.75	81.76	81.14	81.76	0.000729	0.26	16.90	54.55	0.08	0.01	54.65
Reach 1	171686	96	4.00	80.75	81.75	81.13	81.75	0.000739	0.25	16.06	54.22	0.08	0.01	54.32

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	171686	97	3.08	80.75	81.70	81.09	81.70	0.000780	0.23	13.49	53.20	0.08	0.01	53.30
Reach 1	171686	98	1.71	80.75	81.55	81.02	81.55	0.000519	0.22	7.74	23.09	0.07	0.01	23.17
Reach 1	171686	99	0.98	80.75	81.42	80.97	81.42	0.000439	0.19	5.18	17.16	0.06	0.01	17.23
Reach 1	171686	99.5	0.28	80.75	81.18	80.88	81.18	0.000376	0.14	2.07	9.66	0.05	0.00	9.71
Reach 1	171686	99.75	0.22	80.75	81.14	80.87	81.14	0.000380	0.13	1.72	8.82	0.05	0.00	8.86
Reach 1	171686	100	0.06	80.75	80.99	80.82	80.99	0.000329	0.09	0.65	5.43	0.04	0.00	5.46
Reach 1	170819	1	2120.00	80.49	87.85	84.17	87.88	0.000257	1.75	3386.41	1088.30	0.13	0.10	103.94
Reach 1	170819	5	1090.00	80.49	86.41	83.05	86.44	0.000237	1.53	1863.73	1014.85	0.13	0.07	103.94
Reach 1	170819	10	615.00	80.49	85.39	82.39	85.41	0.000245	1.44	864.62	911.87	0.13	0.05	103.94
Reach 1	170819	15	434.00	80.49	84.81	82.08	84.83	0.000268	1.31	443.77	390.58	0.13	0.05	102.44
Reach 1	170819	20	338.00	80.49	84.41	81.90	84.43	0.000273	1.21	340.02	228.19	0.13	0.05	100.00
Reach 1	170819	25	269.00	80.49	84.09	81.74	84.11	0.000282	1.11	271.13	194.60	0.12	0.04	96.92
Reach 1	170819	30	199.00	80.49	83.75	81.57	83.76	0.000282	0.96	216.04	141.96	0.11	0.04	92.84
Reach 1	170819	35	154.00	80.49	83.42	81.46	83.43	0.000285	0.87	177.99	88.52	0.11	0.04	88.93
Reach 1	170819	40	121.00	80.49	83.13	81.36	83.14	0.000288	0.79	153.34	85.19	0.10	0.03	85.54
Reach 1	170819	45	98.20	80.49	82.92	81.28	82.93	0.000282	0.73	135.41	81.90	0.10	0.03	82.22
Reach 1	170819	50	82.00	80.49	82.77	81.23	82.78	0.000271	0.66	123.40	79.19	0.09	0.03	79.50
Reach 1	170819	55	70.60	80.49	82.66	81.18	82.66	0.000258	0.62	114.71	77.17	0.09	0.02	77.47
Reach 1	170819	60	62.60	80.49	82.58	81.15	82.58	0.000246	0.58	108.46	75.69	0.09	0.02	75.97
Reach 1	170819	65	55.20	80.49	82.49	81.12	82.49	0.000236	0.54	101.90	74.10	0.08	0.02	74.37
Reach 1	170819	70	48.00	80.49	82.40	81.09	82.40	0.000225	0.50	95.22	72.45	0.08	0.02	72.71
Reach 1	170819	75	40.70	80.49	82.30	81.05	82.30	0.000211	0.46	88.23	70.74	0.07	0.02	70.99
Reach 1	170819	80	32.60	80.49	82.18	81.01	82.18	0.000193	0.41	79.86	68.69	0.07	0.01	68.92
Reach 1	170819	85	23.20	80.49	82.01	80.95	82.01	0.000175	0.34	68.20	65.72	0.06	0.01	65.93
Reach 1	170819	90	9.39	80.49	81.64	80.85	81.64	0.000128	0.21	45.48	59.53	0.04	0.01	59.68
Reach 1	170819	91	7.70	80.49	81.58	80.83	81.58	0.000117	0.19	41.59	58.40	0.04	0.01	58.54
Reach 1	170819	92	6.53	80.49	81.52	80.82	81.52	0.000110	0.17	38.45	57.48	0.04	0.00	57.61
Reach 1	170819	93	5.46	80.49	81.47	80.80	81.47	0.000102	0.15	35.34	56.55	0.03	0.00	56.67
Reach 1	170819	94	4.81	80.49	81.43	80.79	81.43	0.000099	0.15	33.05	55.85	0.03	0.00	55.96
Reach 1	170819	95	4.32	80.49	81.39	80.79	81.40	0.000096	0.14	31.18	55.27	0.03	0.00	55.39
Reach 1	170819	96	4.00	80.49	81.37	80.78	81.37	0.000095	0.13	29.92	54.88	0.03	0.00	54.99
Reach 1	170819	97	3.08	80.49	81.29	80.75	81.29	0.000092	0.12	25.72	53.56	0.03	0.00	53.66
Reach 1	170819	98	1.71	80.49	81.14	80.69	81.14	0.000090	0.10	17.74	49.49	0.03	0.00	49.57
Reach 1	170819	99	0.98	80.49	81.02	80.65	81.02	0.000104	0.08	11.80	45.67	0.03	0.00	45.73
Reach 1	170819	99.5	0.28	80.49	80.85	80.59	80.85	0.000138	0.06	4.80	37.64	0.03	0.00	37.68
Reach 1	170819	99.75	0.22	80.49	80.83	80.58	80.83	0.000146	0.06	3.99	35.17	0.03	0.00	35.21
Reach 1	170819	100	0.06	80.49	80.67	80.54	80.67	0.000326	0.07	0.79	8.72	0.04	0.00	8.74
Reach 1	169865	1	2120.00	80.14	87.62	83.92	87.64	0.000207	1.58	4221.56	1576.98	0.11	0.08	100.76
Reach 1	169865	5	1090.00	80.14	86.18	82.94	86.21	0.000217	1.48	2132.21	1283.03	0.12	0.06	100.76
Reach 1	169865	10	615.00	80.14	85.12	82.30	85.15	0.000245	1.44	871.96	1022.94	0.13	0.05	100.76
Reach 1	169865	15	434.00	80.14	84.50	82.01	84.53	0.000284	1.34	442.83	301.21	0.14	0.05	99.58
Reach 1	169865	20	338.00	80.14	84.08	81.84	84.11	0.000303	1.25	336.94	212.52	0.13	0.05	98.28
Reach 1	169865	25	269.00	80.14	83.72	81.70	83.74	0.000349	1.17	267.71	174.83	0.14	0.05	97.14
Reach 1	169865	30	199.00	80.14	83.34	81.54	83.36	0.000410	1.05	203.84	147.43	0.13	0.05	95.86
Reach 1	169865	35	154.00	80.14	82.96	81.38	82.98	0.000484	1.01	156.12	113.29	0.14	0.05	89.62
Reach 1	169865	40	121.00	80.14	82.63	81.26	82.64	0.000581	0.98	123.14	83.41	0.14	0.05	83.74
Reach 1	169865	45	98.20	80.14	82.37	81.16	82.38	0.000687	0.96	102.09	78.92	0.15	0.06	79.19
Reach 1	169865	50	82.00	80.14	82.18	81.09	82.19	0.000798	0.94	87.58	75.67	0.15	0.06	75.91
Reach 1	169865	55	70.60	80.14	82.04	81.04	82.05	0.000893	0.91	77.41	73.31	0.16	0.06	73.52
Reach 1	169865	60	62.60	80.14	81.95	81.00	81.96	0.000962	0.89	70.45	71.57	0.16	0.06	71.76
Reach 1	169865	65	55.20	80.14	81.85	80.96	81.87	0.001031	0.86	63.98	69.95	0.16	0.06	70.13
Reach 1	169865	70	48.00	80.14	81.77	80.92	81.78	0.001063	0.82	58.44	68.63	0.16	0.06	68.80
Reach 1	169865	75	40.70	80.14	81.68	80.87	81.68	0.001161	0.79	51.71	66.98	0.16	0.06	67.14
Reach 1	169865	80	32.60	80.14	81.57	80.81	81.58	0.001230	0.73	44.85	65.26	0.15	0.05	65.41
Reach 1	169865	85	23.20	80.14	81.41	80.73	81.41	0.001238	0.67	34.68	52.51	0.15	0.05	52.63
Reach 1	169865	90	9.39	80.14	81.06	80.55	81.06	0.001372	0.49	19.01	39.82	0.13	0.04	39.91
Reach 1	169865	91	7.70	80.14	80.98	80.52	80.99	0.001515	0.47	16.22	37.79	0.13	0.04	37.87
Reach 1	169865	92	6.53	80.14	80.94	80.50	80.94	0.001552	0.45	14.49	36.48	0.13	0.04	36.55
Reach 1	169865	93	5.46	80.14	80.89	80.47	80.89	0.001611	0.43	12.76	35.11	0.13	0.04	35.18
Reach 1	169865	94	4.81	80.14	80.86	80.46	80.87	0.001581	0.41	11.81	34.16	0.12	0.03	34.23
Reach 1	169865	95	4.32	80.14	80.84	80.44	80.84	0.001586	0.40	10.92	32.77	0.12	0.03	32.84
Reach 1	169865	96	4.00	80.14	80.82	80.44	80.82	0.001589	0.39	10.32	31.80	0.12	0.03	31.87
Reach 1	169865	97	3.08	80.14	80.76	80.41	80.76	0.001555	0.36	8.59	28.84	0.12	0.03	28.90
Reach 1	169865	98	1.71	80.14	80.65	80.35	80.65	0.001439	0.30	5.70	23.11	0.11	0.02	23.16
Reach 1	169865	99	0.98	80.14	80.56	80.31	80.56	0.001336	0.25	3.85	18.83	0.10	0.02	18.87
Reach 1	169865	99.5	0.28	80.14	80.40	80.24	80.40	0.001605	0.20	1.41	10.99	0.10	0.01	11.01
Reach 1	169865	99.75	0.22	80.14	80.38	80.23	80.38	0.001568	0.19	1.19	10.10	0.10	0.01	10.12
Reach 1	169865	100	0.06	80.14	80.29	80.19	80.29	0.001132	0.12	0.48	6.43	0.08	0.01	6.45
Reach 1	168552	1	2070.00	78.00	87.39	82.20	87.40	0.000128	1.40	4970.64	1737.60	0.09	0.06	99.12
Reach 1	168552	5	1090.00	78.00	85.95	81.13	85.97	0.000122	1.29	2570.10	1613.37	0.09	0.04	99.12
Reach 1	168552	10	620.00	78.00	84.88	80.46	84.91	0.000116	1.22	929.74	1337.16	0.10	0.04	99.12
Reach 1	168552	15	434.00	78.00	84.25	80.14	84.27	0.000106	1.03	469.45	215.48	0.09	0.03	99.12
Reach 1	168552	20	341.00	78.00	83.84	79.96	83.85	0.000095	0.90	400.60	126.63	0.08	0.02	98.11
Reach 1	168552	25	270.00	78.00	83.45	79.81	83.46	0.000089	0.79	353.39	119.07	0.07	0.02	95.86
Reach 1	168552	30	203.00	78.00	83.05	79.64	83.06	0.000084	0.67	307.11	109.25	0.07	0.02	93.50
Reach 1	168552	35	156.00	78.00	82.64	79.49	82.64	0.000081	0.59	264.94	95.37	0.06	0.01	91.07
Reach 1	168552	40	122.00	78.00	82.26	79.36	82.26	0.000078	0.53	230.64	87.02	0.06	0.01	88.05
Reach 1	168552	45	99.70	78.00	81.95	79.26	81.95	0.000076	0.49	204.08	83.39	0.06	0.01	84.35
Reach 1	168552	50	82.10	78.00	81.69	79.18	81.70	0.000075	0.45	183.32	80.44	0.05	0.01	81.35
Reach 1	168552	55	70.00	78.00	81.49	79.11	81.50	0.000074	0.42	167.49	78.11	0.05	0.01	78.98
Reach 1	168552	60	61.60	78.00	81.34	79.06	81.34	0.000073	0.40	155.55	76.31	0.05	0.01	77.15
Reach 1	168552	65	53.40	78.00	81.17	79.01	81.17	0.000073	0.37	142.85	74.35	0.05	0.01	75.15
Reach 1	168552	70	46.40	78.00	81.02	78.96	81.03	0.000072	0.35	132.11	72.65	0.05	0.01	73.42
Reach 1	168552	75	39.90	78.00	80.89	78.91	80.89	0.000069	0.33	122.49	71.09	0.04	0.01	71.83
Reach 1	168552	80	33.20	78.00	80.75	78.85	80.75	0.000065	0.30	112.54	69.53	0.04	0.01	70.25
Reach 1	168552	85	25.30	78.00	80.56	78.77	80.56	0.000060	0.25	99.54	67.66	0.04	0.01	68.33
Reach 1	168552	90	11.00	78.00	80.03	78.55	80.03	0.000054	0.17	65.46	62.47	0.03	0.00	63.02
Reach 1	168552	91	8.65	78.00	79.89	78.49	79.89	0.000056	0.15	56.54	61.05	0.03	0.00	61.56

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	168552	92	7.10	78.00	79.79	78.45	79.79	0.000056	0.14	50.21	60.01	0.03	0.00	60.50
Reach 1	168552	93	5.80	78.00	79.69	78.42	79.69	0.000055	0.13	44.57	57.89	0.03	0.00	58.36
Reach 1	168552	94	5.02	78.00	79.63	78.39	79.63	0.000051	0.12	41.30	55.62	0.02	0.00	56.07
Reach 1	168552	95	4.52	78.00	79.59	78.38	79.59	0.000048	0.12	39.16	54.08	0.02	0.00	54.52
Reach 1	168552	96	4.28	78.00	79.57	78.37	79.58	0.000046	0.11	38.15	53.33	0.02	0.00	53.77
Reach 1	168552	97	3.19	78.00	79.48	78.33	79.48	0.000038	0.10	33.05	49.42	0.02	0.00	49.82
Reach 1	168552	98	1.53	78.00	79.14	78.25	79.14	0.000040	0.08	18.81	36.73	0.02	0.00	37.02
Reach 1	168552	99	0.80	78.00	78.94	78.19	78.94	0.000035	0.07	12.17	29.49	0.02	0.00	29.70
Reach 1	168552	99.5	0.14	78.00	78.60	78.09	78.60	0.000014	0.03	4.47	15.67	0.01	0.00	15.77
Reach 1	168552	99.75	0.11	78.00	78.63	78.08	78.63	0.000007	0.02	4.95	16.88	0.01	0.00	16.99
Reach 1	168552	100	0.03	78.00	78.66	78.05	78.66	0.000000	0.01	5.40	17.97	0.00	0.00	18.08
Reach 1	166351	1	2070.00	78.29	87.10	82.35	87.12	0.000150	1.40	4539.68	1695.44	0.10	0.06	120.88
Reach 1	166351	5	1090.00	78.29	85.66	81.22	85.68	0.000145	1.27	2315.07	1359.49	0.10	0.05	120.88
Reach 1	166351	10	620.00	78.29	84.60	80.52	84.62	0.000149	1.20	946.49	1204.67	0.11	0.04	120.88
Reach 1	166351	15	434.00	78.29	83.98	80.18	83.99	0.000156	1.06	455.32	236.29	0.10	0.03	120.88
Reach 1	166351	20	341.00	78.29	83.58	79.97	83.59	0.000153	0.96	377.00	175.53	0.10	0.03	119.54
Reach 1	166351	25	270.00	78.29	83.20	79.80	83.21	0.000145	0.87	315.16	148.53	0.09	0.03	110.27
Reach 1	166351	30	203.00	78.29	82.82	79.62	82.82	0.000130	0.75	271.19	97.76	0.08	0.02	98.45
Reach 1	166351	35	156.00	78.29	82.41	79.49	82.42	0.000121	0.67	233.55	89.98	0.07	0.02	90.61
Reach 1	166351	40	122.00	78.29	82.04	79.37	82.05	0.000116	0.61	201.27	83.79	0.07	0.02	84.37
Reach 1	166351	45	99.70	78.29	81.73	79.29	81.74	0.000115	0.57	175.93	78.59	0.07	0.02	79.13
Reach 1	166351	50	82.10	78.29	81.48	79.21	81.48	0.000113	0.52	156.46	74.35	0.06	0.01	74.86
Reach 1	166351	55	70.00	78.29	81.27	79.15	81.28	0.000114	0.49	141.72	71.64	0.06	0.01	72.12
Reach 1	166351	60	61.60	78.29	81.12	79.11	81.12	0.000116	0.47	130.55	69.72	0.06	0.01	70.17
Reach 1	166351	65	53.40	78.29	80.94	79.06	80.95	0.000119	0.45	118.62	67.60	0.06	0.01	68.02
Reach 1	166351	70	46.40	78.29	80.80	79.02	80.80	0.000120	0.43	108.80	65.81	0.06	0.01	66.21
Reach 1	166351	75	39.90	78.29	80.67	78.98	80.67	0.000117	0.40	100.38	64.23	0.06	0.01	64.61
Reach 1	166351	80	33.20	78.29	80.53	78.92	80.54	0.000111	0.36	92.00	63.02	0.05	0.01	63.36
Reach 1	166351	85	25.30	78.29	80.35	78.85	80.36	0.000105	0.31	80.81	61.38	0.05	0.01	61.67
Reach 1	166351	90	11.00	78.29	79.81	78.65	79.81	0.000108	0.22	49.75	52.94	0.04	0.01	53.10
Reach 1	166351	91	8.65	78.29	79.63	78.61	79.63	0.000132	0.21	40.37	50.46	0.04	0.01	50.59
Reach 1	166351	92	7.10	78.29	79.49	78.58	79.49	0.000161	0.21	33.57	48.44	0.04	0.01	48.55
Reach 1	166351	93	5.80	78.29	79.36	78.55	79.36	0.000205	0.21	27.45	46.55	0.05	0.01	46.65
Reach 1	166351	94	5.02	78.29	79.28	78.53	79.28	0.000239	0.21	23.77	44.76	0.05	0.01	44.84
Reach 1	166351	95	4.52	78.29	79.23	78.52	79.23	0.000261	0.21	21.41	42.75	0.05	0.01	42.83
Reach 1	166351	96	4.28	78.29	79.20	78.52	79.20	0.000272	0.21	20.30	41.78	0.05	0.01	41.86
Reach 1	166351	97	3.19	78.29	79.07	78.49	79.07	0.000361	0.21	14.95	36.71	0.06	0.01	36.78
Reach 1	166351	98	1.53	78.29	78.80	78.43	78.80	0.000579	0.22	6.81	21.48	0.07	0.01	21.53
Reach 1	166351	99	0.80	78.29	78.65	78.39	78.65	0.000710	0.20	3.95	16.93	0.07	0.01	16.96
Reach 1	166351	99.5	0.14	78.29	78.52	78.34	78.52	0.000160	0.07	2.00	13.24	0.03	0.00	13.25
Reach 1	166351	99.75	0.11	78.29	78.61	78.34	78.61	0.000023	0.03	3.32	15.83	0.01	0.00	15.86
Reach 1	166351	100	0.03	78.29	78.37	78.32	78.37	0.001319	0.08	0.35	8.83	0.07	0.00	8.83
Reach 1	164558	1	2070.00	76.56	86.82	80.72	86.87	0.000219	1.95	2052.85	1776.19	0.12	0.11	105.82
Reach 1	164558	5	1090.00	76.56	85.43	79.61	85.45	0.000121	1.39	1329.86	1687.42	0.10	0.05	105.82
Reach 1	164558	10	620.00	76.56	84.42	78.88	84.43	0.000066	1.01	838.13	1382.40	0.07	0.02	105.82
Reach 1	164558	15	434.00	76.56	83.80	78.52	83.81	0.000052	0.80	616.93	313.62	0.06	0.02	105.82
Reach 1	164558	20	341.00	76.56	83.41	78.31	83.42	0.000044	0.69	551.86	189.82	0.06	0.01	105.50
Reach 1	164558	25	270.00	76.56	83.05	78.13	83.06	0.000039	0.59	495.22	151.81	0.05	0.01	103.49
Reach 1	164558	30	203.00	76.56	82.68	77.95	82.68	0.000033	0.49	440.64	141.41	0.04	0.01	101.42
Reach 1	164558	35	156.00	76.56	82.29	77.79	82.29	0.000029	0.42	387.74	130.56	0.04	0.01	99.26
Reach 1	164558	40	122.00	76.56	81.93	77.66	81.93	0.000025	0.36	342.51	117.69	0.03	0.01	97.24
Reach 1	164558	45	99.70	76.56	81.62	77.57	81.62	0.000023	0.32	308.28	104.92	0.03	0.00	95.52
Reach 1	164558	50	82.10	76.56	81.37	77.49	81.37	0.000021	0.29	283.27	94.50	0.03	0.00	94.13
Reach 1	164558	55	70.00	76.56	81.17	77.42	81.17	0.000020	0.26	264.83	91.13	0.03	0.00	91.78
Reach 1	164558	60	61.60	76.56	81.01	77.38	81.01	0.000018	0.25	250.68	89.14	0.03	0.00	89.76
Reach 1	164558	65	53.40	76.56	80.84	77.33	80.84	0.000017	0.23	235.44	86.94	0.02	0.00	87.54
Reach 1	164558	70	46.40	76.56	80.70	77.29	80.70	0.000015	0.21	223.00	85.11	0.02	0.00	85.68
Reach 1	164558	75	39.90	76.56	80.57	77.25	80.57	0.000014	0.19	212.57	83.54	0.02	0.00	84.09
Reach 1	164558	80	33.20	76.56	80.45	77.20	80.45	0.000011	0.16	202.38	81.98	0.02	0.00	82.51
Reach 1	164558	85	25.30	76.56	80.28	77.13	80.28	0.000009	0.13	188.64	79.82	0.02	0.00	80.32
Reach 1	164558	90	11.00	76.56	79.75	76.97	79.75	0.000004	0.07	148.23	73.12	0.01	0.00	73.53
Reach 1	164558	91	8.65	76.56	79.56	76.93	79.56	0.000004	0.06	134.72	70.73	0.01	0.00	71.12
Reach 1	164558	92	7.10	76.56	79.42	76.90	79.42	0.000003	0.06	124.63	68.80	0.01	0.00	69.17
Reach 1	164558	93	5.80	76.56	79.28	76.88	79.28	0.000003	0.05	115.09	66.70	0.01	0.00	67.05
Reach 1	164558	94	5.02	76.56	79.19	76.86	79.19	0.000002	0.05	109.26	65.38	0.01	0.00	65.71
Reach 1	164558	95	4.52	76.56	79.13	76.84	79.13	0.000002	0.04	105.45	64.51	0.01	0.00	64.83
Reach 1	164558	96	4.28	76.56	79.10	76.84	79.10	0.000002	0.04	103.63	64.08	0.01	0.00	64.40
Reach 1	164558	97	3.19	76.56	78.95	76.81	78.95	0.000002	0.03	94.01	61.80	0.00	0.00	62.10
Reach 1	164558	98	1.53	76.56	78.63	76.74	78.63	0.000001	0.02	74.84	56.99	0.00	0.00	57.24
Reach 1	164558	99	0.80	76.56	78.44	76.70	78.44	0.000000	0.01	64.55	54.33	0.00	0.00	54.56
Reach 1	164558	99.5	0.14	76.56	78.48	76.63	78.48	0.000000	0.00	66.81	54.93	0.00	0.00	55.16
Reach 1	164558	99.75	0.11	76.56	78.60	76.62	78.60	0.000000	0.00	73.51	56.65	0.00	0.00	56.90
Reach 1	164558	100	0.03	76.56	78.07	76.60	78.07	0.000000	0.00	45.30	48.98	0.00	0.00	49.15
Reach 1	164508	1	2010.00	76.85	86.81	80.25	86.85	0.000221	1.59	1599.60	1526.81	0.10	0.10	160.21
Reach 1	164508	5	1100.00	76.85	85.42	79.43	85.44	0.000139	1.10	1114.83	559.97	0.08	0.05	160.21
Reach 1	164508	10	625.00	76.85	84.42	78.88	84.43	0.000083	0.76	843.33	243.59	0.06	0.03	160.21
Reach 1	164508	15	434.00	76.85	83.80	78.60	83.81	0.000059	0.60	724.02	155.38	0.05	0.02	156.34
Reach 1	164508	20	343.00	76.85	83.41	78.45	83.42	0.000048	0.52	664.61	151.07	0.04	0.01	151.95
Reach 1	164508	25	270.00	76.85	83.05	78.22	83.05	0.000038	0.44	610.79	147.06	0.04	0.01	147.87
Reach 1	164508	30	206.00	76.85	82.68	78.07	82.68	0.000029	0.37	556.80	142.92	0.03	0.01	143.66
Reach 1	164508	35	158.00	76.85	82.29	77.93	82.29	0.000023	0.31	502.06	138.59	0.03	0.01	139.27
Reach 1	164508	40	124.00	76.85	81.93	77.82	81.93	0.000019	0.27	452.55	134.47	0.03	0.00	135.08
Reach 1	164508	45	101.00	76.85	81.62	77.75	81.62	0.000017	0.25	411.74	130.95	0.02	0.00	131.50
Reach 1	164508	50	82.30	76.85	81.37	77.68	81.37	0.000014	0.22	379.26	128.08	0.02	0.00	128.58
Reach 1	164508	55	69.50	76.85	81.17	77.62	81.17	0.000012	0.20	353.95	125.79	0.02	0.00	126.26
Reach 1	164508	60	60.50	76.85	81.01	77.58	81.01	0.000011	0.18	334.35	123.99	0.02	0.00	124.44
Reach 1	164508	65	51.70	76.85	80.84	77.54	80.84	0.000010	0.17	313.06	122.01	0.02	0.00	122.42
Reach 1	164508	70	44.70	76.85	80.69	77.51	80.69	0.000009	0.15	295.54	120.36	0.02	0.00	120.74

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	164508	75	39.20	76.85	80.57	77.48	80.57	0.000008	0.14	280.75	118.94	0.02	0.00	119.30
Reach 1	164508	80	34.00	76.85	80.45	77.45	80.45	0.000007	0.13	266.20	117.53	0.01	0.00	117.87
Reach 1	164508	85	27.40	76.85	80.28	77.40	80.28	0.000006	0.11	246.40	115.43	0.01	0.00	115.74
Reach 1	164508	90	12.60	76.85	79.75	77.26	79.75	0.000003	0.07	188.01	105.64	0.01	0.00	105.89
Reach 1	164508	91	9.61	76.85	79.56	77.21	79.56	0.000002	0.06	168.49	102.16	0.01	0.00	102.39
Reach 1	164508	92	7.67	76.85	79.42	77.18	79.42	0.000002	0.05	153.92	99.48	0.01	0.00	99.69
Reach 1	164508	93	6.12	76.85	79.28	77.15	79.28	0.000001	0.04	140.10	96.87	0.01	0.00	97.07
Reach 1	164508	94	5.24	76.85	79.19	77.14	79.19	0.000001	0.04	131.61	95.24	0.01	0.00	95.42
Reach 1	164508	95	4.73	76.85	79.13	77.12	79.13	0.000001	0.04	126.07	94.15	0.01	0.00	94.33
Reach 1	164508	96	4.57	76.85	79.10	77.12	79.10	0.000001	0.04	123.41	93.63	0.01	0.00	93.80
Reach 1	164508	97	3.29	76.85	78.95	77.08	78.95	0.000001	0.03	109.31	90.79	0.00	0.00	90.95
Reach 1	164508	98	1.35	76.85	78.63	77.01	78.63	0.000000	0.02	81.02	84.33	0.00	0.00	84.45
Reach 1	164508	99	0.62	76.85	78.44	76.97	78.44	0.000000	0.01	65.88	79.44	0.00	0.00	79.55
Reach 1	164508	99.5	0.10	76.85	78.48	76.91	78.48	0.000000	0.00	69.19	80.53	0.00	0.00	80.65
Reach 1	164508	99.75	0.10	76.85	78.60	76.91	78.60	0.000000	0.00	79.05	83.71	0.00	0.00	83.83
Reach 1	164508	100	0.10	76.85	78.07	76.91	78.07	0.000000	0.00	42.13	56.46	0.00	0.00	56.54
Reach 1	164410		Bridge											
Reach 1	164324	1	2010.00	77.23	86.72	80.77	86.77	0.000307	1.95	1486.61	1195.06	0.13	0.14	128.94
Reach 1	164324	5	1100.00	77.23	85.37	79.88	85.40	0.000202	1.39	966.46	575.35	0.10	0.08	128.94
Reach 1	164324	10	625.00	77.23	84.39	79.29	84.40	0.000122	0.96	665.21	240.14	0.07	0.04	128.94
Reach 1	164324	15	434.00	77.23	83.78	79.00	83.79	0.000082	0.75	574.92	145.43	0.06	0.02	126.70
Reach 1	164324	20	343.00	77.23	83.40	78.75	83.40	0.000065	0.65	527.42	122.86	0.06	0.02	124.17
Reach 1	164324	25	270.00	77.23	83.04	78.56	83.04	0.000055	0.56	483.81	120.67	0.05	0.01	121.80
Reach 1	164324	30	206.00	77.23	82.67	78.38	82.67	0.000049	0.47	439.55	118.40	0.04	0.01	119.36
Reach 1	164324	35	158.00	77.23	82.28	78.23	82.28	0.000044	0.40	394.14	116.04	0.04	0.01	116.80
Reach 1	164324	40	124.00	77.23	81.92	78.10	81.92	0.000040	0.35	352.73	112.56	0.04	0.01	113.21
Reach 1	164324	45	101.00	77.23	81.61	78.01	81.61	0.000037	0.32	318.77	108.84	0.03	0.01	109.43
Reach 1	164324	50	82.30	77.23	81.36	77.93	81.36	0.000034	0.28	291.93	105.80	0.03	0.01	106.36
Reach 1	164324	55	69.50	77.23	81.16	77.86	81.16	0.000032	0.26	271.14	103.39	0.03	0.01	103.92
Reach 1	164324	60	60.50	77.23	81.01	77.81	81.01	0.000031	0.24	255.10	101.50	0.03	0.00	101.99
Reach 1	164324	65	51.70	77.23	80.83	77.77	80.83	0.000029	0.22	237.76	99.40	0.02	0.00	99.87
Reach 1	164324	70	44.70	77.23	80.69	77.73	80.69	0.000028	0.20	223.55	97.65	0.02	0.00	98.10
Reach 1	164324	75	39.20	77.23	80.57	77.70	80.57	0.000026	0.19	211.60	96.16	0.02	0.00	96.58
Reach 1	164324	80	34.00	77.23	80.44	77.66	80.44	0.000025	0.17	199.88	94.67	0.02	0.00	95.07
Reach 1	164324	85	27.40	77.23	80.27	77.62	80.27	0.000023	0.15	184.02	92.62	0.02	0.00	92.99
Reach 1	164324	90	12.60	77.23	79.75	77.49	79.75	0.000016	0.09	136.90	86.23	0.01	0.00	86.51
Reach 1	164324	91	9.61	77.23	79.56	77.46	79.56	0.000014	0.08	120.95	83.95	0.01	0.00	84.21
Reach 1	164324	92	7.67	77.23	79.42	77.44	79.42	0.000012	0.07	108.97	82.21	0.01	0.00	82.43
Reach 1	164324	93	6.12	77.23	79.27	77.42	79.28	0.000011	0.06	97.54	80.50	0.01	0.00	80.71
Reach 1	164324	94	5.24	77.23	79.19	77.41	79.19	0.000010	0.06	90.49	79.15	0.01	0.00	79.34
Reach 1	164324	95	4.73	77.23	79.13	77.40	79.13	0.000009	0.06	85.89	78.05	0.01	0.00	78.24
Reach 1	164324	96	4.57	77.23	79.10	77.40	79.10	0.000010	0.05	83.69	77.52	0.01	0.00	77.70
Reach 1	164324	97	3.29	77.23	78.95	77.38	78.95	0.000008	0.05	72.08	74.67	0.01	0.00	74.83
Reach 1	164324	98	1.35	77.23	78.63	77.33	78.63	0.000002	0.03	52.36	53.48	0.00	0.00	53.61
Reach 1	164324	99	0.62	77.23	78.44	77.31	78.44	0.000001	0.01	42.84	49.57	0.00	0.00	49.68
Reach 1	164324	99.5	0.10	77.23	78.48	77.27	78.48	0.000000	0.00	44.92	50.45	0.00	0.00	50.56
Reach 1	164324	99.75	0.10	77.23	78.60	77.27	78.60	0.000000	0.00	51.13	52.98	0.00	0.00	53.10
Reach 1	164324	100	0.10	77.23	78.07	77.27	78.07	0.000000	0.00	25.84	41.73	0.00	0.00	41.80
Reach 1	164282	1	2010.00	76.61	86.68	80.69	86.75	0.000413	2.33	1645.58	1240.00	0.15	0.20	90.11
Reach 1	164282	5	1100.00	76.61	85.34	79.58	85.38	0.000290	1.72	1069.25	1104.50	0.12	0.12	90.11
Reach 1	164282	10	625.00	76.61	84.37	78.84	84.39	0.000190	1.25	653.60	975.49	0.09	0.06	90.11
Reach 1	164282	15	434.00	76.61	83.77	78.49	83.78	0.000125	0.99	444.76	196.96	0.08	0.04	86.93
Reach 1	164282	20	343.00	76.61	83.39	78.30	83.40	0.000093	0.85	406.71	146.22	0.07	0.03	84.08
Reach 1	164282	25	270.00	76.61	83.03	78.13	83.04	0.000075	0.72	375.42	95.03	0.06	0.02	81.91
Reach 1	164282	30	206.00	76.61	82.66	77.96	82.67	0.000063	0.59	346.38	77.84	0.05	0.02	79.77
Reach 1	164282	35	158.00	76.61	82.28	77.80	82.28	0.000053	0.50	316.72	75.75	0.04	0.01	77.54
Reach 1	164282	40	124.00	76.61	81.92	77.67	81.92	0.000045	0.43	289.76	73.80	0.04	0.01	75.45
Reach 1	164282	45	101.00	76.61	81.61	77.57	81.61	0.000039	0.38	267.41	72.15	0.03	0.01	73.68
Reach 1	164282	50	82.30	76.61	81.36	77.49	81.36	0.000035	0.33	249.56	70.80	0.03	0.01	72.23
Reach 1	164282	55	69.50	76.61	81.16	77.42	81.16	0.000031	0.29	235.61	69.73	0.03	0.01	71.08
Reach 1	164282	60	60.50	76.61	81.00	77.37	81.01	0.000029	0.27	224.78	68.89	0.03	0.01	70.18
Reach 1	164282	65	51.70	76.61	80.83	77.32	80.83	0.000026	0.24	212.98	67.96	0.02	0.00	69.18
Reach 1	164282	70	44.70	76.61	80.69	77.27	80.69	0.000023	0.22	203.24	67.18	0.02	0.00	68.35
Reach 1	164282	75	39.20	76.61	80.57	77.23	80.57	0.000021	0.20	195.00	66.51	0.02	0.00	67.63
Reach 1	164282	80	34.00	76.61	80.44	77.19	80.44	0.000020	0.18	186.88	65.85	0.02	0.00	66.92
Reach 1	164282	85	27.40	76.61	80.27	77.13	80.27	0.000017	0.16	175.81	64.94	0.02	0.00	65.95
Reach 1	164282	90	12.60	76.61	79.75	76.98	79.75	0.000009	0.09	142.37	62.10	0.01	0.00	62.90
Reach 1	164282	91	9.61	76.61	79.56	76.94	79.56	0.000007	0.07	130.83	61.09	0.01	0.00	61.81
Reach 1	164282	92	7.67	76.61	79.42	76.92	79.42	0.000006	0.06	122.08	60.31	0.01	0.00	60.98
Reach 1	164282	93	6.12	76.61	79.27	76.89	79.27	0.000004	0.05	113.66	59.55	0.01	0.00	60.17
Reach 1	164282	94	5.24	76.61	79.19	76.88	79.19	0.000004	0.05	108.43	59.07	0.01	0.00	59.66
Reach 1	164282	95	4.73	76.61	79.13	76.87	79.13	0.000003	0.05	104.99	58.76	0.01	0.00	59.32
Reach 1	164282	96	4.57	76.61	79.10	76.86	79.10	0.000003	0.04	103.33	58.61	0.01	0.00	59.15
Reach 1	164282	97	3.29	76.61	78.95	76.84	78.95	0.000002	0.03	94.45	57.78	0.00	0.00	58.27
Reach 1	164282	98	1.35	76.61	78.63	76.77	78.63	0.000001	0.02	76.14	55.96	0.00	0.00	56.32
Reach 1	164282	99	0.62	76.61	78.44	76.72	78.44	0.000000	0.01	65.91	54.90	0.00	0.00	55.18
Reach 1	164282	99.5	0.10	76.61	78.48	76.67	78.48	0.000000	0.00	68.19	55.13	0.00	0.00	55.44
Reach 1	164282	99.75	0.10	76.61	78.60	76.67	78.60	0.000000	0.00	74.86	55.81	0.00	0.00	56.17
Reach 1	164282	100	0.10	76.61	78.07	76.67	78.07	0.000000	0.00	45.96	51.47	0.00	0.00	51.60
Reach 1	162920	1	2010.00	76.44	86.41	82.27	86.43	0.000160	1.31	4636.88	1257.85	0.09	0.07	92.88
Reach 1	162920	5	1100.00	76.44	85.09	80.88	85.10	0.000158	1.12	2985.54	1226.20	0.09	0.05	92.88
Reach 1	162920	10	625.00	76.44	84.14	79.88	84.15	0.000161	0.99	1836.30	1197.89	0.08	0.04	92.88
Reach 1	162920	15	434.00	76.44	83.56	79.36	83.57	0.000169	0.95	1164.10	1105.91	0.09	0.04	92.88
Reach 1	162920	20	343.00	76.44	83.20	79.06	83.21	0.000180	0.93	781.79	977.70	0.09	0.04	92.88
Reach 1	162920	25	270.00	76.44	82.86	78.79	82.87	0.000201	0.90	481.81	759.70	0.09	0.04	92.88
Reach 1	162920	30	206.00	76.44	82.50	78.51	82.51	0.000221	0.81	287.74	300.33	0.09	0.04	92.88
Reach 1	162920	35	158.00	76.44	82.13	78.26	82.13	0.000220	0.73	225.23	115.06	0.08	0.03	88.19

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	162920	40	124.00	76.44	81.78	78.05	81.79	0.000197	0.66	189.85	90.68	0.07	0.03	78.36
Reach 1	162920	45	101.00	76.44	81.49	77.90	81.49	0.000183	0.60	167.00	70.84	0.07	0.03	71.92
Reach 1	162920	50	82.30	76.44	81.25	77.76	81.25	0.000166	0.55	150.73	65.31	0.06	0.02	66.34
Reach 1	162920	55	69.50	76.44	81.06	77.64	81.06	0.000150	0.50	138.81	60.52	0.06	0.02	61.51
Reach 1	162920	60	60.50	76.44	80.91	77.56	80.91	0.000136	0.47	130.08	56.76	0.05	0.02	57.72
Reach 1	162920	65	51.70	76.44	80.74	77.47	80.75	0.000125	0.43	120.91	54.10	0.05	0.02	55.03
Reach 1	162920	70	44.70	76.44	80.61	77.39	80.61	0.000115	0.39	113.58	51.88	0.05	0.02	52.78
Reach 1	162920	75	39.20	76.44	80.49	77.33	80.49	0.000107	0.36	107.56	49.98	0.04	0.01	50.86
Reach 1	162920	80	34.00	76.44	80.37	77.26	80.37	0.000097	0.33	101.83	48.11	0.04	0.01	48.95
Reach 1	162920	85	27.40	76.44	80.21	77.17	80.21	0.000085	0.29	94.29	45.67	0.04	0.01	46.48
Reach 1	162920	90	12.60	76.44	79.71	76.90	79.71	0.000048	0.17	72.88	40.03	0.02	0.01	40.73
Reach 1	162920	91	9.61	76.44	79.53	76.84	79.53	0.000037	0.15	65.90	38.02	0.02	0.00	38.67
Reach 1	162920	92	7.67	76.44	79.39	76.78	79.39	0.000029	0.13	60.75	36.46	0.02	0.00	37.08
Reach 1	162920	93	6.12	76.44	79.26	76.74	79.26	0.000023	0.11	55.89	34.92	0.02	0.00	35.51
Reach 1	162920	94	5.24	76.44	79.17	76.71	79.17	0.000019	0.10	52.95	33.96	0.01	0.00	34.53
Reach 1	162920	95	4.73	76.44	79.11	76.69	79.11	0.000018	0.09	51.03	33.34	0.01	0.00	33.90
Reach 1	162920	96	4.57	76.44	79.09	76.69	79.09	0.000017	0.09	50.10	33.04	0.01	0.00	33.59
Reach 1	162920	97	3.29	76.44	78.94	76.64	78.94	0.000012	0.07	45.32	31.43	0.01	0.00	31.96
Reach 1	162920	98	1.35	76.44	78.62	76.56	78.62	0.000004	0.04	35.95	28.02	0.01	0.00	28.48
Reach 1	162920	99	0.62	76.44	78.44	76.51	78.44	0.000001	0.02	31.01	26.05	0.00	0.00	26.47
Reach 1	162920	99.5	0.10	76.44	78.48	76.46	78.48	0.000000	0.00	32.13	26.51	0.00	0.00	26.94
Reach 1	162920	99.75	0.10	76.44	78.60	76.46	78.60	0.000000	0.00	35.39	27.81	0.00	0.00	28.27
Reach 1	162920	100	0.10	76.44	78.07	76.46	78.07	0.000000	0.00	22.08	22.02	0.00	0.00	22.37
Reach 1	161532	1	2010.00	77.27	86.20	80.86	86.22	0.000138	1.27	4512.99	1250.87	0.08	0.06	111.67
Reach 1	161532	5	1100.00	77.27	84.89	79.95	84.90	0.000116	1.02	2943.29	1147.22	0.07	0.04	111.67
Reach 1	161532	10	625.00	77.27	83.96	79.34	83.97	0.000097	0.83	1887.38	1107.81	0.07	0.03	110.96
Reach 1	161532	15	434.00	77.27	83.39	79.05	83.39	0.000084	0.74	1274.22	1026.74	0.06	0.02	108.95
Reach 1	161532	20	343.00	77.27	83.03	78.89	83.03	0.000076	0.69	945.21	813.44	0.06	0.02	106.52
Reach 1	161532	25	270.00	77.27	82.67	78.75	82.68	0.000073	0.63	687.97	663.88	0.06	0.02	104.16
Reach 1	161532	30	206.00	77.27	82.31	78.61	82.32	0.000071	0.56	472.67	543.10	0.05	0.02	101.75
Reach 1	161532	35	158.00	77.27	81.95	78.49	81.96	0.000065	0.48	328.97	102.46	0.05	0.01	99.34
Reach 1	161532	40	124.00	77.27	81.62	78.36	81.63	0.000058	0.42	296.89	96.25	0.04	0.01	97.13
Reach 1	161532	45	101.00	77.27	81.34	78.26	81.34	0.000054	0.37	269.60	94.43	0.04	0.01	95.22
Reach 1	161532	50	82.30	77.27	81.11	78.17	81.11	0.000050	0.33	248.25	92.97	0.04	0.01	93.69
Reach 1	161532	55	69.50	77.27	80.93	78.10	80.93	0.000047	0.30	231.61	91.82	0.03	0.01	92.48
Reach 1	161532	60	60.50	77.27	80.79	78.04	80.79	0.000045	0.28	218.70	90.88	0.03	0.01	91.50
Reach 1	161532	65	51.70	77.27	80.63	77.99	80.63	0.000042	0.25	204.53	89.57	0.03	0.01	90.15
Reach 1	161532	70	44.70	77.27	80.50	77.95	80.50	0.000040	0.23	192.80	88.47	0.03	0.01	89.01
Reach 1	161532	75	39.20	77.27	80.39	77.91	80.39	0.000038	0.21	182.92	87.53	0.03	0.00	88.04
Reach 1	161532	80	34.00	77.27	80.28	77.88	80.28	0.000036	0.20	173.31	86.42	0.02	0.00	86.91
Reach 1	161532	85	27.40	77.27	80.12	77.83	80.13	0.000032	0.17	160.33	84.89	0.02	0.00	85.34
Reach 1	161532	90	12.60	77.27	79.66	77.70	79.66	0.000022	0.10	121.68	79.95	0.01	0.00	80.32
Reach 1	161532	91	9.61	77.27	79.49	77.67	79.49	0.000018	0.09	108.39	78.06	0.01	0.00	78.40
Reach 1	161532	92	7.67	77.27	79.36	77.63	79.36	0.000015	0.08	98.24	76.59	0.01	0.00	76.90
Reach 1	161532	93	6.12	77.27	79.23	77.61	79.23	0.000014	0.07	88.35	75.12	0.01	0.00	75.41
Reach 1	161532	94	5.24	77.27	79.14	77.59	79.14	0.000013	0.06	82.23	74.20	0.01	0.00	74.48
Reach 1	161532	95	4.73	77.27	79.09	77.58	79.09	0.000012	0.06	78.16	73.58	0.01	0.00	73.85
Reach 1	161532	96	4.57	77.27	79.06	77.57	79.06	0.000012	0.06	76.11	73.26	0.01	0.00	73.53
Reach 1	161532	97	3.29	77.27	78.92	77.54	78.92	0.000010	0.05	65.83	71.67	0.01	0.00	71.91
Reach 1	161532	98	1.35	77.27	78.62	77.47	78.62	0.000005	0.03	44.76	66.59	0.01	0.00	66.79
Reach 1	161532	99	0.62	77.27	78.44	77.42	78.44	0.000003	0.02	33.38	58.48	0.00	0.00	58.65
Reach 1	161532	99.5	0.10	77.27	78.48	77.34	78.48	0.000000	0.00	36.09	61.97	0.00	0.00	62.15
Reach 1	161532	99.75	0.10	77.27	78.60	77.34	78.60	0.000000	0.00	43.89	66.36	0.00	0.00	66.56
Reach 1	161532	100	0.10	77.27	78.07	77.34	78.07	0.000000	0.01	16.59	34.70	0.00	0.00	34.81
Reach 1	159579	1	2020.00	77.85	85.76	82.23	85.77	0.000226	1.50	3829.87	1219.08	0.10	0.09	59.25
Reach 1	159579	5	1090.00	77.85	84.44	81.37	84.45	0.000241	1.33	2290.78	1146.17	0.10	0.07	59.25
Reach 1	159579	10	624.00	77.85	83.52	80.70	83.53	0.000264	1.22	1272.88	1018.27	0.10	0.07	59.25
Reach 1	159579	15	436.00	77.85	82.96	80.14	82.98	0.000285	1.18	758.17	823.86	0.11	0.06	59.25
Reach 1	159579	20	345.00	77.85	82.61	79.86	82.62	0.000306	1.17	496.13	650.31	0.11	0.06	59.25
Reach 1	159579	25	272.00	77.85	82.26	79.64	82.27	0.000335	1.10	320.90	313.82	0.11	0.06	59.25
Reach 1	159579	30	207.00	77.85	81.90	79.42	81.91	0.000379	1.01	237.52	162.74	0.11	0.06	59.22
Reach 1	159579	35	161.00	77.85	81.55	79.23	81.56	0.000422	0.96	193.78	114.94	0.11	0.06	55.95
Reach 1	159579	40	128.00	77.85	81.23	79.08	81.24	0.000458	0.94	158.41	105.74	0.11	0.06	50.76
Reach 1	159579	45	104.00	77.85	80.95	78.96	80.96	0.000485	0.93	129.96	96.61	0.11	0.06	46.03
Reach 1	159579	50	85.50	77.85	80.73	78.85	80.74	0.000523	0.89	109.55	90.40	0.11	0.06	44.44
Reach 1	159579	55	72.30	77.85	80.56	78.77	80.57	0.000552	0.85	94.47	84.05	0.11	0.06	43.39
Reach 1	159579	60	62.80	77.85	80.42	78.71	80.43	0.000573	0.81	83.44	77.33	0.11	0.06	42.56
Reach 1	159579	65	53.50	77.85	80.27	78.64	80.28	0.000588	0.77	72.47	68.44	0.10	0.06	41.64
Reach 1	159579	70	46.20	77.85	80.15	78.59	80.15	0.000595	0.73	64.47	57.27	0.10	0.06	40.87
Reach 1	159579	75	40.50	77.85	80.04	78.53	80.05	0.000595	0.68	59.37	39.76	0.10	0.05	40.23
Reach 1	159579	80	35.40	77.85	79.94	78.49	79.94	0.000598	0.64	55.34	38.98	0.09	0.05	39.61
Reach 1	159579	85	29.10	77.85	79.80	78.43	79.80	0.000599	0.58	49.99	38.18	0.09	0.05	38.76
Reach 1	159579	90	13.90	77.85	79.39	78.26	79.39	0.000561	0.40	34.83	34.41	0.07	0.03	34.84
Reach 1	159579	91	10.90	77.85	79.24	78.22	79.25	0.000522	0.36	30.06	32.50	0.07	0.03	32.88
Reach 1	159579	92	8.82	77.85	79.13	78.19	79.13	0.000489	0.33	26.46	30.97	0.06	0.03	31.33
Reach 1	159579	93	6.97	77.85	79.01	78.15	79.02	0.000459	0.30	22.94	29.41	0.06	0.02	29.72
Reach 1	159579	94	5.93	77.85	78.94	78.13	78.94	0.000436	0.28	20.85	28.44	0.06	0.02	28.73
Reach 1	159579	95	5.27	77.85	78.89	78.11	78.89	0.000420	0.27	19.46	27.77	0.06	0.02	28.05
Reach 1	159579	96	4.91	77.85	78.86	78.10	78.87	0.000410	0.26	18.69	27.40	0.06	0.02	27.67
Reach 1	159579	97	3.59	77.85	78.75	78.08	78.75	0.000369	0.23	15.61	25.84	0.05	0.01	26.08
Reach 1	159579	98	1.58	77.85	78.50	78.01	78.50	0.000285	0.16	9.66	22.00	0.04	0.01	22.16
Reach 1	159579	99	0.84	77.85	78.36	77.97	78.36	0.000238	0.13	6.66	19.73	0.04	0.00	19.85
Reach 1	159579	99.5	0.16	77.85	78.48	77.91	78.48	0.000003	0.02	9.24	21.70	0.00	0.00	21.85
Reach 1	159579	99.75	0.11	77.85	78.60	77.90	78.60	0.000001	0.01	11.98	23.61	0.00	0.00	23.80
Reach 1	159579	100	0.02	77.85	77.95	77.87	77.95	0.000394	0.05	0.44	8.54	0.04	0.00	8.54
Reach 1	157864	1	2020.00	77.10	85.00	80.90	85.08	0.000670	2.60	1622.33	509.27	0.18	0.26	91.25
Reach 1	157864	5	1090.00	77.10	83.77	79.81	83.82	0.000510	1.97	1020.78	454.73	0.15	0.16	91.25
Reach 1	157864	10	624.00	77.10	82.91	79.13	82.95	0.000369	1.49	655.49	411.06	0.13	0.10	91.25

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	157864	15	436.00	77.10	82.40	78.80	82.42	0.000287	1.24	458.19	358.34	0.11	0.07	91.25
Reach 1	157864	20	345.00	77.10	82.06	78.62	82.08	0.000248	1.10	347.05	272.51	0.10	0.05	91.25
Reach 1	157864	25	272.00	77.10	81.70	78.46	81.72	0.000223	0.97	285.30	129.36	0.10	0.04	87.88
Reach 1	157864	30	207.00	77.10	81.32	78.31	81.33	0.000208	0.84	246.93	82.33	0.09	0.04	83.46
Reach 1	157864	35	161.00	77.10	80.95	78.18	80.96	0.000193	0.74	217.95	77.54	0.08	0.03	78.61
Reach 1	157864	40	128.00	77.10	80.63	78.09	80.64	0.000179	0.66	193.68	73.43	0.07	0.03	74.44
Reach 1	157864	45	104.00	77.10	80.36	78.02	80.37	0.000170	0.60	173.98	71.27	0.07	0.03	72.19
Reach 1	157864	50	85.50	77.10	80.13	77.94	80.14	0.000163	0.54	158.13	69.48	0.06	0.02	70.34
Reach 1	157864	55	72.30	77.10	79.96	77.91	79.96	0.000157	0.50	146.02	68.09	0.06	0.02	68.89
Reach 1	157864	60	62.80	77.10	79.82	77.87	79.82	0.000152	0.46	136.64	67.07	0.06	0.02	67.83
Reach 1	157864	65	53.50	77.10	79.67	77.83	79.67	0.000147	0.42	126.50	66.19	0.05	0.02	66.90
Reach 1	157864	70	46.20	77.10	79.54	77.79	79.54	0.000144	0.39	118.06	65.45	0.05	0.02	66.11
Reach 1	157864	75	40.50	77.10	79.43	77.75	79.44	0.000141	0.36	111.18	64.84	0.05	0.01	65.46
Reach 1	157864	80	35.40	77.10	79.32	77.72	79.32	0.000141	0.34	103.81	64.18	0.05	0.01	64.76
Reach 1	157864	85	29.10	77.10	79.17	77.68	79.17	0.000140	0.31	94.32	63.32	0.04	0.01	63.85
Reach 1	157864	90	13.90	77.10	78.72	77.55	78.72	0.000137	0.21	66.22	59.96	0.04	0.01	60.36
Reach 1	157864	91	10.90	77.10	78.56	77.52	78.56	0.000136	0.19	56.77	58.60	0.03	0.01	58.96
Reach 1	157864	92	8.82	77.10	78.43	77.49	78.43	0.000139	0.18	49.34	57.51	0.03	0.01	57.84
Reach 1	157864	93	6.97	77.10	78.31	77.46	78.31	0.000141	0.16	42.32	56.46	0.03	0.01	56.76
Reach 1	157864	94	5.93	77.10	78.23	77.45	78.23	0.000140	0.15	38.31	55.85	0.03	0.01	56.13
Reach 1	157864	95	5.27	77.10	78.19	77.44	78.19	0.000137	0.15	35.84	55.47	0.03	0.01	55.74
Reach 1	157864	96	4.91	77.10	78.15	77.43	78.15	0.000145	0.15	33.66	55.13	0.03	0.01	55.40
Reach 1	157864	97	3.59	77.10	78.05	77.41	78.05	0.000142	0.13	27.93	54.24	0.03	0.00	54.48
Reach 1	157864	98	1.58	77.10	77.86	77.35	77.86	0.000110	0.09	18.13	52.08	0.03	0.00	52.27
Reach 1	157864	99	0.84	77.10	77.99	77.32	77.99	0.000011	0.03	25.04	53.78	0.01	0.00	54.01
Reach 1	157864	99.5	0.16	77.10	78.48	77.22	78.48	0.000000	0.00	52.29	57.94	0.00	0.00	58.29
Reach 1	157864	99.75	0.11	77.10	78.60	77.20	78.60	0.000000	0.00	59.43	58.98	0.00	0.00	59.36
Reach 1	157864	100	0.02	77.10	77.85	77.15	77.85	0.000000	0.00	17.44	50.98	0.00	0.00	51.17
Reach 1	157773	1	2020.00	76.36	84.89	80.50	85.01	0.000888	3.06	1312.32	445.40	0.21	0.36	80.97
Reach 1	157773	5	1090.00	76.36	83.70	79.32	83.77	0.000617	2.24	820.95	377.39	0.17	0.21	80.97
Reach 1	157773	10	624.00	76.36	82.87	78.59	82.91	0.000401	1.62	536.21	319.42	0.13	0.11	80.97
Reach 1	157773	15	436.00	76.36	82.37	78.23	82.40	0.000289	1.31	382.30	267.64	0.11	0.07	80.97
Reach 1	157773	20	345.00	76.36	82.04	78.05	82.06	0.000226	1.14	310.32	138.78	0.10	0.05	78.91
Reach 1	157773	25	272.00	76.36	81.68	77.88	81.70	0.000186	0.98	276.49	72.53	0.09	0.04	74.78
Reach 1	157773	30	207.00	76.36	81.30	77.71	81.31	0.000157	0.83	249.69	67.08	0.08	0.04	69.26
Reach 1	157773	35	161.00	76.36	80.94	77.59	80.95	0.000136	0.71	226.13	64.32	0.07	0.03	66.39
Reach 1	157773	40	128.00	76.36	80.62	77.47	80.63	0.000120	0.62	205.81	62.28	0.06	0.02	64.22
Reach 1	157773	45	104.00	76.36	80.35	77.38	80.35	0.000107	0.55	189.10	60.97	0.06	0.02	62.78
Reach 1	157773	50	85.50	76.36	80.12	77.30	80.13	0.000097	0.49	175.53	60.02	0.05	0.02	61.72
Reach 1	157773	55	72.30	76.36	79.95	77.24	79.95	0.000089	0.44	165.06	59.30	0.05	0.01	60.91
Reach 1	157773	60	62.80	76.36	79.81	77.20	79.81	0.000082	0.40	156.90	58.71	0.04	0.01	60.26
Reach 1	157773	65	53.50	76.36	79.66	77.16	79.66	0.000075	0.36	148.02	58.31	0.04	0.01	59.76
Reach 1	157773	70	46.20	76.36	79.53	77.12	79.53	0.000070	0.33	140.59	57.97	0.04	0.01	59.33
Reach 1	157773	75	40.50	76.36	79.42	77.06	79.43	0.000065	0.30	134.50	57.70	0.03	0.01	58.98
Reach 1	157773	80	35.40	76.36	79.31	77.01	79.31	0.000062	0.28	127.93	57.39	0.03	0.01	58.60
Reach 1	157773	85	29.10	76.36	79.16	76.96	79.16	0.000056	0.24	119.45	56.76	0.03	0.01	57.89
Reach 1	157773	90	13.90	76.36	78.71	76.77	78.71	0.000039	0.15	94.02	55.27	0.02	0.00	56.13
Reach 1	157773	91	10.90	76.36	78.55	76.73	78.55	0.000032	0.13	85.26	54.75	0.02	0.00	55.52
Reach 1	157773	92	8.82	76.36	78.42	76.70	78.42	0.000028	0.11	78.29	54.33	0.02	0.00	55.02
Reach 1	157773	93	6.97	76.36	78.30	76.67	78.30	0.000023	0.10	71.62	53.93	0.01	0.00	54.55
Reach 1	157773	94	5.93	76.36	78.23	76.65	78.23	0.000020	0.09	67.79	53.69	0.01	0.00	54.27
Reach 1	157773	95	5.27	76.36	78.18	76.63	78.18	0.000018	0.08	65.43	53.55	0.01	0.00	54.10
Reach 1	157773	96	4.91	76.36	78.14	76.63	78.14	0.000017	0.08	63.29	53.42	0.01	0.00	53.95
Reach 1	157773	97	3.59	76.36	78.04	76.58	78.04	0.000012	0.06	57.73	53.07	0.01	0.00	53.54
Reach 1	157773	98	1.58	76.36	77.86	76.51	77.86	0.000004	0.03	48.15	52.48	0.01	0.00	52.84
Reach 1	157773	99	0.84	76.36	77.99	76.47	77.99	0.000001	0.02	55.24	52.92	0.00	0.00	53.36
Reach 1	157773	99.5	0.16	76.36	78.48	76.41	78.48	0.000000	0.00	81.47	54.52	0.00	0.00	55.25
Reach 1	157773	99.75	0.11	76.36	78.60	76.40	78.60	0.000000	0.00	88.15	54.92	0.00	0.00	55.72
Reach 1	157773	100	0.02	76.36	77.85	76.38	77.85	0.000000	0.00	47.72	52.45	0.00	0.00	52.81
Reach 1	157622	1	2020.00	74.07	84.80	78.51	84.90	0.000512	2.80	1379.44	402.31	0.16	0.28	70.32
Reach 1	157622	5	1090.00	74.07	83.65	77.38	83.70	0.000276	1.88	945.88	355.64	0.12	0.13	70.32
Reach 1	157622	10	624.00	74.07	82.85	76.66	82.87	0.000143	1.26	675.96	312.38	0.08	0.06	70.32
Reach 1	157622	15	436.00	74.07	82.35	76.28	82.37	0.000087	0.97	529.36	285.90	0.07	0.03	70.32
Reach 1	157622	20	345.00	74.07	82.03	76.01	82.04	0.000063	0.81	441.81	215.43	0.06	0.02	70.32
Reach 1	157622	25	272.00	74.07	81.67	75.77	81.68	0.000050	0.68	403.78	73.33	0.05	0.02	70.32
Reach 1	157622	30	207.00	74.07	81.29	75.55	81.30	0.000041	0.55	376.73	69.32	0.04	0.01	69.84
Reach 1	157622	35	161.00	74.07	80.93	75.39	80.94	0.000033	0.46	352.17	67.54	0.03	0.01	69.37
Reach 1	157622	40	128.00	74.07	80.61	75.25	80.61	0.000027	0.39	330.79	65.92	0.03	0.01	68.94
Reach 1	157622	45	104.00	74.07	80.34	75.14	80.34	0.000022	0.33	313.14	64.78	0.03	0.01	68.49
Reach 1	157622	50	85.50	74.07	80.12	75.05	80.12	0.000019	0.29	298.68	64.39	0.02	0.01	67.89
Reach 1	157622	55	72.30	74.07	79.94	74.98	79.94	0.000016	0.25	287.45	64.09	0.02	0.00	67.43
Reach 1	157622	60	62.80	74.07	79.80	74.93	79.81	0.000014	0.23	278.63	63.85	0.02	0.00	67.06
Reach 1	157622	65	53.50	74.07	79.65	74.87	79.65	0.000012	0.20	268.99	63.59	0.02	0.00	66.66
Reach 1	157622	70	46.20	74.07	79.53	74.83	79.53	0.000010	0.18	260.90	63.37	0.02	0.00	66.33
Reach 1	157622	75	40.50	74.07	79.42	74.78	79.42	0.000009	0.16	254.26	63.18	0.01	0.00	66.05
Reach 1	157622	80	35.40	74.07	79.31	74.75	79.31	0.000008	0.14	247.07	62.84	0.01	0.00	65.62
Reach 1	157622	85	29.10	74.07	79.16	74.71	79.16	0.000007	0.12	237.80	62.44	0.01	0.00	65.11
Reach 1	157622	90	13.90	74.07	78.71	74.57	78.71	0.000003	0.07	209.71	61.56	0.01	0.00	63.85
Reach 1	157622	91	10.90	74.07	78.55	74.51	78.55	0.000002	0.05	199.96	61.25	0.01	0.00	63.41
Reach 1	157622	92	8.82	74.07	78.42	74.48	78.42	0.000002	0.05	192.16	61.00	0.00	0.00	63.05
Reach 1	157622	93	6.97	74.07	78.30	74.44	78.30	0.000001	0.04	184.68	60.77	0.00	0.00	62.71
Reach 1	157622	94	5.93	74.07	78.23	74.42	78.23	0.000001	0.03	180.37	60.63	0.00	0.00	62.51
Reach 1	157622	95	5.27	74.07	78.18	74.40	78.18	0.000001	0.03	177.70	60.54	0.00	0.00	62.39
Reach 1	157622	96	4.91	74.07	78.14	74.38	78.14	0.000001	0.03	175.29	60.46	0.00	0.00	62.28
Reach 1	157622	97	3.59	74.07	78.04	74.34	78.04	0.000000	0.02	169.00	60.26	0.00	0.00	61.98
Reach 1	157622	98	1.58	74.07	77.86	74.27	77.86	0.000000	0.01	158.10	59.91	0.00	0.00	61.48
Reach 1	157622	99	0.84	74.07	77.99	74.21	77.99	0.000000	0.01	166.19	60.17	0.00	0.00	61.85
Reach 1	157622	99.5	0.16	74.07	78.48	74.13	78.48	0.000000	0.00	195.80	61.12	0.00	0.00	63.22
Reach 1	157622	99.75	0.11	74.07	78.60	74.11	78.60	0.000000	0.00	203.28	61.36	0.00	0.00	63.56

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	157622	100	0.02	74.07	77.85	74.10	77.85	0.000000	0.00	157.62	59.89	0.00	0.00	61.46
Reach 1	157555	1	2020.00	73.84	84.77	78.20	84.86	0.000483	2.59	1419.55	433.34	0.16	0.24	83.52
Reach 1	157555	5	1090.00	73.84	83.64	77.01	83.68	0.000252	1.74	963.54	363.73	0.11	0.11	81.10
Reach 1	157555	10	624.00	73.84	82.84	76.23	82.86	0.000126	1.16	703.40	291.48	0.08	0.05	79.73
Reach 1	157555	15	436.00	73.84	82.35	75.85	82.36	0.000076	0.89	566.05	267.31	0.06	0.03	79.18
Reach 1	157555	20	345.00	73.84	82.02	75.64	82.03	0.000055	0.74	481.38	231.56	0.05	0.02	78.85
Reach 1	157555	25	272.00	73.84	81.67	75.45	81.68	0.000043	0.62	437.25	73.04	0.04	0.01	78.12
Reach 1	157555	30	207.00	73.84	81.29	75.27	81.29	0.000035	0.51	409.59	72.40	0.04	0.01	77.04
Reach 1	157555	35	161.00	73.84	80.93	75.11	80.93	0.000027	0.42	383.92	70.60	0.03	0.01	74.88
Reach 1	157555	40	128.00	73.84	80.61	74.97	80.61	0.000022	0.35	361.52	69.52	0.03	0.01	73.48
Reach 1	157555	45	104.00	73.84	80.34	74.86	80.34	0.000018	0.30	342.84	68.71	0.02	0.01	72.38
Reach 1	157555	50	85.50	73.84	80.12	74.77	80.12	0.000015	0.26	327.55	68.05	0.02	0.00	71.49
Reach 1	157555	55	72.30	73.84	79.94	74.70	79.94	0.000012	0.23	315.69	67.71	0.02	0.00	70.95
Reach 1	157555	60	62.80	73.84	79.80	74.64	79.80	0.000011	0.20	306.37	67.44	0.02	0.00	70.53
Reach 1	157555	65	53.50	73.84	79.65	74.59	79.65	0.000009	0.18	296.21	67.14	0.02	0.00	70.06
Reach 1	157555	70	46.20	73.84	79.53	74.54	79.53	0.000008	0.16	287.67	66.84	0.01	0.00	69.62
Reach 1	157555	75	40.50	73.84	79.42	74.49	79.42	0.000007	0.14	280.68	66.56	0.01	0.00	69.23
Reach 1	157555	80	35.40	73.84	79.31	74.46	79.31	0.000006	0.13	273.11	66.27	0.01	0.00	68.81
Reach 1	157555	85	29.10	73.84	79.16	74.40	79.16	0.000005	0.11	263.32	65.91	0.01	0.00	68.31
Reach 1	157555	90	13.90	73.84	78.71	74.24	78.71	0.000002	0.06	233.68	65.03	0.01	0.00	67.03
Reach 1	157555	91	10.90	73.84	78.55	74.20	78.55	0.000002	0.05	223.38	64.72	0.00	0.00	66.58
Reach 1	157555	92	8.82	73.84	78.42	74.18	78.42	0.000001	0.04	215.14	64.48	0.00	0.00	66.21
Reach 1	157555	93	6.97	73.84	78.30	74.15	78.30	0.000001	0.03	207.24	64.24	0.00	0.00	65.87
Reach 1	157555	94	5.93	73.84	78.23	74.13	78.23	0.000001	0.03	202.67	64.10	0.00	0.00	65.67
Reach 1	157555	95	5.27	73.84	78.18	74.12	78.18	0.000001	0.03	199.86	64.01	0.00	0.00	65.54
Reach 1	157555	96	4.91	73.84	78.14	74.11	78.14	0.000001	0.02	197.31	63.94	0.00	0.00	65.43
Reach 1	157555	97	3.59	73.84	78.04	74.08	78.04	0.000000	0.02	190.65	63.73	0.00	0.00	65.13
Reach 1	157555	98	1.58	73.84	77.86	74.03	77.86	0.000000	0.01	179.13	63.38	0.00	0.00	64.62
Reach 1	157555	99	0.84	73.84	77.99	74.00	77.99	0.000000	0.00	187.68	63.64	0.00	0.00	65.00
Reach 1	157555	99.5	0.16	73.84	78.48	73.94	78.48	0.000000	0.00	219.00	64.59	0.00	0.00	66.38
Reach 1	157555	99.75	0.11	73.84	78.60	73.93	78.60	0.000000	0.00	226.90	64.83	0.00	0.00	66.73
Reach 1	157555	100	0.02	73.84	77.85	73.88	77.85	0.000000	0.00	178.62	63.37	0.00	0.00	64.60
Reach 1	157013	1	2020.00	77.38	84.53	82.28	84.55	0.000450	1.99	3295.59	1218.56	0.15	0.16	72.61
Reach 1	157013	5	1090.00	77.38	83.43	80.47	83.46	0.000446	1.72	2036.42	1144.19	0.14	0.13	72.61
Reach 1	157013	10	624.00	77.38	82.68	79.69	82.71	0.000445	1.53	1207.94	1090.44	0.14	0.11	72.30
Reach 1	157013	15	436.00	77.38	82.22	79.30	82.25	0.000441	1.47	726.96	996.33	0.14	0.10	70.61
Reach 1	157013	20	345.00	77.38	81.91	79.06	81.94	0.000448	1.43	429.09	879.07	0.14	0.09	69.47
Reach 1	157013	25	272.00	77.38	81.56	78.85	81.59	0.000458	1.33	222.95	293.51	0.14	0.09	68.23
Reach 1	157013	30	207.00	77.38	81.19	78.64	81.22	0.000459	1.16	178.73	75.23	0.12	0.08	66.93
Reach 1	157013	35	161.00	77.38	80.85	78.49	80.86	0.000464	1.04	155.52	69.03	0.12	0.07	65.29
Reach 1	157013	40	128.00	77.38	80.53	78.36	80.55	0.000472	0.94	135.64	65.81	0.11	0.06	63.21
Reach 1	157013	45	104.00	77.38	80.27	78.26	80.28	0.000480	0.87	119.33	63.01	0.11	0.06	61.37
Reach 1	157013	50	85.50	77.38	80.05	78.18	80.06	0.000479	0.80	106.34	59.30	0.10	0.05	58.48
Reach 1	157013	55	72.30	77.38	79.88	78.11	79.89	0.000473	0.75	96.66	56.30	0.10	0.05	56.12
Reach 1	157013	60	62.80	77.38	79.74	78.07	79.75	0.000472	0.70	89.26	54.32	0.10	0.05	54.64
Reach 1	157013	65	53.50	77.38	79.60	78.01	79.60	0.000470	0.66	81.39	52.51	0.09	0.05	53.01
Reach 1	157013	70	46.20	77.38	79.47	77.97	79.48	0.000471	0.62	74.93	51.17	0.09	0.04	51.65
Reach 1	157013	75	40.50	77.38	79.37	77.93	79.37	0.000471	0.58	69.75	50.07	0.09	0.04	50.52
Reach 1	157013	80	35.40	77.38	79.26	77.90	79.26	0.000486	0.55	64.16	48.64	0.08	0.04	49.08
Reach 1	157013	85	29.10	77.38	79.11	77.84	79.11	0.000481	0.51	57.30	45.90	0.08	0.04	46.31
Reach 1	157013	90	13.90	77.38	78.67	77.67	78.67	0.000494	0.36	38.34	39.95	0.07	0.03	40.26
Reach 1	157013	91	10.90	77.38	78.51	77.63	78.51	0.000513	0.34	32.21	38.29	0.07	0.03	38.56
Reach 1	157013	92	8.82	77.38	78.38	77.60	78.38	0.000551	0.32	27.41	37.13	0.07	0.03	37.37
Reach 1	157013	93	6.97	77.38	78.26	77.58	78.26	0.000599	0.30	22.92	36.01	0.07	0.02	36.22
Reach 1	157013	94	5.93	77.38	78.19	77.55	78.19	0.000624	0.29	20.40	35.37	0.07	0.02	35.55
Reach 1	157013	95	5.27	77.38	78.14	77.55	78.15	0.000628	0.28	18.88	34.97	0.07	0.02	35.15
Reach 1	157013	96	4.91	77.38	78.10	77.54	78.10	0.000707	0.28	17.38	34.58	0.07	0.02	34.74
Reach 1	157013	97	3.59	77.38	78.00	77.51	78.00	0.000790	0.26	13.77	33.62	0.07	0.02	33.75
Reach 1	157013	98	1.58	77.38	77.83	77.46	77.83	0.000530	0.18	8.70	27.11	0.06	0.01	27.21
Reach 1	157013	99	0.84	77.38	77.99	77.43	77.99	0.000045	0.06	13.53	33.55	0.02	0.00	33.68
Reach 1	157013	99.5	0.16	77.38	78.48	77.40	78.48	0.000000	0.01	31.10	38.03	0.00	0.00	38.29
Reach 1	157013	99.75	0.11	77.38	78.60	77.40	78.60	0.000000	0.00	35.81	39.20	0.00	0.00	39.49
Reach 1	157013	100	0.02	77.38	77.85	77.41	77.85	0.000000	0.00	9.20	27.88	0.00	0.00	27.98
Reach 1	156988	1	2020.00	77.38	84.52	81.36	84.54	0.000386	1.82	3420.61	1252.27	0.13	0.13	85.72
Reach 1	156988	5	1090.00	77.38	83.43	80.32	83.45	0.000377	1.56	2129.97	1200.68	0.13	0.11	85.72
Reach 1	156988	10	624.00	77.38	82.68	79.66	82.70	0.000368	1.37	1276.25	1155.26	0.12	0.09	85.72
Reach 1	156988	15	436.00	77.38	82.21	79.24	82.24	0.000379	1.31	763.81	1104.97	0.13	0.08	85.72
Reach 1	156988	20	345.00	77.38	81.90	79.04	81.93	0.000376	1.27	450.24	884.95	0.13	0.07	83.88
Reach 1	156988	25	272.00	77.38	81.56	78.86	81.58	0.000377	1.18	248.69	319.05	0.12	0.07	81.03
Reach 1	156988	30	207.00	77.38	81.19	78.69	81.20	0.000379	1.03	201.51	92.45	0.11	0.06	78.70
Reach 1	156988	35	161.00	77.38	80.84	78.55	80.85	0.000389	0.92	174.70	85.80	0.11	0.06	76.49
Reach 1	156988	40	128.00	77.38	80.52	78.45	80.53	0.000396	0.85	151.45	80.63	0.10	0.05	72.98
Reach 1	156988	45	104.00	77.38	80.26	78.37	80.27	0.000401	0.78	132.82	76.16	0.10	0.05	70.14
Reach 1	156988	50	85.50	77.38	80.04	78.30	80.05	0.000426	0.73	117.71	72.21	0.10	0.05	69.00
Reach 1	156988	55	72.30	77.38	79.87	78.25	79.87	0.000443	0.68	106.16	68.55	0.10	0.04	67.55
Reach 1	156988	60	62.80	77.38	79.73	78.21	79.74	0.000461	0.65	97.19	65.76	0.09	0.04	66.40
Reach 1	156988	65	53.50	77.38	79.58	78.17	79.59	0.000486	0.61	87.54	64.55	0.09	0.04	65.14
Reach 1	156988	70	46.20	77.38	79.46	78.13	79.47	0.000420	0.58	80.17	55.51	0.08	0.04	56.05
Reach 1	156988	75	40.50	77.38	79.36	78.10	79.36	0.000423	0.54	74.52	54.51	0.08	0.04	55.01
Reach 1	156988	80	35.40	77.38	79.24	78.03	79.25	0.000444	0.52	68.40	53.39	0.08	0.04	53.85
Reach 1	156988	85	29.10	77.38	79.10	77.98	79.10	0.000467	0.48	60.74	51.97	0.08	0.03	52.37
Reach 1	156988	90	13.90	77.38	78.65	77.79	78.65	0.000638	0.36	38.32	48.46	0.07	0.03	48.73
Reach 1	156988	91	10.90	77.38	78.49	77.74	78.49	0.000795	0.36	30.69	47.30	0.08	0.03	47.53
Reach 1	156988	92	8.82	77.38	78.36	77.71	78.36	0.001066	0.36	24.55	46.34	0.09	0.04	46.53
Reach 1	156988	93	6.97	77.38	78.23	77.67	78.23	0.001647	0.38	18.54	45.39	0.10	0.04	45.54
Reach 1	156988	94	5.93	77.38	78.15	77.65	78.15	0.002379	0.40	14.92	44.30	0.12	0.05	44.42
Reach 1	156988	95	5.27	77.38	78.10	77.63	78.10	0.003182	0.42	12.59	43.02	0.14	0.06	43.12
Reach 1	156988	96	4.91	77.38	78.06	77.62	78.06	0.002439	0.43	11.32	30.00	0.12	0.06	30.09

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	156988	97	3.59	77.38	77.94	77.59	77.95	0.003308	0.45	8.01	25.47	0.14	0.06	25.53
Reach 1	156988	98	1.58	77.38	77.65	77.51	77.66	0.013571	0.63	2.52	13.89	0.26	0.15	13.90
Reach 1	156988	99	0.84	77.38	77.54	77.47	77.55	0.035920	0.73	1.14	10.36	0.39	0.25	10.36
Reach 1	156988	99.5	0.16	77.38	77.43	77.41	77.44	0.085037	0.60	0.26	6.06	0.51	0.23	6.07
Reach 1	156988	99.75	0.11	77.38	77.42	77.41	77.43	0.095947	0.56	0.20	5.64	0.53	0.21	5.64
Reach 1	156988	100	0.02	77.38	77.40	77.40	77.40	0.036487	0.23	0.09	4.82	0.29	0.04	4.82
Reach 1	156980	1	2020.00	76.73	84.51	81.36	84.54	0.000385	1.89	3525.03	1296.06	0.14	0.14	72.09
Reach 1	156980	5	1090.00	76.73	83.42	80.24	83.44	0.000372	1.63	2192.37	1213.74	0.13	0.11	72.09
Reach 1	156980	10	624.00	76.73	82.67	79.55	82.69	0.000357	1.43	1325.73	1163.51	0.12	0.09	72.09
Reach 1	156980	15	436.00	76.73	82.21	79.13	82.23	0.000356	1.36	810.73	1090.46	0.12	0.08	72.09
Reach 1	156980	20	345.00	76.73	81.90	78.90	81.92	0.000366	1.33	483.69	993.87	0.13	0.08	72.09
Reach 1	156980	25	272.00	76.73	81.55	78.70	81.58	0.000372	1.23	244.43	366.46	0.12	0.07	70.95
Reach 1	156980	30	207.00	76.73	81.18	78.49	81.20	0.000366	1.07	194.11	81.93	0.11	0.06	69.70
Reach 1	156980	35	161.00	76.73	80.83	78.32	80.85	0.000359	0.94	170.51	77.24	0.10	0.06	67.80
Reach 1	156980	40	128.00	76.73	80.52	78.20	80.53	0.000357	0.85	150.01	73.84	0.10	0.05	65.91
Reach 1	156980	45	104.00	76.73	80.26	78.09	80.26	0.000355	0.78	133.12	70.99	0.09	0.05	64.34
Reach 1	156980	50	85.50	76.73	80.04	78.01	80.04	0.000362	0.72	119.38	68.86	0.09	0.04	63.25
Reach 1	156980	55	72.30	76.73	79.86	77.94	79.87	0.000366	0.66	108.84	67.15	0.09	0.04	62.33
Reach 1	156980	60	62.80	76.73	79.73	77.89	79.74	0.000372	0.62	100.58	60.61	0.09	0.04	61.61
Reach 1	156980	65	53.50	76.73	79.58	77.75	79.59	0.000380	0.58	91.66	59.89	0.08	0.04	60.82
Reach 1	156980	70	46.20	76.73	79.46	77.69	79.46	0.000390	0.55	84.29	59.30	0.08	0.03	60.16
Reach 1	156980	75	40.50	76.73	79.35	77.64	79.36	0.000401	0.52	78.23	58.80	0.08	0.03	59.61
Reach 1	156980	80	35.40	76.73	79.24	77.58	79.25	0.000355	0.49	71.70	50.43	0.07	0.03	51.18
Reach 1	156980	85	29.10	76.73	79.10	77.51	79.10	0.000351	0.45	64.51	48.40	0.07	0.03	49.09
Reach 1	156980	90	13.90	76.73	78.65	77.30	78.65	0.000331	0.31	44.23	42.15	0.05	0.02	42.64
Reach 1	156980	91	10.90	76.73	78.49	77.25	78.49	0.000321	0.29	37.68	39.80	0.05	0.02	40.22
Reach 1	156980	92	8.82	76.73	78.36	77.20	78.36	0.000322	0.27	32.55	38.06	0.05	0.02	38.43
Reach 1	156980	93	6.97	76.73	78.22	77.16	78.22	0.000335	0.25	27.56	36.80	0.05	0.02	37.11
Reach 1	156980	94	5.93	76.73	78.14	77.13	78.14	0.000347	0.24	24.52	36.01	0.05	0.01	36.28
Reach 1	156980	95	5.27	76.73	78.08	77.11	78.08	0.000356	0.23	22.53	35.48	0.05	0.01	35.72
Reach 1	156980	96	4.91	76.73	78.05	77.10	78.05	0.000364	0.23	21.37	35.17	0.05	0.01	35.40
Reach 1	156980	97	3.59	76.73	77.93	77.05	77.93	0.000382	0.21	17.18	33.81	0.05	0.01	34.01
Reach 1	156980	98	1.58	76.73	77.60	76.97	77.60	0.000265	0.17	9.39	19.44	0.04	0.01	19.57
Reach 1	156980	99	0.84	76.73	77.41	76.91	77.41	0.000261	0.14	5.95	15.90	0.04	0.01	15.99
Reach 1	156980	99.5	0.16	76.73	77.08	76.83	77.08	0.000244	0.09	1.81	9.65	0.04	0.00	9.68
Reach 1	156980	99.75	0.11	76.73	77.03	76.81	77.03	0.000270	0.08	1.36	8.53	0.04	0.00	8.56
Reach 1	156980	100	0.02	76.73	76.89	76.77	76.89	0.000269	0.05	0.40	4.83	0.03	0.00	4.85
Reach 1	155002	1	2020.00	76.24	83.93	80.17	83.94	0.000221	1.47	4045.98	1450.13	0.10	0.08	90.94
Reach 1	155002	5	1090.00	76.24	82.83	79.02	82.84	0.000210	1.26	2467.54	1400.86	0.10	0.07	90.94
Reach 1	155002	10	624.00	76.24	82.11	78.34	82.13	0.000176	1.04	1514.65	1255.87	0.09	0.05	90.94
Reach 1	155002	15	436.00	76.24	81.68	78.01	81.69	0.000156	0.94	999.21	1140.85	0.08	0.04	90.94
Reach 1	155002	20	345.00	76.24	81.38	77.83	81.39	0.000147	0.89	670.30	1038.97	0.08	0.03	90.94
Reach 1	155002	25	272.00	76.24	81.06	77.67	81.07	0.000149	0.83	417.08	423.14	0.08	0.03	90.02
Reach 1	155002	30	207.00	76.24	80.70	77.51	80.70	0.000154	0.74	313.51	257.24	0.07	0.03	88.31
Reach 1	155002	35	161.00	76.24	80.36	77.38	80.37	0.000148	0.66	255.24	182.90	0.07	0.03	84.96
Reach 1	155002	40	128.00	76.24	80.07	77.28	80.07	0.000138	0.59	220.67	136.31	0.06	0.02	81.97
Reach 1	155002	45	104.00	76.24	79.82	77.20	79.83	0.000126	0.53	197.76	106.98	0.06	0.02	79.46
Reach 1	155002	50	85.50	76.24	79.61	77.14	79.61	0.000118	0.47	181.21	76.76	0.05	0.02	77.31
Reach 1	155002	55	72.30	76.24	79.45	77.08	79.45	0.000110	0.43	168.80	75.12	0.05	0.02	75.64
Reach 1	155002	60	62.80	76.24	79.31	77.05	79.32	0.000104	0.40	158.97	73.79	0.05	0.01	74.29
Reach 1	155002	65	53.50	76.24	79.17	77.00	79.17	0.000097	0.36	148.47	72.35	0.04	0.01	72.81
Reach 1	155002	70	46.20	76.24	79.05	76.96	79.05	0.000091	0.33	139.71	71.13	0.04	0.01	71.57
Reach 1	155002	75	40.50	76.24	78.95	76.94	78.95	0.000086	0.30	132.82	70.15	0.04	0.01	70.57
Reach 1	155002	80	35.40	76.24	78.86	76.91	78.86	0.000081	0.28	126.28	69.21	0.04	0.01	69.61
Reach 1	155002	85	29.10	76.24	78.72	76.88	78.73	0.000074	0.25	117.20	67.88	0.03	0.01	68.25
Reach 1	155002	90	13.90	76.24	78.32	76.75	78.32	0.000053	0.15	90.37	63.79	0.02	0.00	64.08
Reach 1	155002	91	10.90	76.24	78.17	76.71	78.17	0.000045	0.13	81.27	62.34	0.02	0.00	62.60
Reach 1	155002	92	8.82	76.24	78.04	76.68	78.04	0.000040	0.12	73.21	61.03	0.02	0.00	61.27
Reach 1	155002	93	6.97	76.24	77.90	76.64	77.90	0.000037	0.11	64.84	59.64	0.02	0.00	59.85
Reach 1	155002	94	5.93	76.24	77.81	76.63	77.81	0.000034	0.10	59.56	58.74	0.02	0.00	58.93
Reach 1	155002	95	5.27	76.24	77.75	76.61	77.75	0.000033	0.09	55.94	58.12	0.02	0.00	58.30
Reach 1	155002	96	4.91	76.24	77.71	76.60	77.71	0.000033	0.09	53.61	57.72	0.02	0.00	57.89
Reach 1	155002	97	3.59	76.24	77.57	76.55	77.57	0.000029	0.08	45.38	56.27	0.02	0.00	56.41
Reach 1	155002	98	1.58	76.24	77.26	76.47	77.26	0.000023	0.05	28.88	51.97	0.01	0.00	52.06
Reach 1	155002	99	0.84	76.24	77.08	76.41	77.08	0.000021	0.04	19.66	47.89	0.01	0.00	47.96
Reach 1	155002	99.5	0.16	76.24	76.74	76.33	76.74	0.000026	0.03	5.60	30.02	0.01	0.00	30.06
Reach 1	155002	99.75	0.11	76.24	76.68	76.32	76.68	0.000031	0.03	3.92	23.92	0.01	0.00	23.95
Reach 1	155002	100	0.02	76.24	76.46	76.28	76.46	0.000040	0.02	0.83	7.46	0.01	0.00	7.47
Reach 1	153888	1	2020.00	76.06	83.60	80.24	83.61	0.000329	1.64	4574.65	1838.46	0.12	0.11	47.26
Reach 1	153888	5	1060.00	76.06	82.47	79.60	82.48	0.000370	1.50	2665.83	1565.14	0.13	0.10	47.26
Reach 1	153888	10	622.00	76.06	81.75	78.89	81.77	0.000418	1.42	1642.91	1307.39	0.13	0.09	47.26
Reach 1	153888	15	438.00	76.06	81.31	78.53	81.33	0.000489	1.45	1082.94	1241.87	0.14	0.10	47.26
Reach 1	153888	20	347.00	76.06	80.97	78.33	80.99	0.000631	1.57	682.19	1104.16	0.16	0.11	46.66
Reach 1	153888	25	273.00	76.06	80.57	78.14	80.60	0.000817	1.63	322.40	465.69	0.18	0.13	45.08
Reach 1	153888	30	209.00	76.06	80.21	77.97	80.23	0.000782	1.41	249.37	140.17	0.16	0.12	42.68
Reach 1	153888	35	164.00	76.06	79.89	77.85	79.91	0.000782	1.27	208.41	120.97	0.15	0.11	40.61
Reach 1	153888	40	131.00	76.06	79.61	77.74	79.63	0.000774	1.16	179.27	89.21	0.14	0.10	38.77
Reach 1	153888	45	108.00	76.06	79.39	77.66	79.40	0.000764	1.07	159.59	85.54	0.14	0.09	37.28
Reach 1	153888	50	88.60	76.06	79.19	77.59	79.20	0.000752	0.98	142.83	82.40	0.13	0.08	35.96
Reach 1	153888	55	75.20	76.06	79.04	77.50	79.05	0.000737	0.91	130.82	80.08	0.12	0.08	34.98
Reach 1	153888	60	65.00	76.06	78.92	77.40	78.93	0.000724	0.85	121.26	78.18	0.12	0.07	34.18
Reach 1	153888	65	55.30	76.06	78.79	77.33	78.80	0.000706	0.78	111.35	76.16	0.11	0.06	33.34
Reach 1	153888	70	47.70	76.06	78.68	77.27	78.69	0.000692	0.73	103.04	74.42	0.11	0.06	32.61
Reach 1	153888	75	42.00	76.06	78.60	77.21	78.60	0.000680	0.69	96.74	73.07	0.10	0.06	32.04
Reach 1	153888	80	36.90	76.06	78.51	77.16	78.52	0.000669	0.64	90.77	71.77	0.10	0.05	31.50
Reach 1	153888	85	30.60	76.06	78.40	77.09	78.40	0.000656	0.58	82.51	69.92	0.09	0.05	30.73
Reach 1	153888	90	15.30	76.06	78.04	76.85	78.04	0.000667	0.41	58.23	64.20	0.08	0.04	28.33
Reach 1	153888	91	12.30	76.06	77.91	76.79	77.91	0.000687	0.39	50.05	62.15	0.07	0.03	27.48

