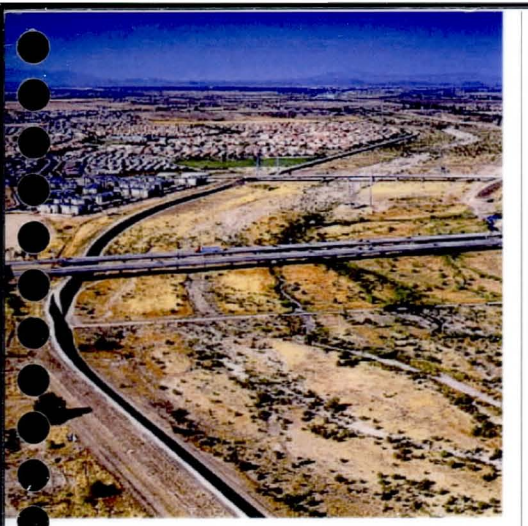
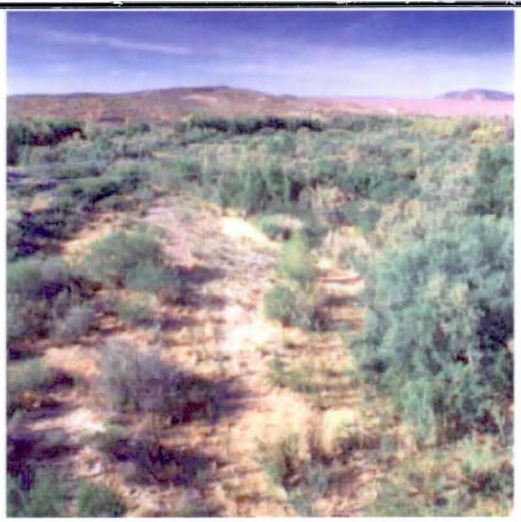
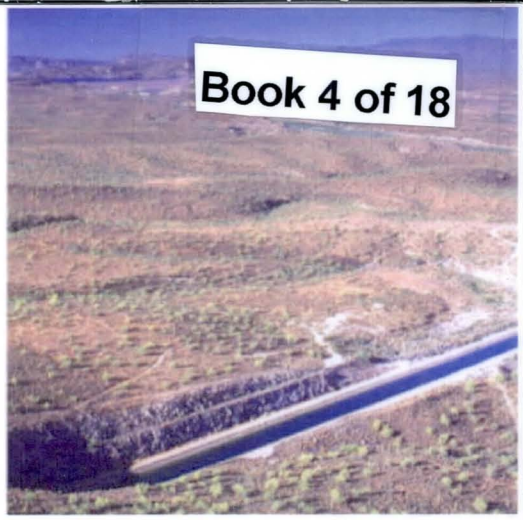

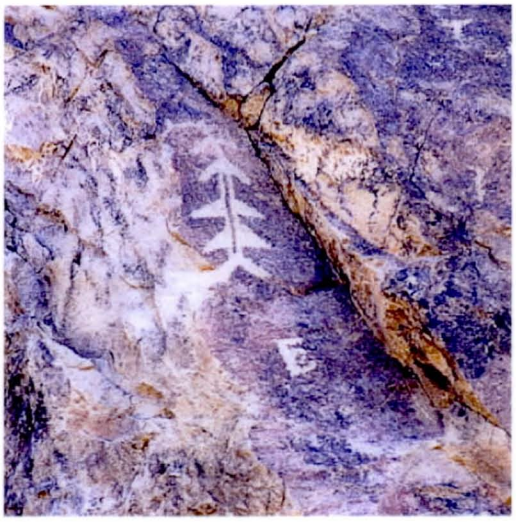

AGUA FRIA
WATERCOURSE MASTER PLAN

Hydraulic Analysis Final Report

Prepared for

Flood Control District

A109.204

November 1, 2001

LTM Engineering, Inc.

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Acknowledgements

This watercourse master plan was prepared by a group of Maricopa County and Consulting professionals dedicated to improving the way we protect people and property from flood damages while meeting the multiple use needs of a growing population. The commitment to this ideal was demonstrated throughout this project by the Maricopa County Board of Supervisors and by leaders of the Flood Control District of Maricopa County. Finally, the plan for the West Valley Recreation Corridor captures the vision of John F. Long — a man who has spent his entire life trying to improve and promote quality of life for families in the West Valley.

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Flood Control District of Maricopa County

Hydraulic Analysis For the Agua Fria Watercourse Master Plan

Final Report

Prepared for: Kimley Horn & Associates, Inc.

November 1, 2001

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1. INTRODUCTION

1.1 Purpose

The Agua Fria Watercourse Master Plan (Watercourse Master Plan) is under development to establish a long-term flood control plan for the river. In addition to flood control, the District is concerned with public safety, conservation of habitat, and incorporation of multi-use recreational facilities. A number of analyses were performed to evaluate the effects of the structural and non-structural elements, as well as the cumulative effects on the river.

A key criterion for evaluating the feasibility of alternatives for the Watercourse Master Plan is the hydraulic response of the river. It is the District's intent to avoid adversely impacting the river's conveyance capacity. Therefore, any structural elements or changes to the vegetation within the river must be evaluated and, if necessary, mitigated. The hydraulic evaluation was performed by LTM Engineering, Inc., and is presented herein.

2. CURRENT PLANNING MODEL

2.1 *Conversion of Regulatory Model*

The District's current Flood Insurance Study (FIS) model was used to form the basis of comparison between current and potential future conditions (CVL, 1996). This model was developed by others using the Corps' HEC-2 Water Surface Profiles program.

Peak flow rates from the FIS model were unchanged for the converted model and are summarized in Table 1.

Table 1
Peak Flow Rates for the Hydraulics Evaluation For the Agua Fria River

River Station	Peak Flow (cfs)	Approximate Location of Flow Change
33.82	9,000	4,000 ft. below dam
33.41	19,000	Morgan City Wash
31.86	21,000	1 mi. S. of SR74
30.46	23,000	
29.04	25,000	
27.77	27,000	
26.37	29,000	
25.098	31,000	0.5 mi. S. of Jomax
23.692	33,000	
22.273	35,000	
20.675	37,500	1.7 mi. N. of Bell Rd.
17.548	36,000	
16.385	34,500	Below Grand Ave.
11.428	30,000	
9.696	54,400	New River
5.305	52,000	I-10
3.77	50,900	Buckeye Rd.

This HEC-2 model was imported into HEC-RAS and the results of both models were compared. The model conversion, while straightforward, exhibited minor variations compared to the HEC-2 model due to differences in computational methods. As a result, the HEC-RAS model was adjusted to better represent conditions within the river. The following primary differences were noted:

- Differences in channel velocities at bridge crossings

- Differences in top widths, typically at locations with sand and gravel operations

It is noted that the focus of the conversion and subsequent adjustments was not to duplicate the current FIS model, but to form a basis for analysis of alternatives in this planning study.

2.2 *Development of Current Planning Model*

The converted model was used as a basis for developing a practical, updated planning model that will be used to develop and compare alternative solutions for the Watercourse Master Plan (**Appendix A**). The Current Planning Model includes recent development and minor modification to the existing levee portions of the study area. The changes are described below.

2.2.1 Recent Development

Aerial photographs, LOMR data, discussions with local jurisdictions, and field investigations were used to identify post-1996 development. Additionally, known proposed developments as of April 2001 were included. Two methods were used to represent the encroachments. For developments based on fill, blocked obstruction records were added to the HEC-RAS model at an assumed elevation of one foot above the floodway water surface elevation. For developments protected by levees, levee records were added. A list of the new developments and their locations are presented in Table 2.

In addition to recent developments, it was discovered that an APS transmission pole and ring dike north of McDowell Road was not included in the 1996 HEC-2 model. This dike has now been added to the model. The District also noted that new transmission poles are being installed in the Agua Fria River near I-10. A question arose as to whether or not the location of the poles with respect to the ring dikes and levees could catch significant debris between the structures. Because the poles are small (7 feet in diameter on drilled piers) relative to the channel cross section, it was agreed to exclude the new poles from the model.

Table 2
Agua Fria Watercourse Master Plan
Inventory of Post-1996 Developments

Name of Development	Approximate Location	Methodology
Unnamed	N. of Greenway, west side	Blocked Obstruction
Arizona Brisas Ph. 2 & 3	NW cor Cactus & 115th Ave., west side	Blocked Obstruction
Sundial IV (Planned Development)	SW cor Cactus & 117th Ave., west side	Levee
Suncliff	N. of Northern, east side	Blocked Obstruction
Glendale Landfill	SE cor Northern & 115th Ave. east side	Levee
Unnamed	S. of Glendale east side	Blocked Obstruction
Glendale Airport	At New River Confluence east side	Blocked Obstruction
Camelback Ranch	South of Camelback Rd., east side	Levee

2.2.2 Modeling of Bridges

Because of differences in the methods used by HEC-2 and HEC-RAS to analyze bridges, a test run was conducted on the Glendale Avenue bridge and the I-10 eastbound and westbound bridges. These two locations were considered to be the most problematic bridges, i.e., those that would produce the greatest differences between the regulatory and planning models with respect to the water surface profile. The HEC-RAS model was re-run with modified bridge data using HEC-RAS methods.

The modified HEC-RAS model results were very similar to those of the HEC-2 model. Therefore, it was concluded that, given the application of the model (planning purposed for the Agua Fria Watercourse Master Plan), additional bridge analysis was not justified. However, the modified modeling procedures for the Glendale Avenue and I-10 bridges were retained in the current planning model.

2.2.3 Levee Modeling

The existing levees along the Agua Fria River had been modeled previously as existing ground (GR records). In some cases, this caused the HEC-RAS program to assume ineffective flow behind the levee. To correct this, levee records were added at the top of the existing levees at each cross section within the levees.

3. HYDRAULIC RESPONSE TO ALTERNATIVES

The hydraulic response of the Agua River focuses on several components of the Watercourse Master Plan:

- Structural Alternative
- Non-Structural Alternative
- Multi-Use Opportunities
- Sand and Gravel Operations
- Recommended Combined Alternative

The methodologies and results are presented below.

3.1 Structural Alternative

The structural alternative consists of completing the existing levee system for the entire river between New Waddell Dam and its confluence with the Gila River. This scenario is hydraulically equivalent to encroaching the floodplain up to the floodway. Therefore, the effect on the river would be identical to that already evaluated in the floodway run of the HEC-RAS model. Since this condition is the basis of regulation for development, no further analysis was required. Therefore, a purely structural alternative would not hydraulically impact the Agua Fria River above what is allowed under current regulations and practices.

3.2 Non-Structural Alternative

The focus of the non-structural alternative is to reduce property damages and loss of life by preserving the natural floodplain and preventing development from encroaching. While the structural alternative represents the upper boundary of impacts of development on the floodplain, the non-structural alternative reflects the lower boundary where the floodplain is allowed to function naturally. The effect is typically lower floodwater depths and velocities since the water is allowed to spread over the floodplain rather than being artificially constricted within the floodway.

Because the river corridor is already partially developed and has existing structures such as bridges and levees, the hydraulic effect of implementing a non-structural alternative would lie somewhere between purely structural and non-structural approaches. Therefore, negative impacts of development (increased water surface elevation, higher velocities) on the system are reduced but not eliminated. For this phase of the

project, only conditions that would negatively affect the river hydraulics are quantified. Therefore, a separate HEC-RAS model was not developed for the non-structural alternative. This task will be performed once the recommended combined alternative has been developed.

3.3 *Multi-Use Opportunities*

Several elements of the multi-use components of the study include changing the vegetative character of portions of the river. The methodology used to evaluate the effects of these changes focuses on corresponding changes to the roughness coefficient, Manning's n, used in the evaluation. Base Manning's n values originally used in the 1996 FIS HEC-2 model varied from 0.3 to 0.5 for the channel and from 0.35 to 0.15 in the overbanks.

A procedure was developed to modify the roughness coefficient in the channel where changes to the vegetation were being considered. The procedure was based on the U.S. Geological Survey's "Estimating Manning's Roughness Coefficients for Stream Channels and flood Plains in Maricopa County, Arizona: (Thomsen and Hjalmarson, 1991).

3.3.1 Vegetative Methodology

The USGS' procedure requires the selection of a base n value assuming a straight, uniform channel of a given bed material. The base value is then increased according to the degree of channel irregularity, obstructions, and vegetation to create a composite n value.

Using the USGS' methodology, adjustments to the n values could be made to reflect increases of individual components. For this analysis, adjustments were made to reflect increased vegetation (ground cover such as grasses, bushes, and tree seedlings) and obstructions (trees). Trees were not included in the vegetation component because their effect on the river hydraulics fit the USGS definition of obstructions better.

3.3.1.1 Trapezoidal Channel (Grand Avenue to the CAP Crossing)

A trapezoidal channel was assumed along the Agua Fria River from Grand Avenue to the CAP Crossing. The "low flow" portion will accommodate about half of the 100-year flow. The remaining flow will be contained by a larger cross section that contains a flat "bench" portion.

A landscaped trail would be located along the bench section. It was assumed that ground cover and trees would occupy about

40% of the trail. Of this, 2/3 would be ground cover and 1/3 would be trees.

A base n value of 0.30 was selected to represent this constructed trail along the bench. The n value was increased for ground vegetation and tree obstructions as follows:

Vegetation: The adjustment for small amounts of vegetation ranges from 0.002 to 0.010. This includes dense growths of flexible turf grass where the depth of flow is at least two times the height of grass or supple tree seedlings. Of the 40% cover assumed, about 2/3 would be from ground cover, or 25%. An adjustment of .007 was selected

Obstructions: The adjustment for minor obstructions ranges from 0.005 to 0.015. This range represents a 5-15% obstruction. Of the 40% assumed cover, about 1/3 would be trees, or 15%. Therefore, the higher value of 0.015 was selected.