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	153888	92	9.95	76.06	77.78	76.74	77.78	0.000709	0.37	42.33	58.78	0.07	0.03	25.28
Reach 1	153888	93	7.81	76.06	77.64	76.68	77.64	0.000740	0.36	34.34	54.43	0.08	0.03	22.26
Reach 1	153888	94	6.59	76.06	77.55	76.64	77.55	0.000764	0.36	29.42	51.57	0.08	0.03	20.26
Reach 1	153888	95	5.81	76.06	77.48	76.61	77.48	0.000782	0.36	26.09	49.55	0.08	0.03	18.85
Reach 1	153888	96	5.28	76.06	77.44	76.59	77.44	0.000777	0.36	23.99	48.22	0.08	0.03	17.92
Reach 1	153888	97	3.88	76.06	77.29	76.53	77.29	0.000782	0.34	17.54	39.89	0.08	0.03	15.58
Reach 1	153888	98	1.80	76.06	77.01	76.41	77.01	0.000777	0.28	8.56	23.56	0.07	0.02	11.99
Reach 1	153888	99	1.06	76.06	76.85	76.34	76.85	0.000763	0.25	5.48	16.09	0.07	0.02	9.97
Reach 1	153888	99.5	0.31	76.06	76.57	76.23	76.57	0.000759	0.18	1.97	9.26	0.06	0.01	6.46
Reach 1	153888	99.75	0.22	76.06	76.51	76.21	76.51	0.000749	0.17	1.46	7.81	0.06	0.01	5.71
Reach 1	153888	100	0.04	76.06	76.31	76.14	76.31	0.000713	0.11	0.38	3.05	0.06	0.01	3.11
Reach 1	151431	1	2020.00	74.55	82.88	78.19	82.91	0.000268	1.67	3771.42	1549.56	0.12	0.11	105.61
Reach 1	151431	5	1060.00	74.55	81.65	77.11	81.68	0.000255	1.42	1985.14	1273.67	0.11	0.08	105.61
Reach 1	151431	10	622.00	74.55	80.84	76.47	80.86	0.000224	1.19	1031.99	1060.49	0.10	0.06	105.61
Reach 1	151431	15	438.00	74.55	80.22	76.15	80.24	0.000206	1.07	486.88	574.23	0.10	0.05	104.40
Reach 1	151431	20	347.00	74.55	79.70	75.97	79.71	0.000184	0.99	352.45	104.49	0.09	0.04	97.41
Reach 1	151431	25	273.00	74.55	79.22	75.81	79.23	0.000175	0.89	307.08	91.75	0.09	0.04	92.62
Reach 1	151431	30	209.00	74.55	78.81	75.66	78.82	0.000169	0.77	270.67	87.78	0.08	0.03	88.57
Reach 1	151431	35	164.00	74.55	78.44	75.54	78.45	0.000162	0.69	238.94	84.17	0.07	0.03	84.89
Reach 1	151431	40	131.00	74.55	78.11	75.45	78.12	0.000157	0.62	211.62	80.93	0.07	0.03	81.58
Reach 1	151431	45	108.00	74.55	77.83	75.37	77.84	0.000154	0.57	189.33	78.19	0.06	0.02	78.79
Reach 1	151431	50	88.60	74.55	77.58	75.31	77.58	0.000152	0.52	169.91	75.72	0.06	0.02	76.27
Reach 1	151431	55	75.20	74.55	77.39	75.26	77.39	0.000150	0.48	155.63	73.86	0.06	0.02	74.36
Reach 1	151431	60	65.00	74.55	77.23	75.22	77.24	0.000148	0.45	144.38	72.35	0.06	0.02	72.82
Reach 1	151431	65	55.30	74.55	77.07	75.17	77.08	0.000144	0.42	132.88	70.78	0.05	0.02	71.22
Reach 1	151431	70	47.70	74.55	76.94	75.14	76.94	0.000141	0.39	123.36	69.45	0.05	0.02	69.86
Reach 1	151431	75	42.00	74.55	76.84	75.10	76.84	0.000137	0.36	116.34	68.45	0.05	0.01	68.85
Reach 1	151431	80	36.90	74.55	76.74	75.07	76.74	0.000133	0.34	109.79	67.51	0.05	0.01	67.88
Reach 1	151431	85	30.60	74.55	76.61	75.03	76.61	0.000127	0.30	101.04	66.23	0.04	0.01	66.58
Reach 1	151431	90	15.30	74.55	76.23	74.91	76.23	0.000106	0.20	76.73	62.54	0.03	0.01	62.81
Reach 1	151431	91	12.30	74.55	76.09	74.88	76.09	0.000101	0.18	67.84	61.13	0.03	0.01	61.37
Reach 1	151431	92	9.95	74.55	75.96	74.85	75.96	0.000098	0.17	59.84	59.84	0.03	0.01	60.05
Reach 1	151431	93	7.81	74.55	75.80	74.82	75.80	0.000101	0.15	50.72	58.33	0.03	0.01	58.51
Reach 1	151431	94	6.59	74.55	75.70	74.80	75.70	0.000104	0.15	45.07	57.37	0.03	0.01	57.53
Reach 1	151431	95	5.81	74.55	75.63	74.79	75.63	0.000109	0.14	41.03	56.68	0.03	0.00	56.82
Reach 1	151431	96	5.28	74.55	75.59	74.78	75.59	0.000111	0.14	38.35	56.21	0.03	0.00	56.35
Reach 1	151431	97	3.88	74.55	75.45	74.76	75.45	0.000123	0.13	30.62	54.59	0.03	0.00	54.70
Reach 1	151431	98	1.80	74.55	75.17	74.70	75.17	0.000178	0.11	16.24	46.82	0.03	0.00	46.89
Reach 1	151431	99	1.06	74.55	75.02	74.67	75.02	0.000228	0.10	10.15	38.53	0.04	0.00	38.57
Reach 1	151431	99.5	0.31	74.55	74.83	74.62	74.83	0.000284	0.08	3.87	25.61	0.04	0.00	25.63
Reach 1	151431	99.75	0.22	74.55	74.79	74.61	74.79	0.000312	0.08	2.88	22.13	0.04	0.00	22.14
Reach 1	151431	100	0.04	74.55	74.68	74.58	74.68	0.000330	0.05	0.85	13.41	0.03	0.00	13.42
Reach 1	149872	1	2020.00	74.09	82.49	78.60	82.51	0.000279	1.72	4097.09	1446.50	0.12	0.11	72.67
Reach 1	149872	5	1060.00	74.09	81.21	77.40	81.24	0.000319	1.59	2279.46	1396.38	0.12	0.10	72.67
Reach 1	149872	10	622.00	74.09	80.39	76.71	80.42	0.000359	1.51	1158.75	1300.95	0.12	0.10	72.67
Reach 1	149872	15	438.00	74.09	79.77	76.36	79.81	0.000392	1.50	472.62	893.60	0.13	0.10	71.02
Reach 1	149872	20	347.00	74.09	79.28	76.16	79.31	0.000381	1.40	250.69	89.07	0.13	0.08	69.30
Reach 1	149872	25	273.00	74.09	78.82	75.99	78.84	0.000371	1.26	216.56	68.54	0.12	0.07	67.70
Reach 1	149872	30	209.00	74.09	78.43	75.83	78.45	0.000365	1.09	190.87	64.43	0.11	0.07	65.95
Reach 1	149872	35	164.00	74.09	78.07	75.60	78.08	0.000359	0.98	168.19	62.60	0.10	0.06	63.98
Reach 1	149872	40	131.00	74.09	77.75	75.41	77.76	0.000358	0.88	148.28	60.95	0.10	0.05	62.20
Reach 1	149872	45	108.00	74.09	77.47	75.27	77.48	0.000367	0.82	131.41	59.52	0.10	0.05	60.65
Reach 1	149872	50	88.60	74.09	77.21	75.16	77.22	0.000383	0.76	116.35	58.21	0.09	0.05	59.24
Reach 1	149872	55	75.20	74.09	77.02	75.07	77.02	0.000400	0.72	105.07	57.21	0.09	0.05	58.16
Reach 1	149872	60	65.00	74.09	76.86	75.00	76.87	0.000417	0.68	96.08	56.40	0.09	0.04	57.29
Reach 1	149872	65	55.30	74.09	76.70	74.92	76.70	0.000433	0.64	87.02	55.57	0.09	0.04	56.39
Reach 1	149872	70	47.70	74.09	76.56	74.86	76.56	0.000451	0.60	79.42	54.87	0.09	0.04	55.63
Reach 1	149872	75	42.00	74.09	76.46	74.81	76.46	0.000462	0.57	73.92	54.35	0.09	0.04	55.08
Reach 1	149872	80	36.90	74.09	76.36	74.77	76.37	0.000474	0.54	68.74	53.86	0.08	0.04	54.55
Reach 1	149872	85	30.60	74.09	76.24	74.70	76.24	0.000487	0.49	62.04	53.22	0.08	0.03	53.86
Reach 1	149872	90	15.30	74.09	75.87	74.50	75.87	0.000574	0.36	42.83	51.34	0.07	0.03	51.83
Reach 1	149872	91	12.30	74.09	75.73	74.46	75.74	0.000504	0.34	36.38	42.63	0.06	0.03	43.06
Reach 1	149872	92	9.95	74.09	75.60	74.42	75.60	0.000437	0.32	31.29	36.13	0.06	0.02	36.49
Reach 1	149872	93	7.81	74.09	75.47	74.38	75.47	0.000374	0.29	26.68	31.07	0.06	0.02	31.37
Reach 1	149872	94	6.59	74.09	75.37	74.35	75.37	0.000338	0.28	23.73	27.71	0.05	0.02	27.97
Reach 1	149872	95	5.81	74.09	75.30	74.33	75.30	0.000332	0.27	21.82	26.84	0.05	0.02	27.07
Reach 1	149872	96	5.28	74.09	75.24	74.32	75.24	0.000333	0.26	20.39	26.15	0.05	0.02	26.37
Reach 1	149872	97	3.88	74.09	75.08	74.28	75.08	0.000340	0.24	16.28	24.10	0.05	0.01	24.26
Reach 1	149872	98	1.80	74.09	74.79	74.21	74.79	0.000308	0.18	9.84	20.19	0.05	0.01	20.28
Reach 1	149872	99	1.06	74.09	74.63	74.18	74.63	0.000292	0.15	6.88	17.53	0.04	0.01	17.59
Reach 1	149872	99.5	0.31	74.09	74.42	74.14	74.42	0.000175	0.09	3.51	13.89	0.03	0.00	13.93
Reach 1	149872	99.75	0.22	74.09	74.38	74.13	74.38	0.000140	0.07	2.98	13.24	0.03	0.00	13.27
Reach 1	149872	100	0.04	74.09	74.28	74.11	74.28	0.000025	0.02	1.73	11.52	0.01	0.00	11.54
Reach 1	147964	1	2040.00	72.74	81.96	77.29	81.99	0.000314	1.98	3896.38	1633.04	0.13	0.14	67.31
Reach 1	147964	5	1050.00	72.74	80.62	75.92	80.65	0.000300	1.70	1987.03	1189.25	0.12	0.11	67.31
Reach 1	147964	10	621.00	72.74	79.77	75.15	79.80	0.000279	1.49	1039.78	1023.46	0.11	0.09	67.31
Reach 1	147964	15	440.00	72.74	79.17	74.77	79.20	0.000252	1.34	517.46	675.57	0.11	0.07	67.31
Reach 1	147964	20	349.00	72.74	78.72	74.56	78.74	0.000225	1.22	315.69	332.42	0.10	0.06	66.24
Reach 1	147964	25	275.00	72.74	78.30	74.36	78.31	0.000199	1.07	259.67	147.63	0.09	0.05	65.19
Reach 1	147964	30	212.00	72.74	77.94	74.19	77.96	0.000176	0.90	235.43	113.52	0.08	0.04	63.53
Reach 1	147964	35	167.00	72.74	77.62	74.05	77.63	0.000154	0.77	215.68	89.27	0.07	0.03	61.78
Reach 1	147964	40	134.00	72.74	77.32	73.93	77.33	0.000135	0.68	198.18	58.55	0.06	0.03	60.19
Reach 1	147964	45	111.00	72.74	77.05	73.84	77.06	0.000123	0.61	182.63	57.20	0.06	0.02	58.74
Reach 1	147964	50	91.80	72.74	76.80	73.75	76.81	0.000113	0.55	168.39	55.94	0.06	0.02	57.38
Reach 1	147964	55	78.00	72.74	76.61	73.68	76.61	0.000105	0.49	157.58	54.97	0.05	0.02	56.33
Reach 1	147964	60	67.20	72.74	76.45	73.61	76.45	0.000098	0.45	148.90	54.17	0.05	0.02	55.47
Reach 1	147964	65	57.10	72.74	76.29	73.55	76.29	0.000089	0.41	140.47	53.38	0.04	0.01	54.62
Reach 1	147964	70	49.10	72.74	76.16	73.50	76.16	0.000080	0.37	133.26	52.70	0.04	0.01	53.89

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	147964	75	43.30	72.74	76.06	73.46	76.06	0.000074	0.34	128.26	52.22	0.04	0.01	53.37
Reach 1	147964	80	38.20	72.74	75.97	73.42	75.97	0.000068	0.31	123.54	51.77	0.04	0.01	52.88
Reach 1	147964	85	32.30	72.74	75.86	73.36	75.86	0.000060	0.27	117.81	51.21	0.03	0.01	52.28
Reach 1	147964	90	16.60	72.74	75.51	73.19	75.51	0.000036	0.17	100.40	49.48	0.02	0.00	50.42
Reach 1	147964	91	13.60	72.74	75.41	73.14	75.41	0.000030	0.14	95.42	48.97	0.02	0.00	49.87
Reach 1	147964	92	11.10	72.74	75.31	73.10	75.31	0.000024	0.12	90.36	48.45	0.02	0.00	49.31
Reach 1	147964	93	8.65	72.74	75.19	73.05	75.19	0.000017	0.10	84.84	47.88	0.01	0.00	48.69
Reach 1	147964	94	7.28	72.74	75.12	73.03	75.12	0.000014	0.09	81.53	47.53	0.01	0.00	48.32
Reach 1	147964	95	6.36	72.74	75.07	73.00	75.07	0.000012	0.08	79.19	47.28	0.01	0.00	48.05
Reach 1	147964	96	5.63	72.74	75.03	72.99	75.03	0.000010	0.07	77.12	47.07	0.01	0.00	47.82
Reach 1	147964	97	4.17	72.74	74.88	72.95	74.88	0.000007	0.06	70.13	46.32	0.01	0.00	47.01
Reach 1	147964	98	2.04	72.74	74.65	72.88	74.65	0.000003	0.03	59.46	45.15	0.01	0.00	45.75
Reach 1	147964	99	1.28	72.74	74.52	72.86	74.52	0.000002	0.02	53.68	44.50	0.00	0.00	45.05
Reach 1	147964	99.5	0.47	72.74	74.37	72.82	74.37	0.000000	0.01	46.98	43.74	0.00	0.00	44.23
Reach 1	147964	99.75	0.33	72.74	74.34	72.80	74.34	0.000000	0.01	45.62	43.58	0.00	0.00	44.06
Reach 1	147964	100	0.06	72.74	74.27	72.78	74.27	0.000000	0.00	42.78	43.26	0.00	0.00	43.71
Reach 1	146270	1	2040.00	74.18	81.63	77.17	81.64	0.000108	0.97	5451.13	1860.87	0.07	0.04	108.15
Reach 1	146270	5	1050.00	74.18	80.25	76.20	80.26	0.000111	0.82	2977.64	1700.01	0.07	0.03	108.15
Reach 1	146270	10	621.00	74.18	79.38	75.76	79.39	0.000116	0.72	1588.54	1446.48	0.07	0.02	108.15
Reach 1	146270	15	440.00	74.18	78.79	75.54	78.79	0.000115	0.65	898.88	798.52	0.07	0.02	107.30
Reach 1	146270	20	349.00	74.18	78.35	75.41	78.36	0.000119	0.62	635.27	484.96	0.07	0.02	103.81
Reach 1	146270	25	275.00	74.18	77.94	75.20	77.94	0.000132	0.58	479.66	302.14	0.07	0.02	100.45
Reach 1	146270	30	212.00	74.18	77.59	75.03	77.59	0.000143	0.52	387.69	234.85	0.07	0.02	97.65
Reach 1	146270	35	167.00	74.18	77.27	74.92	77.27	0.000156	0.47	319.16	196.24	0.06	0.02	95.07
Reach 1	146270	40	134.00	74.18	76.97	74.83	76.97	0.000177	0.43	263.57	176.35	0.06	0.02	92.66
Reach 1	146270	45	111.00	74.18	76.69	74.76	76.70	0.000170	0.46	222.21	127.93	0.06	0.02	65.12
Reach 1	146270	50	91.80	74.18	76.44	74.69	76.44	0.000194	0.44	190.09	122.08	0.06	0.02	62.59
Reach 1	146270	55	78.00	74.18	76.24	74.64	76.24	0.000219	0.42	166.62	117.83	0.07	0.02	60.67
Reach 1	146270	60	67.20	74.18	76.07	74.59	76.08	0.000247	0.40	147.29	114.22	0.07	0.02	59.03
Reach 1	146270	65	57.10	74.18	75.92	74.55	75.92	0.000276	0.38	129.47	110.78	0.07	0.02	57.47
Reach 1	146270	70	49.10	74.18	75.78	74.51	75.78	0.000307	0.37	114.53	107.82	0.07	0.02	56.13
Reach 1	146270	75	43.30	74.18	75.69	74.48	75.69	0.000327	0.35	104.87	105.86	0.07	0.02	55.24
Reach 1	146270	80	38.20	74.18	75.60	74.46	75.61	0.000349	0.33	96.02	104.03	0.07	0.02	54.41
Reach 1	146270	85	32.30	74.18	75.50	74.43	75.51	0.000374	0.30	85.75	101.86	0.07	0.02	53.43
Reach 1	146270	90	16.60	74.18	75.22	74.32	75.22	0.000387	0.24	58.25	82.20	0.05	0.01	37.17
Reach 1	146270	91	13.60	74.18	75.14	74.30	75.14	0.000353	0.22	52.32	75.35	0.05	0.01	31.87
Reach 1	146270	92	11.10	74.18	75.07	74.28	75.07	0.000296	0.21	47.26	68.78	0.05	0.01	26.92
Reach 1	146270	93	8.65	74.18	75.00	74.26	75.00	0.000236	0.19	42.29	63.69	0.04	0.01	23.59
Reach 1	146270	94	7.28	74.18	74.95	74.24	74.95	0.000205	0.17	39.41	62.10	0.04	0.01	23.06
Reach 1	146270	95	6.36	74.18	74.92	74.22	74.92	0.000181	0.16	37.41	60.97	0.04	0.01	22.69
Reach 1	146270	96	5.63	74.18	74.89	74.20	74.89	0.000165	0.15	35.49	59.87	0.03	0.01	22.32
Reach 1	146270	97	4.17	74.18	74.68	74.18	74.68	0.000278	0.15	24.03	52.80	0.04	0.01	19.98
Reach 1	146270	98	2.04	74.18	74.48	74.14	74.48	0.000318	0.12	14.10	45.79	0.04	0.00	17.67
Reach 1	146270	99	1.28	74.18	74.38	74.12	74.38	0.000371	0.10	9.74	42.36	0.04	0.00	16.53
Reach 1	146270	99.5	0.47	74.18	74.24	74.09	74.24	0.000519	0.04	4.21	37.55	0.04	0.00	14.94
Reach 1	146270	99.75	0.33	74.18	74.21	74.08	74.21	0.000586	0.02	3.01	28.84	0.04	0.00	7.05
Reach 1	146270	100	0.06	74.18	74.11	74.06	74.11	0.000820		0.92	19.53	0.00		
Reach 1	144653	1	2040.00	71.88	80.96	76.29	81.04	0.000652	2.59	1442.71	477.78	0.18	0.26	102.87
Reach 1	144653	5	1050.00	71.88	79.69	75.05	79.74	0.000438	1.83	877.72	409.14	0.14	0.14	102.87
Reach 1	144653	10	621.00	71.88	78.90	74.35	78.93	0.000294	1.35	585.45	315.02	0.11	0.08	102.87
Reach 1	144653	15	440.00	71.88	78.37	73.98	78.39	0.000223	1.11	430.00	257.20	0.10	0.05	101.82
Reach 1	144653	20	349.00	71.88	77.98	73.77	77.99	0.000185	0.99	355.29	121.01	0.09	0.04	98.43
Reach 1	144653	25	275.00	71.88	77.57	73.57	77.58	0.000160	0.87	316.09	91.05	0.08	0.03	92.07
Reach 1	144653	30	212.00	71.88	77.23	73.39	77.24	0.000140	0.74	285.70	85.70	0.07	0.03	86.66
Reach 1	144653	35	167.00	71.88	76.90	73.25	76.91	0.000123	0.65	258.74	81.28	0.06	0.02	82.18
Reach 1	144653	40	134.00	71.88	76.59	73.13	76.59	0.000110	0.57	233.69	76.94	0.06	0.02	77.78
Reach 1	144653	45	111.00	71.88	76.30	73.05	76.30	0.000101	0.52	212.07	72.99	0.05	0.02	73.77
Reach 1	144653	50	91.80	71.88	76.03	72.96	76.03	0.000095	0.48	192.71	70.00	0.05	0.02	70.72
Reach 1	144653	55	78.00	71.88	75.82	72.88	75.83	0.000091	0.44	178.59	68.33	0.05	0.01	68.99
Reach 1	144653	60	67.20	71.88	75.62	72.82	75.62	0.000090	0.41	165.01	66.68	0.05	0.01	67.29
Reach 1	144653	65	57.10	71.88	75.43	72.75	75.44	0.000086	0.37	152.66	65.14	0.04	0.01	65.70
Reach 1	144653	70	49.10	71.88	75.26	72.69	75.26	0.000083	0.35	141.44	63.56	0.04	0.01	64.09
Reach 1	144653	75	43.30	71.88	75.14	72.65	75.15	0.000080	0.32	134.18	62.52	0.04	0.01	63.02
Reach 1	144653	80	38.20	71.88	75.04	72.60	75.04	0.000076	0.30	127.46	61.53	0.04	0.01	62.01
Reach 1	144653	85	32.30	71.88	74.90	72.55	74.90	0.000071	0.27	119.34	60.33	0.03	0.01	60.77
Reach 1	144653	90	16.60	71.88	74.44	72.38	74.44	0.000056	0.18	92.37	56.12	0.02	0.01	56.47
Reach 1	144653	91	13.60	71.88	74.30	72.34	74.30	0.000051	0.16	84.69	54.87	0.02	0.00	55.18
Reach 1	144653	92	11.10	71.88	74.14	72.30	74.14	0.000048	0.15	75.74	53.37	0.02	0.00	53.65
Reach 1	144653	93	8.65	71.88	73.96	72.26	73.96	0.000043	0.13	66.32	51.18	0.02	0.00	51.42
Reach 1	144653	94	7.28	71.88	73.83	72.23	73.83	0.000041	0.12	59.95	49.60	0.02	0.00	49.83
Reach 1	144653	95	6.36	71.88	73.73	72.22	73.74	0.000039	0.12	55.30	48.42	0.02	0.00	48.63
Reach 1	144653	96	5.63	71.88	73.65	72.20	73.65	0.000038	0.11	51.37	47.40	0.02	0.00	47.59
Reach 1	144653	97	4.17	71.88	73.48	72.16	73.48	0.000035	0.10	43.15	45.19	0.02	0.00	45.35
Reach 1	144653	98	2.04	71.88	73.13	72.09	73.13	0.000030	0.07	28.14	40.84	0.02	0.00	40.94
Reach 1	144653	99	1.28	71.88	72.96	72.06	72.96	0.000025	0.06	21.65	37.24	0.01	0.00	37.31
Reach 1	144653	99.5	0.47	71.88	72.75	72.00	72.75	0.000010	0.03	14.54	30.13	0.01	0.00	30.19
Reach 1	144653	99.75	0.33	71.88	72.73	71.98	72.73	0.000005	0.02	13.95	29.46	0.01	0.00	29.52
Reach 1	144653	100	0.06	71.88	72.80	71.93	72.80	0.000000	0.00	15.93	31.65	0.00	0.00	31.71
Reach 1	143352	1	2050.00	71.95	80.22	76.78	80.24	0.000418	2.00	3563.62	1438.32	0.14	0.16	71.80
Reach 1	143352	5	1040.00	71.95	79.07	75.38	79.10	0.000436	1.78	1959.02	1377.99	0.14	0.13	71.80
Reach 1	143352	10	620.00	71.95	78.43	74.61	78.46	0.000396	1.55	1103.85	1240.69	0.13	0.11	71.79
Reach 1	143352	15	442.00	71.95	77.98	74.22	78.01	0.000356	1.43	620.45	902.39	0.13	0.09	70.39
Reach 1	143352	20	351.00	71.95	77.64	74.00	77.67	0.000326	1.33	368.97	536.71	0.12	0.08	69.31
Reach 1	143352	25	276.00	71.95	77.28	73.79	77.30	0.000289	1.18	258.09	167.27	0.11	0.06	66.71
Reach 1	143352	30	214.00	71.95	76.97	73.61	76.99	0.000255	1.01	217.87	97.85	0.10	0.05	64.33
Reach 1	143352	35	170.00	71.95	76.68	73.45	76.69	0.000227	0.87	194.48	60.74	0.09	0.04	62.32
Reach 1	143352	40	137.00	71.95	76.39	73.28	76.40	0.000206	0.77	176.89	58.82	0.08	0.04	60.29
Reach 1	143352	45	114.00	71.95	76.11	73.15	76.12	0.000196	0.71	160.92	57.02	0.07	0.03	58.39

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	143352	50	95.00	71.95	75.85	73.02	75.86	0.000188	0.65	146.21	55.31	0.07	0.03	56.58
Reach 1	143352	55	80.80	71.95	75.65	72.93	75.66	0.000180	0.60	135.53	54.04	0.07	0.03	55.23
Reach 1	143352	60	69.40	71.95	75.46	72.84	75.46	0.000178	0.56	124.94	52.74	0.06	0.03	53.86
Reach 1	143352	65	58.90	71.95	75.28	72.77	75.28	0.000171	0.51	115.55	51.57	0.06	0.02	52.62
Reach 1	143352	70	50.70	71.95	75.11	72.70	75.11	0.000166	0.47	106.93	50.46	0.06	0.02	51.45
Reach 1	143352	75	44.80	71.95	75.00	72.65	75.00	0.000159	0.44	101.47	49.75	0.05	0.02	50.70
Reach 1	143352	80	39.70	71.95	74.90	72.61	74.90	0.000153	0.41	96.46	49.09	0.05	0.02	50.00
Reach 1	143352	85	33.90	71.95	74.77	72.55	74.77	0.000145	0.37	90.42	48.28	0.05	0.02	49.15
Reach 1	143352	90	18.10	71.95	74.33	72.38	74.34	0.000123	0.26	69.87	45.42	0.04	0.01	46.12
Reach 1	143352	91	14.90	71.95	74.20	72.35	74.20	0.000120	0.23	63.96	44.56	0.03	0.01	45.22
Reach 1	143352	92	12.20	71.95	74.04	72.30	74.04	0.000115	0.21	56.93	43.52	0.03	0.01	44.11
Reach 1	143352	93	9.49	71.95	73.87	72.26	73.87	0.000107	0.19	49.53	42.39	0.03	0.01	42.93
Reach 1	143352	94	7.96	71.95	73.75	72.22	73.75	0.000106	0.18	44.34	41.59	0.03	0.01	42.07
Reach 1	143352	95	6.90	71.95	73.65	72.20	73.65	0.000105	0.17	40.49	40.98	0.03	0.01	41.43
Reach 1	143352	96	5.99	71.95	73.57	72.18	73.57	0.000103	0.16	37.23	40.46	0.03	0.01	40.88
Reach 1	143352	97	4.47	71.95	73.40	72.15	73.40	0.000092	0.15	30.63	35.48	0.03	0.00	35.85
Reach 1	143352	98	2.26	71.95	73.07	72.08	73.07	0.000061	0.11	20.38	26.19	0.02	0.00	26.46
Reach 1	143352	99	1.50	71.95	72.92	72.05	72.92	0.000045	0.09	16.71	23.30	0.02	0.00	23.53
Reach 1	143352	99.5	0.63	71.95	72.74	72.01	72.74	0.000018	0.05	12.59	21.45	0.01	0.00	21.61
Reach 1	143352	99.75	0.44	71.95	72.72	72.00	72.72	0.000010	0.04	12.32	21.32	0.01	0.00	21.48
Reach 1	143352	100	0.08	71.95	72.80	71.97	72.80	0.000000	0.01	13.91	22.06	0.00	0.00	22.24
Reach 1	141636	1	2050.00	72.09	79.79	76.75	79.80	0.000181	1.24	5300.06	2154.34	0.09	0.06	95.74
Reach 1	141636	5	1040.00	72.09	78.54	75.13	78.55	0.000240	1.21	2672.29	1988.87	0.10	0.06	95.74
Reach 1	141636	10	620.00	72.09	77.85	74.42	77.87	0.000270	1.14	1416.70	1612.10	0.11	0.06	95.74
Reach 1	141636	15	442.00	72.09	77.40	74.06	77.41	0.000301	1.13	787.26	1191.36	0.11	0.06	95.74
Reach 1	141636	20	351.00	72.09	77.08	73.84	77.10	0.000319	1.12	465.95	850.12	0.12	0.06	94.57
Reach 1	141636	25	276.00	72.09	76.79	73.65	76.80	0.000307	1.03	303.34	276.09	0.11	0.05	90.61
Reach 1	141636	30	214.00	72.09	76.53	73.48	76.55	0.000285	0.91	256.19	143.61	0.10	0.05	85.88
Reach 1	141636	35	170.00	72.09	76.29	73.34	76.30	0.000260	0.81	222.68	131.09	0.09	0.04	80.61
Reach 1	141636	40	137.00	72.09	76.03	73.23	76.04	0.000231	0.74	191.44	113.27	0.08	0.04	73.49
Reach 1	141636	45	114.00	72.09	75.78	73.14	75.78	0.000215	0.69	166.11	66.99	0.08	0.03	67.74
Reach 1	141636	50	95.00	72.09	75.53	73.03	75.53	0.000207	0.63	149.77	63.93	0.07	0.03	64.63
Reach 1	141636	55	80.80	72.09	75.35	72.95	75.35	0.000198	0.58	138.41	61.71	0.07	0.03	62.38
Reach 1	141636	60	69.40	72.09	75.15	72.88	75.15	0.000197	0.55	126.52	59.31	0.07	0.03	59.93
Reach 1	141636	65	58.90	72.09	74.98	72.82	74.99	0.000187	0.50	116.83	57.30	0.06	0.02	57.89
Reach 1	141636	70	50.70	72.09	74.82	72.77	74.83	0.000184	0.47	107.67	56.02	0.06	0.02	56.57
Reach 1	141636	75	44.80	72.09	74.72	72.72	74.73	0.000176	0.44	102.28	55.25	0.06	0.02	55.78
Reach 1	141636	80	39.70	72.09	74.64	72.68	74.64	0.000168	0.41	97.40	54.55	0.05	0.02	55.06
Reach 1	141636	85	33.90	72.09	74.53	72.64	74.53	0.000158	0.37	91.51	53.69	0.05	0.02	54.17
Reach 1	141636	90	18.10	72.09	74.13	72.49	74.13	0.000134	0.26	70.77	50.55	0.04	0.01	50.93
Reach 1	141636	91	14.90	72.09	74.00	72.45	74.00	0.000133	0.23	64.45	49.47	0.04	0.01	49.81
Reach 1	141636	92	12.20	72.09	73.85	72.42	73.85	0.000128	0.21	57.15	48.07	0.03	0.01	48.38
Reach 1	141636	93	9.49	72.09	73.70	72.38	73.70	0.000117	0.19	49.89	46.64	0.03	0.01	46.91
Reach 1	141636	94	7.96	72.09	73.58	72.36	73.58	0.000117	0.18	44.45	45.55	0.03	0.01	45.77
Reach 1	141636	95	6.90	72.09	73.49	72.34	73.49	0.000118	0.17	40.44	44.72	0.03	0.01	44.92
Reach 1	141636	96	5.99	72.09	73.42	72.32	73.42	0.000114	0.16	37.24	43.84	0.03	0.01	44.02
Reach 1	141636	97	4.47	72.09	73.26	72.29	73.26	0.000120	0.15	30.20	41.82	0.03	0.01	41.96
Reach 1	141636	98	2.26	72.09	72.94	72.24	72.94	0.000112	0.12	18.32	31.70	0.03	0.00	31.79
Reach 1	141636	99	1.50	72.09	72.80	72.21	72.80	0.000101	0.11	14.23	28.90	0.03	0.00	28.97
Reach 1	141636	99.5	0.63	72.09	72.69	72.18	72.69	0.000037	0.06	11.05	26.80	0.02	0.00	26.86
Reach 1	141636	99.75	0.44	72.09	72.70	72.17	72.70	0.000017	0.04	11.33	27.00	0.01	0.00	27.06
Reach 1	141636	100	0.08	72.09	72.80	72.13	72.80	0.000000	0.01	14.02	28.77	0.00	0.00	28.84
Reach 1	141608	1	2050.00	72.35	79.79	76.71	79.80	0.000183	1.27	5290.39	2155.04	0.09	0.06	88.67
Reach 1	141608	5	1040.00	72.35	78.53	75.25	78.55	0.000247	1.25	2658.48	1984.11	0.10	0.07	88.67
Reach 1	141608	10	620.00	72.35	77.84	74.60	77.86	0.000286	1.20	1399.20	1612.66	0.11	0.07	88.67
Reach 1	141608	15	442.00	72.35	77.39	74.28	77.40	0.000317	1.20	756.94	1160.09	0.12	0.07	88.67
Reach 1	141608	20	351.00	72.35	77.07	74.09	77.09	0.000320	1.17	445.01	781.83	0.12	0.06	85.73
Reach 1	141608	25	276.00	72.35	76.78	73.93	76.79	0.000295	1.07	294.46	283.03	0.11	0.05	81.63
Reach 1	141608	30	214.00	72.35	76.53	73.78	76.54	0.000272	0.93	248.77	134.07	0.10	0.05	78.98
Reach 1	141608	35	170.00	72.35	76.28	73.66	76.29	0.000251	0.82	217.55	122.99	0.09	0.04	76.40
Reach 1	141608	40	137.00	72.35	76.03	73.57	76.04	0.000238	0.74	187.63	111.33	0.08	0.04	73.70
Reach 1	141608	45	114.00	72.35	75.77	73.50	75.78	0.000234	0.69	164.98	70.07	0.08	0.03	70.97
Reach 1	141608	50	95.00	72.35	75.52	73.42	75.53	0.000234	0.64	147.81	67.65	0.08	0.03	68.50
Reach 1	141608	55	80.80	72.35	75.34	73.35	75.35	0.000231	0.60	135.72	66.07	0.07	0.03	66.88
Reach 1	141608	60	69.40	72.35	75.14	73.30	75.15	0.000242	0.56	122.90	64.35	0.07	0.03	65.11
Reach 1	141608	65	58.90	72.35	74.98	73.24	74.98	0.000241	0.52	112.33	62.89	0.07	0.03	63.62
Reach 1	141608	70	50.70	72.35	74.82	73.17	74.82	0.000248	0.50	102.26	61.47	0.07	0.03	62.16
Reach 1	141608	75	44.80	72.35	74.72	73.13	74.72	0.000244	0.46	96.36	60.62	0.07	0.02	61.29
Reach 1	141608	80	39.70	72.35	74.63	73.04	74.63	0.000239	0.44	91.02	59.85	0.06	0.02	60.49
Reach 1	141608	85	33.90	72.35	74.52	72.99	74.52	0.000234	0.40	84.57	58.90	0.06	0.02	59.52
Reach 1	141608	90	18.10	72.35	74.12	72.82	74.12	0.000246	0.29	61.68	56.39	0.05	0.02	56.87
Reach 1	141608	91	14.90	72.35	74.00	72.78	74.00	0.000272	0.27	54.59	55.67	0.05	0.02	56.11
Reach 1	141608	92	12.20	72.35	73.85	72.74	73.85	0.000309	0.26	46.29	54.82	0.05	0.02	55.20
Reach 1	141608	93	9.49	72.35	73.69	72.70	73.69	0.000356	0.25	37.92	53.95	0.05	0.02	54.27
Reach 1	141608	94	7.96	72.35	73.57	72.68	73.57	0.000449	0.25	31.55	52.85	0.06	0.02	53.13
Reach 1	141608	95	6.90	72.35	73.48	72.65	73.48	0.000556	0.26	26.81	51.21	0.06	0.02	51.47
Reach 1	141608	96	5.99	72.35	73.41	72.64	73.41	0.000611	0.26	23.21	47.36	0.06	0.02	47.59
Reach 1	141608	97	4.47	72.35	73.24	72.61	73.24	0.000897	0.28	15.97	38.54	0.08	0.02	38.71
Reach 1	141608	98	2.26	72.35	72.92	72.55	72.92	0.001081	0.29	7.70	19.90	0.08	0.03	19.98
Reach 1	141608	99	1.50	72.35	72.77	72.52	72.78	0.001838	0.30	4.93	18.04	0.10	0.03	18.09
Reach 1	141608	99.5	0.63	72.35	72.58	72.49	72.58	0.007532	0.36	1.75	14.46	0.18	0.06	14.48
Reach 1	141608	99.75	0.44	72.35	72.55	72.47	72.55	0.010961	0.36	1.24	13.57	0.21	0.06	13.60
Reach 1	141608	100	0.08	72.35	72.46	72.42	72.46	0.024277	0.30	0.27	6.92	0.27	0.06	6.93
Reach 1	141585	1	2050.00	71.99	79.78	76.51	79.79	0.000189	1.28	5250.54	2155.71	0.09	0.07	97.44
Reach 1	141585	5	1040.00	71.99	78.53	75.15	78.54	0.000239	1.22	2651.27	1911.46	0.10	0.07	97.44
Reach 1	141585	10	620.00	71.99	77.84	74.54	77.85	0.000269	1.16	1395.52	1653.88	0.11	0.06	97.44
Reach 1	141585	15	442.00	71.99	77.38	74.24	77.40	0.000281	1.12	743.51	1094.32	0.11	0.06	96.82
Reach 1	141585	20	351.00	71.99	77.07	74.07	77.08	0.000274	1.08	456.50	722.80	0.11	0.05	94.25

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	141585	25	276.00	71.99	76.77	73.91	76.79	0.000265	0.98	314.02	270.63	0.10	0.05	93.14
Reach 1	141585	30	214.00	71.99	76.52	73.78	76.53	0.000242	0.86	268.12	139.37	0.09	0.04	89.03
Reach 1	141585	35	170.00	71.99	76.28	73.66	76.29	0.000224	0.76	235.60	128.98	0.08	0.04	85.80
Reach 1	141585	40	137.00	71.99	76.02	73.54	76.03	0.000215	0.69	204.00	118.53	0.08	0.03	82.87
Reach 1	141585	45	114.00	71.99	75.77	73.45	75.77	0.000208	0.64	177.33	76.84	0.07	0.03	77.95
Reach 1	141585	50	95.00	71.99	75.52	73.37	75.52	0.000206	0.60	158.61	73.15	0.07	0.03	74.20
Reach 1	141585	55	80.80	71.99	75.34	73.23	75.34	0.000203	0.56	145.58	71.13	0.07	0.03	72.13
Reach 1	141585	60	69.40	71.99	75.14	73.14	75.14	0.000211	0.53	131.78	69.04	0.07	0.02	69.99
Reach 1	141585	65	58.90	71.99	74.97	73.02	74.98	0.000210	0.49	120.45	67.37	0.06	0.02	68.28
Reach 1	141585	70	50.70	71.99	74.81	72.92	74.81	0.000218	0.46	109.60	66.43	0.06	0.02	67.29
Reach 1	141585	75	44.80	71.99	74.71	72.86	74.72	0.000217	0.43	103.20	65.88	0.06	0.02	66.70
Reach 1	141585	80	39.70	71.99	74.62	72.80	74.63	0.000215	0.41	97.39	65.37	0.06	0.02	66.16
Reach 1	141585	85	33.90	71.99	74.52	72.73	74.52	0.000213	0.38	90.33	64.74	0.06	0.02	65.50
Reach 1	141585	90	18.10	71.99	74.12	72.51	74.12	0.000237	0.28	64.99	62.45	0.05	0.02	63.07
Reach 1	141585	91	14.90	71.99	73.99	72.45	73.99	0.000269	0.26	57.09	61.70	0.05	0.02	62.27
Reach 1	141585	92	12.20	71.99	73.84	72.40	73.84	0.000319	0.26	47.84	60.76	0.05	0.02	61.29
Reach 1	141585	93	9.49	71.99	73.68	72.34	73.68	0.000386	0.25	38.47	59.33	0.05	0.02	59.80
Reach 1	141585	94	7.96	71.99	73.56	72.31	73.56	0.000406	0.25	31.92	50.32	0.06	0.02	50.75
Reach 1	141585	95	6.90	71.99	73.47	72.29	73.47	0.000465	0.25	27.41	47.16	0.06	0.02	47.55
Reach 1	141585	96	5.99	71.99	73.40	72.26	73.40	0.000506	0.25	24.01	44.62	0.06	0.02	44.98
Reach 1	141585	97	4.47	71.99	73.23	72.22	73.23	0.000412	0.25	17.67	27.51	0.06	0.02	27.80
Reach 1	141585	98	2.26	71.99	72.90	72.15	72.90	0.000283	0.21	10.75	16.67	0.05	0.01	16.86
Reach 1	141585	99	1.50	71.99	72.75	72.12	72.75	0.000250	0.18	8.34	14.89	0.04	0.01	15.05
Reach 1	141585	99.5	0.63	71.99	72.50	72.07	72.50	0.000203	0.13	4.87	12.36	0.04	0.00	12.46
Reach 1	141585	99.75	0.44	71.99	72.42	72.06	72.42	0.000185	0.11	3.97	11.66	0.03	0.00	11.74
Reach 1	141585	100	0.08	71.99	72.17	72.01	72.17	0.000159	0.06	1.39	9.36	0.03	0.00	9.39
Reach 1	138367	1	2050.00	71.52	79.17	75.69	79.18	0.000231	1.23	3980.97	1707.26	0.10	0.07	228.98
Reach 1	138367	5	1020.00	71.52	77.67	74.36	77.69	0.000351	1.17	1683.96	1287.74	0.12	0.07	228.98
Reach 1	138367	10	618.00	71.52	76.85	73.59	76.87	0.000436	1.08	849.54	737.14	0.12	0.06	224.51
Reach 1	138367	15	444.00	71.52	76.32	73.26	76.34	0.000548	1.07	501.47	587.20	0.14	0.06	217.69
Reach 1	138367	20	353.00	71.52	75.97	73.06	75.99	0.000591	1.06	336.49	291.41	0.14	0.06	197.07
Reach 1	138367	25	277.00	71.52	75.67	72.88	75.68	0.000562	1.00	277.47	168.20	0.14	0.06	169.46
Reach 1	138367	30	216.00	71.52	75.44	72.73	75.46	0.000480	0.89	242.18	140.15	0.12	0.05	141.34
Reach 1	138367	35	174.00	71.52	75.22	72.60	75.23	0.000393	0.81	214.61	115.71	0.10	0.05	116.81
Reach 1	138367	40	140.00	71.52	74.91	72.50	74.92	0.000341	0.77	182.45	91.54	0.10	0.04	92.49
Reach 1	138367	45	118.00	71.52	74.69	72.43	74.70	0.000341	0.73	162.62	85.96	0.09	0.04	86.81
Reach 1	138367	50	98.20	71.52	74.49	72.35	74.50	0.000324	0.67	146.25	81.06	0.09	0.04	81.82
Reach 1	138367	55	83.70	71.52	74.35	72.29	74.36	0.000307	0.62	135.09	77.54	0.08	0.03	78.24
Reach 1	138367	60	71.70	71.52	74.11	72.23	74.11	0.000323	0.61	117.07	68.19	0.08	0.03	68.80
Reach 1	138367	65	60.70	71.52	73.87	72.18	73.88	0.000309	0.59	102.17	57.55	0.08	0.03	58.07
Reach 1	138367	70	52.10	71.52	73.72	72.14	73.72	0.000305	0.56	93.53	55.70	0.08	0.03	56.18
Reach 1	138367	75	46.10	71.52	73.61	72.11	73.61	0.000307	0.53	87.58	54.99	0.07	0.03	55.43
Reach 1	138367	80	41.10	71.52	73.52	72.07	73.52	0.000308	0.50	82.43	54.36	0.07	0.03	54.77
Reach 1	138367	85	35.60	71.52	73.38	72.04	73.39	0.000327	0.47	75.19	53.46	0.07	0.03	53.83
Reach 1	138367	90	19.40	71.52	72.97	71.92	72.97	0.000369	0.36	53.81	50.72	0.06	0.02	50.97
Reach 1	138367	91	16.20	71.52	72.87	71.89	72.88	0.000386	0.33	48.91	50.07	0.06	0.02	50.29
Reach 1	138367	92	13.40	71.52	72.76	71.86	72.76	0.000409	0.31	43.10	49.29	0.06	0.02	49.48
Reach 1	138367	93	10.30	71.52	72.59	71.82	72.59	0.000464	0.29	35.11	48.20	0.06	0.02	48.33
Reach 1	138367	94	8.63	71.52	72.51	71.80	72.51	0.000491	0.28	30.89	47.61	0.06	0.02	47.72
Reach 1	138367	95	7.45	71.52	72.44	71.78	72.44	0.000509	0.27	27.72	46.58	0.06	0.02	46.67
Reach 1	138367	96	6.34	71.52	72.37	71.77	72.37	0.000515	0.26	24.71	44.91	0.06	0.02	44.99
Reach 1	138367	97	4.76	71.52	72.27	71.74	72.27	0.000515	0.23	20.33	42.37	0.06	0.02	42.44
Reach 1	138367	98	2.49	71.52	72.09	71.69	72.09	0.000553	0.19	12.85	37.59	0.06	0.01	37.62
Reach 1	138367	99	1.72	71.52	72.00	71.67	72.01	0.000554	0.17	9.95	34.52	0.06	0.01	34.54
Reach 1	138367	99.5	0.78	71.52	71.87	71.63	71.87	0.000572	0.14	5.75	29.33	0.05	0.01	29.34
Reach 1	138367	99.75	0.55	71.52	71.83	71.62	71.83	0.000571	0.12	4.47	26.27	0.05	0.01	26.28
Reach 1	138367	100	0.10	71.52	71.68	71.57	71.68	0.000661	0.08	1.29	16.28	0.05	0.00	16.29
Reach 1	136209	1	2050.00	70.21	78.93	74.71	78.93	0.000058	0.78	5371.02	1706.99	0.05	0.02	88.66
Reach 1	136209	5	1020.00	70.21	77.27	73.46	77.28	0.000075	0.74	2689.85	1550.65	0.06	0.02	88.66
Reach 1	136209	10	618.00	70.21	76.26	72.73	76.27	0.000117	0.79	1259.76	1129.16	0.07	0.03	88.66
Reach 1	136209	15	444.00	70.21	75.58	72.33	75.59	0.000173	0.87	720.78	551.50	0.08	0.04	88.66
Reach 1	136209	20	353.00	70.21	75.13	72.10	75.14	0.000228	0.95	507.21	438.37	0.10	0.04	85.18
Reach 1	136209	25	277.00	70.21	74.75	71.90	74.76	0.000261	0.95	374.17	320.29	0.10	0.04	81.16
Reach 1	136209	30	216.00	70.21	74.48	71.73	74.49	0.000284	0.89	300.32	264.65	0.10	0.04	78.26
Reach 1	136209	35	174.00	70.21	74.25	71.60	74.26	0.000288	0.82	249.38	219.35	0.09	0.04	75.84
Reach 1	136209	40	140.00	70.21	74.03	71.48	74.04	0.000283	0.76	208.85	181.94	0.09	0.04	73.51
Reach 1	136209	45	118.00	70.21	73.86	71.40	73.87	0.000274	0.70	184.46	141.35	0.08	0.04	71.71
Reach 1	136209	50	98.20	70.21	73.69	71.32	73.69	0.000252	0.65	163.93	125.52	0.08	0.03	67.95
Reach 1	136209	55	83.70	70.21	73.57	71.26	73.57	0.000204	0.59	151.41	110.56	0.07	0.03	59.78
Reach 1	136209	60	71.70	70.21	73.38	71.20	73.39	0.000199	0.56	134.64	97.65	0.07	0.03	56.17
Reach 1	136209	65	60.70	70.21	73.14	71.14	73.14	0.000220	0.54	115.97	77.56	0.07	0.03	54.26
Reach 1	136209	70	52.10	70.21	73.00	71.09	73.00	0.000214	0.51	106.59	74.20	0.06	0.03	53.16
Reach 1	136209	75	46.10	70.21	72.89	71.04	72.89	0.000209	0.48	99.93	70.46	0.06	0.02	52.36
Reach 1	136209	80	41.10	70.21	72.80	70.95	72.80	0.000206	0.45	94.01	67.06	0.06	0.02	51.62
Reach 1	136209	85	35.60	70.21	72.68	70.90	72.69	0.000203	0.42	87.04	62.95	0.06	0.02	50.74
Reach 1	136209	90	19.40	70.21	72.27	70.72	72.27	0.000190	0.30	63.93	49.37	0.05	0.02	47.49
Reach 1	136209	91	16.20	70.21	72.16	70.68	72.16	0.000189	0.28	58.83	46.23	0.04	0.01	46.66
Reach 1	136209	92	13.40	70.21	72.02	70.65	72.02	0.000189	0.25	52.59	45.20	0.04	0.01	45.60
Reach 1	136209	93	10.30	70.21	71.83	70.59	71.83	0.000192	0.23	44.09	43.77	0.04	0.01	44.11
Reach 1	136209	94	8.63	70.21	71.72	70.56	71.72	0.000196	0.22	39.07	42.91	0.04	0.01	43.21
Reach 1	136209	95	7.45	70.21	71.63	70.55	71.63	0.000201	0.21	35.29	42.24	0.04	0.01	42.52
Reach 1	136209	96	6.34	70.21	71.54	70.53	71.54	0.000205	0.20	31.64	41.59	0.04	0.01	41.85
Reach 1	136209	97	4.76	70.21	71.39	70.49	71.39	0.000224	0.19	25.66	40.50	0.04	0.01	40.71
Reach 1	136209	98	2.49	70.21	71.12	70.43	71.12	0.000269	0.16	15.36	33.99	0.04	0.01	34.15
Reach 1	136209	99	1.72	70.21	70.95	70.40	70.95	0.000247	0.16	10.50	21.49	0.04	0.01	21.61
Reach 1	136209	99.5	0.78	70.21	70.73	70.35	70.73	0.000251	0.13	6.09	18.19	0.04	0.01	18.26
Reach 1	136209	99.75	0.55	70.21	70.65	70.33	70.65	0.000271	0.12	4.70	17.02	0.04	0.00	17.07
Reach 1	136209	100	0.10	70.21	70.44	70.27	70.44	0.000330	0.07	1.43	12.56	0.04	0.00	12.57

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	134803	1	2050.00	69.26	78.86	74.35	78.87	0.000048	0.73	6169.16	1672.55	0.05	0.02	80.50
Reach 1	134803	5	1020.00	69.26	77.20	73.30	77.20	0.000054	0.65	3488.16	1536.44	0.05	0.02	80.50
Reach 1	134803	10	618.00	69.26	76.14	72.85	76.14	0.000082	0.69	1890.25	1464.40	0.06	0.02	80.50
Reach 1	134803	15	444.00	69.26	75.39	72.41	75.39	0.000132	0.79	946.49	948.82	0.07	0.03	80.50
Reach 1	134803	20	353.00	69.26	74.85	72.16	74.86	0.000195	0.88	572.84	467.24	0.09	0.04	80.50
Reach 1	134803	25	277.00	69.26	74.39	71.90	74.40	0.000285	0.93	390.66	324.36	0.10	0.04	80.44
Reach 1	134803	30	216.00	69.26	74.04	71.63	74.05	0.000361	0.90	289.33	260.44	0.11	0.05	79.34
Reach 1	134803	35	174.00	69.26	73.77	71.40	73.78	0.000418	0.87	228.84	197.89	0.11	0.05	77.38
Reach 1	134803	40	140.00	69.26	73.51	71.21	73.52	0.000473	0.83	183.80	145.86	0.11	0.05	75.54
Reach 1	134803	45	118.00	69.26	73.31	71.07	73.32	0.000520	0.80	157.54	122.28	0.11	0.05	74.12
Reach 1	134803	50	98.20	69.26	73.10	70.95	73.11	0.000602	0.77	133.16	106.54	0.11	0.05	72.58
Reach 1	134803	55	83.70	69.26	72.90	70.85	72.91	0.000761	0.78	112.44	100.70	0.12	0.06	70.47
Reach 1	134803	60	71.70	69.26	72.73	70.75	72.73	0.000747	0.79	96.27	83.53	0.12	0.06	56.58
Reach 1	134803	65	60.70	69.26	72.51	70.66	72.52	0.000676	0.82	80.49	64.37	0.11	0.07	41.45
Reach 1	134803	70	52.10	69.26	72.35	70.57	72.36	0.000710	0.80	70.44	58.79	0.11	0.07	38.94
Reach 1	134803	75	46.10	69.26	72.23	70.51	72.24	0.000732	0.78	63.78	54.78	0.11	0.07	37.13
Reach 1	134803	80	41.10	69.26	72.13	70.46	72.13	0.000746	0.75	58.31	51.25	0.11	0.07	35.54
Reach 1	134803	85	35.60	69.26	72.00	70.39	72.01	0.000758	0.72	52.33	47.08	0.11	0.07	33.66
Reach 1	134803	90	19.40	69.26	71.55	70.14	71.55	0.000825	0.58	34.09	33.21	0.09	0.06	28.35
Reach 1	134803	91	16.20	69.26	71.44	70.08	71.44	0.000830	0.53	30.65	29.98	0.09	0.06	27.17
Reach 1	134803	92	13.40	69.26	71.30	70.03	71.31	0.000832	0.50	26.82	25.93	0.09	0.05	25.69
Reach 1	134803	93	10.30	69.26	71.10	69.95	71.11	0.000839	0.47	22.04	23.06	0.08	0.05	23.56
Reach 1	134803	94	8.63	69.26	70.98	69.90	70.99	0.000843	0.45	19.35	21.80	0.08	0.05	22.26
Reach 1	134803	95	7.45	69.26	70.89	69.86	70.89	0.000849	0.43	17.36	20.81	0.08	0.04	21.25
Reach 1	134803	96	6.34	69.26	70.80	69.83	70.80	0.000848	0.41	15.46	19.83	0.08	0.04	20.24
Reach 1	134803	97	4.76	69.26	70.65	69.77	70.65	0.000839	0.38	12.60	18.14	0.08	0.04	18.51
Reach 1	134803	98	2.49	69.26	70.35	69.65	70.35	0.000828	0.32	7.79	14.27	0.08	0.03	14.56
Reach 1	134803	99	1.72	69.26	70.21	69.60	70.21	0.000814	0.29	5.94	12.47	0.07	0.02	12.72
Reach 1	134803	99.5	0.78	69.26	69.97	69.50	69.97	0.000831	0.24	3.26	9.25	0.07	0.02	9.44
Reach 1	134803	99.75	0.55	69.26	69.88	69.47	69.88	0.000837	0.22	2.51	8.11	0.07	0.02	8.28
Reach 1	134803	100	0.10	69.26	69.59	69.37	69.59	0.000875	0.15	0.70	4.29	0.06	0.01	4.37
Reach 1	132602	1	2060.00	67.45	78.65	72.59	78.65	0.000040	0.76	5660.59	1498.52	0.05	0.02	53.74
Reach 1	132602	5	1020.00	67.45	76.95	71.65	76.96	0.000039	0.65	3324.90	1295.07	0.04	0.02	53.74
Reach 1	132602	10	618.00	67.45	75.82	71.09	75.82	0.000047	0.64	1910.37	1121.37	0.05	0.02	53.74
Reach 1	132602	15	449.00	67.45	74.92	70.62	74.93	0.000067	0.70	1053.35	804.91	0.06	0.02	53.74
Reach 1	132602	20	356.00	67.45	74.22	70.16	74.23	0.000091	0.75	607.93	468.57	0.06	0.02	53.74
Reach 1	132602	25	280.00	67.45	73.53	69.87	73.54	0.000127	0.78	429.35	191.74	0.07	0.03	53.07
Reach 1	132602	30	221.00	67.45	73.01	69.60	73.02	0.000170	0.78	334.52	174.10	0.08	0.03	51.57
Reach 1	132602	35	181.00	67.45	72.65	69.41	72.65	0.000188	0.77	278.38	137.05	0.08	0.03	47.19
Reach 1	132602	40	146.00	67.45	72.32	69.21	72.33	0.000190	0.74	236.82	123.24	0.07	0.03	43.35
Reach 1	132602	45	125.00	67.45	72.09	69.08	72.09	0.000194	0.73	208.60	115.06	0.07	0.03	40.52
Reach 1	132602	50	106.00	67.45	71.84	68.95	71.84	0.000201	0.72	180.80	106.78	0.07	0.03	38.41
Reach 1	132602	55	90.20	67.45	71.61	68.83	71.62	0.000217	0.70	157.50	100.36	0.07	0.04	37.63
Reach 1	132602	60	76.90	67.45	71.39	68.73	71.40	0.000237	0.68	136.48	94.49	0.07	0.04	36.88
Reach 1	132602	65	64.80	67.45	71.17	68.62	71.18	0.000263	0.66	116.28	89.03	0.08	0.04	36.12
Reach 1	132602	70	55.70	67.45	70.99	68.54	70.99	0.000289	0.65	100.05	84.39	0.08	0.04	35.47
Reach 1	132602	75	49.40	67.45	70.85	68.47	70.86	0.000305	0.64	88.82	80.22	0.08	0.04	34.99
Reach 1	132602	80	44.50	67.45	70.76	68.41	70.76	0.000307	0.61	81.77	74.17	0.07	0.04	34.68
Reach 1	132602	85	39.40	67.45	70.66	68.36	70.67	0.000304	0.58	74.78	67.58	0.07	0.04	34.33
Reach 1	132602	90	22.60	67.45	70.25	68.13	70.25	0.000281	0.43	52.66	38.50	0.06	0.03	32.56
Reach 1	132602	91	19.40	67.45	70.14	68.08	70.14	0.000267	0.40	48.96	30.56	0.06	0.03	31.55
Reach 1	132602	92	16.00	67.45	70.03	68.02	70.03	0.000243	0.35	45.77	29.60	0.05	0.02	30.55
Reach 1	132602	93	12.30	67.45	69.86	67.95	69.86	0.000204	0.30	40.69	28.01	0.04	0.02	28.89
Reach 1	132602	94	10.20	67.45	69.72	67.90	69.73	0.000180	0.27	37.11	26.83	0.04	0.02	27.66
Reach 1	132602	95	8.71	67.45	69.62	67.87	69.62	0.000161	0.25	34.37	25.89	0.04	0.01	26.68
Reach 1	132602	96	7.17	67.45	69.51	67.83	69.51	0.000139	0.23	31.49	24.86	0.04	0.01	25.61
Reach 1	132602	97	5.44	67.45	69.37	67.79	69.37	0.000109	0.19	28.07	23.58	0.03	0.01	24.28
Reach 1	132602	98	3.03	67.45	69.11	67.71	69.11	0.000063	0.14	22.32	21.26	0.02	0.00	21.86
Reach 1	132602	99	2.25	67.45	69.00	67.68	69.00	0.000046	0.11	20.14	20.31	0.02	0.00	20.87
Reach 1	132602	99.5	1.14	67.45	68.81	67.62	68.81	0.000021	0.07	16.33	18.54	0.01	0.00	19.03
Reach 1	132602	99.75	0.81	67.45	68.73	67.61	68.73	0.000014	0.05	14.84	17.80	0.01	0.00	18.25
Reach 1	132602	100	0.15	67.45	68.51	67.53	68.51	0.000001	0.01	11.24	15.88	0.00	0.00	16.25
Reach 1	131285	1	2060.00	67.96	78.43	71.90	78.46	0.000200	1.69	2661.37	623.16	0.10	0.10	105.11
Reach 1	131285	5	1020.00	67.96	76.77	70.58	76.79	0.000132	1.18	1691.03	549.29	0.08	0.05	105.11
Reach 1	131285	10	618.00	67.96	75.64	69.93	75.66	0.000104	0.94	1121.95	450.29	0.07	0.04	102.58
Reach 1	131285	15	449.00	67.96	74.73	69.62	74.74	0.000105	0.88	735.97	388.78	0.07	0.03	100.27
Reach 1	131285	20	356.00	67.96	74.00	69.43	74.01	0.000115	0.86	489.66	281.19	0.07	0.03	97.92
Reach 1	131285	25	280.00	67.96	73.26	69.27	73.27	0.000136	0.83	341.79	103.73	0.08	0.03	95.33
Reach 1	131285	30	221.00	67.96	72.69	69.12	72.70	0.000165	0.77	285.47	91.78	0.08	0.03	93.05
Reach 1	131285	35	181.00	67.96	72.31	69.01	72.31	0.000177	0.72	250.92	89.09	0.08	0.03	90.25
Reach 1	131285	40	146.00	67.96	71.99	68.91	72.00	0.000175	0.65	223.33	86.89	0.07	0.03	87.96
Reach 1	131285	45	125.00	67.96	71.76	68.85	71.77	0.000144	0.61	205.41	74.70	0.06	0.02	75.73
Reach 1	131285	50	106.00	67.96	71.51	68.78	71.52	0.000139	0.57	187.27	71.76	0.06	0.02	72.74
Reach 1	131285	55	90.20	67.96	71.29	68.73	71.29	0.000135	0.53	171.38	69.09	0.06	0.02	70.02
Reach 1	131285	60	76.90	67.96	71.07	68.68	71.07	0.000134	0.49	156.33	66.46	0.06	0.02	67.35
Reach 1	131285	65	64.80	67.96	70.84	68.63	70.84	0.000135	0.46	141.34	63.88	0.05	0.02	64.72
Reach 1	131285	70	55.70	67.96	70.64	68.59	70.64	0.000135	0.43	129.00	61.74	0.05	0.02	62.53
Reach 1	131285	75	49.40	67.96	70.50	68.56	70.50	0.000134	0.41	120.51	60.22	0.05	0.02	60.97
Reach 1	131285	80	44.50	67.96	70.42	68.53	70.42	0.000129	0.39	115.44	59.29	0.05	0.02	60.03
Reach 1	131285	85	39.40	67.96	70.33	68.50	70.33	0.000120	0.36	110.40	58.36	0.05	0.01	59.07
Reach 1	131285	90	22.60	67.96	69.94	68.40	69.94	0.000105	0.26	87.95	56.60	0.04	0.01	57.14
Reach 1	131285	91	19.40	67.96	69.83	68.39	69.83	0.000104	0.24	81.99	56.15	0.03	0.01	56.64
Reach 1	131285	92	16.00	67.96	69.74	68.36	69.74	0.000097	0.21	76.95	55.76	0.03	0.01	56.20
Reach 1	131285	93	12.30	67.96	69.60	68.33	69.60	0.000085	0.18	68.76	55.12	0.03	0.01	55.50
Reach 1	131285	94	10.20	67.96	69.48	68.31	69.48	0.000080	0.16	62.34	54.61	0.03	0.01	54.94
Reach 1	131285	95	8.71	67.96	69.38	68.26	69.38	0.000076	0.15	57.22	54.20	0.03	0.01	54.49
Reach 1	131285	96	7.17	67.96	69.29	68.24	69.29	0.000070	0.14	52.03	53.78	0.02	0.00	54.03
Reach 1	131285	97	5.44	67.96	69.18	68.21	69.18	0.000060	0.12	46.08	53.19	0.02	0.00	53.39
Reach 1	131285	98	3.03	67.96	68.97	68.15	68.97	0.000042	0.09	35.51	51.26	0.02	0.00	51.41

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	131285	99	2.25	67.96	68.90	68.13	68.90	0.000034	0.07	31.53	50.44	0.02	0.00	50.57
Reach 1	131285	99.5	1.14	67.96	68.75	68.09	68.75	0.000020	0.05	24.13	48.88	0.01	0.00	48.98
Reach 1	131285	99.75	0.81	67.96	68.68	68.07	68.68	0.000016	0.04	20.93	48.19	0.01	0.00	48.28
Reach 1	131285	100	0.15	67.96	68.51	68.02	68.51	0.000002	0.01	12.87	43.54	0.00	0.00	43.60
Reach 1	131200	1	2060.00	68.27	78.41	72.30	78.44	0.000208	1.58	2646.61	562.51	0.10	0.10	117.50
Reach 1	131200	5	1020.00	68.27	76.76	71.14	76.78	0.000143	1.12	1732.07	542.12	0.08	0.05	117.50
Reach 1	131200	10	618.00	68.27	75.63	70.56	75.65	0.000128	0.92	1133.58	517.54	0.07	0.04	117.50
Reach 1	131200	15	449.00	68.27	74.72	70.26	74.73	0.000153	0.88	702.82	391.33	0.08	0.04	117.50
Reach 1	131200	20	356.00	68.27	73.98	70.09	73.99	0.000187	0.89	457.03	278.23	0.08	0.04	111.62
Reach 1	131200	25	280.00	68.27	73.24	69.91	73.26	0.000221	0.88	316.88	101.58	0.09	0.04	102.48
Reach 1	131200	30	221.00	68.27	72.67	69.76	72.68	0.000245	0.85	260.33	95.57	0.09	0.04	96.36
Reach 1	131200	35	181.00	68.27	72.29	69.63	72.30	0.000238	0.80	224.94	87.79	0.09	0.04	88.52
Reach 1	131200	40	146.00	68.27	71.97	69.52	71.98	0.000217	0.74	198.54	82.66	0.08	0.03	83.35
Reach 1	131200	45	125.00	68.27	71.74	69.44	71.75	0.000213	0.70	179.75	80.25	0.08	0.03	80.89
Reach 1	131200	50	106.00	68.27	71.50	69.36	71.50	0.000214	0.66	160.21	77.50	0.08	0.03	78.10
Reach 1	131200	55	90.20	68.27	71.27	69.29	71.28	0.000216	0.63	143.02	74.85	0.08	0.03	75.41
Reach 1	131200	60	76.90	68.27	71.05	69.24	71.05	0.000225	0.61	126.67	72.24	0.08	0.02	72.76
Reach 1	131200	65	64.80	68.27	70.82	69.17	70.82	0.000240	0.59	110.29	69.53	0.08	0.02	70.01
Reach 1	131200	70	55.70	68.27	70.62	69.12	70.62	0.000262	0.58	96.78	67.21	0.08	0.02	67.66
Reach 1	131200	75	49.40	68.27	70.48	69.08	70.48	0.000280	0.56	87.49	65.57	0.09	0.02	65.99
Reach 1	131200	80	44.50	68.27	70.40	69.05	70.40	0.000276	0.54	82.00	64.58	0.08	0.02	64.98
Reach 1	131200	85	39.40	68.27	70.31	69.01	70.31	0.000266	0.51	76.57	63.58	0.08	0.02	63.97
Reach 1	131200	90	22.60	68.27	69.92	68.86	69.92	0.000269	0.43	52.67	57.97	0.08	0.02	58.30
Reach 1	131200	91	19.40	68.27	69.81	68.82	69.82	0.000281	0.42	46.64	55.59	0.08	0.01	55.91
Reach 1	131200	92	16.00	68.27	69.73	68.78	69.73	0.000263	0.38	41.80	53.61	0.08	0.01	53.92
Reach 1	131200	93	12.30	68.27	69.58	68.72	69.58	0.000261	0.36	34.32	48.27	0.07	0.01	48.55
Reach 1	131200	94	10.20	68.27	69.46	68.68	69.46	0.000292	0.35	28.80	45.01	0.08	0.01	45.25
Reach 1	131200	95	8.71	68.27	69.36	68.66	69.37	0.000332	0.35	24.62	42.36	0.08	0.01	42.57
Reach 1	131200	96	7.17	68.27	69.27	68.63	69.27	0.000372	0.35	20.62	39.67	0.09	0.01	39.84
Reach 1	131200	97	5.44	68.27	69.15	68.59	69.16	0.000416	0.33	16.34	36.53	0.09	0.01	36.67
Reach 1	131200	98	3.03	68.27	68.95	68.53	68.95	0.000545	0.32	9.57	28.27	0.10	0.01	28.36
Reach 1	131200	99	2.25	68.27	68.87	68.49	68.87	0.000562	0.30	7.50	24.56	0.10	0.01	24.63
Reach 1	131200	99.5	1.14	68.27	68.72	68.44	68.72	0.000552	0.26	4.38	17.59	0.09	0.01	17.63
Reach 1	131200	99.75	0.81	68.27	68.65	68.42	68.66	0.000583	0.24	3.30	15.14	0.09	0.01	15.17
Reach 1	131200	100	0.15	68.27	68.49	68.35	68.49	0.000467	0.14	1.10	10.09	0.07	0.00	10.10
Reach 1	131166		Bridge											
Reach 1	131129	1	2070.00	67.97	78.38	72.37	78.41	0.000341	1.73	2550.52	906.29	0.11	0.17	102.15
Reach 1	131129	5	1010.00	67.97	76.74	71.14	76.76	0.000244	1.22	1663.85	593.77	0.09	0.10	102.15
Reach 1	131129	10	617.00	67.97	75.62	70.50	75.63	0.000225	1.01	1080.38	553.83	0.08	0.07	102.15
Reach 1	131129	15	451.00	67.97	74.70	70.16	74.71	0.000240	0.96	700.00	378.95	0.08	0.06	101.02
Reach 1	131129	20	358.00	67.97	73.96	69.94	73.97	0.000274	0.97	453.94	327.10	0.09	0.06	97.04
Reach 1	131129	25	282.00	67.97	73.22	69.75	73.23	0.000300	0.97	291.79	88.70	0.09	0.06	89.88
Reach 1	131129	30	223.00	67.97	72.64	69.59	72.66	0.000316	0.92	242.73	82.83	0.09	0.06	83.86
Reach 1	131129	35	184.00	67.97	72.26	69.45	72.27	0.000339	0.87	211.74	79.75	0.09	0.06	80.67
Reach 1	131129	40	150.00	67.97	71.95	69.32	71.96	0.000360	0.80	187.41	77.26	0.09	0.05	78.08
Reach 1	131129	45	129.00	67.97	71.72	69.24	71.73	0.000377	0.76	169.89	74.85	0.09	0.05	75.62
Reach 1	131129	50	109.00	67.97	71.48	69.15	71.48	0.000390	0.72	151.80	71.47	0.09	0.05	72.20
Reach 1	131129	55	93.00	67.97	71.25	69.06	71.26	0.000399	0.68	136.06	68.38	0.09	0.05	69.08
Reach 1	131129	60	79.20	67.97	71.03	69.00	71.03	0.000408	0.65	121.18	65.33	0.08	0.05	66.00
Reach 1	131129	65	66.60	67.97	70.80	68.93	70.80	0.000418	0.63	106.42	62.16	0.08	0.04	62.79
Reach 1	131129	70	57.10	67.97	70.60	68.87	70.60	0.000433	0.61	94.33	59.43	0.08	0.04	60.04
Reach 1	131129	75	50.70	67.97	70.46	68.82	70.46	0.000443	0.59	86.11	57.51	0.08	0.04	58.09
Reach 1	131129	80	45.80	67.97	70.37	68.76	70.38	0.000453	0.56	81.34	56.36	0.08	0.04	56.93
Reach 1	131129	85	40.90	67.97	70.29	68.72	70.29	0.000460	0.53	76.68	55.21	0.08	0.04	55.77
Reach 1	131129	90	24.00	67.97	69.90	68.56	69.90	0.000483	0.43	56.32	49.60	0.07	0.03	50.10
Reach 1	131129	91	20.60	67.97	69.79	68.53	69.80	0.000495	0.40	51.12	48.25	0.07	0.03	48.74
Reach 1	131129	92	17.20	67.97	69.71	68.49	69.71	0.000513	0.37	46.96	47.23	0.06	0.03	47.70
Reach 1	131129	93	13.10	67.97	69.56	68.44	69.56	0.000508	0.33	40.23	44.45	0.06	0.03	44.88
Reach 1	131129	94	10.90	67.97	69.44	68.41	69.44	0.000513	0.31	35.06	41.87	0.06	0.03	42.25
Reach 1	131129	95	9.26	67.97	69.34	68.38	69.35	0.000516	0.30	31.08	39.76	0.06	0.02	40.11
Reach 1	131129	96	7.52	67.97	69.24	68.35	69.25	0.000491	0.28	27.22	37.61	0.06	0.02	37.92
Reach 1	131129	97	5.73	67.97	69.13	68.33	69.13	0.000455	0.25	23.05	35.23	0.05	0.02	35.49
Reach 1	131129	98	3.25	67.97	68.92	68.27	68.92	0.000420	0.20	15.95	30.99	0.05	0.01	31.16
Reach 1	131129	99	2.46	67.97	68.84	68.25	68.84	0.000386	0.18	13.54	29.41	0.05	0.01	29.55
Reach 1	131129	99.5	1.30	67.97	68.69	68.17	68.69	0.000214	0.13	9.90	22.51	0.03	0.01	22.61
Reach 1	131129	99.75	0.92	67.97	68.62	68.15	68.62	0.000181	0.11	8.31	21.58	0.03	0.00	21.67
Reach 1	131129	100	0.17	67.97	68.38	68.06	68.38	0.000084	0.05	3.56	18.14	0.02	0.00	18.19
Reach 1	131013	1	2070.00	65.90	78.35	71.28	78.37	0.000254	1.42	3114.65	978.75	0.09	0.12	128.40
Reach 1	131013	5	1010.00	65.90	76.72	69.82	76.73	0.000187	1.00	2014.20	711.67	0.07	0.07	127.76
Reach 1	131013	10	617.00	65.90	75.60	69.08	75.60	0.000169	0.84	1357.69	593.83	0.07	0.05	122.74
Reach 1	131013	15	451.00	65.90	74.68	68.70	74.69	0.000174	0.83	877.92	540.23	0.07	0.05	110.22
Reach 1	131013	20	358.00	65.90	73.93	68.46	73.95	0.000182	0.85	536.30	447.70	0.07	0.05	100.47
Reach 1	131013	25	282.00	65.90	73.19	68.24	73.20	0.000167	0.82	345.81	85.88	0.07	0.04	88.67
Reach 1	131013	30	223.00	65.90	72.62	68.04	72.63	0.000143	0.74	299.47	75.57	0.07	0.03	78.26
Reach 1	131013	35	184.00	65.90	72.24	67.76	72.24	0.000134	0.68	271.29	72.32	0.06	0.03	74.81
Reach 1	131013	40	150.00	65.90	71.93	67.59	71.93	0.000126	0.60	249.18	69.99	0.06	0.03	72.30
Reach 1	131013	45	129.00	65.90	71.70	67.47	71.70	0.000119	0.55	233.25	68.26	0.05	0.02	70.44
Reach 1	131013	50	109.00	65.90	71.45	67.34	71.45	0.000111	0.50	216.58	66.40	0.05	0.02	68.44
Reach 1	131013	55	93.00	65.90	71.22	67.23	71.23	0.000102	0.46	201.81	64.70	0.05	0.02	66.63
Reach 1	131013	60	79.20	65.90	71.00	67.13	71.00	0.000093	0.42	187.61	63.03	0.04	0.02	64.83
Reach 1	131013	65	66.60	65.90	70.77	67.02	70.77	0.000083	0.38	173.20	61.29	0.04	0.01	62.96
Reach 1	131013	70	57.10	65.90	70.57	66.94	70.57	0.000075	0.35	161.14	59.80	0.04	0.01	61.35
Reach 1	131013	75	50.70	65.90	70.43	66.88	70.43	0.000069	0.33	152.80	58.74	0.04	0.01	60.22
Reach 1	131013	80	45.80	65.90	70.34	66.83	70.35	0.000066	0.31	147.87	58.10	0.03	0.01	59.54
Reach 1	131013	85	40.90	65.90	70.26	66.78	70.26	0.000062	0.29	143.02	57.44	0.03	0.01	58.83
Reach 1	131013	90	24.00	65.90	69.87	66.57	69.87	0.000042	0.20	121.48	53.50	0.02	0.01	54.62
Reach 1	131013	91	20.60	65.90	69.76	66.53	69.76	0.000037	0.18	115.80	52.55	0.02	0.00	53.64

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	131013	92	17.20	65.90	69.68	66.47	69.68	0.000033	0.15	111.18	51.77	0.02	0.00	52.83
Reach 1	131013	93	13.10	65.90	69.53	66.41	69.53	0.000026	0.13	103.78	50.49	0.02	0.00	51.50
Reach 1	131013	94	10.90	65.90	69.41	66.36	69.41	0.000021	0.11	97.79	49.47	0.01	0.00	50.44
Reach 1	131013	95	9.26	65.90	69.31	66.33	69.31	0.000018	0.10	92.99	48.64	0.01	0.00	49.57
Reach 1	131013	96	7.52	65.90	69.21	66.29	69.21	0.000014	0.09	88.24	47.80	0.01	0.00	48.70
Reach 1	131013	97	5.73	65.90	69.10	66.25	69.10	0.000009	0.07	82.96	46.86	0.01	0.00	47.72
Reach 1	131013	98	3.25	65.90	68.89	66.18	68.89	0.000004	0.04	73.21	45.06	0.01	0.00	45.84
Reach 1	131013	99	2.46	65.90	68.81	66.15	68.81	0.000003	0.04	69.74	44.40	0.00	0.00	45.16
Reach 1	131013	99.5	1.30	65.90	68.68	66.10	68.68	0.000001	0.02	63.76	43.17	0.00	0.00	43.88
Reach 1	131013	99.75	0.92	65.90	68.61	66.09	68.61	0.000001	0.02	60.75	42.46	0.00	0.00	43.14
Reach 1	131013	100	0.17	65.90	68.37	65.99	68.37	0.000000	0.00	51.11	40.09	0.00	0.00	40.70
Reach 1	128552	1	2070.00	65.06	77.67	69.75	77.71	0.000332	1.92	2929.63	1041.81	0.11	0.19	81.48
Reach 1	128552	5	1010.00	65.06	76.22	68.30	76.25	0.000217	1.35	1559.12	858.09	0.08	0.11	81.48
Reach 1	128552	10	617.00	65.06	75.19	67.60	75.21	0.000157	1.04	822.30	507.93	0.07	0.07	81.03
Reach 1	128552	15	451.00	65.06	74.31	67.24	74.32	0.000122	0.89	557.68	175.30	0.06	0.05	79.73
Reach 1	128552	20	358.00	65.06	73.60	67.02	73.61	0.000103	0.79	457.38	110.31	0.06	0.04	78.69
Reach 1	128552	25	282.00	65.06	72.90	66.81	72.91	0.000083	0.71	399.97	72.13	0.05	0.03	75.55
Reach 1	128552	30	223.00	65.06	72.36	66.64	72.37	0.000069	0.62	361.93	69.48	0.05	0.02	72.62
Reach 1	128552	35	184.00	65.06	72.00	66.52	72.01	0.000060	0.55	337.24	67.70	0.04	0.02	70.65
Reach 1	128552	40	150.00	65.06	71.71	66.39	71.72	0.000053	0.47	317.88	66.27	0.04	0.02	69.07
Reach 1	128552	45	129.00	65.06	71.50	66.32	71.50	0.000047	0.42	303.77	65.21	0.03	0.01	67.90
Reach 1	128552	50	109.00	65.06	71.27	66.24	71.27	0.000041	0.38	288.96	64.07	0.03	0.01	66.64
Reach 1	128552	55	93.00	65.06	71.06	66.18	71.07	0.000035	0.34	275.84	63.06	0.03	0.01	65.53
Reach 1	128552	60	79.20	65.06	70.86	66.12	70.86	0.000030	0.30	263.08	62.20	0.03	0.01	64.55
Reach 1	128552	65	66.60	65.06	70.65	66.06	70.65	0.000025	0.27	249.94	61.29	0.02	0.01	63.53
Reach 1	128552	70	57.10	65.06	70.46	66.01	70.46	0.000021	0.24	238.71	60.51	0.02	0.00	62.65
Reach 1	128552	75	50.70	65.06	70.33	65.98	70.33	0.000018	0.22	230.88	59.96	0.02	0.00	62.02
Reach 1	128552	80	45.80	65.06	70.25	65.95	70.26	0.000017	0.20	226.16	59.62	0.02	0.00	61.64
Reach 1	128552	85	40.90	65.06	70.18	65.91	70.18	0.000015	0.18	221.55	59.29	0.02	0.00	61.27
Reach 1	128552	90	24.00	65.06	69.82	65.75	69.82	0.000009	0.12	200.52	57.77	0.01	0.00	59.55
Reach 1	128552	91	20.60	65.06	69.72	65.70	69.72	0.000007	0.11	194.76	57.34	0.01	0.00	59.07
Reach 1	128552	92	17.20	65.06	69.63	65.66	69.63	0.000006	0.09	189.99	56.99	0.01	0.00	58.67
Reach 1	128552	93	13.10	65.06	69.50	65.60	69.50	0.000005	0.07	182.34	56.42	0.01	0.00	58.02
Reach 1	128552	94	10.90	65.06	69.39	65.56	69.39	0.000004	0.06	175.96	55.93	0.01	0.00	57.48
Reach 1	128552	95	9.26	65.06	69.29	65.53	69.29	0.000003	0.05	170.76	55.54	0.01	0.00	57.03
Reach 1	128552	96	7.52	65.06	69.20	65.49	69.20	0.000002	0.05	165.59	55.14	0.00	0.00	56.58
Reach 1	128552	97	5.73	65.06	69.09	65.45	69.09	0.000001	0.04	159.74	54.69	0.00	0.00	56.07
Reach 1	128552	98	3.25	65.06	68.89	65.37	68.89	0.000001	0.02	148.55	53.81	0.00	0.00	55.08
Reach 1	128552	99	2.46	65.06	68.81	65.34	68.81	0.000000	0.02	144.47	53.49	0.00	0.00	54.72
Reach 1	128552	99.5	1.30	65.06	68.68	65.28	68.68	0.000000	0.01	137.31	52.92	0.00	0.00	54.07
Reach 1	128552	99.75	0.92	65.06	68.61	65.25	68.61	0.000000	0.01	133.62	52.62	0.00	0.00	53.74
Reach 1	128552	100	0.17	65.06	68.37	65.16	68.37	0.000000	0.00	121.48	51.63	0.00	0.00	52.62
Reach 1	124598	1	2100.00	67.89	76.16	72.02	76.19	0.000784	2.23	3397.80	1662.58	0.16	0.30	71.06
Reach 1	124598	5	1020.00	67.89	74.73	70.75	74.78	0.000998	2.09	1243.84	1157.34	0.16	0.30	70.19
Reach 1	124598	10	624.00	67.89	73.81	70.16	73.86	0.000938	1.79	582.82	461.79	0.15	0.24	67.63
Reach 1	124598	15	458.00	67.89	73.06	69.84	73.10	0.000858	1.64	394.90	237.91	0.15	0.20	63.20
Reach 1	124598	20	365.00	67.89	72.47	69.63	72.50	0.000767	1.56	321.64	168.25	0.14	0.17	56.71
Reach 1	124598	25	288.00	67.89	71.84	69.41	71.87	0.000773	1.50	259.40	142.47	0.15	0.15	53.80
Reach 1	124598	30	229.00	67.89	71.35	69.22	71.38	0.000834	1.43	213.19	92.49	0.15	0.14	52.06
Reach 1	124598	35	189.00	67.89	71.00	69.10	71.03	0.000907	1.37	181.58	89.80	0.15	0.14	50.84
Reach 1	124598	40	155.00	67.89	70.75	68.99	70.77	0.000974	1.26	158.68	87.88	0.15	0.14	50.00
Reach 1	124598	45	133.00	67.89	70.55	68.91	70.57	0.001038	1.20	141.57	86.50	0.15	0.13	49.42
Reach 1	124598	50	112.00	67.89	70.35	68.83	70.37	0.001094	1.13	124.56	85.11	0.14	0.13	48.84
Reach 1	124598	55	96.30	67.89	70.19	68.77	70.21	0.001129	1.07	111.12	83.99	0.14	0.12	48.37
Reach 1	124598	60	82.30	67.89	70.05	68.70	70.07	0.001107	1.00	99.55	82.42	0.14	0.11	47.97
Reach 1	124598	65	69.30	67.89	69.91	68.64	69.92	0.001084	0.93	87.53	79.86	0.13	0.10	47.35
Reach 1	124598	70	59.30	67.89	69.76	68.58	69.78	0.001092	0.89	76.30	77.00	0.13	0.10	46.38
Reach 1	124598	75	52.50	67.89	69.68	68.54	69.69	0.001038	0.84	70.08	75.36	0.13	0.09	45.84
Reach 1	124598	80	47.20	67.89	69.63	68.51	69.64	0.000996	0.79	66.16	74.31	0.12	0.08	45.48
Reach 1	124598	85	42.00	67.89	69.58	68.48	69.59	0.000956	0.73	62.80	73.40	0.11	0.08	45.18
Reach 1	124598	90	25.20	67.89	69.38	68.37	69.39	0.000746	0.52	48.50	65.98	0.09	0.05	43.83
Reach 1	124598	91	21.70	67.89	69.32	68.34	69.33	0.000686	0.48	45.46	43.09	0.08	0.04	43.43
Reach 1	124598	92	18.20	67.89	69.27	68.31	69.28	0.000630	0.42	43.23	42.77	0.07	0.04	43.08
Reach 1	124598	93	14.10	67.89	69.20	68.26	69.20	0.000557	0.35	40.04	42.30	0.06	0.03	42.58
Reach 1	124598	94	11.60	67.89	69.13	68.23	69.13	0.000479	0.31	37.09	41.87	0.06	0.03	42.11
Reach 1	124598	95	9.69	67.89	69.07	68.21	69.07	0.000414	0.28	34.67	41.51	0.05	0.02	41.72
Reach 1	124598	96	7.88	67.89	69.02	68.18	69.02	0.000329	0.24	32.71	41.21	0.05	0.02	41.40
Reach 1	124598	97	5.97	67.89	68.96	68.15	68.96	0.000240	0.20	30.32	40.85	0.04	0.01	41.01
Reach 1	124598	98	3.40	67.89	68.81	68.11	68.81	0.000159	0.14	24.15	39.52	0.03	0.01	39.62
Reach 1	124598	99	2.49	67.89	68.76	68.08	68.76	0.000113	0.11	22.04	38.95	0.03	0.00	39.04
Reach 1	124598	99.5	1.30	67.89	68.65	68.04	68.65	0.000055	0.07	18.06	36.45	0.02	0.00	36.52
Reach 1	124598	99.75	0.88	67.89	68.59	68.02	68.59	0.000037	0.06	15.86	35.22	0.01	0.00	35.29
Reach 1	124598	100	0.14	67.89	68.37	67.96	68.37	0.000006	0.02	8.61	30.96	0.01	0.00	31.01
Reach 1	124504	1	2100.00	68.11	76.11	71.92	76.14	0.000523	1.91	3910.57	1650.26	0.13	0.22	77.88
Reach 1	124504	5	1020.00	68.11	74.66	70.85	74.70	0.000707	1.83	1605.19	1425.78	0.14	0.23	77.88
Reach 1	124504	10	624.00	68.11	73.74	70.34	73.78	0.000735	1.64	634.35	620.42	0.14	0.20	76.75
Reach 1	124504	15	458.00	68.11	72.99	70.09	73.02	0.000722	1.50	407.03	253.97	0.14	0.17	75.70
Reach 1	124504	20	365.00	68.11	72.39	69.94	72.42	0.000761	1.44	310.99	183.91	0.14	0.15	74.87
Reach 1	124504	25	288.00	68.11	71.75	69.79	71.78	0.000895	1.42	236.76	132.10	0.16	0.14	73.91
Reach 1	124504	30	229.00	68.11	71.24	69.67	71.27	0.001127	1.41	187.94	93.30	0.17	0.15	71.61
Reach 1	124504	35	189.00	68.11	70.88	69.46	70.91	0.001415	1.40	155.15	90.44	0.18	0.16	70.00
Reach 1	124504	40	155.00	68.11	70.60	69.31	70.63	0.001785	1.36	130.53	88.24	0.19	0.18	68.76
Reach 1	124504	45	133.00	68.11	70.39	69.23	70.41	0.002261	1.35	111.53	86.50	0.20	0.19	67.78
Reach 1	124504	50	112.00	68.11	70.16	69.14	70.19	0.003059	1.37	91.98	84.68	0.22	0.22	66.75
Reach 1	124504	55	96.30	68.11	69.96	69.07	69.99	0.004278	1.42	75.28	82.62	0.25	0.27	65.44
Reach 1	124504	60	82.30	68.11	69.76	69.00	69.79	0.006542	1.53	58.98	80.37	0.30	0.33	63.94
Reach 1	124504	65	69.30	68.11	69.57	68.93	69.61	0.007747	1.67	44.51	65.19	0.32	0.40	49.49
Reach 1	124504	70	59.30	68.11	69.41	68.88	69.46	0.007912	1.73	35.27	54.94	0.33	0.42	39.85