Then:

$$n = n_b + n_v + n_o$$

$$= .03 + .007 + .015 = 0.052$$

3.3.1.2 *Landscaped Trail*

To account for additional vegetation in a trail setting, a 100-foot wide landscaped section was analyzed extending along the entire length of the Agua Fria River. Vegetative treatment was assumed to be similar to that used in the trapezoidal channel described above. Therefore, the n value for the landscape within the plated levee would also be 0.052.

3.3.1.3 *Plated Levee*

Another element of the non-structural alternative was to plate the existing levee in a portion of the lower reach of the Agua Fria with soil at a gentler slope to allow pedestrian access from adjacent neighborhoods. The plate would extend approximately 0.5 mile from Coldwater Park near Buckeye Road north to the I-10 Riparian section 0.5 mile south of Van Buren Street. The plated levee was modeled by moving the toe of the existing levees inward so that the sideslope was decreased to about 6 (horizontal) to 1 (vertical).

Additionally, vegetative treatment was assumed to be added similar to that used in the trapezoidal channel and landscaped trail described previously. Therefore, the n value for the landscape within the plated levee would also be 0.052.

3.3.1.4 *Hydric Riparian Habitat Near I-10*

Tree plantings are being proposed by others in areas upstream and downstream of I-10. Therefore, a riparian section was assumed to extend from 0.5 mile south of Van Buren Street to McDowell Road. To account for the effects on the water surface profile, a hydric riparian habitat was assumed. Total ground cover and vegetation was assumed to cover 70%. Of the 70% cover assumed, about 60% would be from ground cover and 40% from trees.

The channel cross section is uniform in this section and was modeled in the 1996 FIS study with an n value of 0.03. To accommodate the additional trees, the n value would be increased for tree obstructions and ground vegetation as follows:

Vegetation: The adjustment for medium amounts of vegetation ranges from 0.01 to 0.025. This includes grass where the depth of flow is 1-2 times the height of grass or supple tree seedlings. Of the 70% cover assumed, about 60% would be from ground cover, or 40%. An adjustment of .015 was selected.

Obstructions: The adjustment for appreciable obstructions ranges from 0.02 - 0.03. This range represents 15-50% obstruction. Of the 70% assumed cover, about 40% would be trees, or 30%. A value of 0.022 was selected.

Then:

$$n = n_b + n_v + n_o$$

$$= .03 + .015 + .022 = 0.067$$

3.3.2 Results of Multi-Use Analysis

The Watercourse Master Plan allows for non-flood overlays that would meet its multi-use goals. However, the non-flood overlays must be evaluated to determine their effects on the hydraulic response of the river. Therefore, the n values in the HEC-RAS model were modified according to the procedures identified above and the model was re-run to evaluate their effects. Separate runs were made in order to evaluate river response to each of the components. Hydraulic response for each component is described below.

3.3.2.1 *Effects of Trapezoidal Channel*

A trapezoidal channel from Grand Avenue to the CAP Crossing was analyzed using the channel improvement option within HEC-RAS. The resulting incised channel includes a bottom section that would contain about half of the 100-year flow. The top portion, which includes a benched section to accommodate a trail, would contain the remainder of the 100-year flow.

Because the channel would contain all of the 100-year flow, it was not necessary to perform further analysis on the hydraulic impacts from a regulatory standpoint. Rather, criteria such as economics and public safety were considered to be overriding factors and are evaluated separately. Therefore, no further hydraulic evaluation was performed for this component.

3.3.2.2 *Effects of Landscaped Trail*

The effect of a 100-foot wide landscaped trail on the floodplain was analyzed. It was found that within the lower reach of the study area (Gila River confluence to New River confluence), increases in the water surface elevation were limited to 0.20 feet or less and increases in top width were insignificant except at the confluence with the Gila River.

Increases in flow depth in the middle reach were consistently between 0.2 and 0.5 foot with several locations exceeding a 1-foot rise north of Glendale Avenue and south of Grand Avenue. Increases in top widths of more than 100 feet were noted at several locations between Glendale and Olive Avenues.

In the upper reach, increases in water surface elevation between 0.20 and 0.50 occurred fairly consistently, with top widths exceeding 100 feet north of Grand Avenue and at several locations between Jomax Road and the Beardsley Canal. A summary of the effect on the floodplain is presented in **Appendix B**.

3.3.2.3 *Effects of Plated Levee*

As described previously, the plated and landscaped levee would extend approximately 0.5 mile from Coldwater Park near Buckeye Road to 0.5 mile south of Van Buren Street. Channel n values were increased accordingly from 0.03 in the original FIS HEC-2 model to 0.052. It was established that the computed water surface elevation must match pre-landscape conditions to within 0.10 foot at Camelback Road in order to be considered feasible. Camelback Road is about 4.5 miles upstream of the proposed plated and landscaped levee.

Results of the analysis showed that computed water surface elevations rose within the plated section by as much as 3.5 feet, and met the 0.10-foot rise criterion within 1 mile upstream of the plated section. This is well below the 4.5-mile distance to Camelback Road.

The channel velocities generally decreased, typically by 1-2 feet per second (fps). However, velocities in this portion of the river under existing conditions are typically 7-9 fps. Therefore, it may be difficult to anchor plantings under the velocity conditions without additional low-flow protection and the understanding that vegetation would be lost under high-flow conditions.

3.3.2.4 Effects of I-10 Riparian Habitat

Hydric riparian habitat was assumed to be placed a distance of one mile, from the north end of the potential plated levee section 0.5 mile south of Van Buren Street to McDowell Road.

As with the plated levee scenario, it was established that the computed water surface elevation must match pre-riparian conditions to within 0.10 foot at Camelback Road in order to be considered feasible. Camelback Road is more than three miles upstream of the proposed riparian section.

Results of the analysis showed that computed water surface elevations rose within the riparian section by as much as 3.7 feet, but met the 0.10-foot rise criterion within 0.8 mile upstream of the riparian section. This is well below the 3-mile distance to Camelback Road.

Channel velocities in this section were reduced significantly in the riparian section, ranging typically from 6-10 fps to 4-5 fps.

A summary of the effects of both the plated levee and the riparian section on the 100-year floodplain is presented in **Appendix C**.

3.4 Effects of Multi-Use Opportunities on Levee Operations

A key criterion in determining the feasibility of non-flood overlay features is that the computed water surface elevations not violate the freeboard requirements of three feet within the existing levees under the flow regime of the 1989 Standard Project Flood (SPF). As part of the local cooperative agreement with the US Army Corps of Engineers (Corps), it was agreed that the flood carrying capacity of the structure would not be

impacted. Assuming that the flood carrying capacity is tied to current estimates (post New Waddell dam construction) for the SPF, this analysis was undertaken. The purpose of this analysis is to provide the District and the Corps with a preliminary assessment of restoration feasibility in the vicinity of the I-10 outfall channel. The 1989 SPF flow rates within the levees are as follows:

River Station	Approximate Location	Flow Rate
8.03	Indian School Road	102,000
5.305	I-10	99,000
3.77	Buckeye Road	97,000
0.16	Confluence with Gila River	92,000

3.4.1 Current Levee Conditions

The Current Planning Model was analyzed using the 1989 SPF peak flows to establish a baseline to analyze the effect on freeboard in the levee section of changes to the watercourse. The Current Planning Model is the converted regulatory HEC-2 model updated to include recent development.

Results of the analysis showed that under existing conditions, the 3-foot freeboard requirement is not met in two places:

- East Levee at Buckeye Road (Freeboard ~ 2.7 feet)
- East and West Levee downstream of Indian School Road (Freeboard ~ 1.9 feet)

Additionally, as expected, the freeboard criterion is not met at the ends of both levees as they transition to natural ground and at I-10 where the levee is lowered to accommodate flows from the I-10 channel.

Attempts were made to verify the elevations of the top of levee due to uncertainties in the 1996 FIS levee elevation data. The District provided recent elevation data for the verification task. An exact comparison could not be made because current spot elevation locations did not coincide with previous cross section locations. However, an approximate comparison was made and differences in elevations were found, both positive and negative.

The condition of concern is where recent elevations are lower than that previously assumed in the 1996 FIS model. The locations with this condition were evaluated with respect to available freeboard under the riparian and plated levee scenarios, and it was found that freeboard was further compromised at two additional locations:

- East levee immediately upstream of I-10
- West levee immediately downstream of McDowell Road

At both of these locations, the difference in elevation between the 1996 FIS model and recent spot elevation data is about 8 feet. It is noted that this significant difference in elevation could be explained by the proximity of I-10 and McDowell Road where changes in elevation can be dramatic depending on the location of the cross section versus the spot elevations.

3.4.1.1 *Effects of Plated Levee (Buckeye Road to 0.5 Mile South of Van Buren Street)*

An element considered as part of the non-structural alternative was to plate the existing levee in a portion of the lower reach of the Agua Fria with soil at a gentler slope to allow pedestrian access from adjacent neighborhoods. The plate would extend approximately 0.5 mile from Coldwater Park near Buckeye Road north to the I-10 Riparian section 0.5 mile south of Van Buren Street. The plated levee was modeled by moving the toe of the existing levees inward so that the sideslope was decreased to about 6 (horizontal) to 1 (vertical). Additionally, isolated riparian vegetative treatment was assumed to be added. For this analysis, isolated riparian conditions were defined as 40% ground cover. Of the 40%, 2/3 would be ground cover and 1/3 would be trees Therefore, the n value for the landscape within the plated levee would also be 0.052.

It was established that the computed water surface elevation must match pre-landscape conditions to within 0.10 foot at Camelback Road in order to be considered feasible. Camelback Road is about 4.5 miles upstream of the proposed plated and landscaped levee. Results of the analysis showed that computed water surface elevations rose within the plated section by as much as 3.5 feet, and met the 0.10-foot rise criterion within 1 mile upstream of the plated section. This is well below the 4.5-mile distance to Camelback Road. The channel velocities generally decreased, typically by 1-2 feet per second (fps). However, velocities in this portion of the river under existing conditions are typically 7-9 fps. Therefore, it may be difficult to anchor plantings under the velocity conditions without additional low-flow protection and the understanding that the vegetation and the plating would be lost under high-flow conditions.

Although the plated levee section met the criterion of matching pre-landscape conditions at Camelback Road, the 3-foot freeboard requirement was not met for most of the section.

Freeboard dropped at Buckeye Road to as low as 1.9 feet, but was generally between 2 and 3 feet within the section. This is slightly lower that the current typical freeboard of 2.7 feet described earlier in this memorandum.

3.4.1.2 *Effects of Hydric Riparian Habitat (0.5 Mile South of Van Buren St. to McDowell Rd.)*

Tree plantings are being proposed by the District, Avondale, and the Corps in areas upstream and downstream of I-10. Therefore, a riparian section was assumed to extend a distance of one mile, from the north end of the potential plated levee section 0.5 mile south of Van Buren Street to McDowell Road. To account for the effects on the water surface profile, a densely vegetated hydric riparian habitat was assumed which would serve as a reasonable boundary condition for maximum roughness. For this analysis, hydric riparian conditions were defined as 70% total ground cover. Of the 70% cover assumed, about 60% would be from ground cover and 40% from trees. As with the plated levee scenario, it was established that the computed water surface elevation must match pre-riparian conditions to within 0.10 foot at Camelback Road in order to be considered feasible. Camelback Road is more than three miles upstream of the proposed riparian section.

Results of the analysis showed that computed water surface elevations rose within the riparian section by as much as 5.3 feet, but met the 0.10-foot rise criterion within 0.8 mile upstream of the riparian section. This is well below the 3-mile distance to Camelback Road. Channel velocities in this section were reduced significantly in the riparian section, ranging typically from 6-11 fps to 6-7 fps.

Similar to the plated levee scenario, the 3-foot freeboard requirement was not met for most of the riparian scenario. South of Van Buren Street, freeboard dropped to between 1.9 and 3 feet. North of McDowell Road, freeboard ranged from 1 to 3 feet.

3.4.1.3 *Effects of Isolated Riparian Habitat (0.5 Mile South of Van Buren St. to I-10 Channel)*

A second scenario of riparian habitat was analyzed to evaluate the effect on freeboard of a less dense, or isolated riparian, habitat. A palate similar to that used in the plated levee scenario was assumed. Additionally, the isolated riparian section was terminated just upstream of the I-10- channel instead of just north of McDowell Road assumed in the hydric riparian scenario

The modified vegetative palate and shortened section resulted in the elimination of compromised freeboard south of Van Buren Street. In addition, compromised freeboard at McDowell Road was essentially eliminated. Only one cross section fell below the 3-foot freeboard requirement at 2 feet. In general this modified restoration reach would appear to be feasible.

Summaries of the freeboard and levee elevation analyses are presented in **Appendix D**.

3.5 *Sand and Gravel Operations*

A policy has been proposed to address potential negative impacts on the Agua Fria River from sand and gravel mining operations. The policy includes the following:

- Disallow mining within the regulatory floodway
- Require construction of levees at the edge of the pits
- Require that the pits accept floodwaters in excess of the 50-year flood
- Allow mining to the depth of the thalweg that was established in 1987

A HEC-RAS model was prepared to establish the limits of the 50-year flood requirement and was compared to the regulatory (encroached 100-year) floodway. It was assumed that the 100-year flow is contained within the floodway and that the mines would be continuous on both sides of the river between Camelback Road and the CAP Canal. It is envisioned that spillways would be constructed along the mine levees such that they would accept runoff in excess of the 50-year flow.