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	124504	75	52.50	68.11	69.31	68.83	69.35	0.008969	1.74	30.19	38.13	0.34	0.44	38.31
Reach 1	124504	80	47.20	68.11	69.23	68.80	69.28	0.009937	1.72	27.50	37.08	0.35	0.46	37.24
Reach 1	124504	85	42.00	68.11	69.18	68.77	69.22	0.010488	1.64	25.60	36.31	0.34	0.46	36.47
Reach 1	124504	90	25.20	68.11	69.00	68.65	69.02	0.011321	1.32	19.12	33.58	0.31	0.40	33.70
Reach 1	124504	91	21.70	68.11	68.96	68.57	68.98	0.011008	1.22	17.73	32.96	0.29	0.37	33.08
Reach 1	124504	92	18.20	68.11	68.91	68.53	68.93	0.011075	1.11	16.33	32.33	0.28	0.35	32.44
Reach 1	124504	93	14.10	68.11	68.86	68.48	68.87	0.010682	0.96	14.66	31.56	0.25	0.31	31.66
Reach 1	124504	94	11.60	68.11	68.81	68.44	68.82	0.010479	0.89	12.98	30.76	0.24	0.28	30.86
Reach 1	124504	95	9.69	68.11	68.76	68.42	68.77	0.010375	0.84	11.58	30.08	0.24	0.25	30.17
Reach 1	124504	96	7.88	68.11	68.70	68.39	68.71	0.011423	0.80	9.82	29.21	0.24	0.24	29.29
Reach 1	124504	97	5.97	68.11	68.64	68.35	68.65	0.012205	0.75	8.01	27.92	0.25	0.22	27.98
Reach 1	124504	98	3.40	68.11	68.47	68.29	68.48	0.013080	0.72	4.69	18.00	0.25	0.21	18.03
Reach 1	124504	99	2.49	68.11	68.43	68.27	68.43	0.013175	0.65	3.84	17.46	0.24	0.18	17.48
Reach 1	124504	99.5	1.30	68.11	68.35	68.22	68.35	0.012453	0.51	2.53	15.66	0.23	0.13	15.68
Reach 1	124504	99.75	0.88	68.11	68.31	68.20	68.32	0.011454	0.44	2.01	14.79	0.21	0.10	14.80
Reach 1	124504	100	0.14	68.11	68.21	68.14	68.21	0.006849	0.21	0.67	9.99	0.14	0.03	10.00
Reach 1	124473	1	2100.00	67.69	76.10	72.17	76.12	0.000572	1.95	3938.61	1657.82	0.13	0.23	71.11
Reach 1	124473	5	1020.00	67.69	74.64	70.85	74.68	0.000878	1.98	1607.24	1480.27	0.15	0.27	71.11
Reach 1	124473	10	624.00	67.69	73.70	70.22	73.75	0.001016	1.89	573.59	676.16	0.16	0.27	68.10
Reach 1	124473	15	458.00	67.69	72.95	69.90	72.99	0.001013	1.76	343.75	243.89	0.16	0.23	65.82
Reach 1	124473	20	365.00	67.69	72.35	69.68	72.39	0.000975	1.67	272.12	150.04	0.16	0.20	62.13
Reach 1	124473	25	288.00	67.69	71.71	69.45	71.75	0.001026	1.63	212.21	124.27	0.17	0.18	58.27
Reach 1	124473	30	229.00	67.69	71.19	69.28	71.23	0.001184	1.58	169.75	78.32	0.18	0.18	56.13
Reach 1	124473	35	189.00	67.69	70.83	69.15	70.86	0.001386	1.54	141.84	75.48	0.18	0.18	54.84
Reach 1	124473	40	155.00	67.69	70.55	68.99	70.58	0.001622	1.46	120.81	73.03	0.19	0.19	53.64
Reach 1	124473	45	133.00	67.69	70.32	68.90	70.35	0.001899	1.43	104.40	70.76	0.19	0.20	52.37
Reach 1	124473	50	112.00	67.69	70.07	68.80	70.10	0.002301	1.41	87.34	67.99	0.20	0.22	50.71
Reach 1	124473	55	96.30	67.69	69.85	68.72	69.88	0.002853	1.43	72.31	64.85	0.21	0.24	48.62
Reach 1	124473	60	82.30	67.69	69.60	68.65	69.63	0.003689	1.50	56.81	59.60	0.24	0.28	45.15
Reach 1	124473	65	69.30	67.69	69.38	68.57	69.41	0.004822	1.53	45.26	45.29	0.26	0.31	43.55
Reach 1	124473	70	59.30	67.69	69.19	68.51	69.23	0.006343	1.59	37.38	41.64	0.30	0.35	42.00
Reach 1	124473	75	52.50	67.69	69.06	68.47	69.10	0.007140	1.65	31.89	36.73	0.31	0.38	37.03
Reach 1	124473	80	47.20	67.69	68.96	68.43	69.00	0.007903	1.66	28.44	33.86	0.32	0.41	34.11
Reach 1	124473	85	42.00	67.69	68.89	68.40	68.93	0.008757	1.61	26.06	33.07	0.32	0.43	33.29
Reach 1	124473	90	25.20	67.69	68.60	68.25	68.64	0.013607	1.47	17.18	29.46	0.34	0.49	29.62
Reach 1	124473	91	21.70	67.69	68.54	68.21	68.57	0.015145	1.42	15.24	28.63	0.34	0.50	28.78
Reach 1	124473	92	18.20	67.69	68.48	68.15	68.51	0.016288	1.33	13.74	27.97	0.33	0.50	28.11
Reach 1	124473	93	14.10	67.69	68.42	68.08	68.44	0.017346	1.18	11.93	27.05	0.31	0.48	27.18
Reach 1	124473	94	11.60	67.69	68.36	68.05	68.38	0.017918	1.12	10.38	26.23	0.31	0.44	26.35
Reach 1	124473	95	9.69	67.69	68.31	68.02	68.33	0.018395	1.06	9.15	25.57	0.31	0.41	25.68
Reach 1	124473	96	7.88	67.69	68.26	67.98	68.27	0.017224	1.00	7.86	22.73	0.30	0.37	22.84
Reach 1	124473	97	5.97	67.69	68.21	67.94	68.22	0.015587	0.88	6.75	21.87	0.28	0.30	21.97
Reach 1	124473	98	3.40	67.69	68.09	67.88	68.10	0.011721	0.74	4.59	15.62	0.24	0.21	15.69
Reach 1	124473	99	2.49	67.69	68.03	67.85	68.04	0.011616	0.66	3.75	14.96	0.23	0.18	15.03
Reach 1	124473	99.5	1.30	67.69	67.93	67.80	67.94	0.013743	0.56	2.32	13.62	0.24	0.15	13.66
Reach 1	124473	99.75	0.88	67.69	67.89	67.78	67.89	0.015714	0.51	1.72	12.70	0.25	0.13	12.74
Reach 1	124473	100	0.14	67.69	67.76	67.72	67.76	0.022389	0.34	0.42	7.42	0.25	0.08	7.43
Reach 1	124350	1	2100.00	65.74	76.04	70.39	76.07	0.000380	1.72	3964.29	1548.36	0.11	0.17	91.36
Reach 1	124350	5	1020.00	65.74	74.58	68.79	74.60	0.000396	1.47	1799.16	1346.95	0.11	0.14	91.36
Reach 1	124350	10	624.00	65.74	73.65	68.08	73.67	0.000343	1.24	846.02	569.91	0.09	0.11	87.26
Reach 1	124350	15	458.00	65.74	72.90	67.72	72.91	0.000291	1.12	564.69	298.94	0.09	0.09	81.72
Reach 1	124350	20	365.00	65.74	72.30	67.50	72.32	0.000259	1.03	426.09	169.82	0.09	0.07	78.91
Reach 1	124350	25	288.00	65.74	71.66	67.30	71.67	0.000234	0.96	331.59	112.05	0.08	0.06	74.50
Reach 1	124350	30	229.00	65.74	71.13	67.12	71.14	0.000218	0.88	280.95	87.86	0.08	0.05	70.53
Reach 1	124350	35	189.00	65.74	70.76	66.99	70.77	0.000206	0.81	249.25	83.00	0.08	0.04	67.47
Reach 1	124350	40	155.00	65.74	70.47	66.87	70.48	0.000194	0.73	225.63	78.62	0.07	0.04	64.53
Reach 1	124350	45	133.00	65.74	70.23	66.78	70.24	0.000182	0.67	207.49	74.35	0.07	0.04	61.45
Reach 1	124350	50	112.00	65.74	69.98	66.70	69.98	0.000168	0.61	188.99	70.02	0.06	0.03	58.41
Reach 1	124350	55	96.30	65.74	69.73	66.63	69.74	0.000160	0.57	172.49	67.00	0.06	0.03	56.59
Reach 1	124350	60	82.30	65.74	69.46	66.56	69.47	0.000158	0.54	154.66	64.45	0.06	0.03	55.32
Reach 1	124350	65	69.30	65.74	69.22	66.49	69.22	0.000148	0.49	140.37	52.84	0.05	0.02	54.17
Reach 1	124350	70	59.30	65.74	69.00	66.44	69.00	0.000140	0.46	128.81	51.95	0.05	0.02	53.14
Reach 1	124350	75	52.50	65.74	68.84	66.40	68.84	0.000135	0.44	120.53	51.31	0.05	0.02	52.39
Reach 1	124350	80	47.20	65.74	68.72	66.36	68.72	0.000133	0.41	114.45	50.83	0.05	0.02	51.83
Reach 1	124350	85	42.00	65.74	68.62	66.33	68.63	0.000130	0.38	109.66	50.45	0.05	0.02	51.39
Reach 1	124350	90	25.20	65.74	68.18	66.20	68.18	0.000114	0.29	87.91	47.76	0.04	0.01	48.43
Reach 1	124350	91	21.70	65.74	68.05	66.17	68.05	0.000110	0.27	81.73	47.07	0.04	0.01	47.65
Reach 1	124350	92	18.20	65.74	67.92	66.14	67.92	0.000109	0.24	75.67	46.37	0.03	0.01	46.88
Reach 1	124350	93	14.10	65.74	67.77	66.10	67.77	0.000101	0.20	68.83	45.58	0.03	0.01	45.99
Reach 1	124350	94	11.60	65.74	67.60	66.07	67.60	0.000099	0.19	61.13	44.62	0.03	0.01	44.95
Reach 1	124350	95	9.69	65.74	67.45	66.05	67.45	0.000097	0.18	54.62	43.54	0.03	0.01	43.83
Reach 1	124350	96	7.88	65.74	67.31	66.02	67.31	0.000093	0.16	48.27	42.39	0.03	0.01	42.64
Reach 1	124350	97	5.97	65.74	67.12	65.98	67.12	0.000091	0.15	40.56	40.76	0.03	0.01	40.97
Reach 1	124350	98	3.40	65.74	66.81	65.93	66.81	0.000088	0.12	28.27	37.60	0.02	0.00	37.74
Reach 1	124350	99	2.49	65.74	66.65	65.91	66.65	0.000092	0.11	22.66	35.72	0.02	0.00	35.83
Reach 1	124350	99.5	1.30	65.74	66.41	65.86	66.41	0.000100	0.09	14.32	31.90	0.02	0.00	31.98
Reach 1	124350	99.75	0.88	65.74	66.28	65.84	66.28	0.000120	0.08	10.38	29.37	0.03	0.00	29.43
Reach 1	124350	100	0.14	65.74	65.94	65.80	65.94	0.000409	0.07	1.96	17.42	0.04	0.00	17.44
Reach 1	121571	1	2110.00	64.18	75.28	70.06	75.29	0.000174	1.21	6046.65	1828.52	0.08	0.08	83.13
Reach 1	121571	5	1030.00	64.18	73.79	67.87	73.80	0.000165	1.00	3438.31	1654.51	0.07	0.06	83.13
Reach 1	121571	10	630.00	64.18	72.88	66.97	72.89	0.000162	0.88	2088.82	1300.38	0.07	0.05	83.13
Reach 1	121571	15	463.00	64.18	72.17	66.53	72.18	0.000198	0.91	1149.50	854.76	0.07	0.06	83.13
Reach 1	121571	20	370.00	64.18	71.62	66.25	71.63	0.000213	0.91	798.54	700.32	0.08	0.05	83.13
Reach 1	121571	25	295.00	64.18	71.03	66.00	71.04	0.000218	0.90	515.74	476.61	0.08	0.05	79.36
Reach 1	121571	30	234.00	64.18	70.54	65.78	70.55	0.000217	0.85	374.19	267.17	0.08	0.05	75.73
Reach 1	121571	35	194.00	64.18	70.20	65.63	70.21	0.000213	0.80	303.56	220.16	0.08	0.04	73.20
Reach 1	121571	40	159.00	64.18	69.94	65.49	69.95	0.000208	0.72	258.83	187.49	0.07	0.04	71.25
Reach 1	121571	45	136.00	64.18	69.73	65.39	69.73	0.000203	0.67	227.76	171.36	0.07	0.04	69.68

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	121571	50	116.00	64.18	69.51	65.29	69.51	0.000198	0.62	197.68	160.10	0.06	0.03	68.06
Reach 1	121571	55	99.60	64.18	69.30	65.21	69.30	0.000190	0.57	173.54	63.65	0.06	0.03	65.97
Reach 1	121571	60	85.40	64.18	69.06	65.13	69.06	0.000121	0.53	160.50	45.77	0.05	0.03	48.01
Reach 1	121571	65	72.00	64.18	68.85	65.05	68.85	0.000103	0.48	151.08	44.73	0.05	0.02	46.88
Reach 1	121571	70	61.40	64.18	68.66	64.99	68.67	0.000088	0.43	142.90	43.81	0.04	0.02	45.87
Reach 1	121571	75	54.30	64.18	68.53	64.95	68.53	0.000077	0.40	136.92	43.13	0.04	0.01	45.13
Reach 1	121571	80	48.50	64.18	68.42	64.91	68.42	0.000070	0.37	132.29	42.59	0.04	0.01	44.54
Reach 1	121571	85	43.10	64.18	68.34	64.87	68.34	0.000064	0.33	128.89	42.19	0.03	0.01	44.10
Reach 1	121571	90	26.30	64.18	67.96	64.75	67.96	0.000044	0.23	113.15	40.29	0.02	0.01	42.03
Reach 1	121571	91	22.70	64.18	67.84	64.72	67.84	0.000038	0.21	108.59	39.72	0.02	0.01	41.41
Reach 1	121571	92	19.00	64.18	67.72	64.68	67.72	0.000033	0.18	103.90	39.13	0.02	0.01	40.76
Reach 1	121571	93	14.90	64.18	67.60	64.64	67.60	0.000028	0.15	99.10	38.51	0.02	0.00	40.09
Reach 1	121571	94	12.20	64.18	67.45	64.62	67.45	0.000022	0.13	93.24	37.74	0.01	0.00	39.26
Reach 1	121571	95	10.10	64.18	67.31	64.57	67.31	0.000018	0.11	88.22	37.07	0.01	0.00	38.53
Reach 1	121571	96	8.26	64.18	67.18	64.54	67.18	0.000014	0.10	83.36	36.42	0.01	0.00	37.81
Reach 1	121571	97	6.23	64.18	67.01	64.49	67.01	0.000010	0.08	77.30	35.58	0.01	0.00	36.89
Reach 1	121571	98	3.55	64.18	66.73	64.43	66.73	0.000005	0.05	67.30	34.27	0.01	0.00	35.45
Reach 1	121571	99	2.52	64.18	66.58	64.40	66.58	0.000003	0.04	62.40	33.62	0.01	0.00	34.74
Reach 1	121571	99.5	1.30	64.18	66.35	64.35	66.35	0.000001	0.02	54.76	32.59	0.00	0.00	33.60
Reach 1	121571	99.75	0.85	64.18	66.22	64.32	66.22	0.000001	0.02	50.66	32.02	0.00	0.00	32.97
Reach 1	121571	100	0.12	64.18	65.80	64.24	65.80	0.000000	0.00	37.37	30.11	0.00	0.00	30.86
Reach 1	118981	1	2110.00	65.37	74.69	69.83	74.71	0.000296	1.46	4447.44	1866.13	0.10	0.13	103.68
Reach 1	118981	5	1030.00	65.37	72.96	68.61	72.99	0.000470	1.47	1575.06	1309.76	0.11	0.15	103.68
Reach 1	118981	10	630.00	65.37	71.95	68.05	71.98	0.000532	1.36	602.52	395.35	0.12	0.14	100.62
Reach 1	118981	15	463.00	65.37	71.17	67.76	71.19	0.000575	1.31	374.62	245.46	0.12	0.13	97.58
Reach 1	118981	20	370.00	65.37	70.58	67.57	70.60	0.000579	1.25	295.62	199.84	0.12	0.11	93.88
Reach 1	118981	25	295.00	65.37	69.96	67.38	69.98	0.000624	1.23	240.09	139.11	0.13	0.10	89.32
Reach 1	118981	30	234.00	65.37	69.40	67.21	69.42	0.000742	1.21	192.60	129.06	0.14	0.11	82.98
Reach 1	118981	35	194.00	65.37	69.04	67.08	69.06	0.000811	1.18	164.73	122.07	0.14	0.11	78.32
Reach 1	118981	40	159.00	65.37	68.79	66.95	68.81	0.000866	1.09	145.60	117.01	0.14	0.10	74.96
Reach 1	118981	45	136.00	65.37	68.60	66.86	68.61	0.000904	1.03	131.83	112.70	0.13	0.10	72.47
Reach 1	118981	50	116.00	65.37	68.41	66.77	68.42	0.000965	0.98	118.71	107.81	0.13	0.10	71.15
Reach 1	118981	55	99.60	65.37	68.24	66.69	68.26	0.001017	0.93	107.41	68.32	0.13	0.10	70.00
Reach 1	118981	60	85.40	65.37	68.08	66.62	68.10	0.001063	0.88	96.52	67.23	0.13	0.09	68.86
Reach 1	118981	65	72.00	65.37	67.92	66.53	67.93	0.001115	0.84	85.65	66.13	0.13	0.09	67.71
Reach 1	118981	70	61.40	65.37	67.78	66.47	67.79	0.001161	0.80	76.33	64.93	0.13	0.08	66.48
Reach 1	118981	75	54.30	65.37	67.67	66.41	67.68	0.001164	0.78	69.55	61.97	0.13	0.08	63.44
Reach 1	118981	80	48.50	65.37	67.59	66.37	67.60	0.001158	0.75	64.56	59.69	0.13	0.08	61.11
Reach 1	118981	85	43.10	65.37	67.53	66.32	67.54	0.001154	0.71	60.98	58.00	0.12	0.07	59.38
Reach 1	118981	90	26.30	65.37	67.25	66.16	67.26	0.001154	0.57	45.90	50.27	0.11	0.06	51.47
Reach 1	118981	91	22.70	65.37	67.17	66.12	67.17	0.001154	0.54	41.82	47.96	0.10	0.06	49.11
Reach 1	118981	92	19.00	65.37	67.08	66.07	67.08	0.001153	0.50	37.76	45.55	0.10	0.06	46.64
Reach 1	118981	93	14.90	65.37	66.99	66.00	66.99	0.001151	0.44	33.75	43.04	0.09	0.06	44.07
Reach 1	118981	94	12.20	65.37	66.88	65.96	66.88	0.001148	0.42	29.06	39.91	0.09	0.05	40.86
Reach 1	118981	95	10.10	65.37	66.78	65.91	66.78	0.001149	0.40	25.20	37.13	0.09	0.05	38.01
Reach 1	118981	96	8.26	65.37	66.68	65.86	66.68	0.001152	0.38	21.64	34.36	0.08	0.04	35.18
Reach 1	118981	97	6.23	65.37	66.55	65.81	66.55	0.001137	0.35	17.58	30.91	0.08	0.04	31.65
Reach 1	118981	98	3.55	65.37	66.34	65.73	66.34	0.001123	0.31	11.55	24.91	0.08	0.03	25.52
Reach 1	118981	99	2.52	65.37	66.22	65.69	66.22	0.001139	0.28	8.87	21.71	0.08	0.03	22.24
Reach 1	118981	99.5	1.30	65.37	66.04	65.61	66.04	0.001135	0.24	5.37	16.65	0.08	0.02	17.06
Reach 1	118981	99.75	0.85	65.37	65.95	65.57	65.95	0.001058	0.21	3.97	14.12	0.07	0.02	14.47
Reach 1	118981	100	0.12	65.37	65.74	65.46	65.74	0.000226	0.07	1.56	8.71	0.03	0.00	8.85
Reach 1	116657	1	2110.00	62.92	74.27	67.37	74.28	0.000168	1.20	5286.39	1649.81	0.07	0.08	116.87
Reach 1	116657	5	1030.00	62.92	72.29	65.94	72.31	0.000234	1.13	2403.20	1493.15	0.08	0.08	116.87
Reach 1	116657	10	630.00	62.92	71.18	65.25	71.19	0.000273	1.05	1023.53	1001.04	0.08	0.08	115.45
Reach 1	116657	15	463.00	62.92	70.38	64.91	70.40	0.000276	1.00	461.31	262.68	0.09	0.07	110.73
Reach 1	116657	20	370.00	62.92	69.80	64.70	69.82	0.000253	0.93	399.71	154.13	0.08	0.06	107.29
Reach 1	116657	25	295.00	62.92	69.11	64.50	69.12	0.000268	0.90	328.28	133.02	0.09	0.05	103.46
Reach 1	116657	30	234.00	62.92	68.51	64.33	68.52	0.000174	0.84	278.63	93.51	0.07	0.04	70.23
Reach 1	116657	35	194.00	62.92	68.12	64.21	68.13	0.000161	0.77	252.45	83.03	0.07	0.04	67.76
Reach 1	116657	40	159.00	62.92	67.84	64.10	67.85	0.000150	0.68	233.95	64.28	0.06	0.03	65.96
Reach 1	116657	45	136.00	62.92	67.63	64.02	67.64	0.000139	0.62	220.79	63.06	0.06	0.03	64.66
Reach 1	116657	50	116.00	62.92	67.43	63.94	67.43	0.000127	0.56	207.99	61.86	0.05	0.03	63.36
Reach 1	116657	55	99.60	62.92	67.24	63.87	67.25	0.000116	0.51	196.71	60.77	0.05	0.02	62.20
Reach 1	116657	60	85.40	62.92	67.08	63.80	67.08	0.000101	0.46	186.61	59.91	0.05	0.02	61.25
Reach 1	116657	65	72.00	62.92	66.90	63.74	66.91	0.000086	0.41	176.47	59.09	0.04	0.02	60.36
Reach 1	116657	70	61.40	62.92	66.77	63.69	66.77	0.000072	0.36	168.39	58.44	0.04	0.01	59.64
Reach 1	116657	75	54.30	62.92	66.67	63.64	66.68	0.000062	0.33	162.95	58.00	0.04	0.01	59.15
Reach 1	116657	80	48.50	62.92	66.61	63.61	66.61	0.000055	0.31	158.99	57.67	0.03	0.01	58.79
Reach 1	116657	85	43.10	62.92	66.56	63.57	66.56	0.000049	0.28	156.24	57.44	0.03	0.01	58.54
Reach 1	116657	90	26.30	62.92	66.37	63.44	66.37	0.000029	0.18	145.39	56.54	0.02	0.00	57.54
Reach 1	116657	91	22.70	62.92	66.31	63.40	66.31	0.000024	0.16	142.27	56.27	0.02	0.00	57.25
Reach 1	116657	92	19.00	62.92	66.26	63.36	66.26	0.000019	0.14	139.11	56.00	0.02	0.00	56.96
Reach 1	116657	93	14.90	62.92	66.20	63.31	66.20	0.000015	0.11	136.01	55.74	0.01	0.00	56.67
Reach 1	116657	94	12.20	62.92	66.14	63.27	66.14	0.000011	0.09	132.46	55.44	0.01	0.00	56.33
Reach 1	116657	95	10.10	62.92	66.08	63.24	66.08	0.000008	0.08	129.51	55.18	0.01	0.00	56.05
Reach 1	116657	96	8.26	62.92	66.03	63.21	66.03	0.000006	0.07	126.73	54.94	0.01	0.00	55.79
Reach 1	116657	97	6.23	62.92	65.96	63.17	65.96	0.000004	0.05	122.74	54.59	0.01	0.00	55.41
Reach 1	116657	98	3.55	62.92	65.85	63.11	65.85	0.000001	0.03	116.76	54.07	0.00	0.00	54.83
Reach 1	116657	99	2.52	62.92	65.74	63.08	65.74	0.000001	0.02	110.71	53.54	0.00	0.00	54.24
Reach 1	116657	99.5	1.30	62.92	65.65	63.03	65.65	0.000000	0.01	106.08	53.12	0.00	0.00	53.79
Reach 1	116657	99.75	0.85	62.92	65.62	63.01	65.62	0.000000	0.01	104.62	52.99	0.00	0.00	53.64
Reach 1	116657	100	0.12	62.92	65.69	62.96	65.69	0.000000	0.00	108.00	53.29	0.00	0.00	53.97
Reach 1	115677	1	2110.00	63.54	74.03	67.89	74.06	0.000324	1.76	3282.06	899.73	0.11	0.17	85.66
Reach 1	115677	5	1030.00	63.54	72.02	66.73	72.04	0.000358	1.50	1511.75	724.24	0.10	0.14	85.66
Reach 1	115677	10	630.00	63.54	70.89	66.17	70.91	0.000338	1.26	799.81	495.54	0.10	0.11	85.66
Reach 1	115677	15	463.00	63.54	70.10	65.89	70.12	0.000337	1.18	404.33	238.28	0.10	0.10	84.93
Reach 1	115677	20	370.00	63.54	69.55	65.70	69.57	0.000292	1.07	352.23	169.62	0.09	0.08	82.79

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	115677	25	295.00	63.54	68.86	65.52	68.87	0.000291	1.02	289.94	117.85	0.09	0.07	80.71
Reach 1	115677	30	234.00	63.54	68.27	65.36	68.29	0.000299	0.95	245.17	89.17	0.09	0.06	76.73
Reach 1	115677	35	194.00	63.54	67.87	65.21	67.88	0.000316	0.90	215.51	73.84	0.09	0.06	75.64
Reach 1	115677	40	159.00	63.54	67.58	65.10	67.59	0.000332	0.82	194.01	73.32	0.09	0.05	74.85
Reach 1	115677	45	136.00	63.54	67.39	64.99	67.40	0.000329	0.75	180.36	72.99	0.08	0.05	74.35
Reach 1	115677	50	116.00	63.54	67.21	64.91	67.21	0.000327	0.70	166.72	72.67	0.08	0.05	73.85
Reach 1	115677	55	99.60	63.54	67.04	64.84	67.05	0.000319	0.64	154.95	72.38	0.08	0.04	73.42
Reach 1	115677	60	85.40	63.54	66.89	64.70	66.90	0.000302	0.59	144.17	72.12	0.07	0.04	73.02
Reach 1	115677	65	72.00	63.54	66.75	64.59	66.75	0.000272	0.54	133.59	70.58	0.07	0.03	71.40
Reach 1	115677	70	61.40	63.54	66.63	64.51	66.63	0.000240	0.49	125.48	69.82	0.06	0.03	70.59
Reach 1	115677	75	54.30	63.54	66.55	64.45	66.56	0.000215	0.45	120.10	69.32	0.06	0.02	70.06
Reach 1	115677	80	48.50	63.54	66.50	64.40	66.50	0.000194	0.42	116.28	68.96	0.06	0.02	69.67
Reach 1	115677	85	43.10	63.54	66.46	64.35	66.46	0.000178	0.38	113.65	68.71	0.05	0.02	69.41
Reach 1	115677	90	26.30	63.54	66.31	64.17	66.31	0.000113	0.25	103.29	67.71	0.04	0.01	68.35
Reach 1	115677	91	22.70	63.54	66.26	64.12	66.26	0.000097	0.23	100.16	67.41	0.03	0.01	68.03
Reach 1	115677	92	19.00	63.54	66.21	64.08	66.21	0.000082	0.20	96.95	67.10	0.03	0.01	67.70
Reach 1	115677	93	14.90	63.54	66.17	64.02	66.17	0.000067	0.16	93.77	66.79	0.02	0.01	67.37
Reach 1	115677	94	12.20	63.54	66.11	63.98	66.11	0.000051	0.14	90.09	66.42	0.02	0.00	66.99
Reach 1	115677	95	10.10	63.54	66.06	63.94	66.06	0.000039	0.12	86.97	66.12	0.02	0.00	66.66
Reach 1	115677	96	8.26	63.54	66.02	63.91	66.02	0.000029	0.10	83.97	65.82	0.02	0.00	66.34
Reach 1	115677	97	6.23	63.54	65.95	63.87	65.95	0.000020	0.08	79.50	65.37	0.01	0.00	65.87
Reach 1	115677	98	3.55	63.54	65.85	63.79	65.85	0.000009	0.05	72.70	64.69	0.01	0.00	65.14
Reach 1	115677	99	2.52	63.54	65.73	63.76	65.73	0.000006	0.04	65.74	61.39	0.01	0.00	61.80
Reach 1	115677	99.5	1.30	63.54	65.65	63.70	65.65	0.000002	0.02	60.66	57.89	0.00	0.00	58.27
Reach 1	115677	99.75	0.85	63.54	65.62	63.68	65.62	0.000001	0.01	59.10	57.70	0.00	0.00	58.07
Reach 1	115677	100	0.12	63.54	65.69	63.60	65.69	0.000000	0.00	62.81	59.36	0.00	0.00	59.76
Reach 1	115442	1	2110.00	65.23	73.96	68.21	74.00	0.000343	1.71	2446.65	624.27	0.11	0.16	122.25
Reach 1	115442	5	1030.00	65.23	71.94	67.29	71.97	0.000329	1.33	1233.03	533.29	0.10	0.12	122.25
Reach 1	115442	10	630.00	65.23	70.82	66.83	70.83	0.000310	1.09	687.07	368.48	0.09	0.09	122.25
Reach 1	115442	15	463.00	65.23	70.03	66.62	70.05	0.000303	0.99	492.87	187.02	0.09	0.07	122.25
Reach 1	115442	20	370.00	65.23	69.49	66.50	69.50	0.000298	0.93	401.56	135.22	0.09	0.06	120.95
Reach 1	115442	25	295.00	65.23	68.78	66.38	68.79	0.000361	0.93	315.75	116.19	0.10	0.06	117.57
Reach 1	115442	30	234.00	65.23	68.18	66.28	68.19	0.000499	0.95	246.63	113.22	0.11	0.07	114.34
Reach 1	115442	35	194.00	65.23	67.76	66.21	67.77	0.000693	0.97	199.37	111.18	0.13	0.08	112.12
Reach 1	115442	40	159.00	65.23	67.44	66.15	67.46	0.000904	0.96	165.19	105.40	0.14	0.09	106.15
Reach 1	115442	45	136.00	65.23	67.25	66.10	67.26	0.001014	0.94	145.14	99.84	0.14	0.09	100.47
Reach 1	115442	50	116.00	65.23	67.05	66.04	67.06	0.001183	0.92	125.88	95.49	0.14	0.10	96.02
Reach 1	115442	55	99.60	65.23	66.87	66.00	66.89	0.001451	0.91	109.18	94.74	0.15	0.10	95.19
Reach 1	115442	60	85.40	65.23	66.71	65.97	66.73	0.001766	0.91	94.06	94.06	0.16	0.11	94.44
Reach 1	115442	65	72.00	65.23	66.55	65.93	66.56	0.002275	0.91	78.73	93.36	0.18	0.12	93.66
Reach 1	115442	70	61.40	65.23	66.42	65.89	66.44	0.002782	0.91	67.19	92.83	0.19	0.13	93.07
Reach 1	115442	75	54.30	65.23	66.34	65.87	66.35	0.003256	0.91	59.44	92.47	0.20	0.13	92.68
Reach 1	115442	80	48.50	65.23	66.28	65.85	66.30	0.003600	0.89	54.21	92.23	0.21	0.13	92.41
Reach 1	115442	85	43.10	65.23	66.25	65.82	66.26	0.003789	0.85	50.91	92.08	0.20	0.13	92.24
Reach 1	115442	90	26.30	65.23	66.13	65.73	66.13	0.003948	0.66	39.76	90.27	0.18	0.11	90.41
Reach 1	115442	91	22.70	65.23	66.09	65.70	66.09	0.004023	0.63	36.21	87.29	0.17	0.10	87.42
Reach 1	115442	92	19.00	65.23	66.04	65.66	66.05	0.004147	0.58	32.58	84.13	0.17	0.10	84.25
Reach 1	115442	93	14.90	65.23	66.00	65.59	66.01	0.004224	0.51	29.26	81.65	0.15	0.09	81.77
Reach 1	115442	94	12.20	65.23	65.96	65.55	65.96	0.004167	0.47	25.75	79.27	0.15	0.08	79.37
Reach 1	115442	95	10.10	65.23	65.92	65.53	65.92	0.004303	0.45	22.48	76.75	0.15	0.08	76.85
Reach 1	115442	96	8.26	65.23	65.88	65.50	65.88	0.004562	0.43	19.24	73.53	0.15	0.07	73.62
Reach 1	115442	97	6.23	65.23	65.81	65.48	65.81	0.004668	0.42	14.88	60.09	0.15	0.07	60.17
Reach 1	115442	98	3.55	65.23	65.70	65.42	65.70	0.005521	0.40	8.90	43.77	0.16	0.07	43.83
Reach 1	115442	99	2.52	65.23	65.61	65.40	65.61	0.004721	0.43	5.92	23.53	0.15	0.07	23.57
Reach 1	115442	99.5	1.30	65.23	65.50	65.36	65.51	0.005955	0.37	3.55	21.05	0.16	0.06	21.08
Reach 1	115442	99.75	0.85	65.23	65.46	65.34	65.46	0.006962	0.33	2.56	19.92	0.16	0.06	19.95
Reach 1	115442	100	0.12	65.23	65.34	65.28	65.34	0.014904	0.22	0.52	13.36	0.19	0.04	13.37
Reach 1	115393	1	2110.00	64.73	73.94	67.85	73.98	0.000371	1.77	2204.80	556.89	0.11	0.18	124.16
Reach 1	115393	5	1030.00	64.73	71.92	66.93	71.95	0.000325	1.34	1127.18	465.26	0.10	0.12	124.16
Reach 1	115393	10	630.00	64.73	70.80	66.51	70.82	0.000278	1.06	688.21	298.86	0.09	0.08	124.16
Reach 1	115393	15	463.00	64.73	70.02	66.31	70.03	0.000254	0.95	505.81	175.24	0.08	0.06	122.93
Reach 1	115393	20	370.00	64.73	69.47	66.18	69.49	0.000237	0.88	422.92	135.87	0.08	0.05	121.27
Reach 1	115393	25	295.00	64.73	68.77	66.07	68.78	0.000263	0.87	340.07	109.52	0.09	0.05	111.40
Reach 1	115393	30	234.00	64.73	68.16	65.97	68.17	0.000318	0.85	274.91	105.49	0.09	0.05	107.05
Reach 1	115393	35	194.00	64.73	67.73	65.90	67.74	0.000389	0.84	230.39	103.18	0.10	0.05	104.51
Reach 1	115393	40	159.00	64.73	67.41	65.84	67.42	0.000481	0.81	197.37	102.04	0.10	0.06	103.18
Reach 1	115393	45	136.00	64.73	67.21	65.78	67.22	0.000535	0.77	177.14	101.35	0.10	0.06	102.36
Reach 1	115393	50	116.00	64.73	67.01	65.73	67.01	0.000618	0.74	156.44	100.62	0.10	0.06	101.52
Reach 1	115393	55	99.60	64.73	66.82	65.70	66.83	0.000719	0.72	137.89	99.97	0.11	0.06	100.75
Reach 1	115393	60	85.40	64.73	66.65	65.65	66.66	0.000828	0.71	120.81	99.37	0.11	0.06	100.05
Reach 1	115393	65	72.00	64.73	66.47	65.62	66.48	0.001001	0.70	103.10	98.74	0.12	0.06	99.31
Reach 1	115393	70	61.40	64.73	66.33	65.58	66.34	0.001166	0.69	89.30	98.25	0.13	0.07	98.73
Reach 1	115393	75	54.30	64.73	66.23	65.56	66.24	0.001323	0.68	79.67	97.69	0.13	0.07	98.12
Reach 1	115393	80	48.50	64.73	66.17	65.53	66.17	0.001415	0.66	73.24	96.94	0.13	0.07	97.36
Reach 1	115393	85	43.10	64.73	66.13	65.50	66.13	0.001442	0.62	69.38	96.49	0.13	0.06	96.90
Reach 1	115393	90	26.30	64.73	66.00	65.37	66.00	0.001262	0.46	57.20	95.05	0.10	0.05	95.43
Reach 1	115393	91	22.70	64.73	65.96	65.34	65.96	0.001233	0.43	53.36	94.59	0.10	0.04	94.97
Reach 1	115393	92	19.00	64.73	65.92	65.31	65.92	0.001221	0.39	49.22	94.10	0.09	0.04	94.46
Reach 1	115393	93	14.90	64.73	65.88	65.27	65.88	0.001159	0.33	45.60	93.66	0.08	0.04	94.02
Reach 1	115393	94	12.20	64.73	65.83	65.24	65.83	0.001074	0.30	41.29	93.14	0.08	0.03	93.49
Reach 1	115393	95	10.10	64.73	65.79	65.21	65.79	0.000980	0.27	37.22	89.02	0.07	0.03	89.36
Reach 1	115393	96	8.26	64.73	65.74	65.18	65.74	0.000911	0.25	33.03	84.55	0.07	0.02	84.87
Reach 1	115393	97	6.23	64.73	65.68	65.13	65.68	0.000856	0.22	27.99	81.44	0.07	0.02	81.75
Reach 1	115393	98	3.55	64.73	65.54	64.99	65.54	0.001007	0.20	17.67	67.72	0.07	0.02	67.97
Reach 1	115393	99	2.52	64.73	65.47	64.94	65.47	0.000953	0.19	13.25	52.86	0.07	0.01	53.08
Reach 1	115393	99.5	1.30	64.73	65.34	64.87	65.34	0.000667	0.16	8.24	33.32	0.06	0.01	33.49
Reach 1	115393	99.75	0.85	64.73	65.28	64.83	65.28	0.000637	0.14	6.10	28.86	0.05	0.01	29.01
Reach 1	115393	100	0.12	64.73	64.95	64.76	64.95	0.000439	0.11	1.09	5.87	0.04	0.01	5.92

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	115329	1	2140.00	64.73	73.91	67.86	73.95	0.000395	1.82	1952.55	466.29	0.12	0.19	132.81
Reach 1	115329	5	1040.00	64.73	71.90	66.95	71.93	0.000345	1.35	1036.37	446.82	0.10	0.12	132.81
Reach 1	115329	10	638.00	64.73	70.78	66.52	70.80	0.000284	1.06	644.90	242.49	0.09	0.08	127.70
Reach 1	115329	15	470.00	64.73	70.00	66.31	70.02	0.000259	0.94	512.21	142.12	0.08	0.06	125.94
Reach 1	115329	20	377.00	64.73	69.46	66.19	69.47	0.000243	0.87	437.20	132.83	0.08	0.05	122.44
Reach 1	115329	25	300.00	64.73	68.75	66.08	68.76	0.000266	0.86	348.45	115.26	0.09	0.05	116.55
Reach 1	115329	30	240.00	64.73	68.14	65.98	68.15	0.000336	0.86	279.43	110.78	0.10	0.05	111.85
Reach 1	115329	35	199.00	64.73	67.71	65.91	67.72	0.000416	0.86	232.18	108.12	0.10	0.06	109.03
Reach 1	115329	40	164.00	64.73	67.38	65.85	67.39	0.000536	0.83	196.86	106.67	0.11	0.06	107.43
Reach 1	115329	45	141.00	64.73	67.17	65.79	67.18	0.000615	0.80	175.28	105.37	0.11	0.06	106.06
Reach 1	115329	50	119.00	64.73	66.96	65.74	66.97	0.000717	0.78	153.23	103.78	0.11	0.07	104.41
Reach 1	115329	55	103.00	64.73	66.77	65.70	66.78	0.000876	0.77	133.29	102.19	0.12	0.07	102.76
Reach 1	115329	60	88.50	64.73	66.59	65.67	66.60	0.001063	0.77	114.92	100.70	0.13	0.08	101.22
Reach 1	115329	65	74.60	64.73	66.39	65.62	66.40	0.001398	0.78	95.37	99.09	0.14	0.08	99.56
Reach 1	115329	70	63.60	64.73	66.23	65.59	66.24	0.001814	0.80	79.69	97.69	0.16	0.09	98.12
Reach 1	115329	75	56.00	64.73	66.11	65.56	66.12	0.002354	0.82	67.89	96.32	0.17	0.10	96.72
Reach 1	115329	80	49.90	64.73	66.03	65.54	66.04	0.002799	0.83	59.94	95.38	0.19	0.11	95.77
Reach 1	115329	85	44.10	64.73	65.98	65.51	65.99	0.003149	0.80	55.00	94.79	0.19	0.11	95.17
Reach 1	115329	90	27.50	64.73	65.83	65.38	65.84	0.003868	0.66	41.45	93.16	0.18	0.11	93.51
Reach 1	115329	91	23.70	64.73	65.79	65.35	65.80	0.003955	0.63	37.60	89.42	0.17	0.10	89.76
Reach 1	115329	92	20.00	64.73	65.75	65.32	65.75	0.003943	0.59	33.85	85.44	0.17	0.10	85.77
Reach 1	115329	93	15.80	64.73	65.72	65.27	65.72	0.003797	0.51	31.22	83.22	0.15	0.09	83.54
Reach 1	115329	94	12.90	64.73	65.67	65.24	65.68	0.003741	0.46	27.81	81.35	0.14	0.08	81.65
Reach 1	115329	95	10.60	64.73	65.63	65.21	65.64	0.003736	0.43	24.50	79.48	0.14	0.07	79.77
Reach 1	115329	96	8.62	64.73	65.60	65.18	65.60	0.003438	0.40	21.69	75.03	0.13	0.06	75.31
Reach 1	115329	97	6.47	64.73	65.55	65.14	65.55	0.003118	0.36	18.14	68.62	0.12	0.05	68.88
Reach 1	115329	98	3.69	64.73	65.43	65.00	65.43	0.002478	0.33	11.22	40.31	0.11	0.04	40.52
Reach 1	115329	99	2.57	64.73	65.37	64.94	65.37	0.002043	0.28	9.09	35.45	0.10	0.03	35.64
Reach 1	115329	99.5	1.31	64.73	65.27	64.87	65.27	0.001713	0.22	5.85	28.35	0.09	0.02	28.50
Reach 1	115329	99.75	0.81	64.73	65.21	64.83	65.21	0.001437	0.19	4.33	24.19	0.08	0.02	24.32
Reach 1	115329	100	0.09	64.73	64.92	64.76	64.92	0.000413	0.09	0.93	5.63	0.04	0.00	5.67
Reach 1	115212	1	2140.00	64.41	73.84	67.87	73.90	0.000521	2.06	1358.73	247.97	0.13	0.24	127.60
Reach 1	115212	5	1040.00	64.41	71.86	66.79	71.89	0.000376	1.40	900.77	209.50	0.10	0.13	126.30
Reach 1	115212	10	638.00	64.41	70.75	66.29	70.77	0.000301	1.09	672.77	201.94	0.09	0.09	122.54
Reach 1	115212	15	470.00	64.41	69.97	66.04	69.99	0.000267	0.97	526.63	166.23	0.08	0.07	118.19
Reach 1	115212	20	377.00	64.41	69.43	65.85	69.44	0.000249	0.90	439.74	154.09	0.08	0.06	115.27
Reach 1	115212	25	300.00	64.41	68.72	65.70	68.73	0.000277	0.88	339.29	114.52	0.09	0.05	112.26
Reach 1	115212	30	240.00	64.41	68.10	65.58	68.11	0.000362	0.88	271.71	107.96	0.10	0.06	110.23
Reach 1	115212	35	199.00	64.41	67.66	65.49	67.67	0.000429	0.88	224.90	101.21	0.10	0.06	103.07
Reach 1	115212	40	164.00	64.41	67.31	65.41	67.33	0.000513	0.86	191.50	95.50	0.11	0.06	97.00
Reach 1	115212	45	141.00	64.41	67.10	65.35	67.11	0.000557	0.82	171.76	92.27	0.11	0.06	93.55
Reach 1	115212	50	119.00	64.41	66.88	65.30	66.89	0.000609	0.78	151.82	89.23	0.11	0.06	90.34
Reach 1	115212	55	103.00	64.41	66.68	65.25	66.69	0.000706	0.77	133.48	86.76	0.11	0.07	87.72
Reach 1	115212	60	88.50	64.41	66.48	65.20	66.49	0.000805	0.76	116.55	84.30	0.11	0.07	85.11
Reach 1	115212	65	74.60	64.41	66.25	65.15	66.26	0.000986	0.76	97.83	81.02	0.12	0.07	81.66
Reach 1	115212	70	63.60	64.41	66.06	65.12	66.07	0.001195	0.77	82.31	77.27	0.13	0.08	77.76
Reach 1	115212	75	56.00	64.41	65.89	65.09	65.90	0.001329	0.80	70.24	68.22	0.14	0.08	68.61
Reach 1	115212	80	49.90	64.41	65.77	65.07	65.78	0.001574	0.80	62.08	67.58	0.15	0.09	67.91
Reach 1	115212	85	44.10	64.41	65.68	65.05	65.69	0.001874	0.79	55.97	67.09	0.15	0.10	67.36
Reach 1	115212	90	27.50	64.41	65.43	64.95	65.43	0.002958	0.71	38.87	64.97	0.16	0.11	65.13
Reach 1	115212	91	23.70	64.41	65.36	64.93	65.37	0.003272	0.68	34.83	64.16	0.16	0.11	64.31
Reach 1	115212	92	20.00	64.41	65.30	64.91	65.30	0.003696	0.65	30.59	63.29	0.17	0.11	63.44
Reach 1	115212	93	15.80	64.41	65.24	64.87	65.24	0.004253	0.59	26.90	62.53	0.16	0.11	62.67
Reach 1	115212	94	12.90	64.41	65.18	64.84	65.19	0.004572	0.55	23.45	61.81	0.16	0.11	61.94
Reach 1	115212	95	10.60	64.41	65.13	64.80	65.14	0.004798	0.52	20.46	61.18	0.16	0.10	61.31
Reach 1	115212	96	8.62	64.41	65.08	64.78	65.09	0.005261	0.49	17.48	60.29	0.16	0.10	60.40
Reach 1	115212	97	6.47	64.41	65.02	64.74	65.03	0.005717	0.46	13.93	55.95	0.16	0.09	56.05
Reach 1	115212	98	3.69	64.41	64.93	64.68	64.93	0.005870	0.41	9.10	45.75	0.16	0.07	45.84
Reach 1	115212	99	2.57	64.41	64.87	64.65	64.87	0.006526	0.39	6.58	37.80	0.17	0.07	37.87
Reach 1	115212	99.5	1.31	64.41	64.76	64.61	64.77	0.006927	0.37	3.54	23.16	0.17	0.07	23.21
Reach 1	115212	99.75	0.81	64.41	64.71	64.58	64.71	0.006991	0.33	2.43	18.63	0.16	0.06	18.67
Reach 1	115212	100	0.09	64.41	64.57	64.48	64.57	0.005625	0.19	0.47	7.18	0.13	0.02	7.20
Reach 1	115091	1	2140.00	63.89	73.79	67.43	73.84	0.000421	1.85	1303.23	259.19	0.12	0.19	153.11
Reach 1	115091	5	1040.00	63.89	71.82	66.35	71.84	0.000303	1.24	860.82	186.73	0.09	0.10	153.11
Reach 1	115091	10	638.00	63.89	70.72	65.82	70.73	0.000250	0.95	668.90	156.25	0.08	0.07	152.62
Reach 1	115091	15	470.00	63.89	69.95	65.55	69.96	0.000215	0.85	554.94	141.19	0.08	0.05	142.23
Reach 1	115091	20	377.00	63.89	69.40	65.39	69.41	0.000195	0.78	480.59	133.88	0.07	0.04	134.80
Reach 1	115091	25	300.00	63.89	68.69	65.24	68.70	0.000196	0.77	389.73	121.94	0.08	0.04	122.74
Reach 1	115091	30	240.00	63.89	68.06	65.11	68.07	0.000231	0.76	315.72	113.92	0.08	0.04	114.59
Reach 1	115091	35	199.00	63.89	67.62	65.00	67.62	0.000263	0.75	266.13	108.21	0.08	0.04	108.80
Reach 1	115091	40	164.00	63.89	67.27	64.91	67.28	0.000309	0.72	229.20	103.31	0.08	0.04	103.83
Reach 1	115091	45	141.00	63.89	67.05	64.85	67.06	0.000323	0.68	207.52	99.27	0.08	0.04	99.74
Reach 1	115091	50	119.00	63.89	66.83	64.78	66.84	0.000335	0.64	185.80	95.04	0.08	0.04	95.47
Reach 1	115091	55	103.00	63.89	66.61	64.73	66.62	0.000363	0.62	165.70	91.03	0.08	0.04	91.42
Reach 1	115091	60	88.50	63.89	66.41	64.68	66.41	0.000382	0.60	147.41	87.24	0.08	0.04	87.58
Reach 1	115091	65	74.60	63.89	66.17	64.62	66.17	0.000423	0.59	127.03	82.80	0.08	0.04	83.09
Reach 1	115091	70	63.60	63.89	65.96	64.57	65.96	0.000467	0.58	109.92	78.99	0.09	0.04	79.24
Reach 1	115091	75	56.00	63.89	65.78	64.54	65.79	0.000532	0.58	96.50	76.17	0.09	0.04	76.38
Reach 1	115091	80	49.90	63.89	65.65	64.51	65.65	0.000591	0.58	86.25	73.94	0.09	0.04	74.12
Reach 1	115091	85	44.10	63.89	65.53	64.48	65.54	0.000682	0.57	77.95	72.08	0.10	0.05	72.24
Reach 1	115091	90	27.50	63.89	65.20	64.36	65.20	0.000970	0.50	54.72	66.26	0.10	0.05	66.35
Reach 1	115091	91	23.70	63.89	65.10	64.32	65.11	0.001083	0.49	48.45	63.97	0.10	0.05	64.04
Reach 1	115091	92	20.00	63.89	65.00	64.29	65.00	0.001247	0.48	41.87	61.52	0.10	0.05	61.59
Reach 1	115091	93	15.80	63.89	64.91	64.24	64.91	0.001459	0.44	36.30	59.36	0.10	0.06	59.42
Reach 1	115091	94	12.90	63.89	64.82	64.20	64.82	0.001608	0.41	31.11	57.28	0.10	0.05	57.34
Reach 1	115091	95	10.60	63.89	64.73	64.18	64.73	0.001809	0.40	26.27	55.07	0.10	0.05	55.11
Reach 1	115091	96	8.62	63.89	64.64	64.14	64.64	0.002146	0.40	21.35	50.83	0.11	0.06	50.86
Reach 1	115091	97	6.47	63.89	64.54	64.11	64.54	0.002470	0.39	16.61	46.38	0.11	0.06	46.41
Reach 1	115091	98	3.69	63.89	64.41	64.05	64.41	0.002683	0.34	10.95	40.40	0.11	0.05	40.42

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	115091	99	2.57	63.89	64.32	64.02	64.32	0.002374	0.32	7.95	28.46	0.11	0.04	28.48
Reach 1	115091	99.5	1.31	63.89	64.21	63.98	64.21	0.002394	0.27	4.90	23.46	0.10	0.03	23.47
Reach 1	115091	99.75	0.81	63.89	64.14	63.96	64.14	0.002421	0.23	3.44	20.22	0.10	0.03	20.23
Reach 1	115091	100	0.09	63.89	64.23	63.91	64.23	0.000008	0.02	5.40	24.49	0.01	0.00	24.50
Reach 1	115036	1	2140.00	63.68	73.71	67.51	73.79	0.000699	2.52	1213.50	496.52	0.15	0.35	95.50
Reach 1	115036	5	1040.00	63.68	71.77	66.30	71.82	0.000473	1.70	761.75	292.07	0.12	0.18	94.39
Reach 1	115036	10	638.00	63.68	70.69	65.74	70.71	0.000352	1.29	548.20	203.52	0.10	0.12	92.47
Reach 1	115036	15	470.00	63.68	69.92	65.47	69.94	0.000298	1.11	432.31	136.13	0.09	0.09	91.24
Reach 1	115036	20	377.00	63.68	69.38	65.30	69.40	0.000259	1.01	373.55	87.26	0.09	0.07	88.97
Reach 1	115036	25	300.00	63.68	68.67	65.15	68.69	0.000243	0.96	313.41	82.26	0.09	0.06	83.66
Reach 1	115036	30	240.00	63.68	68.04	65.01	68.06	0.000266	0.91	262.66	79.22	0.09	0.05	80.36
Reach 1	115036	35	199.00	63.68	67.60	64.91	67.61	0.000282	0.87	227.81	76.80	0.09	0.05	77.77
Reach 1	115036	40	164.00	63.68	67.25	64.81	67.26	0.000313	0.81	201.29	74.90	0.09	0.05	75.75
Reach 1	115036	45	141.00	63.68	67.03	64.74	67.04	0.000319	0.76	185.39	73.74	0.08	0.05	74.51
Reach 1	115036	50	119.00	63.68	66.81	64.67	66.82	0.000322	0.70	169.05	72.53	0.08	0.05	73.22
Reach 1	115036	55	103.00	63.68	66.59	64.62	66.60	0.000341	0.67	153.44	71.35	0.08	0.05	71.97
Reach 1	115036	60	88.50	63.68	66.39	64.54	66.39	0.000351	0.64	138.89	70.24	0.08	0.04	70.78
Reach 1	115036	65	74.60	63.68	66.15	64.48	66.15	0.000379	0.61	122.10	68.93	0.08	0.04	69.38
Reach 1	115036	70	63.60	63.68	65.93	64.43	65.94	0.000411	0.59	107.50	67.77	0.08	0.04	68.15
Reach 1	115036	75	56.00	63.68	65.76	64.38	65.76	0.000461	0.59	95.66	66.82	0.09	0.04	67.13
Reach 1	115036	80	49.90	63.68	65.62	64.35	65.62	0.000507	0.58	86.40	66.06	0.09	0.04	66.33
Reach 1	115036	85	44.10	63.68	65.50	64.32	65.50	0.000583	0.56	78.63	65.42	0.09	0.04	65.64
Reach 1	115036	90	27.50	63.68	65.15	64.21	65.15	0.000848	0.49	56.03	63.54	0.09	0.05	63.64
Reach 1	115036	91	23.70	63.68	65.05	64.17	65.05	0.000944	0.48	49.63	61.28	0.09	0.05	61.36
Reach 1	115036	92	20.00	63.68	64.93	64.14	64.94	0.001080	0.47	42.85	58.48	0.10	0.05	58.55
Reach 1	115036	93	15.80	63.68	64.83	64.09	64.83	0.001273	0.43	36.92	55.92	0.09	0.05	55.98
Reach 1	115036	94	12.90	63.68	64.73	64.06	64.74	0.001389	0.41	31.64	53.53	0.09	0.05	53.59
Reach 1	115036	95	10.60	63.68	64.64	64.03	64.64	0.001579	0.40	26.57	51.13	0.10	0.05	51.18
Reach 1	115036	96	8.62	63.68	64.53	64.00	64.53	0.001667	0.40	21.53	42.93	0.10	0.05	42.97
Reach 1	115036	97	6.47	63.68	64.42	63.97	64.43	0.001841	0.38	17.11	40.04	0.10	0.05	40.08
Reach 1	115036	98	3.69	63.68	64.28	63.90	64.28	0.001935	0.32	11.54	36.08	0.10	0.04	36.11
Reach 1	115036	99	2.57	63.68	64.21	63.87	64.21	0.001712	0.28	9.16	31.74	0.09	0.03	31.76
Reach 1	115036	99.5	1.31	63.68	64.11	63.83	64.11	0.001274	0.21	6.21	26.52	0.08	0.02	26.53
Reach 1	115036	99.75	0.81	63.68	64.04	63.80	64.04	0.001109	0.18	4.59	23.14	0.07	0.01	23.16
Reach 1	115036	100	0.09	63.68	64.23	63.73	64.23	0.000002	0.01	9.73	32.97	0.00	0.00	32.99
Reach 1	115007		Bridge											
Reach 1	114981	1	2140.00	63.56	73.61	67.46	73.71	0.000807	2.75	1135.39	516.62	0.17	0.42	81.94
Reach 1	114981	5	1040.00	63.56	71.73	66.25	71.77	0.000494	1.80	734.24	224.71	0.12	0.21	80.11
Reach 1	114981	10	638.00	63.56	70.66	65.70	70.68	0.000343	1.34	584.52	155.11	0.10	0.12	77.99
Reach 1	114981	15	470.00	63.56	69.90	65.41	69.92	0.000278	1.16	479.26	138.84	0.09	0.09	76.28
Reach 1	114981	20	377.00	63.56	69.36	65.24	69.38	0.000237	1.04	409.99	114.29	0.08	0.07	75.26
Reach 1	114981	25	300.00	63.56	68.65	65.08	68.67	0.000227	0.98	334.09	103.10	0.08	0.06	73.89
Reach 1	114981	30	240.00	63.56	68.02	64.94	68.04	0.000246	0.92	274.32	87.86	0.09	0.05	72.69
Reach 1	114981	35	199.00	63.56	67.58	64.83	67.59	0.000261	0.88	236.10	83.46	0.09	0.05	71.83
Reach 1	114981	40	164.00	63.56	67.23	64.73	67.24	0.000290	0.81	207.33	80.38	0.09	0.05	71.16
Reach 1	114981	45	141.00	63.56	67.01	64.66	67.02	0.000296	0.76	190.32	78.51	0.08	0.05	70.75
Reach 1	114981	50	119.00	63.56	66.79	64.59	66.80	0.000299	0.70	173.01	76.55	0.08	0.05	70.32
Reach 1	114981	55	103.00	63.56	66.57	64.53	66.58	0.000318	0.67	156.53	74.65	0.08	0.04	69.90
Reach 1	114981	60	88.50	63.56	66.36	64.46	66.37	0.000328	0.63	141.33	72.84	0.08	0.04	69.50
Reach 1	114981	65	74.60	63.56	66.12	64.38	66.13	0.000358	0.60	123.89	70.71	0.08	0.04	69.04
Reach 1	114981	70	63.60	63.56	65.91	64.32	65.91	0.000392	0.58	108.85	68.83	0.08	0.04	68.62
Reach 1	114981	75	56.00	63.56	65.73	64.28	65.73	0.000446	0.58	96.66	67.26	0.09	0.04	67.55
Reach 1	114981	80	49.90	63.56	65.58	64.24	65.59	0.000492	0.57	87.18	66.13	0.09	0.04	66.37
Reach 1	114981	85	44.10	63.56	65.46	64.20	65.47	0.000569	0.56	79.09	65.16	0.09	0.04	65.36
Reach 1	114981	90	27.50	63.56	65.10	64.06	65.10	0.000785	0.49	56.13	60.23	0.09	0.05	60.37
Reach 1	114981	91	23.70	63.56	64.99	64.03	64.99	0.000874	0.48	49.74	58.12	0.09	0.05	58.25
Reach 1	114981	92	20.00	63.56	64.87	63.99	64.87	0.001019	0.47	42.80	55.75	0.09	0.05	55.86
Reach 1	114981	93	15.80	63.56	64.75	63.94	64.75	0.001257	0.43	36.42	53.48	0.09	0.05	53.58
Reach 1	114981	94	12.90	63.56	64.64	63.91	64.64	0.001441	0.42	30.79	51.39	0.10	0.05	51.48
Reach 1	114981	95	10.60	63.56	64.52	63.87	64.53	0.001861	0.43	24.89	49.11	0.11	0.06	49.18
Reach 1	114981	96	8.62	63.56	64.41	63.84	64.41	0.001950	0.43	19.86	39.45	0.11	0.06	39.50
Reach 1	114981	97	6.47	63.56	64.27	63.80	64.28	0.002353	0.43	14.90	34.07	0.12	0.06	34.11
Reach 1	114981	98	3.69	63.56	64.08	63.74	64.09	0.002893	0.41	9.11	26.97	0.12	0.06	27.01
Reach 1	114981	99	2.57	63.56	64.00	63.71	64.00	0.003039	0.37	6.94	24.39	0.12	0.05	24.42
Reach 1	114981	99.5	1.31	63.56	63.92	63.67	63.92	0.001945	0.26	5.07	21.93	0.09	0.03	21.95
Reach 1	114981	99.75	0.81	63.56	63.90	63.64	63.90	0.000902	0.17	4.74	21.46	0.06	0.01	21.48
Reach 1	114981	100	0.09	63.56	64.23	63.59	64.23	0.000001	0.01	13.32	32.16	0.00	0.00	32.20
Reach 1	114969	1	2140.00	63.47	73.62	67.26	73.68	0.000541	2.04	1421.06	489.44	0.13	0.24	136.85
Reach 1	114969	5	1040.00	63.47	71.73	66.03	71.76	0.000386	1.41	824.19	289.17	0.10	0.13	131.69
Reach 1	114969	10	638.00	63.47	70.66	65.46	70.68	0.000285	1.07	606.04	155.64	0.09	0.08	125.04
Reach 1	114969	15	470.00	63.47	69.90	65.18	69.91	0.000243	0.94	500.84	120.96	0.08	0.06	120.60
Reach 1	114969	20	377.00	63.47	69.36	65.01	69.38	0.000218	0.86	438.38	114.74	0.08	0.05	116.50
Reach 1	114969	25	300.00	63.47	68.65	64.85	68.66	0.000228	0.84	358.47	110.09	0.08	0.05	111.60
Reach 1	114969	30	240.00	63.47	68.02	64.72	68.03	0.000254	0.82	292.16	99.99	0.08	0.05	101.32
Reach 1	114969	35	199.00	63.47	67.58	64.62	67.59	0.000231	0.79	251.70	84.55	0.08	0.04	85.76
Reach 1	114969	40	164.00	63.47	67.22	64.54	67.23	0.000245	0.74	222.74	80.11	0.08	0.04	81.22
Reach 1	114969	45	141.00	63.47	67.01	64.48	67.02	0.000242	0.68	205.88	77.61	0.07	0.04	78.65
Reach 1	114969	50	119.00	63.47	66.79	64.39	66.79	0.000238	0.63	188.72	76.02	0.07	0.04	76.98
Reach 1	114969	55	103.00	63.47	66.57	64.31	66.57	0.000246	0.60	172.30	74.46	0.07	0.04	75.35
Reach 1	114969	60	88.50	63.47	66.36	64.25	66.37	0.000246	0.56	157.11	72.99	0.07	0.03	73.80
Reach 1	114969	65	74.60	63.47	66.12	64.19	66.12	0.000255	0.53	139.56	71.25	0.07	0.03	71.98
Reach 1	114969	70	63.60	63.47	65.90	64.14	65.91	0.000264	0.51	124.35	69.71	0.07	0.03	70.37
Reach 1	114969	75	56.00	63.47	65.72	64.10	65.73	0.000283	0.50	111.95	68.38	0.07	0.03	68.98
Reach 1	114969	80	49.90	63.47	65.58	64.06	65.58	0.000298	0.49	102.28	67.31	0.07	0.03	67.86
Reach 1	114969	85	44.10	63.47	65.46	64.03	65.46	0.000330	0.47	94.01	66.38	0.07	0.03	66.89
Reach 1	114969	90	27.50	63.47	65.09	63.91	65.09	0.000405	0.39	70.11	63.61	0.07	0.03	63.99
Reach 1	114969	91	23.70	63.47	64.98	63.88	64.98	0.000429	0.37	63.29	61.98	0.07	0.03	62.34

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	114969	92	20.00	63.47	64.86	63.85	64.86	0.000480	0.36	55.71	61.12	0.07	0.03	61.43
Reach 1	114969	93	15.80	63.47	64.74	63.80	64.74	0.000569	0.33	48.51	60.30	0.06	0.03	60.56
Reach 1	114969	94	12.90	63.47	64.63	63.77	64.63	0.000625	0.31	41.98	59.55	0.06	0.03	59.76
Reach 1	114969	95	10.60	63.47	64.51	63.74	64.51	0.000771	0.30	34.84	58.71	0.07	0.03	58.87
Reach 1	114969	96	8.62	63.47	64.39	63.72	64.39	0.000830	0.30	28.39	50.75	0.07	0.03	50.86
Reach 1	114969	97	6.47	63.47	64.26	63.69	64.26	0.000857	0.29	22.09	42.74	0.07	0.03	42.81
Reach 1	114969	98	3.69	63.47	64.06	63.64	64.06	0.001011	0.26	14.19	37.13	0.07	0.02	37.15
Reach 1	114969	99	2.57	63.47	63.98	63.61	63.98	0.000960	0.23	11.16	33.78	0.07	0.02	33.80
Reach 1	114969	99.5	1.31	63.47	63.90	63.58	63.90	0.000482	0.15	8.85	30.98	0.05	0.01	31.00
Reach 1	114969	99.75	0.81	63.47	63.90	63.56	63.90	0.000198	0.09	8.63	30.69	0.03	0.00	30.71
Reach 1	114969	100	0.09	63.47	64.23	63.50	64.23	0.000000	0.00	20.85	42.29	0.00	0.00	42.35
Reach 1	114909		Bridge											
Reach 1	114863	1	2140.00	62.81	73.53	67.02	73.58	0.000615	1.68	1324.72	556.05	0.11	0.27	78.13
Reach 1	114863	5	1040.00	62.81	71.67	65.63	71.70	0.000384	1.15	824.09	378.54	0.09	0.12	78.13
Reach 1	114863	10	638.00	62.81	70.61	64.99	70.63	0.000265	0.88	605.58	131.19	0.08	0.07	78.13
Reach 1	114863	15	470.00	62.81	69.86	64.69	69.88	0.000202	0.76	511.15	122.27	0.07	0.04	78.13
Reach 1	114863	20	377.00	62.81	69.33	64.49	69.35	0.000168	0.70	447.33	119.24	0.07	0.03	78.13
Reach 1	114863	25	300.00	62.81	68.62	64.31	68.63	0.000153	0.70	363.97	115.19	0.08	0.02	76.11
Reach 1	114863	30	240.00	62.81	67.99	64.16	68.00	0.000155	0.71	296.88	87.57	0.08	0.02	50.00
Reach 1	114863	35	199.00	62.81	67.55	64.04	67.56	0.000152	0.67	261.04	77.80	0.07	0.03	41.28
Reach 1	114863	40	164.00	62.81	67.19	63.93	67.20	0.000159	0.61	234.13	74.72	0.07	0.02	38.61
Reach 1	114863	45	141.00	62.81	66.98	63.85	66.99	0.000154	0.56	218.44	72.13	0.06	0.02	36.28
Reach 1	114863	50	119.00	62.81	66.76	63.68	66.76	0.000147	0.50	202.99	67.57	0.06	0.02	31.99
Reach 1	114863	55	103.00	62.81	66.54	63.61	66.54	0.000144	0.47	188.33	66.51	0.05	0.02	31.17
Reach 1	114863	60	88.50	62.81	66.33	63.54	66.34	0.000136	0.43	174.81	65.52	0.05	0.02	30.41
Reach 1	114863	65	74.60	62.81	66.09	63.47	66.09	0.000131	0.40	159.00	64.34	0.05	0.02	29.50
Reach 1	114863	70	63.60	62.81	65.87	63.42	65.88	0.000126	0.37	145.21	63.29	0.05	0.01	28.69
Reach 1	114863	75	56.00	62.81	65.69	63.37	65.70	0.000125	0.35	133.84	62.41	0.05	0.01	28.01
Reach 1	114863	80	49.90	62.81	65.55	63.33	65.55	0.000123	0.33	124.93	61.71	0.05	0.01	27.47
Reach 1	114863	85	44.10	62.81	65.42	63.29	65.43	0.000128	0.31	117.16	61.10	0.04	0.01	27.00
Reach 1	114863	90	27.50	62.81	65.05	63.17	65.05	0.000121	0.24	94.68	59.23	0.04	0.01	25.53
Reach 1	114863	91	23.70	62.81	64.94	63.13	64.94	0.000116	0.22	88.21	58.02	0.03	0.01	24.35
Reach 1	114863	92	20.00	62.81	64.81	63.10	64.81	0.000112	0.20	80.91	56.73	0.03	0.01	23.12
Reach 1	114863	93	15.80	62.81	64.68	63.05	64.69	0.000112	0.18	73.74	55.44	0.03	0.01	22.36
Reach 1	114863	94	12.90	62.81	64.57	63.03	64.57	0.000101	0.15	67.43	54.04	0.03	0.01	21.67
Reach 1	114863	95	10.60	62.81	64.43	63.00	64.43	0.000095	0.14	60.09	52.37	0.03	0.01	20.85
Reach 1	114863	96	8.62	62.81	64.31	62.97	64.31	0.000086	0.12	53.99	50.94	0.02	0.00	20.15
Reach 1	114863	97	6.47	62.81	64.16	62.95	64.16	0.000075	0.10	46.47	49.11	0.02	0.00	19.25
Reach 1	114863	98	3.69	62.81	63.93	62.89	63.93	0.000054	0.07	35.34	46.28	0.02	0.00	17.87
Reach 1	114863	99	2.57	62.81	63.81	62.88	63.81	0.000042	0.05	29.98	44.86	0.02	0.00	17.17
Reach 1	114863	99.5	1.31	62.81	63.65	62.84	63.65	0.000019	0.05	23.97	35.55	0.01	0.00	8.87
Reach 1	114863	99.75	0.81	62.81	63.55	62.82	63.55	0.000011	0.03	20.62	34.38	0.01	0.00	8.29
Reach 1	114863	100	0.09	62.81	63.25	62.77	63.25	0.000001	0.01	10.84	28.68	0.00	0.00	6.43
Reach 1	114758	1	2140.00	63.05	73.45	67.12	73.51	0.000503	2.07	1381.06	418.66	0.13	0.24	124.40
Reach 1	114758	5	1040.00	63.05	71.63	65.83	71.66	0.000341	1.39	888.03	405.12	0.10	0.13	124.40
Reach 1	114758	10	638.00	63.05	70.59	65.15	70.60	0.000265	1.05	618.15	290.91	0.08	0.08	124.33
Reach 1	114758	15	470.00	63.05	69.84	64.84	69.85	0.000221	0.91	514.74	120.24	0.08	0.06	120.23
Reach 1	114758	20	377.00	63.05	69.31	64.65	69.33	0.000192	0.83	453.47	113.64	0.07	0.05	115.18
Reach 1	114758	25	300.00	63.05	68.60	64.48	68.61	0.000187	0.80	375.34	106.41	0.08	0.04	107.79
Reach 1	114758	30	240.00	63.05	67.97	64.33	67.98	0.000207	0.77	310.06	99.59	0.08	0.04	100.82
Reach 1	114758	35	199.00	63.05	67.53	64.23	67.54	0.000213	0.74	267.21	92.74	0.08	0.04	93.87
Reach 1	114758	40	164.00	63.05	67.17	64.13	67.18	0.000228	0.70	235.32	87.35	0.07	0.04	88.39
Reach 1	114758	45	141.00	63.05	66.96	64.06	66.97	0.000225	0.65	217.04	84.15	0.07	0.04	85.14
Reach 1	114758	50	119.00	63.05	66.74	63.99	66.74	0.000217	0.60	198.74	80.83	0.07	0.03	81.76
Reach 1	114758	55	103.00	63.05	66.52	63.94	66.52	0.000219	0.57	181.41	77.55	0.07	0.03	78.43
Reach 1	114758	60	88.50	63.05	66.31	63.89	66.32	0.000211	0.53	165.89	74.51	0.06	0.03	75.34
Reach 1	114758	65	74.60	63.05	66.07	63.83	66.08	0.000208	0.50	148.20	71.01	0.06	0.03	71.78
Reach 1	114758	70	63.60	63.05	65.86	63.79	65.86	0.000202	0.48	133.25	67.69	0.06	0.02	68.41
Reach 1	114758	75	56.00	63.05	65.67	63.76	65.68	0.000202	0.46	121.26	64.77	0.06	0.02	65.46
Reach 1	114758	80	49.90	63.05	65.53	63.73	65.53	0.000199	0.44	112.15	62.46	0.06	0.02	63.12
Reach 1	114758	85	44.10	63.05	65.40	63.70	65.41	0.000206	0.42	104.33	60.40	0.06	0.02	61.05
Reach 1	114758	90	27.50	63.05	65.03	63.61	65.03	0.000198	0.33	82.81	56.14	0.05	0.02	56.68
Reach 1	114758	91	23.70	63.05	64.92	63.58	64.92	0.000196	0.31	76.68	55.42	0.05	0.02	55.92
Reach 1	114758	92	20.00	63.05	64.79	63.54	64.80	0.000197	0.29	69.68	54.59	0.04	0.02	55.04
Reach 1	114758	93	15.80	63.05	64.67	63.49	64.67	0.000208	0.25	62.73	53.75	0.04	0.02	54.16
Reach 1	114758	94	12.90	63.05	64.55	63.43	64.55	0.000198	0.23	56.64	53.00	0.04	0.01	53.37
Reach 1	114758	95	10.60	63.05	64.41	63.40	64.42	0.000206	0.21	49.39	52.10	0.04	0.01	52.41
Reach 1	114758	96	8.62	63.05	64.30	63.36	64.30	0.000207	0.20	43.31	51.33	0.04	0.01	51.60
Reach 1	114758	97	6.47	63.05	64.15	63.31	64.15	0.000217	0.18	35.66	50.35	0.04	0.01	50.56
Reach 1	114758	98	3.69	63.05	63.91	63.24	63.91	0.000249	0.15	24.07	48.63	0.04	0.01	48.76
Reach 1	114758	99	2.57	63.05	63.79	63.21	63.79	0.000291	0.14	18.33	47.63	0.04	0.01	47.72
Reach 1	114758	99.5	1.31	63.05	63.63	63.16	63.63	0.000393	0.12	10.71	42.80	0.04	0.01	42.85
Reach 1	114758	99.75	0.81	63.05	63.53	63.13	63.53	0.000396	0.11	7.09	31.63	0.04	0.01	31.67
Reach 1	114758	100	0.09	63.05	63.24	63.08	63.24	0.000156	0.05	1.67	12.00	0.02	0.00	12.01
Reach 1	114720	1	2140.00	62.93	73.42	67.16	73.49	0.000600	2.28	1542.88	992.21	0.14	0.29	101.14
Reach 1	114720	5	1040.00	62.93	71.61	65.88	71.64	0.000431	1.58	957.80	851.12	0.11	0.16	101.14
Reach 1	114720	10	638.00	62.93	70.57	65.29	70.59	0.000351	1.23	626.91	451.64	0.10	0.11	101.14
Reach 1	114720	15	470.00	62.93	69.82	64.99	69.84	0.000294	1.07	480.31	212.85	0.09	0.08	97.81
Reach 1	114720	20	377.00	62.93	69.30	64.78	69.32	0.000257	0.98	409.83	196.91	0.08	0.06	94.34
Reach 1	114720	25	300.00	62.93	68.59	64.58	68.61	0.000211	0.94	328.51	147.02	0.08	0.05	79.53
Reach 1	114720	30	240.00	62.93	67.96	64.42	67.97	0.000220	0.88	272.82	105.27	0.08	0.05	76.17
Reach 1	114720	35	199.00	62.93	67.52	64.31	67.53	0.000222	0.83	239.65	92.71	0.08	0.05	73.76
Reach 1	114720	40	164.00	62.93	67.16	64.20	67.17	0.000233	0.76	214.61	86.76	0.08	0.04	71.28
Reach 1	114720	45	141.00	62.93	66.95	64.13	66.96	0.000227	0.71	199.98	81.60	0.07	0.04	69.90
Reach 1	114720	50	119.00	62.93	66.73	64.05	66.73	0.000219	0.64	185.01	67.27	0.07	0.04	68.85
Reach 1	114720	55	103.00	62.93	66.51	64.00	66.51	0.000223	0.60	170.39	66.54	0.07	0.03	67.99
Reach 1	114720	60	88.50	62.93	66.31	63.94	66.31	0.000218	0.56	156.90	65.87	0.06	0.03	67.19

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	114720	65	74.60	62.93	66.06	63.88	66.07	0.000221	0.53	140.99	65.03	0.06	0.03	66.21
Reach 1	114720	70	63.60	62.93	65.85	63.83	65.85	0.000222	0.50	127.08	64.20	0.06	0.03	65.25
Reach 1	114720	75	56.00	62.93	65.67	63.80	65.67	0.000233	0.48	115.51	63.50	0.06	0.03	64.44
Reach 1	114720	80	49.90	62.93	65.52	63.77	65.53	0.000240	0.47	106.45	62.94	0.06	0.03	63.81
Reach 1	114720	85	44.10	62.93	65.39	63.74	65.40	0.000262	0.45	98.44	62.38	0.06	0.03	63.18
Reach 1	114720	90	27.50	62.93	65.02	63.64	65.02	0.000288	0.36	75.75	59.46	0.06	0.02	60.10
Reach 1	114720	91	23.70	62.93	64.91	63.62	64.91	0.000297	0.34	69.24	58.67	0.06	0.02	59.27
Reach 1	114720	92	20.00	62.93	64.79	63.58	64.79	0.000289	0.32	61.96	54.15	0.05	0.02	54.71
Reach 1	114720	93	15.80	62.93	64.66	63.54	64.66	0.000287	0.29	55.34	49.80	0.05	0.02	50.32
Reach 1	114720	94	12.90	62.93	64.54	63.49	64.54	0.000272	0.26	49.78	48.45	0.05	0.02	48.94
Reach 1	114720	95	10.60	62.93	64.40	63.47	64.41	0.000286	0.25	43.15	47.36	0.05	0.02	47.80
Reach 1	114720	96	8.62	62.93	64.29	63.42	64.29	0.000291	0.23	37.63	46.42	0.04	0.01	46.84
Reach 1	114720	97	6.47	62.93	64.14	63.37	64.14	0.000311	0.21	30.71	45.23	0.05	0.01	45.60
Reach 1	114720	98	3.69	62.93	63.90	63.30	63.90	0.000380	0.18	20.27	43.19	0.05	0.01	43.49
Reach 1	114720	99	2.57	62.93	63.78	63.27	63.78	0.000467	0.17	15.11	41.67	0.05	0.01	41.94
Reach 1	114720	99.5	1.31	62.93	63.60	63.20	63.61	0.000717	0.16	8.29	35.23	0.06	0.01	35.46
Reach 1	114720	99.75	0.81	62.93	63.51	63.17	63.51	0.000822	0.15	5.28	25.97	0.06	0.01	26.15
Reach 1	114720	100	0.09	62.93	63.22	63.03	63.22	0.000868	0.11	0.80	6.83	0.06	0.01	6.89
Reach 1	113752	1	2870.00	62.26	73.16	67.93	73.17	0.000174	1.26	6877.13	2228.14	0.08	0.09	80.38
Reach 1	113752	5	1320.00	62.26	71.34	66.23	71.35	0.000187	1.11	3080.01	1847.51	0.08	0.07	80.38
Reach 1	113752	10	792.00	62.26	70.31	65.44	70.32	0.000209	1.01	1484.16	1032.75	0.07	0.07	79.84
Reach 1	113752	15	568.00	62.26	69.58	65.01	69.59	0.000218	0.96	953.43	580.49	0.08	0.07	78.82
Reach 1	113752	20	448.00	62.26	69.00	64.73	69.03	0.000449	1.33	335.58	414.79	0.11	0.12	76.15
Reach 1	113752	25	352.00	62.26	68.32	64.48	68.34	0.000404	1.23	286.59	262.24	0.11	0.10	72.78
Reach 1	113752	30	279.00	62.26	67.68	64.27	67.70	0.000386	1.15	242.71	144.45	0.11	0.08	69.63
Reach 1	113752	35	228.00	62.26	67.23	64.09	67.25	0.000383	1.07	212.89	113.90	0.10	0.08	67.42
Reach 1	113752	40	187.00	62.26	66.86	63.95	66.88	0.000385	0.99	188.98	98.42	0.10	0.07	65.60
Reach 1	113752	45	159.00	62.26	66.65	63.83	66.67	0.000379	0.91	175.69	90.48	0.10	0.06	64.56
Reach 1	113752	50	134.00	62.26	66.44	63.72	66.45	0.000370	0.83	162.28	82.58	0.09	0.06	63.50
Reach 1	113752	55	115.00	62.26	66.21	63.63	66.22	0.000380	0.78	148.26	68.11	0.09	0.06	62.38
Reach 1	113752	60	98.90	62.26	66.01	63.55	66.02	0.000384	0.73	135.98	60.09	0.09	0.05	61.38
Reach 1	113752	65	83.30	62.26	65.77	63.46	65.77	0.000392	0.68	121.64	59.04	0.08	0.05	60.19
Reach 1	113752	70	71.20	62.26	65.55	63.39	65.56	0.000400	0.65	108.98	57.24	0.08	0.05	58.28
Reach 1	113752	75	62.50	62.26	65.36	63.32	65.36	0.000412	0.64	98.06	54.72	0.08	0.05	55.67
Reach 1	113752	80	55.50	62.26	65.21	63.28	65.21	0.000411	0.62	90.06	52.80	0.08	0.04	53.68
Reach 1	113752	85	48.60	62.26	65.06	63.22	65.06	0.000413	0.59	82.30	50.86	0.08	0.04	51.68
Reach 1	113752	90	30.80	62.26	64.68	63.05	64.69	0.000428	0.48	64.17	46.03	0.07	0.04	46.67
Reach 1	113752	91	26.80	62.26	64.57	63.01	64.57	0.000432	0.45	59.03	44.53	0.07	0.04	45.12
Reach 1	113752	92	22.90	62.26	64.44	62.96	64.45	0.000435	0.43	53.51	42.77	0.07	0.03	43.30
Reach 1	113752	93	18.40	62.26	64.30	62.90	64.30	0.000439	0.39	47.51	40.77	0.06	0.03	41.23
Reach 1	113752	94	15.20	62.26	64.20	62.86	64.20	0.000442	0.35	43.60	39.41	0.06	0.03	39.83
Reach 1	113752	95	12.60	62.26	64.04	62.81	64.04	0.000473	0.34	37.34	37.12	0.06	0.03	37.47
Reach 1	113752	96	10.70	62.26	63.92	62.78	63.92	0.000485	0.32	32.98	35.45	0.06	0.03	35.74
Reach 1	113752	97	8.40	62.26	63.76	62.73	63.76	0.000501	0.31	27.51	33.22	0.06	0.03	33.44
Reach 1	113752	98	5.33	62.26	63.50	62.65	63.51	0.000534	0.27	19.52	29.35	0.06	0.02	29.47
Reach 1	113752	99	4.12	62.26	63.38	62.61	63.38	0.000545	0.26	16.02	26.74	0.06	0.02	26.85
Reach 1	113752	99.5	2.33	62.26	63.15	62.54	63.15	0.000556	0.22	10.45	21.95	0.06	0.02	22.03
Reach 1	113752	99.75	1.47	62.26	62.99	62.49	63.00	0.000594	0.20	7.29	18.69	0.06	0.01	18.76
Reach 1	113752	100	0.25	62.26	62.63	62.38	62.63	0.000722	0.13	1.88	10.23	0.06	0.01	10.26
Reach 1	109471	1	2900.00	59.30	72.57	65.68	72.58	0.000127	0.92	7821.59	2675.25	0.06	0.05	242.36
Reach 1	109471	5	1330.00	59.30	70.45	63.61	70.46	0.000192	0.87	2704.55	1845.24	0.07	0.05	242.36
Reach 1	109471	10	798.00	59.30	69.00	62.69	69.01	0.000332	0.88	1153.32	528.53	0.09	0.06	226.47
Reach 1	109471	15	575.00	59.30	68.17	62.21	68.18	0.000375	0.91	764.16	417.12	0.09	0.07	180.26
Reach 1	109471	20	453.00	59.30	67.31	61.88	67.33	0.000510	1.05	460.51	242.95	0.11	0.09	143.21
Reach 1	109471	25	358.00	59.30	66.43	61.57	66.45	0.000321	1.15	322.85	103.93	0.10	0.08	73.03
Reach 1	109471	30	285.00	59.30	65.64	61.32	65.66	0.000323	1.11	255.74	67.43	0.10	0.08	67.16
Reach 1	109471	35	233.00	59.30	65.15	61.12	65.16	0.000293	1.04	224.61	59.50	0.09	0.07	61.08
Reach 1	109471	40	191.00	59.30	64.76	60.95	64.78	0.000270	0.94	202.33	56.91	0.09	0.06	58.36
Reach 1	109471	45	162.00	59.30	64.55	60.81	64.56	0.000254	0.85	190.17	55.71	0.08	0.05	57.08
Reach 1	109471	50	137.00	59.30	64.33	60.68	64.34	0.000235	0.77	178.55	54.53	0.07	0.05	55.83
Reach 1	109471	55	119.00	59.30	64.16	60.59	64.17	0.000217	0.70	169.36	53.58	0.07	0.04	54.82
Reach 1	109471	60	102.00	59.30	64.01	60.49	64.01	0.000194	0.63	161.06	52.71	0.06	0.04	53.89
Reach 1	109471	65	86.00	59.30	63.83	60.40	63.83	0.000168	0.57	151.62	51.70	0.06	0.03	52.82
Reach 1	109471	70	73.30	59.30	63.66	60.31	63.67	0.000146	0.51	143.08	50.77	0.05	0.03	51.83
Reach 1	109471	75	64.40	59.30	63.51	60.25	63.51	0.000133	0.48	135.38	49.92	0.05	0.02	50.92
Reach 1	109471	80	56.90	59.30	63.39	60.19	63.40	0.000117	0.44	129.75	49.29	0.05	0.02	50.25
Reach 1	109471	85	49.80	59.30	63.27	60.14	63.27	0.000103	0.40	123.75	48.60	0.04	0.02	49.52
Reach 1	109471	90	32.00	59.30	63.03	59.98	63.03	0.000074	0.29	112.01	47.23	0.03	0.01	48.07
Reach 1	109471	91	27.80	59.30	62.96	59.94	62.97	0.000064	0.25	109.06	46.89	0.03	0.01	47.70
Reach 1	109471	92	23.90	59.30	62.89	59.90	62.89	0.000054	0.23	105.67	46.48	0.03	0.01	47.27
Reach 1	109471	93	19.20	59.30	62.79	59.85	62.79	0.000044	0.19	100.77	45.89	0.02	0.01	46.64
Reach 1	109471	94	15.90	59.30	62.71	59.81	62.71	0.000039	0.16	97.29	45.46	0.02	0.01	46.19
Reach 1	109471	95	13.00	59.30	62.47	59.76	62.47	0.000039	0.15	86.61	44.13	0.02	0.00	44.77
Reach 1	109471	96	11.10	59.30	62.39	59.73	62.39	0.000032	0.13	83.25	43.56	0.02	0.00	44.17
Reach 1	109471	97	8.64	59.30	62.37	59.69	62.37	0.000020	0.10	82.31	43.31	0.01	0.00	43.92
Reach 1	109471	98	5.48	59.30	62.24	59.62	62.24	0.000010	0.07	76.86	41.84	0.01	0.00	42.43
Reach 1	109471	99	4.15	59.30	62.13	59.59	62.13	0.000006	0.06	72.26	40.57	0.01	0.00	41.13
Reach 1	109471	99.5	2.34	59.30	61.98	59.53	61.98	0.000003	0.04	66.08	38.78	0.00	0.00	39.31
Reach 1	109471	99.75	1.44	59.30	61.91	59.49	61.91	0.000001	0.02	63.41	37.99	0.00	0.00	38.50
Reach 1	109471	100	0.23	59.30	61.65	59.39	61.65	0.000000	0.00	53.96	35.02	0.00	0.00	35.48
Reach 1	105649	1	2910.00	57.59	72.16	63.21	72.17	0.000097	0.94	6924.10	2203.70	0.06	0.05	290.28
Reach 1	105649	5	1340.00	57.59	69.89	61.20	69.89	0.000089	0.73	2781.77	1262.99	0.05	0.03	281.73
Reach 1	105649	10	805.00	57.59	68.13	60.44	68.14	0.000114	0.66	1315.32	634.95	0.05	0.03	264.59
Reach 1	105649	15	581.00	57.59	67.07	60.06	67.07	0.000128	0.62	937.43	252.54	0.06	0.03	246.94
Reach 1	105649	20	460.00	57.59	66.20	59.83	66.20	0.000144	0.63	731.92	214.47	0.06	0.03	218.08
Reach 1	105649	25	363.00	57.59	65.47	59.63	65.47	0.000150	0.62	584.25	190.75	0.06	0.03	194.15
Reach 1	105649	30	290.00	57.59	64.84	59.41	64.85	0.000141	0.61	472.12	159.67	0.06	0.03	162.76
Reach 1	105649	35	238.00	57.59	64.43	59.25	64.43	0.000132	0.58	409.10	142.78	0.06	0.02	145.68