Peak 50-year flow rates were taken from the Corps' "Agua Fria River Study, New Waddell Dam to Gila River Confluence, Arizona" (Corps, 1996). However, the Corps peak flow rates did not take into account significant flow contributions in the upper reaches of the Agua Fria River such as from the Morgan City Wash watershed. Therefore, between Bell Road and New Waddell Dam, a ratio of the Corps' peak 50- and 100-year flow rates at the Gila River confluence was applied:

$$\frac{\text{Peak 50-Year}}{\text{Peak 100-Year}} = \frac{35{,}000}{48{,}200} = \mathbf{0.73}$$

Using this combined methodology of Corps flows and ratios, peak flow rates within the study area were estimated and are presented below.

Peak Flow Rates for the Sand & Gravel Evaluation For the Agua Fria River Watercourse Master Plan

River Station	100-Year Peak Flow (cfs)	Corps 50-Year Peak Flow (cfs)	Interpolated 50-Year Peak Flow * (cfs)	Approximate Location of Flow Change
33.82	9,000	9,000		4,000 ft. below dam
33.41	19,000		13,800	Morgan City Wash
31.86	21,000		15,250	1 mi. S. of SR74
30.46	23,000		16,700	
29.04	25,000		18,150	
27.77	27,000		19,610	
26.37	29,000		21,060	
25.098	31,000		22,510	0.5 mi. S. of Jomax
23.692	33,000		23,960	
22.273	35,000		25,410	
20.675	37,500	29,000		Bell Road
16.385	34,500	26,500		Below Grand Ave.
11.428	30,000	23,000		
9.696	54,400	39,000		New River
5.305	52,000	38,000		I-10
3.77	50,900	37,000		Buckeye Rd.

* Interpolated flow derived as a ratio of 0.73 times the 100-year peak flow.

The results of the hydraulic analysis were tabulated and graphed in approximately two-mile segments and are included as **Appendix E**. Differences in water surface elevations between the 50-year Sand and Gravel Alternative and 100-year encroached condition were noted in the tables. The HEC-RAS output for the Sand & Gravel Alternative is included as **Appendix F**.

3.6 Recommended Combined Alternative

As noted earlier in this report, the hydraulic impact of the structural alternative is represented by the encroached floodway run of the Current Planning model. The non-structural alternative is represented by the floodplain run of the same

model. Elements of the two conditions have been incorporated into a combined alternative to create the Recommended Plan. However, a separate model was not created for the Combined Alternative because its elements did not impact the river hydraulics. For example, structural elements included in the Recommended Plan such as isolated bank stabilization would not alter the water surface elevation. The hydraulics would likewise be unaffected by non-structural elements such as establishing Lateral Migration Erosion Hazard Zones.

However, several non-flood overlays not specifically tied to structural/non-structural elements (e.g., levee plating, riparian habitat, trails) were evaluated to determine their effect on river hydraulics. These elements have been evaluated in the previous sections and their effects on the river hydraulics are documented in the Appendices.

3.7 *Summary & Recommendations*

The hydraulic model for the Agua Fria River was converted to current modeling techniques and updated to reflect recent development along the river. Several non-flood overlay elements were evaluated for potential impacts to river hydraulics. It appears that a vegetated trail along the length of the Agua Fria River would not significantly alter the river hydraulics.

An important element included changes in the channel cross section and vegetation within the leveed lower reach. Results of the levee analyses show that the 3-foot freeboard requirement within the Corps' levees was not met at two locations under existing conditions.

Compromised freeboard due to hydric riparian and plated scenarios is isolated and occurs at two additional locations: near Van Buren Street and McDowell Road. If a less dense isolated riparian palate is implemented in the vicinity of I-10, freeboard is not compromised other than the two locations that are not met under existing conditions.

Additional areas of potential concern based on recent levee elevation data are at I-10 and at McDowell Road, but these discrepancies could be due to the lack of accurate topographic data.

It is recommended that the District obtain 1-foot topography throughout the leveed reach and re-evaluate the reach hydraulics. Certain areas under existing conditions are not meeting freeboard requirements and should be evaluated

further. The existing topography and spot elevations for the Agua Fria River appear to have some conflict.

It is further recommended that any riparian restoration in the vicinity of I-10 should be limited to a vegetative strip or an isolated riparian habitat to minimize its effect on the river hydraulics. As the Corps proceeds with its restoration design, the hydraulic performance should be evaluated accordingly.

4. REFERENCES

1. *Agua Fria River Floodplain Delineation Re-Study Between the Gila River Confluence and the New Waddell Dam, Coe & Van Loo Consultants, Inc., October 1996.*

2. *Agua Fria River Study, New Waddell Dam to Gila River Confluence, Arizona, U.S. Army Corps of Engineers, July 1995.*

3. *Estimating Manning's Roughness Coefficients for Stream Channels and Flood Plains in Maricopa County, Arizona, Thomsen and Hjalmarson, April 1991.*

4. *Skunk Creek and the New and Agua Fria Rivers (Arizona Canal Diversion Channel to the Gila River), Design Memorandum No. 3, General Design Memorandum Phase II, U.S. Army Corps of Engineers, May 1986.*

5. *Standard Project Flood, Agua Fria River Between the New River Confluence and the Gila River with New Waddell Dam in Place, U.S. Army Corps of Engineers, January 1989.*

Appendix A

HEC-RAS Output for Current Planning Model

Agua Fria Watercourse Master Plan
Current Planning Model
April 24, 2001

Profile Output Table - Standard Table 1
HEC-RAS Plan: FP/FW mod River: Agua Fria Reach: 1
Profiles = 2

Project: Agua Fria River (42401UPD.PRJ)
Plan: Converted HEC-2 Modified FP/FW(42401UPD.P01)
Geometry: Converted HEC-2 Modified (42401UPD.G03)
Flow: Floodplain/Floodway (42401UPD.F04)

River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
0.16	50900.00	909.60	916.76	914.75	917.18	0.003004	7.48	13695.07	5535.43	0.55
0.16	50900.00	909.60	917.11	915.04	917.63	0.003001	7.76	10986.88	2513.02	0.55
0.25	50900.00	910.90	918.28		918.68	0.003038	8.10	15758.76	6338.94	0.56
0.25	50900.00	910.90	918.62		919.17	0.003162	8.50	11459.12	2598.86	0.58
0.35	50900.00	911.40	919.69		920.11	0.002864	8.39	18119.73	8172.41	0.55
0.35	50900.00	911.40	920.06		920.64	0.002892	8.67	11694.90	2586.30	0.56
0.44	50900.00	912.80	921.04		921.30	0.001892	5.53	19055.47	8489.91	0.43
0.44	50900.00	912.80	921.56		922.06	0.002631	6.93	11407.45	2436.01	0.51
0.54	50900.00	913.70	922.08		922.41	0.002356	7.44	18374.85	8795.83	0.50
0.54	50900.00	913.70	922.87		923.42	0.002604	8.28	10954.71	2205.49	0.53
0.63	50900.00	915.70	923.39	922.46	923.71	0.002774	7.70	18510.46	8458.36	0.54
0.63	50900.00	915.70	924.28	922.68	924.84	0.002963	8.52	10232.70	2079.62	0.56
0.73	50900.00	916.90	924.79		925.07	0.002663	7.52	16200.57	8890.79	0.52
0.73	50900.00	916.90	925.73		926.16	0.002323	7.57	10772.34	1964.21	0.50
0.83	50900.00	917.30	926.05		926.27	0.002198	7.26	20522.73	9636.39	0.48
0.83	50900.00	917.30	926.90		927.51	0.002990	9.14	9845.62	1928.00	0.57
0.92	50900.00	919.30	926.96		927.26	0.002172	6.36	18519.48	8188.29	0.47
0.92	50900.00	919.30	928.08		928.83	0.002831	8.13	8879.08	1710.94	0.55
1.01	50900.00	921.20	927.87		928.28	0.002305	6.41	13693.20	3946.77	0.48
1.01	50900.00	921.20	929.31		929.84	0.001820	6.59	9460.94	1595.55	0.44

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
1.1	50900.00	922.50	928.87		929.20	0.001551	5.40	15010.17	4240.28	0.39
1.1	50900.00	922.50	930.17		930.57	0.001201	5.40	10241.43	1447.70	0.36
1.17	50900.00	923.60	929.86		930.29	0.002635	6.81	13635.71	4976.22	0.51
1.17	50900.00	923.60	930.82		931.86	0.003985	9.39	7214.95	1617.00	0.64
1.25	50900.00	924.40	931.06		932.01	0.004027	9.27	9899.63	3682.01	0.65
1.25	50900.00	924.40	932.68		933.82	0.004002	10.65	7461.19	1756.00	0.66
1.33	50900.00	925.50	933.09		933.54	0.002349	7.15	12933.33	4807.67	0.49
1.33	50900.00	925.64	934.66		935.18	0.001896	7.48	10128.75	1910.00	0.46
1.4	50900.00	927.10	934.22		935.19	0.004727	9.65	9108.41	3950.12	0.69
1.4	50900.00	927.30	935.55		936.44	0.003553	9.30	8022.79	1838.53	0.61
1.48	50900.00	926.70	936.07		936.44	0.001468	5.81	13414.14	3977.16	0.39
1.48	50900.00	926.70	937.01		937.47	0.001306	5.98	10698.09	1952.00	0.38
1.56	50900.00	926.10	936.61		936.84	0.000566	4.67	17332.99	3647.36	0.26
1.56	50900.00	926.10	937.55		937.88	0.000612	5.14	12933.63	1818.98	0.27
1.64	50900.00	927.90	936.88		937.14	0.000665	4.49	15419.42	3671.47	0.27
1.64	50900.00	927.90	937.88		938.18	0.000601	4.60	13082.18	1993.00	0.26
1.71	50900.00	928.20	937.21		937.50	0.000866	4.71	14726.35	4026.89	0.31
1.71	50900.00	928.20	938.14		938.61	0.001065	5.71	10418.55	1861.00	0.35
1.79	50900.00	929.20	937.62		938.04	0.001344	5.47	11917.49	4013.80	0.38
1.79	50900.00	929.20	938.68		939.18	0.001307	5.85	9828.97	1849.14	0.38
1.87	50900.00	931.10	938.24	936.03	938.81	0.001998	6.32	10138.16	4011.11	0.45
1.87	50900.00	931.10	939.30	935.97	939.79	0.001322	5.72	9451.93	1661.18	0.38
1.94	50900.00	932.30	939.31	937.28	939.72	0.001721	5.55	11672.15	3760.39	0.41
1.94	50900.00	932.30	940.03	937.15	940.54	0.001565	5.73	8900.66	1419.38	0.40
2.02	50900.00	932.70	940.10	938.53	940.48	0.001891	5.59	11966.09	3498.26	0.43
2.02	50900.00	932.70	940.75	938.70	941.60	0.002821	7.40	6882.93	1151.45	0.53
2.1	50900.00	934.30	940.86	939.64	941.41	0.002594	6.55	10186.34	3201.94	0.50
2.1	50900.00	934.30	941.98	939.49	942.71	0.002216	6.86	7418.60	1159.90	0.48
2.18	50900.00	934.40	941.79	940.55	942.29	0.002127	6.38	10763.41	3049.29	0.46
2.18	50900.00	934.40	942.87	940.48	943.54	0.001989	6.86	8175.26	1349.19	0.46
2.25	50900.00	935.00	942.70	941.85	943.37	0.002876	7.78	9541.97	2702.82	0.54
2.25	50900.00	935.00	943.74	941.76	944.64	0.002621	8.21	7196.94	1179.33	0.53

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
2.33	50900.00	936.20	944.01	942.42	944.48	0.002062	6.50	10759.31	2603.36	0.46
2.33	50900.00	936.20	944.96	942.77	945.93	0.002734	8.21	6648.92	1009.50	0.54
2.41	50900.00	937.40	944.97	943.61	945.51	0.002454	6.86	10054.45	2514.41	0.50
2.41	50900.00	937.40	946.42	943.93	947.00	0.001721	6.65	9090.16	1505.08	0.43
2.51	50900.00	938.70	946.09	944.23	946.58	0.001906	6.07	9981.73	2202.79	0.44
2.51	50900.00	938.70	947.29	944.24	947.73	0.001250	5.56	10090.19	1646.13	0.37
2.6	50900.00	939.60	947.14	945.41	947.60	0.002042	5.79	10076.42	2551.27	0.45
2.6	50900.00	939.60	948.00	945.30	948.39	0.001331	5.18	10628.52	1984.53	0.37
2.7	50900.00	940.40	948.18	946.06	948.52	0.001494	4.77	11458.14	2679.08	0.38
2.7	50900.00	940.40	948.70	945.97	949.04	0.001255	4.67	10981.91	2030.08	0.35
2.8	50900.00	942.00	948.88	946.26	949.20	0.001261	4.56	11439.36	2250.89	0.35
2.8	50900.00	942.00	949.32	946.47	949.67	0.001247	4.76	10700.69	1886.34	0.35
2.89	50900.00	942.90	949.52	946.82	949.84	0.001369	4.50	11295.98	2187.99	0.36
2.89	50900.00	942.90	949.96	947.35	950.36	0.001570	5.11	10044.78	1852.57	0.39
2.99	50900.00	942.30	950.16	947.09	950.48	0.001161	4.57	11667.66	2441.24	0.34
2.99	50900.00	942.80	950.68	947.48	951.08	0.001277	5.05	10083.14	1650.26	0.36
3.08	50900.00	942.50	950.70	947.04	951.00	0.000938	4.38	11835.15	2316.24	0.31
3.08	50900.00	942.50	951.27	947.52	951.69	0.001139	5.16	9861.20	1428.31	0.35
3.18	50900.00	943.40	951.19	948.31	951.63	0.001490	5.32	9631.45	1905.34	0.39
3.18	50900.00	943.40	951.84	948.98	952.50	0.001968	6.50	7827.48	1202.39	0.45
3.27	50900.00	944.50	951.96	949.36	952.53	0.001918	6.05	8503.27	1602.83	0.44
3.27	50900.00	944.50	952.82	949.60	953.41	0.001607	6.16	8262.56	1184.34	0.41
3.37	50900.00	943.40	952.88	949.90	953.47	0.001753	6.20	8596.49	1699.52	0.43
3.37	50900.00	943.40	953.61	949.81	954.15	0.001318	5.91	8641.90	1156.85	0.38
3.4	50900.00	945.10	952.80	952.80	954.74	0.010697	11.19	4608.60	1290.20	0.98
3.4	50900.00	945.10	953.31	952.76	954.93	0.007366	10.25	5046.14	1147.39	0.83
3.43	50900.00	946.00	954.78	952.84	955.69	0.003010	7.67	6733.75	1191.47	0.55
3.43	50900.00	946.00	954.63	952.88	955.81	0.003658	8.74	5916.54	1005.98	0.61
3.47	50900.00	946.10	955.39	953.12	956.25	0.002575	7.51	7186.76	1555.68	0.52
3.47	50900.00	946.10	955.30	952.98	956.47	0.002980	8.67	5890.63	819.30	0.57
3.55	50900.00	948.00	956.42	954.79	957.42	0.003170	8.33	6922.46	1555.65	0.57
3.55	50900.00	948.00	956.55	954.75	957.67	0.003054	8.72	6282.08	1030.15	0.57