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	105649	40	196.00	57.59	64.10	59.11	64.11	0.000096	0.53	367.74	114.01	0.05	0.02	116.74
Reach 1	105649	45	167.00	57.59	63.94	59.00	63.94	0.000086	0.48	349.13	108.83	0.05	0.02	111.47
Reach 1	105649	50	142.00	57.59	63.78	58.90	63.78	0.000074	0.43	332.67	104.03	0.04	0.01	106.60
Reach 1	105649	55	121.00	57.59	63.66	58.81	63.66	0.000062	0.38	320.21	100.25	0.04	0.01	102.76
Reach 1	105649	60	105.00	57.59	63.57	58.73	63.57	0.000052	0.34	311.15	97.41	0.03	0.01	99.87
Reach 1	105649	65	88.70	57.59	63.46	58.65	63.46	0.000040	0.30	300.64	92.81	0.03	0.01	95.21
Reach 1	105649	70	75.50	57.59	63.35	58.57	63.35	0.000031	0.26	290.65	88.22	0.03	0.01	90.58
Reach 1	105649	75	66.10	57.59	63.23	58.51	63.23	0.000025	0.24	280.49	83.30	0.02	0.01	85.60
Reach 1	105649	80	58.20	57.59	63.15	58.47	63.15	0.000020	0.21	274.27	80.14	0.02	0.00	82.41
Reach 1	105649	85	50.90	57.59	63.06	58.41	63.06	0.000015	0.19	267.26	76.42	0.02	0.00	78.65
Reach 1	105649	90	33.10	57.59	62.89	58.28	62.89	0.000009	0.13	254.44	69.11	0.01	0.00	71.25
Reach 1	105649	91	28.80	57.59	62.85	58.24	62.85	0.000007	0.11	251.70	67.44	0.01	0.00	69.57
Reach 1	105649	92	24.90	57.59	62.79	58.20	62.79	0.000005	0.10	248.19	65.25	0.01	0.00	67.35
Reach 1	105649	93	20.20	57.59	62.71	58.16	62.71	0.000004	0.08	242.68	64.39	0.01	0.00	66.44
Reach 1	105649	94	16.50	57.59	62.64	58.12	62.64	0.000003	0.07	238.47	64.17	0.01	0.00	66.18
Reach 1	105649	95	13.50	57.59	62.41	58.08	62.41	0.000003	0.06	223.64	63.41	0.01	0.00	65.29
Reach 1	105649	96	11.40	57.59	62.35	58.05	62.35	0.000002	0.05	219.60	63.20	0.00	0.00	65.04
Reach 1	105649	97	8.89	57.59	62.34	58.01	62.34	0.000001	0.04	219.42	63.19	0.00	0.00	65.03
Reach 1	105649	98	5.63	57.59	62.23	57.97	62.23	0.000001	0.03	212.36	62.83	0.00	0.00	64.60
Reach 1	105649	99	4.18	57.59	62.12	57.91	62.12	0.000000	0.02	205.66	62.48	0.00	0.00	64.19
Reach 1	105649	99.5	2.34	57.59	61.97	57.85	61.97	0.000000	0.01	196.32	61.99	0.00	0.00	63.61
Reach 1	105649	99.75	1.40	57.59	61.91	57.80	61.91	0.000000	0.01	192.14	61.77	0.00	0.00	63.35
Reach 1	105649	100	0.20	57.59	61.65	57.68	61.65	0.000000	0.00	176.35	60.92	0.00	0.00	62.36
Reach 1	102932	1	2910.00	58.29	71.73	64.11	71.76	0.000307	1.73	4837.88	2039.88	0.10	0.16	131.28
Reach 1	102932	5	1340.00	58.29	69.41	62.42	69.44	0.000345	1.49	1539.78	929.60	0.10	0.13	131.28
Reach 1	102932	10	805.00	58.29	67.56	61.66	67.59	0.000457	1.35	686.63	276.79	0.11	0.13	125.72
Reach 1	102932	15	581.00	58.29	66.44	61.24	66.46	0.000499	1.28	459.70	134.67	0.11	0.12	113.42
Reach 1	102932	20	460.00	58.29	65.66	60.98	65.68	0.000384	1.22	377.96	84.27	0.10	0.10	87.22
Reach 1	102932	25	363.00	58.29	64.97	60.75	64.99	0.000308	1.12	324.85	74.05	0.09	0.08	76.71
Reach 1	102932	30	290.00	58.29	64.37	60.57	64.38	0.000270	1.03	281.35	70.24	0.09	0.07	72.64
Reach 1	102932	35	238.00	58.29	63.97	60.42	63.98	0.000249	0.94	253.59	68.71	0.09	0.06	70.91
Reach 1	102932	40	196.00	58.29	63.71	60.30	63.72	0.000213	0.83	236.02	67.73	0.08	0.04	69.79
Reach 1	102932	45	167.00	58.29	63.59	60.10	63.60	0.000188	0.73	227.95	67.27	0.07	0.04	69.27
Reach 1	102932	50	142.00	58.29	63.49	59.98	63.50	0.000161	0.64	221.36	66.90	0.06	0.03	68.84
Reach 1	102932	55	121.00	58.29	63.42	59.87	63.43	0.000133	0.56	216.64	66.62	0.05	0.03	68.54
Reach 1	102932	60	105.00	58.29	63.37	59.76	63.37	0.000110	0.49	213.00	66.42	0.05	0.02	68.30
Reach 1	102932	65	88.70	58.29	63.30	59.65	63.30	0.000086	0.43	208.34	66.15	0.04	0.02	68.00
Reach 1	102932	70	75.50	58.29	63.22	59.55	63.22	0.000069	0.37	203.17	65.85	0.04	0.01	67.66
Reach 1	102932	75	66.10	58.29	63.12	59.47	63.12	0.000058	0.34	196.72	65.47	0.03	0.01	67.23
Reach 1	102932	80	58.20	58.29	63.06	59.41	63.06	0.000048	0.30	192.98	65.25	0.03	0.01	66.98
Reach 1	102932	85	50.90	58.29	62.99	59.34	62.99	0.000040	0.27	188.14	64.97	0.03	0.01	66.66
Reach 1	102932	90	33.10	58.29	62.84	59.17	62.84	0.000025	0.19	178.59	64.40	0.02	0.00	66.02
Reach 1	102932	91	28.80	58.29	62.81	59.12	62.81	0.000021	0.16	176.50	64.28	0.02	0.00	65.88
Reach 1	102932	92	24.90	58.29	62.76	59.07	62.76	0.000017	0.14	173.53	64.10	0.02	0.00	65.67
Reach 1	102932	93	20.20	58.29	62.68	59.01	62.68	0.000013	0.12	168.55	63.80	0.01	0.00	65.34
Reach 1	102932	94	16.50	58.29	62.62	58.95	62.62	0.000011	0.10	164.61	63.57	0.01	0.00	65.07
Reach 1	102932	95	13.50	58.29	62.39	58.90	62.39	0.000011	0.09	150.05	62.69	0.01	0.00	64.07
Reach 1	102932	96	11.40	58.29	62.33	58.86	62.33	0.000008	0.08	146.33	62.46	0.01	0.00	63.81
Reach 1	102932	97	8.89	58.29	62.33	58.81	62.33	0.000005	0.06	146.49	62.47	0.01	0.00	63.82
Reach 1	102932	98	5.63	58.29	62.23	58.72	62.23	0.000002	0.04	139.81	62.06	0.00	0.00	63.35
Reach 1	102932	99	4.18	58.29	62.12	58.67	62.12	0.000001	0.03	133.28	61.65	0.00	0.00	62.90
Reach 1	102932	99.5	2.34	58.29	61.97	58.60	61.97	0.000001	0.02	124.16	61.08	0.00	0.00	62.25
Reach 1	102932	99.75	1.40	58.29	61.91	58.54	61.91	0.000000	0.01	120.07	60.83	0.00	0.00	61.96
Reach 1	102932	100	0.20	58.29	61.65	58.40	61.65	0.000000	0.00	104.73	58.07	0.00	0.00	59.10
Reach 1	102000	1	2910.00	60.90	71.46	64.56	71.49	0.000296	1.67	4949.58	2073.51	0.10	0.15	148.42
Reach 1	102000	5	1340.00	60.90	69.11	63.41	69.14	0.000303	1.38	1474.96	672.29	0.10	0.12	144.92
Reach 1	102000	10	805.00	60.90	67.20	62.92	67.22	0.000350	1.22	770.78	262.05	0.10	0.11	131.65
Reach 1	102000	15	581.00	60.90	66.02	62.68	66.05	0.000434	1.17	513.33	172.92	0.10	0.11	127.60
Reach 1	102000	20	460.00	60.90	65.20	62.54	65.22	0.000535	1.17	394.38	122.19	0.11	0.11	124.30
Reach 1	102000	25	363.00	60.90	64.49	62.41	64.51	0.000677	1.18	308.26	119.76	0.13	0.11	121.48
Reach 1	102000	30	290.00	60.90	63.80	62.30	63.83	0.001048	1.28	226.64	115.60	0.16	0.13	117.00
Reach 1	102000	35	238.00	60.90	63.31	62.22	63.34	0.001633	1.38	172.07	109.19	0.19	0.16	110.23
Reach 1	102000	40	196.00	60.90	62.97	62.15	63.00	0.002475	1.45	135.07	108.19	0.23	0.19	108.93
Reach 1	102000	45	167.00	60.90	62.76	62.10	62.80	0.003541	1.48	112.98	107.65	0.25	0.23	108.22
Reach 1	102000	50	142.00	60.90	62.62	62.02	62.66	0.004347	1.45	98.23	106.69	0.27	0.25	107.15
Reach 1	102000	55	121.00	60.90	62.51	61.97	62.54	0.005297	1.42	85.51	106.30	0.28	0.27	106.66
Reach 1	102000	60	105.00	60.90	62.42	61.92	62.45	0.005960	1.37	76.77	106.08	0.28	0.27	106.36
Reach 1	102000	65	88.70	60.90	62.33	61.86	62.36	0.006551	1.32	67.41	103.80	0.29	0.27	104.04
Reach 1	102000	70	75.50	60.90	62.26	61.74	62.29	0.006796	1.25	60.23	101.27	0.29	0.25	101.49
Reach 1	102000	75	66.10	60.90	62.22	61.69	62.24	0.006561	1.18	55.86	99.70	0.28	0.23	99.91
Reach 1	102000	80	58.20	60.90	62.17	61.65	62.19	0.006671	1.14	51.13	97.98	0.28	0.22	98.17
Reach 1	102000	85	50.90	60.90	62.13	61.60	62.15	0.006523	1.08	47.22	96.52	0.27	0.20	96.71
Reach 1	102000	90	33.10	60.90	62.03	61.49	62.04	0.006438	0.88	37.49	85.22	0.23	0.18	85.38
Reach 1	102000	91	28.80	60.90	61.99	61.46	62.00	0.006571	0.84	34.26	81.51	0.23	0.17	81.66
Reach 1	102000	92	24.90	60.90	61.94	61.42	61.95	0.006646	0.81	30.56	73.98	0.22	0.17	74.12
Reach 1	102000	93	20.20	60.90	61.89	61.38	61.90	0.006508	0.75	26.79	68.60	0.21	0.16	68.73
Reach 1	102000	94	16.50	60.90	61.84	61.34	61.85	0.006396	0.69	23.95	60.99	0.19	0.16	61.11
Reach 1	102000	95	13.50	60.90	61.75	61.29	61.75	0.005224	0.70	19.33	39.34	0.18	0.16	39.44
Reach 1	102000	96	11.40	60.90	61.69	61.26	61.70	0.005258	0.67	17.13	37.67	0.17	0.15	37.77
Reach 1	102000	97	8.89	60.90	61.59	61.23	61.60	0.006199	0.65	13.61	34.82	0.18	0.15	34.91
Reach 1	102000	98	5.63	60.90	61.48	61.16	61.48	0.006315	0.57	9.89	31.52	0.18	0.12	31.60
Reach 1	102000	99	4.18	60.90	61.42	61.13	61.43	0.005921	0.51	8.16	29.05	0.17	0.10	29.12
Reach 1	102000	99.5	2.34	60.90	61.30	61.06	61.31	0.005696	0.45	5.16	21.46	0.16	0.09	21.52
Reach 1	102000	99.75	1.40	60.90	61.23	61.03	61.23	0.005802	0.39	3.60	19.02	0.16	0.07	19.07
Reach 1	102000	100	0.20	60.90	61.04	60.96	61.04	0.005263	0.22	0.90	10.62	0.13	0.03	10.64
Reach 1	101625	1	3040.00	58.52	71.34	63.16	71.38	0.000313	1.93	4939.08	1906.93	0.11	0.19	104.62
Reach 1	101625	5	1410.00	58.52	69.00	61.55	69.03	0.000287	1.55	1701.98	734.70	0.10	0.14	104.62
Reach 1	101625	10	844.00	58.52	67.08	60.84	67.11	0.000312	1.37	723.54	380.43	0.09	0.12	96.08

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	101625	15	616.00	58.52	65.90	60.51	65.92	0.000296	1.22	504.05	86.81	0.09	0.10	90.32
Reach 1	101625	20	494.00	58.52	65.07	60.30	65.09	0.000283	1.14	433.57	83.67	0.09	0.09	86.70
Reach 1	101625	25	399.00	58.52	64.35	60.13	64.37	0.000274	1.07	374.23	81.05	0.09	0.08	83.67
Reach 1	101625	30	322.00	58.52	63.63	59.97	63.65	0.000266	1.02	316.75	78.39	0.09	0.07	80.59
Reach 1	101625	35	265.00	58.52	63.09	59.85	63.10	0.000272	0.97	274.37	76.62	0.09	0.06	78.45
Reach 1	101625	40	222.00	58.52	62.68	59.74	62.69	0.000273	0.91	243.33	74.54	0.09	0.05	76.13
Reach 1	101625	45	190.00	58.52	62.37	59.66	62.38	0.000278	0.86	220.43	72.91	0.09	0.05	74.32
Reach 1	101625	50	162.00	58.52	62.14	59.59	62.15	0.000280	0.79	203.93	71.89	0.08	0.05	73.16
Reach 1	101625	55	140.00	58.52	61.93	59.53	61.94	0.000282	0.74	189.30	71.07	0.08	0.05	72.22
Reach 1	101625	60	123.00	58.52	61.74	59.47	61.75	0.000288	0.70	175.93	70.51	0.08	0.04	71.53
Reach 1	101625	65	104.00	58.52	61.51	59.40	61.52	0.000293	0.65	159.88	69.55	0.08	0.04	70.45
Reach 1	101625	70	87.90	58.52	61.27	59.33	61.27	0.000306	0.62	142.85	68.51	0.08	0.04	69.27
Reach 1	101625	75	76.30	58.52	61.07	59.28	61.07	0.000321	0.59	129.19	67.67	0.08	0.04	68.32
Reach 1	101625	80	66.10	58.52	60.87	59.22	60.88	0.000339	0.57	116.10	66.85	0.08	0.04	67.39
Reach 1	101625	85	57.10	58.52	60.69	59.18	60.69	0.000360	0.55	103.89	66.07	0.08	0.04	66.52
Reach 1	101625	90	39.60	58.52	60.37	59.08	60.37	0.000414	0.48	82.95	64.73	0.07	0.03	64.99
Reach 1	101625	91	34.60	58.52	60.27	59.05	60.27	0.000439	0.45	76.37	63.94	0.07	0.03	64.18
Reach 1	101625	92	30.20	58.52	60.17	59.03	60.17	0.000466	0.43	70.04	63.12	0.07	0.03	63.34
Reach 1	101625	93	25.20	58.52	60.04	58.99	60.04	0.000505	0.41	61.84	61.39	0.07	0.03	61.58
Reach 1	101625	94	20.30	58.52	59.88	58.95	59.88	0.000573	0.39	52.54	59.26	0.07	0.03	59.43
Reach 1	101625	95	16.10	58.52	59.77	58.92	59.77	0.000659	0.35	45.98	57.89	0.07	0.03	58.03
Reach 1	101625	96	13.60	58.52	59.67	58.89	59.67	0.000739	0.34	40.40	56.69	0.07	0.03	56.82
Reach 1	101625	97	10.30	58.52	59.46	58.85	59.47	0.001147	0.36	28.95	52.03	0.08	0.04	52.13
Reach 1	101625	98	6.46	58.52	59.19	58.79	59.19	0.002092	0.40	16.35	39.40	0.11	0.05	39.46
Reach 1	101625	99	4.38	58.52	59.04	58.75	59.04	0.003706	0.42	10.55	36.31	0.14	0.07	36.34
Reach 1	101625	99.5	2.35	58.52	58.90	58.69	58.90	0.006120	0.41	5.75	29.53	0.16	0.07	29.55
Reach 1	101625	99.75	1.37	58.52	58.81	58.65	58.82	0.007262	0.38	3.58	23.00	0.17	0.07	23.01
Reach 1	101625	100	0.17	58.52	58.65	58.57	58.65	0.005113	0.20	0.83	10.65	0.13	0.02	10.66
Reach 1	101447	1	3040.00	57.45	71.26	62.54	71.31	0.000343	2.12	4784.26	2107.05	0.11	0.23	92.88
Reach 1	101447	5	1410.00	57.45	68.94	60.83	68.97	0.000258	1.57	1651.06	623.16	0.09	0.14	92.88
Reach 1	101447	10	844.00	57.45	67.02	60.05	67.05	0.000272	1.35	802.84	352.49	0.09	0.12	89.45
Reach 1	101447	15	616.00	57.45	65.85	59.66	65.87	0.000250	1.20	531.45	131.83	0.08	0.10	83.90
Reach 1	101447	20	494.00	57.45	65.03	59.41	65.05	0.000229	1.10	449.69	82.48	0.08	0.08	80.67
Reach 1	101447	25	399.00	57.45	64.31	59.18	64.33	0.000207	1.01	394.47	74.59	0.08	0.07	77.46
Reach 1	101447	30	322.00	57.45	63.59	58.98	63.60	0.000184	0.94	341.93	71.60	0.08	0.05	74.14
Reach 1	101447	35	265.00	57.45	63.04	58.82	63.06	0.000172	0.87	303.43	69.37	0.07	0.05	71.64
Reach 1	101447	40	222.00	57.45	62.63	58.70	62.64	0.000162	0.81	275.28	68.13	0.07	0.04	70.15
Reach 1	101447	45	190.00	57.45	62.32	58.60	62.33	0.000157	0.75	254.21	67.32	0.07	0.04	69.13
Reach 1	101447	50	162.00	57.45	62.10	58.50	62.10	0.000151	0.68	238.94	66.74	0.06	0.03	68.39
Reach 1	101447	55	140.00	57.45	61.89	58.43	61.90	0.000145	0.62	225.35	66.22	0.06	0.03	67.73
Reach 1	101447	60	123.00	57.45	61.70	58.37	61.71	0.000140	0.58	212.89	65.60	0.06	0.03	67.00
Reach 1	101447	65	104.00	57.45	61.47	58.30	61.48	0.000132	0.53	197.99	64.80	0.05	0.02	66.07
Reach 1	101447	70	87.90	57.45	61.23	58.24	61.23	0.000126	0.48	182.09	63.94	0.05	0.02	65.07
Reach 1	101447	75	76.30	57.45	61.02	58.18	61.03	0.000120	0.45	169.30	63.24	0.05	0.02	64.25
Reach 1	101447	80	66.10	57.45	60.83	58.13	60.83	0.000114	0.42	157.03	62.56	0.05	0.02	63.46
Reach 1	101447	85	57.10	57.45	60.65	58.09	60.65	0.000108	0.39	145.55	61.92	0.05	0.02	62.71
Reach 1	101447	90	39.60	57.45	60.32	57.99	60.33	0.000096	0.31	125.81	60.80	0.04	0.01	61.41
Reach 1	101447	91	34.60	57.45	60.22	57.96	60.22	0.000092	0.29	119.56	60.25	0.04	0.01	60.81
Reach 1	101447	92	30.20	57.45	60.12	57.93	60.12	0.000087	0.27	113.55	59.66	0.03	0.01	60.19
Reach 1	101447	93	25.20	57.45	59.99	57.90	59.99	0.000081	0.24	105.67	58.86	0.03	0.01	59.35
Reach 1	101447	94	20.30	57.45	59.83	57.85	59.83	0.000073	0.21	96.55	57.36	0.03	0.01	57.81
Reach 1	101447	95	16.10	57.45	59.71	57.82	59.72	0.000068	0.18	89.99	56.19	0.02	0.01	56.61
Reach 1	101447	96	13.60	57.45	59.61	57.80	59.61	0.000061	0.16	84.41	54.96	0.02	0.01	55.37
Reach 1	101447	97	10.30	57.45	59.39	57.76	59.39	0.000055	0.14	72.30	51.95	0.02	0.00	52.33
Reach 1	101447	98	6.46	57.45	59.07	57.72	59.07	0.000042	0.11	56.62	46.60	0.02	0.00	46.93
Reach 1	101447	99	4.38	57.45	58.83	57.69	58.83	0.000034	0.09	46.14	43.23	0.02	0.00	43.50
Reach 1	101447	99.5	2.35	57.45	58.54	57.64	58.54	0.000027	0.07	33.45	41.53	0.01	0.00	41.70
Reach 1	101447	99.75	1.37	57.45	58.33	57.61	58.33	0.000024	0.05	24.95	40.36	0.01	0.00	40.46
Reach 1	101447	100	0.17	57.45	57.86	57.52	57.86	0.000015	0.02	7.41	32.22	0.01	0.00	32.24
Reach 1	100080	1	3070.00	57.29	70.83	62.92	70.88	0.000341	1.90	4439.14	2031.99	0.11	0.19	137.31
Reach 1	100080	5	1420.00	57.29	68.58	61.02	68.61	0.000290	1.48	1202.22	647.96	0.10	0.13	133.42
Reach 1	100080	10	850.00	57.29	66.67	60.28	66.69	0.000281	1.21	713.27	209.02	0.09	0.10	123.38
Reach 1	100080	15	621.00	57.29	65.51	59.93	65.53	0.000290	1.10	566.15	138.33	0.09	0.09	117.27
Reach 1	100080	20	500.00	57.29	64.69	59.71	64.71	0.000306	1.05	474.82	110.01	0.09	0.08	112.98
Reach 1	100080	25	404.00	57.29	63.98	59.53	63.99	0.000329	1.02	397.61	106.55	0.09	0.07	109.23
Reach 1	100080	30	328.00	57.29	63.27	59.37	63.28	0.000333	1.01	324.62	95.58	0.10	0.07	98.03
Reach 1	100080	35	270.00	57.29	62.72	59.19	62.74	0.000295	0.98	276.80	80.78	0.09	0.06	82.89
Reach 1	100080	40	227.00	57.29	62.32	59.05	62.33	0.000252	0.92	246.49	69.81	0.09	0.05	71.65
Reach 1	100080	45	194.00	57.29	62.01	58.94	62.02	0.000246	0.86	225.03	68.07	0.08	0.05	69.72
Reach 1	100080	50	166.00	57.29	61.78	58.84	61.79	0.000244	0.79	209.85	67.37	0.08	0.05	68.88
Reach 1	100080	55	144.00	57.29	61.59	58.74	61.60	0.000241	0.73	196.59	66.75	0.08	0.04	68.15
Reach 1	100080	60	126.00	57.29	61.40	58.66	61.41	0.000238	0.68	184.25	66.17	0.07	0.04	67.45
Reach 1	100080	65	107.00	57.29	61.18	58.57	61.19	0.000235	0.63	169.67	65.48	0.07	0.04	66.63
Reach 1	100080	70	90.10	57.29	60.95	58.49	60.95	0.000231	0.58	154.41	64.74	0.07	0.03	65.75
Reach 1	100080	75	78.10	57.29	60.76	58.42	60.76	0.000228	0.55	142.28	64.16	0.06	0.03	65.05
Reach 1	100080	80	67.40	57.29	60.57	58.35	60.57	0.000225	0.52	130.34	63.57	0.06	0.03	64.35
Reach 1	100080	85	58.20	57.29	60.39	58.30	60.40	0.000224	0.49	119.11	63.01	0.06	0.03	63.69
Reach 1	100080	90	40.80	57.29	60.09	58.17	60.09	0.000219	0.41	100.20	62.07	0.06	0.02	62.56
Reach 1	100080	91	35.60	57.29	59.99	58.14	60.00	0.000218	0.38	94.24	61.58	0.05	0.02	62.03
Reach 1	100080	92	31.20	57.29	59.90	58.09	59.90	0.000216	0.35	88.49	60.96	0.05	0.02	61.38
Reach 1	100080	93	26.10	57.29	59.78	58.05	59.78	0.000213	0.32	80.98	60.15	0.05	0.02	60.53
Reach 1	100080	94	21.00	57.29	59.63	58.00	59.63	0.000211	0.29	72.24	59.20	0.05	0.02	59.52
Reach 1	100080	95	16.50	57.29	59.52	57.95	59.52	0.000209	0.25	65.78	58.48	0.04	0.01	58.76
Reach 1	100080	96	14.00	57.29	59.43	57.92	59.43	0.000209	0.23	60.64	57.90	0.04	0.01	58.16
Reach 1	100080	97	10.50	57.29	59.23	57.85	59.23	0.000184	0.21	49.78	49.50	0.04	0.01	49.73
Reach 1	100080	98	6.61	57.29	58.93	57.74	58.93	0.000166	0.18	36.29	41.61	0.03	0.01	41.80
Reach 1	100080	99	4.42	57.29	58.71	57.68	58.71	0.000155	0.16	27.49	36.12	0.03	0.01	36.27
Reach 1	100080	99.5	2.35	57.29	58.41	57.59	58.41	0.000151	0.13	17.72	30.47	0.03	0.01	30.58
Reach 1	100080	99.75	1.33	57.29	58.20	57.53	58.20	0.000154	0.11	11.82	26.48	0.03	0.00	26.56

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	100080	100	0.14	57.29	57.73	57.39	57.73	0.000113	0.06	2.33	10.50	0.02	0.00	10.54
Reach 1	96449	1	3070.00	56.70	69.80	61.55	69.83	0.000314	1.91	5395.02	2578.07	0.11	0.19	110.04
Reach 1	96449	5	1420.00	56.70	67.55	59.99	67.59	0.000306	1.63	1301.38	889.85	0.10	0.15	107.33
Reach 1	96449	10	850.00	56.70	65.72	59.30	65.74	0.000265	1.29	707.52	144.17	0.09	0.11	100.34
Reach 1	96449	15	621.00	56.70	64.59	58.98	64.61	0.000245	1.13	560.86	118.03	0.08	0.09	95.78
Reach 1	96449	20	500.00	56.70	63.77	58.80	63.79	0.000235	1.05	474.14	89.29	0.08	0.08	92.48
Reach 1	96449	25	404.00	56.70	63.05	58.63	63.07	0.000223	0.98	410.96	85.97	0.08	0.06	88.79
Reach 1	96449	30	328.00	56.70	62.35	58.48	62.36	0.000212	0.93	351.63	82.97	0.08	0.05	85.41
Reach 1	96449	35	270.00	56.70	61.82	58.36	61.84	0.000206	0.88	308.47	80.90	0.08	0.05	83.05
Reach 1	96449	40	227.00	56.70	61.45	58.26	61.46	0.000200	0.82	278.18	79.42	0.08	0.04	81.36
Reach 1	96449	45	194.00	56.70	61.15	58.18	61.16	0.000194	0.76	255.04	78.27	0.07	0.04	80.05
Reach 1	96449	50	166.00	56.70	60.95	58.10	60.96	0.000190	0.69	239.19	77.47	0.07	0.04	79.14
Reach 1	96449	55	144.00	56.70	60.77	58.02	60.78	0.000184	0.64	225.33	76.76	0.07	0.03	78.34
Reach 1	96449	60	126.00	56.70	60.60	57.96	60.61	0.000178	0.59	212.50	76.10	0.06	0.03	77.59
Reach 1	96449	65	107.00	56.70	60.40	57.86	60.41	0.000171	0.54	197.31	75.31	0.06	0.03	76.69
Reach 1	96449	70	90.10	56.70	60.19	57.76	60.20	0.000163	0.50	181.57	74.49	0.06	0.02	75.75
Reach 1	96449	75	78.10	56.70	60.02	57.70	60.02	0.000156	0.46	168.95	73.82	0.05	0.02	74.99
Reach 1	96449	80	67.40	56.70	59.85	57.63	59.86	0.000147	0.43	156.74	73.16	0.05	0.02	74.24
Reach 1	96449	85	58.20	56.70	59.70	57.57	59.70	0.000140	0.40	145.27	72.54	0.05	0.02	73.54
Reach 1	96449	90	40.80	56.70	59.43	57.45	59.43	0.000124	0.32	125.79	71.48	0.04	0.01	72.33
Reach 1	96449	91	35.60	56.70	59.34	57.40	59.34	0.000119	0.30	119.77	71.15	0.04	0.01	71.95
Reach 1	96449	92	31.20	56.70	59.26	57.35	59.26	0.000114	0.27	114.00	70.83	0.04	0.01	71.59
Reach 1	96449	93	26.10	56.70	59.15	57.31	59.15	0.000107	0.25	106.27	70.40	0.04	0.01	71.10
Reach 1	96449	94	21.00	56.70	59.02	57.25	59.02	0.000099	0.22	96.94	69.88	0.03	0.01	70.50
Reach 1	96449	95	16.50	56.70	58.92	57.19	58.92	0.000093	0.18	89.95	69.48	0.03	0.01	70.05
Reach 1	96449	96	14.00	56.70	58.84	57.16	58.84	0.000088	0.17	84.37	69.17	0.03	0.01	69.69
Reach 1	96449	97	10.50	56.70	58.68	57.10	58.68	0.000078	0.14	73.48	68.55	0.02	0.01	68.99
Reach 1	96449	98	6.61	56.70	58.46	57.03	58.46	0.000060	0.11	58.98	65.06	0.02	0.00	65.41
Reach 1	96449	99	4.42	56.70	58.31	56.98	58.31	0.000046	0.09	48.99	61.78	0.02	0.00	62.06
Reach 1	96449	99.5	2.35	56.70	58.11	56.92	58.11	0.000030	0.06	37.23	57.68	0.01	0.00	57.89
Reach 1	96449	99.75	1.33	56.70	57.96	56.87	57.96	0.000018	0.05	29.02	49.75	0.01	0.00	49.90
Reach 1	96449	100	0.14	56.70	57.64	56.77	57.64	0.000001	0.01	16.80	31.86	0.00	0.00	31.93
Reach 1	94192	1	3090.00	57.23	69.03	61.62	69.05	0.000254	1.62	4719.58	2100.80	0.09	0.14	121.94
Reach 1	94192	5	1430.00	57.23	66.78	60.07	66.83	0.000398	1.75	827.12	652.95	0.11	0.18	115.26
Reach 1	94192	10	858.00	57.23	65.04	59.39	65.07	0.000340	1.36	629.35	229.79	0.10	0.13	106.94
Reach 1	94192	15	628.00	57.23	63.94	59.06	63.96	0.000331	1.21	517.26	172.54	0.09	0.11	101.70
Reach 1	94192	20	506.00	57.23	63.13	58.88	63.15	0.000338	1.15	438.30	161.88	0.10	0.09	97.85
Reach 1	94192	25	411.00	57.23	62.41	58.72	62.43	0.000355	1.11	370.82	152.45	0.10	0.09	94.45
Reach 1	94192	30	334.00	57.23	61.70	58.57	61.72	0.000385	1.09	305.66	89.76	0.10	0.08	91.05
Reach 1	94192	35	275.00	57.23	61.15	58.47	61.17	0.000413	1.07	257.47	85.54	0.11	0.08	86.65
Reach 1	94192	40	231.00	57.23	60.76	58.38	60.77	0.000434	1.03	224.59	82.03	0.11	0.07	83.02
Reach 1	94192	45	198.00	57.23	60.45	58.31	60.47	0.000453	0.99	199.85	79.51	0.11	0.07	80.41
Reach 1	94192	50	169.00	57.23	60.24	58.24	60.26	0.000472	0.92	183.36	78.24	0.11	0.07	79.06
Reach 1	94192	55	147.00	57.23	60.07	58.19	60.08	0.000485	0.87	169.67	77.17	0.10	0.07	77.93
Reach 1	94192	60	129.00	57.23	59.90	58.14	59.91	0.000502	0.82	156.94	76.16	0.10	0.06	76.87
Reach 1	94192	65	109.00	57.23	59.70	58.08	59.71	0.000523	0.77	141.62	74.93	0.10	0.06	75.57
Reach 1	94192	70	92.20	57.23	59.49	58.04	59.50	0.000553	0.73	126.43	73.69	0.10	0.06	74.25
Reach 1	94192	75	79.90	57.23	59.33	57.99	59.33	0.000580	0.70	114.24	72.68	0.10	0.06	73.18
Reach 1	94192	80	68.90	57.23	59.17	57.96	59.18	0.000602	0.67	102.98	71.73	0.10	0.05	72.18
Reach 1	94192	85	59.20	57.23	59.02	57.92	59.03	0.000627	0.64	92.39	70.83	0.10	0.05	71.23
Reach 1	94192	90	41.90	57.23	58.79	57.86	58.80	0.000654	0.55	76.21	69.43	0.09	0.04	69.75
Reach 1	94192	91	36.60	57.23	58.72	57.80	58.73	0.000660	0.51	71.50	69.01	0.09	0.04	69.31
Reach 1	94192	92	32.20	57.23	58.66	57.77	58.66	0.000665	0.48	67.11	68.63	0.09	0.04	68.90
Reach 1	94192	93	27.10	57.23	58.58	57.74	58.58	0.000671	0.44	61.41	68.12	0.08	0.04	68.37
Reach 1	94192	94	21.60	57.23	58.47	57.69	58.47	0.000677	0.40	54.38	67.49	0.08	0.03	67.70
Reach 1	94192	95	17.00	57.23	58.40	57.65	58.40	0.000679	0.34	49.31	67.03	0.07	0.03	67.22
Reach 1	94192	96	14.20	57.23	58.34	57.62	58.34	0.000681	0.31	45.34	66.67	0.07	0.03	66.84
Reach 1	94192	97	10.80	57.23	58.22	57.58	58.23	0.000710	0.29	37.83	65.99	0.07	0.03	66.11
Reach 1	94192	98	6.76	57.23	58.07	57.52	58.08	0.000741	0.24	28.01	64.92	0.06	0.02	64.99
Reach 1	94192	99	4.45	57.23	57.97	57.47	57.97	0.000710	0.21	21.61	61.60	0.06	0.02	61.64
Reach 1	94192	99.5	2.35	57.23	57.80	57.42	57.80	0.000862	0.20	12.01	42.74	0.07	0.02	42.76
Reach 1	94192	99.75	1.30	57.23	57.68	57.38	57.68	0.000873	0.17	7.55	32.93	0.06	0.01	32.94
Reach 1	94192	100	0.11	57.23	57.40	57.29	57.40	0.001037	0.10	1.15	13.30	0.06	0.01	13.30
Reach 1	92082	1	3090.00	55.45	68.26	59.75	68.29	0.000345	1.77	5669.71	3092.78	0.11	0.17	153.38
Reach 1	92082	5	1430.00	55.45	66.06	58.27	66.10	0.000323	1.55	920.13	541.07	0.10	0.14	132.13
Reach 1	92082	10	858.00	55.45	64.40	57.61	64.42	0.000233	1.19	722.61	198.42	0.08	0.09	113.88
Reach 1	92082	15	628.00	55.45	63.33	57.30	63.34	0.000182	1.02	616.08	107.24	0.07	0.07	100.42
Reach 1	92082	20	506.00	55.45	62.53	57.11	62.55	0.000167	0.94	540.32	94.98	0.07	0.06	97.29
Reach 1	92082	25	411.00	55.45	61.81	56.96	61.82	0.000157	0.87	473.63	91.38	0.07	0.05	94.47
Reach 1	92082	30	334.00	55.45	61.08	56.82	61.10	0.000148	0.82	408.14	88.93	0.07	0.04	91.62
Reach 1	92082	35	275.00	55.45	60.51	56.72	60.51	0.000144	0.77	357.20	86.98	0.07	0.04	89.34
Reach 1	92082	40	231.00	55.45	60.09	56.63	60.10	0.000141	0.72	321.55	85.59	0.07	0.03	87.72
Reach 1	92082	45	198.00	55.45	59.75	56.55	59.76	0.000140	0.68	292.71	84.45	0.06	0.03	86.39
Reach 1	92082	50	169.00	55.45	59.51	56.48	59.52	0.000140	0.62	272.64	83.65	0.06	0.03	85.45
Reach 1	92082	55	147.00	55.45	59.32	56.40	59.32	0.000137	0.57	256.29	82.99	0.06	0.03	84.68
Reach 1	92082	60	129.00	55.45	59.12	56.31	59.13	0.000137	0.54	240.01	82.32	0.06	0.02	83.91
Reach 1	92082	65	109.00	55.45	58.87	56.24	58.88	0.000137	0.50	219.81	81.49	0.05	0.02	82.94
Reach 1	92082	70	92.20	55.45	58.62	56.18	58.63	0.000138	0.46	199.56	80.65	0.05	0.02	81.96
Reach 1	92082	75	79.90	55.45	58.41	56.12	58.42	0.000140	0.44	182.49	79.94	0.05	0.02	81.13
Reach 1	92082	80	68.90	55.45	58.20	56.07	58.21	0.000141	0.42	165.86	78.80	0.05	0.02	79.90
Reach 1	92082	85	59.20	55.45	58.00	56.02	58.00	0.000143	0.40	149.69	77.66	0.05	0.02	78.66
Reach 1	92082	90	41.90	55.45	57.64	55.93	57.64	0.000154	0.34	122.16	75.66	0.05	0.02	76.51
Reach 1	92082	91	36.60	55.45	57.53	55.90	57.53	0.000158	0.32	113.78	75.05	0.05	0.01	75.85
Reach 1	92082	92	32.20	55.45	57.42	55.87	57.42	0.000165	0.30	105.62	74.44	0.05	0.01	75.20
Reach 1	92082	93	27.10	55.45	57.27	55.84	57.27	0.000178	0.29	94.59	73.62	0.04	0.01	74.30
Reach 1	92082	94	21.60	55.45	57.07	55.80	57.07	0.000206	0.27	80.19	72.52	0.05	0.01	73.13
Reach 1	92082	95	17.00	55.45	56.92	55.76	56.92	0.000239	0.25	69.37	71.69	0.04	0.01	72.23
Reach 1	92082	96	14.20	55.45	56.82	55.74	56.82	0.000262	0.23	62.09	71.13	0.04	0.01	71.62

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	92082	97	10.80	55.45	56.62	55.70	56.63	0.000341	0.22	48.37	70.05	0.05	0.01	70.45
Reach 1	92082	98	6.76	55.45	56.34	55.65	56.34	0.000391	0.22	30.61	50.04	0.05	0.01	50.30
Reach 1	92082	99	4.45	55.45	56.12	55.62	56.12	0.000532	0.22	20.43	42.99	0.06	0.02	43.14
Reach 1	92082	99.5	2.35	55.45	55.91	55.58	55.91	0.000748	0.20	12.00	38.34	0.06	0.01	38.40
Reach 1	92082	99.75	1.30	55.45	55.80	55.56	55.80	0.000850	0.17	7.79	34.83	0.06	0.01	34.88
Reach 1	92082	100	0.11	55.45	55.60	55.49	55.60	0.000472	0.06	1.84	23.76	0.04	0.00	23.77
Reach 1	89587	1	3100.00	53.41	67.52	59.33	67.56	0.000326	2.11	5488.19	2301.10	0.11	0.22	81.03
Reach 1	89587	5	1440.00	53.41	65.35	57.50	65.40	0.000307	1.78	1637.44	1102.16	0.10	0.17	81.03
Reach 1	89587	10	865.00	53.41	63.79	56.60	63.82	0.000271	1.42	710.26	327.49	0.09	0.13	81.03
Reach 1	89587	15	633.00	53.41	62.78	56.17	62.80	0.000238	1.21	544.53	208.28	0.08	0.10	80.56
Reach 1	89587	20	512.00	53.41	62.04	55.92	62.06	0.000216	1.10	468.43	176.21	0.08	0.08	79.54
Reach 1	89587	25	417.00	53.41	61.36	55.70	61.37	0.000195	1.01	413.77	157.31	0.08	0.07	77.29
Reach 1	89587	30	340.00	53.41	60.67	55.51	60.69	0.000172	0.93	363.97	146.68	0.07	0.05	74.37
Reach 1	89587	35	280.00	53.41	60.13	55.35	60.14	0.000154	0.86	325.18	122.43	0.07	0.04	72.02
Reach 1	89587	40	236.00	53.41	59.73	55.22	59.74	0.000141	0.79	298.23	68.22	0.07	0.04	70.35
Reach 1	89587	45	202.00	53.41	59.41	55.11	59.42	0.000130	0.73	276.41	67.04	0.06	0.03	68.97
Reach 1	89587	50	172.00	53.41	59.19	55.00	59.19	0.000122	0.66	261.36	66.21	0.06	0.03	68.00
Reach 1	89587	55	151.00	53.41	59.01	54.92	59.01	0.000115	0.61	249.51	65.55	0.05	0.03	67.23
Reach 1	89587	60	132.00	53.41	58.82	54.84	58.82	0.000108	0.56	237.37	64.87	0.05	0.02	66.44
Reach 1	89587	65	112.00	53.41	58.59	54.75	58.59	0.000100	0.50	222.40	64.01	0.05	0.02	65.44
Reach 1	89587	70	94.40	53.41	58.35	54.66	58.35	0.000092	0.46	207.43	62.99	0.04	0.02	64.28
Reach 1	89587	75	81.60	53.41	58.15	54.60	58.15	0.000084	0.42	194.86	62.02	0.04	0.02	63.21
Reach 1	89587	80	70.30	53.41	57.95	54.54	57.96	0.000076	0.38	182.73	61.08	0.04	0.01	62.15
Reach 1	89587	85	60.30	53.41	57.76	54.47	57.76	0.000068	0.35	170.89	60.06	0.04	0.01	61.03
Reach 1	89587	90	43.10	53.41	57.41	54.36	57.41	0.000056	0.29	150.60	57.60	0.03	0.01	58.47
Reach 1	89587	91	37.60	53.41	57.31	54.32	57.31	0.000052	0.26	144.48	56.83	0.03	0.01	57.68
Reach 1	89587	92	33.10	53.41	57.20	54.26	57.20	0.000048	0.24	138.43	56.07	0.03	0.01	56.88
Reach 1	89587	93	27.90	53.41	57.05	54.20	57.05	0.000044	0.21	130.17	55.00	0.02	0.01	55.78
Reach 1	89587	94	22.30	53.41	56.84	54.13	56.85	0.000039	0.19	119.02	53.54	0.02	0.01	54.25
Reach 1	89587	95	17.40	53.41	56.68	54.06	56.68	0.000035	0.16	110.31	52.36	0.02	0.00	53.03
Reach 1	89587	96	14.60	53.41	56.57	54.02	56.57	0.000032	0.14	104.79	51.60	0.02	0.00	52.24
Reach 1	89587	97	11.00	53.41	56.35	53.96	56.35	0.000025	0.12	93.60	50.03	0.02	0.00	50.61
Reach 1	89587	98	6.91	53.41	56.04	53.86	56.04	0.000017	0.09	78.13	47.77	0.01	0.00	48.26
Reach 1	89587	99	4.48	53.41	55.80	53.79	55.80	0.000011	0.07	66.86	46.05	0.01	0.00	46.48
Reach 1	89587	99.5	2.35	53.41	55.51	53.70	55.51	0.000006	0.04	54.13	44.06	0.01	0.00	44.40
Reach 1	89587	99.75	1.25	53.41	55.29	53.64	55.29	0.000003	0.03	44.51	42.72	0.00	0.00	42.99
Reach 1	89587	100	0.08	53.41	54.79	53.49	54.79	0.000000	0.00	25.14	34.65	0.00	0.00	34.82
Reach 1	86326	1	3100.00	54.59	66.83	59.38	66.84	0.000158	1.37	8084.05	2857.35	0.07	0.10	85.47
Reach 1	86326	5	1440.00	54.59	64.53	57.61	64.54	0.000181	1.25	2792.36	999.53	0.08	0.09	84.08
Reach 1	86326	10	865.00	54.59	62.89	56.84	62.91	0.000211	1.15	1567.52	568.24	0.08	0.09	80.60
Reach 1	86326	15	633.00	54.59	61.86	56.47	61.88	0.000359	1.36	499.80	401.24	0.10	0.13	78.39
Reach 1	86326	20	512.00	54.59	61.17	56.25	61.19	0.000341	1.28	417.37	348.93	0.10	0.11	76.38
Reach 1	86326	25	417.00	54.59	60.55	56.08	60.57	0.000314	1.18	356.04	276.67	0.09	0.09	74.09
Reach 1	86326	30	340.00	54.59	59.95	55.92	59.97	0.000280	1.10	310.10	235.87	0.09	0.08	71.84
Reach 1	86326	35	280.00	54.59	59.47	55.79	59.49	0.000250	1.01	277.87	221.22	0.09	0.06	70.08
Reach 1	86326	40	236.00	54.59	59.14	55.69	59.15	0.000230	0.92	255.27	203.17	0.08	0.05	68.82
Reach 1	86326	45	202.00	54.59	58.86	55.61	58.87	0.000211	0.85	237.30	155.59	0.08	0.05	67.81
Reach 1	86326	50	172.00	54.59	58.67	55.53	58.68	0.000197	0.76	224.91	130.93	0.07	0.04	67.10
Reach 1	86326	55	151.00	54.59	58.52	55.48	58.53	0.000186	0.70	215.20	113.03	0.07	0.04	66.54
Reach 1	86326	60	132.00	54.59	58.37	55.42	58.37	0.000174	0.64	205.22	63.81	0.06	0.03	65.96
Reach 1	86326	65	112.00	54.59	58.17	55.36	58.17	0.000162	0.58	192.55	63.19	0.06	0.03	65.22
Reach 1	86326	70	94.40	54.59	57.97	55.31	57.97	0.000147	0.52	180.09	62.57	0.05	0.03	64.48
Reach 1	86326	75	81.60	54.59	57.80	55.27	57.80	0.000135	0.48	169.57	62.05	0.05	0.02	63.85
Reach 1	86326	80	70.30	54.59	57.63	55.22	57.64	0.000122	0.44	159.40	61.54	0.05	0.02	63.24
Reach 1	86326	85	60.30	54.59	57.47	55.19	57.47	0.000110	0.40	149.33	61.02	0.05	0.02	62.63
Reach 1	86326	90	43.10	54.59	57.17	55.09	57.17	0.000094	0.33	131.21	60.09	0.04	0.01	61.52
Reach 1	86326	91	37.60	54.59	57.08	55.07	57.08	0.000089	0.30	125.68	59.80	0.04	0.01	61.17
Reach 1	86326	92	33.10	54.59	56.98	55.04	56.99	0.000085	0.28	120.01	59.51	0.03	0.01	60.82
Reach 1	86326	93	27.90	54.59	56.85	55.00	56.85	0.000080	0.25	112.02	59.09	0.03	0.01	60.32
Reach 1	86326	94	22.30	54.59	56.66	54.96	56.66	0.000077	0.22	100.73	58.49	0.03	0.01	59.60
Reach 1	86326	95	17.40	54.59	56.51	54.92	56.51	0.000074	0.19	91.95	58.02	0.03	0.01	59.04
Reach 1	86326	96	14.60	54.59	56.41	54.90	56.41	0.000071	0.17	86.39	57.72	0.02	0.01	58.69
Reach 1	86326	97	11.00	54.59	56.21	54.86	56.21	0.000063	0.15	75.15	57.11	0.02	0.01	57.96
Reach 1	86326	98	6.91	54.59	55.93	54.80	55.93	0.000054	0.12	58.91	56.22	0.02	0.00	56.89
Reach 1	86326	99	4.48	54.59	55.71	54.76	55.71	0.000048	0.10	46.75	55.54	0.02	0.00	56.08
Reach 1	86326	99.5	2.35	54.59	55.45	54.71	55.45	0.000044	0.07	32.48	54.73	0.02	0.00	55.12
Reach 1	86326	99.75	1.25	54.59	55.24	54.67	55.24	0.000052	0.06	21.04	54.08	0.02	0.00	54.34
Reach 1	86326	100	0.08	54.59	54.77	54.62	54.77	0.000068	0.03	2.67	21.97	0.02	0.00	22.01
Reach 1	82854	1	3130.00	54.25	66.21	58.53	66.23	0.000165	1.25	5242.72	2373.98	0.07	0.09	184.60
Reach 1	82854	5	1460.00	54.25	63.72	57.19	63.75	0.000254	1.25	1472.79	645.21	0.09	0.10	181.33
Reach 1	82854	10	871.00	54.25	61.89	56.57	61.91	0.000307	1.11	795.60	196.88	0.09	0.09	166.92
Reach 1	82854	15	640.00	54.25	60.77	56.27	60.79	0.000336	1.05	609.92	146.29	0.09	0.08	150.82
Reach 1	82854	20	518.00	54.25	60.04	56.09	60.06	0.000367	1.02	506.08	139.03	0.09	0.08	143.03
Reach 1	82854	25	423.00	54.25	59.38	55.92	59.39	0.000354	1.00	420.96	120.05	0.09	0.08	123.56
Reach 1	82854	30	345.00	54.25	58.74	55.77	58.76	0.000378	0.99	346.88	112.96	0.10	0.07	115.93
Reach 1	82854	35	285.00	54.25	58.23	55.66	58.25	0.000405	0.98	290.93	107.29	0.10	0.07	109.84
Reach 1	82854	40	240.00	54.25	57.89	55.55	57.91	0.000422	0.94	255.17	103.51	0.11	0.06	105.77
Reach 1	82854	45	206.00	54.25	57.62	55.48	57.63	0.000440	0.91	227.02	100.43	0.11	0.06	102.45
Reach 1	82854	50	176.00	54.25	57.43	55.40	57.44	0.000452	0.85	207.86	98.28	0.10	0.06	100.14
Reach 1	82854	55	154.00	54.25	57.28	55.34	57.29	0.000460	0.80	193.35	96.62	0.10	0.06	98.35
Reach 1	82854	60	135.00	54.25	57.12	55.29	57.13	0.000478	0.76	178.32	94.87	0.10	0.06	96.47
Reach 1	82854	65	115.00	54.25	56.95	55.23	56.95	0.000491	0.71	162.02	92.93	0.09	0.05	94.39
Reach 1	82854	70	96.50	54.25	56.76	55.17	56.76	0.000512	0.67	144.71	90.83	0.09	0.05	92.13
Reach 1	82854	75	83.40	54.25	56.60	55.12	56.61	0.000530	0.64	130.81	89.11	0.09	0.05	90.27
Reach 1	82854	80	71.60	54.25	56.46	55.08	56.46	0.000545	0.61	117.74	87.46	0.09	0.05	88.50
Reach 1	82854	85	61.40	54.25	56.32	55.03	56.32	0.000549	0.58	105.73	84.60	0.09	0.04	85.53
Reach 1	82854	90	44.10	54.25	56.09	54.94	56.09	0.000537	0.51	87.09	78.89	0.08	0.04	79.65
Reach 1	82854	91	38.60	54.25	56.02	54.90	56.03	0.000527	0.47	82.08	77.29	0.08	0.03	78.00

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	82854	92	34.10	54.25	55.96	54.87	55.96	0.000520	0.44	77.17	75.33	0.08	0.03	76.00
Reach 1	82854	93	28.80	54.25	55.85	54.81	55.86	0.000535	0.42	69.35	72.01	0.07	0.03	72.61
Reach 1	82854	94	22.90	54.25	55.72	54.75	55.72	0.000558	0.38	60.09	69.18	0.07	0.03	69.69
Reach 1	82854	95	17.90	54.25	55.61	54.69	55.61	0.000580	0.34	52.64	66.82	0.07	0.03	67.25
Reach 1	82854	96	15.00	54.25	55.55	54.66	55.55	0.000593	0.31	48.55	65.49	0.06	0.03	65.88
Reach 1	82854	97	11.30	54.25	55.41	54.61	55.41	0.000630	0.29	39.45	62.42	0.06	0.02	62.70
Reach 1	82854	98	7.06	54.25	55.20	54.55	55.20	0.000763	0.26	26.94	56.34	0.07	0.02	56.53
Reach 1	82854	99	4.51	54.25	55.04	54.49	55.04	0.000962	0.24	18.48	51.21	0.07	0.02	51.34
Reach 1	82854	99.5	2.35	54.25	54.86	54.44	54.86	0.001017	0.22	10.46	34.26	0.07	0.02	34.33
Reach 1	82854	99.75	1.22	54.25	54.69	54.39	54.69	0.000918	0.20	6.11	22.08	0.07	0.02	22.10
Reach 1	82854	100	0.06	54.25	54.40	54.29	54.40	0.000557	0.07	0.86	11.43	0.04	0.00	11.44
Reach 1	80836	1	3130.00	52.30	65.72	57.21	65.75	0.000267	1.67	6151.92	2653.56	0.10	0.15	137.11
Reach 1	80836	5	1460.00	52.30	63.16	55.60	63.19	0.000323	1.52	1412.16	633.94	0.10	0.14	132.38
Reach 1	80836	10	871.00	52.30	61.31	54.82	61.33	0.000324	1.26	787.37	182.97	0.09	0.11	122.77
Reach 1	80836	15	640.00	52.30	60.20	54.44	60.22	0.000320	1.16	599.98	153.81	0.09	0.10	110.79
Reach 1	80836	20	518.00	52.30	59.44	54.22	59.46	0.000298	1.11	490.27	135.88	0.09	0.09	99.84
Reach 1	80836	25	423.00	52.30	58.77	54.04	58.79	0.000252	1.05	406.26	106.82	0.08	0.07	86.76
Reach 1	80836	30	345.00	52.30	58.11	53.87	58.13	0.000220	0.98	352.05	77.56	0.08	0.06	80.05
Reach 1	80836	35	285.00	52.30	57.59	53.73	57.60	0.000205	0.91	311.56	76.01	0.08	0.05	78.17
Reach 1	80836	40	240.00	52.30	57.21	53.61	57.23	0.000194	0.85	283.61	74.93	0.08	0.04	76.85
Reach 1	80836	45	206.00	52.30	56.91	53.50	56.92	0.000185	0.79	260.82	74.03	0.07	0.04	75.76
Reach 1	80836	50	176.00	52.30	56.69	53.40	56.69	0.000179	0.72	244.33	73.37	0.07	0.04	74.97
Reach 1	80836	55	154.00	52.30	56.51	53.33	56.51	0.000174	0.67	231.34	72.85	0.07	0.03	74.33
Reach 1	80836	60	135.00	52.30	56.35	53.26	56.36	0.000166	0.61	220.07	72.40	0.06	0.03	73.78
Reach 1	80836	65	115.00	52.30	56.15	53.18	56.16	0.000158	0.56	205.58	71.81	0.06	0.03	73.06
Reach 1	80836	70	96.50	52.30	55.93	53.10	55.93	0.000150	0.51	189.78	71.16	0.05	0.02	72.28
Reach 1	80836	75	83.40	52.30	55.75	53.05	55.75	0.000143	0.47	176.74	70.62	0.05	0.02	71.62
Reach 1	80836	80	71.60	52.30	55.56	52.98	55.56	0.000135	0.44	163.57	69.82	0.05	0.02	70.71
Reach 1	80836	85	61.40	52.30	55.39	52.93	55.39	0.000124	0.41	151.58	68.26	0.05	0.02	69.08
Reach 1	80836	90	44.10	52.30	55.11	52.83	55.11	0.000103	0.33	132.82	65.74	0.04	0.01	66.44
Reach 1	80836	91	38.60	52.30	55.03	52.80	55.03	0.000096	0.30	127.57	65.02	0.04	0.01	65.68
Reach 1	80836	92	34.10	52.30	54.95	52.76	54.95	0.000090	0.28	122.74	64.34	0.04	0.01	64.97
Reach 1	80836	93	28.80	52.30	54.85	52.73	54.85	0.000081	0.25	116.36	63.45	0.03	0.01	64.03
Reach 1	80836	94	22.90	52.30	54.73	52.68	54.73	0.000068	0.21	108.56	62.33	0.03	0.01	62.86
Reach 1	80836	95	17.90	52.30	54.62	52.64	54.62	0.000057	0.18	102.22	61.41	0.02	0.01	61.90
Reach 1	80836	96	15.00	52.30	54.56	52.61	54.56	0.000051	0.15	98.38	60.84	0.02	0.01	61.30
Reach 1	80836	97	11.30	52.30	54.41	52.57	54.41	0.000039	0.13	89.17	59.46	0.02	0.00	59.86
Reach 1	80836	98	7.06	52.30	54.24	52.53	54.24	0.000022	0.09	79.02	57.91	0.01	0.00	58.23
Reach 1	80836	99	4.51	52.30	54.11	52.49	54.11	0.000012	0.06	71.56	56.74	0.01	0.00	57.00
Reach 1	80836	99.5	2.35	52.30	53.93	52.46	53.93	0.000005	0.04	61.67	55.15	0.01	0.00	55.34
Reach 1	80836	99.75	1.22	52.30	53.81	52.42	53.81	0.000002	0.02	55.02	53.60	0.00	0.00	53.75
Reach 1	80836	100	0.06	52.30	53.65	52.34	53.65	0.000000	0.00	46.87	50.33	0.00	0.00	50.46
Reach 1	78224	1	3150.00	51.03	64.98	57.08	65.03	0.000349	2.18	5569.30	2194.69	0.11	0.24	76.35
Reach 1	78224	5	1480.00	51.03	62.24	55.23	62.28	0.000379	1.89	1763.77	668.73	0.11	0.20	76.35
Reach 1	78224	10	878.00	51.03	60.30	54.36	60.35	0.000477	1.73	694.63	338.58	0.12	0.19	75.68
Reach 1	78224	15	646.00	51.03	59.21	53.97	59.25	0.000482	1.56	431.43	153.10	0.11	0.17	73.95
Reach 1	78224	20	524.00	51.03	58.49	53.72	58.52	0.000453	1.44	363.22	68.70	0.11	0.14	71.71
Reach 1	78224	25	429.00	51.03	57.89	53.50	57.91	0.000412	1.33	322.26	66.59	0.11	0.12	69.26
Reach 1	78224	30	350.00	51.03	57.32	53.28	57.34	0.000363	1.23	285.01	64.62	0.10	0.10	66.97
Reach 1	78224	35	290.00	51.03	56.87	53.08	56.89	0.000318	1.13	256.43	63.06	0.10	0.08	65.15
Reach 1	78224	40	245.00	51.03	56.56	52.91	56.58	0.000287	1.03	237.25	61.99	0.09	0.07	63.91
Reach 1	78224	45	210.00	51.03	56.31	52.78	56.33	0.000259	0.95	221.67	61.11	0.09	0.06	62.89
Reach 1	78224	50	180.00	51.03	56.13	52.65	56.14	0.000237	0.85	210.56	60.48	0.08	0.05	62.15
Reach 1	78224	55	156.00	51.03	55.98	52.53	55.99	0.000219	0.77	201.58	59.96	0.07	0.04	61.54
Reach 1	78224	60	139.00	51.03	55.86	52.45	55.87	0.000204	0.71	194.46	59.54	0.07	0.04	61.06
Reach 1	78224	65	118.00	51.03	55.70	52.33	55.70	0.000183	0.64	184.71	58.97	0.06	0.03	60.40
Reach 1	78224	70	98.70	51.03	55.52	52.22	55.53	0.000160	0.57	174.59	58.37	0.06	0.03	59.70
Reach 1	78224	75	85.20	51.03	55.38	52.13	55.39	0.000141	0.51	166.34	57.88	0.05	0.02	59.12
Reach 1	78224	80	73.00	51.03	55.23	52.06	55.23	0.000124	0.46	157.44	57.34	0.05	0.02	58.50
Reach 1	78224	85	62.50	51.03	55.09	51.97	55.09	0.000106	0.42	149.59	56.86	0.05	0.02	57.94
Reach 1	78224	90	45.30	51.03	54.87	51.83	54.88	0.000078	0.33	137.38	56.11	0.04	0.01	57.07
Reach 1	78224	91	39.60	51.03	54.81	51.77	54.81	0.000070	0.30	133.97	55.90	0.03	0.01	56.82
Reach 1	78224	92	35.10	51.03	54.76	51.73	54.76	0.000063	0.27	130.83	55.70	0.03	0.01	56.59
Reach 1	78224	93	29.70	51.03	54.68	51.67	54.68	0.000054	0.23	126.66	55.44	0.03	0.01	56.29
Reach 1	78224	94	23.60	51.03	54.59	51.60	54.59	0.000042	0.19	121.74	55.13	0.02	0.01	55.93
Reach 1	78224	95	18.30	51.03	54.52	51.53	54.52	0.000032	0.16	117.60	54.87	0.02	0.00	55.63
Reach 1	78224	96	15.40	51.03	54.47	51.49	54.47	0.000028	0.13	114.85	54.70	0.02	0.00	55.42
Reach 1	78224	97	11.50	51.03	54.34	51.43	54.34	0.000019	0.11	107.96	54.26	0.01	0.00	54.91
Reach 1	78224	98	7.20	51.03	54.20	51.35	54.20	0.000009	0.07	100.38	53.77	0.01	0.00	54.34
Reach 1	78224	99	4.55	51.03	54.09	51.29	54.09	0.000005	0.05	94.32	53.38	0.01	0.00	53.88
Reach 1	78224	99.5	2.36	51.03	53.92	51.24	53.92	0.000002	0.03	85.52	52.80	0.00	0.00	53.21
Reach 1	78224	99.75	1.18	51.03	53.80	51.19	53.80	0.000001	0.01	79.38	51.48	0.00	0.00	51.86
Reach 1	78224	100	0.03	51.03	53.65	51.07	53.65	0.000000	0.00	71.63	49.00	0.00	0.00	49.36
Reach 1	76525	1	3150.00	50.78	64.32	56.98	64.38	0.000507	2.44	4007.29	2070.85	0.13	0.31	89.98
Reach 1	76525	5	1480.00	50.78	61.44	55.27	61.50	0.000585	2.10	1125.14	363.27	0.14	0.26	89.98
Reach 1	76525	10	878.00	50.78	59.32	54.13	59.38	0.000684	1.87	553.67	191.27	0.14	0.24	81.92
Reach 1	76525	15	646.00	50.78	58.19	53.69	58.24	0.000751	1.73	383.94	99.89	0.14	0.22	79.09
Reach 1	76525	20	524.00	50.78	57.52	53.43	57.56	0.000748	1.63	323.92	85.44	0.14	0.20	76.68
Reach 1	76525	25	429.00	50.78	56.98	53.20	57.02	0.000715	1.52	281.50	72.18	0.14	0.17	74.76
Reach 1	76525	30	350.00	50.78	56.50	52.97	56.54	0.000652	1.41	247.55	70.78	0.13	0.14	73.06
Reach 1	76525	35	290.00	50.78	56.15	52.78	56.18	0.000579	1.30	222.75	69.73	0.13	0.11	71.80
Reach 1	76525	40	245.00	50.78	55.91	52.63	55.93	0.000527	1.19	206.08	69.02	0.12	0.10	70.94
Reach 1	76525	45	210.00	50.78	55.72	52.49	55.74	0.000476	1.09	192.96	68.46	0.11	0.08	70.26
Reach 1	76525	50	180.00	50.78	55.59	52.38	55.60	0.000434	0.98	183.91	68.06	0.10	0.07	69.79
Reach 1	76525	55	156.00	50.78	55.48	52.28	55.49	0.000389	0.88	176.77	66.64	0.10	0.06	68.32
Reach 1	76525	60	139.00	50.78	55.40	52.21	55.41	0.000352	0.81	171.30	65.34	0.09	0.06	66.99
Reach 1	76525	65	118.00	50.78	55.29	52.10	55.29	0.000301	0.72	164.00	63.57	0.08	0.05	65.18
Reach 1	76525	70	98.70	50.78	55.17	52.00	55.17	0.000249	0.63	156.61	61.72	0.07	0.04	63.29

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	76525	75	85.20	50.78	55.07	51.93	55.08	0.000207	0.57	150.75	60.22	0.06	0.03	61.76
Reach 1	76525	80	73.00	50.78	54.96	51.86	54.96	0.000173	0.51	143.95	58.42	0.06	0.03	59.92
Reach 1	76525	85	62.50	50.78	54.86	51.79	54.87	0.000139	0.45	138.45	56.93	0.05	0.02	58.40
Reach 1	76525	90	45.30	50.78	54.71	51.66	54.71	0.000091	0.35	130.10	54.59	0.04	0.01	56.00
Reach 1	76525	91	39.60	50.78	54.67	51.58	54.67	0.000079	0.31	127.80	53.61	0.04	0.01	55.01
Reach 1	76525	92	35.10	50.78	54.63	51.54	54.63	0.000068	0.28	125.63	52.55	0.03	0.01	53.94
Reach 1	76525	93	29.70	50.78	54.57	51.48	54.58	0.000054	0.24	122.79	51.13	0.03	0.01	52.50
Reach 1	76525	94	23.60	50.78	54.51	51.41	54.51	0.000039	0.20	119.63	49.49	0.02	0.01	50.84
Reach 1	76525	95	18.30	50.78	54.46	51.34	54.46	0.000028	0.16	116.96	48.07	0.02	0.00	49.41
Reach 1	76525	96	15.40	50.78	54.42	51.30	54.42	0.000023	0.13	114.98	46.99	0.02	0.00	48.31
Reach 1	76525	97	11.50	50.78	54.31	51.24	54.31	0.000014	0.10	109.98	44.96	0.01	0.00	46.23
Reach 1	76525	98	7.20	50.78	54.18	51.15	54.18	0.000007	0.07	104.51	44.67	0.01	0.00	45.85
Reach 1	76525	99	4.55	50.78	54.08	51.09	54.08	0.000003	0.05	99.86	44.42	0.01	0.00	45.52
Reach 1	76525	99.5	2.36	50.78	53.92	51.01	53.92	0.000001	0.03	92.75	44.03	0.00	0.00	45.01
Reach 1	76525	99.75	1.18	50.78	53.80	50.96	53.80	0.000000	0.01	87.69	43.76	0.00	0.00	44.65
Reach 1	76525	100	0.03	50.78	53.65	50.82	53.65	0.000000	0.00	81.00	43.39	0.00	0.00	44.17
Reach 1	76379	1	3150.00	47.04	64.29	53.79	64.31	0.000169	1.64	4386.97	2334.27	0.08	0.13	99.13
Reach 1	76379	5	1480.00	47.04	61.40	52.03	61.43	0.000190	1.47	1286.58	257.22	0.08	0.11	99.13
Reach 1	76379	10	878.00	47.04	59.28	50.85	59.30	0.000175	1.16	850.15	163.77	0.07	0.08	98.53
Reach 1	76379	15	646.00	47.04	58.14	50.26	58.16	0.000157	1.00	679.75	138.52	0.07	0.07	96.21
Reach 1	76379	20	524.00	47.04	57.47	49.93	57.48	0.000136	0.90	590.33	122.41	0.06	0.05	93.98
Reach 1	76379	25	429.00	47.04	56.93	49.65	56.94	0.000113	0.80	533.08	87.65	0.06	0.04	92.21
Reach 1	76379	30	350.00	47.04	56.46	49.39	56.47	0.000088	0.71	492.17	86.41	0.05	0.03	90.65
Reach 1	76379	35	290.00	47.04	56.11	49.19	56.12	0.000068	0.63	462.29	85.50	0.05	0.02	89.50
Reach 1	76379	40	245.00	47.04	55.88	49.03	55.88	0.000056	0.55	442.10	84.88	0.04	0.02	88.72
Reach 1	76379	45	210.00	47.04	55.69	48.90	55.69	0.000046	0.49	426.21	84.39	0.04	0.01	88.10
Reach 1	76379	50	180.00	47.04	55.56	48.77	55.56	0.000039	0.43	415.23	84.04	0.03	0.01	87.67
Reach 1	76379	55	156.00	47.04	55.46	48.66	55.46	0.000034	0.38	406.56	83.77	0.03	0.01	87.33
Reach 1	76379	60	139.00	47.04	55.38	48.57	55.38	0.000030	0.35	399.82	83.56	0.03	0.01	87.06
Reach 1	76379	65	118.00	47.04	55.27	48.45	55.27	0.000024	0.30	390.64	83.27	0.02	0.01	86.70
Reach 1	76379	70	98.70	47.04	55.15	48.32	55.15	0.000019	0.26	381.13	82.97	0.02	0.01	86.32
Reach 1	76379	75	85.20	47.04	55.06	48.24	55.06	0.000016	0.23	373.40	82.73	0.02	0.00	86.01
Reach 1	76379	80	73.00	47.04	54.95	48.15	54.95	0.000013	0.20	364.12	82.43	0.02	0.00	85.64
Reach 1	76379	85	62.50	47.04	54.85	48.07	54.85	0.000010	0.18	356.46	82.19	0.01	0.00	85.33
Reach 1	76379	90	45.30	47.04	54.71	47.91	54.71	0.000006	0.13	344.44	81.83	0.01	0.00	84.86
Reach 1	76379	91	39.60	47.04	54.66	47.86	54.66	0.000005	0.12	341.04	81.72	0.01	0.00	84.73
Reach 1	76379	92	35.10	47.04	54.62	47.81	54.62	0.000005	0.10	337.76	81.39	0.01	0.00	84.37
Reach 1	76379	93	29.70	47.04	54.57	47.75	54.57	0.000004	0.09	333.44	79.08	0.01	0.00	82.04
Reach 1	76379	94	23.60	47.04	54.51	47.67	54.51	0.000002	0.07	328.64	76.43	0.01	0.00	79.37
Reach 1	76379	95	18.30	47.04	54.45	47.59	54.45	0.000002	0.06	324.55	75.32	0.00	0.00	78.25
Reach 1	76379	96	15.40	47.04	54.41	47.54	54.41	0.000001	0.05	321.45	74.65	0.00	0.00	77.56
Reach 1	76379	97	11.50	47.04	54.30	47.48	54.30	0.000001	0.04	313.43	73.02	0.00	0.00	75.89
Reach 1	76379	98	7.20	47.04	54.18	47.38	54.18	0.000000	0.02	304.64	71.55	0.00	0.00	74.37
Reach 1	76379	99	4.55	47.04	54.08	47.30	54.08	0.000000	0.02	297.26	70.37	0.00	0.00	73.15
Reach 1	76379	99.5	2.36	47.04	53.92	47.23	53.92	0.000000	0.01	286.01	69.72	0.00	0.00	72.42
Reach 1	76379	99.75	1.18	47.04	53.80	47.16	53.80	0.000000	0.00	278.00	69.25	0.00	0.00	71.90
Reach 1	76379	100	0.03	47.04	53.65	47.07	53.65	0.000000	0.00	267.41	68.63	0.00	0.00	71.20
Reach 1	76300		Bridge											
Reach 1	76151	1	3150.00	50.16	64.19	56.74	64.22	0.000301	1.88	3500.63	2174.25	0.10	0.18	98.91
Reach 1	76151	5	1480.00	50.16	61.18	54.83	61.25	0.000606	2.14	725.08	184.75	0.14	0.27	97.64
Reach 1	76151	10	878.00	50.16	59.07	53.93	59.12	0.000679	1.78	493.60	90.43	0.13	0.22	94.70
Reach 1	76151	15	646.00	50.16	57.94	53.47	57.98	0.000739	1.64	393.42	86.39	0.14	0.20	89.83
Reach 1	76151	20	524.00	50.16	57.27	53.21	57.31	0.000749	1.56	336.77	83.64	0.14	0.18	86.61
Reach 1	76151	25	429.00	50.16	56.75	52.97	56.78	0.000726	1.46	293.72	81.44	0.14	0.16	84.04
Reach 1	76151	30	350.00	50.16	56.30	52.63	56.33	0.000665	1.36	257.53	79.54	0.13	0.13	81.82
Reach 1	76151	35	290.00	50.16	55.98	52.40	56.01	0.000535	1.24	233.04	73.67	0.12	0.10	75.75
Reach 1	76151	40	245.00	50.16	55.77	52.22	55.79	0.000427	1.12	217.85	67.67	0.11	0.08	69.63
Reach 1	76151	45	210.00	50.16	55.61	52.06	55.62	0.000334	1.01	207.29	62.56	0.10	0.07	64.41
Reach 1	76151	50	180.00	50.16	55.49	51.94	55.50	0.000292	0.90	199.95	62.10	0.09	0.06	63.87
Reach 1	76151	55	156.00	50.16	55.39	51.82	55.40	0.000258	0.80	194.16	61.74	0.08	0.05	63.44
Reach 1	76151	60	139.00	50.16	55.32	51.74	55.33	0.000232	0.73	189.64	61.46	0.07	0.04	63.10
Reach 1	76151	65	118.00	50.16	55.22	51.62	55.23	0.000196	0.64	183.48	61.07	0.07	0.04	62.64
Reach 1	76151	70	98.70	50.16	55.11	51.51	55.12	0.000161	0.56	177.05	60.66	0.06	0.03	62.16
Reach 1	76151	75	85.20	50.16	55.03	51.43	55.03	0.000134	0.50	171.81	60.32	0.05	0.02	61.76
Reach 1	76151	80	73.00	50.16	54.92	51.35	54.92	0.000112	0.44	165.37	59.90	0.05	0.02	61.27
Reach 1	76151	85	62.50	50.16	54.83	51.27	54.84	0.000091	0.39	160.11	59.56	0.04	0.01	60.86
Reach 1	76151	90	45.30	50.16	54.69	51.14	54.69	0.000060	0.30	151.84	59.02	0.03	0.01	60.22
Reach 1	76151	91	39.60	50.16	54.65	51.09	54.65	0.000052	0.26	149.49	58.87	0.03	0.01	60.04
Reach 1	76151	92	35.10	50.16	54.61	51.05	54.62	0.000046	0.24	147.22	58.72	0.03	0.01	59.86
Reach 1	76151	93	29.70	50.16	54.56	51.00	54.56	0.000038	0.21	144.17	58.52	0.02	0.01	59.62
Reach 1	76151	94	23.60	50.16	54.50	50.92	54.50	0.000028	0.17	140.68	58.28	0.02	0.00	59.34
Reach 1	76151	95	18.30	50.16	54.45	50.81	54.45	0.000020	0.13	137.64	58.08	0.02	0.00	59.10
Reach 1	76151	96	15.40	50.16	54.41	50.76	54.41	0.000017	0.11	135.28	57.92	0.01	0.00	58.92
Reach 1	76151	97	11.50	50.16	54.30	50.67	54.30	0.000011	0.09	129.08	57.32	0.01	0.00	58.25
Reach 1	76151	98	7.20	50.16	54.18	50.57	54.18	0.000005	0.06	122.23	56.36	0.01	0.00	57.27
Reach 1	76151	99	4.55	50.16	54.08	50.49	54.08	0.000002	0.04	116.45	55.08	0.00	0.00	55.96
Reach 1	76151	99.5	2.36	50.16	53.92	50.41	53.92	0.000001	0.02	107.82	52.59	0.00	0.00	53.45
Reach 1	76151	99.75	1.18	50.16	53.80	50.35	53.80	0.000000	0.01	101.86	50.93	0.00	0.00	51.77
Reach 1	76151	100	0.03	50.16	53.65	50.20	53.65	0.000000	0.00	94.14	49.70	0.00	0.00	50.51
Reach 1	76123	1	3150.00	50.82	64.18	56.92	64.21	0.000324	1.73	3751.12	2254.46	0.10	0.16	126.28
Reach 1	76123	5	1480.00	50.82	61.16	55.21	61.23	0.000711	2.15	721.83	288.97	0.15	0.28	109.09
Reach 1	76123	10	878.00	50.82	59.05	54.13	59.10	0.000788	1.85	475.01	97.46	0.14	0.24	96.17
Reach 1	76123	15	646.00	50.82	57.91	53.70	57.96	0.000834	1.72	375.40	84.10	0.14	0.22	87.49
Reach 1	76123	20	524.00	50.82	57.24	53.45	57.29	0.000871	1.64	319.90	82.39	0.15	0.20	85.31
Reach 1	76123	25	429.00	50.82	56.72	53.24	56.76	0.000873	1.55	277.31	81.04	0.15	0.18	83.61
Reach 1	76123	30	350.00	50.82	56.28	53.06	56.31	0.000831	1.45	241.25	79.89	0.15	0.15	82.14
Reach 1	76123	35	290.00	50.82	55.96	52.90	55.99	0.000753	1.34	216.17	79.07	0.14	0.13	81.11

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	76123	40	245.00	50.82	55.75	52.78	55.77	0.000693	1.23	199.56	78.50	0.14	0.11	80.40
Reach 1	76123	45	210.00	50.82	55.59	52.67	55.61	0.000556	1.12	187.49	71.66	0.12	0.09	73.44
Reach 1	76123	50	180.00	50.82	55.47	52.57	55.49	0.000463	1.00	179.51	67.23	0.11	0.08	68.94
Reach 1	76123	55	156.00	50.82	55.38	52.47	55.39	0.000406	0.90	173.45	65.54	0.10	0.07	67.21
Reach 1	76123	60	139.00	50.82	55.31	52.41	55.32	0.000366	0.82	168.76	64.80	0.09	0.06	66.45
Reach 1	76123	65	118.00	50.82	55.21	52.32	55.22	0.000307	0.73	162.43	63.03	0.08	0.05	64.65
Reach 1	76123	70	98.70	50.82	55.11	52.24	55.11	0.000242	0.63	156.05	59.96	0.07	0.04	61.54
Reach 1	76123	75	85.20	50.82	55.02	52.17	55.03	0.000194	0.56	151.04	57.44	0.06	0.03	58.99
Reach 1	76123	80	73.00	50.82	54.92	52.11	54.92	0.000153	0.50	145.12	54.31	0.05	0.02	55.81
Reach 1	76123	85	62.50	50.82	54.83	52.06	54.83	0.000122	0.45	140.45	53.30	0.05	0.02	54.78
Reach 1	76123	90	45.30	50.82	54.69	51.90	54.69	0.000080	0.34	133.15	52.26	0.04	0.01	53.70
Reach 1	76123	91	39.60	50.82	54.65	51.85	54.65	0.000069	0.30	131.10	51.97	0.03	0.01	53.39
Reach 1	76123	92	35.10	50.82	54.61	51.80	54.61	0.000061	0.27	129.11	51.68	0.03	0.01	53.09
Reach 1	76123	93	29.70	50.82	54.56	51.75	54.56	0.000050	0.23	126.45	51.29	0.03	0.01	52.69
Reach 1	76123	94	23.60	50.82	54.50	51.69	54.50	0.000036	0.19	123.43	50.85	0.02	0.01	52.23
Reach 1	76123	95	18.30	50.82	54.45	51.60	54.45	0.000026	0.15	120.79	50.46	0.02	0.00	51.82
Reach 1	76123	96	15.40	50.82	54.41	51.56	54.41	0.000022	0.13	118.75	50.15	0.01	0.00	51.51
Reach 1	76123	97	11.50	50.82	54.30	51.47	54.30	0.000015	0.10	113.41	49.38	0.01	0.00	50.70
Reach 1	76123	98	7.20	50.82	54.18	51.33	54.18	0.000007	0.07	107.52	48.68	0.01	0.00	49.94
Reach 1	76123	99	4.55	50.82	54.08	51.22	54.08	0.000003	0.04	102.50	48.26	0.01	0.00	49.46
Reach 1	76123	99.5	2.36	50.82	53.92	51.12	53.92	0.000001	0.02	94.82	47.62	0.00	0.00	48.72
Reach 1	76123	99.75	1.18	50.82	53.80	51.03	53.80	0.000000	0.01	89.36	47.15	0.00	0.00	48.19
Reach 1	76123	100	0.03	50.82	53.65	50.87	53.65	0.000000	0.00	82.17	46.54	0.00	0.00	47.48
Reach 1	76000	1	3150.00	53.13	64.16	57.43	64.18	0.000236	1.60	4126.62	2149.45	0.09	0.14	114.63
Reach 1	76000	5	1480.00	53.13	61.09	56.14	61.14	0.000573	1.91	1028.92	568.89	0.13	0.22	114.58
Reach 1	76000	10	878.00	53.13	58.94	55.50	58.99	0.000927	1.85	484.59	134.91	0.15	0.25	108.32
Reach 1	76000	15	646.00	53.13	57.77	55.19	57.82	0.001335	1.84	350.62	105.10	0.18	0.28	104.90
Reach 1	76000	20	524.00	53.13	57.07	55.01	57.12	0.001750	1.88	278.62	100.83	0.20	0.30	101.87
Reach 1	76000	25	429.00	53.13	56.50	54.85	56.56	0.002295	1.93	222.34	98.58	0.23	0.32	99.36
Reach 1	76000	30	350.00	53.13	56.00	54.71	56.06	0.003067	2.02	173.19	94.97	0.26	0.35	95.56
Reach 1	76000	35	290.00	53.13	55.62	54.58	55.69	0.003954	2.10	137.95	91.07	0.30	0.37	91.56
Reach 1	76000	40	245.00	53.13	55.38	54.49	55.45	0.004366	2.09	117.34	84.30	0.31	0.38	84.76
Reach 1	76000	45	210.00	53.13	55.20	54.40	55.27	0.004775	2.05	102.52	81.07	0.32	0.37	81.50
Reach 1	76000	50	180.00	53.13	55.08	54.33	55.14	0.004998	1.94	92.98	78.92	0.31	0.37	79.34
Reach 1	76000	55	156.00	53.13	54.99	54.26	55.04	0.005123	1.82	85.90	77.29	0.30	0.35	77.69
Reach 1	76000	60	139.00	53.13	54.92	54.22	54.97	0.005185	1.73	80.58	76.06	0.30	0.34	76.45
Reach 1	76000	65	118.00	53.13	54.83	54.16	54.87	0.005263	1.61	73.42	74.43	0.29	0.32	74.80
Reach 1	76000	70	98.70	53.13	54.73	54.10	54.76	0.005293	1.49	66.30	72.77	0.27	0.30	73.13
Reach 1	76000	75	85.20	53.13	54.65	54.05	54.68	0.005345	1.41	60.35	71.35	0.27	0.28	71.70
Reach 1	76000	80	73.00	53.13	54.56	53.97	54.59	0.005155	1.35	54.19	66.25	0.26	0.26	66.58
Reach 1	76000	85	62.50	53.13	54.48	53.93	54.51	0.005055	1.27	49.20	64.74	0.26	0.24	65.06
Reach 1	76000	90	45.30	53.13	54.34	53.84	54.36	0.005215	1.12	40.33	61.96	0.25	0.21	62.26
Reach 1	76000	91	39.60	53.13	54.30	53.79	54.32	0.005326	1.05	37.69	61.11	0.24	0.20	61.40
Reach 1	76000	92	35.10	53.13	54.26	53.76	54.28	0.005304	0.99	35.62	60.44	0.23	0.19	60.72
Reach 1	76000	93	29.70	53.13	54.22	53.72	54.23	0.005297	0.91	32.74	59.49	0.22	0.18	59.76
Reach 1	76000	94	23.60	53.13	54.14	53.67	54.16	0.005554	0.83	28.52	58.06	0.21	0.17	58.33
Reach 1	76000	95	18.30	53.13	54.08	53.61	54.09	0.005775	0.73	24.93	56.83	0.20	0.16	57.08
Reach 1	76000	96	15.40	53.13	54.05	53.58	54.06	0.005628	0.66	23.29	55.05	0.18	0.15	55.29
Reach 1	76000	97	11.50	53.13	53.93	53.53	53.94	0.005890	0.66	17.53	42.85	0.18	0.15	43.01
Reach 1	76000	98	7.20	53.13	53.80	53.45	53.81	0.006012	0.58	12.42	37.17	0.18	0.13	37.25
Reach 1	76000	99	4.55	53.13	53.70	53.39	53.70	0.006095	0.52	8.82	31.76	0.17	0.11	31.81
Reach 1	76000	99.5	2.36	53.13	53.57	53.32	53.57	0.005616	0.44	5.38	23.23	0.16	0.08	23.26
Reach 1	76000	99.75	1.18	53.13	53.46	53.26	53.47	0.005455	0.37	3.16	16.98	0.15	0.06	17.01
Reach 1	76000	100	0.03	53.13	53.19	53.16	53.19	0.007469	0.14	0.20	6.25	0.13	0.02	6.25
Reach 1	75730	1	3150.00	51.70	64.07	56.19	64.12	0.000333	2.08	4177.96	2222.70	0.11	0.22	97.62
Reach 1	75730	5	1480.00	51.70	60.96	54.66	61.01	0.000435	1.90	1119.92	426.11	0.12	0.20	97.62
Reach 1	75730	10	878.00	51.70	58.75	53.94	58.79	0.000557	1.67	550.30	133.87	0.12	0.19	95.32
Reach 1	75730	15	646.00	51.70	57.52	53.61	57.56	0.000658	1.57	411.22	90.00	0.13	0.18	91.99
Reach 1	75730	20	524.00	51.70	56.76	53.43	56.80	0.000713	1.52	344.58	86.46	0.13	0.17	88.36
Reach 1	75730	25	429.00	51.70	56.13	53.27	56.16	0.000764	1.47	290.90	83.67	0.14	0.16	85.30
Reach 1	75730	30	350.00	51.70	55.53	53.13	55.56	0.000834	1.45	241.24	81.01	0.15	0.15	82.37
Reach 1	75730	35	290.00	51.70	55.02	53.01	55.06	0.000926	1.44	201.26	78.10	0.16	0.15	79.27
Reach 1	75730	40	245.00	51.70	54.69	52.92	54.72	0.001014	1.40	175.11	76.10	0.16	0.14	77.15
Reach 1	75730	45	210.00	51.70	54.40	52.84	54.43	0.001117	1.37	153.71	74.51	0.17	0.14	75.45
Reach 1	75730	50	180.00	51.70	54.19	52.77	54.22	0.001217	1.30	138.31	73.36	0.17	0.14	74.23
Reach 1	75730	55	156.00	51.70	54.03	52.71	54.05	0.001314	1.24	126.20	72.45	0.17	0.14	73.25
Reach 1	75730	60	139.00	51.70	53.89	52.67	53.92	0.001408	1.19	116.61	71.72	0.16	0.14	72.47
Reach 1	75730	65	118.00	51.70	53.72	52.61	53.74	0.001535	1.13	104.33	70.77	0.16	0.14	71.46
Reach 1	75730	70	98.70	51.70	53.55	52.56	53.57	0.001680	1.07	92.15	69.82	0.16	0.14	70.44
Reach 1	75730	75	85.20	51.70	53.41	52.52	53.42	0.001825	1.03	82.32	69.04	0.17	0.13	69.61
Reach 1	75730	80	73.00	51.70	53.27	52.47	53.29	0.001968	1.00	73.17	68.01	0.17	0.13	68.52
Reach 1	75730	85	62.50	51.70	53.15	52.43	53.17	0.002101	0.96	64.98	67.07	0.17	0.13	67.52
Reach 1	75730	90	45.30	51.70	52.97	52.32	52.98	0.002299	0.86	52.78	65.64	0.17	0.11	66.01
Reach 1	75730	91	39.60	51.70	52.92	52.28	52.93	0.002344	0.80	49.50	65.25	0.16	0.11	65.60
Reach 1	75730	92	35.10	51.70	52.87	52.24	52.88	0.002370	0.75	46.67	64.91	0.16	0.11	65.24
Reach 1	75730	93	29.70	51.70	52.82	52.19	52.82	0.002397	0.69	42.88	64.46	0.15	0.10	64.76
Reach 1	75730	94	23.60	51.70	52.74	52.14	52.75	0.002403	0.62	38.07	63.80	0.14	0.09	64.06
Reach 1	75730	95	18.30	51.70	52.68	52.10	52.68	0.002388	0.54	33.90	63.20	0.13	0.08	63.43
Reach 1	75730	96	15.40	51.70	52.64	52.07	52.64	0.002461	0.49	31.46	62.84	0.12	0.08	63.06
Reach 1	75730	97	11.50	51.70	52.55	52.04	52.56	0.002482	0.44	26.35	62.10	0.12	0.07	62.28
Reach 1	75730	98	7.20	51.70	52.41	51.97	52.42	0.002786	0.40	18.15	53.82	0.12	0.06	53.96
Reach 1	75730	99	4.55	51.70	52.27	51.92	52.27	0.002699	0.38	11.90	36.42	0.12	0.05	36.51
Reach 1	75730	99.5	2.36	51.70	52.12	51.87	52.12	0.002709	0.33	7.23	28.13	0.11	0.04	28.18
Reach 1	75730	99.75	1.18	51.70	52.03	51.83	52.03	0.002755	0.26	4.62	26.29	0.11	0.03	26.32
Reach 1	75730	100	0.03	51.70	51.79	51.73	51.79	0.002603	0.10	0.29	6.82	0.08	0.01	6.82
Reach 1	74278	1	3150.00	47.51	63.76	52.68	63.78	0.000119	1.31	5486.40	2331.63	0.07	0.08	150.75
Reach 1	74278	5	1480.00	47.51	60.63	51.06	60.65	0.000122	1.08	1980.20	603.89	0.06	0.06	150.75
Reach 1	74278	10	878.00	47.51	58.35	50.28	58.37	0.000139	0.94	943.19	215.64	0.06	0.06	142.01