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
3.64	50900.00	948.80	957.86	956.16	959.24	0.004023	9.44	5392.47	819.06	0.65
3.64	50900.00	948.80	958.02	956.15	959.34	0.003710	9.21	5527.47	819.95	0.63
3.69	50900.00	951.00	958.97	957.86	960.36	0.005461	9.45	5385.95	1028.98	0.73
3.69	50900.00	951.00	959.05	957.86	960.40	0.005219	9.32	5463.17	1030.61	0.71
3.729	50900.00	952.20	960.52	956.09	960.95	0.000918	5.24	9721.45	1173.95	0.32
3.729	50900.00	952.20	960.54	956.09	960.97	0.000909	5.22	9750.97	1173.99	0.32
3.734	50900.00	952.30	960.54	956.17	960.97	0.000933	5.25	9701.60	1184.98	0.32
3.734	50900.00	952.30	960.57	956.17	960.99	0.000924	5.23	9731.10	1185.03	0.32
3.7405	Bridge									
3.747	50900.00	952.30	960.74	956.18	961.15	0.000863	5.12	9933.43	1185.36	0.31
3.747	50900.00	952.30	960.78	956.31	961.23	0.000943	5.37	9480.57	1117.93	0.32
3.757	50900.00	952.10	960.76	956.27	961.21	0.000952	5.42	9392.69	1110.71	0.33
3.757	50900.00	952.10	960.83	956.27	961.28	0.000927	5.38	9468.08	1110.92	0.32
3.767	50900.00	952.90	960.74	957.13	961.35	0.001541	6.25	8139.63	1053.95	0.40
3.767	50900.00	952.90	960.81	957.13	961.41	0.001498	6.20	8211.15	1053.91	0.39
3.7685	Bridge									
3.77	50900.00	952.90	960.97	957.13	961.55	0.001401	6.07	8382.57	1054.89	0.38
3.77	50900.00	952.90	961.04	957.13	961.61	0.001368	6.04	8428.41	1045.32	0.37
3.78	52000.00	952.90	961.05	957.16	961.59	0.000907	5.91	8796.90	1110.01	0.37
3.78	52000.00	952.90	961.11	957.16	961.65	0.000882	5.86	8868.85	1107.56	0.37
3.8	52000.00	953.10	961.16	957.35	961.70	0.000932	5.93	8761.78	1123.37	0.37
3.8	52000.00	953.10	961.22	957.35	961.76	0.000906	5.89	8829.84	1119.66	0.37
3.81	52000.00	953.30	961.14	957.80	961.83	0.001238	6.69	7778.40	1025.35	0.43
3.81	52000.00	953.30	961.20	957.80	961.89	0.001205	6.63	7842.93	1024.80	0.42
3.83	52000.00	952.80	961.45	957.45	961.96	0.000851	5.75	9047.07	1135.25	0.36
3.83	52000.00	952.80	961.49	957.45	962.01	0.000839	5.76	9033.07	1112.04	0.36
3.93	52000.00	953.50	961.86	958.21	962.44	0.001001	6.08	8547.53	1112.29	0.39
3.93	52000.00	953.50	961.91	958.22	962.48	0.000988	6.07	8569.76	1104.58	0.38
4.02	52000.00	953.90	962.38	958.34	962.90	0.000846	5.79	8988.42	1112.09	0.36
4.02	52000.00	953.90	962.42	958.34	962.94	0.000832	5.76	9030.30	1110.20	0.36
4.04	52000.00	954.50	962.35	959.08	963.07	0.001285	6.79	7661.49	1013.72	0.44

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
4.04	52000.00	954.50	962.39	959.08	963.10	0.001269	6.77	7682.97	1007.98	0.43
4.06	52000.00	954.90	962.63	959.10	963.22	0.001046	6.16	8435.17	1112.47	0.39
4.06	52000.00	954.90	962.66	959.10	963.25	0.001030	6.14	8464.79	1105.60	0.39
4.092	52000.00	955.20	962.80	959.31	963.40	0.001069	6.21	8380.06	1112.04	0.40
4.092	52000.00	955.20	962.83	959.30	963.43	0.001057	6.19	8397.84	1105.18	0.40
4.094	52000.00	958.50	962.61	962.61	964.67	0.008290	11.51	4518.00	1105.61	1.00
4.094	52000.00	958.50	962.67	962.67	964.75	0.008189	11.55	4500.56	1082.09	1.00
4.16	52000.00	957.20	965.04	962.23	965.75	0.001447	6.78	7668.91	1120.20	0.46
4.16	52000.00	957.20	965.11	962.22	965.81	0.001403	6.73	7728.31	1112.21	0.45
4.26	52000.00	957.00	965.75	963.04	966.49	0.001524	6.91	7530.04	1113.03	0.47
4.26	52000.00	957.00	965.79	963.08	966.56	0.001561	7.05	7376.77	1072.47	0.47
4.27	52000.00	957.10	965.87	962.95	966.66	0.001501	7.11	7315.72	1016.78	0.47
4.27	52000.00	957.10	965.94	962.96	966.71	0.001454	7.04	7383.89	1015.07	0.46
4.3	52000.00	957.60	966.19	962.94	966.83	0.001185	6.40	8125.45	1113.12	0.42
4.3	52000.00	957.60	966.24	962.94	966.87	0.001164	6.38	8148.83	1102.48	0.41
4.39	52000.00	957.60	966.77	963.30	967.37	0.001072	6.20	8389.46	1119.09	0.40
4.39	52000.00	957.60	966.82	963.30	967.41	0.001050	6.17	8429.31	1111.79	0.39
4.48	52000.00	957.80	967.33	963.39	967.86	0.000884	5.85	8884.37	1118.05	0.37
4.48	52000.00	957.80	967.36	963.39	967.89	0.000879	5.86	8873.79	1105.04	0.36
4.5	52000.00	957.80	967.38	963.38	967.98	0.000951	6.21	8373.56	1010.03	0.38
4.5	52000.00	957.80	967.42	963.38	968.01	0.000940	6.20	8392.43	1004.20	0.38
4.52	52000.00	958.00	967.57	963.59	968.10	0.000877	5.86	8873.14	1106.92	0.36
4.52	52000.00	958.00	967.59	963.60	968.13	0.000875	5.87	8860.56	1096.51	0.36
4.6	52000.00	958.10	967.95	963.90	968.47	0.000841	5.78	9000.72	1111.26	0.36
4.6	52000.00	958.10	967.98	963.90	968.49	0.000837	5.78	8999.45	1102.70	0.36
4.7	52000.00	959.10	968.36	964.68	968.94	0.000985	6.07	8573.74	1107.41	0.38
4.7	52000.00	959.10	968.39	964.68	968.96	0.000974	6.04	8603.55	1107.47	0.38
4.754	52000.00	960.30	968.66	964.37	969.14	0.000759	5.57	9336.02	1124.07	0.34
4.754	52000.00	960.30	968.68	964.37	969.16	0.000752	5.55	9362.50	1124.11	0.34
4.7565	Bridge									
4.759	52000.00	960.30	968.81	964.37	969.28	0.000714	5.47	9509.48	1124.33	0.33
4.759	52000.00	960.30	968.85	964.37	969.31	0.000704	5.45	9549.21	1124.39	0.33

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
4.79	52000.00	961.10	968.71	966.79	969.66	0.002319	7.83	6644.17	1115.13	0.57
4.79	52000.00	961.10	968.74	966.79	969.68	0.002272	7.78	6685.49	1115.24	0.56
4.89	52000.00	961.80	969.88	967.60	970.67	0.001845	7.17	7254.60	1169.81	0.51
4.89	52000.00	961.80	969.89	967.60	970.68	0.001831	7.15	7271.60	1169.84	0.51
4.98	52000.00	962.80	970.87	968.08	971.50	0.001346	6.35	8189.73	1250.69	0.44
4.98	52000.00	962.80	970.88	968.08	971.50	0.001341	6.34	8199.12	1250.71	0.44
5	52000.00	963.40	970.97	967.99	971.62	0.001315	6.46	8044.73	1169.83	0.43
5	52000.00	963.40	970.98	967.99	971.63	0.001310	6.46	8052.94	1169.86	0.43
5.02	52000.00	964.10	971.10	968.65	971.77	0.001589	6.61	7870.76	1281.86	0.47
5.02	52000.00	964.10	971.10	968.65	971.78	0.001583	6.60	7879.29	1281.87	0.47
5.1	52000.00	965.20	971.78	970.22	972.66	0.002638	7.55	6888.87	1344.90	0.59
5.1	52000.00	965.20	971.78	970.22	972.66	0.002631	7.54	6894.29	1344.91	0.59
5.15	52000.00	967.40	972.48	971.87	973.77	0.005147	9.11	5708.60	1388.65	0.79
5.15	52000.00	967.40	972.48	971.87	973.77	0.005139	9.11	5711.05	1388.60	0.79
5.201	52000.00	969.10	973.91	972.62	974.86	0.003069	7.79	6675.90	1392.03	0.63
5.201	52000.00	969.10	973.91	972.63	974.87	0.003120	7.85	6625.67	1377.96	0.63
5.203	52000.00	970.00	973.52	973.52	975.29	0.008677	10.65	4882.28	1389.50	1.00
5.203	52000.00	970.00	973.63	973.63	975.43	0.008566	10.78	4822.91	1329.83	1.00
5.25	52000.00	970.20	975.63	974.67	976.73	0.003964	8.45	6154.10	1377.92	0.70
5.25	52000.00	970.20	975.74	974.70	976.83	0.003742	8.38	6206.27	1345.40	0.69
5.27	52000.00	970.70	976.04	975.22	977.31	0.004462	9.04	5750.60	1266.70	0.75
5.27	52000.00	970.70	976.15	975.22	977.36	0.004120	8.83	5891.27	1267.38	0.72
5.29	52000.00	971.50	976.99	975.04	977.72	0.002019	6.88	7555.05	1386.05	0.52
5.29	52000.00	971.50	977.03	975.03	977.75	0.001970	6.83	7611.06	1386.18	0.51
5.2975	Bridge									
5.305	52000.00	971.50	977.29	975.04	977.95	0.001690	6.52	7971.17	1387.03	0.48
5.305	52000.00	971.50	977.32	975.04	977.97	0.001659	6.49	8015.32	1386.60	0.48
5.317	54400.00	971.70	977.34	975.35	978.10	0.002021	7.01	7762.25	1386.77	0.52
5.317	54400.00	971.70	977.37	975.35	978.12	0.001985	6.97	7804.31	1386.87	0.52
5.3225	Bridge									
5.328	54400.00	971.70	977.64	975.35	978.33	0.001694	6.64	8186.71	1387.79	0.48

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
5.328	54400.00	971.70	977.67	975.35	978.35	0.001671	6.62	8219.63	1387.42	0.48
5.38	54400.00	971.40	978.03	976.60	979.04	0.002932	8.06	6749.35	1292.07	0.62
5.38	54400.00	971.40	978.04	976.60	979.05	0.002901	8.03	6771.27	1292.11	0.62
5.48	54400.00	972.70	979.55	977.07	980.18	0.001578	6.53	8607.69	1424.79	0.47
5.48	54400.00	972.70	979.53	977.35	980.33	0.001929	7.20	7581.26	1256.12	0.52
5.51	54400.00	972.70	979.85	977.32	980.42	0.001620	6.38	9024.71	1528.29	0.47
5.51	54400.00	972.70	979.64	978.22	980.80	0.003100	8.62	6326.77	1138.03	0.64
5.54	54400.00	972.60	980.25	977.13	980.62	0.001083	5.14	11096.13	1809.09	0.38
5.54	54400.00	972.60	980.20	978.57	981.22	0.002728	8.11	6737.09	1209.02	0.61
5.65	54400.00	972.90	980.71	978.75	981.69	0.002321	7.95	6843.59	1122.70	0.57
5.65	54400.00	972.90	981.63	978.75	982.37	0.001458	6.90	7879.64	1126.80	0.46
5.689	54400.00	973.85	981.44	978.00	982.05	0.001107	6.30	8633.28	1150.35	0.41
5.689	54400.00	973.85	982.10	978.00	982.62	0.000836	5.79	9398.12	1152.46	0.36
5.6945	Bridge									
5.7	54400.00	973.85	981.59	978.00	982.18	0.001036	6.18	8807.58	1150.85	0.39
5.7	54400.00	973.85	982.22	978.00	982.72	0.000799	5.71	9528.42	1152.70	0.35
5.75	54400.00	973.70	981.83	979.31	982.66	0.001746	7.31	7439.40	1116.57	0.50
5.75	54400.00	973.70	982.39	979.31	983.10	0.001340	6.75	8062.30	1119.05	0.44
5.77	54400.00	973.50	981.98	979.81	983.01	0.002234	8.15	6674.07	1011.13	0.56
5.77	54400.00	973.50	982.48	979.81	983.37	0.001753	7.57	7186.12	1013.11	0.50
5.79	54400.00	974.60	982.25	980.61	983.45	0.002875	8.81	6174.23	1013.90	0.63
5.79	54400.00	974.60	982.68	980.61	983.73	0.002294	8.22	6614.09	1016.04	0.57
5.81	54400.00	974.60	983.04	980.22	983.80	0.001490	6.98	7789.87	1110.11	0.46
5.81	54400.00	974.60	983.32	980.22	984.02	0.001310	6.72	8099.88	1110.69	0.44
5.9	54400.00	975.40	983.79	981.22	984.61	0.001681	7.24	7515.52	1112.11	0.49
5.9	54400.00	975.40	983.98	981.22	984.75	0.001536	7.04	7723.54	1112.51	0.47
5.99	54400.00	975.50	984.64	981.96	985.43	0.001619	7.17	7592.06	1109.36	0.48
5.99	54400.00	975.50	984.75	981.96	985.52	0.001535	7.05	7715.31	1109.64	0.47
6.07	54400.00	976.70	985.32	982.48	986.07	0.001491	6.98	7789.94	1112.01	0.46
6.07	54400.00	976.70	985.39	982.48	986.13	0.001441	6.91	7871.39	1112.14	0.46
6.16	54400.00	979.10	986.07	983.44	986.87	0.001646	7.18	7571.36	1114.72	0.49
6.16	54400.00	979.10	986.12	983.44	986.91	0.001608	7.13	7624.64	1114.83	0.48

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
6.26	54400.00	980.20	986.91	985.00	987.91	0.002374	8.02	6782.66	1115.65	0.57
6.26	54400.00	980.20	986.94	985.00	987.93	0.002339	7.98	6813.24	1115.70	0.57
6.35	54400.00	980.50	988.09	985.87	989.02	0.002041	7.72	7048.31	1094.90	0.54
6.35	54400.00	980.50	988.10	985.87	989.02	0.002030	7.71	7059.21	1094.93	0.53
6.43	54400.00	981.00	989.00	987.51	990.20	0.003043	8.80	6184.33	1066.52	0.64
6.43	54400.00	981.00	989.00	987.51	990.20	0.003035	8.79	6189.60	1066.53	0.64
6.52	54400.00	981.50	990.38	987.14	991.06	0.001246	6.65	8176.12	1095.24	0.43
6.52	54400.00	981.50	990.38	987.14	991.07	0.001245	6.65	8178.06	1095.24	0.43
6.54	54400.00	982.40	990.28	988.10	991.32	0.002224	8.20	6633.13	1001.00	0.56
6.54	54400.00	982.40	990.28	988.10	991.32	0.002222	8.20	6634.97	1001.01	0.56
6.56	54400.00	982.10	990.79	987.83	991.53	0.001413	6.88	7903.32	1107.88	0.45
6.56	54400.00	982.10	990.79	987.83	991.53	0.001412	6.88	7904.88	1107.89	0.45
6.59	54400.00	981.80	991.11	987.44	991.72	0.001030	6.25	8706.66	1112.03	0.39
6.59	54400.00	981.80	991.11	987.44	991.72	0.001030	6.25	8707.95	1112.03	0.39
6.61	54400.00	981.80	991.05	988.47	991.94	0.001883	7.60	7158.51	1066.42	0.52
6.61	54400.00	981.80	991.05	988.47	991.94	0.001882	7.60	7159.75	1066.41	0.52
6.64	54400.00	982.40	991.51	988.33	992.19	0.001266	6.65	8183.26	1112.15	0.43
6.64	54400.00	982.40	991.51	988.33	992.19	0.001266	6.65	8184.21	1112.15	0.43
6.66	54400.00	982.20	991.60	989.04	992.44	0.001744	7.31	7437.11	1112.30	0.50
6.66	54400.00	982.20	991.61	989.04	992.44	0.001744	7.31	7437.99	1112.29	0.50
6.69	54400.00	982.20	991.98	988.57	992.63	0.001143	6.45	8438.31	1112.60	0.41
6.69	54400.00	982.20	991.98	988.57	992.63	0.001143	6.45	8439.06	1112.60	0.41
6.71	54400.00	981.50	992.12	988.20	992.77	0.001025	6.46	8418.53	1013.37	0.40
6.71	54400.00	981.50	992.12	988.20	992.77	0.001024	6.46	8419.14	1013.35	0.40
6.73	54400.00	982.40	992.30	988.44	992.88	0.000953	6.10	8911.58	1112.35	0.38
6.73	54400.00	982.40	992.30	988.44	992.88	0.000953	6.10	8912.26	1112.35	0.38
6.77	54400.00	985.10	991.88	991.56	993.72	0.006408	10.86	5010.21	1102.92	0.90
6.77	54400.00	985.10	991.89	991.56	993.72	0.006404	10.86	5011.22	1102.91	0.90
6.79	54400.00	984.30	992.94	991.51	994.26	0.003292	9.23	5896.22	1001.25	0.67
6.79	54400.00	984.30	992.94	991.51	994.26	0.003292	9.23	5896.16	1001.22	0.67
6.82	54400.00	984.80	993.73	991.28	994.58	0.001788	7.39	7358.54	1106.10	0.51
6.82	54400.00	984.80	993.73	991.28	994.58	0.001789	7.39	7358.47	1106.10	0.51

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
6.89	54400.00	989.40	994.18	993.80	995.96	0.006203	10.72	5073.29	1110.41	0.88
6.89	54400.00	989.40	994.18	993.80	995.96	0.006203	10.72	5073.22	1110.40	0.88
6.91	54400.00	989.50	994.81	994.31	996.63	0.005699	10.81	5033.56	1018.41	0.86
6.91	54400.00	989.50	994.81	994.31	996.63	0.005699	10.81	5033.50	1018.41	0.86
6.93	54400.00	989.90	996.11	994.13	997.07	0.002263	7.86	6920.88	1131.95	0.56
6.93	54400.00	989.90	996.11	994.13	997.07	0.002263	7.86	6920.87	1131.94	0.56
6.97	54400.00	990.40	996.63	994.68	997.59	0.002286	7.86	6925.24	1142.99	0.56
6.97	54400.00	990.40	996.63	994.68	997.59	0.002286	7.86	6925.24	1142.99	0.56
6.99	54400.00	990.20	996.59	995.57	998.06	0.004071	9.72	5599.53	1032.41	0.74
6.99	54400.00	990.20	996.59	995.57	998.06	0.004071	9.72	5599.53	1032.41	0.74
7.02	54400.00	989.10	997.62	995.05	998.44	0.001699	7.26	7497.53	1115.43	0.49
7.02	54400.00	989.10	997.62	995.05	998.44	0.001699	7.26	7497.53	1115.42	0.49
7.06	54400.00	989.60	997.96	995.71	998.88	0.001989	7.67	7092.10	1092.77	0.53
7.06	54400.00	989.60	997.96	995.71	998.88	0.001989	7.67	7092.10	1092.76	0.53
7.08	54400.00	990.50	998.08	996.05	999.17	0.002369	8.36	6504.45	998.42	0.58
7.08	54400.00	990.50	998.08	996.05	999.17	0.002369	8.36	6504.45	998.41	0.58
7.1	54400.00	990.90	998.35	996.84	999.53	0.002998	8.71	6248.38	1082.37	0.64
7.1	54400.00	990.90	998.35	996.84	999.53	0.002998	8.71	6248.38	1082.37	0.64
7.2	54400.00	990.70	999.80	996.79	1000.56	0.001416	7.00	7772.99	1063.27	0.46
7.2	54400.00	990.70	999.80	996.79	1000.56	0.001416	7.00	7772.99	1063.26	0.46
7.29	54400.00	993.20	1000.48	998.53	1001.57	0.002425	8.36	6507.73	1022.39	0.58
7.29	54400.00	993.20	1000.48	998.53	1001.57	0.002425	8.36	6507.67	1022.39	0.58
7.39	54400.00	993.80	1001.69	999.06	1002.60	0.001761	7.65	7107.33	1002.01	0.51
7.39	54400.00	993.80	1001.69	999.06	1002.60	0.001761	7.65	7107.26	1002.01	0.51
7.49	54400.00	995.20	1002.60	1000.15	1003.57	0.001935	7.94	6848.05	979.93	0.53
7.49	54400.00	995.20	1002.59	1000.15	1003.57	0.001935	7.94	6847.99	979.92	0.53
7.58	54400.00	995.40	1003.56	1000.36	1004.38	0.001426	7.30	7455.49	965.57	0.46
7.58	54400.00	995.40	1003.56	1000.36	1004.38	0.001426	7.30	7455.43	965.56	0.46
7.67	54400.00	994.30	1004.39	999.26	1004.89	0.000654	5.67	9600.23	1010.02	0.32
7.67	54400.00	994.30	1004.39	999.26	1004.89	0.000654	5.67	9600.17	1010.02	0.32
7.77	54400.00	996.10	1004.69	1001.07	1005.37	0.001133	6.63	8205.97	1031.79	0.41
7.77	54400.00	996.10	1004.69	1001.07	1005.37	0.001133	6.63	8205.97	1031.78	0.41

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
7.87	54400.00	997.40	1005.28	1002.04	1005.96	0.001232	6.59	8251.64	1113.54	0.43
7.87	54400.00	997.40	1005.28	1002.04	1005.96	0.001232	6.59	8251.64	1113.52	0.43
7.96	54400.00	998.60	1005.97	1002.61	1006.50	0.001028	5.84	9310.04	1315.04	0.39
7.96	54400.00	998.60	1005.97	1002.60	1006.50	0.001028	5.84	9310.04	1315.04	0.39
7.99	54400.00	999.10	1006.18	1002.84	1006.68	0.001000	5.68	9580.25	1385.65	0.38
7.99	54400.00	999.10	1006.18	1002.84	1006.68	0.001000	5.68	9580.25	1385.61	0.38
8	54400.00	999.20	1006.32	1002.73	1006.75	0.000843	5.28	10305.46	1462.21	0.35
8	54400.00	999.20	1006.32	1002.73	1006.75	0.000843	5.28	10305.43	1461.69	0.35
8.005	Bridge									
8.01	54400.00	999.20	1006.61	1002.73	1007.01	0.000737	5.07	10732.58	1463.35	0.33
8.01	54400.00	999.20	1006.61	1002.73	1007.01	0.000737	5.07	10732.43	1462.25	0.33
8.03	54400.00	999.20	1006.34	1004.82	1007.21	0.002652	7.49	7260.01	1437.20	0.59
8.03	54400.00	999.20	1006.34	1004.82	1007.21	0.002650	7.49	7259.96	1436.45	0.59
8.105	54400.00	1000.50	1007.45	1005.33	1008.08	0.001765	6.44	8586.70	1944.50	0.49
8.105	54400.00	1000.50	1007.43	1005.43	1008.12	0.001921	6.70	8161.34	1500.65	0.51
8.198	54400.00	1001.50	1008.32	1006.45	1009.05	0.002084	6.87	7923.26	2327.14	0.53
8.198	54400.00	1001.50	1008.37	1006.44	1009.09	0.002011	6.79	8009.31	1493.46	0.52
8.325	54400.00	1002.10	1010.01	1008.32	1010.77	0.003199	7.04	7799.63	1556.64	0.55
8.325	54400.00	1002.10	1010.02	1008.39	1010.82	0.003336	7.20	7593.19	1506.52	0.57
8.433	54400.00	1005.00	1012.00	1010.88	1012.97	0.004520	8.46	7095.13	1678.24	0.66
8.433	54400.00	1005.00	1012.10	1011.33	1013.44	0.005789	9.70	6082.84	1418.62	0.75
8.534	54400.00	1010.00	1014.59	1013.31	1015.21	0.003801	6.41	8605.41	2388.66	0.58
8.534	54400.00	1010.00	1015.13	1013.58	1015.74	0.003175	6.40	8684.99	1955.00	0.54
8.646	54400.00	1010.60	1016.30	1014.02	1016.70	0.001735	5.41	11158.93	2522.54	0.41
8.646	54400.00	1010.60	1016.69	1014.57	1017.20	0.001936	5.99	9857.02	1940.00	0.44
8.768	54400.00	1008.40	1017.65	1016.73	1018.47	0.004240	8.68	8198.40	2130.88	0.65
8.768	54400.00	1008.40	1018.14	1017.03	1018.96	0.003707	8.58	8097.60	1830.00	0.61
8.875	54400.00	1009.10	1019.82	1018.97	1020.77	0.003895	8.73	7802.72	2715.08	0.63
8.875	54400.00	1009.10	1020.06	1018.95	1020.95	0.003373	8.34	7891.20	1770.00	0.59
8.992	54400.00	1008.10	1021.74	1018.79	1022.17	0.001434	5.31	10455.96	2055.27	0.38
8.992	54400.00	1008.10	1021.82	1018.80	1022.27	0.001438	5.37	10218.60	1695.00	0.38