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	74278	15	646.00	47.51	57.07	49.94	57.08	0.000138	0.85	762.37	168.41	0.06	0.05	133.64
Reach 1	74278	20	524.00	47.51	56.30	49.74	56.31	0.000132	0.79	663.93	157.14	0.06	0.04	128.59
Reach 1	74278	25	429.00	47.51	55.66	49.56	55.67	0.000123	0.73	585.19	147.52	0.06	0.04	124.41
Reach 1	74278	30	350.00	47.51	55.05	49.42	55.06	0.000112	0.68	512.22	138.33	0.06	0.03	120.41
Reach 1	74278	35	290.00	47.51	54.54	49.29	54.55	0.000104	0.64	453.05	130.65	0.06	0.03	117.07
Reach 1	74278	40	245.00	47.51	54.19	49.19	54.20	0.000085	0.59	416.02	107.57	0.05	0.02	104.68
Reach 1	74278	45	210.00	47.51	53.89	49.09	53.90	0.000071	0.54	386.60	93.30	0.05	0.02	95.66
Reach 1	74278	50	180.00	47.51	53.67	49.00	53.67	0.000060	0.49	366.31	86.06	0.04	0.02	88.30
Reach 1	74278	55	156.00	47.51	53.49	48.92	53.49	0.000051	0.44	351.29	81.17	0.04	0.01	83.31
Reach 1	74278	60	139.00	47.51	53.34	48.86	53.34	0.000048	0.41	339.00	80.43	0.04	0.01	82.51
Reach 1	74278	65	118.00	47.51	53.14	48.76	53.14	0.000042	0.36	323.31	79.49	0.03	0.01	81.48
Reach 1	74278	70	98.70	47.51	52.94	48.69	52.94	0.000036	0.32	307.32	78.52	0.03	0.01	80.41
Reach 1	74278	75	85.20	47.51	52.76	48.63	52.76	0.000031	0.29	293.65	77.68	0.03	0.01	79.49
Reach 1	74278	80	73.00	47.51	52.59	48.57	52.59	0.000027	0.26	280.28	76.84	0.02	0.01	78.58
Reach 1	74278	85	62.50	47.51	52.42	48.53	52.42	0.000023	0.23	267.64	76.05	0.02	0.00	77.71
Reach 1	74278	90	45.30	47.51	52.16	48.43	52.16	0.000016	0.18	247.75	74.78	0.02	0.00	76.32
Reach 1	74278	91	39.60	47.51	52.08	48.40	52.08	0.000014	0.16	241.98	74.41	0.02	0.00	75.92
Reach 1	74278	92	35.10	47.51	52.01	48.37	52.01	0.000013	0.15	236.32	74.04	0.01	0.00	75.52
Reach 1	74278	93	29.70	47.51	51.88	48.34	51.88	0.000011	0.13	227.22	73.45	0.01	0.00	74.87
Reach 1	74278	94	23.60	47.51	51.72	48.29	51.72	0.000009	0.11	215.65	72.68	0.01	0.00	74.03
Reach 1	74278	95	18.30	47.51	51.57	48.23	51.57	0.000007	0.09	204.53	71.94	0.01	0.00	73.22
Reach 1	74278	96	15.40	47.51	51.50	48.19	51.50	0.000006	0.08	199.34	71.60	0.01	0.00	72.84
Reach 1	74278	97	11.50	47.51	51.33	48.13	51.33	0.000004	0.06	187.38	70.79	0.01	0.00	71.96
Reach 1	74278	98	7.20	47.51	51.06	48.01	51.06	0.000002	0.04	168.22	69.48	0.00	0.00	70.52
Reach 1	74278	99	4.55	47.51	50.86	47.93	50.86	0.000001	0.03	154.90	68.55	0.00	0.00	69.51
Reach 1	74278	99.5	2.36	47.51	50.69	47.83	50.69	0.000000	0.02	143.28	67.73	0.00	0.00	68.61
Reach 1	74278	99.75	1.18	47.51	50.57	47.75	50.57	0.000000	0.01	134.66	67.04	0.00	0.00	67.87
Reach 1	74278	100	0.03	47.51	50.12	47.56	50.12	0.000000	0.00	105.16	64.44	0.00	0.00	65.08
Reach 1	72051	1	3170.00	49.28	63.49	54.63	63.50	0.000142	1.29	5545.65	2330.43	0.07	0.09	121.91
Reach 1	72051	5	1490.00	49.28	60.14	52.89	60.18	0.000452	1.76	1115.05	452.72	0.12	0.18	121.91
Reach 1	72051	10	885.00	49.28	57.67	52.07	57.72	0.000565	1.68	526.92	247.33	0.12	0.19	96.10
Reach 1	72051	15	652.00	49.28	56.38	51.71	56.42	0.000564	1.57	416.21	112.19	0.12	0.18	83.24
Reach 1	72051	20	530.00	49.28	55.64	51.50	55.68	0.000558	1.48	358.10	85.38	0.12	0.16	79.43
Reach 1	72051	25	435.00	49.28	55.06	51.32	55.09	0.000529	1.39	313.78	74.24	0.12	0.14	76.40
Reach 1	72051	30	356.00	49.28	54.51	51.16	54.54	0.000490	1.30	273.93	71.67	0.12	0.11	73.58
Reach 1	72051	35	295.00	49.28	54.06	51.03	54.08	0.000451	1.22	241.79	69.52	0.12	0.10	71.22
Reach 1	72051	40	250.00	49.28	53.75	50.93	53.77	0.000427	1.13	220.56	68.07	0.11	0.08	69.63
Reach 1	72051	45	214.00	49.28	53.48	50.84	53.50	0.000404	1.06	202.55	66.81	0.11	0.07	68.25
Reach 1	72051	50	184.00	49.28	53.28	50.76	53.30	0.000386	0.97	189.38	65.87	0.10	0.07	67.22
Reach 1	72051	55	160.00	49.28	53.13	50.70	53.14	0.000370	0.89	179.54	65.16	0.09	0.06	66.45
Reach 1	72051	60	141.00	49.28	53.00	50.64	53.01	0.000354	0.83	170.89	64.54	0.09	0.06	65.76
Reach 1	72051	65	120.00	49.28	52.83	50.58	52.84	0.000332	0.75	160.24	63.75	0.08	0.05	64.90
Reach 1	72051	70	101.00	49.28	52.66	50.52	52.67	0.000307	0.68	149.55	62.96	0.08	0.04	64.03
Reach 1	72051	75	87.00	49.28	52.51	50.47	52.52	0.000283	0.62	140.27	62.26	0.07	0.04	63.26
Reach 1	72051	80	74.30	49.28	52.37	50.39	52.37	0.000258	0.57	131.20	61.57	0.07	0.03	62.50
Reach 1	72051	85	63.50	49.28	52.23	50.31	52.23	0.000232	0.52	122.67	60.91	0.06	0.03	61.78
Reach 1	72051	90	46.40	49.28	52.01	50.18	52.01	0.000187	0.42	109.41	59.88	0.06	0.02	60.65
Reach 1	72051	91	40.60	49.28	51.94	50.12	51.95	0.000174	0.38	105.54	59.57	0.05	0.02	60.31
Reach 1	72051	92	35.90	49.28	51.88	50.07	51.88	0.000164	0.35	101.62	59.26	0.05	0.02	59.97
Reach 1	72051	93	30.60	49.28	51.76	50.01	51.77	0.000158	0.32	94.93	58.73	0.04	0.02	59.39
Reach 1	72051	94	24.30	49.28	51.62	49.94	51.62	0.000145	0.28	86.57	58.05	0.04	0.01	58.65
Reach 1	72051	95	18.80	49.28	51.48	49.87	51.48	0.000133	0.24	78.38	57.38	0.04	0.01	57.91
Reach 1	72051	96	15.70	49.28	51.41	49.82	51.42	0.000125	0.21	74.67	57.08	0.03	0.01	57.58
Reach 1	72051	97	11.80	49.28	51.27	49.74	51.27	0.000107	0.18	66.18	56.37	0.03	0.01	56.80
Reach 1	72051	98	7.35	49.28	51.01	49.65	51.01	0.000090	0.14	51.95	55.17	0.03	0.01	55.49
Reach 1	72051	99	4.58	49.28	50.83	49.58	50.83	0.000068	0.11	42.23	54.33	0.02	0.00	54.57
Reach 1	72051	99.5	2.36	49.28	50.68	49.49	50.68	0.000036	0.07	33.96	53.14	0.02	0.00	53.32
Reach 1	72051	99.75	1.15	49.28	50.56	49.43	50.56	0.000017	0.04	27.70	51.95	0.01	0.00	52.11
Reach 1	72051	100	0.10	49.28	50.12	49.33	50.12	0.000001	0.01	10.66	24.10	0.00	0.00	24.18
Reach 1	70877	1	3170.00	49.69	63.21	54.46	63.26	0.000292	2.01	4036.38	2396.64	0.11	0.20	107.66
Reach 1	70877	5	1490.00	49.69	59.77	52.89	59.80	0.000259	1.48	1601.93	599.92	0.09	0.12	107.66
Reach 1	70877	10	885.00	49.69	57.00	52.19	57.03	0.000489	1.50	781.27	422.99	0.12	0.16	103.89
Reach 1	70877	15	652.00	49.69	55.56	51.88	55.60	0.000730	1.58	505.72	196.58	0.14	0.19	94.88
Reach 1	70877	20	530.00	49.69	54.76	51.69	54.80	0.000883	1.63	329.13	148.08	0.15	0.20	87.86
Reach 1	70877	25	435.00	49.69	54.18	51.54	54.22	0.000934	1.58	275.70	131.69	0.15	0.19	84.38
Reach 1	70877	30	356.00	49.69	53.66	51.40	53.70	0.000933	1.52	233.56	78.43	0.16	0.17	80.06
Reach 1	70877	35	295.00	49.69	53.22	51.29	53.25	0.000972	1.48	199.39	76.95	0.16	0.15	78.24
Reach 1	70877	40	250.00	49.69	52.90	51.19	52.93	0.001062	1.43	174.89	76.22	0.17	0.15	77.24
Reach 1	70877	45	214.00	49.69	52.62	51.10	52.65	0.001175	1.39	153.87	75.58	0.17	0.15	76.38
Reach 1	70877	50	184.00	49.69	52.41	50.98	52.44	0.001294	1.33	138.19	75.10	0.17	0.15	75.73
Reach 1	70877	55	160.00	49.69	52.26	50.89	52.29	0.001386	1.26	126.75	74.36	0.17	0.15	74.91
Reach 1	70877	60	141.00	49.69	52.13	50.83	52.15	0.001464	1.20	117.10	73.59	0.17	0.14	74.10
Reach 1	70877	65	120.00	49.69	51.97	50.75	51.99	0.001593	1.14	104.98	72.61	0.17	0.14	73.07
Reach 1	70877	70	101.00	49.69	51.81	50.64	51.83	0.001717	1.08	93.56	71.68	0.17	0.14	72.08
Reach 1	70877	75	87.00	49.69	51.68	50.58	51.69	0.001808	1.03	84.33	70.92	0.17	0.13	71.27
Reach 1	70877	80	74.30	49.69	51.55	50.52	51.57	0.001906	0.98	75.52	70.18	0.17	0.13	70.49
Reach 1	70877	85	63.50	49.69	51.44	50.46	51.45	0.002017	0.94	67.28	69.48	0.17	0.12	69.76
Reach 1	70877	90	46.40	49.69	51.24	50.37	51.25	0.002322	0.86	53.64	67.39	0.17	0.12	67.61
Reach 1	70877	91	40.60	49.69	51.18	50.34	51.19	0.002402	0.81	49.82	65.88	0.17	0.11	66.09
Reach 1	70877	92	35.90	49.69	51.13	50.30	51.14	0.002414	0.77	46.52	63.77	0.16	0.11	63.96
Reach 1	70877	93	30.60	49.69	51.06	50.26	51.07	0.002192	0.72	42.41	56.65	0.15	0.10	56.83
Reach 1	70877	94	24.30	49.69	50.97	50.22	50.98	0.002000	0.65	37.64	52.12	0.13	0.09	52.27
Reach 1	70877	95	18.80	49.69	50.89	50.17	50.89	0.001790	0.56	33.33	47.77	0.12	0.08	47.91
Reach 1	70877	96	15.70	49.69	50.84	50.15	50.85	0.001755	0.50	31.21	46.95	0.11	0.07	47.09
Reach 1	70877	97	11.80	49.69	50.71	50.11	50.71	0.001825	0.47	25.16	42.29	0.11	0.07	42.41
Reach 1	70877	98	7.35	49.69	50.54	50.04	50.54	0.001478	0.39	18.81	35.50	0.09	0.05	35.59
Reach 1	70877	99	4.58	49.69	50.38	49.98	50.38	0.001652	0.34	13.36	33.39	0.10	0.04	33.45
Reach 1	70877	99.5	2.36	49.69	50.21	49.90	50.21	0.002079	0.29	8.07	30.40	0.10	0.03	30.45
Reach 1	70877	99.75	1.15	49.69	50.11	49.85	50.11	0.002195	0.23	5.00	28.07	0.10	0.02	28.10

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	70877	100	0.10	49.69	49.87	49.75	49.87	0.001264	0.12	0.84	8.50	0.07	0.01	8.51
Reach 1	70762	1	3170.00	49.23	63.21	54.26	63.23	0.000183	1.11	4310.75	2419.81	0.06	0.11	276.98
Reach 1	70762	5	1490.00	49.23	59.76	52.92	59.77	0.000191	0.91	1664.19	699.96	0.06	0.07	272.78
Reach 1	70762	10	885.00	49.23	56.97	52.29	56.99	0.000328	0.97	913.73	531.46	0.09	0.07	259.26
Reach 1	70762	15	652.00	49.23	55.51	52.00	55.53	0.000532	1.15	565.45	210.79	0.12	0.09	216.71
Reach 1	70762	20	530.00	49.23	54.69	51.82	54.71	0.000715	1.27	416.83	152.50	0.14	0.12	157.77
Reach 1	70762	25	435.00	49.23	54.09	51.62	54.11	0.000871	1.32	329.38	137.44	0.15	0.13	142.19
Reach 1	70762	30	356.00	49.23	53.55	51.46	53.58	0.001029	1.35	263.72	116.33	0.16	0.14	120.55
Reach 1	70762	35	295.00	49.23	53.08	51.28	53.11	0.001238	1.40	210.92	111.04	0.18	0.14	114.75
Reach 1	70762	40	250.00	49.23	52.73	51.13	52.77	0.001473	1.44	174.07	101.82	0.19	0.15	105.17
Reach 1	70762	45	214.00	49.23	52.44	50.87	52.47	0.001610	1.48	144.63	93.80	0.21	0.15	96.83
Reach 1	70762	50	184.00	49.23	52.19	50.75	52.23	0.001978	1.51	121.98	91.59	0.23	0.16	94.28
Reach 1	70762	55	160.00	49.23	52.00	50.65	52.04	0.002343	1.52	105.16	88.35	0.25	0.17	90.75
Reach 1	70762	60	141.00	49.23	51.85	50.57	51.88	0.002698	1.54	91.42	84.85	0.26	0.18	87.00
Reach 1	70762	65	120.00	49.23	51.62	50.48	51.66	0.003263	1.61	74.67	69.80	0.27	0.21	71.64
Reach 1	70762	70	101.00	49.23	51.42	50.39	51.46	0.003906	1.66	60.95	62.78	0.30	0.23	64.37
Reach 1	70762	75	87.00	49.23	51.26	50.32	51.30	0.004233	1.69	51.48	53.35	0.30	0.25	54.75
Reach 1	70762	80	74.30	49.23	51.09	50.26	51.14	0.004638	1.71	43.47	45.36	0.31	0.27	46.63
Reach 1	70762	85	63.50	49.23	50.95	50.20	50.99	0.004864	1.67	37.93	31.04	0.27	0.36	32.20
Reach 1	70762	90	46.40	49.23	50.68	50.10	50.72	0.005982	1.56	29.68	30.31	0.28	0.35	31.30
Reach 1	70762	91	40.60	49.23	50.58	50.06	50.61	0.007156	1.53	26.51	30.03	0.29	0.38	30.94
Reach 1	70762	92	35.90	49.23	50.50	50.03	50.53	0.007944	1.48	24.26	29.83	0.29	0.39	30.69
Reach 1	70762	93	30.60	49.23	50.41	49.99	50.44	0.009104	1.42	21.54	29.58	0.29	0.40	30.38
Reach 1	70762	94	24.30	49.23	50.30	49.92	50.32	0.010714	1.33	18.22	29.28	0.30	0.41	30.00
Reach 1	70762	95	18.80	49.23	50.19	49.86	50.22	0.012800	1.23	15.25	29.00	0.30	0.41	29.66
Reach 1	70762	96	15.70	49.23	50.15	49.82	50.17	0.013946	1.13	13.90	28.88	0.29	0.41	29.50
Reach 1	70762	97	11.80	49.23	50.05	49.77	50.07	0.016621	1.06	11.17	28.62	0.30	0.40	29.18
Reach 1	70762	98	7.35	49.23	49.91	49.69	49.93	0.018605	1.00	7.37	22.38	0.31	0.37	22.84
Reach 1	70762	99	4.58	49.23	49.82	49.63	49.84	0.016441	0.83	5.50	19.96	0.28	0.28	20.36
Reach 1	70762	99.5	2.36	49.23	49.76	49.57	49.76	0.009357	0.56	4.21	18.10	0.21	0.13	18.45
Reach 1	70762	99.75	1.15	49.23	49.72	49.51	49.72	0.003681	0.33	3.53	17.05	0.13	0.05	17.37
Reach 1	70762	100	0.10	49.23	49.82	49.34	49.82	0.000008	0.02	5.47	19.92	0.01	0.00	20.32
Reach 1	70690	1	3170.00	47.39	63.19	53.96	63.21	0.000139	1.35	3859.85	2071.36	0.07	0.09	117.71
Reach 1	70690	5	1490.00	47.39	59.74	51.91	59.76	0.000140	1.07	1446.43	765.60	0.07	0.07	115.09
Reach 1	70690	10	885.00	47.39	56.94	50.98	56.96	0.000218	1.07	899.82	673.85	0.08	0.08	99.68
Reach 1	70690	15	652.00	47.39	55.47	50.52	55.49	0.000304	1.16	638.26	168.28	0.09	0.10	86.29
Reach 1	70690	20	530.00	47.39	54.63	50.24	54.65	0.000383	1.21	499.47	163.08	0.10	0.11	82.51
Reach 1	70690	25	435.00	47.39	54.01	50.00	54.03	0.000441	1.24	399.57	159.57	0.11	0.11	80.03
Reach 1	70690	30	356.00	47.39	53.47	49.80	53.49	0.000478	1.24	314.49	150.73	0.12	0.11	77.67
Reach 1	70690	35	295.00	47.39	53.00	49.63	53.03	0.000488	1.22	249.21	127.48	0.12	0.10	74.85
Reach 1	70690	40	250.00	47.39	52.64	49.48	52.66	0.000500	1.17	213.88	71.34	0.12	0.09	72.58
Reach 1	70690	45	214.00	47.39	52.33	49.37	52.35	0.000503	1.11	191.97	69.13	0.12	0.09	70.26
Reach 1	70690	50	184.00	47.39	52.07	49.26	52.08	0.000506	1.06	174.15	65.75	0.11	0.08	66.82
Reach 1	70690	55	160.00	47.39	51.86	49.17	51.88	0.000513	0.99	160.93	63.58	0.11	0.08	64.61
Reach 1	70690	60	141.00	47.39	51.69	49.09	51.70	0.000516	0.94	150.00	61.97	0.11	0.08	62.95
Reach 1	70690	65	120.00	47.39	51.46	48.98	51.48	0.000522	0.88	136.35	59.90	0.10	0.07	60.82
Reach 1	70690	70	101.00	47.39	51.24	48.86	51.25	0.000516	0.82	123.03	57.15	0.10	0.07	58.03
Reach 1	70690	75	87.00	47.39	51.06	48.77	51.07	0.000484	0.77	113.27	54.61	0.09	0.06	55.46
Reach 1	70690	80	74.30	47.39	50.89	48.67	50.89	0.000444	0.72	103.87	51.65	0.09	0.05	52.46
Reach 1	70690	85	63.50	47.39	50.73	48.57	50.73	0.000400	0.66	95.83	49.40	0.08	0.05	50.19
Reach 1	70690	90	46.40	47.39	50.40	48.41	50.41	0.000369	0.58	80.41	46.15	0.08	0.04	46.86
Reach 1	70690	91	40.60	47.39	50.28	48.34	50.29	0.000376	0.54	74.92	44.93	0.07	0.04	45.62
Reach 1	70690	92	35.90	47.39	50.19	48.28	50.19	0.000371	0.51	70.63	43.97	0.07	0.04	44.63
Reach 1	70690	93	30.60	47.39	50.07	48.22	50.07	0.000360	0.47	65.63	43.00	0.07	0.03	43.63
Reach 1	70690	94	24.30	47.39	49.93	48.11	49.93	0.000327	0.41	59.61	41.80	0.06	0.03	42.40
Reach 1	70690	95	18.80	47.39	49.79	48.03	49.80	0.000292	0.35	54.08	40.66	0.05	0.02	41.24
Reach 1	70690	96	15.70	47.39	49.72	47.97	49.73	0.000276	0.31	51.25	40.07	0.05	0.02	40.63
Reach 1	70690	97	11.80	47.39	49.60	47.89	49.61	0.000215	0.25	46.48	39.05	0.04	0.02	39.58
Reach 1	70690	98	7.35	47.39	49.49	47.77	49.49	0.000113	0.17	42.03	38.08	0.03	0.01	38.58
Reach 1	70690	99	4.58	47.39	49.49	47.68	49.49	0.000043	0.11	42.15	38.11	0.02	0.00	38.61
Reach 1	70690	99.5	2.36	47.39	49.58	47.59	49.58	0.000009	0.05	45.72	38.89	0.01	0.00	39.41
Reach 1	70690	99.75	1.15	47.39	49.65	47.51	49.65	0.000002	0.02	48.39	39.47	0.00	0.00	40.01
Reach 1	70690	100	0.10	47.39	49.82	47.42	49.82	0.000000	0.00	55.22	40.90	0.00	0.00	41.48
Reach 1	70436	1	3170.00	48.15	63.07	53.93	63.15	0.000551	2.52	2378.74	2126.07	0.14	0.33	111.63
Reach 1	70436	5	1490.00	48.15	59.63	51.91	59.69	0.000506	2.00	870.76	692.59	0.13	0.23	99.83
Reach 1	70436	10	885.00	48.15	56.77	50.98	56.83	0.000713	1.88	469.81	493.49	0.14	0.24	85.90
Reach 1	70436	15	652.00	48.15	55.28	50.52	55.33	0.000768	1.82	357.95	69.44	0.14	0.24	72.04
Reach 1	70436	20	530.00	48.15	54.44	50.26	54.48	0.000801	1.76	301.05	65.23	0.14	0.22	67.51
Reach 1	70436	25	435.00	48.15	53.83	50.03	53.87	0.000754	1.66	262.37	61.69	0.14	0.19	63.75
Reach 1	70436	30	356.00	48.15	53.30	49.83	53.34	0.000667	1.54	231.00	58.66	0.14	0.16	60.55
Reach 1	70436	35	295.00	48.15	52.86	49.66	52.89	0.000592	1.44	205.19	56.24	0.13	0.13	57.96
Reach 1	70436	40	250.00	48.15	52.50	49.53	52.53	0.000574	1.35	185.39	54.77	0.13	0.12	56.31
Reach 1	70436	45	214.00	48.15	52.19	49.42	52.22	0.000558	1.27	168.75	53.64	0.13	0.11	55.02
Reach 1	70436	50	184.00	48.15	51.93	49.32	51.95	0.000565	1.19	154.66	52.66	0.12	0.10	53.91
Reach 1	70436	55	160.00	48.15	51.72	49.23	51.74	0.000573	1.11	143.89	51.91	0.12	0.10	53.05
Reach 1	70436	60	141.00	48.15	51.55	49.16	51.56	0.000574	1.05	134.90	51.27	0.11	0.09	52.32
Reach 1	70436	65	120.00	48.15	51.32	49.07	51.34	0.000580	0.97	123.45	50.44	0.11	0.09	51.37
Reach 1	70436	70	101.00	48.15	51.09	48.99	51.11	0.000584	0.90	112.07	49.60	0.11	0.08	50.41
Reach 1	70436	75	87.00	48.15	50.93	48.92	50.94	0.000560	0.84	103.80	48.98	0.10	0.07	49.71
Reach 1	70436	80	74.30	48.15	50.76	48.86	50.77	0.000526	0.78	95.64	47.81	0.10	0.06	48.47
Reach 1	70436	85	63.50	48.15	50.61	48.80	50.62	0.000479	0.72	88.63	46.64	0.09	0.06	47.25
Reach 1	70436	90	46.40	48.15	50.29	48.70	50.30	0.000451	0.62	74.31	44.15	0.08	0.05	44.67
Reach 1	70436	91	40.60	48.15	50.17	48.67	50.17	0.000471	0.59	68.85	43.22	0.08	0.05	43.71
Reach 1	70436	92	35.90	48.15	50.07	48.63	50.08	0.000475	0.55	64.70	42.66	0.08	0.04	43.11
Reach 1	70436	93	30.60	48.15	49.96	48.60	49.96	0.000469	0.51	59.91	42.01	0.08	0.04	42.42
Reach 1	70436	94	24.30	48.15	49.83	48.55	49.83	0.000433	0.45	54.37	41.23	0.07	0.04	41.60
Reach 1	70436	95	18.80	48.15	49.70	48.50	49.70	0.000393	0.38	49.27	40.51	0.06	0.03	40.84
Reach 1	70436	96	15.70	48.15	49.63	48.47	49.64	0.000376	0.34	46.61	40.13	0.06	0.03	40.43

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	70436	97	11.80	48.15	49.53	48.43	49.53	0.000291	0.28	42.57	39.54	0.05	0.02	39.81
Reach 1	70436	98	7.35	48.15	49.45	48.38	49.45	0.000144	0.19	39.39	39.07	0.03	0.01	39.31
Reach 1	70436	99	4.58	48.15	49.48	48.34	49.48	0.000052	0.11	40.41	39.22	0.02	0.00	39.47
Reach 1	70436	99.5	2.36	48.15	49.58	48.30	49.58	0.000010	0.05	44.51	39.82	0.01	0.00	40.11
Reach 1	70436	99.75	1.15	48.15	49.65	48.26	49.65	0.000002	0.02	47.32	40.23	0.00	0.00	40.54
Reach 1	70436	100	0.10	48.15	49.82	48.20	49.82	0.000000	0.00	54.27	41.22	0.00	0.00	41.59
Reach 1	70298	1	3170.00	47.84	63.03	53.42	63.08	0.000196	1.92	2089.42	1844.08	0.10	0.13	106.57
Reach 1	70298	5	1490.00	47.84	59.59	51.66	59.63	0.000227	1.68	1038.56	257.56	0.10	0.11	101.92
Reach 1	70298	10	885.00	47.84	56.71	50.83	56.75	0.000308	1.63	542.39	86.12	0.11	0.12	89.47
Reach 1	70298	15	652.00	47.84	55.21	50.43	55.25	0.000346	1.55	419.65	78.84	0.12	0.11	81.42
Reach 1	70298	20	530.00	47.84	54.36	50.21	54.39	0.000384	1.50	353.80	76.23	0.12	0.11	78.30
Reach 1	70298	25	435.00	47.84	53.75	49.99	53.78	0.000394	1.41	308.06	74.36	0.12	0.10	76.06
Reach 1	70298	30	356.00	47.84	53.24	49.79	53.26	0.000391	1.32	270.11	72.08	0.12	0.09	73.50
Reach 1	70298	35	295.00	47.84	52.79	49.63	52.82	0.000382	1.24	238.85	69.12	0.12	0.08	70.36
Reach 1	70298	40	250.00	47.84	52.44	49.50	52.46	0.000378	1.17	214.56	67.34	0.12	0.07	68.43
Reach 1	70298	45	214.00	47.84	52.13	49.39	52.15	0.000374	1.10	194.17	65.82	0.11	0.07	66.77
Reach 1	70298	50	184.00	47.84	51.86	49.29	51.88	0.000366	1.04	176.87	64.49	0.11	0.06	65.34
Reach 1	70298	55	160.00	47.84	51.66	49.21	51.67	0.000350	0.98	163.69	63.46	0.11	0.06	64.22
Reach 1	70298	60	141.00	47.84	51.48	49.13	51.50	0.000336	0.92	152.76	62.60	0.10	0.05	63.28
Reach 1	70298	65	120.00	47.84	51.26	49.05	51.27	0.000327	0.86	138.78	61.47	0.10	0.05	62.06
Reach 1	70298	70	101.00	47.84	51.03	48.96	51.04	0.000320	0.81	124.91	60.33	0.10	0.04	60.83
Reach 1	70298	75	87.00	47.84	50.87	48.88	50.88	0.000305	0.76	115.03	59.25	0.10	0.04	59.69
Reach 1	70298	80	74.30	47.84	50.70	48.82	50.71	0.000289	0.71	105.37	57.98	0.09	0.03	58.38
Reach 1	70298	85	63.50	47.84	50.56	48.75	50.56	0.000270	0.65	97.10	56.84	0.09	0.03	57.20
Reach 1	70298	90	46.40	47.84	50.24	48.63	50.25	0.000257	0.58	79.79	53.78	0.08	0.02	54.08
Reach 1	70298	91	40.60	47.84	50.12	48.58	50.12	0.000252	0.56	73.11	52.01	0.08	0.02	52.29
Reach 1	70298	92	35.90	47.84	50.02	48.54	50.03	0.000238	0.53	68.19	50.43	0.08	0.02	50.69
Reach 1	70298	93	30.60	47.84	49.91	48.49	49.91	0.000218	0.49	62.67	48.60	0.08	0.02	48.84
Reach 1	70298	94	24.30	47.84	49.78	48.43	49.79	0.000184	0.43	56.57	46.70	0.07	0.01	46.92
Reach 1	70298	95	18.80	47.84	49.66	48.36	49.67	0.000149	0.37	51.05	45.42	0.06	0.01	45.62
Reach 1	70298	96	15.70	47.84	49.60	48.33	49.60	0.000123	0.33	48.21	44.74	0.06	0.01	44.93
Reach 1	70298	97	11.80	47.84	49.51	48.27	49.51	0.000091	0.27	44.09	43.73	0.05	0.01	43.91
Reach 1	70298	98	7.35	47.84	49.44	48.18	49.44	0.000043	0.18	41.17	42.76	0.03	0.00	42.92
Reach 1	70298	99	4.58	47.84	49.47	48.12	49.47	0.000015	0.11	42.65	43.26	0.02	0.00	43.42
Reach 1	70298	99.5	2.36	47.84	49.58	48.04	49.58	0.000003	0.05	47.37	44.54	0.01	0.00	44.73
Reach 1	70298	99.75	1.15	47.84	49.65	48.00	49.65	0.000001	0.02	50.56	45.30	0.00	0.00	45.50
Reach 1	70298	100	0.10	47.84	49.82	47.90	49.82	0.000000	0.00	58.45	47.15	0.00	0.00	47.38
Reach 1	70240		Bridge											
Reach 1	70166	1	3190.00	48.63	62.96	53.28	63.02	0.000275	2.07	2324.89	2103.03	0.11	0.19	122.41
Reach 1	70166	5	1500.00	48.63	59.54	51.64	59.58	0.000246	1.54	1257.82	289.92	0.10	0.12	122.41
Reach 1	70166	10	891.00	48.63	56.65	50.89	56.69	0.000328	1.51	589.52	125.08	0.12	0.11	113.52
Reach 1	70166	15	658.00	48.63	55.15	50.55	55.18	0.000338	1.50	437.88	89.37	0.12	0.10	92.48
Reach 1	70166	20	536.00	48.63	54.30	50.35	54.33	0.000350	1.47	365.38	81.90	0.12	0.09	84.76
Reach 1	70166	25	441.00	48.63	53.69	50.19	53.72	0.000361	1.39	317.00	77.32	0.12	0.09	79.98
Reach 1	70166	30	362.00	48.63	53.17	50.04	53.20	0.000371	1.30	278.17	73.81	0.12	0.08	76.24
Reach 1	70166	35	300.00	48.63	52.73	49.91	52.75	0.000389	1.22	245.62	72.56	0.12	0.08	74.68
Reach 1	70166	40	254.00	48.63	52.37	49.81	52.39	0.000404	1.15	219.96	71.35	0.12	0.08	73.24
Reach 1	70166	45	218.00	48.63	52.07	49.73	52.08	0.000420	1.10	198.26	70.30	0.12	0.07	72.00
Reach 1	70166	50	187.00	48.63	51.80	49.66	51.82	0.000437	1.04	179.64	69.43	0.11	0.07	70.94
Reach 1	70166	55	163.00	48.63	51.59	49.59	51.61	0.000453	0.99	165.42	68.76	0.11	0.07	70.13
Reach 1	70166	60	145.00	48.63	51.42	49.54	51.43	0.000470	0.94	153.57	68.19	0.11	0.06	69.45
Reach 1	70166	65	123.00	48.63	51.19	49.47	51.21	0.000493	0.89	138.22	67.46	0.11	0.06	68.55
Reach 1	70166	70	103.00	48.63	50.96	49.41	50.98	0.000524	0.84	122.85	66.71	0.11	0.06	67.65
Reach 1	70166	75	88.70	48.63	50.80	49.36	50.81	0.000553	0.79	111.81	66.17	0.11	0.06	66.99
Reach 1	70166	80	75.70	48.63	50.63	49.32	50.64	0.000587	0.75	100.89	65.39	0.11	0.06	66.10
Reach 1	70166	85	64.60	48.63	50.49	49.28	50.49	0.000626	0.71	91.46	64.58	0.10	0.05	65.21
Reach 1	70166	90	47.60	48.63	50.16	49.21	50.17	0.000847	0.67	70.82	62.43	0.11	0.06	62.86
Reach 1	70166	91	41.60	48.63	50.03	49.17	50.03	0.001006	0.67	62.49	61.51	0.12	0.06	61.87
Reach 1	70166	92	36.90	48.63	49.92	49.15	49.93	0.001180	0.66	56.11	60.80	0.12	0.07	61.10
Reach 1	70166	93	31.40	48.63	49.80	49.12	49.81	0.001451	0.64	48.71	59.97	0.13	0.07	60.20
Reach 1	70166	94	24.90	48.63	49.65	49.07	49.66	0.001985	0.62	39.87	58.91	0.13	0.08	59.05
Reach 1	70166	95	19.20	48.63	49.50	49.03	49.51	0.002851	0.61	31.34	56.50	0.15	0.10	56.63
Reach 1	70166	96	16.10	48.63	49.42	49.01	49.43	0.003687	0.60	26.72	55.16	0.15	0.11	55.27
Reach 1	70166	97	12.00	48.63	49.27	48.97	49.28	0.006553	0.64	18.72	52.75	0.19	0.14	52.85
Reach 1	70166	98	7.50	48.63	49.11	48.92	49.12	0.012660	0.70	10.79	44.11	0.25	0.19	44.18
Reach 1	70166	99	4.62	48.63	49.01	48.87	49.01	0.019765	0.70	6.56	36.73	0.29	0.22	36.78
Reach 1	70166	99.5	2.36	48.63	48.92	48.82	48.92	0.028560	0.67	3.54	28.35	0.33	0.22	28.39
Reach 1	70166	99.75	1.15	48.63	48.85	48.78	48.85	0.034814	0.62	1.87	19.52	0.35	0.21	19.54
Reach 1	70166	100	0.10	48.63	48.72	48.70	48.73	0.047705	0.42	0.24	5.49	0.36	0.13	5.49
Reach 1	70127	1	3190.00	47.33	62.95	53.15	63.01	0.000277	2.22	2489.40	2154.30	0.11	0.21	98.46
Reach 1	70127	5	1500.00	47.33	59.52	51.35	59.57	0.000238	1.67	1233.45	507.85	0.10	0.13	98.46
Reach 1	70127	10	891.00	47.33	56.64	50.51	56.67	0.000278	1.52	591.49	109.59	0.11	0.10	98.46
Reach 1	70127	15	658.00	47.33	55.14	49.95	55.17	0.000318	1.48	444.16	88.61	0.12	0.10	91.46
Reach 1	70127	20	536.00	47.33	54.28	49.70	54.32	0.000323	1.44	372.26	81.02	0.12	0.09	83.63
Reach 1	70127	25	441.00	47.33	53.68	49.48	53.70	0.000331	1.36	324.33	76.77	0.12	0.08	79.20
Reach 1	70127	30	362.00	47.33	53.16	49.29	53.18	0.000336	1.27	285.58	73.37	0.11	0.08	75.63
Reach 1	70127	35	300.00	47.33	52.71	49.11	52.74	0.000338	1.18	253.58	70.57	0.11	0.07	72.69
Reach 1	70127	40	254.00	47.33	52.36	48.98	52.38	0.000332	1.11	228.83	67.76	0.11	0.07	69.78
Reach 1	70127	45	218.00	47.33	52.05	48.86	52.07	0.000322	1.05	208.54	64.95	0.10	0.06	66.87
Reach 1	70127	50	187.00	47.33	51.79	48.75	51.80	0.000320	0.98	191.35	63.98	0.10	0.06	65.73
Reach 1	70127	55	163.00	47.33	51.58	48.67	51.59	0.000318	0.91	178.24	63.24	0.10	0.05	64.84
Reach 1	70127	60	145.00	47.33	51.41	48.59	51.42	0.000317	0.87	167.34	62.61	0.09	0.05	64.10
Reach 1	70127	65	123.00	47.33	51.18	48.49	51.19	0.000313	0.80	153.24	61.79	0.09	0.05	63.12
Reach 1	70127	70	103.00	47.33	50.95	48.41	50.96	0.000306	0.74	139.18	60.65	0.09	0.04	61.84
Reach 1	70127	75	88.70	47.33	50.78	48.33	50.79	0.000301	0.69	129.15	59.79	0.08	0.04	60.88
Reach 1	70127	80	75.70	47.33	50.62	48.26	50.62	0.000295	0.63	119.27	58.93	0.08	0.04	59.92
Reach 1	70127	85	64.60	47.33	50.47	48.19	50.48	0.000290	0.58	110.72	58.18	0.07	0.03	59.08

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	70127	90	47.60	47.33	50.14	48.09	50.15	0.000239	0.51	93.32	47.78	0.06	0.03	48.52
Reach 1	70127	91	41.60	47.33	50.01	48.04	50.01	0.000228	0.48	86.93	45.71	0.06	0.03	46.39
Reach 1	70127	92	36.90	47.33	49.90	48.01	49.90	0.000224	0.45	82.06	44.84	0.06	0.03	45.47
Reach 1	70127	93	31.40	47.33	49.77	47.95	49.77	0.000219	0.41	76.38	44.25	0.06	0.02	44.81
Reach 1	70127	94	24.90	47.33	49.61	47.89	49.61	0.000211	0.36	69.44	43.52	0.05	0.02	43.99
Reach 1	70127	95	19.20	47.33	49.45	47.83	49.45	0.000201	0.31	62.27	42.75	0.05	0.02	43.14
Reach 1	70127	96	16.10	47.33	49.35	47.80	49.35	0.000195	0.28	58.18	42.30	0.04	0.02	42.64
Reach 1	70127	97	12.00	47.33	49.15	47.74	49.15	0.000177	0.24	49.97	40.73	0.04	0.01	41.01
Reach 1	70127	98	7.50	47.33	48.87	47.67	48.87	0.000147	0.19	38.78	38.15	0.03	0.01	38.36
Reach 1	70127	99	4.62	47.33	48.63	47.62	48.63	0.000122	0.15	29.97	35.94	0.03	0.01	36.10
Reach 1	70127	99.5	2.36	47.33	48.37	47.54	48.37	0.000088	0.11	21.14	32.25	0.02	0.00	32.37
Reach 1	70127	99.75	1.15	47.33	48.17	47.50	48.17	0.000060	0.08	14.84	29.45	0.02	0.00	29.54
Reach 1	70127	100	0.10	47.33	47.81	47.39	47.81	0.000007	0.02	5.77	20.73	0.01	0.00	20.76
Reach 1	68041	1	3190.00	47.39	62.53	52.48	62.56	0.000223	1.83	5066.13	1804.95	0.10	0.15	120.31
Reach 1	68041	5	1500.00	47.39	58.95	50.83	58.99	0.000278	1.70	974.61	230.63	0.10	0.14	109.06
Reach 1	68041	10	891.00	47.39	56.07	50.07	56.11	0.000255	1.50	592.97	92.04	0.10	0.10	95.75
Reach 1	68041	15	658.00	47.39	54.52	49.73	54.55	0.000280	1.45	455.01	85.61	0.11	0.09	88.52
Reach 1	68041	20	536.00	47.39	53.64	49.49	53.67	0.000302	1.41	381.11	81.71	0.11	0.09	84.21
Reach 1	68041	25	441.00	47.39	53.00	49.27	53.03	0.000322	1.34	329.99	78.89	0.12	0.08	81.10
Reach 1	68041	30	362.00	47.39	52.45	49.06	52.48	0.000344	1.26	287.65	76.48	0.11	0.08	78.44
Reach 1	68041	35	300.00	47.39	51.99	48.90	52.01	0.000365	1.19	252.45	74.42	0.11	0.08	76.16
Reach 1	68041	40	254.00	47.39	51.63	48.78	51.65	0.000378	1.12	225.81	72.82	0.11	0.07	74.40
Reach 1	68041	45	218.00	47.39	51.32	48.67	51.33	0.000391	1.07	203.53	71.46	0.11	0.07	72.89
Reach 1	68041	50	187.00	47.39	51.04	48.58	51.06	0.000407	1.02	184.22	70.25	0.11	0.07	71.56
Reach 1	68041	55	163.00	47.39	50.83	48.49	50.85	0.000420	0.96	169.53	69.32	0.11	0.06	70.53
Reach 1	68041	60	145.00	47.39	50.65	48.43	50.66	0.000439	0.92	156.93	68.51	0.11	0.06	69.64
Reach 1	68041	65	123.00	47.39	50.42	48.35	50.43	0.000457	0.87	141.40	67.50	0.11	0.06	68.53
Reach 1	68041	70	103.00	47.39	50.20	48.27	50.21	0.000477	0.82	126.17	66.50	0.10	0.06	67.42
Reach 1	68041	75	88.70	47.39	50.03	48.21	50.04	0.000498	0.77	115.13	65.76	0.10	0.05	66.60
Reach 1	68041	80	75.70	47.39	49.87	48.15	49.87	0.000520	0.72	104.48	65.04	0.10	0.05	65.81
Reach 1	68041	85	64.60	47.39	49.73	48.11	49.73	0.000541	0.68	95.46	64.35	0.10	0.05	65.06
Reach 1	68041	90	47.60	47.39	49.45	48.02	49.46	0.000538	0.60	78.71	57.61	0.09	0.05	58.22
Reach 1	68041	91	41.60	47.39	49.33	47.98	49.34	0.000539	0.58	72.00	54.67	0.09	0.04	55.25
Reach 1	68041	92	36.90	47.39	49.24	47.96	49.24	0.000542	0.55	66.85	52.30	0.09	0.04	52.85
Reach 1	68041	93	31.40	47.39	49.11	47.92	49.12	0.000545	0.52	60.55	49.25	0.08	0.04	49.76
Reach 1	68041	94	24.90	47.39	48.96	47.88	48.96	0.000565	0.47	53.09	46.63	0.08	0.04	47.09
Reach 1	68041	95	19.20	47.39	48.80	47.84	48.80	0.000592	0.42	46.02	45.08	0.07	0.04	45.49
Reach 1	68041	96	16.10	47.39	48.71	47.82	48.71	0.000611	0.38	42.03	44.18	0.07	0.04	44.56
Reach 1	68041	97	12.00	47.39	48.54	47.78	48.54	0.000634	0.35	34.67	42.47	0.07	0.03	42.79
Reach 1	68041	98	7.50	47.39	48.31	47.73	48.31	0.000663	0.30	25.22	40.17	0.07	0.03	40.40
Reach 1	68041	99	4.62	47.39	48.14	47.70	48.14	0.000691	0.25	18.29	38.39	0.06	0.02	38.56
Reach 1	68041	99.5	2.36	47.39	47.97	47.62	47.97	0.000704	0.20	11.92	36.68	0.06	0.01	36.80
Reach 1	68041	99.75	1.15	47.39	47.85	47.56	47.85	0.000721	0.15	7.59	35.47	0.06	0.01	35.55
Reach 1	68041	100	0.10	47.39	47.60	47.45	47.60	0.000918	0.10	0.98	9.96	0.06	0.01	9.97
Reach 1	65424	1	3150.00	45.20	62.11	51.20	62.13	0.000098	1.43	5643.85	2017.14	0.07	0.08	86.10
Reach 1	65424	5	1490.00	45.20	58.38	49.47	58.41	0.000152	1.45	1798.99	584.89	0.08	0.09	86.10
Reach 1	65424	10	900.00	45.20	55.50	48.67	55.53	0.000190	1.43	721.98	327.00	0.09	0.09	86.10
Reach 1	65424	15	666.00	45.20	53.88	48.30	53.91	0.000215	1.37	498.46	210.77	0.10	0.08	84.34
Reach 1	65424	20	543.00	45.20	52.94	48.08	52.97	0.000232	1.32	411.23	183.93	0.10	0.07	81.90
Reach 1	65424	25	446.00	45.20	52.26	47.83	52.29	0.000239	1.25	358.12	172.64	0.10	0.07	78.46
Reach 1	65424	30	367.00	45.20	51.67	47.58	51.69	0.000251	1.17	313.68	165.78	0.10	0.07	75.47
Reach 1	65424	35	304.00	45.20	51.16	47.38	51.18	0.000259	1.10	277.04	159.93	0.10	0.06	72.91
Reach 1	65424	40	257.00	45.20	50.78	47.21	50.80	0.000257	1.03	250.32	155.54	0.10	0.06	70.99
Reach 1	65424	45	221.00	45.20	50.45	47.08	50.47	0.000257	0.97	227.98	85.37	0.09	0.05	69.35
Reach 1	65424	50	189.00	45.20	50.16	46.96	50.17	0.000257	0.91	208.14	66.43	0.09	0.05	67.86
Reach 1	65424	55	166.00	45.20	49.93	46.87	49.94	0.000262	0.86	192.84	65.36	0.09	0.05	66.69
Reach 1	65424	60	146.00	45.20	49.70	46.77	49.71	0.000267	0.82	178.42	64.34	0.09	0.05	65.57
Reach 1	65424	65	125.00	45.20	49.45	46.68	49.46	0.000273	0.77	162.33	63.18	0.08	0.04	64.30
Reach 1	65424	70	105.00	45.20	49.20	46.57	49.21	0.000272	0.72	146.84	62.04	0.08	0.04	63.05
Reach 1	65424	75	90.30	45.20	49.00	46.48	49.01	0.000279	0.67	134.24	61.10	0.08	0.04	62.02
Reach 1	65424	80	77.10	45.20	48.79	46.39	48.80	0.000290	0.63	121.87	60.16	0.08	0.04	60.99
Reach 1	65424	85	65.90	45.20	48.61	46.31	48.62	0.000303	0.59	111.07	59.33	0.08	0.03	60.08
Reach 1	65424	90	48.90	45.20	48.34	46.17	48.35	0.000302	0.51	95.20	58.09	0.07	0.03	58.72
Reach 1	65424	91	43.00	45.20	48.24	46.11	48.24	0.000299	0.48	89.24	57.61	0.07	0.03	58.20
Reach 1	65424	92	38.50	45.20	48.15	46.07	48.15	0.000303	0.46	83.98	57.19	0.07	0.03	57.74
Reach 1	65424	93	33.00	45.20	48.04	46.01	48.04	0.000310	0.43	77.63	56.68	0.06	0.03	57.18
Reach 1	65424	94	26.60	45.20	47.89	45.93	47.89	0.000283	0.38	69.53	50.80	0.06	0.02	51.23
Reach 1	65424	95	21.10	45.20	47.74	45.86	47.74	0.000238	0.34	62.36	44.00	0.05	0.02	44.36
Reach 1	65424	96	17.90	45.20	47.64	45.82	47.64	0.000228	0.31	58.05	42.34	0.05	0.02	42.68
Reach 1	65424	97	13.60	45.20	47.46	45.74	47.46	0.000206	0.27	50.88	39.42	0.04	0.02	39.73
Reach 1	65424	98	8.86	45.20	47.22	45.65	47.23	0.000143	0.21	42.08	35.51	0.03	0.01	35.78
Reach 1	65424	99	5.54	45.20	47.00	45.57	47.00	0.000098	0.16	34.48	33.03	0.03	0.01	33.26
Reach 1	65424	99.5	3.03	45.20	46.81	45.50	46.81	0.000052	0.11	28.26	30.86	0.02	0.00	31.05
Reach 1	65424	99.75	1.71	45.20	46.66	45.43	46.66	0.000027	0.07	23.92	29.20	0.01	0.00	29.37
Reach 1	65424	100	0.26	45.20	46.43	45.31	46.43	0.000001	0.01	17.66	25.28	0.00	0.00	25.42
Reach 1	62720	1	3150.00	42.13	61.96	47.26	61.97	0.000036	0.94	9498.05	3248.47	0.04	0.03	170.08
Reach 1	62720	5	1490.00	42.13	58.22	46.10	58.23	0.000031	0.73	2634.25	628.04	0.04	0.02	170.08
Reach 1	62720	10	900.00	42.13	55.32	45.36	55.33	0.000024	0.60	1522.85	206.61	0.03	0.01	166.99
Reach 1	62720	15	666.00	42.13	53.69	45.01	53.69	0.000021	0.53	1255.65	152.52	0.03	0.01	157.55
Reach 1	62720	20	543.00	42.13	52.75	44.81	52.75	0.000019	0.49	1113.53	149.40	0.03	0.01	153.90
Reach 1	62720	25	446.00	42.13	52.06	44.62	52.06	0.000018	0.44	1012.01	147.14	0.03	0.01	151.26
Reach 1	62720	30	367.00	42.13	51.46	44.46	51.46	0.000017	0.40	924.29	145.15	0.03	0.01	148.94
Reach 1	62720	35	304.00	42.13	50.95	44.32	50.95	0.000016	0.36	850.89	143.47	0.03	0.01	146.97
Reach 1	62720	40	257.00	42.13	50.58	44.20	50.58	0.000014	0.32	797.32	142.23	0.02	0.00	145.52
Reach 1	62720	45	221.00	42.13	50.26	44.11	50.26	0.000013	0.29	751.74	141.17	0.02	0.00	144.28
Reach 1	62720	50	189.00	42.13	49.96	44.01	49.97	0.000012	0.27	710.82	140.21	0.02	0.00	143.15
Reach 1	62720	55	166.00	42.13	49.73	43.95	49.73	0.000011	0.24	678.29	139.44	0.02	0.00	142.25
Reach 1	62720	60	146.00	42.13	49.51	43.88	49.51	0.000010	0.23	647.29	138.70	0.02	0.00	141.39

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	62720	65	125.00	42.13	49.26	43.80	49.26	0.000009	0.20	612.48	137.87	0.02	0.00	140.42
Reach 1	62720	70	105.00	42.13	49.02	43.70	49.02	0.000008	0.18	579.26	137.07	0.02	0.00	139.48
Reach 1	62720	75	90.30	42.13	48.81	43.61	48.81	0.000007	0.16	551.24	136.39	0.01	0.00	138.69
Reach 1	62720	80	77.10	42.13	48.61	43.53	48.61	0.000007	0.15	523.24	135.71	0.01	0.00	137.89
Reach 1	62720	85	65.90	42.13	48.42	43.45	48.42	0.000006	0.13	498.33	135.10	0.01	0.00	137.18
Reach 1	62720	90	48.90	42.13	48.16	43.31	48.16	0.000005	0.11	463.49	134.25	0.01	0.00	136.18
Reach 1	62720	91	43.00	42.13	48.07	43.25	48.07	0.000004	0.10	450.54	133.93	0.01	0.00	135.81
Reach 1	62720	92	38.50	42.13	47.98	43.19	47.98	0.000004	0.09	438.48	133.63	0.01	0.00	135.46
Reach 1	62720	93	33.00	42.13	47.87	43.12	47.87	0.000003	0.08	423.81	133.27	0.01	0.00	135.04
Reach 1	62720	94	26.60	42.13	47.73	43.02	47.73	0.000003	0.07	405.65	132.82	0.01	0.00	134.51
Reach 1	62720	95	21.10	42.13	47.60	42.94	47.60	0.000002	0.05	388.01	132.38	0.01	0.00	133.99
Reach 1	62720	96	17.90	42.13	47.51	42.89	47.51	0.000002	0.05	376.01	132.08	0.00	0.00	133.64
Reach 1	62720	97	13.60	42.13	47.35	42.81	47.35	0.000002	0.04	355.72	131.57	0.00	0.00	133.05
Reach 1	62720	98	8.86	42.13	47.16	42.70	47.16	0.000001	0.03	329.97	130.92	0.00	0.00	132.29
Reach 1	62720	99	5.54	42.13	46.96	42.60	46.96	0.000000	0.02	304.43	130.27	0.00	0.00	131.53
Reach 1	62720	99.5	3.03	42.13	46.79	42.51	46.79	0.000000	0.01	282.06	129.70	0.00	0.00	130.87
Reach 1	62720	99.75	1.71	42.13	46.65	42.43	46.65	0.000000	0.01	264.75	129.26	0.00	0.00	130.35
Reach 1	62720	100	0.26	42.13	46.43	42.27	46.43	0.000000	0.00	236.78	123.20	0.00	0.00	124.16
Reach 1	61235	1	3150.00	42.50	61.82	50.47	61.85	0.000182	1.65	6563.02	2533.33	0.09	0.12	114.78
Reach 1	61235	5	1490.00	42.50	57.99	48.19	58.05	0.000367	1.86	800.38	372.73	0.12	0.17	107.46
Reach 1	61235	10	900.00	42.50	55.13	47.09	55.17	0.000270	1.64	549.27	76.30	0.11	0.11	81.22
Reach 1	61235	15	666.00	42.50	53.50	46.57	53.54	0.000248	1.53	433.96	65.84	0.11	0.10	70.26
Reach 1	61235	20	543.00	42.50	52.57	46.26	52.60	0.000234	1.45	374.74	61.29	0.10	0.08	65.34
Reach 1	61235	25	446.00	42.50	51.90	45.99	51.92	0.000222	1.33	334.38	58.77	0.10	0.07	62.47
Reach 1	61235	30	367.00	42.50	51.31	45.75	51.33	0.000214	1.22	300.32	56.57	0.09	0.07	59.96
Reach 1	61235	35	304.00	42.50	50.81	45.55	50.83	0.000200	1.11	272.67	54.71	0.09	0.06	57.85
Reach 1	61235	40	257.00	42.50	50.45	45.38	50.46	0.000181	1.01	253.22	53.25	0.08	0.05	56.21
Reach 1	61235	45	221.00	42.50	50.14	45.21	50.15	0.000165	0.93	236.94	51.89	0.08	0.04	54.72
Reach 1	61235	50	189.00	42.50	49.86	45.05	49.87	0.000149	0.85	222.65	50.68	0.07	0.04	53.37
Reach 1	61235	55	166.00	42.50	49.63	44.93	49.64	0.000139	0.79	211.33	49.69	0.07	0.04	52.28
Reach 1	61235	60	146.00	42.50	49.42	44.81	49.43	0.000130	0.73	200.70	48.75	0.06	0.03	51.24
Reach 1	61235	65	125.00	42.50	49.18	44.67	49.18	0.000118	0.66	189.01	47.70	0.06	0.03	50.06
Reach 1	61235	70	105.00	42.50	48.95	44.52	48.95	0.000102	0.59	178.12	46.69	0.05	0.02	48.95
Reach 1	61235	75	90.30	42.50	48.75	44.40	48.75	0.000092	0.53	168.96	45.82	0.05	0.02	47.99
Reach 1	61235	80	77.10	42.50	48.55	44.28	48.55	0.000083	0.48	159.94	44.96	0.05	0.02	47.03
Reach 1	61235	85	65.90	42.50	48.37	44.17	48.37	0.000075	0.43	151.99	44.18	0.04	0.02	46.17
Reach 1	61235	90	48.90	42.50	48.12	43.98	48.13	0.000057	0.35	141.25	43.10	0.03	0.01	44.98
Reach 1	61235	91	43.00	42.50	48.03	43.91	48.03	0.000050	0.31	137.31	42.70	0.03	0.01	44.54
Reach 1	61235	92	38.50	42.50	47.95	43.85	47.95	0.000045	0.29	133.62	42.32	0.03	0.01	44.12
Reach 1	61235	93	33.00	42.50	47.84	43.77	47.84	0.000040	0.26	129.15	41.86	0.03	0.01	43.60
Reach 1	61235	94	26.60	42.50	47.71	43.67	47.71	0.000033	0.22	123.67	41.29	0.02	0.01	42.97
Reach 1	61235	95	21.10	42.50	47.58	43.56	47.58	0.000026	0.18	118.39	40.72	0.02	0.00	42.34
Reach 1	61235	96	17.90	42.50	47.49	43.50	47.49	0.000023	0.16	114.81	40.34	0.02	0.00	41.92
Reach 1	61235	97	13.60	42.50	47.34	43.38	47.34	0.000017	0.12	108.80	39.68	0.01	0.00	41.19
Reach 1	61235	98	8.86	42.50	47.15	43.25	47.15	0.000009	0.09	101.31	38.85	0.01	0.00	40.27
Reach 1	61235	99	5.54	42.50	46.96	43.12	46.96	0.000004	0.06	93.91	38.01	0.01	0.00	39.34
Reach 1	61235	99.5	3.03	42.50	46.79	42.99	46.79	0.000002	0.03	87.50	37.27	0.00	0.00	38.52
Reach 1	61235	99.75	1.71	42.50	46.65	42.88	46.65	0.000001	0.02	82.58	36.69	0.00	0.00	37.87
Reach 1	61235	100	0.26	42.50	46.43	42.68	46.43	0.000000	0.00	74.61	35.73	0.00	0.00	36.81
Reach 1	60145	1	3150.00	41.84	61.52	49.29	61.59	0.000328	2.33	2903.56	2273.88	0.12	0.23	97.41
Reach 1	60145	5	1490.00	41.84	57.68	47.13	57.73	0.000253	1.81	1021.56	409.54	0.10	0.15	84.37
Reach 1	60145	10	900.00	41.84	54.89	45.99	54.92	0.000180	1.50	608.86	87.26	0.09	0.09	75.11
Reach 1	60145	15	666.00	41.84	53.28	45.45	53.31	0.000160	1.34	495.25	64.16	0.09	0.07	70.44
Reach 1	60145	20	543.00	41.84	52.36	45.11	52.39	0.000147	1.24	437.16	62.31	0.08	0.06	67.80
Reach 1	60145	25	446.00	41.84	51.70	44.81	51.72	0.000134	1.12	396.64	60.75	0.08	0.05	65.70
Reach 1	60145	30	367.00	41.84	51.12	44.53	51.14	0.000125	1.01	361.79	59.24	0.07	0.04	63.74
Reach 1	60145	35	304.00	41.84	50.64	44.30	50.65	0.000113	0.91	333.46	57.98	0.07	0.04	62.10
Reach 1	60145	40	257.00	41.84	50.30	44.10	50.31	0.000099	0.82	313.78	57.09	0.06	0.03	60.94
Reach 1	60145	45	221.00	41.84	50.00	43.94	50.01	0.000088	0.74	297.06	56.32	0.06	0.03	59.94
Reach 1	60145	50	189.00	41.84	49.74	43.79	49.74	0.000078	0.67	282.24	55.94	0.05	0.02	59.28
Reach 1	60145	55	166.00	41.84	49.52	43.68	49.53	0.000072	0.61	270.10	55.64	0.05	0.02	58.76
Reach 1	60145	60	146.00	41.84	49.31	43.56	49.32	0.000066	0.56	258.58	55.29	0.05	0.02	58.21
Reach 1	60145	65	125.00	41.84	49.08	43.45	49.08	0.000059	0.51	245.84	54.72	0.04	0.02	57.45
Reach 1	60145	70	105.00	41.84	48.86	43.33	48.87	0.000050	0.45	233.99	54.18	0.04	0.01	56.74
Reach 1	60145	75	90.30	41.84	48.67	43.23	48.68	0.000045	0.40	223.76	53.70	0.03	0.01	56.12
Reach 1	60145	80	77.10	41.84	48.48	43.13	48.48	0.000039	0.36	213.57	53.23	0.03	0.01	55.49
Reach 1	60145	85	65.90	41.84	48.31	43.04	48.31	0.000035	0.32	204.47	52.80	0.03	0.01	54.93
Reach 1	60145	90	48.90	41.84	48.08	42.88	48.08	0.000026	0.25	192.39	51.60	0.02	0.01	53.55
Reach 1	60145	91	43.00	41.84	47.99	42.83	48.00	0.000022	0.23	187.96	51.25	0.02	0.00	53.14
Reach 1	60145	92	38.50	41.84	47.91	42.78	47.91	0.000020	0.21	183.71	50.88	0.02	0.00	52.72
Reach 1	60145	93	33.00	41.84	47.81	42.73	47.81	0.000017	0.18	178.58	50.17	0.02	0.00	51.98
Reach 1	60145	94	26.60	41.84	47.68	42.65	47.68	0.000014	0.15	172.29	49.28	0.01	0.00	51.06
Reach 1	60145	95	21.10	41.84	47.56	42.57	47.56	0.000011	0.13	166.25	48.42	0.01	0.00	50.16
Reach 1	60145	96	17.90	41.84	47.47	42.53	47.47	0.000009	0.11	162.12	47.82	0.01	0.00	49.53
Reach 1	60145	97	13.60	41.84	47.33	42.46	47.33	0.000007	0.09	155.24	46.80	0.01	0.00	48.48
Reach 1	60145	98	8.86	41.84	47.14	42.36	47.14	0.000003	0.06	146.71	45.51	0.01	0.00	47.13
Reach 1	60145	99	5.54	41.84	46.95	42.28	46.95	0.000001	0.04	138.22	44.24	0.00	0.00	45.81
Reach 1	60145	99.5	3.03	41.84	46.79	42.18	46.79	0.000001	0.02	130.86	43.14	0.00	0.00	44.66
Reach 1	60145	99.75	1.71	41.84	46.65	42.11	46.65	0.000000	0.01	125.21	42.28	0.00	0.00	43.76
Reach 1	60145	100	0.26	41.84	46.43	41.97	46.43	0.000000	0.00	116.08	40.85	0.00	0.00	42.26
Reach 1	60022	1	3150.00	45.36	61.51	50.01	61.55	0.000151	1.66	2761.21	2244.62	0.08	0.12	139.78
Reach 1	60022	5	1490.00	45.36	57.67	48.62	57.70	0.000128	1.22	1468.91	297.52	0.07	0.07	137.51
Reach 1	60022	10	900.00	45.36	54.88	47.98	54.90	0.000125	1.08	834.22	134.69	0.07	0.05	127.64
Reach 1	60022	15	666.00	45.36	53.27	47.67	53.28	0.000133	1.04	639.08	113.34	0.08	0.05	115.88
Reach 1	60022	20	543.00	45.36	52.35	47.49	52.36	0.000138	1.01	537.82	106.52	0.08	0.04	108.71
Reach 1	60022	25	446.00	45.36	51.69	47.33	51.70	0.000141	0.95	469.36	101.56	0.08	0.04	103.55
Reach 1	60022	30	367.00	45.36	51.11	47.19	51.12	0.000148	0.89	411.34	98.17	0.08	0.04	99.92
Reach 1	60022	35	304.00	45.36	50.62	47.08	50.64	0.000153	0.83	364.42	95.94	0.08	0.04	97.48

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	60022	40	257.00	45.36	50.28	46.98	50.29	0.000150	0.77	331.93	94.37	0.07	0.03	95.76
Reach 1	60022	45	221.00	45.36	49.99	46.90	50.00	0.000148	0.73	304.33	93.02	0.07	0.03	94.27
Reach 1	60022	50	189.00	45.36	49.72	46.83	49.73	0.000145	0.68	279.95	91.80	0.07	0.03	92.94
Reach 1	60022	55	166.00	45.36	49.51	46.76	49.51	0.000148	0.64	260.10	90.80	0.07	0.03	91.84
Reach 1	60022	60	146.00	45.36	49.30	46.71	49.31	0.000151	0.60	241.35	89.85	0.07	0.02	90.79
Reach 1	60022	65	125.00	45.36	49.07	46.65	49.07	0.000152	0.57	220.69	88.78	0.06	0.02	89.62
Reach 1	60022	70	105.00	45.36	48.85	46.58	48.86	0.000149	0.52	201.54	87.78	0.06	0.02	88.53
Reach 1	60022	75	90.30	45.36	48.66	46.53	48.67	0.000152	0.49	185.01	86.91	0.06	0.02	87.57
Reach 1	60022	80	77.10	45.36	48.47	46.47	48.47	0.000157	0.46	168.53	86.03	0.06	0.02	86.61
Reach 1	60022	85	65.90	45.36	48.30	46.42	48.30	0.000164	0.43	153.85	85.24	0.06	0.02	85.74
Reach 1	60022	90	48.90	45.36	48.07	46.18	48.07	0.000152	0.36	134.50	82.98	0.05	0.02	83.40
Reach 1	60022	91	43.00	45.36	47.99	46.12	47.99	0.000144	0.34	127.47	81.87	0.05	0.01	82.28
Reach 1	60022	92	38.50	45.36	47.90	46.08	47.90	0.000143	0.32	120.74	80.80	0.05	0.01	81.19
Reach 1	60022	93	33.00	45.36	47.80	46.02	47.80	0.000140	0.29	112.64	79.49	0.04	0.01	79.86
Reach 1	60022	94	26.60	45.36	47.68	45.96	47.68	0.000135	0.26	102.74	77.85	0.04	0.01	78.21
Reach 1	60022	95	21.10	45.36	47.55	45.88	47.55	0.000129	0.23	93.27	76.26	0.04	0.01	76.59
Reach 1	60022	96	17.90	45.36	47.47	45.84	47.47	0.000128	0.21	86.81	75.15	0.03	0.01	75.47
Reach 1	60022	97	13.60	45.36	47.32	45.78	47.32	0.000122	0.18	76.06	73.27	0.03	0.01	73.57
Reach 1	60022	98	8.86	45.36	47.14	45.70	47.14	0.000094	0.14	62.86	70.78	0.03	0.01	71.06
Reach 1	60022	99	5.54	45.36	46.95	45.63	46.95	0.000074	0.11	49.85	67.39	0.02	0.00	67.64
Reach 1	60022	99.5	3.03	45.36	46.78	45.57	46.78	0.000047	0.08	38.89	63.28	0.02	0.00	63.52
Reach 1	60022	99.75	1.71	45.36	46.65	45.52	46.65	0.000030	0.06	30.81	59.40	0.01	0.00	59.63
Reach 1	60022	100	0.26	45.36	46.43	45.43	46.43	0.000003	0.01	19.04	47.92	0.00	0.00	48.10
Reach 1	59960		Bridge											
Reach 1	59876	1	3150.00	45.22	61.47	49.84	61.50	0.000216	1.61	2913.75	2548.93	0.08	0.17	140.88
Reach 1	59876	5	1490.00	45.22	57.64	48.52	57.67	0.000134	1.19	1509.63	309.31	0.07	0.07	136.16
Reach 1	59876	10	900.00	45.22	54.85	47.92	54.87	0.000115	1.04	871.15	139.72	0.07	0.05	127.89
Reach 1	59876	15	666.00	45.22	53.24	47.61	53.26	0.000123	0.99	672.85	115.61	0.07	0.04	118.49
Reach 1	59876	20	543.00	45.22	52.32	47.44	52.33	0.000134	0.95	569.00	110.02	0.07	0.04	112.57
Reach 1	59876	25	446.00	45.22	51.66	47.29	51.67	0.000135	0.90	497.82	106.32	0.07	0.04	108.62
Reach 1	59876	30	367.00	45.22	51.08	47.16	51.09	0.000136	0.84	436.70	103.76	0.07	0.04	105.80
Reach 1	59876	35	304.00	45.22	50.60	47.04	50.61	0.000140	0.79	387.02	101.63	0.07	0.03	103.47
Reach 1	59876	40	257.00	45.22	50.26	46.95	50.26	0.000146	0.73	352.66	100.13	0.07	0.03	101.82
Reach 1	59876	45	221.00	45.22	49.96	46.88	49.97	0.000150	0.68	323.41	98.84	0.07	0.03	100.40
Reach 1	59876	50	189.00	45.22	49.70	46.81	49.70	0.000151	0.64	297.56	97.68	0.06	0.03	99.13
Reach 1	59876	55	166.00	45.22	49.48	46.75	49.49	0.000153	0.60	276.41	96.73	0.06	0.03	98.08
Reach 1	59876	60	146.00	45.22	49.27	46.70	49.28	0.000157	0.57	256.41	95.84	0.06	0.03	97.09
Reach 1	59876	65	125.00	45.22	49.04	46.64	49.05	0.000159	0.53	234.35	94.85	0.06	0.02	96.00
Reach 1	59876	70	105.00	45.22	48.83	46.56	48.83	0.000160	0.49	213.95	93.93	0.06	0.02	94.98
Reach 1	59876	75	90.30	45.22	48.64	46.46	48.64	0.000164	0.46	196.23	93.12	0.06	0.02	94.09
Reach 1	59876	80	77.10	45.22	48.45	46.39	48.45	0.000168	0.43	178.52	92.30	0.05	0.02	93.18
Reach 1	59876	85	65.90	45.22	48.27	46.32	48.28	0.000174	0.41	162.67	91.57	0.05	0.02	92.37
Reach 1	59876	90	48.90	45.22	48.05	46.17	48.05	0.000179	0.34	141.94	90.64	0.05	0.02	91.33
Reach 1	59876	91	43.00	45.22	47.96	46.13	47.96	0.000177	0.32	134.33	90.06	0.05	0.02	90.72
Reach 1	59876	92	38.50	45.22	47.88	46.09	47.88	0.000175	0.30	127.00	88.39	0.04	0.02	89.01
Reach 1	59876	93	33.00	45.22	47.78	46.05	47.78	0.000168	0.28	118.24	86.35	0.04	0.01	86.91
Reach 1	59876	94	26.60	45.22	47.65	45.96	47.65	0.000157	0.25	107.63	83.81	0.04	0.01	84.31
Reach 1	59876	95	21.10	45.22	47.53	45.90	47.53	0.000145	0.22	97.60	81.34	0.03	0.01	81.77
Reach 1	59876	96	17.90	45.22	47.45	45.85	47.45	0.000131	0.20	90.78	79.62	0.03	0.01	80.00
Reach 1	59876	97	13.60	45.22	47.30	45.79	47.30	0.000114	0.17	79.51	77.38	0.03	0.01	77.72
Reach 1	59876	98	8.86	45.22	47.13	45.70	47.13	0.000086	0.13	65.89	75.03	0.03	0.00	75.33
Reach 1	59876	99	5.54	45.22	46.94	45.62	46.94	0.000070	0.11	52.22	72.59	0.02	0.00	72.85
Reach 1	59876	99.5	3.03	45.22	46.78	45.53	46.78	0.000046	0.07	40.58	69.51	0.02	0.00	69.74
Reach 1	59876	99.75	1.71	45.22	46.65	45.47	46.65	0.000029	0.05	31.88	63.77	0.01	0.00	63.98
Reach 1	59876	100	0.26	45.22	46.43	45.34	46.43	0.000002	0.01	20.83	39.61	0.00	0.00	39.77
Reach 1	59729	1	3130.00	44.68	61.37	50.50	61.44	0.000468	2.35	2471.12	2593.95	0.11	0.36	90.93
Reach 1	59729	5	1490.00	44.68	57.58	48.64	57.63	0.000305	1.77	1106.36	197.13	0.10	0.17	90.50
Reach 1	59729	10	909.00	44.68	54.80	47.79	54.84	0.000255	1.57	640.45	120.95	0.10	0.11	82.31
Reach 1	59729	15	675.00	44.68	53.19	47.40	53.22	0.000263	1.49	468.82	93.49	0.10	0.10	76.40
Reach 1	59729	20	549.00	44.68	52.27	47.17	52.30	0.000274	1.41	391.39	76.38	0.10	0.09	73.16
Reach 1	59729	25	451.00	44.68	51.61	46.97	51.64	0.000268	1.31	344.51	67.04	0.10	0.08	71.30
Reach 1	59729	30	372.00	44.68	51.03	46.80	51.06	0.000263	1.22	305.95	66.19	0.10	0.07	69.81
Reach 1	59729	35	308.00	44.68	50.55	46.65	50.57	0.000260	1.12	274.27	65.49	0.10	0.06	68.58
Reach 1	59729	40	261.00	44.68	50.21	46.54	50.23	0.000260	1.03	252.31	63.99	0.09	0.06	66.88
Reach 1	59729	45	223.00	44.68	49.92	46.43	49.94	0.000254	0.95	233.83	62.57	0.09	0.06	65.31
Reach 1	59729	50	191.00	44.68	49.66	46.33	49.67	0.000243	0.88	217.68	61.30	0.08	0.05	63.91
Reach 1	59729	55	168.00	44.68	49.45	46.24	49.46	0.000235	0.82	204.54	60.27	0.08	0.05	62.76
Reach 1	59729	60	147.00	44.68	49.24	46.15	49.25	0.000226	0.76	192.21	59.29	0.07	0.04	61.67
Reach 1	59729	65	126.00	44.68	49.01	46.06	49.02	0.000215	0.71	178.72	58.20	0.07	0.04	60.46
Reach 1	59729	70	107.00	44.68	48.80	45.97	48.80	0.000204	0.64	166.33	57.18	0.07	0.04	59.32
Reach 1	59729	75	92.10	44.68	48.61	45.90	48.61	0.000194	0.59	155.65	56.29	0.06	0.03	58.33
Reach 1	59729	80	78.80	44.68	48.42	45.82	48.42	0.000183	0.54	145.04	55.39	0.06	0.03	57.33
Reach 1	59729	85	67.20	44.68	48.25	45.75	48.25	0.000171	0.50	135.62	54.58	0.06	0.03	56.42
Reach 1	59729	90	50.20	44.68	48.02	45.64	48.02	0.000152	0.41	123.41	53.64	0.05	0.02	55.33
Reach 1	59729	91	44.60	44.68	47.94	45.59	47.94	0.000144	0.37	118.95	53.56	0.04	0.02	55.14
Reach 1	59729	92	39.90	44.68	47.86	45.55	47.86	0.000137	0.35	114.59	53.47	0.04	0.02	54.96
Reach 1	59729	93	34.70	44.68	47.76	45.51	47.76	0.000128	0.32	109.31	53.37	0.04	0.02	54.73
Reach 1	59729	94	28.50	44.68	47.63	45.45	47.63	0.000114	0.28	102.77	53.25	0.04	0.01	54.45
Reach 1	59729	95	22.90	44.68	47.51	45.38	47.52	0.000099	0.24	96.43	52.84	0.03	0.01	53.92
Reach 1	59729	96	19.60	44.68	47.43	45.34	47.43	0.000088	0.21	92.07	52.47	0.03	0.01	53.48
Reach 1	59729	97	15.20	44.68	47.29	45.28	47.29	0.000068	0.18	84.71	51.85	0.02	0.01	52.73
Reach 1	59729	98	10.20	44.68	47.12	45.19	47.12	0.000044	0.13	75.71	51.08	0.02	0.00	51.81
Reach 1	59729	99	6.46	44.68	46.93	45.10	46.93	0.000026	0.10	66.45	50.28	0.01	0.00	50.84
Reach 1	59729	99.5	3.69	44.68	46.77	45.02	46.77	0.000013	0.06	58.45	49.57	0.01	0.00	50.00
Reach 1	59729	99.75	2.26	44.68	46.65	44.96	46.65	0.000007	0.04	52.17	49.01	0.01	0.00	49.32
Reach 1	59729	100	0.53	44.68	46.43	44.84	46.43	0.000001	0.01	41.88	47.73	0.00	0.00	47.89
Reach 1	58472	1	3130.00	44.93	61.03	49.90	61.05	0.000185	1.47	7069.94	2631.58	0.07	0.14	106.93

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	58472	5	1490.00	44.93	57.24	48.22	57.27	0.000225	1.48	1346.11	986.95	0.09	0.12	106.93
Reach 1	58472	10	909.00	44.93	54.51	47.46	54.54	0.000185	1.34	831.25	510.23	0.09	0.08	93.19
Reach 1	58472	15	675.00	44.93	52.88	47.10	52.90	0.000199	1.30	590.78	310.36	0.09	0.07	85.60
Reach 1	58472	20	549.00	44.93	51.93	46.90	51.95	0.000219	1.26	470.16	265.11	0.09	0.07	81.69
Reach 1	58472	25	451.00	44.93	51.27	46.71	51.30	0.000219	1.18	394.23	210.83	0.09	0.07	79.43
Reach 1	58472	30	372.00	44.93	50.70	46.54	50.72	0.000215	1.10	338.16	166.74	0.09	0.06	76.86
Reach 1	58472	35	308.00	44.93	50.22	46.39	50.24	0.000210	1.02	302.50	116.69	0.09	0.05	74.72
Reach 1	58472	40	261.00	44.93	49.87	46.27	49.88	0.000214	0.94	277.31	114.38	0.08	0.05	73.17
Reach 1	58472	45	223.00	44.93	49.58	46.18	49.59	0.000211	0.87	256.58	112.12	0.08	0.05	71.86
Reach 1	58472	50	191.00	44.93	49.33	46.08	49.34	0.000203	0.80	239.01	110.15	0.08	0.04	70.74
Reach 1	58472	55	168.00	44.93	49.12	46.01	49.12	0.000199	0.75	224.52	108.51	0.07	0.04	69.80
Reach 1	58472	60	147.00	44.93	48.92	45.95	48.93	0.000192	0.70	211.07	106.97	0.07	0.04	68.92
Reach 1	58472	65	126.00	44.93	48.70	45.87	48.71	0.000184	0.64	196.35	104.16	0.07	0.03	67.94
Reach 1	58472	70	107.00	44.93	48.50	45.81	48.50	0.000175	0.59	182.88	101.41	0.06	0.03	67.04
Reach 1	58472	75	92.10	44.93	48.32	45.75	48.33	0.000166	0.54	171.39	99.04	0.06	0.03	66.26
Reach 1	58472	80	78.80	44.93	48.15	45.69	48.15	0.000157	0.49	160.03	96.67	0.06	0.02	65.48
Reach 1	58472	85	67.20	44.93	47.99	45.64	47.99	0.000147	0.45	150.05	64.01	0.05	0.02	64.79
Reach 1	58472	90	50.20	44.93	47.80	45.55	47.80	0.000128	0.36	137.58	63.23	0.04	0.02	63.91
Reach 1	58472	91	44.60	44.93	47.73	45.52	47.73	0.000120	0.33	133.19	62.95	0.04	0.02	63.60
Reach 1	58472	92	39.90	44.93	47.66	45.50	47.66	0.000112	0.31	128.89	62.68	0.04	0.01	63.29
Reach 1	58472	93	34.70	44.93	47.58	45.46	47.58	0.000102	0.28	123.78	62.36	0.04	0.01	62.93
Reach 1	58472	94	28.50	44.93	47.48	45.42	47.48	0.000087	0.24	117.68	61.97	0.03	0.01	62.49
Reach 1	58472	95	22.90	44.93	47.38	45.38	47.38	0.000073	0.20	111.80	61.59	0.03	0.01	62.07
Reach 1	58472	96	19.60	44.93	47.32	45.36	47.32	0.000063	0.18	107.74	61.32	0.02	0.01	61.77
Reach 1	58472	97	15.20	44.93	47.20	45.32	47.20	0.000047	0.15	100.90	60.88	0.02	0.00	61.27
Reach 1	58472	98	10.20	44.93	47.06	45.27	47.06	0.000028	0.11	92.35	60.32	0.02	0.00	60.64
Reach 1	58472	99	6.46	44.93	46.90	45.21	46.90	0.000016	0.08	82.74	59.34	0.01	0.00	59.61
Reach 1	58472	99.5	3.69	44.93	46.76	45.16	46.76	0.000007	0.05	74.26	58.16	0.01	0.00	58.39
Reach 1	58472	99.75	2.26	44.93	46.64	45.11	46.64	0.000004	0.03	67.34	56.50	0.01	0.00	56.70
Reach 1	58472	100	0.53	44.93	46.43	45.04	46.43	0.000000	0.01	56.02	53.66	0.00	0.00	53.83
Reach 1	57879	1	3130.00	43.53	60.92	50.96	60.95	0.000275	1.67	6245.85	2373.38	0.09	0.19	106.82
Reach 1	57879	5	1490.00	43.53	57.07	48.46	57.12	0.000424	1.86	910.49	966.67	0.12	0.20	104.70
Reach 1	57879	10	909.00	43.53	54.31	47.39	54.35	0.000461	1.77	527.76	352.97	0.13	0.15	95.55
Reach 1	57879	15	675.00	43.53	52.63	46.89	52.68	0.000567	1.81	372.20	131.83	0.15	0.16	82.89
Reach 1	57879	20	549.00	43.53	51.66	46.59	51.71	0.000560	1.81	303.59	114.02	0.15	0.16	67.30
Reach 1	57879	25	451.00	43.53	51.01	46.34	51.06	0.000548	1.71	263.75	107.74	0.14	0.14	62.50
Reach 1	57879	30	372.00	43.53	50.44	46.11	50.48	0.000508	1.61	231.47	100.64	0.14	0.13	56.94
Reach 1	57879	35	308.00	43.53	49.97	45.92	50.00	0.000427	1.48	207.58	91.81	0.12	0.11	49.64
Reach 1	57879	40	261.00	43.53	49.61	45.74	49.63	0.000416	1.36	191.40	88.83	0.12	0.10	47.70
Reach 1	57879	45	223.00	43.53	49.31	45.56	49.34	0.000401	1.25	178.46	87.24	0.11	0.10	46.89
Reach 1	57879	50	191.00	43.53	49.08	45.39	49.10	0.000373	1.14	168.11	85.60	0.10	0.08	46.21
Reach 1	57879	55	168.00	43.53	48.88	45.28	48.89	0.000350	1.05	159.52	83.66	0.10	0.08	45.46
Reach 1	57879	60	147.00	43.53	48.69	45.17	48.71	0.000325	0.97	151.57	81.83	0.09	0.07	44.76
Reach 1	57879	65	126.00	43.53	48.48	45.05	48.50	0.000296	0.88	142.92	79.78	0.08	0.06	43.94
Reach 1	57879	70	107.00	43.53	48.30	44.95	48.31	0.000267	0.79	135.12	77.89	0.08	0.05	43.19
Reach 1	57879	75	92.10	43.53	48.13	44.86	48.14	0.000241	0.72	128.55	76.38	0.07	0.05	42.65
Reach 1	57879	80	78.80	43.53	47.98	44.77	47.98	0.000215	0.65	122.11	40.17	0.07	0.04	42.11
Reach 1	57879	85	67.20	43.53	47.84	44.69	47.84	0.000189	0.58	116.56	39.81	0.06	0.03	41.65
Reach 1	57879	90	50.20	43.53	47.67	44.56	47.67	0.000149	0.46	109.96	39.12	0.05	0.03	40.85
Reach 1	57879	91	44.60	43.53	47.61	44.51	47.62	0.000133	0.41	107.79	38.89	0.04	0.02	40.58
Reach 1	57879	92	39.90	43.53	47.56	44.47	47.56	0.000119	0.38	105.64	38.73	0.04	0.02	40.38
Reach 1	57879	93	34.70	43.53	47.49	44.42	47.49	0.000103	0.34	102.96	38.52	0.04	0.02	40.13
Reach 1	57879	94	28.50	43.53	47.41	44.35	47.41	0.000083	0.29	99.78	38.27	0.03	0.01	39.83
Reach 1	57879	95	22.90	43.53	47.32	44.29	47.33	0.000065	0.24	96.67	38.02	0.03	0.01	39.53
Reach 1	57879	96	19.60	43.53	47.27	44.22	47.27	0.000053	0.21	94.50	37.85	0.02	0.01	39.33
Reach 1	57879	97	15.20	43.53	47.17	44.14	47.17	0.000036	0.17	90.82	37.56	0.02	0.01	38.97
Reach 1	57879	98	10.20	43.53	47.04	44.04	47.04	0.000019	0.12	86.12	37.18	0.01	0.00	38.52
Reach 1	57879	99	6.46	43.53	46.89	43.94	46.89	0.000009	0.08	80.53	36.73	0.01	0.00	37.97
Reach 1	57879	99.5	3.69	43.53	46.75	43.84	46.75	0.000004	0.05	75.47	36.32	0.01	0.00	37.46
Reach 1	57879	99.75	2.26	43.53	46.64	43.79	46.64	0.000002	0.03	71.19	35.96	0.00	0.00	37.04
Reach 1	57879	100	0.53	43.53	46.43	43.67	46.43	0.000000	0.01	63.92	35.35	0.00	0.00	36.30
Reach 1	57717	1	3130.00	46.13	60.91	50.72	60.93	0.000151	1.31	7312.45	2419.57	0.07	0.11	128.75
Reach 1	57717	5	1490.00	46.13	57.05	49.10	57.08	0.000215	1.40	1357.96	1005.84	0.09	0.11	128.75
Reach 1	57717	10	909.00	46.13	54.28	48.39	54.31	0.000231	1.30	699.69	416.18	0.10	0.08	124.08
Reach 1	57717	15	675.00	46.13	52.59	48.06	52.62	0.000315	1.34	504.09	162.95	0.11	0.09	113.80
Reach 1	57717	20	549.00	46.13	51.61	47.86	51.64	0.000415	1.38	398.72	153.77	0.12	0.10	106.17
Reach 1	57717	25	451.00	46.13	50.95	47.70	50.98	0.000485	1.36	331.61	147.80	0.13	0.10	101.14
Reach 1	57717	30	372.00	46.13	50.37	47.55	50.40	0.000571	1.35	275.22	141.65	0.14	0.10	95.81
Reach 1	57717	35	308.00	46.13	49.89	47.42	49.91	0.000635	1.33	231.53	133.02	0.14	0.10	87.78
Reach 1	57717	40	261.00	46.13	49.52	47.31	49.55	0.000714	1.30	200.98	125.68	0.14	0.11	80.85
Reach 1	57717	45	223.00	46.13	49.22	47.22	49.25	0.000723	1.25	178.46	116.82	0.14	0.11	72.93
Reach 1	57717	50	191.00	46.13	48.98	47.14	49.01	0.000765	1.18	161.43	114.35	0.14	0.11	71.61
Reach 1	57717	55	168.00	46.13	48.78	47.08	48.80	0.000820	1.14	147.35	111.53	0.14	0.11	70.52
Reach 1	57717	60	147.00	46.13	48.60	47.03	48.61	0.000876	1.09	134.31	108.85	0.14	0.11	69.56
Reach 1	57717	65	126.00	46.13	48.39	46.96	48.41	0.000955	1.05	120.10	105.84	0.14	0.10	68.47
Reach 1	57717	70	107.00	46.13	48.20	46.90	48.22	0.001038	1.00	107.45	102.98	0.14	0.10	67.34
Reach 1	57717	75	92.10	46.13	48.04	46.85	48.05	0.001122	0.95	96.83	66.06	0.14	0.10	66.52
Reach 1	57717	80	78.80	46.13	47.88	46.81	47.89	0.001234	0.91	86.40	65.42	0.14	0.10	65.80
Reach 1	57717	85	67.20	46.13	47.75	46.76	47.76	0.001343	0.87	77.48	64.92	0.14	0.10	65.23
Reach 1	57717	90	50.20	46.13	47.59	46.70	47.60	0.001394	0.75	67.30	63.78	0.13	0.09	64.02
Reach 1	57717	91	44.60	46.13	47.54	46.67	47.54	0.001356	0.70	64.12	62.96	0.12	0.09	63.19
Reach 1	57717	92	39.90	46.13	47.49	46.65	47.49	0.001331	0.65	60.94	62.12	0.12	0.08	62.34
Reach 1	57717	93	34.70	46.13	47.42	46.63	47.43	0.001308	0.61	56.99	61.26	0.11	0.08	61.47
Reach 1	57717	94	28.50	46.13	47.35	46.59	47.35	0.001229	0.54	52.46	60.28	0.10	0.07	60.48
Reach 1	57717	95	22.90	46.13	47.27	46.56	47.28	0.001150	0.48	48.05	59.33	0.09	0.06	59.51
Reach 1	57717	96	19.60	46.13	47.22	46.54	47.23	0.001086	0.44	45.01	58.76	0.09	0.05	58.92
Reach 1	57717	97	15.20	46.13	47.13	46.52	47.14	0.000956	0.38	39.88	57.77	0.08	0.04	57.92
Reach 1	57717	98	10.20	46.13	47.02	46.48	47.02	0.000756	0.31	33.35	56.37	0.07	0.03	56.50
Reach 1	57717	99	6.46	46.13	46.87	46.42	46.88	0.000708	0.25	25.37	53.76	0.07	0.02	53.86