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
9.098	54400.00	1009.90	1022.52	1019.33	1022.90	0.001174	4.96	11094.85	1809.05	0.35
9.098	54400.00	1009.90	1022.62	1019.29	1022.99	0.001141	4.93	11051.59	1739.29	0.34
9.177	54400.00	1010.40	1023.04	1020.23	1023.49	0.001516	5.41	10054.71	2026.08	0.39
9.177	54400.00	1010.40	1023.12	1020.23	1023.56	0.001453	5.34	10184.86	1695.45	0.38
9.184	Bridge									
9.191	54400.00	1010.70	1023.09	1020.14	1023.53	0.001411	5.30	10254.63	1687.47	0.38
9.191	54400.00	1010.70	1023.17	1020.14	1023.59	0.001355	5.24	10379.90	1687.96	0.37
9.198	54400.00	1011.10	1023.12	1020.49	1023.60	0.001673	5.58	9755.73	3522.60	0.41
9.198	54400.00	1011.10	1023.19	1020.49	1023.67	0.001605	5.51	9878.79	1694.47	0.40
9.266	54400.00	1013.70	1023.81	1021.32	1024.21	0.001593	5.18	11065.86	5890.25	0.39
9.266	54400.00	1013.70	1023.82	1021.36	1024.27	0.001726	5.39	10108.95	1895.00	0.41
9.343	54400.00	1014.40	1024.47	1022.16	1024.98	0.002030	5.78	9930.88	5710.74	0.44
9.343	54400.00	1014.40	1024.53	1022.15	1025.05	0.002008	5.80	9445.87	1852.00	0.44
9.435	54400.00	1015.20	1025.41	1023.02	1025.96	0.002015	6.00	9605.51	5191.70	0.45
9.435	54400.00	1015.20	1025.47	1023.02	1026.03	0.002020	6.05	8998.04	1593.80	0.45
9.519	54400.00	1016.30	1026.35	1024.35	1026.98	0.002450	6.47	9189.75	5006.61	0.49
9.519	54400.00	1016.30	1026.40	1024.34	1027.05	0.002472	6.54	8495.27	1660.00	0.49
9.605	54400.00	1018.70	1027.43	1025.33	1028.09	0.002418	6.53	8720.90	5775.99	0.49
9.605	54400.00	1018.70	1027.50	1025.33	1028.15	0.002355	6.50	8509.97	1630.00	0.48
9.696	54400.00	1018.70	1028.74	1025.69	1029.10	0.001674	5.03	11854.56	6556.85	0.40
9.696	54400.00	1018.70	1028.76	1027.30	1029.68	0.003946	7.75	7155.18	1510.00	0.61
9.79	30000.00	1019.50	1029.62	1027.01	1029.82	0.001058	3.89	10879.20	6722.81	0.31
9.79	30000.00	1019.50	1030.49	1027.01	1030.73	0.000850	3.90	7729.59	1399.00	0.29
9.885	30000.00	1021.10	1030.31	1029.34	1030.74	0.003187	5.51	6438.39	3907.73	0.52
9.885	30000.00	1021.10	1031.02	1029.20	1031.44	0.002215	5.19	5795.28	1396.17	0.45
9.981	30000.00	1022.80	1031.72	1030.09	1032.09	0.002420	5.23	7057.42	4222.71	0.46
9.981	30000.00	1022.80	1032.14	1029.97	1032.60	0.002355	5.51	5548.44	1306.25	0.46
10.071	30000.00	1024.90	1032.84	1031.23	1033.26	0.002633	5.46	6873.33	4952.12	0.48
10.071	30000.00	1024.90	1033.25	1031.20	1033.74	0.002434	5.60	5365.46	1231.00	0.47
10.167	30000.00	1023.30	1033.83	1031.24	1034.25	0.001543	5.43	6997.78	5001.91	0.39
10.167	30000.00	1023.30	1034.23	1031.23	1034.68	0.001413	5.43	5714.59	990.00	0.38
10.265	30000.00	1026.40	1034.48	1033.21	1035.70	0.004197	9.03	3977.12	4254.14	0.65

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
10.265	30000.00	1026.40	1034.82	1033.12	1035.99	0.003654	8.74	3635.55	740.00	0.61
10.343	30000.00	1026.70	1036.64	1034.73	1037.37	0.003878	7.34	5229.71	5007.30	0.50
10.343	30000.00	1026.70	1036.67	1034.57	1037.75	0.005097	8.44	3640.80	590.00	0.57
10.442	30000.00	1029.40	1038.57	1036.27	1038.97	0.002450	5.53	6738.50	5313.82	0.39
10.442	30000.00	1029.40	1039.14	1036.11	1039.73	0.002753	6.21	4887.63	748.79	0.42
10.538	30000.00	1031.20	1039.69	1036.47	1039.99	0.001668	4.64	7209.46	5062.72	0.32
10.538	30000.00	1031.20	1040.40	1036.46	1040.72	0.001386	4.54	6657.36	940.00	0.30
10.632	30000.00	1031.70	1040.52	1037.28	1040.84	0.001732	4.77	7561.77	5414.21	0.33
10.632	30000.00	1031.70	1041.10	1037.27	1041.44	0.001504	4.71	6515.44	985.00	0.31
10.752	30000.00	1031.30	1041.71	1038.51	1042.36	0.003083	6.53	4736.06	4143.82	0.44
10.752	30000.00	1031.30	1042.13	1038.51	1042.71	0.002502	6.12	5062.80	847.33	0.40
10.846	30000.00	1031.60	1043.16	1039.91	1043.79	0.002623	6.58	5259.67	3597.36	0.42
10.846	30000.00	1031.60	1043.34	1039.91	1043.97	0.002490	6.52	4883.60	730.00	0.41
10.942	30000.00	1034.20	1044.39	1040.08	1044.79	0.001476	5.15	6635.44	2939.09	0.32
10.942	30000.00	1034.20	1044.53	1040.08	1044.96	0.001495	5.24	5892.62	810.00	0.32
11.029	30000.00	1034.70	1045.13	1041.23	1045.48	0.001536	4.75	6409.68	1782.72	0.32
11.029	30000.00	1034.70	1045.30	1041.23	1045.64	0.001432	4.66	6452.72	918.77	0.31
11.128	30000.00	1036.10	1045.89	1041.09	1046.03	0.000700	3.05	9915.30	1920.65	0.21
11.128	30000.00	1036.10	1046.11	1042.55	1046.49	0.001804	5.00	6066.61	895.00	0.34
11.224	30000.00	1038.10	1046.29	1043.36	1046.68	0.002334	5.34	6120.23	1157.55	0.38
11.224	30000.00	1038.10	1047.06	1043.77	1047.54	0.002302	5.72	5453.52	812.00	0.38
11.325	30000.00	1039.40	1047.33	1047.25	1049.83	0.015091	12.71	2417.92	854.57	0.95
11.325	30000.00	1039.40	1048.31	1047.25	1050.06	0.009008	10.71	2892.59	563.37	0.75
11.41	30000.00	1041.80	1052.13		1052.85	0.002838	6.86	4409.07	579.22	0.43
11.41	30000.00	1041.80	1051.84		1052.63	0.003210	7.12	4244.28	577.39	0.46
11.419	Bridge									
11.428	30000.00	1041.80	1052.69	1049.36	1053.70	0.003396	8.28	3928.23	622.39	0.49
11.428	30000.00	1041.80	1052.48	1049.36	1053.56	0.003683	8.52	3805.86	566.55	0.50
11.46	34500.00	1041.30	1052.94	1050.79	1054.57	0.003331	10.40	4120.23	6613.70	0.62
11.46	34500.00	1041.30	1052.77	1050.80	1054.49	0.003608	10.68	3945.88	664.00	0.64
11.557	34500.00	1041.70	1055.30	1050.01	1055.34	0.000231	3.13	38038.14	4084.11	0.17
11.557	34500.00	1041.70	1054.53	1053.65	1056.87	0.004597	13.38	5241.72	892.31	0.74

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
11.653	34500.00	1043.10	1055.59	1055.59	1057.98	0.005464	13.97	6563.83	4027.67	0.80
11.653	34500.00	1043.10	1057.47	1055.84	1058.98	0.002984	11.28	7648.04	1302.82	0.60
11.75	34500.00	1043.20	1058.28	1057.73	1060.40	0.003913	12.95	7079.73	3934.75	0.69
11.75	34500.00	1043.20	1058.87	1057.82	1060.83	0.003401	12.41	6818.00	1666.93	0.65
11.847	34500.00	1044.60	1061.11	1058.85	1061.96	0.001503	9.01	13783.97	4178.73	0.44
11.847	34500.00	1044.60	1061.16	1058.88	1062.33	0.001860	10.04	10464.97	2138.58	0.49
11.9	34500.00	1045.20	1061.28	1060.35	1062.92	0.002641	11.41	8980.74	3835.60	0.57
11.9	34500.00	1045.20	1061.40	1060.19	1063.42	0.002992	12.21	6658.73	1935.75	0.61
11.943	34500.00	1046.70	1062.51	1060.92	1063.57	0.001945	9.98	12345.19	2778.22	0.50
11.943	34500.00	1046.70	1063.22	1060.96	1064.21	0.001671	9.55	11961.47	2309.36	0.46
12.042	34500.00	1048.50	1064.05	1061.70	1064.59	0.001461	8.37	16985.44	2902.41	0.42
12.042	34500.00	1048.50	1064.60	1061.78	1065.09	0.001258	8.00	17305.19	2711.12	0.40
12.141	34500.00	1049.30	1064.92	1062.18	1065.36	0.001404	8.07	17730.48	2708.00	0.41
12.141	34500.00	1049.30	1065.39	1062.18	1065.76	0.001161	7.50	18993.20	2712.08	0.38
12.247	34500.00	1050.70	1065.79	1062.26	1066.08	0.001165	6.82	19041.79	2594.88	0.37
12.247	34500.00	1050.70	1066.10	1062.26	1066.37	0.001029	6.52	19854.49	2596.00	0.35
12.359	34500.00	1051.70	1066.25	1061.03	1066.51	0.000551	5.10	18759.09	2424.39	0.26
12.359	34500.00	1051.70	1066.51	1061.03	1066.75	0.000501	4.93	19376.73	2410.00	0.25
12.42	34500.00	1054.00	1066.52	1059.41	1066.67	0.000305	3.23	14850.13	2431.72	0.19
12.42	34500.00	1054.00	1066.75	1059.41	1066.90	0.000279	3.14	15199.32	2348.26	0.18
12.47	34500.00	1054.90	1066.62	1062.27	1066.76	0.000423	3.45	13517.60	5279.91	0.22
12.47	34500.00	1054.90	1066.82	1062.23	1067.00	0.000477	3.73	11524.02	2174.18	0.23
12.529	34500.00	1056.10	1066.72	1062.17	1066.91	0.000467	3.86	11952.17	4726.00	0.23
12.529	34500.00	1056.10	1066.94	1062.07	1067.17	0.000507	4.09	10254.66	1792.50	0.24
12.63	34500.00	1056.20	1066.99	1063.21	1067.20	0.000610	4.16	10614.47	3903.80	0.26
12.63	34500.00	1056.20	1067.17	1063.14	1067.59	0.000971	5.32	6749.51	938.24	0.33
12.725	34500.00	1056.60	1067.24	1064.51	1067.74	0.001477	5.98	6784.39	2161.81	0.40
12.725	34500.00	1056.60	1067.66	1064.39	1068.21	0.001407	6.06	5935.92	878.28	0.39
12.816	34500.00	1057.40	1067.86	1065.49	1068.75	0.002398	7.70	4849.18	2236.81	0.51
12.816	34500.00	1057.40	1068.28	1065.48	1069.08	0.002006	7.31	4899.07	702.66	0.47
12.913	34500.00	1058.60	1069.09	1066.97	1070.23	0.003158	8.63	4181.11	2029.99	0.58
12.913	34500.00	1058.60	1069.30	1066.96	1070.40	0.002891	8.42	4120.41	589.71	0.56

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
13.007	34500.00	1062.00	1070.46	1068.74	1072.22	0.004281	10.75	3269.09	532.71	0.69
13.007	34500.00	1062.00	1070.55	1068.74	1072.27	0.004113	10.62	3302.51	441.24	0.67
13.103	34500.00	1062.50	1072.73	1068.84	1073.58	0.001630	7.48	5380.10	1572.71	0.44
13.103	34500.00	1062.50	1072.72	1068.84	1073.65	0.001746	7.73	4465.98	494.58	0.45
13.2	34500.00	1063.00	1073.64	1068.36	1074.24	0.000979	6.31	5922.09	1000.89	0.35
13.2	34500.00	1063.00	1073.72	1068.36	1074.33	0.000977	6.34	5555.75	551.16	0.35
13.296	34500.00	1063.50	1074.24	1068.59	1074.68	0.000737	5.39	6782.22	1001.14	0.30
13.296	34500.00	1063.50	1074.33	1068.59	1074.78	0.000728	5.39	6535.36	742.85	0.30
13.395	34500.00	1064.00	1074.75		1075.36	0.002253	6.27	5517.99	1023.58	0.47
13.395	34500.00	1064.00	1074.84		1075.43	0.002139	6.16	5611.92	1028.29	0.46
13.45	34500.00	1063.80	1075.55		1075.85	0.000912	4.37	8079.96	1382.48	0.31
13.45	34500.00	1063.80	1075.61		1075.90	0.000884	4.33	8159.87	1385.36	0.30
13.4585	Bridge									
13.467	34500.00	1064.10	1075.58	1072.51	1075.88	0.001120	4.42	7798.87	1417.03	0.33
13.467	34500.00	1064.10	1075.64	1072.51	1075.94	0.001085	4.38	7879.55	1419.79	0.33
13.518	34500.00	1064.20	1075.92	1074.62	1076.64	0.004816	6.94	5165.94	1718.64	0.64
13.518	34500.00	1064.20	1075.94	1074.64	1076.74	0.005250	7.22	4850.11	1354.18	0.67
13.565	34500.00	1065.80	1077.19		1077.78	0.004196	6.42	5768.80	1798.38	0.60
13.565	34500.00	1065.80	1077.28		1077.97	0.004504	6.76	5187.87	1431.25	0.62
13.663	34500.00	1065.70	1079.18		1079.73	0.003447	6.35	6107.40	1737.09	0.55
13.663	34500.00	1065.70	1079.39		1080.06	0.003655	6.74	5385.83	1304.93	0.57
13.76	34500.00	1067.90	1080.94		1081.45	0.003286	6.15	6432.63	1832.86	0.54
13.76	34500.00	1067.90	1081.24		1081.87	0.003441	6.59	5539.92	1207.00	0.56
13.856	34500.00	1071.20	1082.25	1080.37	1082.91	0.002360	7.31	6156.37	1685.23	0.50
13.856	34500.00	1071.20	1082.58	1080.36	1083.23	0.002116	7.15	5800.50	1039.90	0.48
13.952	34500.00	1073.30	1083.55	1082.52	1084.61	0.004301	8.65	4623.39	1323.08	0.65
13.952	34500.00	1073.30	1083.75	1082.51	1084.76	0.003871	8.40	4575.64	984.00	0.62
14.049	34500.00	1074.50	1085.81	1084.40	1086.62	0.003520	7.45	5153.07	1737.04	0.58
14.049	34500.00	1074.50	1085.84	1084.39	1086.67	0.003559	7.52	4862.50	1030.00	0.58
14.145	34500.00	1076.90	1087.49	1085.44	1087.96	0.001971	5.65	6758.07	2063.75	0.44
14.145	34500.00	1076.90	1087.55	1085.40	1088.08	0.002115	5.89	5955.05	1170.01	0.45