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	57717	99.5	3.69	46.13	46.74	46.37	46.74	0.000661	0.20	18.28	52.13	0.06	0.01	52.20
Reach 1	57717	99.75	2.26	46.13	46.62	46.33	46.62	0.000938	0.19	12.09	50.38	0.07	0.01	50.44
Reach 1	57717	100	0.53	46.13	46.38	46.26	46.38	0.003885	0.24	2.18	17.95	0.12	0.03	17.97
Reach 1	57608	1	3130.00	41.38	60.89	46.89	60.92	0.000143	1.40	6813.28	2352.06	0.06	0.12	118.62
Reach 1	57608	5	1490.00	41.38	57.04	45.12	57.06	0.000116	1.23	1409.19	936.92	0.06	0.08	113.43
Reach 1	57608	10	909.00	41.38	54.27	44.29	54.29	0.000082	1.00	907.50	429.58	0.06	0.04	108.48
Reach 1	57608	15	675.00	41.38	52.59	43.89	52.60	0.000080	0.92	734.35	147.42	0.06	0.04	104.01
Reach 1	57608	20	549.00	41.38	51.61	43.66	51.62	0.000076	0.86	639.55	137.08	0.06	0.03	96.72
Reach 1	57608	25	451.00	41.38	50.95	43.46	50.95	0.000066	0.78	580.07	129.44	0.05	0.03	91.29
Reach 1	57608	30	372.00	41.38	50.36	43.29	50.37	0.000057	0.70	530.16	123.63	0.05	0.02	87.41
Reach 1	57608	35	308.00	41.38	49.88	43.13	49.89	0.000050	0.63	490.53	119.34	0.05	0.02	84.68
Reach 1	57608	40	261.00	41.38	49.51	43.01	49.52	0.000046	0.57	461.05	115.41	0.04	0.02	81.97
Reach 1	57608	45	223.00	41.38	49.21	42.89	49.22	0.000041	0.51	438.01	111.94	0.04	0.01	79.51
Reach 1	57608	50	191.00	41.38	48.97	42.78	48.98	0.000035	0.45	419.95	109.64	0.03	0.01	77.99
Reach 1	57608	55	168.00	41.38	48.77	42.70	48.78	0.000032	0.41	405.07	107.96	0.03	0.01	76.92
Reach 1	57608	60	147.00	41.38	48.58	42.63	48.59	0.000028	0.38	391.19	106.81	0.03	0.01	76.29
Reach 1	57608	65	126.00	41.38	48.38	42.54	48.38	0.000024	0.34	376.01	104.43	0.03	0.01	75.44
Reach 1	57608	70	107.00	41.38	48.19	42.47	48.19	0.000021	0.30	362.37	100.93	0.02	0.01	74.60
Reach 1	57608	75	92.10	41.38	48.03	42.40	48.03	0.000018	0.26	350.91	71.19	0.02	0.01	73.81
Reach 1	57608	80	78.80	41.38	47.87	42.34	47.87	0.000015	0.23	339.64	70.46	0.02	0.00	72.96
Reach 1	57608	85	67.20	41.38	47.73	42.28	47.73	0.000012	0.20	330.03	69.45	0.02	0.00	71.90
Reach 1	57608	90	50.20	41.38	47.57	42.19	47.57	0.000009	0.16	319.15	68.70	0.01	0.00	71.06
Reach 1	57608	91	44.60	41.38	47.52	42.15	47.52	0.000008	0.14	315.75	68.56	0.01	0.00	70.89
Reach 1	57608	92	39.90	41.38	47.47	42.12	47.47	0.000007	0.13	312.30	68.43	0.01	0.00	70.72
Reach 1	57608	93	34.70	41.38	47.41	42.08	47.41	0.000006	0.11	307.97	68.26	0.01	0.00	70.51
Reach 1	57608	94	28.50	41.38	47.34	42.03	47.34	0.000004	0.09	302.97	68.06	0.01	0.00	70.26
Reach 1	57608	95	22.90	41.38	47.26	41.98	47.26	0.000003	0.08	298.03	67.86	0.01	0.00	70.01
Reach 1	57608	96	19.60	41.38	47.21	41.94	47.21	0.000003	0.07	294.61	67.73	0.01	0.00	69.84
Reach 1	57608	97	15.20	41.38	47.13	41.89	47.13	0.000002	0.05	288.77	67.49	0.00	0.00	69.55
Reach 1	57608	98	10.20	41.38	47.01	41.80	47.01	0.000001	0.04	281.23	67.19	0.00	0.00	69.17
Reach 1	57608	99	6.46	41.38	46.87	41.72	46.87	0.000000	0.02	271.55	66.80	0.00	0.00	68.68
Reach 1	57608	99.5	3.69	41.38	46.74	41.64	46.74	0.000000	0.01	262.69	66.44	0.00	0.00	68.23
Reach 1	57608	99.75	2.26	41.38	46.62	41.59	46.62	0.000000	0.01	254.62	66.11	0.00	0.00	67.82
Reach 1	57608	100	0.53	41.38	46.36	41.49	46.36	0.000000	0.00	237.55	65.41	0.00	0.00	66.94
Reach 1	57550	1	3130.00	44.19	60.87	49.64	60.90	0.000195	1.53	6024.98	2165.01	0.08	0.15	124.99
Reach 1	57550	5	1490.00	44.19	57.02	48.08	57.05	0.000158	1.26	1602.65	653.39	0.07	0.09	124.10
Reach 1	57550	10	909.00	44.19	54.26	47.34	54.28	0.000169	1.21	751.03	380.23	0.08	0.07	117.17
Reach 1	57550	15	675.00	44.19	52.57	46.95	52.59	0.000194	1.19	568.03	148.23	0.09	0.06	106.57
Reach 1	57550	20	549.00	44.19	51.59	46.71	51.61	0.000209	1.16	471.72	132.76	0.09	0.06	96.82
Reach 1	57550	25	451.00	44.19	50.93	46.51	50.95	0.000215	1.10	410.23	127.78	0.09	0.06	93.48
Reach 1	57550	30	372.00	44.19	50.34	46.32	50.36	0.000221	1.04	357.53	123.38	0.09	0.05	90.53
Reach 1	57550	35	308.00	44.19	49.86	46.15	49.88	0.000228	0.98	315.37	119.77	0.09	0.05	88.11
Reach 1	57550	40	261.00	44.19	49.50	46.01	49.51	0.000247	0.92	283.69	116.99	0.09	0.05	86.25
Reach 1	57550	45	223.00	44.19	49.20	45.90	49.21	0.000255	0.86	258.65	114.09	0.09	0.05	84.30
Reach 1	57550	50	191.00	44.19	48.96	45.80	48.97	0.000250	0.80	239.00	111.19	0.08	0.05	82.54
Reach 1	57550	55	168.00	44.19	48.76	45.72	48.77	0.000247	0.75	222.85	108.27	0.08	0.04	80.61
Reach 1	57550	60	147.00	44.19	48.57	45.64	48.58	0.000240	0.71	208.06	105.36	0.08	0.04	78.65
Reach 1	57550	65	126.00	44.19	48.37	45.55	48.37	0.000231	0.66	192.15	102.20	0.07	0.04	76.54
Reach 1	57550	70	107.00	44.19	48.18	45.46	48.18	0.000221	0.60	178.11	99.34	0.07	0.03	74.62
Reach 1	57550	75	92.10	44.19	48.02	45.39	48.02	0.000209	0.55	166.47	72.40	0.06	0.03	73.11
Reach 1	57550	80	78.80	44.19	47.86	45.31	47.86	0.000197	0.51	155.13	71.07	0.06	0.03	71.74
Reach 1	57550	85	67.20	44.19	47.72	45.24	47.73	0.000182	0.46	145.53	69.91	0.06	0.02	70.55
Reach 1	57550	90	50.20	44.19	47.57	45.11	47.57	0.000153	0.37	134.71	68.58	0.05	0.02	69.18
Reach 1	57550	91	44.60	44.19	47.52	45.06	47.52	0.000139	0.34	131.37	68.16	0.04	0.02	68.75
Reach 1	57550	92	39.90	44.19	47.47	45.01	47.47	0.000126	0.31	127.98	67.60	0.04	0.01	68.18
Reach 1	57550	93	34.70	44.19	47.41	44.96	47.41	0.000111	0.28	123.76	66.79	0.04	0.01	67.36
Reach 1	57550	94	28.50	44.19	47.33	44.88	47.33	0.000091	0.24	118.94	65.86	0.03	0.01	66.41
Reach 1	57550	95	22.90	44.19	47.26	44.81	47.26	0.000073	0.20	114.23	64.93	0.03	0.01	65.47
Reach 1	57550	96	19.60	44.19	47.21	44.77	47.21	0.000061	0.18	110.98	64.28	0.02	0.01	64.82
Reach 1	57550	97	15.20	44.19	47.13	44.69	47.13	0.000042	0.14	105.52	62.97	0.02	0.00	63.50
Reach 1	57550	98	10.20	44.19	47.01	44.59	47.01	0.000023	0.10	98.59	61.19	0.01	0.00	61.70
Reach 1	57550	99	6.46	44.19	46.87	44.51	46.87	0.000012	0.07	89.93	58.88	0.01	0.00	59.37
Reach 1	57550	99.5	3.69	44.19	46.74	44.42	46.74	0.000005	0.04	82.25	56.75	0.01	0.00	57.23
Reach 1	57550	99.75	2.26	44.19	46.62	44.37	46.62	0.000002	0.03	75.46	54.83	0.00	0.00	55.29
Reach 1	57550	100	0.53	44.19	46.36	44.26	46.36	0.000000	0.01	61.77	50.75	0.00	0.00	51.18
Reach 1	57512	1	3130.00	46.12	60.86	50.19	60.89	0.000211	1.54	5931.31	2167.36	0.08	0.15	129.49
Reach 1	57512	5	1490.00	46.12	57.02	48.82	57.04	0.000175	1.28	1473.03	508.54	0.08	0.09	128.20
Reach 1	57512	10	909.00	46.12	54.25	48.23	54.27	0.000191	1.26	724.04	362.63	0.09	0.07	117.07
Reach 1	57512	15	675.00	46.12	52.56	47.94	52.58	0.000236	1.25	539.93	154.11	0.10	0.07	108.87
Reach 1	57512	20	549.00	46.12	51.58	47.76	51.60	0.000292	1.25	438.55	137.53	0.11	0.08	103.46
Reach 1	57512	25	451.00	46.12	50.91	47.63	50.94	0.000320	1.21	373.19	131.09	0.11	0.07	99.40
Reach 1	57512	30	372.00	46.12	50.33	47.51	50.35	0.000355	1.17	317.41	125.74	0.11	0.07	95.82
Reach 1	57512	35	308.00	46.12	49.85	47.40	49.87	0.000395	1.13	272.96	121.34	0.11	0.07	92.87
Reach 1	57512	40	261.00	46.12	49.48	47.32	49.50	0.000464	1.09	239.60	118.08	0.12	0.08	90.72
Reach 1	57512	45	223.00	46.12	49.18	47.25	49.20	0.000528	1.05	213.11	116.21	0.12	0.08	89.71
Reach 1	57512	50	191.00	46.12	48.94	47.17	48.96	0.000572	0.99	192.09	114.71	0.12	0.08	88.90
Reach 1	57512	55	168.00	46.12	48.74	47.13	48.75	0.000628	0.96	174.53	113.45	0.12	0.08	88.21
Reach 1	57512	60	147.00	46.12	48.55	47.08	48.56	0.000691	0.93	158.13	111.30	0.12	0.08	87.57
Reach 1	57512	65	126.00	46.12	48.34	47.03	48.35	0.000784	0.90	140.13	108.65	0.12	0.08	86.87
Reach 1	57512	70	107.00	46.12	48.15	46.98	48.17	0.000896	0.86	123.94	106.25	0.13	0.08	86.23
Reach 1	57512	75	92.10	46.12	47.99	46.94	48.00	0.001020	0.84	110.26	85.18	0.13	0.08	85.68
Reach 1	57512	80	78.80	46.12	47.83	46.89	47.84	0.001148	0.81	96.79	82.39	0.13	0.08	82.80
Reach 1	57512	85	67.20	46.12	47.70	46.84	47.71	0.001288	0.78	85.66	80.94	0.13	0.08	81.28
Reach 1	57512	90	50.20	46.12	47.54	46.78	47.55	0.001435	0.69	73.17	80.39	0.13	0.08	80.64
Reach 1	57512	91	44.60	46.12	47.49	46.75	47.50	0.001438	0.64	69.34	80.08	0.12	0.08	80.31
Reach 1	57512	92	39.90	46.12	47.45	46.73	47.45	0.001464	0.61	65.42	79.77	0.12	0.07	79.97
Reach 1	57512	93	34.70	46.12	47.38	46.69	47.39	0.001511	0.57	60.50	79.37	0.12	0.07	79.55
Reach 1	57512	94	28.50	46.12	47.31	46.65	47.32	0.001508	0.52	54.90	78.85	0.11	0.07	79.01

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	57512	95	22.90	46.12	47.24	46.60	47.25	0.001502	0.46	49.41	77.83	0.10	0.06	77.97
Reach 1	57512	96	19.60	46.12	47.19	46.56	47.20	0.001490	0.43	45.62	77.12	0.10	0.05	77.26
Reach 1	57512	97	15.20	46.12	47.11	46.49	47.11	0.001452	0.39	39.22	75.90	0.10	0.05	76.02
Reach 1	57512	98	10.20	46.12	47.00	46.43	47.00	0.001383	0.33	31.06	74.32	0.09	0.04	74.42
Reach 1	57512	99	6.46	46.12	46.86	46.36	46.86	0.001543	0.31	21.08	60.74	0.09	0.03	60.83
Reach 1	57512	99.5	3.69	46.12	46.73	46.31	46.73	0.001663	0.27	13.66	50.33	0.09	0.03	50.38
Reach 1	57512	99.75	2.26	46.12	46.60	46.26	46.61	0.001852	0.27	8.47	34.44	0.09	0.03	34.47
Reach 1	57512	100	0.53	46.12	46.35	46.18	46.35	0.002120	0.21	2.56	17.09	0.09	0.02	17.10
Reach 1	55292	1	4240.00	42.06	60.44	48.16	60.48	0.000356	2.01	6449.04	1960.00	0.10	0.28	118.23
Reach 1	55292	5	2030.00	42.06	56.61	46.19	56.65	0.000310	1.77	1632.44	484.23	0.09	0.20	106.49
Reach 1	55292	10	1240.00	42.06	53.91	45.29	53.95	0.000206	1.50	826.13	215.58	0.09	0.11	96.71
Reach 1	55292	15	895.00	42.06	52.21	44.83	52.24	0.000166	1.32	676.36	110.03	0.08	0.08	91.35
Reach 1	55292	20	718.00	42.06	51.19	44.57	51.22	0.000150	1.22	590.23	83.41	0.08	0.06	88.14
Reach 1	55292	25	595.00	42.06	50.53	44.38	50.55	0.000138	1.11	535.35	81.80	0.08	0.05	86.05
Reach 1	55292	30	492.00	42.06	49.94	44.20	49.95	0.000125	1.01	487.42	80.36	0.07	0.05	84.19
Reach 1	55292	35	414.00	42.06	49.45	44.04	49.46	0.000114	0.92	448.34	79.18	0.07	0.04	82.64
Reach 1	55292	40	353.00	42.06	49.04	43.92	49.05	0.000104	0.85	415.99	78.18	0.06	0.03	81.35
Reach 1	55292	45	307.00	42.06	48.71	43.82	48.72	0.000098	0.79	390.30	77.38	0.06	0.03	80.31
Reach 1	55292	50	263.00	42.06	48.46	43.72	48.46	0.000092	0.71	371.10	76.77	0.06	0.03	79.52
Reach 1	55292	55	231.00	42.06	48.24	43.64	48.24	0.000086	0.65	354.25	76.05	0.05	0.02	78.66
Reach 1	55292	60	203.00	42.06	48.02	43.57	48.03	0.000080	0.60	338.16	75.27	0.05	0.02	77.76
Reach 1	55292	65	174.00	42.06	47.78	43.49	47.78	0.000073	0.54	319.73	74.36	0.05	0.02	76.71
Reach 1	55292	70	147.00	42.06	47.54	43.41	47.54	0.000066	0.49	302.12	73.49	0.04	0.02	75.70
Reach 1	55292	75	127.00	42.06	47.32	43.35	47.33	0.000060	0.44	286.28	72.69	0.04	0.01	74.77
Reach 1	55292	80	105.00	42.06	47.08	43.27	47.09	0.000053	0.39	268.96	71.82	0.04	0.01	73.75
Reach 1	55292	85	86.30	42.06	46.84	43.14	46.85	0.000047	0.34	251.94	70.94	0.03	0.01	72.74
Reach 1	55292	90	62.80	42.06	46.50	43.01	46.50	0.000037	0.28	227.97	69.69	0.03	0.01	71.29
Reach 1	55292	91	55.90	42.06	46.40	42.97	46.41	0.000035	0.25	221.07	69.32	0.02	0.01	70.87
Reach 1	55292	92	50.40	42.06	46.34	42.93	46.34	0.000033	0.23	216.40	69.08	0.02	0.01	70.58
Reach 1	55292	93	43.60	42.06	46.23	42.88	46.23	0.000029	0.21	209.06	68.69	0.02	0.01	70.13
Reach 1	55292	94	35.50	42.06	46.08	42.82	46.08	0.000025	0.18	198.92	68.14	0.02	0.00	69.50
Reach 1	55292	95	28.50	42.06	45.93	42.75	45.93	0.000021	0.15	188.37	67.57	0.02	0.00	68.84
Reach 1	55292	96	24.40	42.06	45.82	42.71	45.82	0.000018	0.13	181.20	67.18	0.01	0.00	68.38
Reach 1	55292	97	18.50	42.06	45.66	42.64	45.66	0.000014	0.11	170.37	66.59	0.01	0.00	67.70
Reach 1	55292	98	12.10	42.06	45.38	42.55	45.38	0.000008	0.08	152.18	65.58	0.01	0.00	66.53
Reach 1	55292	99	7.69	42.06	45.12	42.47	45.12	0.000005	0.06	134.97	64.61	0.01	0.00	65.40
Reach 1	55292	99.5	4.28	42.06	44.74	42.39	44.75	0.000003	0.04	111.09	63.24	0.01	0.00	63.81
Reach 1	55292	99.75	2.72	42.06	44.54	42.33	44.54	0.000002	0.03	98.43	62.50	0.00	0.00	62.96
Reach 1	55292	100	0.70	42.06	44.09	42.22	44.09	0.000000	0.01	70.82	59.63	0.00	0.00	59.89
Reach 1	54404	1	4200.00	43.02	60.16	48.94	60.19	0.000288	1.79	6424.85	2269.03	0.09	0.22	118.90
Reach 1	54404	5	2020.00	43.02	56.34	46.90	56.38	0.000287	1.62	2237.52	514.01	0.09	0.17	111.78
Reach 1	54404	10	1250.00	43.02	53.69	45.96	53.73	0.000290	1.62	773.45	304.15	0.10	0.13	104.55
Reach 1	54404	15	904.00	43.02	52.02	45.46	52.05	0.000255	1.48	611.30	187.23	0.10	0.10	96.26
Reach 1	54404	20	725.00	43.02	51.02	45.18	51.05	0.000243	1.39	519.99	165.16	0.10	0.09	90.97
Reach 1	54404	25	600.00	43.02	50.36	44.96	50.39	0.000231	1.29	463.48	84.69	0.10	0.08	87.15
Reach 1	54404	30	497.00	43.02	49.78	44.77	49.81	0.000216	1.20	415.39	81.51	0.09	0.07	83.78
Reach 1	54404	35	418.00	43.02	49.30	44.61	49.32	0.000202	1.11	377.01	78.89	0.09	0.06	80.98
Reach 1	54404	40	358.00	43.02	48.90	44.48	48.92	0.000190	1.04	345.81	76.71	0.09	0.05	78.66
Reach 1	54404	45	309.00	43.02	48.58	44.37	48.60	0.000179	0.96	321.32	74.97	0.08	0.05	76.81
Reach 1	54404	50	266.00	43.02	48.34	44.27	48.35	0.000170	0.88	303.40	73.67	0.08	0.04	75.42
Reach 1	54404	55	233.00	43.02	48.13	44.19	48.14	0.000161	0.81	287.76	72.51	0.07	0.04	74.19
Reach 1	54404	60	204.00	43.02	47.92	44.11	47.93	0.000152	0.75	272.97	71.40	0.07	0.04	73.00
Reach 1	54404	65	175.00	43.02	47.68	44.04	47.69	0.000142	0.68	256.09	70.12	0.06	0.03	71.63
Reach 1	54404	70	149.00	43.02	47.45	43.96	47.46	0.000131	0.62	240.14	68.88	0.06	0.03	70.31
Reach 1	54404	75	128.00	43.02	47.24	43.89	47.25	0.000121	0.57	225.80	67.74	0.05	0.02	69.10
Reach 1	54404	80	106.00	43.02	47.01	43.81	47.01	0.000110	0.50	210.27	66.49	0.05	0.02	67.77
Reach 1	54404	85	87.40	43.02	46.78	43.74	46.78	0.000099	0.45	195.09	65.25	0.05	0.02	66.44
Reach 1	54404	90	64.10	43.02	46.45	43.64	46.45	0.000083	0.37	173.91	63.47	0.04	0.01	64.54
Reach 1	54404	91	57.40	43.02	46.36	43.61	46.36	0.000078	0.34	167.83	62.95	0.04	0.01	63.99
Reach 1	54404	92	52.00	43.02	46.29	43.59	46.29	0.000075	0.32	163.76	62.60	0.03	0.01	63.62
Reach 1	54404	93	45.20	43.02	46.19	43.55	46.19	0.000069	0.29	157.37	62.05	0.03	0.01	63.03
Reach 1	54404	94	37.20	43.02	46.05	43.51	46.05	0.000061	0.25	148.59	61.28	0.03	0.01	62.21
Reach 1	54404	95	30.40	43.02	45.90	43.46	45.90	0.000053	0.22	139.45	60.47	0.03	0.01	61.34
Reach 1	54404	96	26.10	43.02	45.79	43.44	45.79	0.000048	0.20	133.23	59.91	0.02	0.01	60.75
Reach 1	54404	97	20.30	43.02	45.64	43.39	45.64	0.000040	0.16	123.95	59.07	0.02	0.01	59.85
Reach 1	54404	98	13.50	43.02	45.37	43.34	45.37	0.000027	0.12	108.35	57.63	0.02	0.00	58.31
Reach 1	54404	99	8.62	43.02	45.11	43.29	45.11	0.000017	0.09	93.61	56.23	0.01	0.00	56.82
Reach 1	54404	99.5	4.94	43.02	44.74	43.24	44.74	0.000012	0.07	73.15	54.23	0.01	0.00	54.69
Reach 1	54404	99.75	3.28	43.02	44.54	43.21	44.54	0.000009	0.05	62.44	53.15	0.01	0.00	53.54
Reach 1	54404	100	0.96	43.02	44.09	43.14	44.09	0.000003	0.02	39.23	50.74	0.00	0.00	50.97
Reach 1	52613	1	4200.00	40.68	59.39	47.74	59.45	0.000465	2.20	4067.16	1795.52	0.11	0.34	138.82
Reach 1	52613	5	2020.00	40.68	55.74	45.68	55.78	0.000312	1.71	1182.26	289.97	0.10	0.19	123.97
Reach 1	52613	10	1250.00	40.68	53.27	44.70	53.30	0.000201	1.39	898.01	194.93	0.09	0.10	115.49
Reach 1	52613	15	904.00	40.68	51.65	44.17	51.67	0.000172	1.25	721.15	121.44	0.08	0.07	108.32
Reach 1	52613	20	725.00	40.68	50.67	43.86	50.69	0.000157	1.17	620.53	99.48	0.08	0.06	101.95
Reach 1	52613	25	600.00	40.68	50.04	43.62	50.05	0.000144	1.07	558.93	95.60	0.08	0.05	97.86
Reach 1	52613	30	497.00	40.68	49.48	43.39	49.50	0.000130	0.98	506.94	92.20	0.07	0.04	94.26
Reach 1	52613	35	418.00	40.68	49.03	43.19	49.04	0.000117	0.90	465.68	89.51	0.07	0.04	91.41
Reach 1	52613	40	358.00	40.68	48.65	43.02	48.66	0.000107	0.83	431.99	87.30	0.07	0.03	89.08
Reach 1	52613	45	309.00	40.68	48.34	42.88	48.35	0.000097	0.76	405.67	85.55	0.06	0.03	87.21
Reach 1	52613	50	266.00	40.68	48.12	42.73	48.12	0.000090	0.69	386.43	84.24	0.06	0.03	85.82
Reach 1	52613	55	233.00	40.68	47.91	42.61	47.92	0.000083	0.63	369.64	82.98	0.05	0.02	84.50
Reach 1	52613	60	204.00	40.68	47.72	42.51	47.73	0.000076	0.58	353.94	81.54	0.05	0.02	83.01
Reach 1	52613	65	175.00	40.68	47.50	42.38	47.51	0.000068	0.52	335.99	79.87	0.04	0.02	81.28
Reach 1	52613	70	149.00	40.68	47.29	42.26	47.29	0.000060	0.47	319.14	78.27	0.04	0.02	79.62
Reach 1	52613	75	128.00	40.68	47.09	42.16	47.10	0.000053	0.42	304.06	76.80	0.04	0.01	78.11
Reach 1	52613	80	106.00	40.68	46.88	42.04	46.88	0.000045	0.37	287.75	75.19	0.03	0.01	76.44
Reach 1	52613	85	87.40	40.68	46.66	41.93	46.67	0.000038	0.32	271.78	73.57	0.03	0.01	74.76

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	52613	90	64.10	40.68	46.36	41.76	46.36	0.000029	0.26	249.64	71.27	0.02	0.01	72.38
Reach 1	52613	91	57.40	40.68	46.27	41.72	46.27	0.000026	0.24	243.25	70.59	0.02	0.01	71.68
Reach 1	52613	92	52.00	40.68	46.21	41.67	46.21	0.000025	0.22	239.02	70.14	0.02	0.01	71.21
Reach 1	52613	93	45.20	40.68	46.11	41.61	46.11	0.000022	0.19	232.37	69.42	0.02	0.00	70.47
Reach 1	52613	94	37.20	40.68	45.98	41.53	45.98	0.000018	0.17	223.27	68.43	0.02	0.00	69.44
Reach 1	52613	95	30.40	40.68	45.84	41.46	45.84	0.000015	0.14	213.74	67.37	0.01	0.00	68.35
Reach 1	52613	96	26.10	40.68	45.74	41.42	45.74	0.000013	0.13	207.19	66.64	0.01	0.00	67.59
Reach 1	52613	97	20.30	40.68	45.60	41.35	45.60	0.000010	0.10	197.50	65.53	0.01	0.00	66.45
Reach 1	52613	98	13.50	40.68	45.34	41.25	45.34	0.000006	0.07	181.18	63.63	0.01	0.00	64.48
Reach 1	52613	99	8.62	40.68	45.09	41.16	45.09	0.000003	0.05	165.58	61.76	0.01	0.00	62.54
Reach 1	52613	99.5	4.94	40.68	44.73	41.07	44.73	0.000001	0.03	143.54	59.01	0.00	0.00	59.70
Reach 1	52613	99.75	3.28	40.68	44.53	41.01	44.53	0.000001	0.02	132.10	57.53	0.00	0.00	58.17
Reach 1	52613	100	0.96	40.68	44.09	40.88	44.09	0.000000	0.01	107.39	54.20	0.00	0.00	54.72
Reach 1	49921	1	4160.00	43.05	58.33	48.48	58.33	0.000123	1.08	6757.71	2471.36	0.06	0.08	138.35
Reach 1	49921	5	2010.00	43.05	54.91	46.93	54.92	0.000160	1.14	2352.51	574.17	0.07	0.09	127.63
Reach 1	49921	10	1260.00	43.05	52.61	46.26	52.65	0.000297	1.54	816.92	399.59	0.10	0.13	120.07
Reach 1	49921	15	913.00	43.05	51.06	45.89	51.09	0.000273	1.42	642.36	243.19	0.10	0.10	112.54
Reach 1	49921	20	731.00	43.05	50.09	45.68	50.12	0.000274	1.36	539.05	104.87	0.11	0.09	107.75
Reach 1	49921	25	605.00	43.05	49.48	45.52	49.50	0.000275	1.27	475.43	102.13	0.10	0.08	104.69
Reach 1	49921	30	501.00	43.05	48.95	45.39	48.97	0.000272	1.19	421.95	100.11	0.10	0.07	102.37
Reach 1	49921	35	423.00	43.05	48.52	45.27	48.54	0.000271	1.12	379.34	98.67	0.10	0.06	100.68
Reach 1	49921	40	361.00	43.05	48.16	45.17	48.18	0.000268	1.05	344.07	97.47	0.10	0.06	99.26
Reach 1	49921	45	313.00	43.05	47.88	45.10	47.89	0.000265	0.99	316.59	96.52	0.10	0.05	98.14
Reach 1	49921	50	269.00	43.05	47.67	45.02	47.68	0.000261	0.91	296.68	95.83	0.09	0.05	97.33
Reach 1	49921	55	235.00	43.05	47.49	44.82	47.50	0.000257	0.84	279.29	95.22	0.09	0.05	96.61
Reach 1	49921	60	207.00	43.05	47.32	44.72	47.33	0.000253	0.79	263.25	94.65	0.08	0.04	95.94
Reach 1	49921	65	177.00	43.05	47.12	44.61	47.13	0.000246	0.72	244.51	93.98	0.08	0.04	95.16
Reach 1	49921	70	151.00	43.05	46.94	44.51	46.94	0.000239	0.67	227.03	93.23	0.08	0.04	94.31
Reach 1	49921	75	130.00	43.05	46.77	44.42	46.77	0.000232	0.62	211.30	92.49	0.07	0.03	93.50
Reach 1	49921	80	108.00	43.05	46.58	44.32	46.58	0.000224	0.56	194.10	91.67	0.07	0.03	92.60
Reach 1	49921	85	88.70	43.05	46.39	44.22	46.39	0.000216	0.50	176.92	90.84	0.06	0.03	91.69
Reach 1	49921	90	65.40	43.05	46.13	44.09	46.13	0.000205	0.43	152.99	89.68	0.06	0.02	90.41
Reach 1	49921	91	58.80	43.05	46.05	44.04	46.05	0.000202	0.40	145.90	89.33	0.06	0.02	90.03
Reach 1	49921	92	53.50	43.05	46.00	44.01	46.00	0.000200	0.38	141.34	89.11	0.05	0.02	89.79
Reach 1	49921	93	46.70	43.05	45.91	43.96	45.92	0.000197	0.35	134.08	88.75	0.05	0.02	89.39
Reach 1	49921	94	39.10	43.05	45.80	43.90	45.80	0.000193	0.31	124.18	88.26	0.05	0.02	88.85
Reach 1	49921	95	32.20	43.05	45.68	43.83	45.68	0.000188	0.28	113.53	87.73	0.04	0.02	88.27
Reach 1	49921	96	27.80	43.05	45.59	43.79	45.60	0.000187	0.26	105.94	87.35	0.04	0.01	87.85
Reach 1	49921	97	21.90	43.05	45.47	43.73	45.47	0.000185	0.23	94.86	86.79	0.04	0.01	87.24
Reach 1	49921	98	14.90	43.05	45.25	43.62	45.25	0.000180	0.20	75.80	84.56	0.04	0.01	84.94
Reach 1	49921	99	9.54	43.05	45.02	43.53	45.02	0.000181	0.17	56.98	81.14	0.04	0.01	81.45
Reach 1	49921	99.5	5.60	43.05	44.68	43.44	44.68	0.000113	0.15	37.78	45.41	0.03	0.01	45.64
Reach 1	49921	99.75	3.85	43.05	44.49	43.39	44.49	0.000096	0.13	29.98	39.50	0.03	0.00	39.69
Reach 1	49921	100	1.22	43.05	44.07	43.26	44.07	0.000061	0.08	15.38	29.68	0.02	0.00	29.77
Reach 1	46429	1	4160.00	43.17	58.01	48.25	58.01	0.000052	0.84	10519.47	2992.72	0.04	0.04	125.63
Reach 1	46429	5	2010.00	43.17	54.29	46.53	54.30	0.000132	1.22	2636.61	982.81	0.07	0.07	116.58
Reach 1	46429	10	1260.00	43.17	51.55	45.79	51.60	0.000292	1.74	879.05	560.02	0.12	0.11	110.39
Reach 1	46429	15	915.00	43.17	49.81	45.39	49.86	0.000356	1.78	513.61	181.60	0.14	0.11	100.17
Reach 1	46429	20	735.00	43.17	48.77	45.17	48.82	0.000409	1.78	413.96	129.17	0.15	0.11	95.45
Reach 1	46429	25	607.00	43.17	48.09	44.99	48.14	0.000457	1.73	351.59	89.97	0.15	0.11	91.88
Reach 1	46429	30	504.00	43.17	47.51	44.84	47.56	0.000508	1.68	300.47	87.07	0.16	0.11	88.76
Reach 1	46429	35	425.00	43.17	47.03	44.71	47.07	0.000569	1.64	258.82	84.46	0.17	0.11	85.96
Reach 1	46429	40	363.00	43.17	46.62	44.60	46.66	0.000646	1.62	224.50	82.72	0.17	0.11	83.99
Reach 1	46429	45	314.00	43.17	46.27	44.52	46.31	0.000750	1.60	196.01	81.31	0.18	0.11	82.38
Reach 1	46429	50	270.00	43.17	46.04	44.43	46.07	0.000827	1.52	177.29	80.39	0.18	0.11	81.33
Reach 1	46429	55	236.00	43.17	45.84	44.34	45.88	0.000897	1.46	161.88	79.62	0.18	0.11	80.45
Reach 1	46429	60	207.00	43.17	45.66	44.26	45.69	0.000985	1.41	147.11	78.89	0.18	0.11	79.61
Reach 1	46429	65	178.00	43.17	45.47	44.19	45.50	0.001079	1.35	132.14	78.13	0.18	0.11	78.74
Reach 1	46429	70	153.00	43.17	45.29	44.13	45.32	0.001184	1.29	118.67	77.44	0.18	0.11	77.95
Reach 1	46429	75	131.00	43.17	45.15	44.06	45.18	0.001238	1.22	107.78	76.88	0.18	0.11	77.31
Reach 1	46429	80	109.00	43.17	45.03	43.99	45.05	0.001240	1.11	98.06	76.38	0.17	0.10	76.73
Reach 1	46429	85	89.40	43.17	44.90	43.92	44.91	0.001242	1.01	88.32	75.65	0.17	0.09	75.94
Reach 1	46429	90	66.10	43.17	44.71	43.82	44.73	0.001255	0.89	74.65	73.68	0.16	0.08	73.94
Reach 1	46429	91	59.70	43.17	44.67	43.79	44.68	0.001228	0.84	71.23	73.18	0.15	0.07	73.43
Reach 1	46429	92	54.40	43.17	44.62	43.76	44.63	0.001283	0.80	67.85	72.69	0.15	0.07	72.92
Reach 1	46429	93	47.70	43.17	44.57	43.72	44.58	0.001271	0.74	64.39	72.17	0.14	0.07	72.40
Reach 1	46429	94	40.00	43.17	44.50	43.67	44.50	0.001295	0.68	58.86	71.34	0.13	0.07	71.55
Reach 1	46429	95	33.20	43.17	44.41	43.63	44.41	0.001386	0.63	52.43	70.37	0.13	0.06	70.55
Reach 1	46429	96	28.70	43.17	44.34	43.60	44.35	0.001274	0.60	48.06	63.30	0.12	0.06	63.48
Reach 1	46429	97	22.80	43.17	44.25	43.55	44.26	0.001293	0.54	42.42	61.16	0.11	0.06	61.32
Reach 1	46429	98	15.60	43.17	44.10	43.50	44.10	0.001299	0.47	33.40	57.57	0.11	0.05	57.71
Reach 1	46429	99	10.10	43.17	43.94	43.45	43.94	0.001346	0.41	24.53	52.45	0.11	0.04	52.56
Reach 1	46429	99.5	5.97	43.17	43.78	43.40	43.78	0.001344	0.36	16.74	44.36	0.10	0.03	44.45
Reach 1	46429	99.75	4.16	43.17	43.69	43.38	43.69	0.001231	0.32	13.12	38.83	0.10	0.03	38.91
Reach 1	46429	100	1.37	43.17	43.51	43.31	43.51	0.001061	0.21	6.65	33.71	0.08	0.01	33.75
Reach 1	46283	1	4160.00	42.44	58.00	47.51	58.01	0.000033	0.59	12170.60	3021.04	0.03	0.02	186.64
Reach 1	46283	5	2010.00	42.44	54.28	46.08	54.29	0.000080	0.79	3575.78	1255.52	0.05	0.04	186.64
Reach 1	46283	10	1260.00	42.44	51.54	45.49	51.55	0.000159	1.03	1471.55	659.46	0.07	0.06	178.51
Reach 1	46283	15	915.00	42.44	49.78	45.19	49.80	0.000250	1.18	810.55	344.48	0.10	0.07	164.45
Reach 1	46283	20	735.00	42.44	48.73	45.02	48.75	0.000318	1.24	594.25	221.37	0.11	0.08	152.42
Reach 1	46283	25	607.00	42.44	48.04	44.88	48.06	0.000375	1.23	493.21	187.19	0.12	0.08	144.04
Reach 1	46283	30	504.00	42.44	47.45	44.77	47.47	0.000451	1.23	411.17	136.75	0.12	0.08	138.71
Reach 1	46283	35	425.00	42.44	46.94	44.66	46.97	0.000471	1.23	346.82	119.27	0.13	0.08	120.97
Reach 1	46283	40	363.00	42.44	46.51	44.59	46.54	0.000572	1.23	295.92	117.72	0.14	0.09	119.19
Reach 1	46283	45	314.00	42.44	46.14	44.51	46.16	0.000726	1.25	252.09	116.36	0.15	0.10	117.64
Reach 1	46283	50	270.00	42.44	45.89	44.37	45.91	0.000871	1.21	222.62	115.44	0.15	0.10	116.59
Reach 1	46283	55	236.00	42.44	45.67	44.15	45.69	0.001041	1.19	197.68	114.66	0.16	0.11	115.70
Reach 1	46283	60	207.00	42.44	45.45	44.06	45.47	0.001311	1.20	172.64	113.87	0.17	0.12	114.79

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	46283	65	178.00	42.44	45.22	43.96	45.24	0.001758	1.22	146.08	113.02	0.19	0.14	113.83
Reach 1	46283	70	153.00	42.44	44.98	43.87	45.00	0.002636	1.28	119.46	111.97	0.22	0.17	112.66
Reach 1	46283	75	131.00	42.44	44.77	43.80	44.80	0.004073	1.36	96.25	110.43	0.26	0.22	111.04
Reach 1	46283	80	109.00	42.44	44.56	43.71	44.59	0.007232	1.50	72.90	106.53	0.32	0.31	107.06
Reach 1	46283	85	89.40	42.44	44.33	43.61	44.37	0.007937	1.71	52.41	64.17	0.33	0.40	64.61
Reach 1	46283	90	66.10	42.44	44.05	43.47	44.10	0.008040	1.70	38.86	45.06	0.32	0.43	45.41
Reach 1	46283	91	59.70	42.44	43.97	43.42	44.02	0.008823	1.68	35.50	43.76	0.33	0.44	44.08
Reach 1	46283	92	54.40	42.44	43.93	43.38	43.97	0.009193	1.61	33.71	43.05	0.32	0.45	43.36
Reach 1	46283	93	47.70	42.44	43.87	43.32	43.91	0.009852	1.54	31.01	41.95	0.32	0.45	42.25
Reach 1	46283	94	40.00	42.44	43.79	43.26	43.82	0.010675	1.45	27.56	40.49	0.31	0.45	40.76
Reach 1	46283	95	33.20	42.44	43.70	43.19	43.73	0.011894	1.38	23.99	38.84	0.31	0.46	39.09
Reach 1	46283	96	28.70	42.44	43.63	43.14	43.66	0.012852	1.34	21.40	36.86	0.31	0.46	37.10
Reach 1	46283	97	22.80	42.44	43.50	43.07	43.53	0.015599	1.34	17.08	31.63	0.32	0.52	31.84
Reach 1	46283	98	15.60	42.44	43.32	42.96	43.35	0.018120	1.30	12.02	25.08	0.33	0.54	25.25
Reach 1	46283	99	10.10	42.44	43.16	42.86	43.18	0.019183	1.21	8.36	20.25	0.33	0.49	20.40
Reach 1	46283	99.5	5.97	42.44	43.02	42.75	43.04	0.016742	1.03	5.82	16.24	0.30	0.37	16.36
Reach 1	46283	99.75	4.16	42.44	42.93	42.70	42.94	0.016998	0.94	4.43	14.34	0.30	0.33	14.44
Reach 1	46283	100	1.37	42.44	42.74	42.58	42.75	0.013698	0.64	2.14	10.43	0.25	0.17	10.49
Reach 1	46227	1	4160.00	41.07	58.00	46.18	58.00	0.000031	0.58	11819.99	2997.07	0.03	0.02	209.78
Reach 1	46227	5	2010.00	41.07	54.28	44.83	54.28	0.000058	0.71	3715.97	1045.90	0.04	0.03	199.56
Reach 1	46227	10	1260.00	41.07	51.53	44.14	51.54	0.000085	0.84	1808.98	736.22	0.06	0.04	186.15
Reach 1	46227	15	915.00	41.07	49.78	43.80	49.79	0.000115	0.91	1073.18	426.06	0.07	0.04	175.15
Reach 1	46227	20	735.00	41.07	48.72	43.61	48.74	0.000131	0.92	802.85	249.57	0.07	0.04	166.30
Reach 1	46227	25	607.00	41.07	48.03	43.45	48.04	0.000139	0.88	690.88	171.60	0.07	0.04	159.05
Reach 1	46227	30	504.00	41.07	47.44	43.28	47.45	0.000145	0.84	599.89	150.53	0.07	0.04	152.21
Reach 1	46227	35	425.00	41.07	46.94	43.12	46.95	0.000151	0.81	525.81	144.17	0.07	0.03	145.75
Reach 1	46227	40	363.00	41.07	46.50	43.00	46.51	0.000159	0.78	464.45	139.70	0.08	0.03	141.16
Reach 1	46227	45	314.00	41.07	46.12	42.89	46.13	0.000174	0.76	412.18	136.57	0.08	0.03	137.92
Reach 1	46227	50	270.00	41.07	45.87	42.78	45.87	0.000184	0.72	377.10	134.48	0.08	0.03	135.76
Reach 1	46227	55	236.00	41.07	45.64	42.68	45.65	0.000191	0.68	347.56	131.74	0.07	0.03	132.95
Reach 1	46227	60	207.00	41.07	45.42	42.55	45.43	0.000200	0.65	318.38	128.32	0.07	0.03	129.49
Reach 1	46227	65	178.00	41.07	45.18	42.46	45.18	0.000210	0.62	287.72	125.03	0.07	0.03	126.15
Reach 1	46227	70	153.00	41.07	44.93	42.39	44.93	0.000227	0.60	256.74	120.15	0.07	0.03	121.23
Reach 1	46227	75	131.00	41.07	44.69	42.31	44.70	0.000231	0.57	229.79	112.68	0.07	0.03	113.72
Reach 1	46227	80	109.00	41.07	44.44	42.23	44.45	0.000236	0.54	202.63	104.91	0.07	0.03	105.88
Reach 1	46227	85	89.40	41.07	44.19	42.15	44.20	0.000260	0.51	176.66	102.99	0.07	0.03	103.87
Reach 1	46227	90	66.10	41.07	43.87	42.04	43.87	0.000301	0.46	143.43	100.48	0.07	0.03	101.24
Reach 1	46227	91	59.70	41.07	43.78	42.02	43.78	0.000314	0.44	134.30	99.78	0.07	0.03	100.50
Reach 1	46227	92	54.40	41.07	43.72	41.98	43.72	0.000324	0.42	128.53	99.33	0.07	0.03	100.04
Reach 1	46227	93	47.70	41.07	43.63	41.93	43.64	0.000337	0.40	120.22	98.69	0.06	0.03	99.36
Reach 1	46227	94	40.00	41.07	43.52	41.88	43.52	0.000347	0.37	109.11	96.63	0.06	0.02	97.27
Reach 1	46227	95	33.20	41.07	43.40	41.83	43.40	0.000354	0.34	97.56	92.76	0.06	0.02	93.37
Reach 1	46227	96	28.70	41.07	43.31	41.79	43.31	0.000335	0.32	89.51	85.53	0.06	0.02	86.11
Reach 1	46227	97	22.80	41.07	43.19	41.74	43.19	0.000303	0.29	79.70	77.54	0.05	0.02	78.06
Reach 1	46227	98	15.60	41.07	42.96	41.64	42.96	0.000277	0.25	63.07	68.71	0.05	0.02	69.13
Reach 1	46227	99	10.10	41.07	42.73	41.54	42.73	0.000221	0.21	48.30	57.32	0.04	0.01	57.64
Reach 1	46227	99.5	5.97	41.07	42.45	41.46	42.46	0.000164	0.17	34.92	44.82	0.03	0.01	45.03
Reach 1	46227	99.75	4.16	41.07	42.28	41.41	42.28	0.000176	0.15	27.26	43.78	0.03	0.01	43.92
Reach 1	46227	100	1.37	41.07	41.90	41.28	41.90	0.000184	0.11	12.04	31.09	0.03	0.00	31.15
Reach 1	44105	1	4130.00	40.28	57.89	45.65	57.90	0.000085	1.01	8190.60	2578.75	0.05	0.07	134.12
Reach 1	44105	5	2010.00	40.28	54.06	43.85	54.08	0.000138	1.15	2191.33	473.69	0.06	0.08	134.12
Reach 1	44105	10	1270.00	40.28	51.27	43.10	51.29	0.000153	1.19	1206.17	264.66	0.07	0.07	124.56
Reach 1	44105	15	924.00	40.28	49.48	42.69	49.50	0.000159	1.16	841.87	156.12	0.08	0.06	117.28
Reach 1	44105	20	741.00	40.28	48.40	42.45	48.42	0.000167	1.13	680.39	136.60	0.08	0.06	112.88
Reach 1	44105	25	613.00	40.28	47.70	42.27	47.71	0.000173	1.08	587.38	128.37	0.08	0.05	110.00
Reach 1	44105	30	509.00	40.28	47.10	42.11	47.12	0.000168	1.02	513.38	119.25	0.08	0.05	103.85
Reach 1	44105	35	429.00	40.28	46.61	41.97	46.62	0.000154	0.96	456.83	108.98	0.08	0.04	96.08
Reach 1	44105	40	367.00	40.28	46.17	41.87	46.19	0.000144	0.91	411.47	101.58	0.07	0.04	90.79
Reach 1	44105	45	317.00	40.28	45.79	41.77	45.80	0.000136	0.86	373.30	95.38	0.07	0.04	86.48
Reach 1	44105	50	272.00	40.28	45.52	41.68	45.53	0.000132	0.78	348.41	92.86	0.07	0.03	85.50
Reach 1	44105	55	238.00	40.28	45.30	41.61	45.31	0.000128	0.72	328.67	83.04	0.06	0.03	84.67
Reach 1	44105	60	209.00	40.28	45.06	41.55	45.07	0.000125	0.68	309.61	81.22	0.06	0.03	83.80
Reach 1	44105	65	181.00	40.28	44.81	41.46	44.82	0.000121	0.63	289.49	80.48	0.06	0.03	82.87
Reach 1	44105	70	154.00	40.28	44.54	41.41	44.55	0.000118	0.58	267.55	79.66	0.06	0.02	81.85
Reach 1	44105	75	132.00	40.28	44.29	41.35	44.30	0.000116	0.53	247.73	78.91	0.05	0.02	80.92
Reach 1	44105	80	110.00	40.28	44.01	41.29	44.01	0.000115	0.49	225.67	78.07	0.05	0.02	79.87
Reach 1	44105	85	90.60	40.28	43.72	41.24	43.73	0.000115	0.45	203.38	77.21	0.05	0.02	78.80
Reach 1	44105	90	67.40	40.28	43.35	41.16	43.35	0.000113	0.39	174.67	76.09	0.04	0.02	77.41
Reach 1	44105	91	61.10	40.28	43.24	41.14	43.24	0.000112	0.37	166.17	75.76	0.04	0.02	76.99
Reach 1	44105	92	55.80	40.28	43.16	41.12	43.16	0.000112	0.35	160.33	75.53	0.04	0.01	76.71
Reach 1	44105	93	49.30	40.28	43.06	41.09	43.06	0.000112	0.32	152.62	75.22	0.04	0.01	76.33
Reach 1	44105	94	41.80	40.28	42.91	41.06	42.91	0.000111	0.29	141.77	74.79	0.04	0.01	75.79
Reach 1	44105	95	35.10	40.28	42.76	41.03	42.76	0.000111	0.27	130.33	74.33	0.04	0.01	75.22
Reach 1	44105	96	30.50	40.28	42.64	41.01	42.64	0.000111	0.25	121.27	73.96	0.03	0.01	74.76
Reach 1	44105	97	24.40	40.28	42.47	40.98	42.47	0.000111	0.22	108.91	73.46	0.03	0.01	74.14
Reach 1	44105	98	17.00	40.28	42.18	40.94	42.18	0.000114	0.19	88.16	71.47	0.03	0.01	71.97
Reach 1	44105	99	11.00	40.28	41.86	40.89	41.86	0.000120	0.17	65.54	68.37	0.03	0.01	68.70
Reach 1	44105	99.5	6.63	40.28	41.57	40.84	41.57	0.000128	0.14	46.48	65.08	0.03	0.01	65.35
Reach 1	44105	99.75	4.72	40.28	41.42	40.82	41.42	0.000136	0.13	36.84	63.34	0.03	0.00	63.58
Reach 1	44105	100	1.63	40.28	41.13	40.61	41.13	0.000150	0.09	18.41	59.40	0.03	0.00	59.58
Reach 1	42070	1	4130.00	38.92	57.52	45.02	57.54	0.000166	1.41	9041.51	2207.39	0.07	0.14	142.98
Reach 1	42070	5	2010.00	38.92	53.70	42.98	53.72	0.000155	1.22	2945.82	612.97	0.07	0.09	140.82
Reach 1	42070	10	1270.00	38.92	50.94	42.16	50.96	0.000138	1.18	1461.25	459.87	0.07	0.07	126.05
Reach 1	42070	15	924.00	38.92	49.17	41.70	49.19	0.000135	1.12	882.39	221.18	0.07	0.06	120.49
Reach 1	42070	20	741.00	38.92	48.09	41.42	48.11	0.000131	1.06	700.09	110.65	0.07	0.05	116.38
Reach 1	42070	25	613.00	38.92	47.38	41.21	47.40	0.000129	0.98	622.43	108.67	0.07	0.04	113.79
Reach 1	42070	30	509.00	38.92	46.80	41.01	46.81	0.000123	0.91	559.25	107.04	0.07	0.04	111.66
Reach 1	42070	35	429.00	38.92	46.31	40.86	46.32	0.000119	0.85	507.50	105.68	0.07	0.03	109.88

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	42070	40	367.00	38.92	45.89	40.74	45.90	0.000115	0.79	463.26	104.51	0.07	0.03	108.34
Reach 1	42070	45	317.00	38.92	45.51	40.62	45.52	0.000113	0.75	424.32	102.27	0.06	0.03	105.82
Reach 1	42070	50	272.00	38.92	45.26	40.52	45.27	0.000109	0.68	398.62	100.69	0.06	0.03	104.05
Reach 1	42070	55	238.00	38.92	45.04	40.43	45.05	0.000104	0.63	377.03	99.35	0.06	0.02	102.54
Reach 1	42070	60	209.00	38.92	44.82	40.36	44.82	0.000102	0.59	354.47	97.92	0.05	0.02	100.95
Reach 1	42070	65	181.00	38.92	44.57	40.28	44.58	0.000099	0.55	330.98	96.42	0.05	0.02	99.26
Reach 1	42070	70	154.00	38.92	44.31	40.19	44.31	0.000094	0.50	305.39	92.96	0.05	0.02	95.59
Reach 1	42070	75	132.00	38.92	44.06	40.11	44.06	0.000083	0.47	283.63	85.62	0.05	0.02	88.02
Reach 1	42070	80	110.00	38.92	43.78	40.03	43.79	0.000066	0.42	261.22	73.91	0.04	0.01	76.04
Reach 1	42070	85	90.60	38.92	43.50	39.95	43.51	0.000058	0.38	241.29	70.40	0.04	0.01	72.30
Reach 1	42070	90	67.40	38.92	43.15	39.85	43.15	0.000049	0.31	216.29	69.31	0.03	0.01	70.91
Reach 1	42070	91	61.10	38.92	43.04	39.82	43.04	0.000046	0.29	208.99	68.99	0.03	0.01	70.50
Reach 1	42070	92	55.80	38.92	42.97	39.77	42.97	0.000045	0.27	203.94	68.77	0.03	0.01	70.21
Reach 1	42070	93	49.30	38.92	42.87	39.73	42.87	0.000042	0.25	197.48	68.48	0.03	0.01	69.84
Reach 1	42070	94	41.80	38.92	42.74	39.66	42.74	0.000038	0.22	188.13	68.07	0.02	0.01	69.31
Reach 1	42070	95	35.10	38.92	42.59	39.61	42.59	0.000035	0.20	178.30	67.62	0.02	0.01	68.75
Reach 1	42070	96	30.50	38.92	42.48	39.57	42.48	0.000031	0.18	170.53	67.27	0.02	0.00	68.30
Reach 1	42070	97	24.40	38.92	42.32	39.50	42.32	0.000027	0.15	159.98	66.79	0.02	0.00	67.69
Reach 1	42070	98	17.00	38.92	42.05	39.42	42.05	0.000021	0.12	142.27	65.98	0.01	0.00	66.65
Reach 1	42070	99	11.00	38.92	41.74	39.33	41.74	0.000014	0.09	122.15	64.58	0.01	0.00	65.04
Reach 1	42070	99.5	6.63	38.92	41.48	39.25	41.48	0.000008	0.06	105.32	62.33	0.01	0.00	62.72
Reach 1	42070	99.75	4.72	38.92	41.34	39.22	41.34	0.000005	0.05	96.66	61.14	0.01	0.00	61.49
Reach 1	42070	100	1.63	38.92	41.07	39.11	41.07	0.000001	0.02	80.57	58.87	0.00	0.00	59.15
Reach 1	40650	1	4130.00	39.91	57.27	45.43	57.30	0.000178	1.47	8881.70	1916.23	0.07	0.15	123.98
Reach 1	40650	5	2010.00	39.91	53.46	43.56	53.48	0.000164	1.25	3169.12	614.76	0.07	0.10	123.98
Reach 1	40650	10	1270.00	39.91	50.70	42.75	50.72	0.000190	1.33	1292.59	467.15	0.08	0.09	115.51
Reach 1	40650	15	924.00	39.91	48.93	42.30	48.95	0.000191	1.28	873.24	314.27	0.09	0.08	107.40
Reach 1	40650	20	741.00	39.91	47.85	42.05	47.88	0.000198	1.25	668.21	233.70	0.09	0.07	102.47
Reach 1	40650	25	613.00	39.91	47.15	41.86	47.17	0.000203	1.19	542.46	201.06	0.09	0.07	99.25
Reach 1	40650	30	509.00	39.91	46.57	41.68	46.59	0.000199	1.11	457.30	118.39	0.09	0.06	96.61
Reach 1	40650	35	429.00	39.91	46.10	41.55	46.12	0.000186	1.04	413.47	100.95	0.09	0.05	92.30
Reach 1	40650	40	367.00	39.91	45.69	41.43	45.70	0.000175	0.97	377.13	87.36	0.08	0.05	88.40
Reach 1	40650	45	317.00	39.91	45.32	41.31	45.33	0.000166	0.92	345.80	83.24	0.08	0.04	84.89
Reach 1	40650	50	272.00	39.91	45.08	41.21	45.09	0.000156	0.83	325.75	80.99	0.07	0.04	82.56
Reach 1	40650	55	238.00	39.91	44.87	41.13	44.88	0.000147	0.77	309.19	79.31	0.07	0.04	80.81
Reach 1	40650	60	209.00	39.91	44.65	41.06	44.65	0.000143	0.72	291.60	78.27	0.07	0.03	79.68
Reach 1	40650	65	181.00	39.91	44.41	40.97	44.42	0.000136	0.66	273.36	77.17	0.06	0.03	78.49
Reach 1	40650	70	154.00	39.91	44.15	40.90	44.16	0.000131	0.61	253.30	75.95	0.06	0.03	77.16
Reach 1	40650	75	132.00	39.91	43.91	40.82	43.92	0.000126	0.56	235.56	74.85	0.06	0.02	75.96
Reach 1	40650	80	110.00	39.91	43.65	40.75	43.65	0.000122	0.51	215.61	73.60	0.05	0.02	74.60
Reach 1	40650	85	90.60	39.91	43.37	40.68	43.38	0.000119	0.46	195.70	72.33	0.05	0.02	73.21
Reach 1	40650	90	67.40	39.91	43.03	40.59	43.04	0.000108	0.39	171.45	70.74	0.04	0.02	71.49
Reach 1	40650	91	61.10	39.91	42.93	40.55	42.94	0.000104	0.37	164.33	70.27	0.04	0.02	70.98
Reach 1	40650	92	55.80	39.91	42.86	40.53	42.86	0.000102	0.35	159.39	69.94	0.04	0.01	70.62
Reach 1	40650	93	49.30	39.91	42.77	40.49	42.77	0.000099	0.32	153.13	69.53	0.04	0.01	70.17
Reach 1	40650	94	41.80	39.91	42.64	40.45	42.64	0.000094	0.29	144.10	68.92	0.04	0.01	69.50
Reach 1	40650	95	35.10	39.91	42.50	40.40	42.51	0.000088	0.26	134.64	68.27	0.03	0.01	68.80
Reach 1	40650	96	30.50	39.91	42.40	40.37	42.40	0.000084	0.24	127.19	67.76	0.03	0.01	68.25
Reach 1	40650	97	24.40	39.91	42.25	40.32	42.25	0.000077	0.21	117.21	67.07	0.03	0.01	67.50
Reach 1	40650	98	17.00	39.91	41.99	40.26	41.99	0.000066	0.17	100.42	65.89	0.02	0.01	66.21
Reach 1	40650	99	11.00	39.91	41.70	40.20	41.70	0.000054	0.14	81.31	64.53	0.02	0.00	64.73
Reach 1	40650	99.5	6.63	39.91	41.45	40.14	41.45	0.000039	0.10	65.33	62.34	0.02	0.00	62.46
Reach 1	40650	99.75	4.72	39.91	41.32	40.11	41.32	0.000029	0.08	57.25	59.77	0.01	0.00	59.87
Reach 1	40650	100	1.63	39.91	41.06	40.04	41.06	0.000008	0.04	42.72	54.85	0.01	0.00	54.92
Reach 1	39304	1	4130.00	40.22	56.93	46.53	56.97	0.000303	1.80	5434.52	1278.76	0.09	0.23	139.96
Reach 1	39304	5	2010.00	40.22	53.10	44.80	53.14	0.000317	1.60	1826.14	663.79	0.09	0.17	139.96
Reach 1	39304	10	1270.00	40.22	50.35	43.84	50.39	0.000314	1.51	842.64	133.05	0.10	0.12	132.74
Reach 1	39304	15	924.00	40.22	48.55	43.23	48.59	0.000363	1.48	622.70	118.73	0.11	0.11	126.09
Reach 1	39304	20	741.00	40.22	47.43	42.85	47.47	0.000450	1.51	491.67	114.78	0.13	0.11	121.52
Reach 1	39304	25	613.00	40.22	46.68	42.57	46.71	0.000564	1.51	405.93	112.12	0.14	0.12	118.44
Reach 1	39304	30	509.00	40.22	46.06	42.34	46.09	0.000700	1.51	337.29	109.94	0.15	0.13	115.93
Reach 1	39304	35	429.00	40.22	45.55	42.14	45.58	0.000824	1.52	282.38	102.77	0.16	0.13	108.56
Reach 1	39304	40	367.00	40.22	45.11	41.98	45.14	0.000891	1.53	239.81	91.17	0.17	0.14	96.70
Reach 1	39304	45	317.00	40.22	44.72	41.84	44.75	0.000865	1.53	206.96	75.84	0.16	0.14	81.14
Reach 1	39304	50	272.00	40.22	44.46	41.72	44.49	0.000915	1.45	187.67	73.19	0.16	0.14	78.28
Reach 1	39304	55	238.00	40.22	44.25	41.61	44.28	0.000950	1.38	172.34	70.95	0.16	0.13	75.87
Reach 1	39304	60	209.00	40.22	44.01	41.52	44.04	0.000949	1.33	156.59	65.10	0.15	0.13	69.79
Reach 1	39304	65	181.00	40.22	43.79	41.42	43.81	0.000943	1.27	142.21	60.94	0.15	0.13	65.33
Reach 1	39304	70	154.00	40.22	43.53	41.32	43.55	0.000947	1.21	127.28	56.73	0.14	0.12	60.78
Reach 1	39304	75	132.00	40.22	43.29	41.24	43.32	0.000946	1.15	114.30	52.80	0.14	0.12	56.53
Reach 1	39304	80	110.00	40.22	43.02	41.16	43.04	0.000955	1.10	100.37	48.23	0.13	0.12	51.58
Reach 1	39304	85	90.60	40.22	42.77	41.07	42.79	0.000947	1.02	88.96	45.35	0.13	0.11	48.38
Reach 1	39304	90	67.40	40.22	42.45	40.96	42.46	0.000956	0.90	74.48	43.00	0.12	0.10	45.65
Reach 1	39304	91	61.10	40.22	42.35	40.93	42.36	0.000956	0.87	70.40	42.31	0.12	0.09	44.86
Reach 1	39304	92	55.80	40.22	42.28	40.90	42.29	0.000963	0.83	67.58	41.93	0.11	0.09	44.38
Reach 1	39304	93	49.30	40.22	42.20	40.86	42.21	0.000966	0.77	64.05	41.46	0.11	0.09	43.78
Reach 1	39304	94	41.80	40.22	42.08	40.82	42.09	0.000962	0.71	59.14	40.79	0.10	0.08	42.93
Reach 1	39304	95	35.10	40.22	41.95	40.78	41.96	0.000961	0.65	53.99	40.07	0.10	0.08	42.03
Reach 1	39304	96	30.50	40.22	41.85	40.75	41.85	0.000970	0.61	49.87	39.49	0.10	0.07	41.30
Reach 1	39304	97	24.40	40.22	41.71	40.70	41.71	0.000984	0.55	44.40	38.71	0.09	0.07	40.31
Reach 1	39304	98	17.00	40.22	41.48	40.63	41.48	0.001024	0.48	35.54	37.40	0.09	0.06	38.66
Reach 1	39304	99	11.00	40.22	41.22	40.56	41.22	0.001108	0.42	26.22	35.97	0.09	0.05	36.86
Reach 1	39304	99.5	6.63	40.22	40.99	40.49	40.99	0.001302	0.37	18.11	34.69	0.09	0.04	35.23
Reach 1	39304	99.75	4.72	40.22	40.88	40.44	40.89	0.001370	0.33	14.42	34.08	0.09	0.04	34.47
Reach 1	39304	100	1.63	40.22	40.63	40.36	40.63	0.001773	0.25	6.40	26.84	0.09	0.03	27.01
Reach 1	38067	1	4100.00	38.25	56.50	43.96	56.56	0.000373	2.12	3565.43	875.77	0.10	0.31	126.22
Reach 1	38067	5	2000.00	38.25	52.79	42.19	52.82	0.000221	1.51	1687.48	255.37	0.08	0.14	121.47
Reach 1	38067	10	1280.00	38.25	50.07	41.38	50.10	0.000184	1.35	1020.83	232.35	0.08	0.09	117.27

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	38067	15	934.00	38.25	48.26	40.93	48.28	0.000162	1.25	747.82	210.47	0.08	0.07	106.63
Reach 1	38067	20	748.00	38.25	47.10	40.66	47.12	0.000154	1.18	632.51	195.46	0.08	0.06	100.72
Reach 1	38067	25	618.00	38.25	46.30	40.45	46.32	0.000152	1.11	556.59	182.23	0.08	0.05	96.27
Reach 1	38067	30	513.00	38.25	45.64	40.28	45.66	0.000146	1.03	496.17	160.73	0.08	0.05	93.00
Reach 1	38067	35	433.00	38.25	45.08	40.13	45.10	0.000143	0.97	446.72	116.78	0.08	0.04	90.40
Reach 1	38067	40	370.00	38.25	44.60	40.00	44.61	0.000140	0.91	404.71	93.08	0.07	0.04	88.14
Reach 1	38067	45	319.00	38.25	44.18	39.89	44.19	0.000137	0.86	369.25	83.97	0.07	0.04	86.19
Reach 1	38067	50	275.00	38.25	43.88	39.78	43.89	0.000137	0.80	343.96	82.73	0.07	0.03	84.77
Reach 1	38067	55	240.00	38.25	43.63	39.70	43.64	0.000134	0.74	323.56	81.72	0.07	0.03	83.62
Reach 1	38067	60	210.00	38.25	43.38	39.62	43.39	0.000132	0.69	303.33	80.71	0.06	0.03	82.45
Reach 1	38067	65	182.00	38.25	43.13	39.54	43.13	0.000128	0.64	283.16	79.68	0.06	0.03	81.28
Reach 1	38067	70	156.00	38.25	42.88	39.47	42.89	0.000123	0.59	263.77	78.68	0.06	0.03	80.14
Reach 1	38067	75	134.00	38.25	42.65	39.40	42.65	0.000119	0.55	245.54	77.73	0.05	0.02	79.05
Reach 1	38067	80	112.00	38.25	42.40	39.27	42.40	0.000114	0.50	225.92	76.70	0.05	0.02	77.86
Reach 1	38067	85	91.90	38.25	42.15	39.18	42.15	0.000105	0.44	207.06	74.42	0.05	0.02	75.46
Reach 1	38067	90	68.70	38.25	41.83	39.06	41.83	0.000090	0.37	183.71	71.22	0.04	0.01	72.10
Reach 1	38067	91	62.50	38.25	41.73	39.02	41.74	0.000086	0.35	177.21	70.85	0.04	0.01	71.67
Reach 1	38067	92	57.40	38.25	41.66	38.99	41.67	0.000083	0.33	172.23	70.56	0.04	0.01	71.34
Reach 1	38067	93	50.80	38.25	41.58	38.95	41.58	0.000079	0.31	166.51	70.23	0.03	0.01	70.96
Reach 1	38067	94	43.50	38.25	41.48	38.90	41.48	0.000073	0.27	159.07	69.80	0.03	0.01	70.47
Reach 1	38067	95	36.90	38.25	41.36	38.85	41.36	0.000066	0.24	151.21	69.34	0.03	0.01	69.94
Reach 1	38067	96	32.20	38.25	41.27	38.81	41.27	0.000061	0.22	144.78	68.88	0.03	0.01	69.44
Reach 1	38067	97	26.00	38.25	41.14	38.76	41.14	0.000053	0.19	135.96	68.03	0.02	0.01	68.55
Reach 1	38067	98	18.40	38.25	40.93	38.68	40.94	0.000041	0.15	122.08	66.66	0.02	0.00	67.12
Reach 1	38067	99	11.90	38.25	40.70	38.60	40.70	0.000026	0.11	106.48	65.08	0.02	0.00	65.47
Reach 1	38067	99.5	7.29	38.25	40.44	38.53	40.45	0.000016	0.08	90.22	63.40	0.01	0.00	63.72
Reach 1	38067	99.75	5.28	38.25	40.33	38.49	40.33	0.000011	0.06	82.69	62.61	0.01	0.00	62.89
Reach 1	38067	100	1.90	38.25	40.08	38.39	40.08	0.000003	0.03	67.51	59.68	0.00	0.00	59.90
Reach 1	37918	1	4100.00	38.25	56.43	44.17	56.50	0.000374	2.28	3020.66	665.12	0.10	0.35	106.10
Reach 1	37918	5	2000.00	38.25	52.75	42.48	52.79	0.000210	1.57	1617.82	223.87	0.08	0.15	106.10
Reach 1	37918	10	1280.00	38.25	50.04	41.75	50.07	0.000163	1.35	1059.92	176.44	0.08	0.09	105.62
Reach 1	37918	15	934.00	38.25	48.23	41.33	48.26	0.000152	1.24	798.31	133.40	0.08	0.07	102.69
Reach 1	37918	20	748.00	38.25	47.08	41.09	47.10	0.000153	1.18	657.08	118.31	0.08	0.06	100.81
Reach 1	37918	25	618.00	38.25	46.28	40.90	46.30	0.000159	1.11	564.79	112.18	0.08	0.06	99.52
Reach 1	37918	30	513.00	38.25	45.62	40.73	45.63	0.000162	1.04	492.60	103.16	0.08	0.05	97.99
Reach 1	37918	35	433.00	38.25	45.06	40.61	45.07	0.000161	0.99	439.21	92.71	0.08	0.05	95.12
Reach 1	37918	40	370.00	38.25	44.57	40.48	44.59	0.000162	0.94	394.80	90.47	0.08	0.04	92.63
Reach 1	37918	45	319.00	38.25	44.16	40.36	44.17	0.000163	0.89	357.38	88.54	0.08	0.04	90.47
Reach 1	37918	50	275.00	38.25	43.85	40.25	43.86	0.000167	0.83	330.71	87.14	0.08	0.04	88.91
Reach 1	37918	55	240.00	38.25	43.60	40.15	43.61	0.000166	0.78	309.25	86.00	0.07	0.04	87.64
Reach 1	37918	60	210.00	38.25	43.36	40.06	43.36	0.000167	0.73	287.98	84.85	0.07	0.03	86.35
Reach 1	37918	65	182.00	38.25	43.10	39.95	43.11	0.000166	0.68	266.81	83.69	0.07	0.03	85.06
Reach 1	37918	70	156.00	38.25	42.86	39.84	42.87	0.000164	0.63	246.51	82.57	0.06	0.03	83.81
Reach 1	37918	75	134.00	38.25	42.63	39.75	42.63	0.000162	0.59	227.43	81.48	0.06	0.03	82.59
Reach 1	37918	80	112.00	38.25	42.37	39.65	42.38	0.000161	0.54	206.93	80.12	0.06	0.03	81.11
Reach 1	37918	85	91.90	38.25	42.13	39.55	42.13	0.000158	0.49	187.22	78.79	0.06	0.02	79.65
Reach 1	37918	90	68.70	38.25	41.81	39.40	41.81	0.000150	0.42	162.34	77.08	0.05	0.02	77.78
Reach 1	37918	91	62.50	38.25	41.72	39.36	41.72	0.000147	0.40	155.35	76.60	0.05	0.02	77.25
Reach 1	37918	92	57.40	38.25	41.65	39.33	41.65	0.000145	0.38	150.00	76.22	0.05	0.02	76.84
Reach 1	37918	93	50.80	38.25	41.56	39.27	41.57	0.000142	0.35	143.86	75.79	0.05	0.02	76.36
Reach 1	37918	94	43.50	38.25	41.46	39.21	41.46	0.000136	0.32	135.91	75.23	0.04	0.02	75.75
Reach 1	37918	95	36.90	38.25	41.35	39.15	41.35	0.000129	0.29	127.53	74.63	0.04	0.01	75.09
Reach 1	37918	96	32.20	38.25	41.26	39.10	41.26	0.000123	0.27	120.68	74.14	0.04	0.01	74.55
Reach 1	37918	97	26.00	38.25	41.13	39.03	41.13	0.000114	0.23	111.28	73.40	0.03	0.01	73.75
Reach 1	37918	98	18.40	38.25	40.92	38.93	40.92	0.000099	0.19	96.46	71.76	0.03	0.01	72.06
Reach 1	37918	99	11.90	38.25	40.69	38.82	40.69	0.000075	0.15	79.90	69.88	0.02	0.01	70.12
Reach 1	37918	99.5	7.29	38.25	40.44	38.72	40.44	0.000056	0.12	62.79	64.70	0.02	0.00	64.90
Reach 1	37918	99.75	5.28	38.25	40.32	38.66	40.32	0.000041	0.10	55.42	60.26	0.02	0.00	60.44
Reach 1	37918	100	1.90	38.25	40.08	38.52	40.08	0.000011	0.05	41.91	50.25	0.01	0.00	50.41
Reach 1	37830	1	4100.00	37.75	56.41	44.18	56.46	0.000256	1.87	2649.86	279.90	0.09	0.24	140.88
Reach 1	37830	5	2000.00	37.75	52.74	42.61	52.77	0.000133	1.24	1848.86	206.58	0.07	0.09	140.88
Reach 1	37830	10	1280.00	37.75	50.04	41.93	50.05	0.000106	1.06	1315.23	187.03	0.06	0.06	140.88
Reach 1	37830	15	934.00	37.75	48.23	41.52	48.24	0.000109	0.99	990.40	171.78	0.07	0.05	140.88
Reach 1	37830	20	748.00	37.75	47.07	41.28	47.08	0.000121	0.96	799.34	155.19	0.07	0.04	140.88
Reach 1	37830	25	618.00	37.75	46.27	41.10	46.28	0.000134	0.93	679.81	145.21	0.07	0.04	137.43
Reach 1	37830	30	513.00	37.75	45.60	40.93	45.62	0.000143	0.89	585.42	139.44	0.07	0.04	133.12
Reach 1	37830	35	433.00	37.75	45.05	40.78	45.06	0.000154	0.86	508.99	134.60	0.08	0.04	129.51
Reach 1	37830	40	370.00	37.75	44.56	40.62	44.57	0.000165	0.84	444.81	128.88	0.08	0.04	124.87
Reach 1	37830	45	319.00	37.75	44.14	40.39	44.15	0.000174	0.81	392.28	120.59	0.08	0.04	119.54
Reach 1	37830	50	275.00	37.75	43.84	40.27	43.85	0.000183	0.77	356.77	113.70	0.08	0.04	115.19
Reach 1	37830	55	240.00	37.75	43.59	40.17	43.60	0.000186	0.73	329.03	109.83	0.07	0.03	111.27
Reach 1	37830	60	210.00	37.75	43.34	40.07	43.35	0.000190	0.70	302.13	105.93	0.07	0.03	107.32
Reach 1	37830	65	182.00	37.75	43.09	39.97	43.10	0.000192	0.66	275.99	102.01	0.07	0.03	103.34
Reach 1	37830	70	156.00	37.75	42.84	39.87	42.85	0.000193	0.62	251.53	98.40	0.07	0.03	99.69
Reach 1	37830	75	134.00	37.75	42.61	39.79	42.62	0.000198	0.59	228.89	96.14	0.07	0.03	97.37
Reach 1	37830	80	112.00	37.75	42.36	39.69	42.36	0.000206	0.55	204.77	93.67	0.07	0.03	94.83
Reach 1	37830	85	91.90	37.75	42.11	39.59	42.11	0.000212	0.51	181.80	91.25	0.06	0.03	92.36
Reach 1	37830	90	68.70	37.75	41.79	39.47	41.79	0.000218	0.45	153.16	88.14	0.06	0.02	89.18
Reach 1	37830	91	62.50	37.75	41.70	39.24	41.70	0.000218	0.43	145.19	86.92	0.06	0.02	87.93
Reach 1	37830	92	57.40	37.75	41.63	39.16	41.63	0.000210	0.41	139.27	83.25	0.06	0.02	84.23
Reach 1	37830	93	50.80	37.75	41.55	39.08	41.55	0.000209	0.38	132.60	82.27	0.05	0.02	83.24
Reach 1	37830	94	43.50	37.75	41.44	38.99	41.45	0.000205	0.35	124.05	81.00	0.05	0.02	81.95
Reach 1	37830	95	36.90	37.75	41.33	38.89	41.33	0.000199	0.32	115.12	79.65	0.05	0.02	80.58
Reach 1	37830	96	32.20	37.75	41.24	38.82	41.24	0.000194	0.30	107.87	78.54	0.04	0.02	79.45
Reach 1	37830	97	26.00	37.75	41.11	38.71	41.12	0.000187	0.27	98.02	77.00	0.04	0.01	77.89
Reach 1	37830	98	18.40	37.75	40.91	38.57	40.91	0.000168	0.22	82.81	72.35	0.04	0.01	73.19
Reach 1	37830	99	11.90	37.75	40.68	38.43	40.68	0.000116	0.18	67.11	62.45	0.03	0.01	63.20
Reach 1	37830	99.5	7.29	37.75	40.43	38.30	40.43	0.000059	0.14	53.13	43.64	0.02	0.00	44.33
Reach 1	37830	99.75	5.28	37.75	40.32	38.23	40.32	0.000041	0.11	48.13	42.37	0.02	0.00	43.03

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	37830	100	1.90	37.75	40.08	38.07	40.08	0.000011	0.05	38.21	39.72	0.01	0.00	40.33
Reach 1	37791		Bridge											
Reach 1	37753	1	4100.00	39.56	56.37	44.48	56.42	0.000264	1.92	2544.48	326.96	0.09	0.25	109.17
Reach 1	37753	5	2000.00	39.56	52.72	42.97	52.75	0.000146	1.31	1714.70	205.88	0.07	0.10	109.17
Reach 1	37753	10	1280.00	39.56	50.02	42.29	50.04	0.000126	1.18	1191.96	181.69	0.07	0.07	109.17
Reach 1	37753	15	934.00	39.56	48.21	41.90	48.23	0.000137	1.14	879.44	162.82	0.08	0.06	109.17
Reach 1	37753	20	748.00	39.56	47.05	41.68	47.07	0.000153	1.13	697.47	150.97	0.08	0.06	107.28
Reach 1	37753	25	618.00	39.56	46.24	41.51	46.26	0.000170	1.10	581.25	132.69	0.08	0.06	105.37
Reach 1	37753	30	513.00	39.56	45.58	41.36	45.60	0.000181	1.05	497.61	120.77	0.08	0.05	103.79
Reach 1	37753	35	433.00	39.56	45.02	41.25	45.04	0.000193	1.01	432.72	111.78	0.09	0.05	102.47
Reach 1	37753	40	370.00	39.56	44.54	41.14	44.55	0.000209	0.97	380.28	103.94	0.09	0.05	101.31
Reach 1	37753	45	319.00	39.56	44.12	41.06	44.13	0.000225	0.94	338.09	98.28	0.09	0.05	100.20
Reach 1	37753	50	275.00	39.56	43.81	40.97	43.82	0.000243	0.89	308.28	97.33	0.09	0.05	99.05
Reach 1	37753	55	240.00	39.56	43.56	40.91	43.57	0.000256	0.84	284.24	96.55	0.09	0.05	98.12
Reach 1	37753	60	210.00	39.56	43.31	40.84	43.32	0.000274	0.81	260.24	95.78	0.09	0.05	97.18
Reach 1	37753	65	182.00	39.56	43.06	40.77	43.07	0.000293	0.77	236.27	94.71	0.09	0.04	96.00
Reach 1	37753	70	156.00	39.56	42.82	40.71	42.83	0.000313	0.73	213.23	93.59	0.09	0.04	94.77
Reach 1	37753	75	134.00	39.56	42.58	40.65	42.59	0.000340	0.70	191.49	92.51	0.09	0.04	93.60
Reach 1	37753	80	112.00	39.56	42.33	40.59	42.34	0.000370	0.67	168.23	89.09	0.09	0.04	90.10
Reach 1	37753	85	91.90	39.56	42.08	40.49	42.09	0.000400	0.63	146.49	85.61	0.08	0.04	86.56
Reach 1	37753	90	68.70	39.56	41.76	40.37	41.76	0.000461	0.58	119.40	83.08	0.08	0.04	83.95
Reach 1	37753	91	62.50	39.56	41.67	40.34	41.67	0.000485	0.56	111.84	82.45	0.08	0.04	83.30
Reach 1	37753	92	57.40	39.56	41.60	40.31	41.60	0.000508	0.54	106.11	81.97	0.08	0.04	82.80
Reach 1	37753	93	50.80	39.56	41.52	40.27	41.52	0.000537	0.51	99.49	81.42	0.08	0.04	82.21
Reach 1	37753	94	43.50	39.56	41.41	40.23	41.41	0.000571	0.48	90.96	80.69	0.08	0.04	81.46
Reach 1	37753	95	36.90	39.56	41.30	40.19	41.30	0.000617	0.45	81.97	79.92	0.08	0.04	80.65
Reach 1	37753	96	32.20	39.56	41.21	40.15	41.21	0.000670	0.43	74.59	79.29	0.08	0.04	79.99
Reach 1	37753	97	26.00	39.56	41.08	40.10	41.08	0.000771	0.40	64.43	78.40	0.08	0.04	79.06
Reach 1	37753	98	18.40	39.56	40.87	40.04	40.87	0.000993	0.38	48.65	73.00	0.08	0.04	73.58
Reach 1	37753	99	11.90	39.56	40.63	39.98	40.63	0.001463	0.37	31.98	65.76	0.09	0.04	66.26
Reach 1	37753	99.5	7.29	39.56	40.37	39.91	40.38	0.001857	0.39	18.48	41.56	0.10	0.05	41.95
Reach 1	37753	99.75	5.28	39.56	40.25	39.88	40.25	0.002271	0.39	13.67	36.92	0.11	0.05	37.23
Reach 1	37753	100	1.90	39.56	39.99	39.82	39.99	0.004604	0.36	5.28	26.97	0.14	0.06	27.13
Reach 1	37645	1	4100.00	38.83	56.29	45.25	56.37	0.000454	2.44	2275.43	723.42	0.11	0.40	100.25
Reach 1	37645	5	2000.00	38.83	52.68	43.46	52.72	0.000250	1.65	1370.66	243.26	0.09	0.17	100.25
Reach 1	37645	10	1280.00	38.83	49.98	42.68	50.02	0.000215	1.47	927.98	175.22	0.09	0.11	100.25
Reach 1	37645	15	934.00	38.83	48.17	42.16	48.20	0.000226	1.40	690.65	117.35	0.10	0.09	97.69
Reach 1	37645	20	748.00	38.83	47.01	41.86	47.04	0.000247	1.38	558.70	110.14	0.10	0.09	94.75
Reach 1	37645	25	618.00	38.83	46.21	41.64	46.23	0.000279	1.34	471.88	105.62	0.11	0.08	93.13
Reach 1	37645	30	513.00	38.83	45.54	41.46	45.57	0.000308	1.29	402.91	101.88	0.11	0.08	91.80
Reach 1	37645	35	433.00	38.83	44.98	41.31	45.01	0.000345	1.26	346.68	98.73	0.11	0.08	90.67
Reach 1	37645	40	370.00	38.83	44.49	41.18	44.52	0.000382	1.24	299.76	90.08	0.12	0.08	88.30
Reach 1	37645	45	319.00	38.83	44.07	41.06	44.09	0.000414	1.21	263.65	83.43	0.12	0.08	84.97
Reach 1	37645	50	275.00	38.83	43.76	40.95	43.78	0.000450	1.15	238.40	81.12	0.12	0.08	82.56
Reach 1	37645	55	240.00	38.83	43.51	40.85	43.53	0.000473	1.10	218.43	79.24	0.12	0.08	80.60
Reach 1	37645	60	210.00	38.83	43.26	40.76	43.28	0.000507	1.06	198.72	77.35	0.12	0.08	78.61
Reach 1	37645	65	182.00	38.83	43.01	40.66	43.02	0.000544	1.01	179.31	75.44	0.12	0.08	76.61
Reach 1	37645	70	156.00	38.83	42.76	40.57	42.78	0.000582	0.97	160.90	73.42	0.12	0.08	74.52
Reach 1	37645	75	134.00	38.83	42.52	40.48	42.54	0.000626	0.93	143.77	71.17	0.12	0.08	72.21
Reach 1	37645	80	112.00	38.83	42.27	40.38	42.28	0.000640	0.89	126.24	65.27	0.11	0.08	66.27
Reach 1	37645	85	91.90	38.83	42.02	40.26	42.03	0.000659	0.83	110.45	61.23	0.11	0.07	62.19
Reach 1	37645	90	68.70	38.83	41.69	40.12	41.70	0.000720	0.76	90.91	58.39	0.11	0.07	59.27
Reach 1	37645	91	62.50	38.83	41.60	40.07	41.60	0.000744	0.73	85.47	57.80	0.11	0.07	58.64
Reach 1	37645	92	57.40	38.83	41.52	40.03	41.53	0.000773	0.71	81.30	57.46	0.10	0.07	58.26
Reach 1	37645	93	50.80	38.83	41.44	39.96	41.45	0.000807	0.66	76.49	57.07	0.10	0.07	57.82
Reach 1	37645	94	43.50	38.83	41.33	39.90	41.34	0.000842	0.62	70.32	56.56	0.10	0.06	57.25
Reach 1	37645	95	36.90	38.83	41.21	39.83	41.22	0.000888	0.58	63.81	56.02	0.10	0.06	56.65
Reach 1	37645	96	32.20	38.83	41.12	39.78	41.12	0.000933	0.55	58.39	55.01	0.09	0.06	55.59
Reach 1	37645	97	26.00	38.83	40.98	39.70	40.99	0.000969	0.51	51.11	52.01	0.09	0.06	52.57
Reach 1	37645	98	18.40	38.83	40.76	39.60	40.76	0.001047	0.46	40.12	46.72	0.09	0.06	47.26
Reach 1	37645	99	11.90	38.83	40.49	39.49	40.49	0.001132	0.42	28.34	39.89	0.09	0.05	40.40
Reach 1	37645	99.5	7.29	38.83	40.21	39.37	40.22	0.001156	0.39	18.79	30.18	0.09	0.04	30.62
Reach 1	37645	99.75	5.28	38.83	40.07	39.31	40.07	0.001124	0.36	14.68	25.86	0.08	0.04	26.24
Reach 1	37645	100	1.90	38.83	39.69	39.14	39.69	0.001029	0.28	6.85	16.74	0.08	0.03	16.96
Reach 1	36062	1	4590.00	37.50	55.79	43.99	55.84	0.000303	2.10	4815.31	1804.48	0.10	0.27	96.92
Reach 1	36062	5	2190.00	37.50	52.27	41.85	52.32	0.000294	1.80	1783.66	315.71	0.09	0.20	96.52
Reach 1	36062	10	1390.00	37.50	49.63	40.91	49.67	0.000234	1.61	1069.24	220.17	0.09	0.13	90.74
Reach 1	36062	15	1010.00	37.50	47.83	40.34	47.87	0.000211	1.49	737.35	143.69	0.09	0.10	86.88
Reach 1	36062	20	800.00	37.50	46.67	40.00	46.70	0.000200	1.40	574.84	112.02	0.09	0.08	84.53
Reach 1	36062	25	656.00	37.50	45.84	39.74	45.87	0.000193	1.30	505.66	94.02	0.09	0.07	82.87
Reach 1	36062	30	541.00	37.50	45.17	39.51	45.19	0.000184	1.20	452.07	77.67	0.09	0.06	80.67
Reach 1	36062	35	454.00	37.50	44.59	39.33	44.61	0.000175	1.11	407.98	75.62	0.08	0.06	78.31
Reach 1	36062	40	385.00	37.50	44.09	39.17	44.10	0.000168	1.04	370.27	73.82	0.08	0.05	76.25
Reach 1	36062	45	331.00	37.50	43.65	39.05	43.66	0.000162	0.98	338.32	72.26	0.08	0.05	74.46
Reach 1	36062	50	284.00	37.50	43.32	38.92	43.33	0.000159	0.90	314.63	71.09	0.08	0.04	73.11
Reach 1	36062	55	249.00	37.50	43.06	38.82	43.07	0.000156	0.84	296.32	70.16	0.07	0.04	72.05
Reach 1	36062	60	217.00	37.50	42.79	38.73	42.80	0.000153	0.78	277.52	69.20	0.07	0.04	70.95
Reach 1	36062	65	187.00	37.50	42.52	38.65	42.53	0.000148	0.72	258.81	68.23	0.07	0.03	69.84
Reach 1	36062	70	160.00	37.50	42.25	38.56	42.26	0.000142	0.66	240.90	67.29	0.06	0.03	68.76
Reach 1	36062	75	138.00	37.50	41.99	38.48	42.00	0.000139	0.62	223.35	66.35	0.06	0.03	67.68
Reach 1	36062	80	115.00	37.50	41.71	38.40	41.71	0.000134	0.56	204.81	65.35	0.06	0.03	66.53
Reach 1	36062	85	94.20	37.50	41.43	38.32	41.44	0.000128	0.50	186.77	64.36	0.05	0.02	65.40
Reach 1	36062	90	70.60	37.50	41.07	38.22	41.07	0.000115	0.43	163.63	61.98	0.05	0.02	62.86
Reach 1	36062	91	64.20	37.50	40.97	38.19	40.97	0.000109	0.41	157.50	61.01	0.04	0.02	61.86
Reach 1	36062	92	58.90	37.50	40.88	38.16	40.88	0.000105	0.39	152.08	60.13	0.04	0.02	60.95
Reach 1	36062	93	52.30	37.50	40.79	38.12	40.79	0.000101	0.36	146.58	59.23	0.04	0.02	60.02
Reach 1	36062	94	44.80	37.50	40.67	38.08	40.67	0.000092	0.32	139.80	58.10	0.04	0.01	58.86

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	36062	95	38.10	37.50	40.54	38.04	40.55	0.000084	0.29	132.60	57.06	0.03	0.01	57.78
Reach 1	36062	96	33.30	37.50	40.44	38.01	40.44	0.000078	0.26	126.48	56.45	0.03	0.01	57.12
Reach 1	36062	97	26.90	37.50	40.28	37.96	40.28	0.000069	0.23	117.59	55.55	0.03	0.01	56.16
Reach 1	36062	98	19.10	37.50	40.05	37.90	40.05	0.000055	0.18	105.25	54.27	0.02	0.01	54.80
Reach 1	36062	99	12.60	37.50	39.77	37.83	39.77	0.000038	0.14	90.01	52.26	0.02	0.00	52.70
Reach 1	36062	99.5	7.71	37.50	39.49	37.75	39.49	0.000024	0.10	75.89	50.14	0.01	0.00	50.51
Reach 1	36062	99.75	5.52	37.50	39.34	37.71	39.34	0.000017	0.08	68.56	49.01	0.01	0.00	49.34
Reach 1	36062	100	1.90	37.50	38.99	37.62	38.99	0.000005	0.04	51.57	46.27	0.01	0.00	46.51
Reach 1	34982	1	4590.00	35.86	55.45	41.90	55.50	0.000267	1.93	3007.00	2371.97	0.09	0.23	161.81
Reach 1	34982	5	2190.00	35.86	52.04	39.98	52.06	0.000150	1.26	2010.81	596.66	0.07	0.10	161.29
Reach 1	34982	10	1390.00	35.86	49.46	39.17	49.47	0.000110	1.06	1361.71	228.93	0.06	0.06	153.27
Reach 1	34982	15	1010.00	35.86	47.68	38.72	47.69	0.000096	0.96	1046.97	140.72	0.06	0.04	144.67
Reach 1	34982	20	800.00	35.86	46.52	38.44	46.54	0.000086	0.90	889.42	132.31	0.06	0.04	135.86
Reach 1	34982	25	656.00	35.86	45.71	38.22	45.72	0.000080	0.84	784.01	125.24	0.06	0.03	128.51
Reach 1	34982	30	541.00	35.86	45.04	38.04	45.05	0.000073	0.77	702.23	118.50	0.06	0.03	121.57
Reach 1	34982	35	454.00	35.86	44.47	37.89	44.48	0.000068	0.71	636.01	114.09	0.05	0.02	116.96
Reach 1	34982	40	385.00	35.86	43.97	37.76	43.98	0.000063	0.66	580.09	110.23	0.05	0.02	112.93
Reach 1	34982	45	331.00	35.86	43.54	37.65	43.54	0.000057	0.62	533.61	103.10	0.05	0.02	105.66
Reach 1	34982	50	284.00	35.86	43.21	37.55	43.22	0.000050	0.57	501.32	95.46	0.04	0.02	97.93
Reach 1	34982	55	249.00	35.86	42.95	37.47	42.96	0.000046	0.52	477.32	91.89	0.04	0.01	94.29
Reach 1	34982	60	217.00	35.86	42.69	37.40	42.69	0.000042	0.48	453.22	89.71	0.04	0.01	92.01
Reach 1	34982	65	187.00	35.86	42.42	37.33	42.42	0.000039	0.44	429.37	88.52	0.03	0.01	90.70
Reach 1	34982	70	160.00	35.86	42.16	37.25	42.16	0.000035	0.39	406.57	87.37	0.03	0.01	89.43
Reach 1	34982	75	138.00	35.86	41.90	37.20	41.90	0.000033	0.36	384.02	86.21	0.03	0.01	88.15
Reach 1	34982	80	115.00	35.86	41.63	37.12	41.63	0.000029	0.32	360.35	84.97	0.03	0.01	86.80
Reach 1	34982	85	94.20	35.86	41.35	37.04	41.35	0.000025	0.28	337.34	83.80	0.02	0.01	85.50
Reach 1	34982	90	70.60	35.86	41.00	36.88	41.00	0.000020	0.23	307.87	82.28	0.02	0.00	83.82
Reach 1	34982	91	64.20	35.86	40.90	36.84	40.90	0.000019	0.21	299.99	81.87	0.02	0.00	83.36
Reach 1	34982	92	58.90	35.86	40.81	36.81	40.82	0.000018	0.20	292.88	81.50	0.02	0.00	82.95
Reach 1	34982	93	52.30	35.86	40.73	36.77	40.73	0.000017	0.18	285.60	81.12	0.02	0.00	82.52
Reach 1	34982	94	44.80	35.86	40.61	36.71	40.62	0.000015	0.16	276.67	80.64	0.02	0.00	82.00
Reach 1	34982	95	38.10	35.86	40.49	36.66	40.50	0.000013	0.14	267.03	80.13	0.01	0.00	81.43
Reach 1	34982	96	33.30	35.86	40.39	36.62	40.39	0.000011	0.13	258.73	79.69	0.01	0.00	80.94
Reach 1	34982	97	26.90	35.86	40.24	36.57	40.24	0.000009	0.11	246.58	79.03	0.01	0.00	80.21
Reach 1	34982	98	19.10	35.86	40.02	36.47	40.02	0.000007	0.08	229.63	78.11	0.01	0.00	79.19
Reach 1	34982	99	12.60	35.86	39.75	36.38	39.75	0.000004	0.06	208.27	76.92	0.01	0.00	77.87
Reach 1	34982	99.5	7.71	35.86	39.48	36.28	39.48	0.000002	0.04	187.87	75.63	0.00	0.00	76.46
Reach 1	34982	99.75	5.52	35.86	39.34	36.23	39.34	0.000001	0.03	177.06	74.93	0.00	0.00	75.71
Reach 1	34982	100	1.90	35.86	38.99	36.10	38.99	0.000000	0.01	151.10	73.24	0.00	0.00	73.86
Reach 1	32210	1	4550.00	36.84	54.90	42.58	54.92	0.000193	1.48	6731.02	2113.21	0.07	0.14	156.84
Reach 1	32210	5	2190.00	36.84	51.58	40.71	51.60	0.000164	1.27	2961.57	533.40	0.07	0.10	138.69
Reach 1	32210	10	1400.00	36.84	49.09	39.90	49.11	0.000169	1.30	1073.38	437.27	0.08	0.09	127.22
Reach 1	32210	15	1020.00	36.84	47.37	39.44	47.39	0.000141	1.17	869.50	328.11	0.08	0.06	119.01
Reach 1	32210	20	807.00	36.84	46.25	39.13	46.27	0.000127	1.09	743.41	243.14	0.07	0.05	113.73
Reach 1	32210	25	661.00	36.84	45.45	38.92	45.47	0.000119	1.01	656.83	106.80	0.07	0.04	109.96
Reach 1	32210	30	545.00	36.84	44.80	38.72	44.81	0.000113	0.93	587.99	104.05	0.07	0.04	106.89
Reach 1	32210	35	458.00	36.84	44.24	38.56	44.25	0.000106	0.86	530.97	100.25	0.07	0.03	102.83
Reach 1	32210	40	389.00	36.84	43.76	38.43	43.77	0.000094	0.80	484.29	92.68	0.06	0.03	95.09
Reach 1	32210	45	333.00	36.84	43.34	38.31	43.35	0.000085	0.75	446.71	88.39	0.06	0.03	90.62
Reach 1	32210	50	286.00	36.84	43.03	38.20	43.03	0.000081	0.68	419.00	87.18	0.05	0.02	89.25
Reach 1	32210	55	250.00	36.84	42.78	38.12	42.78	0.000077	0.63	397.57	86.23	0.05	0.02	88.17
Reach 1	32210	60	218.00	36.84	42.52	38.04	42.53	0.000074	0.58	375.59	85.24	0.05	0.02	87.05
Reach 1	32210	65	189.00	36.84	42.27	37.96	42.27	0.000070	0.53	353.90	84.26	0.05	0.02	85.93
Reach 1	32210	70	163.00	36.84	42.02	37.88	42.02	0.000066	0.49	333.28	83.32	0.04	0.02	84.86
Reach 1	32210	75	139.00	36.84	41.77	37.81	41.77	0.000061	0.44	312.54	82.35	0.04	0.01	83.77
Reach 1	32210	80	116.00	36.84	41.51	37.74	41.51	0.000056	0.40	290.94	81.34	0.04	0.01	82.62
Reach 1	32210	85	95.30	36.84	41.25	37.66	41.25	0.000051	0.35	269.97	80.34	0.03	0.01	81.49
Reach 1	32210	90	71.90	36.84	40.91	37.57	40.91	0.000044	0.30	243.20	79.05	0.03	0.01	80.02
Reach 1	32210	91	65.70	36.84	40.82	37.54	40.82	0.000041	0.28	236.10	78.71	0.03	0.01	79.63
Reach 1	32210	92	60.40	36.84	40.74	37.51	40.74	0.000039	0.26	229.62	78.39	0.03	0.01	79.27
Reach 1	32210	93	53.90	36.84	40.65	37.48	40.65	0.000037	0.24	222.97	78.06	0.03	0.01	78.90
Reach 1	32210	94	46.50	36.84	40.55	37.44	40.55	0.000034	0.22	214.96	77.67	0.02	0.01	78.45
Reach 1	32210	95	40.00	36.84	40.44	37.41	40.44	0.000031	0.19	206.29	77.24	0.02	0.01	77.96
Reach 1	32210	96	34.90	36.84	40.34	37.37	40.34	0.000028	0.18	198.77	76.86	0.02	0.00	77.54
Reach 1	32210	97	28.50	36.84	40.19	37.33	40.20	0.000024	0.15	187.67	76.31	0.02	0.00	76.91
Reach 1	32210	98	20.40	36.84	39.99	37.27	39.99	0.000019	0.12	172.19	75.26	0.01	0.00	75.76
Reach 1	32210	99	13.50	36.84	39.73	37.20	39.73	0.000012	0.09	152.67	73.06	0.01	0.00	73.49
Reach 1	32210	99.5	8.37	36.84	39.47	37.14	39.47	0.000007	0.06	134.05	70.90	0.01	0.00	71.26
Reach 1	32210	99.75	6.08	36.84	39.33	37.11	39.33	0.000004	0.05	124.21	69.73	0.01	0.00	70.05
Reach 1	32210	100	2.16	36.84	38.98	37.02	38.98	0.000001	0.02	100.75	66.06	0.00	0.00	66.32
Reach 1	29932	1	4550.00	38.09	54.34	43.06	54.38	0.000267	1.80	5899.56	2299.13	0.09	0.21	137.70
Reach 1	29932	5	2190.00	38.09	51.04	41.35	51.08	0.000287	1.67	1360.74	483.78	0.09	0.18	130.44
Reach 1	29932	10	1400.00	38.09	48.68	40.62	48.71	0.000199	1.39	1008.93	273.86	0.08	0.10	123.24
Reach 1	29932	15	1020.00	38.09	47.02	40.22	47.05	0.000168	1.25	817.30	207.46	0.08	0.07	116.47
Reach 1	29932	20	807.00	38.09	45.93	39.96	45.95	0.000154	1.16	696.73	108.87	0.08	0.06	112.07
Reach 1	29932	25	661.00	38.09	45.15	39.77	45.17	0.000149	1.08	612.49	106.24	0.08	0.05	108.99
Reach 1	29932	30	545.00	38.09	44.51	39.61	44.53	0.000145	1.00	545.22	104.08	0.08	0.05	106.47
Reach 1	29932	35	458.00	38.09	43.96	39.49	43.98	0.000143	0.94	488.90	102.11	0.08	0.04	104.20
Reach 1	29932	40	389.00	38.09	43.49	39.37	43.50	0.000141	0.88	441.07	100.06	0.07	0.04	101.94
Reach 1	29932	45	333.00	38.09	43.09	39.29	43.10	0.000138	0.83	400.97	98.30	0.07	0.03	100.01
Reach 1	29932	50	286.00	38.09	42.78	39.21	42.79	0.000138	0.77	370.90	96.96	0.07	0.03	98.53
Reach 1	29932	55	250.00	38.09	42.54	39.14	42.55	0.000138	0.72	347.76	95.82	0.07	0.03	97.30
Reach 1	29932	60	218.00	38.09	42.29	39.08	42.30	0.000138	0.67	323.93	94.54	0.06	0.03	95.92
Reach 1	29932	65	189.00	38.09	42.04	39.01	42.05	0.000137	0.63	300.60	93.27	0.06	0.03	94.55
Reach 1	29932	70	163.00	38.09	41.80	38.96	41.81	0.000135	0.59	278.61	92.05	0.06	0.03	93.24
Reach 1	29932	75	139.00	38.09	41.56	38.88	41.57	0.000133	0.54	256.58	90.82	0.06	0.02	91.92
Reach 1	29932	80	116.00	38.09	41.31	38.81	41.31	0.000132	0.50	233.69	89.51	0.05	0.02	90.52
Reach 1	29932	85	95.30	38.09	41.06	38.75	41.06	0.000130	0.45	211.59	88.24	0.05	0.02	89.15

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	29932	90	71.90	38.09	40.74	38.66	40.74	0.000125	0.39	183.79	86.61	0.05	0.02	87.40
Reach 1	29932	91	65.70	38.09	40.66	38.64	40.66	0.000122	0.37	176.59	86.08	0.05	0.02	86.85
Reach 1	29932	92	60.40	38.09	40.58	38.62	40.58	0.000119	0.36	170.04	85.60	0.04	0.01	86.34
Reach 1	29932	93	53.90	38.09	40.50	38.59	40.50	0.000118	0.33	163.12	85.09	0.04	0.01	85.81
Reach 1	29932	94	46.50	38.09	40.41	38.55	40.41	0.000113	0.30	155.20	84.50	0.04	0.01	85.19
Reach 1	29932	95	40.00	38.09	40.30	38.52	40.31	0.000107	0.27	146.61	83.86	0.04	0.01	84.51
Reach 1	29932	96	34.90	38.09	40.22	38.50	40.22	0.000102	0.25	139.25	83.30	0.03	0.01	83.93
Reach 1	29932	97	28.50	38.09	40.08	38.46	40.08	0.000095	0.22	128.22	82.46	0.03	0.01	83.05
Reach 1	29932	98	20.40	38.09	39.90	38.41	39.90	0.000084	0.18	113.06	81.29	0.03	0.01	81.82
Reach 1	29932	99	13.50	38.09	39.66	38.36	39.66	0.000067	0.14	93.89	79.79	0.02	0.00	80.25
Reach 1	29932	99.5	8.37	38.09	39.42	38.31	39.42	0.000053	0.11	75.08	78.29	0.02	0.00	78.67
Reach 1	29932	99.75	6.08	38.09	39.29	38.27	39.29	0.000044	0.09	65.03	77.48	0.02	0.00	77.81
Reach 1	29932	100	2.16	38.09	38.97	38.20	38.97	0.000027	0.05	40.18	75.43	0.01	0.00	75.66
Reach 1	28562	1	4530.00	36.12	54.01	42.38	54.04	0.000212	1.54	9091.58	2599.70	0.08	0.16	156.85
Reach 1	28562	5	2180.00	36.12	50.76	40.36	50.79	0.000192	1.33	3092.64	872.83	0.07	0.11	144.22
Reach 1	28562	10	1410.00	36.12	48.46	39.49	48.48	0.000171	1.26	1575.45	523.02	0.08	0.08	133.96
Reach 1	28562	15	1030.00	36.12	46.81	38.99	46.83	0.000161	1.20	857.99	438.25	0.08	0.07	125.45
Reach 1	28562	20	813.00	36.12	45.73	38.65	45.75	0.000144	1.11	729.33	417.75	0.08	0.06	118.17
Reach 1	28562	25	666.00	36.12	44.95	38.38	44.97	0.000133	1.04	642.06	401.73	0.08	0.05	111.69
Reach 1	28562	30	550.00	36.12	44.32	38.15	44.33	0.000123	0.96	574.76	365.93	0.07	0.04	106.44
Reach 1	28562	35	462.00	36.12	43.78	37.95	43.79	0.000116	0.89	519.58	100.06	0.07	0.04	102.38
Reach 1	28562	40	392.00	36.12	43.31	37.80	43.32	0.000109	0.83	473.37	96.98	0.07	0.03	99.11
Reach 1	28562	45	337.00	36.12	42.91	37.67	42.92	0.000103	0.77	435.18	94.36	0.06	0.03	96.34
Reach 1	28562	50	289.00	36.12	42.60	37.55	42.61	0.000097	0.71	406.62	92.35	0.06	0.03	94.21
Reach 1	28562	55	252.00	36.12	42.37	37.46	42.37	0.000093	0.65	384.91	90.62	0.06	0.02	92.41
Reach 1	28562	60	220.00	36.12	42.12	37.37	42.12	0.000089	0.61	362.63	88.59	0.05	0.02	90.31
Reach 1	28562	65	191.00	36.12	41.87	37.27	41.88	0.000083	0.56	341.25	86.60	0.05	0.02	88.26
Reach 1	28562	70	164.00	36.12	41.64	37.18	41.65	0.000076	0.51	321.52	84.19	0.05	0.02	85.80
Reach 1	28562	75	140.00	36.12	41.41	37.10	41.41	0.000069	0.46	302.13	81.58	0.04	0.02	83.15
Reach 1	28562	80	118.00	36.12	41.16	37.01	41.16	0.000062	0.42	282.26	79.60	0.04	0.01	81.08
Reach 1	28562	85	96.60	36.12	40.92	36.92	40.92	0.000055	0.37	263.38	77.73	0.04	0.01	79.13
Reach 1	28562	90	73.20	36.12	40.62	36.81	40.62	0.000044	0.30	240.18	75.37	0.03	0.01	76.66
Reach 1	28562	91	67.10	36.12	40.54	36.78	40.54	0.000041	0.29	234.33	74.76	0.03	0.01	76.02
Reach 1	28562	92	61.90	36.12	40.47	36.75	40.47	0.000038	0.27	229.01	74.21	0.03	0.01	75.44
Reach 1	28562	93	55.40	36.12	40.39	36.72	40.39	0.000036	0.25	223.23	73.60	0.03	0.01	74.80
Reach 1	28562	94	48.40	36.12	40.30	36.68	40.31	0.000033	0.22	216.91	72.93	0.02	0.01	74.10
Reach 1	28562	95	41.80	36.12	40.21	36.64	40.21	0.000029	0.20	210.10	72.20	0.02	0.01	73.33
Reach 1	28562	96	36.70	36.12	40.13	36.61	40.13	0.000025	0.18	204.33	71.58	0.02	0.00	72.69
Reach 1	28562	97	30.10	36.12	40.01	36.56	40.01	0.000021	0.15	195.55	70.62	0.02	0.00	71.69
Reach 1	28562	98	21.80	36.12	39.84	36.49	39.84	0.000015	0.12	183.61	69.31	0.01	0.00	70.31
Reach 1	28562	99	14.40	36.12	39.62	36.42	39.62	0.000009	0.09	168.76	67.63	0.01	0.00	68.56
Reach 1	28562	99.5	9.03	36.12	39.40	36.37	39.40	0.000005	0.06	153.80	65.90	0.01	0.00	66.74
Reach 1	28562	99.75	6.65	36.12	39.27	36.34	39.27	0.000003	0.05	145.79	64.96	0.01	0.00	65.75
Reach 1	28562	100	2.42	36.12	38.96	36.26	38.96	0.000001	0.02	125.79	62.54	0.00	0.00	63.22
Reach 1	27105	1	4530.00	36.92	53.71	42.64	53.73	0.000174	1.40	9038.75	3124.96	0.07	0.13	131.81
Reach 1	27105	5	2180.00	36.92	50.41	40.69	50.44	0.000249	1.50	2716.87	671.75	0.08	0.15	123.06
Reach 1	27105	10	1410.00	36.92	48.13	39.89	48.17	0.000269	1.57	898.69	359.49	0.10	0.13	113.81
Reach 1	27105	15	1030.00	36.92	46.52	39.44	46.55	0.000224	1.41	729.57	279.75	0.09	0.10	106.88
Reach 1	27105	20	813.00	36.92	45.47	39.15	45.50	0.000203	1.30	623.69	220.40	0.09	0.08	103.13
Reach 1	27105	25	666.00	36.92	44.71	38.93	44.73	0.000190	1.21	549.87	190.63	0.09	0.07	98.94
Reach 1	27105	30	550.00	36.92	44.10	38.75	44.12	0.000164	1.11	494.47	157.95	0.08	0.06	90.59
Reach 1	27105	35	462.00	36.92	43.58	38.60	43.59	0.000153	1.03	449.26	127.62	0.08	0.05	87.53
Reach 1	27105	40	392.00	36.92	43.12	38.47	43.13	0.000143	0.95	411.10	110.17	0.08	0.04	85.37
Reach 1	27105	45	337.00	36.92	42.73	38.36	42.74	0.000134	0.89	379.37	106.37	0.07	0.04	83.61
Reach 1	27105	50	289.00	36.92	42.44	38.25	42.45	0.000127	0.81	355.50	103.53	0.07	0.03	82.33
Reach 1	27105	55	252.00	36.92	42.21	38.16	42.21	0.000122	0.75	337.27	101.34	0.06	0.03	81.34
Reach 1	27105	60	220.00	36.92	41.96	38.07	41.97	0.000116	0.69	318.28	85.51	0.06	0.03	80.06
Reach 1	27105	65	191.00	36.92	41.73	38.00	41.73	0.000110	0.64	300.04	76.68	0.06	0.03	78.78
Reach 1	27105	70	164.00	36.92	41.51	37.90	41.51	0.000102	0.58	283.25	75.90	0.05	0.02	77.87
Reach 1	27105	75	140.00	36.92	41.28	37.83	41.29	0.000095	0.53	266.32	75.39	0.05	0.02	77.18
Reach 1	27105	80	118.00	36.92	41.05	37.76	41.05	0.000088	0.47	248.46	74.92	0.05	0.02	76.50
Reach 1	27105	85	96.60	36.92	40.82	37.67	40.82	0.000079	0.42	231.45	74.46	0.04	0.02	75.86
Reach 1	27105	90	73.20	36.92	40.53	37.55	40.53	0.000067	0.35	210.24	73.78	0.04	0.01	74.96
Reach 1	27105	91	67.10	36.92	40.46	37.52	40.46	0.000063	0.33	204.90	73.50	0.03	0.01	74.65
Reach 1	27105	92	61.90	36.92	40.39	37.49	40.40	0.000059	0.31	200.01	73.25	0.03	0.01	74.36
Reach 1	27105	93	55.40	36.92	40.32	37.46	40.32	0.000056	0.28	194.63	72.96	0.03	0.01	74.04
Reach 1	27105	94	48.40	36.92	40.24	37.42	40.24	0.000051	0.26	188.76	72.65	0.03	0.01	73.69
Reach 1	27105	95	41.80	36.92	40.15	37.38	40.15	0.000046	0.23	182.46	72.32	0.03	0.01	73.31
Reach 1	27105	96	36.70	36.92	40.08	37.35	40.08	0.000041	0.21	177.12	72.04	0.02	0.01	72.99
Reach 1	27105	97	30.10	36.92	39.96	37.30	39.96	0.000034	0.18	168.87	71.60	0.02	0.01	72.49
Reach 1	27105	98	21.80	36.92	39.80	37.24	39.80	0.000026	0.14	157.47	70.98	0.02	0.00	71.80
Reach 1	27105	99	14.40	36.92	39.60	37.18	39.60	0.000016	0.10	143.09	70.20	0.01	0.00	70.91
Reach 1	27105	99.5	9.03	36.92	39.38	37.12	39.38	0.000009	0.07	128.07	69.37	0.01	0.00	69.98
Reach 1	27105	99.75	6.65	36.92	39.27	37.09	39.27	0.000006	0.06	119.86	68.76	0.01	0.00	69.32
Reach 1	27105	100	2.42	36.92	38.96	37.02	38.96	0.000001	0.02	98.93	67.01	0.00	0.00	67.46
Reach 1	26860	1	4530.00	38.38	53.67	43.67	53.68	0.000162	1.39	10062.66	3256.49	0.07	0.13	119.20
Reach 1	26860	5	2180.00	38.38	50.34	41.88	50.37	0.000253	1.49	3116.62	801.72	0.09	0.14	119.20
Reach 1	26860	10	1410.00	38.38	48.05	41.15	48.10	0.000370	1.70	870.61	488.83	0.11	0.16	118.10
Reach 1	26860	15	1030.00	38.38	46.45	40.73	46.49	0.000314	1.58	653.86	313.97	0.11	0.12	104.72
Reach 1	26860	20	816.00	38.38	45.40	40.47	45.44	0.000299	1.48	550.07	244.34	0.11	0.10	100.18
Reach 1	26860	25	667.00	38.38	44.65	40.28	44.68	0.000298	1.40	477.65	179.67	0.11	0.09	97.08
Reach 1	26860	30	552.00	38.38	44.04	40.11	44.07	0.000300	1.31	421.05	167.97	0.11	0.08	94.59
Reach 1	26860	35	463.00	38.38	43.51	39.98	43.54	0.000306	1.24	373.04	127.85	0.11	0.08	92.37
Reach 1	26860	40	393.00	38.38	43.06	39.86	43.08	0.000314	1.18	332.31	123.01	0.11	0.07	90.13
Reach 1	26860	45	338.00	38.38	42.67	39.77	42.69	0.000322	1.13	298.45	118.82	0.11	0.07	88.16
Reach 1	26860	50	289.00	38.38	42.37	39.69	42.39	0.000329	1.06	273.06	115.79	0.10	0.06	86.82
Reach 1	26860	55	253.00	38.38	42.15	39.62	42.16	0.000340	1.00	253.65	113.57	0.10	0.06	85.88
Reach 1	26860	60	220.00	38.38	41.90	39.55	41.92	0.000355	0.94	233.30	98.70	0.10	0.06	84.89

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	26860	65	191.00	38.38	41.67	39.46	41.68	0.000371	0.89	213.67	82.77	0.10	0.06	83.93
Reach 1	26860	70	166.00	38.38	41.45	39.40	41.46	0.000388	0.85	195.62	81.99	0.10	0.06	83.03
Reach 1	26860	75	142.00	38.38	41.23	39.33	41.24	0.000408	0.80	177.41	81.20	0.10	0.05	82.12
Reach 1	26860	80	118.00	38.38	40.99	39.27	41.00	0.000430	0.75	158.24	80.35	0.09	0.05	81.15
Reach 1	26860	85	97.00	38.38	40.76	39.20	40.77	0.000458	0.69	140.14	79.37	0.09	0.05	80.06
Reach 1	26860	90	73.60	38.38	40.48	39.11	40.48	0.000494	0.62	117.80	77.97	0.09	0.05	78.55
Reach 1	26860	91	67.70	38.38	40.41	39.09	40.41	0.000503	0.60	112.24	77.61	0.09	0.05	78.17
Reach 1	26860	92	62.50	38.38	40.34	39.07	40.35	0.000511	0.58	107.15	77.29	0.09	0.04	77.82
Reach 1	26860	93	56.10	38.38	40.27	39.04	40.27	0.000524	0.55	101.54	76.93	0.08	0.04	77.43
Reach 1	26860	94	49.00	38.38	40.19	39.01	40.19	0.000538	0.51	95.45	76.54	0.08	0.04	77.01
Reach 1	26860	95	42.40	38.38	40.10	38.98	40.11	0.000544	0.48	88.99	76.12	0.08	0.04	76.56
Reach 1	26860	96	37.30	38.38	40.03	38.95	40.04	0.000547	0.45	83.53	75.77	0.07	0.04	76.18
Reach 1	26860	97	30.80	38.38	39.92	38.90	39.92	0.000565	0.41	75.04	75.21	0.07	0.04	75.58
Reach 1	26860	98	22.30	38.38	39.76	38.84	39.76	0.000595	0.35	63.33	74.44	0.07	0.03	74.74
Reach 1	26860	99	14.80	38.38	39.56	38.75	39.57	0.000629	0.30	48.68	72.24	0.07	0.03	72.46
Reach 1	26860	99.5	9.27	38.38	39.35	38.67	39.36	0.000613	0.27	34.89	62.28	0.06	0.02	62.43
Reach 1	26860	99.75	6.84	38.38	39.24	38.63	39.24	0.000663	0.25	27.76	58.84	0.06	0.02	58.97
Reach 1	26860	100	2.51	38.38	38.92	38.55	38.93	0.001087	0.22	11.50	42.40	0.07	0.02	42.45
Reach 1	26709	1	4530.00	38.00	53.65	44.15	53.66	0.000126	1.18	10651.86	2795.29	0.06	0.09	120.66
Reach 1	26709	5	2180.00	38.00	50.31	42.26	50.33	0.000210	1.30	3801.25	776.69	0.08	0.11	120.66
Reach 1	26709	10	1410.00	38.00	48.00	41.51	48.04	0.000449	1.78	977.75	632.48	0.12	0.18	118.54
Reach 1	26709	15	1030.00	38.00	46.39	41.09	46.44	0.000450	1.73	620.81	396.72	0.13	0.15	107.30
Reach 1	26709	20	816.00	38.00	45.34	40.83	45.38	0.000424	1.67	496.29	333.41	0.13	0.13	96.53
Reach 1	26709	25	667.00	38.00	44.58	40.63	44.62	0.000433	1.59	420.13	293.10	0.13	0.12	92.41
Reach 1	26709	30	552.00	38.00	43.97	40.46	44.01	0.000443	1.51	365.39	240.68	0.13	0.11	88.89
Reach 1	26709	35	463.00	38.00	43.44	40.32	43.48	0.000460	1.44	320.73	212.31	0.13	0.11	86.04
Reach 1	26709	40	393.00	38.00	42.99	40.20	43.01	0.000468	1.38	283.90	162.20	0.13	0.10	82.12
Reach 1	26709	45	338.00	38.00	42.59	40.08	42.62	0.000500	1.34	252.92	123.11	0.13	0.10	81.06
Reach 1	26709	50	289.00	38.00	42.30	39.95	42.32	0.000530	1.26	229.51	118.61	0.13	0.09	80.32
Reach 1	26709	55	253.00	38.00	42.06	39.87	42.09	0.000565	1.20	211.37	115.11	0.13	0.09	79.75
Reach 1	26709	60	220.00	38.00	41.82	39.79	41.84	0.000617	1.15	192.10	96.67	0.13	0.09	79.14
Reach 1	26709	65	191.00	38.00	41.57	39.68	41.59	0.000683	1.10	173.31	77.34	0.13	0.09	78.55
Reach 1	26709	70	166.00	38.00	41.35	39.56	41.36	0.000763	1.07	155.83	77.02	0.13	0.10	77.99
Reach 1	26709	75	142.00	38.00	41.12	39.44	41.13	0.000865	1.03	138.16	76.44	0.13	0.10	77.25
Reach 1	26709	80	118.00	38.00	40.87	39.31	40.88	0.001019	0.99	119.23	75.80	0.14	0.10	76.44
Reach 1	26709	85	97.00	38.00	40.63	39.18	40.64	0.001268	0.96	100.90	75.17	0.15	0.11	75.64
Reach 1	26709	90	73.60	38.00	40.31	39.03	40.33	0.001776	0.95	77.74	72.13	0.16	0.12	72.51
Reach 1	26709	91	67.70	38.00	40.23	38.99	40.25	0.001956	0.94	72.01	70.98	0.16	0.12	71.35
Reach 1	26709	92	62.50	38.00	40.16	38.96	40.17	0.002161	0.94	66.71	69.89	0.17	0.13	70.25
Reach 1	26709	93	56.10	38.00	40.07	38.91	40.09	0.002298	0.92	61.00	65.29	0.17	0.13	65.64
Reach 1	26709	94	49.00	38.00	39.98	38.85	40.00	0.002372	0.89	55.28	59.49	0.16	0.14	59.82
Reach 1	26709	95	42.40	38.00	39.89	38.80	39.90	0.002652	0.86	49.53	57.73	0.16	0.14	58.04
Reach 1	26709	96	37.30	38.00	39.80	38.75	39.81	0.002911	0.83	44.89	56.26	0.16	0.14	56.56
Reach 1	26709	97	30.80	38.00	39.67	38.68	39.68	0.003076	0.81	37.80	48.21	0.16	0.15	48.48
Reach 1	26709	98	22.30	38.00	39.50	38.59	39.50	0.002922	0.74	30.23	38.60	0.15	0.14	38.82
Reach 1	26709	99	14.80	38.00	39.33	38.50	39.34	0.002121	0.61	24.44	32.04	0.12	0.10	32.21
Reach 1	26709	99.5	9.27	38.00	39.16	38.40	39.17	0.001384	0.47	19.56	26.89	0.10	0.06	27.03
Reach 1	26709	99.75	6.84	38.00	39.06	38.35	39.06	0.001176	0.41	16.72	25.40	0.09	0.05	25.52
Reach 1	26709	100	2.51	38.00	38.65	38.24	38.65	0.001463	0.33	7.69	19.35	0.09	0.04	19.41
Reach 1	26660	1	4530.00	37.08	53.64	44.85	53.65	0.000155	1.18	10051.10	2875.78	0.06	0.10	155.31
Reach 1	26660	5	2180.00	37.08	50.29	42.66	50.31	0.000266	1.33	3420.09	812.28	0.08	0.12	144.68
Reach 1	26660	10	1410.00	37.08	47.98	41.57	48.02	0.000463	1.70	1083.86	520.72	0.12	0.17	130.15
Reach 1	26660	15	1030.00	37.08	46.36	40.95	46.41	0.000585	1.80	573.00	391.53	0.14	0.17	120.13
Reach 1	26660	20	816.00	37.08	45.30	40.58	45.35	0.000670	1.80	453.74	339.20	0.16	0.17	113.29
Reach 1	26660	25	667.00	37.08	44.54	40.29	44.59	0.000731	1.79	373.39	214.00	0.16	0.17	102.96
Reach 1	26660	30	552.00	37.08	43.93	40.05	43.98	0.000770	1.75	315.20	191.60	0.17	0.16	93.05
Reach 1	26660	35	463.00	37.08	43.40	39.85	43.44	0.000791	1.72	269.65	174.24	0.17	0.16	83.64
Reach 1	26660	40	393.00	37.08	42.94	39.69	42.98	0.000784	1.68	234.36	157.97	0.16	0.15	74.85
Reach 1	26660	45	338.00	37.08	42.55	39.55	42.59	0.000779	1.63	207.20	114.06	0.16	0.15	68.66
Reach 1	26660	50	289.00	37.08	42.25	39.42	42.29	0.000767	1.54	188.05	105.73	0.16	0.14	64.44
Reach 1	26660	55	253.00	37.08	42.02	39.31	42.05	0.000760	1.45	173.95	99.24	0.15	0.13	61.15
Reach 1	26660	60	220.00	37.08	41.77	39.21	41.80	0.000749	1.38	159.69	92.31	0.14	0.13	57.64
Reach 1	26660	65	191.00	37.08	41.53	39.09	41.56	0.000726	1.30	146.54	52.65	0.14	0.12	54.04
Reach 1	26660	70	166.00	37.08	41.30	38.99	41.33	0.000728	1.23	134.79	51.13	0.13	0.12	52.42
Reach 1	26660	75	142.00	37.08	41.07	38.87	41.09	0.000728	1.15	123.14	49.75	0.13	0.11	50.95
Reach 1	26660	80	118.00	37.08	40.82	38.74	40.84	0.000725	1.06	110.87	48.27	0.12	0.10	49.36
Reach 1	26660	85	97.00	37.08	40.57	38.62	40.59	0.000736	0.98	99.07	47.07	0.12	0.09	48.05
Reach 1	26660	90	73.60	37.08	40.25	38.44	40.26	0.000754	0.88	84.09	45.55	0.11	0.09	46.40
Reach 1	26660	91	67.70	37.08	40.17	38.40	40.18	0.000758	0.84	80.27	45.16	0.11	0.08	45.97
Reach 1	26660	92	62.50	37.08	40.09	38.36	40.10	0.000763	0.82	76.69	44.78	0.11	0.08	45.57
Reach 1	26660	93	56.10	37.08	40.00	38.30	40.01	0.000773	0.77	72.82	44.38	0.11	0.08	45.12
Reach 1	26660	94	49.00	37.08	39.91	38.23	39.92	0.000775	0.71	68.77	43.95	0.10	0.07	44.66
Reach 1	26660	95	42.40	37.08	39.80	38.17	39.81	0.000775	0.66	64.21	43.46	0.10	0.07	44.12
Reach 1	26660	96	37.30	37.08	39.72	38.10	39.72	0.000765	0.62	60.45	43.05	0.09	0.07	43.68
Reach 1	26660	97	30.80	37.08	39.58	38.01	39.59	0.000769	0.56	54.59	42.41	0.09	0.06	42.98
Reach 1	26660	98	22.30	37.08	39.41	37.88	39.41	0.000728	0.47	47.38	41.60	0.08	0.05	42.10
Reach 1	26660	99	14.80	37.08	39.27	37.76	39.27	0.000500	0.36	41.60	40.76	0.06	0.03	41.20
Reach 1	26660	99.5	9.27	37.08	39.12	37.65	39.12	0.000287	0.26	35.92	37.57	0.05	0.02	37.97
Reach 1	26660	99.75	6.84	37.08	39.02	37.59	39.02	0.000207	0.21	32.22	35.33	0.04	0.01	35.71
Reach 1	26660	100	2.51	37.08	38.61	37.43	38.61	0.000097	0.13	19.63	26.12	0.03	0.00	26.40
Reach 1	26526	1	4530.00	33.85	53.62	40.52	53.62	0.000070	0.95	13022.72	3072.76	0.04	0.06	148.79
Reach 1	26526	5	2180.00	33.85	50.28	38.71	50.29	0.000090	0.97	5098.68	1031.72	0.05	0.06	142.66
Reach 1	26526	10	1410.00	33.85	47.96	37.94	47.98	0.000125	1.15	1496.48	686.70	0.07	0.07	133.61
Reach 1	26526	15	1030.00	33.85	46.35	37.50	46.37	0.000103	1.05	979.31	578.02	0.06	0.05	124.58
Reach 1	26526	20	816.00	33.85	45.30	37.20	45.31	0.000083	0.95	857.82	532.17	0.06	0.04	116.46
Reach 1	26526	25	667.00	33.85	44.53	36.96	44.55	0.000072	0.86	774.52	412.49	0.06	0.03	111.62
Reach 1	26526	30	552.00	33.85	43.92	36.70	43.93	0.000061	0.78	710.68	384.77	0.05	0.03	106.48
Reach 1	26526	35	463.00	33.85	43.39	36.51	43.40	0.000054	0.70	657.17	295.84	0.05	0.02	104.12

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	26526	40	393.00	33.85	42.93	36.30	42.94	0.000049	0.64	611.59	278.45	0.05	0.02	102.20
Reach 1	26526	45	338.00	33.85	42.54	36.10	42.54	0.000044	0.59	573.32	143.09	0.04	0.02	100.72
Reach 1	26526	50	289.00	33.85	42.24	35.94	42.24	0.000040	0.53	544.46	138.34	0.04	0.01	99.65
Reach 1	26526	55	253.00	33.85	42.00	35.83	42.01	0.000037	0.48	522.16	134.59	0.04	0.01	98.77
Reach 1	26526	60	220.00	33.85	41.76	35.71	41.76	0.000034	0.44	498.59	130.69	0.03	0.01	97.92
Reach 1	26526	65	191.00	33.85	41.51	35.60	41.52	0.000031	0.40	475.79	93.45	0.03	0.01	96.65
Reach 1	26526	70	166.00	33.85	41.29	35.50	41.29	0.000028	0.37	454.63	92.36	0.03	0.01	95.46
Reach 1	26526	75	142.00	33.85	41.05	35.39	41.06	0.000025	0.33	433.34	91.34	0.03	0.01	94.34
Reach 1	26526	80	118.00	33.85	40.80	35.27	40.80	0.000022	0.29	410.50	90.62	0.02	0.01	93.45
Reach 1	26526	85	97.00	33.85	40.56	35.16	40.56	0.000019	0.25	388.11	89.79	0.02	0.00	92.46
Reach 1	26526	90	73.60	33.85	40.23	35.02	40.23	0.000015	0.20	359.21	88.88	0.02	0.00	91.28
Reach 1	26526	91	67.70	33.85	40.15	34.99	40.15	0.000014	0.19	351.72	88.67	0.02	0.00	90.99
Reach 1	26526	92	62.50	33.85	40.07	34.95	40.07	0.000013	0.18	344.63	88.47	0.02	0.00	90.71
Reach 1	26526	93	56.10	33.85	39.98	34.91	39.98	0.000012	0.17	336.92	88.26	0.02	0.00	90.41
Reach 1	26526	94	49.00	33.85	39.89	34.85	39.89	0.000011	0.15	328.80	88.03	0.01	0.00	90.09
Reach 1	26526	95	42.40	33.85	39.78	34.81	39.78	0.000009	0.13	319.62	87.77	0.01	0.00	89.73
Reach 1	26526	96	37.30	33.85	39.70	34.76	39.70	0.000008	0.12	312.04	87.55	0.01	0.00	89.43
Reach 1	26526	97	30.80	33.85	39.56	34.71	39.56	0.000007	0.10	300.06	87.21	0.01	0.00	88.96
Reach 1	26526	98	22.30	33.85	39.39	34.62	39.39	0.000005	0.08	285.24	86.79	0.01	0.00	88.37
Reach 1	26526	99	14.80	33.85	39.26	34.50	39.26	0.000003	0.05	273.71	85.81	0.01	0.00	87.26
Reach 1	26526	99.5	9.27	33.85	39.12	34.37	39.12	0.000001	0.04	261.89	83.82	0.00	0.00	85.10
Reach 1	26526	99.75	6.84	33.85	39.02	34.28	39.02	0.000001	0.03	253.62	82.88	0.00	0.00	84.09
Reach 1	26526	100	2.51	33.85	38.61	34.12	38.61	0.000000	0.01	220.44	80.59	0.00	0.00	81.66
Reach 1	25477	1	4530.00	35.87	53.40	42.66	53.45	0.000319	2.03	6019.07	3307.69	0.10	0.26	109.34
Reach 1	25477	5	2180.00	35.87	50.06	40.28	50.09	0.000243	1.54	2882.00	1415.88	0.08	0.15	109.34
Reach 1	25477	10	1410.00	35.87	47.75	39.26	47.78	0.000269	1.56	1268.43	729.61	0.10	0.13	108.05
Reach 1	25477	15	1030.00	35.87	46.15	38.69	46.19	0.000264	1.51	680.49	497.00	0.10	0.11	101.66
Reach 1	25477	20	816.00	35.87	45.12	38.33	45.15	0.000240	1.40	581.82	177.08	0.10	0.09	97.54
Reach 1	25477	25	667.00	35.87	44.38	38.06	44.40	0.000225	1.30	512.65	150.86	0.10	0.08	93.81
Reach 1	25477	30	552.00	35.87	43.78	37.84	43.80	0.000210	1.20	459.48	137.75	0.09	0.07	90.13
Reach 1	25477	35	463.00	35.87	43.26	37.65	43.28	0.000195	1.12	415.11	125.49	0.09	0.06	86.16
Reach 1	25477	40	393.00	35.87	42.81	37.49	42.83	0.000177	1.04	378.78	111.37	0.08	0.05	81.46
Reach 1	25477	45	338.00	35.87	42.43	37.36	42.45	0.000160	0.97	349.42	90.38	0.08	0.05	77.45
Reach 1	25477	50	289.00	35.87	42.14	37.24	42.16	0.000145	0.88	328.20	71.98	0.07	0.04	74.42
Reach 1	25477	55	253.00	35.87	41.92	37.13	41.93	0.000135	0.81	312.20	69.65	0.07	0.04	72.04
Reach 1	25477	60	220.00	35.87	41.68	37.04	41.68	0.000125	0.74	295.62	67.96	0.06	0.03	70.26
Reach 1	25477	65	191.00	35.87	41.44	36.95	41.45	0.000116	0.68	279.79	66.54	0.06	0.03	68.75
Reach 1	25477	70	166.00	35.87	41.22	36.87	41.23	0.000107	0.63	265.21	65.21	0.05	0.03	67.33
Reach 1	25477	75	142.00	35.87	41.00	36.79	41.00	0.000096	0.57	250.71	63.86	0.05	0.02	65.89
Reach 1	25477	80	118.00	35.87	40.75	36.71	40.76	0.000084	0.50	235.37	62.40	0.05	0.02	64.33
Reach 1	25477	85	97.00	35.87	40.51	36.62	40.51	0.000073	0.44	220.49	60.95	0.04	0.02	62.78
Reach 1	25477	90	73.60	35.87	40.20	36.53	40.20	0.000059	0.37	201.62	59.06	0.03	0.01	60.76
Reach 1	25477	91	67.70	35.87	40.11	36.51	40.12	0.000055	0.34	196.81	58.57	0.03	0.01	60.23
Reach 1	25477	92	62.50	35.87	40.04	36.48	40.04	0.000050	0.33	192.30	57.25	0.03	0.01	58.87
Reach 1	25477	93	56.10	35.87	39.95	36.45	39.95	0.000046	0.30	187.48	56.45	0.03	0.01	58.02
Reach 1	25477	94	49.00	35.87	39.86	36.41	39.86	0.000042	0.27	182.45	56.10	0.03	0.01	57.63
Reach 1	25477	95	42.40	35.87	39.76	36.38	39.76	0.000037	0.24	176.78	55.70	0.02	0.01	57.18
Reach 1	25477	96	37.30	35.87	39.68	36.35	39.68	0.000033	0.22	172.12	55.37	0.02	0.01	56.81
Reach 1	25477	97	30.80	35.87	39.54	36.32	39.54	0.000028	0.19	164.75	54.85	0.02	0.01	56.22
Reach 1	25477	98	22.30	35.87	39.38	36.25	39.38	0.000020	0.14	155.72	54.20	0.01	0.00	55.49
Reach 1	25477	99	14.80	35.87	39.25	36.19	39.25	0.000010	0.10	148.82	53.70	0.01	0.00	54.92
Reach 1	25477	99.5	9.27	35.87	39.11	36.13	39.11	0.000005	0.07	141.55	53.16	0.01	0.00	54.32
Reach 1	25477	99.75	6.84	35.87	39.02	36.11	39.02	0.000003	0.05	136.35	52.78	0.01	0.00	53.89
Reach 1	25477	100	2.51	35.87	38.61	36.03	38.61	0.000001	0.02	115.31	51.19	0.00	0.00	52.10
Reach 1	25170	1	4530.00	37.37	53.33	43.09	53.37	0.000279	1.70	4574.82	3930.59	0.09	0.19	186.76
Reach 1	25170	5	2180.00	37.37	50.00	41.29	50.03	0.000231	1.32	2357.21	2143.29	0.08	0.12	179.04
Reach 1	25170	10	1410.00	37.37	47.68	40.53	47.71	0.000212	1.25	1404.41	1681.04	0.08	0.09	162.40
Reach 1	25170	15	1030.00	37.37	46.08	40.08	46.11	0.000225	1.23	836.61	392.72	0.09	0.08	150.90
Reach 1	25170	20	816.00	37.37	45.06	39.80	45.08	0.000230	1.19	686.69	141.97	0.10	0.07	143.33
Reach 1	25170	25	667.00	37.37	44.31	39.59	44.33	0.000239	1.14	583.50	134.48	0.10	0.06	135.68
Reach 1	25170	30	552.00	37.37	43.71	39.41	43.73	0.000249	1.09	504.92	128.49	0.10	0.06	129.55
Reach 1	25170	35	463.00	37.37	43.19	39.26	43.21	0.000263	1.05	439.64	123.29	0.10	0.06	124.24
Reach 1	25170	40	393.00	37.37	42.75	39.14	42.76	0.000274	1.02	385.79	117.46	0.10	0.06	118.32
Reach 1	25170	45	338.00	37.37	42.36	39.01	42.38	0.000286	0.99	341.89	112.35	0.10	0.05	113.13
Reach 1	25170	50	289.00	37.37	42.07	38.90	42.09	0.000290	0.93	310.07	107.69	0.10	0.05	108.42
Reach 1	25170	55	253.00	37.37	41.85	38.81	41.87	0.000269	0.88	287.33	97.66	0.09	0.05	98.36
Reach 1	25170	60	220.00	37.37	41.61	38.72	41.63	0.000258	0.83	265.03	91.39	0.09	0.05	92.04
Reach 1	25170	65	191.00	37.37	41.38	38.65	41.39	0.000261	0.78	243.85	89.11	0.08	0.04	89.72
Reach 1	25170	70	166.00	37.37	41.16	38.56	41.17	0.000264	0.74	224.44	86.98	0.08	0.04	87.54
Reach 1	25170	75	142.00	37.37	40.94	38.49	40.94	0.000264	0.69	205.28	84.82	0.08	0.04	85.33
Reach 1	25170	80	118.00	37.37	40.70	38.40	40.70	0.000262	0.64	185.13	82.48	0.08	0.04	82.94
Reach 1	25170	85	97.00	37.37	40.46	38.33	40.46	0.000264	0.59	165.63	80.16	0.07	0.03	80.57
Reach 1	25170	90	73.60	37.37	40.14	38.21	40.15	0.000266	0.52	141.06	77.13	0.07	0.03	77.48
Reach 1	25170	91	67.70	37.37	40.06	38.19	40.07	0.000266	0.50	134.84	76.35	0.07	0.03	76.68
Reach 1	25170	92	62.50	37.37	39.99	38.16	39.99	0.000266	0.48	129.01	75.60	0.07	0.03	75.92
Reach 1	25170	93	56.10	37.37	39.90	38.13	39.90	0.000268	0.46	122.66	74.78	0.06	0.03	75.08
Reach 1	25170	94	49.00	37.37	39.81	38.10	39.82	0.000266	0.42	116.09	73.93	0.06	0.03	74.21
Reach 1	25170	95	42.40	37.37	39.71	38.05	39.72	0.000263	0.39	108.75	72.96	0.06	0.02	73.22
Reach 1	25170	96	37.30	37.37	39.63	38.02	39.63	0.000256	0.36	102.80	72.16	0.05	0.02	72.41
Reach 1	25170	97	30.80	37.37	39.50	37.97	39.50	0.000252	0.33	93.36	70.89	0.05	0.02	71.10
Reach 1	25170	98	22.30	37.37	39.34	37.90	39.34	0.000227	0.27	82.12	69.33	0.04	0.02	69.52
Reach 1	25170	99	14.80	37.37	39.23	37.82	39.23	0.000142	0.20	74.36	68.24	0.03	0.01	68.40
Reach 1	25170	99.5	9.27	37.37	39.10	37.74	39.10	0.000079	0.14	65.91	65.72	0.02	0.00	65.85
Reach 1	25170	99.75	6.84	37.37	39.01	37.70	39.01	0.000052	0.11	60.05	60.34	0.02	0.00	60.47
Reach 1	25170	100	2.51	37.37	38.61	37.59	38.61	0.000028	0.07	37.49	52.36	0.01	0.00	52.43
Reach 1	25079		Bridge											
Reach 1	24962	1	4530.00	35.50	53.22	40.80	53.24	0.000149	1.44	4037.21	4079.04	0.07	0.13	159.94

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	24962	5	2180.00	35.50	49.94	39.27	49.96	0.000111	1.10	2423.88	2969.06	0.06	0.07	159.94
Reach 1	24962	10	1410.00	35.50	47.64	38.64	47.65	0.000091	0.98	1585.22	1200.72	0.06	0.05	157.94
Reach 1	24962	15	1030.00	35.50	46.04	38.29	46.06	0.000085	0.93	1112.01	285.97	0.06	0.04	152.77
Reach 1	24962	20	816.00	35.50	45.02	38.06	45.03	0.000074	0.85	964.36	185.74	0.06	0.03	143.12
Reach 1	24962	25	667.00	35.50	44.27	37.89	44.28	0.000067	0.77	861.57	179.56	0.05	0.03	139.06
Reach 1	24962	30	552.00	35.50	43.67	37.74	43.68	0.000062	0.71	781.23	174.60	0.05	0.02	135.81
Reach 1	24962	35	463.00	35.50	43.16	37.62	43.16	0.000057	0.65	712.91	170.30	0.05	0.02	132.99
Reach 1	24962	40	393.00	35.50	42.71	37.50	42.71	0.000054	0.60	655.05	166.58	0.05	0.02	130.56
Reach 1	24962	45	338.00	35.50	42.33	37.40	42.33	0.000050	0.56	606.39	163.08	0.04	0.01	128.47
Reach 1	24962	50	289.00	35.50	42.04	37.29	42.04	0.000047	0.51	570.25	158.95	0.04	0.01	126.91
Reach 1	24962	55	253.00	35.50	41.82	37.21	41.82	0.000045	0.47	543.01	155.80	0.04	0.01	125.71
Reach 1	24962	60	220.00	35.50	41.58	37.13	41.58	0.000043	0.43	513.77	122.47	0.04	0.01	124.42
Reach 1	24962	65	191.00	35.50	41.35	37.04	41.35	0.000040	0.39	485.15	121.07	0.03	0.01	122.93
Reach 1	24962	70	166.00	35.50	41.13	36.97	41.13	0.000038	0.36	458.66	119.30	0.03	0.01	121.09
Reach 1	24962	75	142.00	35.50	40.90	36.89	40.90	0.000034	0.33	432.28	117.51	0.03	0.01	119.23
Reach 1	24962	80	118.00	35.50	40.66	36.80	40.66	0.000031	0.29	404.27	115.57	0.03	0.01	117.22
Reach 1	24962	85	97.00	35.50	40.42	36.72	40.42	0.000028	0.26	376.79	113.65	0.02	0.01	115.21
Reach 1	24962	90	73.60	35.50	40.11	36.60	40.11	0.000023	0.22	341.72	111.14	0.02	0.00	112.60
Reach 1	24962	91	67.70	35.50	40.03	36.57	40.03	0.000022	0.20	332.75	110.49	0.02	0.00	111.93
Reach 1	24962	92	62.50	35.50	39.95	36.54	39.95	0.000021	0.19	324.31	109.87	0.02	0.00	111.29
Reach 1	24962	93	56.10	35.50	39.87	36.51	39.87	0.000019	0.18	315.04	109.19	0.02	0.00	110.58
Reach 1	24962	94	49.00	35.50	39.78	36.46	39.78	0.000018	0.16	305.46	108.49	0.02	0.00	109.85
Reach 1	24962	95	42.40	35.50	39.68	36.42	39.68	0.000016	0.14	294.72	107.90	0.02	0.00	109.22
Reach 1	24962	96	37.30	35.50	39.60	36.37	39.60	0.000015	0.13	285.99	107.54	0.01	0.00	108.82
Reach 1	24962	97	30.80	35.50	39.47	36.32	39.47	0.000012	0.11	271.91	106.95	0.01	0.00	108.18
Reach 1	24962	98	22.30	35.50	39.31	36.24	39.31	0.000009	0.09	255.18	106.10	0.01	0.00	107.28
Reach 1	24962	99	14.80	35.50	39.21	36.15	39.21	0.000005	0.06	244.36	105.55	0.01	0.00	106.68
Reach 1	24962	99.5	9.27	35.50	39.09	36.06	39.09	0.000002	0.04	231.96	104.90	0.00	0.00	106.00
Reach 1	24962	99.75	6.84	35.50	39.00	36.00	39.00	0.000001	0.03	222.46	104.41	0.00	0.00	105.47
Reach 1	24962	100	2.51	35.50	38.60	35.85	38.60	0.000000	0.01	181.38	102.23	0.00	0.00	103.15
Reach 1	24886	1	4530.00	35.96	53.20	42.05	53.23	0.000209	1.64	4364.46	3529.23	0.08	0.17	134.81
Reach 1	24886	5	2180.00	35.96	49.92	40.30	49.95	0.000179	1.31	2219.54	1523.70	0.07	0.11	134.81
Reach 1	24886	10	1410.00	35.96	47.61	39.55	47.64	0.000199	1.32	1213.49	889.17	0.08	0.09	134.81
Reach 1	24886	15	1030.00	35.96	46.02	39.09	46.04	0.000188	1.25	845.05	453.40	0.09	0.08	127.18
Reach 1	24886	20	816.00	35.96	45.00	38.79	45.02	0.000168	1.17	699.60	142.11	0.08	0.06	118.68
Reach 1	24886	25	667.00	35.96	44.25	38.56	44.27	0.000153	1.08	616.60	129.09	0.08	0.05	111.40
Reach 1	24886	30	552.00	35.96	43.66	38.36	43.67	0.000142	1.00	553.49	123.08	0.08	0.05	107.19
Reach 1	24886	35	463.00	35.96	43.14	38.20	43.15	0.000134	0.93	500.54	117.79	0.07	0.04	103.65
Reach 1	24886	40	393.00	35.96	42.69	38.01	42.71	0.000127	0.86	456.23	113.18	0.07	0.04	100.90
Reach 1	24886	45	338.00	35.96	42.31	37.81	42.32	0.000121	0.81	419.12	109.79	0.07	0.03	99.04
Reach 1	24886	50	289.00	35.96	42.03	37.68	42.03	0.000116	0.74	391.65	107.23	0.06	0.03	97.65
Reach 1	24886	55	253.00	35.96	41.81	37.57	41.81	0.000112	0.68	370.97	105.29	0.06	0.03	96.59
Reach 1	24886	60	220.00	35.96	41.57	37.45	41.58	0.000109	0.63	348.79	93.22	0.06	0.02	95.44
Reach 1	24886	65	191.00	35.96	41.34	37.36	41.34	0.000105	0.58	327.09	92.20	0.05	0.02	94.30
Reach 1	24886	70	166.00	35.96	41.12	37.27	41.12	0.000101	0.54	306.94	91.23	0.05	0.02	93.23
Reach 1	24886	75	142.00	35.96	40.90	37.18	40.90	0.000096	0.50	286.79	90.26	0.05	0.02	92.15
Reach 1	24886	80	118.00	35.96	40.66	37.08	40.66	0.000089	0.44	265.30	89.13	0.05	0.02	90.91
Reach 1	24886	85	97.00	35.96	40.42	36.98	40.42	0.000083	0.40	244.20	87.47	0.04	0.01	89.18
Reach 1	24886	90	73.60	35.96	40.11	36.86	40.11	0.000073	0.34	217.33	85.32	0.04	0.01	86.94
Reach 1	24886	91	67.70	35.96	40.03	36.83	40.03	0.000071	0.32	210.47	84.76	0.04	0.01	86.36
Reach 1	24886	92	62.50	35.96	39.95	36.79	39.95	0.000068	0.31	204.02	84.23	0.03	0.01	85.81
Reach 1	24886	93	56.10	35.96	39.86	36.76	39.87	0.000065	0.28	196.95	83.36	0.03	0.01	84.92
Reach 1	24886	94	49.00	35.96	39.78	36.71	39.78	0.000061	0.26	189.67	82.75	0.03	0.01	84.27
Reach 1	24886	95	42.40	35.96	39.68	36.67	39.68	0.000057	0.23	181.51	82.21	0.03	0.01	83.69
Reach 1	24886	96	37.30	35.96	39.60	36.64	39.60	0.000052	0.21	174.89	81.77	0.03	0.01	83.21
Reach 1	24886	97	30.80	35.96	39.47	36.58	39.47	0.000046	0.19	164.29	80.14	0.02	0.01	81.50
Reach 1	24886	98	22.30	35.96	39.31	36.51	39.31	0.000035	0.15	151.94	77.90	0.02	0.00	79.15
Reach 1	24886	99	14.80	35.96	39.21	36.44	39.21	0.000018	0.10	144.12	76.45	0.01	0.00	77.63
Reach 1	24886	99.5	9.27	35.96	39.09	36.37	39.09	0.000009	0.07	135.25	74.77	0.01	0.00	75.86
Reach 1	24886	99.75	6.84	35.96	39.00	36.33	39.00	0.000005	0.05	128.53	73.47	0.01	0.00	74.50
Reach 1	24886	100	2.51	35.96	38.60	36.24	38.60	0.000001	0.02	100.47	67.77	0.00	0.00	68.52
Reach 1	23088	1	4490.00	36.77	52.97	42.26	52.98	0.000105	1.12	11570.73	3523.94	0.05	0.08	123.38
Reach 1	23088	5	2180.00	36.77	49.58	40.41	49.61	0.000244	1.49	3124.19	1346.14	0.08	0.14	120.81
Reach 1	23088	10	1420.00	36.77	47.19	39.64	47.22	0.000236	1.42	1618.83	762.97	0.09	0.11	115.46
Reach 1	23088	15	1030.00	36.77	45.55	39.18	45.58	0.000263	1.48	744.97	485.18	0.10	0.11	105.79
Reach 1	23088	20	822.00	36.77	44.53	38.90	44.56	0.000242	1.40	597.70	366.09	0.10	0.09	99.80
Reach 1	23088	25	673.00	36.77	43.79	38.69	43.82	0.000229	1.30	517.55	298.53	0.10	0.08	95.99
Reach 1	23088	30	557.00	36.77	43.20	38.51	43.22	0.000219	1.20	462.70	276.39	0.09	0.07	93.21
Reach 1	23088	35	468.00	36.77	42.69	38.36	42.71	0.000211	1.12	416.85	259.18	0.09	0.06	90.81
Reach 1	23088	40	397.00	36.77	42.24	38.24	42.26	0.000204	1.05	378.00	182.84	0.09	0.05	88.74
Reach 1	23088	45	340.00	36.77	41.86	38.13	41.88	0.000197	0.98	345.22	175.65	0.09	0.05	86.96
Reach 1	23088	50	293.00	36.77	41.58	38.03	41.59	0.000192	0.91	321.43	83.98	0.08	0.04	85.64
Reach 1	23088	55	256.00	36.77	41.37	37.96	41.38	0.000187	0.84	303.51	83.08	0.08	0.04	84.63
Reach 1	23088	60	222.00	36.77	41.14	37.88	41.15	0.000181	0.78	285.11	82.15	0.07	0.04	83.59
Reach 1	23088	65	193.00	36.77	40.93	37.81	40.93	0.000175	0.72	267.42	81.24	0.07	0.04	82.58
Reach 1	23088	70	167.00	36.77	40.72	37.74	40.72	0.000168	0.67	250.40	80.35	0.07	0.03	81.59
Reach 1	23088	75	143.00	36.77	40.51	37.68	40.51	0.000160	0.61	233.76	79.26	0.06	0.03	80.41
Reach 1	23088	80	120.00	36.77	40.29	37.61	40.29	0.000150	0.55	216.55	78.03	0.06	0.03	79.08
Reach 1	23088	85	98.20	36.77	40.07	37.55	40.08	0.000138	0.49	199.77	76.81	0.05	0.02	77.77
Reach 1	23088	90	74.90	36.77	39.80	37.47	39.80	0.000121	0.42	178.96	75.26	0.05	0.02	76.12
Reach 1	23088	91	69.10	36.77	39.73	37.45	39.73	0.000116	0.40	173.79	74.88	0.05	0.02	75.70
Reach 1	23088	92	63.90	36.77	39.66	37.43	39.67	0.000111	0.38	168.94	74.51	0.04	0.02	75.31
Reach 1	23088	93	57.60	36.77	39.59	37.40	39.59	0.000105	0.35	163.61	74.11	0.04	0.01	74.87
Reach 1	23088	94	50.70	36.77	39.52	37.38	39.53	0.000099	0.32	158.52	73.72	0.04	0.01	74.46
Reach 1	23088	95	44.30	36.77	39.45	37.35	39.45	0.000091	0.29	153.00	73.30	0.04	0.01	74.00
Reach 1	23088	96	39.10	36.77	39.39	37.33	39.39	0.000082	0.26	148.80	72.97	0.03	0.01	73.65
Reach 1	23088	97	32.40	36.77	39.29	37.30	39.29	0.000071	0.23	141.32	72.39	0.03	0.01	73.03
Reach 1	23088	98	23.60	36.77	39.18	37.25	39.18	0.000052	0.18	133.31	71.77	0.02	0.01	72.36
Reach 1	23088	99	15.70	36.77	39.14	37.17	39.14	0.000026	0.12	130.69	71.56	0.02	0.00	72.14

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	23088	99.5	9.93	36.77	39.06	37.09	39.06	0.000012	0.08	124.94	71.11	0.01	0.00	71.65
Reach 1	23088	99.75	7.41	36.77	38.98	37.04	38.98	0.000008	0.06	119.34	70.66	0.01	0.00	71.17
Reach 1	23088	100	2.78	36.77	38.60	36.93	38.60	0.000002	0.03	92.72	68.22	0.00	0.00	68.61
Reach 1	20939	1	4490.00	34.01	52.35	40.98	52.41	0.000341	2.24	2608.79	2663.16	0.10	0.29	102.18
Reach 1	20939	5	2180.00	34.01	49.03	38.70	49.06	0.000183	1.48	1769.68	473.72	0.08	0.13	99.74
Reach 1	20939	10	1420.00	34.01	46.70	37.75	46.72	0.000139	1.28	1326.08	213.91	0.07	0.08	96.98
Reach 1	20939	15	1030.00	34.01	45.06	37.20	45.08	0.000127	1.20	1023.90	182.52	0.07	0.06	95.04
Reach 1	20939	20	822.00	34.01	44.06	36.86	44.08	0.000123	1.14	843.97	177.40	0.08	0.05	93.85
Reach 1	20939	25	673.00	34.01	43.34	36.59	43.36	0.000121	1.08	716.98	173.70	0.07	0.05	93.00
Reach 1	20939	30	557.00	34.01	42.76	36.35	42.78	0.000119	1.01	618.22	169.60	0.07	0.04	92.32
Reach 1	20939	35	468.00	34.01	42.27	36.16	42.29	0.000113	0.95	537.37	158.96	0.07	0.04	90.10
Reach 1	20939	40	397.00	34.01	41.85	35.98	41.86	0.000106	0.88	472.08	148.09	0.07	0.03	88.11
Reach 1	20939	45	340.00	34.01	41.49	35.83	41.50	0.000098	0.82	420.57	134.49	0.07	0.03	86.41
Reach 1	20939	50	293.00	34.01	41.22	35.70	41.23	0.000091	0.75	392.13	83.03	0.06	0.03	85.18
Reach 1	20939	55	256.00	34.01	41.03	35.59	41.03	0.000084	0.68	375.73	82.24	0.06	0.02	84.25
Reach 1	20939	60	222.00	34.01	40.82	35.48	40.83	0.000076	0.62	359.11	80.62	0.05	0.02	82.55
Reach 1	20939	65	193.00	34.01	40.62	35.39	40.63	0.000068	0.56	343.37	78.56	0.05	0.02	80.45
Reach 1	20939	70	167.00	34.01	40.43	35.30	40.44	0.000059	0.51	328.57	76.55	0.04	0.02	78.41
Reach 1	20939	75	143.00	34.01	40.25	35.20	40.25	0.000051	0.45	314.53	74.60	0.04	0.01	76.42
Reach 1	20939	80	120.00	34.01	40.05	35.11	40.06	0.000043	0.40	300.29	72.57	0.03	0.01	74.35
Reach 1	20939	85	98.20	34.01	39.86	35.01	39.87	0.000034	0.34	286.79	70.59	0.03	0.01	72.33
Reach 1	20939	90	74.90	34.01	39.63	34.88	39.63	0.000025	0.28	270.36	68.21	0.02	0.01	69.90
Reach 1	20939	91	69.10	34.01	39.57	34.85	39.57	0.000023	0.26	266.36	67.75	0.02	0.01	69.43
Reach 1	20939	92	63.90	34.01	39.51	34.82	39.51	0.000021	0.24	262.62	67.31	0.02	0.00	68.98
Reach 1	20939	93	57.60	34.01	39.45	34.78	39.45	0.000019	0.22	258.54	66.83	0.02	0.00	68.48
Reach 1	20939	94	50.70	34.01	39.39	34.74	39.40	0.000017	0.20	254.67	66.37	0.02	0.00	68.01
Reach 1	20939	95	44.30	34.01	39.33	34.70	39.33	0.000014	0.18	250.59	65.89	0.02	0.00	67.51
Reach 1	20939	96	39.10	34.01	39.29	34.66	39.29	0.000012	0.16	247.73	65.55	0.01	0.00	67.16
Reach 1	20939	97	32.40	34.01	39.20	34.60	39.20	0.000010	0.13	242.10	65.07	0.01	0.00	66.65
Reach 1	20939	98	23.60	34.01	39.12	34.53	39.12	0.000006	0.10	236.55	64.63	0.01	0.00	66.16
Reach 1	20939	99	15.70	34.01	39.11	34.45	39.11	0.000003	0.07	236.16	64.60	0.01	0.00	66.13
Reach 1	20939	99.5	9.93	34.01	39.05	34.37	39.05	0.000001	0.04	232.00	64.26	0.00	0.00	65.76
Reach 1	20939	99.75	7.41	34.01	38.97	34.33	38.97	0.000001	0.03	227.25	63.88	0.00	0.00	65.34
Reach 1	20939	100	2.78	34.01	38.60	34.22	38.60	0.000000	0.01	203.51	61.92	0.00	0.00	63.21
Reach 1	20851	1	4490.00	34.87	52.29	41.07	52.36	0.000477	2.46	2905.25	2660.18	0.12	0.39	114.01
Reach 1	20851	5	2180.00	34.87	48.99	39.23	49.03	0.000310	1.73	1823.77	1604.50	0.10	0.19	114.01
Reach 1	20851	10	1420.00	34.87	46.67	38.47	46.70	0.000214	1.48	1241.05	521.86	0.09	0.11	103.52
Reach 1	20851	15	1030.00	34.87	45.04	38.02	45.07	0.000177	1.34	942.92	168.57	0.08	0.08	97.20
Reach 1	20851	20	822.00	34.87	44.04	37.75	44.07	0.000159	1.24	778.17	162.19	0.08	0.07	94.44
Reach 1	20851	25	673.00	34.87	43.32	37.54	43.34	0.000148	1.15	662.78	157.50	0.08	0.06	93.08
Reach 1	20851	30	557.00	34.87	42.75	37.36	42.77	0.000139	1.05	575.76	146.74	0.08	0.05	92.12
Reach 1	20851	35	468.00	34.87	42.26	37.19	42.27	0.000130	0.97	506.13	137.52	0.07	0.04	91.29
Reach 1	20851	40	397.00	34.87	41.84	37.03	41.85	0.000122	0.89	456.13	108.01	0.07	0.04	90.58
Reach 1	20851	45	340.00	34.87	41.48	36.88	41.49	0.000113	0.82	418.17	102.66	0.07	0.03	89.97
Reach 1	20851	50	293.00	34.87	41.21	36.75	41.22	0.000106	0.75	391.73	98.76	0.06	0.03	89.52
Reach 1	20851	55	256.00	34.87	41.02	36.65	41.02	0.000100	0.69	373.50	85.83	0.06	0.03	88.96
Reach 1	20851	60	222.00	34.87	40.81	36.54	40.82	0.000093	0.62	356.13	85.24	0.05	0.02	88.24
Reach 1	20851	65	193.00	34.87	40.62	36.44	40.62	0.000085	0.57	339.39	84.61	0.05	0.02	87.49
Reach 1	20851	70	167.00	34.87	40.43	36.34	40.43	0.000077	0.52	323.39	83.59	0.05	0.02	86.39
Reach 1	20851	75	143.00	34.87	40.24	36.24	40.24	0.000069	0.46	308.02	82.59	0.04	0.02	85.32
Reach 1	20851	80	120.00	34.87	40.05	36.14	40.05	0.000060	0.41	292.20	81.64	0.04	0.01	84.26
Reach 1	20851	85	98.20	34.87	39.86	36.05	39.86	0.000051	0.35	276.94	80.81	0.03	0.01	83.30
Reach 1	20851	90	74.90	34.87	39.63	35.94	39.63	0.000040	0.29	258.00	79.78	0.03	0.01	82.09
Reach 1	20851	91	69.10	34.87	39.57	35.90	39.57	0.000037	0.27	253.33	79.52	0.03	0.01	81.79
Reach 1	20851	92	63.90	34.87	39.51	35.88	39.51	0.000034	0.26	248.95	79.36	0.03	0.01	81.59
Reach 1	20851	93	57.60	34.87	39.45	35.85	39.45	0.000031	0.24	244.15	79.20	0.02	0.01	81.38
Reach 1	20851	94	50.70	34.87	39.39	35.81	39.39	0.000028	0.21	239.57	79.04	0.02	0.01	81.18
Reach 1	20851	95	44.30	34.87	39.33	35.76	39.33	0.000025	0.19	234.72	78.88	0.02	0.00	80.97
Reach 1	20851	96	39.10	34.87	39.29	35.72	39.29	0.000021	0.17	231.30	78.76	0.02	0.00	80.81
Reach 1	20851	97	32.40	34.87	39.20	35.67	39.20	0.000017	0.14	224.55	78.53	0.02	0.00	80.52
Reach 1	20851	98	23.60	34.87	39.12	35.59	39.12	0.000012	0.11	217.87	78.30	0.01	0.00	80.22
Reach 1	20851	99	15.70	34.87	39.11	35.51	39.11	0.000006	0.07	217.43	78.29	0.01	0.00	80.20
Reach 1	20851	99.5	9.93	34.87	39.05	35.43	39.05	0.000002	0.05	212.40	78.12	0.00	0.00	79.98
Reach 1	20851	99.75	7.41	34.87	38.97	35.39	38.97	0.000001	0.04	206.62	77.92	0.00	0.00	79.72
Reach 1	20851	100	2.78	34.87	38.60	35.26	38.60	0.000000	0.02	177.47	76.40	0.00	0.00	77.92
Reach 1	20797		Bridge											
Reach 1	20752	1	4490.00	35.86	52.22	41.05	52.31	0.000469	2.48	2535.81	2141.41	0.12	0.39	119.89
Reach 1	20752	5	2180.00	35.86	48.94	39.35	48.98	0.000268	1.65	1680.90	442.57	0.09	0.17	119.89
Reach 1	20752	10	1420.00	35.86	46.64	38.66	46.67	0.000196	1.39	1226.37	178.79	0.08	0.10	115.43
Reach 1	20752	15	1030.00	35.86	45.02	38.24	45.04	0.000168	1.26	947.32	166.21	0.08	0.07	111.24
Reach 1	20752	20	822.00	35.86	44.02	37.99	44.04	0.000155	1.17	785.09	160.30	0.08	0.06	108.66
Reach 1	20752	25	673.00	35.86	43.30	37.81	43.32	0.000148	1.09	671.32	156.46	0.08	0.05	107.20
Reach 1	20752	30	557.00	35.86	42.73	37.64	42.75	0.000141	1.00	582.90	153.38	0.08	0.05	106.09
Reach 1	20752	35	468.00	35.86	42.24	37.50	42.26	0.000135	0.93	512.03	132.15	0.07	0.04	105.13
Reach 1	20752	40	397.00	35.86	41.82	37.38	41.83	0.000127	0.86	462.70	98.65	0.07	0.04	102.92
Reach 1	20752	45	340.00	35.86	41.46	37.28	41.47	0.000116	0.79	427.79	95.77	0.07	0.03	99.91
Reach 1	20752	50	293.00	35.86	41.20	37.18	41.21	0.000108	0.73	403.00	94.01	0.06	0.03	98.04
Reach 1	20752	55	256.00	35.86	41.00	37.09	41.01	0.000102	0.67	384.52	93.40	0.06	0.03	97.31
Reach 1	20752	60	222.00	35.86	40.80	37.00	40.81	0.000096	0.61	365.70	92.77	0.05	0.02	96.56
Reach 1	20752	65	193.00	35.86	40.61	36.93	40.61	0.000089	0.56	347.56	92.07	0.05	0.02	95.75
Reach 1	20752	70	167.00	35.86	40.42	36.87	40.42	0.000082	0.51	330.21	91.36	0.05	0.02	94.95
Reach 1	20752	75	143.00	35.86	40.23	36.80	40.24	0.000074	0.46	313.46	90.67	0.04	0.02	94.16
Reach 1	20752	80	120.00	35.86	40.04	36.73	40.04	0.000066	0.41	296.15	89.95	0.04	0.01	93.35
Reach 1	20752	85	98.20	35.86	39.85	36.66	39.86	0.000057	0.35	279.41	89.26	0.04	0.01	92.55
Reach 1	20752	90	74.90	35.86	39.62	36.57	39.62	0.000045	0.29	258.58	88.38	0.03	0.01	91.55
Reach 1	20752	91	69.10	35.86	39.56	36.54	39.56	0.000042	0.27	253.44	88.16	0.03	0.01	91.30
Reach 1	20752	92	63.90	35.86	39.51	36.52	39.51	0.000040	0.26	248.60	87.99	0.03	0.01	91.09