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
14.24	34500.00	1080.30	1088.62	1087.06	1089.06	0.002457	5.57	6955.98	2283.52	0.47
14.24	34500.00	1080.30	1088.74	1087.13	1089.33	0.002914	6.18	5592.88	1266.52	0.52
14.335	34500.00	1079.80	1089.96	1088.59	1090.45	0.003137	5.97	6626.06	2098.57	0.53
14.335	34500.00	1079.80	1090.25	1088.82	1090.89	0.003305	6.42	5475.59	1350.00	0.55
14.43	34500.00	1083.20	1091.46	1090.01	1091.96	0.002870	6.02	6824.96	2288.46	0.51
14.43	34500.00	1083.20	1091.83	1090.20	1092.45	0.002932	6.42	5578.22	1347.41	0.52
14.525	34500.00	1083.20	1092.76	1090.59	1093.16	0.001961	5.43	7284.24	2163.83	0.43
14.525	34500.00	1083.20	1093.19	1090.68	1093.63	0.001801	5.49	6639.99	1301.96	0.42
14.619	34500.00	1086.30	1093.88	1092.89	1094.65	0.004201	7.50	5469.96	2117.53	0.62
14.619	34500.00	1086.30	1094.20	1092.84	1094.95	0.003557	7.23	5375.79	1465.33	0.58
14.708	34500.00	1088.40	1095.73	1094.89	1096.39	0.003220	7.14	6564.88	2575.62	0.56
14.708	34500.00	1088.40	1095.85	1094.96	1096.69	0.003674	7.75	5407.63	1724.58	0.60
14.809	34500.00	1087.10	1097.14	1095.07	1098.07	0.002831	7.83	5018.95	2490.83	0.54
14.809	34500.00	1087.10	1097.43	1095.03	1098.33	0.002563	7.66	4629.82	780.00	0.52
14.905	34500.00	1088.60	1098.66	1095.54	1099.08	0.001362	5.62	7118.81	1956.04	0.38
14.905	34500.00	1088.60	1098.81	1095.91	1099.44	0.001787	6.53	5545.39	830.00	0.44
15	34500.00	1088.80	1099.43	1097.40	1099.95	0.002140	6.29	6364.71	1339.45	0.46
15	34500.00	1088.80	1099.75	1097.77	1100.63	0.002892	7.58	4684.92	840.00	0.54
15.094	34500.00	1089.90	1100.47	1098.48	1101.30	0.003020	7.38	4832.22	933.97	0.55
15.094	34500.00	1089.90	1101.20	1098.48	1101.85	0.002027	6.56	5388.83	860.00	0.46
15.188	34500.00	1089.00	1101.81	1099.93	1102.95	0.003313	8.69	4223.20	796.86	0.59
15.188	34500.00	1089.00	1102.10	1099.93	1103.14	0.002837	8.28	4454.80	791.86	0.55
15.281	34500.00	1092.60	1103.33	1102.34	1104.89	0.004150	10.79	3895.84	715.46	0.68
15.281	34500.00	1092.60	1103.40	1102.39	1104.92	0.003997	10.65	3941.22	710.00	0.67
15.374	34500.00	1093.80	1105.02	1104.36	1107.16	0.004576	12.55	3373.89	561.82	0.73
15.374	34500.00	1093.80	1105.02	1104.39	1107.16	0.004579	12.56	3368.34	558.00	0.73
15.469	34500.00	1095.20	1107.73	1104.46	1108.61	0.001784	8.64	5012.70	621.16	0.47
15.469	34500.00	1095.20	1107.73	1104.46	1108.62	0.001781	8.64	5015.73	621.17	0.47
15.564	34500.00	1096.20	1108.75	1105.14	1109.52	0.001777	8.45	5224.10	661.37	0.46
15.564	34500.00	1096.20	1108.76	1105.14	1109.52	0.001775	8.45	5226.04	661.38	0.46
15.658	34500.00	1097.10	1109.80		1110.44	0.001815	7.36	5465.50	756.03	0.45
15.658	34500.00	1097.10	1109.77		1110.48	0.001962	7.63	5175.36	669.74	0.47

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
15.719	34500.00	1093.70	1110.35		1111.10	0.001882	8.31	5218.45	714.52	0.46
15.719	34500.00	1093.70	1110.39		1111.14	0.001864	8.29	5194.42	667.71	0.46
15.814	34500.00	1094.40	1111.17		1112.31	0.002519	10.10	4515.75	660.78	0.55
15.814	34500.00	1094.40	1111.20		1112.33	0.002483	10.05	4529.33	654.47	0.54
15.909	34500.00	1097.80	1112.56		1113.21	0.001255	7.61	5842.04	753.32	0.39
15.909	34500.00	1097.80	1112.57		1113.23	0.001255	7.62	5799.80	709.05	0.39
16.004	34500.00	1099.70	1113.30		1113.76	0.000871	6.40	6902.09	816.44	0.33
16.004	34500.00	1099.70	1113.32		1113.77	0.000867	6.40	6891.47	802.59	0.33
16.099	34500.00	1100.80	1113.71		1114.26	0.001035	6.91	6477.79	840.64	0.36
16.099	34500.00	1100.80	1113.62		1114.42	0.001421	8.06	5317.25	667.87	0.42
16.195	34500.00	1100.80	1114.02		1115.12	0.001858	8.69	4395.12	567.07	0.47
16.195	34500.00	1100.80	1114.21		1115.33	0.001810	8.68	4168.13	427.67	0.47
16.289	34500.00	1100.80	1114.94		1116.06	0.001891	8.56	4121.89	457.28	0.47
16.289	34500.00	1100.80	1115.12		1116.24	0.001813	8.48	4078.69	398.86	0.47
16.385	34500.00	1103.70	1115.70	1115.70	1118.56	0.008575	13.70	2622.22	470.74	0.94
16.385	34500.00	1103.70	1115.57	1115.57	1118.72	0.009554	14.27	2439.16	397.62	0.99
16.471	36000.00	1105.40	1119.08		1120.40	0.002112	9.34	4027.48	462.81	0.51
16.471	36000.00	1105.40	1119.31		1120.57	0.001961	9.13	4125.55	440.39	0.49
16.482	36000.00	1105.60	1119.84		1120.65	0.001293	7.39	5669.39	1203.56	0.40
16.482	36000.00	1105.60	1119.83		1120.76	0.001426	7.75	4649.82	453.92	0.42
16.494	Bridge									
16.506	36000.00	1105.40	1120.04	1115.43	1120.95	0.001533	7.70	4827.28	613.67	0.43
16.506	36000.00	1105.40	1120.02	1115.44	1120.96	0.001572	7.79	4621.06	461.45	0.43
16.514	36000.00	1105.70	1119.95		1121.20	0.002090	9.17	4295.06	589.65	0.50
16.514	36000.00	1105.70	1119.87		1121.27	0.002289	9.55	3879.80	427.24	0.53
16.516	Bridge									
16.518	36000.00	1105.70	1121.50	1116.63	1122.55	0.001918	8.36	4515.60	437.41	0.43
16.518	36000.00	1105.70	1121.62	1116.63	1122.65	0.001850	8.27	4566.97	435.41	0.42
16.612	36000.00	1108.30	1122.42	1117.35	1123.52	0.001923	8.47	4342.77	1484.29	0.43
16.612	36000.00	1108.30	1122.50	1117.35	1123.59	0.001876	8.40	4375.46	387.28	0.43
16.707	36000.00	1109.70	1123.42	1118.14	1124.48	0.001912	8.27	4389.39	2042.67	0.43
16.707	36000.00	1109.70	1123.48	1118.14	1124.53	0.001873	8.23	4411.40	383.92	0.42

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
16.801	36000.00	1108.90	1124.44	1118.62	1125.36	0.001576	7.81	4831.71	2233.34	0.39
16.801	36000.00	1108.90	1124.41	1118.60	1125.42	0.001705	8.11	4498.80	368.93	0.41
16.895	36000.00	1109.80	1125.17	1119.62	1126.22	0.001728	8.25	4433.98	1529.36	0.41
16.895	36000.00	1109.80	1125.23	1119.62	1126.27	0.001697	8.20	4459.16	373.52	0.41
16.99	36000.00	1110.90	1125.99	1120.62	1127.18	0.001977	8.80	4152.37	1483.56	0.44
16.99	36000.00	1110.90	1126.04	1120.62	1127.22	0.001949	8.76	4170.06	343.55	0.44
17.085	36000.00	1111.50	1127.13	1122.35	1128.18	0.001976	8.30	4418.96	2280.69	0.43
17.085	36000.00	1111.50	1127.16	1122.36	1128.21	0.001955	8.28	4433.71	409.85	0.43
17.18	36000.00	1112.20	1128.18	1123.44	1129.21	0.002084	8.22	4626.81	2749.42	0.44
17.18	36000.00	1112.20	1128.19	1123.45	1129.23	0.002106	8.27	4514.06	475.88	0.44
17.277	36000.00	1113.70	1129.59	1123.16	1129.81	0.000553	4.34	10097.14	3832.84	0.23
17.277	36000.00	1113.70	1129.60	1123.32	1129.99	0.000856	5.41	7464.30	705.00	0.28
17.37	36000.00	1115.20	1129.90	1124.15	1130.12	0.000578	4.45	10306.71	3628.71	0.23
17.37	36000.00	1115.20	1130.07	1124.38	1130.44	0.000823	5.36	7902.80	824.72	0.28
17.458	36000.00	1116.50	1130.20	1124.98	1130.46	0.000835	4.32	9235.78	2721.79	0.27
17.458	36000.00	1116.50	1130.51	1124.95	1130.86	0.000991	4.82	7719.21	970.00	0.29
17.548	36000.00	1122.00	1130.66	1127.05	1131.07	0.001885	5.29	7166.76	2472.90	0.38
17.548	36000.00	1122.00	1131.05	1127.26	1131.58	0.002120	5.83	6178.33	978.91	0.41
17.638	37500.00	1130.00	1133.89	1133.89	1135.53	0.020534	10.81	3656.24	2447.17	1.12
17.638	37500.00	1130.00	1134.12	1134.12	1135.87	0.019207	10.97	3545.41	1019.79	1.10
17.73	37500.00	1130.00	1138.27	1137.25	1139.13	0.003711	8.24	6277.53	5751.55	0.55
17.73	37500.00	1130.00	1138.53	1137.15	1139.62	0.004069	8.84	5006.29	1030.00	0.58
17.821	37500.00	1130.00	1139.65	1137.82	1140.30	0.001667	7.24	7458.61	5423.13	0.43
17.821	37500.00	1130.00	1140.02	1136.85	1140.95	0.001972	8.10	5428.98	885.00	0.48
17.91	37500.00	1130.00	1140.53	1136.42	1140.82	0.000718	5.06	11619.94	5282.32	0.29
17.91	37500.00	1130.00	1141.12	1136.42	1141.59	0.000871	5.81	7661.68	1045.00	0.32
18 .	37500.00	1130.00	1140.90	1137.59	1141.23	0.000995	5.41	10376.29	3012.28	0.33
18	37500.00	1130.00	1141.60	1137.46	1142.04	0.001021	5.79	7735.80	1060.72	0.34
18.093	37500.00	1130.10	1141.41	1138.73	1141.92	0.001762	6.58	7783.95	2641.74	0.43
18.093	37500.00	1130.10	1142.14	1138.70	1142.68	0.001492	6.46	6765.30	977.14	0.41
18.182	37500.00	1129.80	1142.21	1140.21	1142.96	0.002404	7.93	6749.37	2393.77	0.51
18.182	37500.00	1129.80	1142.83	1140.20	1143.55	0.001998	7.62	6201.74	1020.00	0.47