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	20752	93	57.60	35.86	39.45	36.49	39.45	0.000036	0.24	243.31	87.84	0.03	0.01	90.88
Reach 1	20752	94	50.70	35.86	39.39	36.46	39.39	0.000033	0.21	238.26	87.69	0.02	0.01	90.67
Reach 1	20752	95	44.30	35.86	39.33	36.43	39.33	0.000029	0.19	232.92	87.53	0.02	0.00	90.45
Reach 1	20752	96	39.10	35.86	39.29	36.40	39.29	0.000026	0.17	229.16	87.41	0.02	0.00	90.30
Reach 1	20752	97	32.40	35.86	39.20	36.36	39.20	0.000021	0.15	221.71	87.19	0.02	0.00	90.00
Reach 1	20752	98	23.60	35.86	39.12	36.31	39.12	0.000014	0.11	214.35	86.97	0.01	0.00	89.70
Reach 1	20752	99	15.70	35.86	39.11	36.25	39.11	0.000007	0.07	213.93	86.96	0.01	0.00	89.68
Reach 1	20752	99.5	9.93	35.86	39.05	36.20	39.05	0.000003	0.05	208.38	86.79	0.01	0.00	89.45
Reach 1	20752	99.75	7.41	35.86	38.97	36.17	38.97	0.000002	0.04	201.95	86.60	0.00	0.00	89.19
Reach 1	20752	100	2.78	35.86	38.60	36.07	38.60	0.000000	0.02	169.48	85.62	0.00	0.00	87.85
Reach 1	20619	1	4490.00	36.93	52.18	42.38	52.24	0.000378	2.21	2594.54	2339.50	0.11	0.31	101.70
Reach 1	20619	5	2180.00	36.93	48.92	40.39	48.95	0.000227	1.51	1622.73	575.45	0.08	0.14	101.70
Reach 1	20619	10	1420.00	36.93	46.61	39.64	46.64	0.000190	1.33	1149.35	223.31	0.08	0.10	99.74
Reach 1	20619	15	1030.00	36.93	44.99	39.19	45.02	0.000189	1.27	882.40	162.47	0.09	0.08	97.33
Reach 1	20619	20	822.00	36.93	44.00	38.93	44.02	0.000200	1.25	721.93	159.90	0.09	0.07	95.85
Reach 1	20619	25	673.00	36.93	43.28	38.73	43.30	0.000215	1.22	607.21	157.95	0.09	0.07	94.78
Reach 1	20619	30	557.00	36.93	42.70	38.56	42.72	0.000228	1.18	518.16	152.56	0.10	0.07	93.45
Reach 1	20619	35	468.00	36.93	42.21	38.42	42.23	0.000242	1.14	444.57	147.29	0.10	0.06	91.74
Reach 1	20619	40	397.00	36.93	41.79	38.30	41.81	0.000254	1.10	382.91	144.29	0.10	0.06	90.26
Reach 1	20619	45	340.00	36.93	41.43	38.21	41.45	0.000260	1.06	331.84	134.88	0.10	0.06	89.00
Reach 1	20619	50	293.00	36.93	41.17	38.11	41.18	0.000259	0.99	301.03	106.02	0.09	0.05	88.09
Reach 1	20619	55	256.00	36.93	40.97	38.05	40.99	0.000256	0.92	281.19	97.65	0.09	0.05	87.26
Reach 1	20619	60	222.00	36.93	40.77	37.98	40.78	0.000248	0.85	262.46	88.55	0.08	0.05	86.05
Reach 1	20619	65	193.00	36.93	40.58	37.91	40.59	0.000240	0.78	245.92	83.66	0.08	0.04	84.87
Reach 1	20619	70	167.00	36.93	40.39	37.85	40.40	0.000230	0.72	230.35	82.58	0.08	0.04	83.73
Reach 1	20619	75	143.00	36.93	40.21	37.79	40.22	0.000218	0.66	215.42	81.54	0.07	0.04	82.63
Reach 1	20619	80	120.00	36.93	40.02	37.73	40.03	0.000203	0.60	200.08	80.46	0.07	0.03	81.48
Reach 1	20619	85	98.20	36.93	39.84	37.67	39.84	0.000185	0.53	185.36	79.40	0.06	0.03	80.36
Reach 1	20619	90	74.90	36.93	39.60	37.58	39.61	0.000160	0.45	167.15	78.08	0.05	0.02	78.96
Reach 1	20619	91	69.10	36.93	39.55	37.57	39.55	0.000152	0.42	162.68	77.77	0.05	0.02	78.63
Reach 1	20619	92	63.90	36.93	39.49	37.54	39.50	0.000145	0.40	158.49	77.47	0.05	0.02	78.31
Reach 1	20619	93	57.60	36.93	39.43	37.52	39.44	0.000136	0.37	153.91	77.14	0.05	0.02	77.96
Reach 1	20619	94	50.70	36.93	39.38	37.49	39.38	0.000127	0.34	149.57	76.83	0.04	0.02	77.63
Reach 1	20619	95	44.30	36.93	39.32	37.47	39.32	0.000116	0.31	144.99	76.50	0.04	0.01	77.28
Reach 1	20619	96	39.10	36.93	39.28	37.44	39.28	0.000102	0.28	141.82	76.27	0.04	0.01	77.04
Reach 1	20619	97	32.40	36.93	39.19	37.41	39.19	0.000087	0.24	135.44	75.81	0.03	0.01	76.55
Reach 1	20619	98	23.60	36.93	39.11	37.36	39.11	0.000062	0.18	129.24	75.36	0.02	0.01	76.07
Reach 1	20619	99	15.70	36.93	39.11	37.30	39.11	0.000029	0.12	129.09	75.35	0.02	0.00	76.05
Reach 1	20619	99.5	9.93	36.93	39.05	37.24	39.05	0.000013	0.08	124.39	75.00	0.01	0.00	75.69
Reach 1	20619	99.75	7.41	36.93	38.97	37.21	38.97	0.000008	0.06	118.88	74.60	0.01	0.00	75.26
Reach 1	20619	100	2.78	36.93	38.60	37.11	38.60	0.000003	0.03	91.18	72.52	0.00	0.00	73.05
Reach 1	18472	1	4490.00	36.27	51.49	42.56	51.52	0.000318	1.92	7309.75	2199.69	0.10	0.24	101.09
Reach 1	18472	5	2180.00	36.27	48.09	40.62	48.13	0.000393	1.82	2916.63	997.68	0.11	0.22	101.09
Reach 1	18472	10	1420.00	36.27	45.75	39.87	45.80	0.000538	1.98	1059.05	485.54	0.13	0.22	101.09
Reach 1	18472	15	1030.00	36.27	44.11	39.39	44.17	0.000606	1.98	559.99	190.07	0.15	0.20	96.36
Reach 1	18472	20	822.00	36.27	43.08	39.10	43.14	0.000665	1.94	422.82	93.13	0.16	0.19	93.06
Reach 1	18472	25	673.00	36.27	42.32	38.89	42.37	0.000698	1.89	356.87	84.25	0.16	0.18	87.63
Reach 1	18472	30	557.00	36.27	41.73	38.70	41.78	0.000719	1.80	308.67	79.73	0.16	0.17	82.75
Reach 1	18472	35	468.00	36.27	41.21	38.56	41.25	0.000777	1.75	267.92	77.32	0.17	0.16	79.98
Reach 1	18472	40	397.00	36.27	40.75	38.43	40.79	0.000871	1.71	232.68	76.01	0.17	0.16	78.38
Reach 1	18472	45	340.00	36.27	40.35	38.31	40.39	0.000992	1.68	202.56	74.95	0.18	0.16	77.06
Reach 1	18472	50	293.00	36.27	40.05	38.21	40.09	0.001119	1.62	180.61	74.29	0.18	0.17	76.17
Reach 1	18472	55	256.00	36.27	39.83	38.12	39.87	0.001241	1.56	164.31	73.93	0.18	0.17	75.59
Reach 1	18472	60	222.00	36.27	39.62	38.03	39.65	0.001364	1.50	148.40	72.94	0.18	0.17	74.42
Reach 1	18472	65	193.00	36.27	39.40	37.96	39.43	0.001475	1.45	133.07	70.01	0.19	0.17	71.35
Reach 1	18472	70	167.00	36.27	39.20	37.88	39.23	0.001626	1.40	118.88	68.23	0.19	0.17	69.43
Reach 1	18472	75	143.00	36.27	38.99	37.80	39.02	0.001855	1.36	105.17	67.55	0.19	0.18	68.61
Reach 1	18472	80	120.00	36.27	38.78	37.73	38.81	0.002151	1.32	91.17	66.16	0.20	0.18	67.07
Reach 1	18472	85	98.20	36.27	38.58	37.65	38.61	0.002564	1.26	77.94	65.47	0.20	0.19	66.23
Reach 1	18472	90	74.90	36.27	38.34	37.56	38.36	0.003108	1.20	62.36	61.66	0.21	0.19	62.26
Reach 1	18472	91	69.10	36.27	38.28	37.53	38.30	0.003267	1.18	58.79	60.99	0.21	0.19	61.57
Reach 1	18472	92	63.90	36.27	38.22	37.49	38.24	0.003437	1.16	55.27	59.87	0.21	0.20	60.42
Reach 1	18472	93	57.60	36.27	38.16	37.44	38.18	0.003656	1.12	51.36	58.57	0.21	0.20	59.11
Reach 1	18472	94	50.70	36.27	38.10	37.41	38.12	0.003845	1.06	48.04	57.92	0.20	0.20	58.44
Reach 1	18472	95	44.30	36.27	38.03	37.37	38.05	0.004131	1.00	44.11	57.14	0.20	0.20	57.63
Reach 1	18472	96	39.10	36.27	37.96	37.32	37.98	0.004526	0.97	40.25	56.19	0.20	0.20	56.66
Reach 1	18472	97	32.40	36.27	37.87	37.24	37.88	0.004866	0.93	34.88	52.09	0.20	0.20	52.52
Reach 1	18472	98	23.60	36.27	37.74	37.12	37.75	0.005523	0.83	28.35	49.42	0.19	0.20	49.80
Reach 1	18472	99	15.70	36.27	37.58	36.99	37.59	0.006726	0.76	20.75	46.21	0.20	0.19	46.56
Reach 1	18472	99.5	9.93	36.27	37.40	36.81	37.41	0.007478	0.73	13.63	34.69	0.20	0.18	35.02
Reach 1	18472	99.75	7.41	36.27	37.28	36.74	37.29	0.007724	0.74	10.07	25.80	0.21	0.19	26.10
Reach 1	18472	100	2.78	36.27	36.94	36.56	36.95	0.007619	0.67	4.15	12.12	0.20	0.16	12.30
Reach 1	18321	1	4490.00	34.42	51.45	40.52	51.48	0.000269	1.76	6049.40	2099.59	0.09	0.20	144.48
Reach 1	18321	5	2180.00	34.42	48.06	38.58	48.08	0.000222	1.41	2913.12	773.30	0.08	0.13	138.66
Reach 1	18321	10	1420.00	34.42	45.71	37.73	45.74	0.000225	1.37	1407.76	397.93	0.09	0.10	132.35
Reach 1	18321	15	1030.00	34.42	44.08	37.22	44.10	0.000216	1.31	906.75	223.06	0.09	0.08	122.73
Reach 1	18321	20	822.00	34.42	43.03	36.91	43.06	0.000215	1.26	696.58	181.43	0.09	0.07	116.61
Reach 1	18321	25	673.00	34.42	42.27	36.67	42.29	0.000209	1.20	566.81	148.38	0.09	0.07	110.07
Reach 1	18321	30	557.00	34.42	41.68	36.47	41.70	0.000200	1.12	498.10	103.16	0.09	0.06	104.69
Reach 1	18321	35	468.00	34.42	41.15	36.30	41.17	0.000190	1.05	445.44	97.61	0.09	0.05	99.04
Reach 1	18321	40	397.00	34.42	40.69	36.16	40.70	0.000182	0.99	401.01	93.13	0.08	0.05	94.46
Reach 1	18321	45	340.00	34.42	40.28	36.03	40.29	0.000176	0.93	363.76	89.73	0.08	0.04	90.96
Reach 1	18321	50	293.00	34.42	39.97	35.92	39.99	0.000171	0.87	336.84	87.19	0.08	0.04	88.35
Reach 1	18321	55	256.00	34.42	39.75	35.84	39.76	0.000166	0.81	317.04	85.27	0.07	0.04	86.37
Reach 1	18321	60	222.00	34.42	39.52	35.75	39.53	0.000158	0.74	298.00	83.38	0.07	0.03	84.43
Reach 1	18321	65	193.00	34.42	39.30	35.67	39.30	0.000151	0.69	279.64	81.52	0.07	0.03	82.52
Reach 1	18321	70	167.00	34.42	39.08	35.60	39.09	0.000142	0.64	262.19	79.71	0.06	0.03	80.66
Reach 1	18321	75	143.00	34.42	38.86	35.53	38.86	0.000133	0.58	244.78	77.87	0.06	0.03	78.76

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	18321	80	120.00	34.42	38.63	35.45	38.63	0.000123	0.53	227.02	75.94	0.05	0.02	76.77
Reach 1	18321	85	98.20	34.42	38.40	35.37	38.40	0.000111	0.47	209.76	74.01	0.05	0.02	74.79
Reach 1	18321	90	74.90	34.42	38.11	35.27	38.11	0.000095	0.40	188.78	71.61	0.04	0.02	72.32
Reach 1	18321	91	69.10	34.42	38.04	35.25	38.04	0.000090	0.38	183.69	71.01	0.04	0.01	71.70
Reach 1	18321	92	63.90	34.42	37.97	35.22	37.97	0.000085	0.36	178.71	70.42	0.04	0.01	71.10
Reach 1	18321	93	57.60	34.42	37.88	35.19	37.88	0.000081	0.33	172.69	69.71	0.04	0.01	70.36
Reach 1	18321	94	50.70	34.42	37.81	35.16	37.81	0.000076	0.30	167.66	69.10	0.03	0.01	69.74
Reach 1	18321	95	44.30	34.42	37.72	35.12	37.72	0.000069	0.27	161.55	68.36	0.03	0.01	68.97
Reach 1	18321	96	39.10	34.42	37.63	35.09	37.63	0.000064	0.25	155.63	67.63	0.03	0.01	68.23
Reach 1	18321	97	32.40	34.42	37.51	35.04	37.51	0.000055	0.22	147.36	66.60	0.03	0.01	67.17
Reach 1	18321	98	23.60	34.42	37.32	34.97	37.32	0.000044	0.17	135.04	65.04	0.02	0.01	65.56
Reach 1	18321	99	15.70	34.42	37.08	34.89	37.08	0.000030	0.13	119.56	63.02	0.02	0.00	63.48
Reach 1	18321	99.5	9.93	34.42	36.84	34.80	36.84	0.000018	0.09	104.56	60.99	0.01	0.00	61.40
Reach 1	18321	99.75	7.41	34.42	36.71	34.76	36.71	0.000012	0.08	96.77	59.92	0.01	0.00	60.29
Reach 1	18321	100	2.78	34.42	36.37	34.65	36.37	0.000004	0.04	77.02	57.10	0.01	0.00	57.39
Reach 1	18180	1	4490.00	33.52	51.40	39.76	51.43	0.000254	1.67	6140.37	2159.20	0.08	0.19	164.25
Reach 1	18180	5	2180.00	33.52	48.03	37.96	48.05	0.000210	1.34	2814.53	733.21	0.08	0.12	155.29
Reach 1	18180	10	1420.00	33.52	45.68	37.19	45.71	0.000194	1.29	1441.22	456.79	0.08	0.09	141.29
Reach 1	18180	15	1030.00	33.52	44.05	36.70	44.07	0.000169	1.21	883.59	194.61	0.08	0.07	126.86
Reach 1	18180	20	822.00	33.52	43.01	36.40	43.03	0.000149	1.13	724.88	113.78	0.08	0.06	116.73
Reach 1	18180	25	673.00	33.52	42.25	36.17	42.27	0.000134	1.05	640.91	107.20	0.08	0.05	109.84
Reach 1	18180	30	557.00	33.52	41.66	35.98	41.67	0.000123	0.96	578.67	103.38	0.07	0.04	105.80
Reach 1	18180	35	468.00	33.52	41.13	35.82	41.15	0.000116	0.89	525.12	101.20	0.07	0.04	103.37
Reach 1	18180	40	397.00	33.52	40.67	35.68	40.68	0.000111	0.83	478.44	99.22	0.07	0.03	101.18
Reach 1	18180	45	340.00	33.52	40.26	35.57	40.27	0.000106	0.78	438.47	97.22	0.06	0.03	99.02
Reach 1	18180	50	293.00	33.52	39.96	35.47	39.97	0.000101	0.72	409.17	95.55	0.06	0.03	97.21
Reach 1	18180	55	256.00	33.52	39.73	35.38	39.74	0.000098	0.66	387.36	94.64	0.06	0.02	96.19
Reach 1	18180	60	222.00	33.52	39.50	35.29	39.51	0.000093	0.61	366.14	93.64	0.05	0.02	95.07
Reach 1	18180	65	193.00	33.52	39.28	35.22	39.29	0.000088	0.56	345.49	92.33	0.05	0.02	93.68
Reach 1	18180	70	167.00	33.52	39.07	35.14	39.07	0.000082	0.51	325.74	90.73	0.05	0.02	92.01
Reach 1	18180	75	143.00	33.52	38.85	35.05	38.85	0.000075	0.47	306.07	88.36	0.04	0.02	89.56
Reach 1	18180	80	120.00	33.52	38.62	34.96	38.62	0.000069	0.42	285.90	87.03	0.04	0.01	88.15
Reach 1	18180	85	98.20	33.52	38.39	34.88	38.39	0.000061	0.37	266.16	85.30	0.04	0.01	86.36
Reach 1	18180	90	74.90	33.52	38.10	34.76	38.10	0.000051	0.31	242.02	83.25	0.03	0.01	84.23
Reach 1	18180	91	69.10	33.52	38.03	34.72	38.03	0.000048	0.29	236.13	82.79	0.03	0.01	83.74
Reach 1	18180	92	63.90	33.52	37.96	34.68	37.96	0.000045	0.28	230.35	82.33	0.03	0.01	83.26
Reach 1	18180	93	57.60	33.52	37.87	34.64	37.88	0.000043	0.26	223.34	81.77	0.03	0.01	82.68
Reach 1	18180	94	50.70	33.52	37.80	34.59	37.80	0.000039	0.23	217.47	81.30	0.03	0.01	82.19
Reach 1	18180	95	44.30	33.52	37.71	34.54	37.71	0.000036	0.21	210.32	80.72	0.02	0.01	81.59
Reach 1	18180	96	39.10	33.52	37.63	34.50	37.63	0.000033	0.19	203.36	80.16	0.02	0.01	80.99
Reach 1	18180	97	32.40	33.52	37.50	34.43	37.51	0.000028	0.17	193.60	79.36	0.02	0.00	80.16
Reach 1	18180	98	23.60	33.52	37.32	34.33	37.32	0.000022	0.13	178.96	78.14	0.02	0.00	78.89
Reach 1	18180	99	15.70	33.52	37.08	34.20	37.08	0.000014	0.10	160.40	75.81	0.01	0.00	76.49
Reach 1	18180	99.5	9.93	33.52	36.84	34.06	36.84	0.000008	0.07	142.52	73.02	0.01	0.00	73.65
Reach 1	18180	99.75	7.41	33.52	36.71	33.99	36.71	0.000005	0.06	133.28	71.05	0.01	0.00	71.66
Reach 1	18180	100	2.78	33.52	36.37	33.82	36.37	0.000001	0.03	110.09	66.98	0.00	0.00	67.53
Reach 1	17942	1	4450.00	35.67	51.26	40.95	51.33	0.000555	2.30	3847.66	2514.50	0.12	0.37	144.09
Reach 1	17942	5	2170.00	35.67	47.93	39.17	47.97	0.000399	1.79	1785.24	574.70	0.11	0.21	127.33
Reach 1	17942	10	1430.00	35.67	45.60	38.45	45.64	0.000353	1.68	1045.25	303.32	0.11	0.16	115.05
Reach 1	17942	15	1040.00	35.67	43.97	37.98	44.01	0.000336	1.60	689.90	228.27	0.11	0.13	107.04
Reach 1	17942	20	829.00	35.67	42.94	37.69	42.98	0.000306	1.52	547.10	94.31	0.11	0.11	97.56
Reach 1	17942	25	678.00	35.67	42.18	37.48	42.22	0.000290	1.42	478.16	89.57	0.11	0.09	93.15
Reach 1	17942	30	562.00	35.67	41.60	37.30	41.62	0.000277	1.32	426.18	86.19	0.10	0.08	89.47
Reach 1	17942	35	472.00	35.67	41.08	37.15	41.10	0.000272	1.24	381.79	84.14	0.10	0.07	87.17
Reach 1	17942	40	400.00	35.67	40.61	37.03	40.63	0.000270	1.17	343.28	82.37	0.10	0.07	85.09
Reach 1	17942	45	343.00	35.67	40.21	36.92	40.23	0.000273	1.11	310.03	81.45	0.10	0.06	83.80
Reach 1	17942	50	295.00	35.67	39.90	36.82	39.92	0.000274	1.03	285.53	80.58	0.10	0.06	82.67
Reach 1	17942	55	257.00	35.67	39.68	36.75	39.69	0.000275	0.96	267.20	80.21	0.09	0.06	82.05
Reach 1	17942	60	224.00	35.67	39.45	36.67	39.46	0.000277	0.90	249.28	79.83	0.09	0.05	81.45
Reach 1	17942	65	195.00	35.67	39.23	36.59	39.24	0.000279	0.84	231.67	79.47	0.09	0.05	80.86
Reach 1	17942	70	169.00	35.67	39.02	36.53	39.03	0.000280	0.79	214.68	79.07	0.08	0.05	80.25
Reach 1	17942	75	144.00	35.67	38.80	36.45	38.81	0.000280	0.73	197.46	78.63	0.08	0.04	79.60
Reach 1	17942	80	121.00	35.67	38.57	36.38	38.58	0.000283	0.67	179.51	78.16	0.08	0.04	78.92
Reach 1	17942	85	99.50	35.67	38.34	36.31	38.35	0.000282	0.61	161.86	76.62	0.07	0.04	77.23
Reach 1	17942	90	76.20	35.67	38.06	36.23	38.06	0.000265	0.54	140.82	73.03	0.07	0.03	73.58
Reach 1	17942	91	70.70	35.67	37.99	36.21	37.99	0.000262	0.52	135.71	72.55	0.07	0.03	73.08
Reach 1	17942	92	65.50	35.67	37.92	36.19	37.92	0.000260	0.50	130.71	72.07	0.07	0.03	72.58
Reach 1	17942	93	59.20	35.67	37.84	36.16	37.84	0.000255	0.47	124.66	71.49	0.06	0.03	71.98
Reach 1	17942	94	52.60	35.67	37.76	36.13	37.77	0.000252	0.44	119.60	71.00	0.06	0.03	71.47
Reach 1	17942	95	46.10	35.67	37.68	36.11	37.68	0.000248	0.41	113.46	70.40	0.06	0.02	70.84
Reach 1	17942	96	40.70	35.67	37.59	36.08	37.59	0.000243	0.38	107.48	69.81	0.05	0.02	70.23
Reach 1	17942	97	34.00	35.67	37.47	36.04	37.47	0.000235	0.34	99.10	68.98	0.05	0.02	69.36
Reach 1	17942	98	25.00	35.67	37.29	36.00	37.29	0.000222	0.29	86.58	67.72	0.05	0.02	68.05
Reach 1	17942	99	16.60	35.67	37.05	35.94	37.05	0.000202	0.23	70.75	66.09	0.04	0.01	66.35
Reach 1	17942	99.5	10.60	35.67	36.81	35.90	36.82	0.000182	0.19	55.25	64.45	0.04	0.01	64.65
Reach 1	17942	99.75	7.97	35.67	36.69	35.87	36.69	0.000167	0.17	47.21	62.79	0.03	0.01	62.96
Reach 1	17942	100	3.04	35.67	36.36	35.81	36.36	0.000115	0.11	27.92	54.01	0.03	0.00	54.13
Reach 1	15623	1	4450.00	35.34	50.44	39.92	50.48	0.000350	1.92	6879.31	3228.35	0.10	0.25	149.06
Reach 1	15623	5	2170.00	35.34	47.06	38.33	47.10	0.000352	1.74	1244.61	497.74	0.10	0.20	137.29
Reach 1	15623	10	1430.00	35.34	44.86	37.70	44.90	0.000263	1.49	962.91	182.04	0.09	0.12	129.64
Reach 1	15623	15	1040.00	35.34	43.32	37.31	43.35	0.000230	1.34	773.29	120.66	0.09	0.09	124.12
Reach 1	15623	20	829.00	35.34	42.33	37.08	42.36	0.000217	1.26	656.14	115.83	0.09	0.07	118.80
Reach 1	15623	25	678.00	35.34	41.60	36.90	41.62	0.000206	1.18	573.36	110.64	0.09	0.06	113.33
Reach 1	15623	30	562.00	35.34	41.03	36.75	41.05	0.000196	1.10	511.42	106.59	0.09	0.06	109.06
Reach 1	15623	35	472.00	35.34	40.51	36.64	40.53	0.000193	1.03	457.06	103.45	0.09	0.05	105.70
Reach 1	15623	40	400.00	35.34	40.04	36.54	40.06	0.000196	0.98	408.91	101.65	0.09	0.05	103.67
Reach 1	15623	45	343.00	35.34	39.62	36.45	39.64	0.000203	0.94	366.60	100.04	0.09	0.05	101.85
Reach 1	15623	50	295.00	35.34	39.31	36.37	39.33	0.000207	0.88	335.64	98.85	0.08	0.04	100.50

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	15623	55	257.00	35.34	39.08	36.31	39.09	0.000212	0.82	312.38	97.94	0.08	0.04	99.48
Reach 1	15623	60	224.00	35.34	38.84	36.25	38.85	0.000216	0.77	289.75	97.06	0.08	0.04	98.47
Reach 1	15623	65	195.00	35.34	38.61	36.19	38.62	0.000222	0.73	267.34	96.17	0.08	0.04	97.47
Reach 1	15623	70	169.00	35.34	38.39	36.14	38.40	0.000228	0.69	245.86	95.31	0.08	0.04	96.50
Reach 1	15623	75	144.00	35.34	38.16	36.09	38.17	0.000233	0.64	224.45	94.44	0.07	0.03	95.52
Reach 1	15623	80	121.00	35.34	37.91	36.04	37.92	0.000246	0.60	201.07	93.49	0.07	0.03	94.44
Reach 1	15623	85	99.50	35.34	37.66	35.98	37.67	0.000266	0.56	177.56	92.52	0.07	0.03	93.35
Reach 1	15623	90	76.20	35.34	37.36	35.91	37.37	0.000289	0.51	150.07	91.38	0.07	0.03	92.05
Reach 1	15623	91	70.70	35.34	37.29	35.89	37.29	0.000296	0.49	143.27	91.09	0.07	0.03	91.73
Reach 1	15623	92	65.50	35.34	37.22	35.87	37.22	0.000303	0.48	136.79	90.82	0.07	0.03	91.42
Reach 1	15623	93	59.20	35.34	37.13	35.85	37.13	0.000314	0.46	128.67	90.48	0.07	0.03	91.03
Reach 1	15623	94	52.60	35.34	37.05	35.82	37.05	0.000326	0.43	121.75	90.18	0.07	0.03	90.70
Reach 1	15623	95	46.10	35.34	36.96	35.80	36.96	0.000340	0.41	113.67	89.84	0.06	0.03	90.31
Reach 1	15623	96	40.70	35.34	36.87	35.78	36.87	0.000357	0.38	105.72	89.50	0.06	0.03	89.93
Reach 1	15623	97	34.00	35.34	36.75	35.75	36.75	0.000379	0.36	95.06	89.04	0.06	0.03	89.41
Reach 1	15623	98	25.00	35.34	36.58	35.70	36.58	0.000420	0.31	79.49	88.37	0.06	0.02	88.65
Reach 1	15623	99	16.60	35.34	36.37	35.65	36.37	0.000461	0.27	61.37	86.07	0.06	0.02	86.28
Reach 1	15623	99.5	10.60	35.34	36.19	35.60	36.19	0.000471	0.23	46.11	83.90	0.05	0.02	84.05
Reach 1	15623	99.75	7.97	35.34	36.10	35.57	36.10	0.000480	0.21	38.42	82.78	0.05	0.01	82.90
Reach 1	15623	100	3.04	35.34	35.87	35.51	35.87	0.000443	0.15	20.40	67.99	0.05	0.01	68.03
Reach 1	12927	1	4410.00	33.80	49.46	38.77	49.50	0.000311	1.81	7315.26	2752.72	0.09	0.22	151.39
Reach 1	12927	5	2160.00	33.80	46.19	37.13	46.22	0.000286	1.54	2004.31	621.61	0.09	0.16	145.42
Reach 1	12927	10	1440.00	33.80	44.19	36.47	44.22	0.000227	1.37	1288.30	329.92	0.09	0.10	137.06
Reach 1	12927	15	1050.00	33.80	42.74	36.08	42.77	0.000199	1.25	933.43	185.04	0.09	0.08	130.68
Reach 1	12927	20	835.00	33.80	41.79	35.83	41.81	0.000187	1.17	765.48	163.86	0.09	0.06	126.49
Reach 1	12927	25	683.00	33.80	41.11	35.64	41.13	0.000160	1.09	661.71	142.30	0.08	0.05	115.36
Reach 1	12927	30	565.00	33.80	40.59	35.49	40.60	0.000134	0.99	591.39	126.58	0.07	0.04	105.25
Reach 1	12927	35	476.00	33.80	40.08	35.36	40.10	0.000127	0.92	529.46	119.74	0.07	0.04	103.14
Reach 1	12927	40	405.00	33.80	39.62	35.26	39.63	0.000123	0.86	475.24	113.86	0.07	0.04	101.18
Reach 1	12927	45	345.00	33.80	39.20	35.16	39.21	0.000119	0.81	428.23	104.47	0.07	0.03	99.41
Reach 1	12927	50	297.00	33.80	38.88	35.08	38.89	0.000115	0.75	397.39	95.79	0.06	0.03	98.08
Reach 1	12927	55	259.00	33.80	38.64	35.00	38.65	0.000113	0.69	374.66	94.91	0.06	0.03	97.07
Reach 1	12927	60	225.00	33.80	38.41	34.94	38.42	0.000109	0.64	352.60	94.05	0.06	0.03	96.07
Reach 1	12927	65	196.00	33.80	38.17	34.89	38.18	0.000107	0.59	330.52	93.18	0.06	0.02	95.07
Reach 1	12927	70	171.00	33.80	37.95	34.83	37.95	0.000104	0.55	309.48	92.34	0.05	0.02	94.11
Reach 1	12927	75	147.00	33.80	37.72	34.76	37.73	0.000101	0.51	288.96	91.51	0.05	0.02	93.16
Reach 1	12927	80	123.00	33.80	37.46	34.69	37.47	0.000097	0.46	265.17	90.54	0.05	0.02	92.05
Reach 1	12927	85	101.00	33.80	37.19	34.60	37.19	0.000096	0.42	240.25	89.52	0.05	0.02	90.87
Reach 1	12927	90	77.50	33.80	36.87	34.51	36.87	0.000091	0.37	212.09	88.35	0.04	0.01	89.52
Reach 1	12927	91	72.10	33.80	36.79	34.48	36.79	0.000089	0.35	204.91	88.05	0.04	0.01	89.17
Reach 1	12927	92	67.00	33.80	36.71	34.46	36.71	0.000088	0.34	198.17	87.77	0.04	0.01	88.85
Reach 1	12927	93	60.80	33.80	36.61	34.43	36.61	0.000087	0.32	189.39	87.40	0.04	0.01	88.42
Reach 1	12927	94	54.30	33.80	36.52	34.40	36.52	0.000087	0.30	181.31	87.05	0.04	0.01	88.03
Reach 1	12927	95	48.00	33.80	36.41	34.37	36.41	0.000087	0.28	172.16	86.66	0.03	0.01	87.58
Reach 1	12927	96	42.40	33.80	36.30	34.34	36.30	0.000087	0.26	162.61	86.26	0.03	0.01	87.11
Reach 1	12927	97	35.70	33.80	36.16	34.30	36.16	0.000085	0.24	150.18	85.72	0.03	0.01	86.50
Reach 1	12927	98	26.40	33.80	35.92	34.24	35.92	0.000085	0.20	129.68	84.83	0.03	0.01	85.47
Reach 1	12927	99	17.50	33.80	35.62	34.17	35.62	0.000085	0.17	104.15	83.71	0.03	0.01	84.19
Reach 1	12927	99.5	11.30	33.80	35.26	34.12	35.26	0.000101	0.15	74.98	80.99	0.03	0.01	81.32
Reach 1	12927	99.75	8.52	33.80	35.07	34.09	35.07	0.000117	0.14	59.86	78.69	0.03	0.01	78.97
Reach 1	12927	100	3.30	33.80	34.59	34.01	34.59	0.000190	0.13	25.23	54.10	0.03	0.01	54.26
Reach 1	10508	1	4410.00	30.63	49.00	38.38	49.01	0.000139	1.20	12759.82	3628.32	0.06	0.10	153.31
Reach 1	10508	5	2160.00	30.63	45.60	36.41	45.61	0.000178	1.16	4450.96	1278.65	0.07	0.09	153.31
Reach 1	10508	10	1440.00	30.63	43.64	35.58	43.66	0.000232	1.25	1941.24	818.44	0.09	0.09	152.26
Reach 1	10508	15	1060.00	30.63	42.24	35.06	42.26	0.000243	1.26	1235.82	570.41	0.09	0.08	139.18
Reach 1	10508	20	839.00	30.63	41.32	34.71	41.34	0.000227	1.23	885.98	447.42	0.09	0.07	124.99
Reach 1	10508	25	686.00	30.63	40.67	34.45	40.70	0.000213	1.17	692.39	321.43	0.09	0.06	117.76
Reach 1	10508	30	569.00	30.63	40.18	34.23	40.20	0.000193	1.09	572.99	215.99	0.09	0.06	110.10
Reach 1	10508	35	479.00	30.63	39.69	34.04	39.71	0.000178	1.02	488.60	159.86	0.08	0.05	102.85
Reach 1	10508	40	407.00	30.63	39.23	33.86	39.25	0.000164	0.96	423.02	92.37	0.08	0.05	96.21
Reach 1	10508	45	348.00	30.63	38.82	33.69	38.84	0.000126	0.90	388.27	77.03	0.07	0.04	80.70
Reach 1	10508	50	299.00	30.63	38.52	33.53	38.53	0.000114	0.82	365.29	74.40	0.07	0.03	77.93
Reach 1	10508	55	260.00	30.63	38.29	33.35	38.30	0.000107	0.75	348.17	73.69	0.06	0.03	77.07
Reach 1	10508	60	227.00	30.63	38.07	33.11	38.08	0.000100	0.68	332.03	73.02	0.06	0.03	76.26
Reach 1	10508	65	197.00	30.63	37.85	32.92	37.85	0.000092	0.62	315.92	72.34	0.05	0.02	75.44
Reach 1	10508	70	172.00	30.63	37.63	32.77	37.63	0.000086	0.57	300.18	71.66	0.05	0.02	74.63
Reach 1	10508	75	148.00	30.63	37.42	32.62	37.42	0.000078	0.52	285.08	70.98	0.05	0.02	73.82
Reach 1	10508	80	124.00	30.63	37.18	32.46	37.18	0.000070	0.46	268.08	70.19	0.04	0.02	72.88
Reach 1	10508	85	101.00	30.63	36.92	32.31	36.92	0.000062	0.40	249.96	69.49	0.04	0.01	71.99
Reach 1	10508	90	78.40	30.63	36.62	32.13	36.62	0.000052	0.34	229.37	68.97	0.03	0.01	71.19
Reach 1	10508	91	73.00	30.63	36.54	32.08	36.54	0.000050	0.33	224.03	68.83	0.03	0.01	70.98
Reach 1	10508	92	68.00	30.63	36.47	32.04	36.47	0.000048	0.31	219.05	68.70	0.03	0.01	70.79
Reach 1	10508	93	61.90	30.63	36.37	31.98	36.38	0.000045	0.29	212.58	68.53	0.03	0.01	70.54
Reach 1	10508	94	55.50	30.63	36.28	31.92	36.29	0.000043	0.27	206.47	68.37	0.03	0.01	70.30
Reach 1	10508	95	49.20	30.63	36.20	31.86	36.20	0.000040	0.25	200.51	67.91	0.03	0.01	69.78
Reach 1	10508	96	43.50	30.63	36.10	31.80	36.10	0.000037	0.22	193.80	67.24	0.02	0.01	69.07
Reach 1	10508	97	36.80	30.63	35.96	31.72	35.96	0.000033	0.20	184.76	66.34	0.02	0.01	68.09
Reach 1	10508	98	27.30	30.63	35.73	31.59	35.73	0.000026	0.16	169.82	64.67	0.02	0.00	66.34
Reach 1	10508	99	18.20	30.63	35.45	31.45	35.45	0.000018	0.12	151.58	62.53	0.01	0.00	64.10
Reach 1	10508	99.5	11.70	30.63	35.13	31.32	35.13	0.000011	0.09	132.00	60.15	0.01	0.00	61.61
Reach 1	10508	99.75	8.89	30.63	34.95	31.25	34.95	0.000008	0.07	121.56	58.84	0.01	0.00	60.24
Reach 1	10508	100	3.47	30.63	34.49	31.05	34.49	0.000003	0.04	94.87	55.33	0.00	0.00	56.57
Reach 1	8472	1	4410.00	33.03	48.78	39.89	48.79	0.000065	0.79	20639.87	4743.80	0.04	0.04	157.84
Reach 1	8472	5	2160.00	33.03	45.12	37.69	45.13	0.000178	1.06	5588.26	2667.09	0.07	0.08	157.39
Reach 1	8472	10	1440.00	33.03	42.97	36.83	42.99	0.000295	1.30	2258.55	944.81	0.10	0.10	144.03
Reach 1	8472	15	1060.00	33.03	41.45	36.33	41.48	0.000431	1.48	1199.49	516.10	0.12	0.12	133.67
Reach 1	8472	20	839.00	33.03	40.49	36.01	40.52	0.000539	1.55	785.49	362.76	0.14	0.13	126.52
Reach 1	8472	25	686.00	33.03	39.85	35.77	39.88	0.000608	1.55	589.70	254.36	0.15	0.13	120.23

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	8472	30	569.00	33.03	39.39	35.57	39.42	0.000645	1.52	479.61	226.52	0.15	0.13	112.85
Reach 1	8472	35	479.00	33.03	38.97	35.39	39.00	0.000544	1.47	394.59	175.36	0.14	0.12	91.73
Reach 1	8472	40	407.00	33.03	38.59	35.25	38.62	0.000462	1.41	334.23	147.95	0.13	0.10	77.77
Reach 1	8472	45	348.00	33.03	38.24	35.13	38.27	0.000432	1.35	284.24	135.53	0.12	0.10	72.41
Reach 1	8472	50	299.00	33.03	37.96	35.01	37.98	0.000426	1.26	252.50	94.43	0.12	0.09	71.09
Reach 1	8472	55	260.00	33.03	37.74	34.91	37.76	0.000424	1.17	232.49	91.03	0.11	0.08	70.06
Reach 1	8472	60	227.00	33.03	37.54	34.81	37.56	0.000418	1.09	214.47	87.86	0.11	0.08	69.11
Reach 1	8472	65	197.00	33.03	37.35	34.73	37.36	0.000406	1.01	197.71	84.80	0.10	0.07	68.18
Reach 1	8472	70	172.00	33.03	37.15	34.65	37.16	0.000401	0.95	181.52	73.15	0.10	0.07	67.24
Reach 1	8472	75	148.00	33.03	36.96	34.57	36.98	0.000385	0.87	169.30	64.54	0.10	0.06	66.36
Reach 1	8472	80	124.00	33.03	36.76	34.47	36.77	0.000366	0.80	155.93	63.65	0.09	0.05	65.37
Reach 1	8472	85	101.00	33.03	36.52	34.37	36.53	0.000356	0.72	141.23	62.67	0.08	0.05	64.27
Reach 1	8472	90	78.40	33.03	36.27	34.25	36.27	0.000335	0.63	125.26	61.58	0.08	0.04	63.05
Reach 1	8472	91	73.00	33.03	36.20	34.22	36.21	0.000329	0.60	121.19	61.30	0.08	0.04	62.73
Reach 1	8472	92	68.00	33.03	36.14	34.20	36.14	0.000323	0.58	117.39	61.04	0.07	0.04	62.44
Reach 1	8472	93	61.90	33.03	36.06	34.16	36.06	0.000316	0.55	112.51	60.70	0.07	0.04	62.06
Reach 1	8472	94	55.50	33.03	35.98	34.12	35.98	0.000314	0.52	107.68	60.36	0.07	0.03	61.68
Reach 1	8472	95	49.20	33.03	35.90	34.08	35.91	0.000308	0.48	103.20	60.05	0.06	0.03	61.32
Reach 1	8472	96	43.50	33.03	35.82	34.04	35.82	0.000299	0.44	98.14	59.43	0.06	0.03	60.67
Reach 1	8472	97	36.80	33.03	35.70	33.99	35.71	0.000287	0.40	91.35	58.52	0.06	0.03	59.71
Reach 1	8472	98	27.30	33.03	35.51	33.91	35.51	0.000266	0.34	80.14	57.00	0.05	0.02	58.10
Reach 1	8472	99	18.20	33.03	35.27	33.82	35.27	0.000239	0.27	66.49	55.08	0.04	0.02	56.08
Reach 1	8472	99.5	11.70	33.03	34.99	33.74	34.99	0.000211	0.23	51.81	52.24	0.04	0.01	53.15
Reach 1	8472	99.75	8.89	33.03	34.84	33.69	34.84	0.000196	0.20	44.06	49.64	0.04	0.01	50.53
Reach 1	8472	100	3.47	33.03	34.43	33.47	34.43	0.000143	0.14	25.18	39.74	0.03	0.01	40.54
Reach 1	5339	1	4390.00	33.06	48.59	37.04	48.60	0.000054	0.85	17689.34	3076.30	0.04	0.05	168.77
Reach 1	5339	5	2160.00	33.06	44.56	35.74	44.58	0.000116	1.04	5762.13	2770.93	0.06	0.07	168.77
Reach 1	5339	10	1450.00	33.06	42.07	35.23	42.10	0.000171	1.18	1375.40	824.41	0.08	0.08	166.88
Reach 1	5339	15	1070.00	33.06	40.35	34.90	40.37	0.000184	1.14	946.11	234.51	0.08	0.07	161.68
Reach 1	5339	20	846.00	33.06	39.22	34.69	39.24	0.000203	1.11	760.38	183.96	0.09	0.06	157.69
Reach 1	5339	25	691.00	33.06	38.43	34.53	38.45	0.000218	1.08	639.23	149.33	0.09	0.06	151.09
Reach 1	5339	30	573.00	33.06	37.85	34.41	37.87	0.000233	1.03	553.72	145.46	0.09	0.05	147.04
Reach 1	5339	35	483.00	33.06	37.38	34.30	37.40	0.000248	0.99	486.24	142.20	0.09	0.05	143.64
Reach 1	5339	40	411.00	33.06	37.00	34.21	37.02	0.000258	0.95	432.65	139.28	0.10	0.05	140.62
Reach 1	5339	45	350.00	33.06	36.66	34.13	36.67	0.000267	0.91	385.12	136.35	0.10	0.05	137.60
Reach 1	5339	50	302.00	33.06	36.36	34.06	36.37	0.000291	0.88	344.66	133.81	0.10	0.05	134.97
Reach 1	5339	55	263.00	33.06	36.10	34.00	36.11	0.000328	0.85	310.56	131.63	0.10	0.05	132.72
Reach 1	5339	60	228.00	33.06	35.86	33.94	35.87	0.000356	0.82	279.27	126.78	0.10	0.05	127.81
Reach 1	5339	65	200.00	33.06	35.67	33.90	35.68	0.000386	0.78	254.97	126.07	0.10	0.05	126.98
Reach 1	5339	70	175.00	33.06	35.48	33.86	35.48	0.000427	0.76	230.65	125.35	0.10	0.05	126.14
Reach 1	5339	75	150.00	33.06	35.30	33.81	35.31	0.000459	0.72	208.51	124.69	0.10	0.05	125.37
Reach 1	5339	80	126.00	33.06	35.11	33.76	35.12	0.000488	0.68	185.12	121.60	0.10	0.05	122.16
Reach 1	5339	85	103.00	33.06	34.92	33.71	34.93	0.000504	0.63	162.60	115.27	0.09	0.04	115.70
Reach 1	5339	90	79.70	33.06	34.70	33.66	34.70	0.000552	0.58	137.59	113.23	0.09	0.04	113.54
Reach 1	5339	91	74.60	33.06	34.65	33.65	34.65	0.000566	0.57	131.73	112.86	0.09	0.04	113.15
Reach 1	5339	92	69.40	33.06	34.60	33.63	34.60	0.000581	0.55	125.99	112.51	0.09	0.04	112.77
Reach 1	5339	93	63.40	33.06	34.54	33.62	34.54	0.000601	0.53	119.04	112.07	0.09	0.04	112.30
Reach 1	5339	94	57.30	33.06	34.48	33.59	34.48	0.000621	0.51	112.64	111.67	0.09	0.04	111.87
Reach 1	5339	95	51.10	33.06	34.43	33.57	34.43	0.000642	0.48	106.76	111.30	0.09	0.04	111.47
Reach 1	5339	96	45.30	33.06	34.37	33.55	34.37	0.000665	0.45	100.16	110.88	0.08	0.04	111.02
Reach 1	5339	97	38.40	33.06	34.28	33.51	34.29	0.000704	0.42	90.94	109.90	0.08	0.04	110.01
Reach 1	5339	98	28.60	33.06	34.16	33.45	34.16	0.000729	0.37	77.31	107.23	0.08	0.03	107.32
Reach 1	5339	99	19.10	33.06	34.00	33.39	34.00	0.000804	0.31	60.87	103.91	0.07	0.03	103.99
Reach 1	5339	99.5	12.30	33.06	33.84	33.34	33.85	0.000883	0.27	44.86	100.58	0.07	0.02	100.64
Reach 1	5339	99.75	9.45	33.06	33.77	33.31	33.77	0.000936	0.25	37.40	98.99	0.07	0.02	99.04
Reach 1	5339	100	3.74	33.06	33.57	33.22	33.57	0.001082	0.20	19.09	82.61	0.07	0.02	82.64
Reach 1	3668	1	4390.00	31.23	48.32	37.34	48.37	0.000314	2.01	2872.31	1476.35	0.10	0.26	118.26
Reach 1	3668	5	2160.00	31.23	44.24	35.38	44.28	0.000293	1.62	1568.72	1309.18	0.09	0.17	118.26
Reach 1	3668	10	1450.00	31.23	41.64	34.55	41.67	0.000327	1.61	969.45	632.12	0.11	0.15	112.27
Reach 1	3668	15	1070.00	31.23	39.87	34.03	39.91	0.000381	1.66	684.94	179.78	0.12	0.14	103.99
Reach 1	3668	20	846.00	31.23	38.69	33.68	38.73	0.000436	1.68	511.59	131.69	0.13	0.14	98.70
Reach 1	3668	25	691.00	31.23	37.87	33.42	37.91	0.000459	1.64	422.55	92.30	0.13	0.13	93.86
Reach 1	3668	30	573.00	31.23	37.28	33.22	37.31	0.000461	1.55	369.05	87.46	0.13	0.12	88.87
Reach 1	3668	35	483.00	31.23	36.80	33.04	36.83	0.000457	1.47	327.89	83.54	0.13	0.11	84.83
Reach 1	3668	40	411.00	31.23	36.42	32.89	36.45	0.000438	1.38	296.88	80.47	0.13	0.10	81.66
Reach 1	3668	45	350.00	31.23	36.08	32.76	36.10	0.000416	1.30	269.96	77.70	0.12	0.09	78.81
Reach 1	3668	50	302.00	31.23	35.75	32.66	35.77	0.000422	1.23	244.79	74.87	0.12	0.09	75.90
Reach 1	3668	55	263.00	31.23	35.42	32.56	35.44	0.000462	1.19	220.56	71.91	0.12	0.09	72.86
Reach 1	3668	60	228.00	31.23	35.11	32.46	35.13	0.000494	1.15	198.99	69.17	0.12	0.09	70.05
Reach 1	3668	65	200.00	31.23	34.87	32.39	34.89	0.000508	1.09	182.86	67.11	0.12	0.09	67.93
Reach 1	3668	70	175.00	31.23	34.64	32.31	34.66	0.000522	1.05	167.45	65.08	0.11	0.08	65.85
Reach 1	3668	75	150.00	31.23	34.44	32.23	34.46	0.000509	0.97	154.53	63.33	0.11	0.08	64.05
Reach 1	3668	80	126.00	31.23	34.24	32.15	34.25	0.000483	0.89	141.83	61.56	0.10	0.07	62.22
Reach 1	3668	85	103.00	31.23	34.03	32.07	34.04	0.000457	0.80	129.37	60.09	0.10	0.06	60.70
Reach 1	3668	90	79.70	31.23	33.78	31.97	33.79	0.000424	0.70	114.64	58.49	0.09	0.05	59.02
Reach 1	3668	91	74.60	31.23	33.73	31.95	33.73	0.000414	0.67	111.26	58.12	0.09	0.05	58.63
Reach 1	3668	92	69.40	31.23	33.67	31.92	33.67	0.000404	0.64	107.86	57.74	0.08	0.05	58.24
Reach 1	3668	93	63.40	31.23	33.60	31.90	33.60	0.000392	0.61	103.72	57.28	0.08	0.04	57.75
Reach 1	3668	94	57.30	31.23	33.52	31.86	33.53	0.000384	0.58	99.54	56.81	0.08	0.04	57.26
Reach 1	3668	95	51.10	31.23	33.45	31.83	33.45	0.000381	0.54	95.32	56.33	0.07	0.04	56.76
Reach 1	3668	96	45.30	31.23	33.37	31.79	33.37	0.000370	0.50	91.02	55.84	0.07	0.04	56.24
Reach 1	3668	97	38.40	31.23	33.28	31.75	33.28	0.000344	0.45	85.79	55.23	0.06	0.03	55.61
Reach 1	3668	98	28.60	31.23	33.13	31.68	33.13	0.000290	0.37	77.80	54.30	0.05	0.03	54.63
Reach 1	3668	99	19.10	31.23	32.96	31.61	32.96	0.000221	0.28	68.78	53.22	0.04	0.02	53.50
Reach 1	3668	99.5	12.30	31.23	32.79	31.54	32.79	0.000143	0.21	59.65	52.11	0.03	0.01	52.33
Reach 1	3668	99.75	9.45	31.23	32.71	31.51	32.71	0.000105	0.17	55.61	51.60	0.03	0.01	51.81
Reach 1	3668	100	3.74	31.23	32.47	31.41	32.47	0.000036	0.09	43.41	50.06	0.02	0.00	50.19
Reach 1	3520	1	4350.00	28.77	48.27	35.94	48.33	0.000375	2.17	2972.24	1463.76	0.10	0.31	106.85

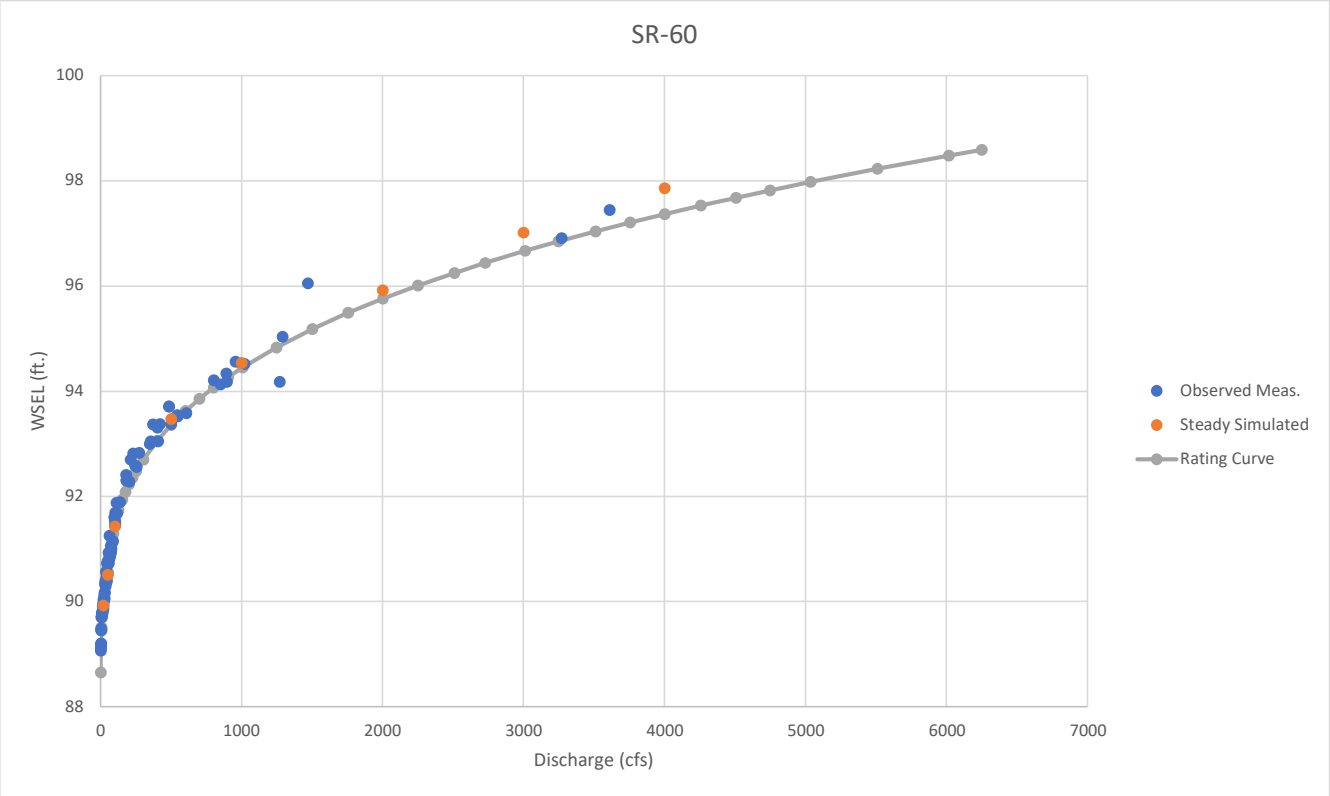
HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

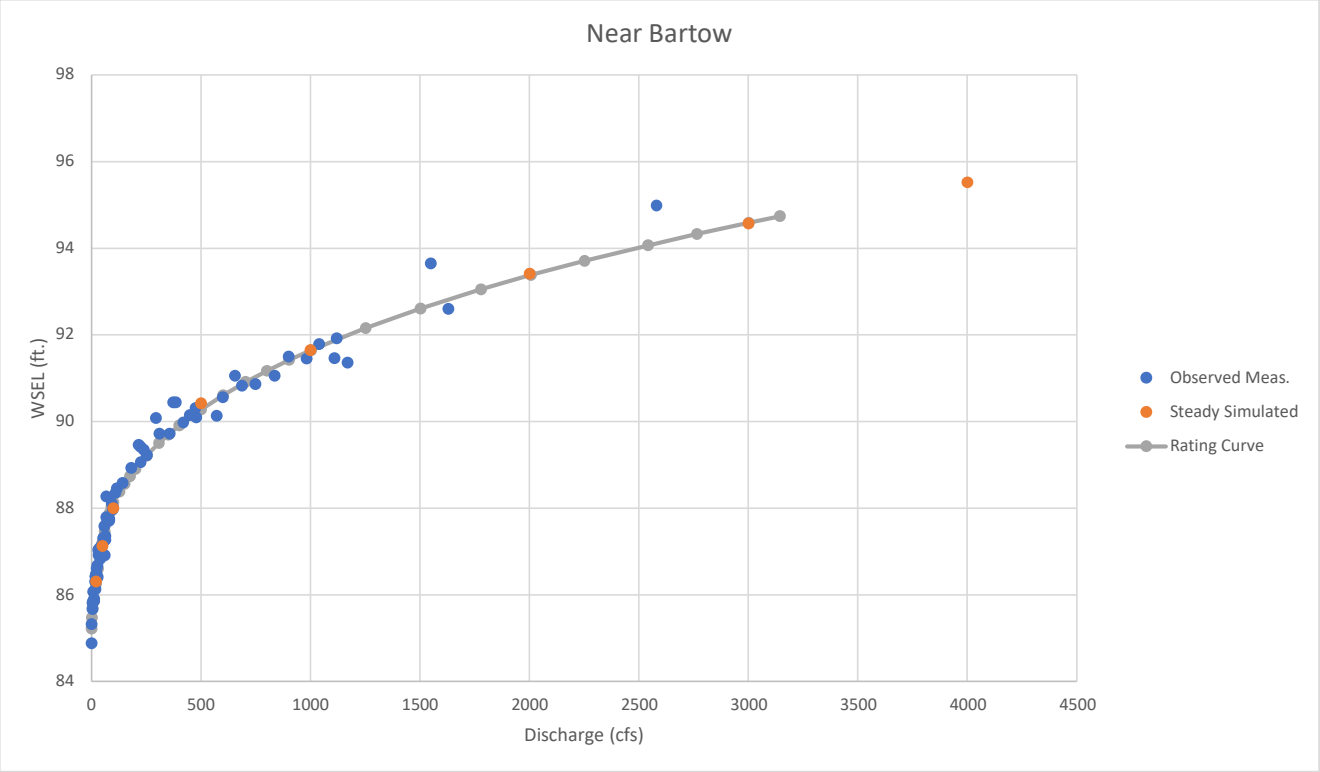
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	3520	5	2150.00	28.77	44.15	33.91	44.21	0.000470	2.06	1199.39	731.41	0.11	0.28	106.85
Reach 1	3520	10	1460.00	28.77	41.56	33.11	41.61	0.000437	1.93	754.95	258.48	0.12	0.20	101.94
Reach 1	3520	15	1080.00	28.77	39.80	32.59	39.85	0.000328	1.78	605.33	78.32	0.11	0.14	86.06
Reach 1	3520	20	852.00	28.77	38.64	32.24	38.68	0.000263	1.64	518.76	70.45	0.11	0.11	77.83
Reach 1	3520	25	696.00	28.77	37.82	31.98	37.86	0.000229	1.50	462.73	67.94	0.10	0.09	74.64
Reach 1	3520	30	578.00	28.77	37.23	31.78	37.26	0.000208	1.37	422.70	67.10	0.10	0.07	73.19
Reach 1	3520	35	487.00	28.77	36.75	31.54	36.78	0.000188	1.25	390.72	66.42	0.09	0.06	72.01
Reach 1	3520	40	414.00	28.77	36.38	31.31	36.40	0.000166	1.13	365.93	65.88	0.08	0.05	71.09
Reach 1	3520	45	353.00	28.77	36.04	31.04	36.06	0.000146	1.03	343.78	65.40	0.08	0.04	70.26
Reach 1	3520	50	304.00	28.77	35.71	30.85	35.73	0.000126	0.94	322.36	64.93	0.07	0.04	69.45
Reach 1	3520	55	265.00	28.77	35.38	30.71	35.39	0.000105	0.88	300.92	64.46	0.07	0.03	68.64
Reach 1	3520	60	229.00	28.77	35.07	30.58	35.08	0.000087	0.81	281.21	64.02	0.07	0.02	67.89
Reach 1	3520	65	201.00	28.77	34.84	30.46	34.85	0.000072	0.76	266.08	63.69	0.07	0.02	67.31
Reach 1	3520	70	176.00	28.77	34.60	30.34	34.61	0.000060	0.70	251.25	63.35	0.06	0.01	66.73
Reach 1	3520	75	151.00	28.77	34.40	30.21	34.41	0.000052	0.63	238.61	63.07	0.06	0.01	66.24
Reach 1	3520	80	127.00	28.77	34.20	30.08	34.21	0.000044	0.56	225.93	62.78	0.05	0.01	65.75
Reach 1	3520	85	104.00	28.77	34.00	29.95	34.00	0.000035	0.49	213.21	62.49	0.05	0.01	65.25
Reach 1	3520	90	81.00	28.77	33.75	29.79	33.76	0.000027	0.41	197.88	62.14	0.04	0.01	64.64
Reach 1	3520	91	76.00	28.77	33.70	29.76	33.70	0.000025	0.39	194.33	62.06	0.04	0.00	64.50
Reach 1	3520	92	71.00	28.77	33.64	29.72	33.64	0.000023	0.37	190.73	61.98	0.04	0.00	64.36
Reach 1	3520	93	65.00	28.77	33.57	29.67	33.57	0.000021	0.35	186.32	61.88	0.04	0.00	64.19
Reach 1	3520	94	59.00	28.77	33.49	29.63	33.50	0.000019	0.32	181.83	61.66	0.03	0.00	63.91
Reach 1	3520	95	53.00	28.77	33.42	29.57	33.42	0.000016	0.30	177.25	61.33	0.03	0.00	63.53
Reach 1	3520	96	47.00	28.77	33.34	29.52	33.34	0.000014	0.27	172.60	60.99	0.03	0.00	63.14
Reach 1	3520	97	40.00	28.77	33.25	29.45	33.25	0.000012	0.24	166.99	60.57	0.03	0.00	62.67
Reach 1	3520	98	30.00	28.77	33.11	29.35	33.11	0.000008	0.19	158.43	59.93	0.02	0.00	61.94
Reach 1	3520	99	20.00	28.77	32.95	29.23	32.95	0.000005	0.13	148.76	59.20	0.01	0.00	61.11
Reach 1	3520	99.5	13.00	28.77	32.78	29.13	32.78	0.000002	0.09	138.90	58.45	0.01	0.00	60.25
Reach 1	3520	99.75	10.00	28.77	32.70	29.08	32.70	0.000002	0.07	134.51	58.11	0.01	0.00	59.86
Reach 1	3520	100	4.00	28.77	32.47	28.96	32.47	0.000000	0.03	120.99	57.06	0.00	0.00	58.66
Reach 1	3440		Bridge											
Reach 1	3284	1	4350.00	32.15	48.07	37.44	48.16	0.000646	2.72	2789.67	1070.20	0.13	0.50	108.01
Reach 1	3284	5	2150.00	32.15	43.99	35.52	44.07	0.000654	2.29	1165.34	692.84	0.13	0.35	106.87
Reach 1	3284	10	1460.00	32.15	41.41	34.78	41.49	0.000590	2.17	672.74	90.14	0.14	0.26	95.72
Reach 1	3284	15	1080.00	32.15	39.67	34.31	39.74	0.000541	2.06	523.16	82.18	0.14	0.20	87.03
Reach 1	3284	20	852.00	32.15	38.52	34.01	38.58	0.000518	1.98	430.97	77.06	0.15	0.17	81.41
Reach 1	3284	25	696.00	32.15	37.71	33.78	37.76	0.000513	1.88	369.81	74.10	0.15	0.15	78.00
Reach 1	3284	30	578.00	32.15	37.11	33.59	37.16	0.000518	1.77	326.46	72.57	0.15	0.14	76.04
Reach 1	3284	35	487.00	32.15	36.64	33.44	36.68	0.000517	1.67	292.20	71.33	0.15	0.13	74.45
Reach 1	3284	40	414.00	32.15	36.27	33.31	36.31	0.000499	1.56	266.09	70.37	0.14	0.11	73.23
Reach 1	3284	45	353.00	32.15	35.94	33.20	35.97	0.000482	1.45	242.92	69.51	0.14	0.10	72.13
Reach 1	3284	50	304.00	32.15	35.62	33.11	35.64	0.000461	1.38	220.61	68.67	0.14	0.09	71.06
Reach 1	3284	55	265.00	32.15	35.29	33.02	35.32	0.000434	1.34	198.39	67.82	0.14	0.08	69.97
Reach 1	3284	60	229.00	32.15	34.99	32.95	35.02	0.000405	1.29	178.14	67.04	0.14	0.07	68.98
Reach 1	3284	65	201.00	32.15	34.76	32.88	34.78	0.000378	1.24	162.72	66.44	0.14	0.06	68.21
Reach 1	3284	70	176.00	32.15	34.53	32.82	34.55	0.000361	1.19	147.52	65.84	0.14	0.05	67.44
Reach 1	3284	75	151.00	32.15	34.33	32.76	34.35	0.000355	1.12	134.62	65.33	0.14	0.04	66.79
Reach 1	3284	80	127.00	32.15	34.13	32.70	34.15	0.000346	1.04	121.76	64.81	0.13	0.04	66.13
Reach 1	3284	85	104.00	32.15	33.94	32.63	33.95	0.000332	0.95	108.97	64.30	0.13	0.03	65.47
Reach 1	3284	90	81.00	32.15	33.69	32.56	33.70	0.000331	0.87	93.42	63.67	0.13	0.03	64.67
Reach 1	3284	91	76.00	32.15	33.64	32.55	33.65	0.000330	0.85	89.83	63.52	0.13	0.03	64.48
Reach 1	3284	92	71.00	32.15	33.58	32.53	33.59	0.000330	0.82	86.19	63.37	0.12	0.03	64.29
Reach 1	3284	93	65.00	32.15	33.51	32.51	33.52	0.000328	0.79	81.76	63.19	0.12	0.03	64.06
Reach 1	3284	94	59.00	32.15	33.44	32.49	33.45	0.000325	0.76	77.26	63.00	0.12	0.02	63.82
Reach 1	3284	95	53.00	32.15	33.37	32.47	33.37	0.000319	0.73	72.69	62.81	0.12	0.02	63.58
Reach 1	3284	96	47.00	32.15	33.29	32.45	33.30	0.000318	0.69	68.00	62.62	0.12	0.02	63.33
Reach 1	3284	97	40.00	32.15	33.20	32.42	33.21	0.000321	0.64	62.29	62.38	0.11	0.02	63.03
Reach 1	3284	98	30.00	32.15	33.06	32.38	33.06	0.000314	0.56	53.64	62.02	0.11	0.02	62.56
Reach 1	3284	99	20.00	32.15	32.91	32.33	32.91	0.000264	0.45	44.16	61.62	0.09	0.01	62.05
Reach 1	3284	99.5	13.00	32.15	32.74	32.29	32.74	0.000264	0.38	33.97	61.19	0.09	0.01	61.50
Reach 1	3284	99.75	10.00	32.15	32.67	32.28	32.67	0.000247	0.34	29.56	61.00	0.09	0.01	61.26
Reach 1	3284	100	4.00	32.15	32.42	32.22	32.42	0.000415	0.28	14.52	60.36	0.10	0.01	60.44
Reach 1	2597	1	4350.00	30.39	47.74	36.34	47.79	0.000386	1.97	4537.98	963.46	0.10	0.27	154.41
Reach 1	2597	5	2150.00	30.39	43.62	34.44	43.67	0.000421	1.81	1514.74	481.67	0.11	0.22	137.13
Reach 1	2597	10	1460.00	30.39	41.06	33.68	41.11	0.000375	1.74	859.38	133.17	0.11	0.17	117.91
Reach 1	2597	15	1080.00	30.39	39.33	33.20	39.37	0.000352	1.67	647.24	110.58	0.12	0.13	106.97
Reach 1	2597	20	852.00	30.39	38.17	32.88	38.21	0.000335	1.61	530.06	96.14	0.12	0.11	98.55
Reach 1	2597	25	696.00	30.39	37.35	32.64	37.38	0.000327	1.54	453.15	90.39	0.12	0.10	92.57
Reach 1	2597	30	578.00	30.39	36.74	32.44	36.77	0.000322	1.45	399.58	86.16	0.12	0.09	88.17
Reach 1	2597	35	487.00	30.39	36.25	32.27	36.28	0.000310	1.36	358.71	82.79	0.11	0.08	84.66
Reach 1	2597	40	414.00	30.39	35.90	32.13	35.93	0.000285	1.25	329.90	80.48	0.11	0.07	82.24
Reach 1	2597	45	353.00	30.39	35.59	32.00	35.61	0.000261	1.16	304.92	78.71	0.10	0.06	80.34
Reach 1	2597	50	304.00	30.39	35.29	31.89	35.31	0.000234	1.08	281.57	77.01	0.10	0.05	78.53
Reach 1	2597	55	265.00	30.39	34.99	31.80	35.01	0.000201	1.02	259.18	75.34	0.10	0.04	76.75
Reach 1	2597	60	229.00	30.39	34.73	31.71	34.74	0.000170	0.96	239.38	73.84	0.09	0.03	75.15
Reach 1	2597	65	201.00	30.39	34.53	31.63	34.54	0.000143	0.89	224.73	72.71	0.09	0.03	73.94
Reach 1	2597	70	176.00	30.39	34.32	31.57	34.33	0.000124	0.84	209.72	71.53	0.09	0.02	72.69
Reach 1	2597	75	151.00	30.39	34.14	31.49	34.15	0.000110	0.77	196.76	70.49	0.08	0.02	71.58
Reach 1	2597	80	127.00	30.39	33.96	31.42	33.96	0.000095	0.69	184.10	69.47	0.07	0.02	70.49
Reach 1	2597	85	104.00	30.39	33.78	31.34	33.78	0.000079	0.61	171.76	68.45	0.07	0.01	69.41
Reach 1	2597	90	81.00	30.39	33.55	31.25	33.55	0.000064	0.52	156.31	67.16	0.06	0.01	68.03
Reach 1	2597	91	76.00	30.39	33.50	31.23	33.50	0.000060	0.50	152.77	66.86	0.06	0.01	67.71
Reach 1	2597	92	71.00	30.39	33.44	31.21	33.45	0.000056	0.48	149.22	66.56	0.06	0.01	67.39
Reach 1	2597	93	65.00	30.39	33.38	31.19	33.38	0.000052	0.45	144.94	66.20	0.05	0.01	67.00
Reach 1	2597	94	59.00	30.39	33.31	31.16	33.32	0.000047	0.42	140.64	65.83	0.05	0.01	66.61
Reach 1	2597	95	53.00	30.39	33.25	31.13	33.25	0.000041	0.39	136.33	65.46	0.05	0.01	66.21
Reach 1	2597	96	47.00	30.39	33.18	31.10	33.18	0.000037	0.36	131.82	65.06	0.04	0.00	65.80
Reach 1	2597	97	40.00	30.39	33.09	31.06	33.10	0.000032	0.32	126.25	64.58	0.04	0.00	65.28

HEC-RAS Plan: UPR_FlowApportion_Narrowed_Final_Fixed River: River 1 Reach: Reach 1 (Continued)

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl	Shear Chan	W.P. Channel
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		(lb/sq ft)	(ft)
Reach 1	2597	98	30.00	30.39	32.97	31.00	32.97	0.000024	0.25	118.14	63.86	0.03	0.00	64.51
Reach 1	2597	99	20.00	30.39	32.84	30.94	32.84	0.000013	0.18	109.83	63.08	0.02	0.00	63.68
Reach 1	2597	99.5	13.00	30.39	32.68	30.88	32.68	0.000007	0.13	100.07	61.74	0.02	0.00	62.29
Reach 1	2597	99.75	10.00	30.39	32.61	30.85	32.61	0.000005	0.10	95.97	61.16	0.01	0.00	61.70
Reach 1	2597	100	4.00	30.39	32.35	30.70	32.35	0.000001	0.05	80.36	58.93	0.01	0.00	59.38
Reach 1	1466	1	4350.00	30.39	47.18	36.47	47.25	0.000401	2.23	2284.43	815.57	0.11	0.33	119.34
Reach 1	1466	5	2150.00	30.39	43.13	34.44	43.18	0.000374	1.81	1335.45	355.64	0.10	0.22	119.34
Reach 1	1466	10	1460.00	30.39	40.59	33.67	40.64	0.000437	1.82	815.53	163.60	0.12	0.18	119.34
Reach 1	1466	15	1080.00	30.39	38.86	33.20	38.91	0.000482	1.79	603.08	111.09	0.14	0.16	113.92
Reach 1	1466	20	852.00	30.39	37.70	32.87	37.75	0.000505	1.77	480.10	102.14	0.14	0.14	104.63
Reach 1	1466	25	696.00	30.39	36.89	32.64	36.93	0.000470	1.73	403.12	88.37	0.14	0.13	90.67
Reach 1	1466	30	578.00	30.39	36.28	32.44	36.32	0.000466	1.64	351.42	82.28	0.14	0.12	84.45
Reach 1	1466	35	487.00	30.39	35.82	32.26	35.85	0.000421	1.55	315.03	74.97	0.13	0.11	77.01
Reach 1	1466	40	414.00	30.39	35.50	32.12	35.53	0.000383	1.42	291.74	73.69	0.13	0.09	75.59
Reach 1	1466	45	353.00	30.39	35.23	32.00	35.25	0.000346	1.30	271.57	72.56	0.12	0.08	74.33
Reach 1	1466	50	304.00	30.39	34.97	31.89	34.99	0.000304	1.20	252.96	71.51	0.11	0.07	73.16
Reach 1	1466	55	265.00	30.39	34.72	31.80	34.74	0.000255	1.13	235.44	70.50	0.11	0.05	72.03
Reach 1	1466	60	229.00	30.39	34.50	31.70	34.52	0.000208	1.04	220.08	69.61	0.10	0.04	71.04
Reach 1	1466	65	201.00	30.39	34.34	31.63	34.35	0.000171	0.96	208.82	68.95	0.10	0.03	70.30
Reach 1	1466	70	176.00	30.39	34.16	31.56	34.17	0.000145	0.90	196.43	68.21	0.09	0.03	69.48
Reach 1	1466	75	151.00	30.39	34.00	31.48	34.01	0.000127	0.81	185.29	67.54	0.09	0.02	68.73
Reach 1	1466	80	127.00	30.39	33.83	31.41	33.84	0.000108	0.73	174.47	66.89	0.08	0.02	68.00
Reach 1	1466	85	104.00	30.39	33.68	31.33	33.68	0.000088	0.63	164.00	66.25	0.07	0.01	67.28
Reach 1	1466	90	81.00	30.39	33.47	31.25	33.47	0.000070	0.54	150.29	65.40	0.06	0.01	66.34
Reach 1	1466	91	76.00	30.39	33.42	31.23	33.42	0.000066	0.52	147.14	65.20	0.06	0.01	66.12
Reach 1	1466	92	71.00	30.39	33.37	31.21	33.38	0.000062	0.49	143.99	65.00	0.06	0.01	65.90
Reach 1	1466	93	65.00	30.39	33.31	31.18	33.32	0.000056	0.46	140.20	64.76	0.06	0.01	65.63
Reach 1	1466	94	59.00	30.39	33.26	31.15	33.26	0.000050	0.43	136.40	64.52	0.05	0.01	65.36
Reach 1	1466	95	53.00	30.39	33.20	31.13	33.20	0.000044	0.40	132.61	64.28	0.05	0.01	65.10
Reach 1	1466	96	47.00	30.39	33.13	31.10	33.14	0.000039	0.37	128.55	64.03	0.05	0.00	64.81
Reach 1	1466	97	40.00	30.39	33.05	31.07	33.06	0.000034	0.32	123.47	63.70	0.04	0.00	64.45
Reach 1	1466	98	30.00	30.39	32.94	31.01	32.94	0.000025	0.26	116.14	63.23	0.03	0.00	63.92
Reach 1	1466	99	20.00	30.39	32.82	30.94	32.82	0.000013	0.18	108.73	62.62	0.02	0.00	63.26
Reach 1	1466	99.5	13.00	30.39	32.67	30.88	32.67	0.000007	0.13	99.48	61.37	0.02	0.00	61.95
Reach 1	1466	99.75	10.00	30.39	32.61	30.85	32.61	0.000005	0.10	95.59	60.83	0.01	0.00	61.39
Reach 1	1466	100	4.00	30.39	32.35	30.70	32.35	0.000001	0.05	80.32	58.68	0.01	0.00	59.16
Reach 1	403	1	4350.00	30.34	46.44	37.05	46.60	0.000926	3.51	1808.38	192.02	0.17	0.80	79.12
Reach 1	403	5	2150.00	30.34	42.56	35.14	42.65	0.000655	2.53	1109.47	159.41	0.14	0.41	79.12
Reach 1	403	10	1460.00	30.34	40.01	34.29	40.09	0.000653	2.38	729.07	139.85	0.15	0.30	79.12
Reach 1	403	15	1080.00	30.34	38.18	33.71	38.27	0.000767	2.37	496.18	116.31	0.17	0.27	79.12
Reach 1	403	20	852.00	30.34	36.91	33.27	37.00	0.000981	2.42	362.99	97.23	0.20	0.27	79.12
Reach 1	403	25	696.00	30.34	35.98	32.93	36.07	0.001348	2.50	278.36	80.20	0.23	0.30	79.12
Reach 1	403	30	578.00	30.34	35.27	32.67	35.37	0.001681	2.57	225.22	71.51	0.25	0.33	72.69
Reach 1	403	35	487.00	30.34	34.77	32.45	34.87	0.001894	2.56	190.51	66.58	0.27	0.33	67.66
Reach 1	403	40	414.00	30.34	34.57	32.27	34.65	0.001659	2.33	177.73	64.67	0.25	0.28	65.72
Reach 1	403	45	353.00	30.34	34.41	32.10	34.48	0.001426	2.11	167.34	63.08	0.23	0.23	64.09
Reach 1	403	50	304.00	30.34	34.28	31.96	34.33	0.001160	1.91	159.18	61.80	0.21	0.18	62.78
Reach 1	403	55	265.00	30.34	34.17	31.85	34.22	0.000877	1.73	152.81	60.78	0.19	0.14	61.74
Reach 1	403	60	229.00	30.34	34.08	31.72	34.12	0.000649	1.56	147.02	59.84	0.18	0.10	60.78
Reach 1	403	65	201.00	30.34	34.00	31.62	34.03	0.000495	1.41	142.58	59.11	0.16	0.07	60.03
Reach 1	403	70	176.00	30.34	33.88	31.54	33.91	0.000398	1.30	135.41	57.58	0.15	0.06	58.48
Reach 1	403	75	151.00	30.34	33.76	31.44	33.78	0.000334	1.18	128.33	55.68	0.14	0.05	56.56
Reach 1	403	80	127.00	30.34	33.64	31.34	33.65	0.000269	1.04	121.76	53.86	0.12	0.04	54.72
Reach 1	403	85	104.00	30.34	33.52	31.24	33.53	0.000205	0.90	115.67	52.11	0.11	0.03	52.95
Reach 1	403	90	81.00	30.34	33.35	31.13	33.36	0.000151	0.76	106.93	49.49	0.09	0.02	50.31
Reach 1	403	91	76.00	30.34	33.31	31.10	33.32	0.000139	0.72	104.96	48.88	0.09	0.02	49.69
Reach 1	403	92	71.00	30.34	33.27	31.08	33.28	0.000127	0.69	103.02	48.28	0.08	0.02	49.08
Reach 1	403	93	65.00	30.34	33.22	31.05	33.23	0.000112	0.65	100.72	47.55	0.08	0.01	48.34
Reach 1	403	94	59.00	30.34	33.17	31.01	33.18	0.000098	0.60	98.46	46.82	0.07	0.01	47.61
Reach 1	403	95	53.00	30.34	33.12	30.98	33.13	0.000084	0.55	96.23	46.09	0.07	0.01	46.87
Reach 1	403	96	47.00	30.34	33.07	30.94	33.07	0.000071	0.50	93.76	45.35	0.06	0.01	46.12
Reach 1	403	97	40.00	30.34	33.00	30.90	33.00	0.000060	0.44	90.60	44.87	0.05	0.01	45.62
Reach 1	403	98	30.00	30.34	32.90	30.82	32.90	0.000042	0.35	86.15	44.18	0.04	0.00	44.90
Reach 1	403	99	20.00	30.34	32.80	30.73	32.80	0.000022	0.24	81.76	43.50	0.03	0.00	44.19
Reach 1	403	99.5	13.00	30.34	32.66	30.65	32.66	0.000011	0.17	75.74	42.54	0.02	0.00	43.18
Reach 1	403	99.75	10.00	30.34	32.60	30.62	32.60	0.000007	0.14	73.20	42.12	0.02	0.00	42.75
Reach 1	403	100	4.00	30.34	32.35	30.51	32.35	0.000002	0.06	62.89	40.41	0.01	0.00	40.96

Converted Steady State Simulated vs. Published Rating Curve Comparison

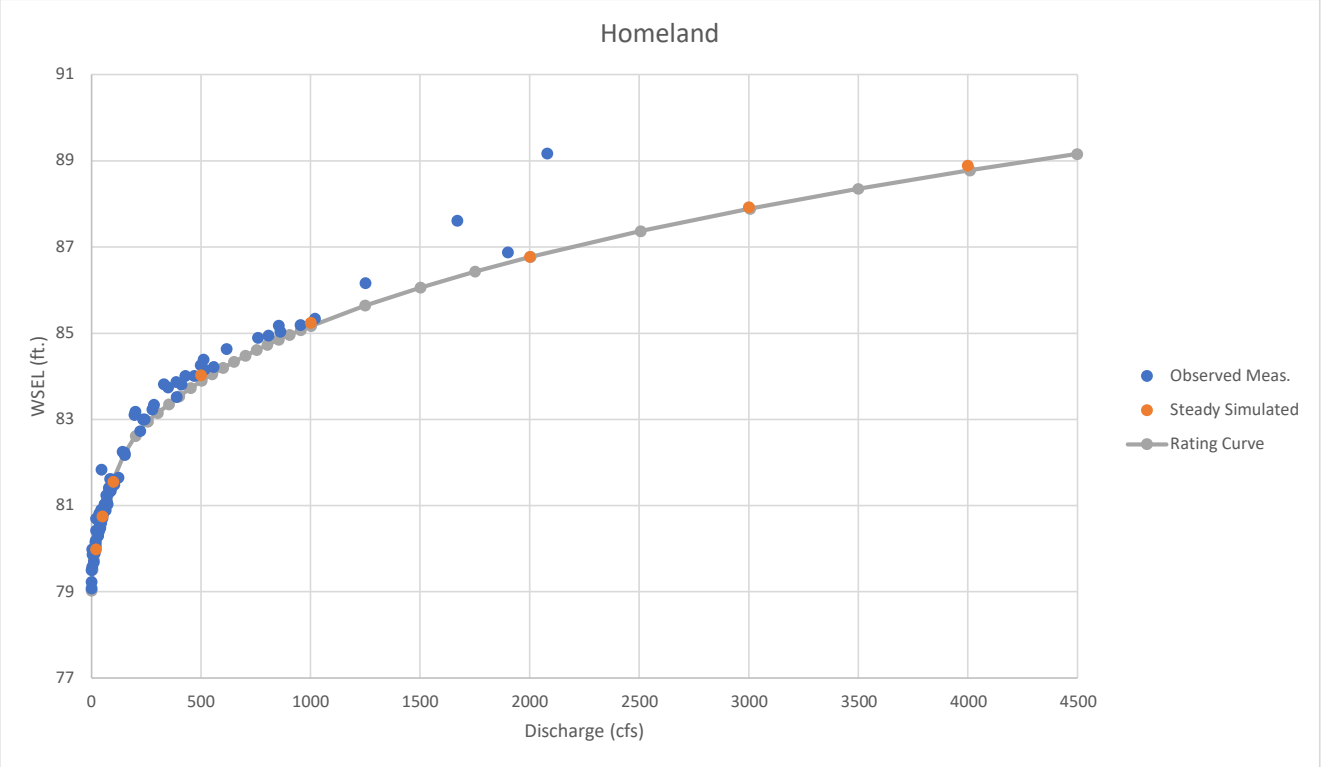




Note: Steady simulated represents the simulated data points from the HEC-RAS model, Observed Meas. is the USGS data points, rating curve is the published USGS rating curve derived from the observed measurement points.

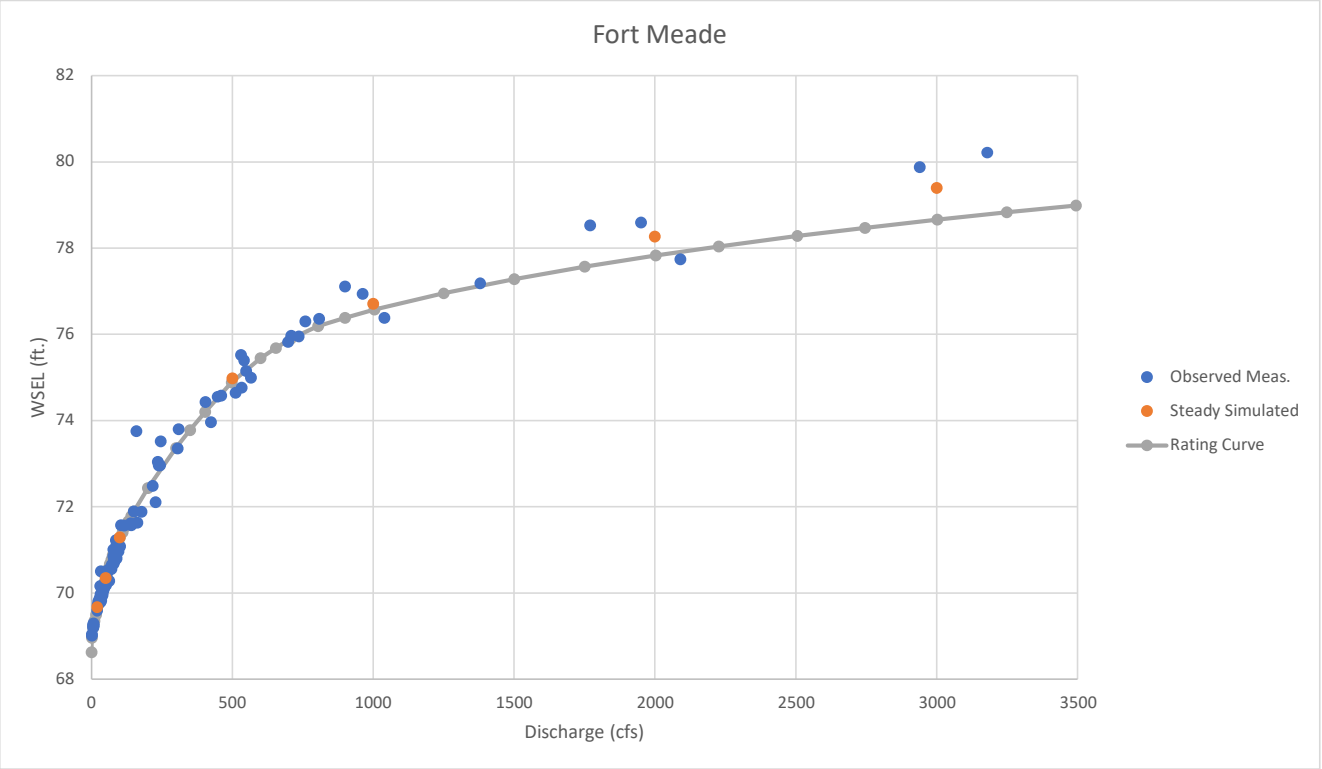
Converted Steady State Simulated vs. Published Rating Curve Comparison

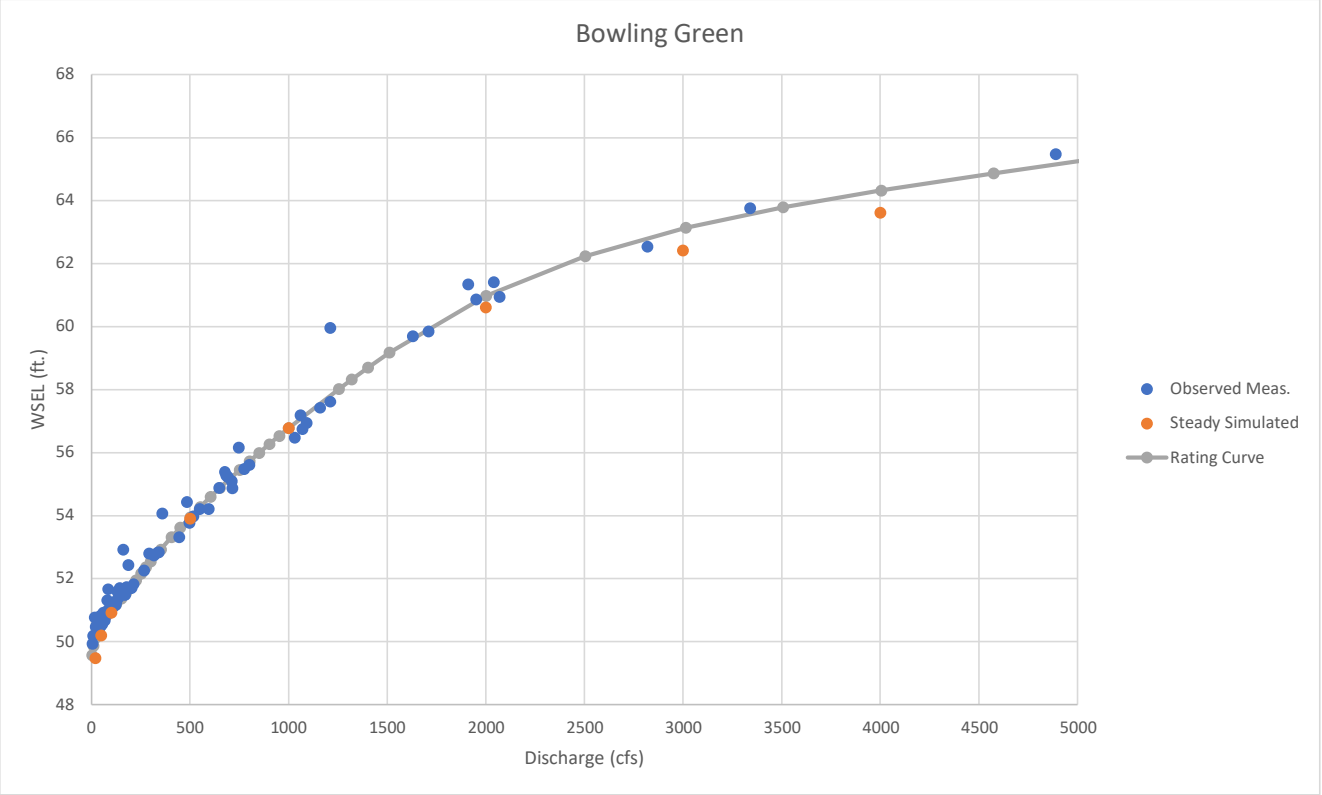




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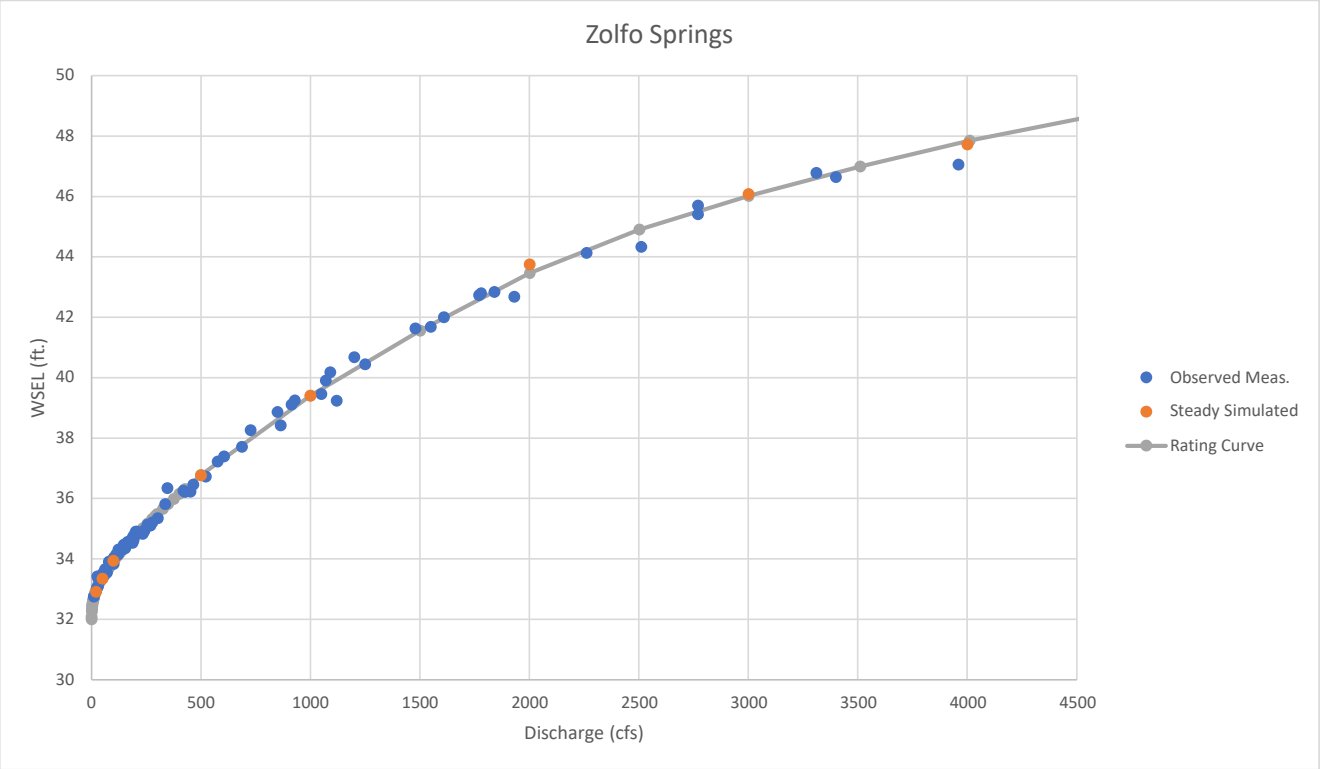
Converted Steady State Simulated vs. Published Rating Curve Comparison





Note: Steady simulated represents the simulated data points from the HEC-RAS model, Observed Meas. is the USGS data points, rating curve is the published USGS rating curve derived from the observed measurement points.

Converted Steady State Simulated vs. Published Rating Curve Comparison



Note: Steady simulated represents the simulated data points from the HEC-RAS model, Observed Meas. is the USGS data points, rating curve is the published USGS rating curve derived from the observed measurement points.