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
18.275	37500.00	1130.10	1143.45	1141.99	1144.16	0.002468	7.83	6963.27	2564.76	0.51
18.275	37500.00	1130.10	1143.87	1141.89	1144.61	0.002258	7.78	6185.36	1084.11	0.50
18.369	37500.00	1134.40	1145.07	1144.49	1145.95	0.005286	9.38	5921.46	2594.32	0.72
18.369	37500.00	1134.40	1145.31	1144.50	1146.55	0.006244	10.50	4662.49	1090.00	0.78
18.464	37500.00	1138.50	1147.48	1145.97	1148.05	0.003299	7.47	6848.94	2640.32	0.57
18.464	37500.00	1138.50	1148.18	1146.56	1149.09	0.003855	8.76	5266.39	980.00	0.63
18.558	37500.00	1142.10	1149.09	1147.85	1149.78	0.003629	7.57	6129.77	2627.83	0.59
18.558	37500.00	1142.10	1150.01	1148.02	1150.84	0.003111	7.83	5379.97	935.00	0.56
18.653	37500.00	1143.00	1150.77	1149.41	1151.60	0.003559	8.01	5586.44	2493.61	0.60
18.653	37500.00	1143.00	1151.51	1149.35	1152.27	0.002630	7.48	5627.09	965.16	0.52
18.748	37500.00	1143.50	1151.43	1151.43	1153.21	0.007453	11.34	3973.55	2200.85	0.85
18.748	37500.00	1143.50	1152.77	1151.35	1153.81	0.003323	8.74	5013.48	948.04	0.59
18.839	37500.00	1144.60	1154.07	1150.98	1154.79	0.001682	7.16	6208.42	2254.19	0.44
18.839	37500.00	1144.60	1154.19	1150.98	1154.92	0.001649	7.16	6066.21	987.17	0.43
18.937	37500.00	1146.80	1155.19	1151.69	1155.61	0.001511	6.02	7465.37	2046.63	0.40
18.937	37500.00	1146.80	1155.31	1151.69	1155.72	0.001429	5.92	7593.24	1095.99	0.39
18.962	37500.00	1147.30	1155.37	1152.45	1155.88	0.002031	6.67	6786.88	1097.50	0.46
18.962	37500.00	1147.30	1155.48	1152.45	1155.97	0.001924	6.56	6899.81	1065.89	0.45
18.97	Bridge									
18.978	37500.00	1147.60	1155.43	1153.04	1156.04	0.002569	7.20	6292.41	1100.49	0.51
18.978	37500.00	1147.60	1155.54	1153.04	1156.12	0.002429	7.08	6401.41	1068.32	0.50
19.066	37500.00	1149.40	1156.72	1155.21	1157.48	0.003597	8.19	5971.00	1495.54	0.60
19.066	37500.00	1149.40	1156.76	1155.21	1157.50	0.003495	8.11	6026.76	1355.52	0.59
19.162	37500.00	1150.90	1158.56	1157.20	1159.22	0.003375	7.88	6715.23	2376.03	0.58
19.162	37500.00	1150.90	1158.55	1157.26	1159.29	0.003653	8.19	6249.48	1644.29	0.60
19.256	37500.00	1153.60	1160.47	1160.21	1161.69	0.007083	11.33	5344.81	2336.06	0.84
19.256	37500.00	1153.60	1160.57	1160.24	1161.95	0.007464	11.75	4794.71	1752.39	0.86
19.352	37500.00	1154.60	1163.16		1163.64	0.002337	7.50	8797.69	2688.83	0.50
19.352	37500.00	1154.60	1163.44		1164.02	0.002499	7.97	7821.53	2142.00	0.52
19.446	37500.00	1155.90	1164.30	1162.12	1164.77	0.002266	6.83	8410.84	2509.73	0.48
19.446	37500.00	1155.90	1164.66	1162.30	1165.13	0.002028	6.71	8307.90	2167.16	0.46

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
19.542	37500.00	1157.00	1165.53		1166.03	0.002730	7.60	8345.66	2597.62	0.53
19.542	37500.00	1157.00	1165.77		1166.30	0.002646	7.67	7927.30	2243.00	0.53
19.635	37500.00	1159.10	1166.92		1167.29	0.002383	6.15	8230.61	2470.52	0.48
19.635	37500.00	1159.10	1167.17		1167.64	0.002776	6.85	7613.73	2216.42	0.52
19.732	37500.00	1160.90	1168.23		1168.69	0.003153	7.10	7695.21	2581.99	0.55
19.732	37500.00	1160.90	1168.61		1169.17	0.003224	7.53	7117.89	2215.83	0.56
19.827	37500.00	1163.20	1169.93		1170.35	0.003452	7.08	8368.45	2812.94	0.57
19.827	37500.00	1163.20	1170.33		1170.81	0.003288	7.29	7667.97	2207.00	0.56
19.92	37500.00	1164.00	1171.38		1171.73	0.002327	6.07	8760.64	2558.18	0.47
19.92	37500.00	1164.00	1171.75		1172.15	0.002282	6.30	7895.94	1947.36	0.47
20.015	37500.00	1166.10	1172.66		1173.16	0.003357	7.26	7469.26	2317.73	0.57
20.015	37500.00	1166.10	1172.98		1173.56	0.003314	7.52	6749.90	1692.87	0.57
20.111	37500.00	1166.80	1174.18		1174.69	0.002840	7.18	7462.35	2213.87	0.53
20.111	37500.00	1166.80	1174.50		1175.14	0.003055	7.73	6495.74	1545.81	0.56
20.207	37500.00	1167.20	1175.53		1176.23	0.003190	8.32	6700.09	2013.36	0.58
20.207	37500.00	1167.20	1175.89		1176.77	0.003374	8.87	5736.57	1267.48	0.60
20.294	37500.00	1166.70	1176.90		1177.44	0.002252	7.56	7669.87	1963.16	0.49
20.294	37500.00	1166.70	1177.37		1177.94	0.002015	7.45	6817.49	1158.63	0.47
20.343	37500.00	1168.70	1177.58		1178.09	0.002744	7.62	8056.67	2449.31	0.53
20.343	37500.00	1168.70	1177.93		1178.58	0.002828	8.01	6377.05	1250.00	0.55
20.388	37500.00	1168.90	1178.09	1177.13	1178.94	0.004097	9.03	6199.37	2398.69	0.65
20.388	37500.00	1168.90	1178.46	1177.11	1179.42	0.003938	9.21	5295.09	1120.00	0.64
20.435	37500.00	1168.80	1179.03	1178.38	1180.04	0.004296	9.43	5855.57	2332.73	0.66
20.435	37500.00	1168.80	1179.31	1178.44	1180.63	0.004736	10.19	4469.92	924.90	0.70
20.483	37500.00	1169.80	1180.02		1180.92	0.002882	8.36	6280.94	2114.05	0.55
20.483	37500.00	1169.80	1180.38		1181.62	0.003257	9.19	4482.89	870.00	0.59
20.579	37500.00	1171.90	1181.50		1182.59	0.003631	9.15	5646.09	2056.50	0.62
20.579	37500.00	1171.90	1182.04		1183.43	0.003691	9.70	4157.81	669.50	0.63
20.675	37500.00	1171.30	1183.10	1182.05	1184.11	0.002522	9.32	6091.60	1718.33	0.54
20.675	37500.00	1171.30	1183.66	1181.55	1185.02	0.002738	10.10	4420.85	593.88	0.57
20.769	35000.00	1173.10	1184.57	1182.05	1185.12	0.001579	6.92	7284.47	1952.46	0.42
20.769	35000.00	1173.10	1185.40	1182.15	1186.07	0.001471	7.11	5809.93	778.77	0.41

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
20.864	35000.00	1176.00	1185.38	1182.87	1185.96	0.001800	6.96	7184.41	2331.89	0.44
20.864	35000.00	1176.00	1186.13	1183.14	1186.92	0.001865	7.54	5554.92	970.00	0.46
20.958	35000.00	1176.60	1186.29	1184.24	1186.97	0.002292	7.18	6179.00	2109.30	0.49
20.958	35000.00	1176.60	1187.06	1184.38	1187.97	0.002306	7.75	4871.20	1078.49	0.50
21.061	35000.00	1176.50	1187.32	1184.95	1188.44	0.002698	8.73	4850.25	2246.89	0.55
21.061	35000.00	1176.50	1188.15	1184.89	1189.21	0.002139	8.31	4486.26	898.58	0.50
21.157	35000.00	1176.60	1189.30	1185.29	1189.62	0.001746	4.63	7820.44	2385.67	0.30
21.157	35000.00	1176.60	1189.87	1185.34	1190.17	0.001432	4.41	8044.15	1125.19	0.28
21.245	35000.00	1184.00	1190.32	1187.97	1190.91	0.005063	6.24	5733.56	2332.15	0.49
21.245	35000.00	1184.00	1190.70	1187.95	1191.23	0.004152	5.93	6001.93	1029.26	0.45
21.337	35000.00	1180.00	1191.30	1183.66	1191.46	0.000479	3.28	11412.73	2032.87	0.17
21.337	35000.00	1180.00	1191.59	1183.72	1191.76	0.000495	3.39	10637.96	966.00	0.18
21.431	35000.00	1181.00	1191.40	1189.82	1192.27	0.007217	7.59	4734.71	1928.60	0.58
21.431	35000.00	1181.00	1191.75	1188.33	1192.53	0.005858	7.13	4990.37	922.69	0.53
21.524	35000.00	1182.00	1193.52	1187.88	1193.88	0.001772	4.85	7237.73	1729.80	0.31
21.524	35000.00	1182.00	1193.63	1189.16	1193.98	0.001693	4.79	7314.33	937.10	0.30
21.621	35000.00	1182.50	1194.21	1186.81	1194.43	0.000690	4.00	9504.90	1086.54	0.21
21.621	35000.00	1182.50	1194.29	1186.81	1194.52	0.000696	4.04	9275.85	860.00	0.21
21.716	35000.00	1183.10	1194.57	1191.34	1195.16	0.002963	6.55	6094.18	1039.71	0.40
21.716	35000.00	1183.10	1194.59	1191.68	1195.38	0.003779	7.41	5220.61	830.00	0.46
21.798	35000.00	1188.00	1196.06	1194.47	1196.90	0.005266	8.15	4945.59	1128.65	0.69
21.798	35000.00	1188.00	1196.35	1194.54	1197.23	0.004771	8.10	4783.27	950.78	0.67
21.893	35000.00	1187.40	1198.41	1197.27	1199.44	0.004605	8.89	4961.86	1688.12	0.67
21.893	35000.00	1187.40	1198.55	1197.21	1199.58	0.004379	8.82	4922.10	1114.41	0.66
21.986	35000.00	1191.80	1200.73	1198.96	1201.31	0.003096	7.72	6709.60	3146.01	0.56
21.986	35000.00	1191.80	1200.79	1198.95	1201.35	0.002923	7.55	6581.00	1397.10	0.54
22.082	35000.00	1194.90	1201.97	1196.66	1202.14	0.000953	3.86	11087.38	2245.70	0.30
22.082	35000.00	1194.90	1202.19	1199.38	1202.54	0.001890	5.59	7918.19	1564.54	0.43
22.177	35000.00	1196.00	1202.38	1201.25	1203.25	0.004484	8.27	5198.37	1848.89	0.65
22.177	35000.00	1196.00	1203.12	1201.69	1203.89	0.003255	7.72	5550.76	1396.46	0.57
22.273	35000.00	1197.60	1204.46	1203.17	1205.46	0.004157	8.37	4671.51	1581.44	0.64
22.273	35000.00	1197.60	1204.73	1203.16	1205.62	0.003479	7.91	5036.97	1383.06	0.59

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
22.368	33000.00	1198.50	1206.57		1206.88	0.001870	5.18	7985.38	1964.80	0.42
22.368	33000.00	1198.50	1206.64		1206.99	0.002023	5.43	7519.19	1878.57	0.44
22.462	33000.00	1200.30	1207.58		1207.87	0.002265	5.30	8037.56	2359.55	0.45
22.462	33000.00	1200.30	1207.70		1207.98	0.002079	5.17	8112.89	2286.01	0.44
22.558	33000.00	1203.40	1208.94		1209.94	0.008549	9.88	4722.76	1904.45	0.87
22.558	33000.00	1203.40	1208.95		1209.94	0.008419	9.83	4746.74	1905.61	0.86
22.651	33000.00	1204.90	1211.66		1211.97	0.002414	5.77	8005.43	2654.41	0.47
22.651	33000.00	1204.90	1211.65		1211.96	0.002423	5.78	7992.63	2652.45	0.47
22.745	33000.00	1206.30	1213.02		1213.41	0.004045	7.15	7731.24	3186.59	0.61
22.745	33000.00	1206.30	1213.02		1213.41	0.004044	7.15	7726.85	3179.01	0.61
22.839	33000.00	1208.70	1214.65		1214.94	0.002719	5.96	8404.55	3084.28	0.50
22.839	33000.00	1208.70	1214.64		1214.94	0.002713	5.95	8390.95	3065.77	0.50
22.935	33000.00	1209.50	1215.86		1216.13	0.002305	4.89	8704.61	3172.46	0.45
22.935	33000.00	1209.50	1215.86		1216.13	0.002342	4.93	8553.46	3038.94	0.45
23.029	33000.00	1211.80	1217.26	1216.14	1217.68	0.004895	6.91	7002.13	3124.43	0.65
23.029	33000.00	1211.80	1217.26	1216.14	1217.68	0.004776	6.83	6927.80	2713.45	0.64
23.124	33000.00	1213.90	1219.46	1217.85	1219.80	0.004061	6.60	7510.11	3147.89	0.59
23.124	33000.00	1213.90	1219.35	1217.86	1219.72	0.003853	6.32	7083.90	2317.01	0.58
23.219	33000.00	1214.70	1221.24	1219.73	1221.58	0.003199	5.76	7347.68	3232.10	0.53
23.219	33000.00	1214.70	1221.16	1219.72	1221.54	0.003472	5.91	7039.37	2184.24	0.55
23.314	33000.00	1216.10	1223.12	1222.47	1223.72	0.005536	8.62	6037.54	3601.92	0.71
23.314	33000.00	1216.10	1223.11	1222.26	1223.74	0.005344	8.46	5703.00	1824.07	0.70
23.409	33000.00	1218.80	1225.49	1223.89	1225.96	0.003753	6.97	6443.59	3608.86	0.59
23.409	33000.00	1218.80	1225.65	1224.46	1226.40	0.005251	8.45	5157.33	1420.00	0.70
23.504	33000.00	1220.80	1227.30	1225.65	1227.63	0.003004	5.23	7328.01	3487.51	0.50
23.504	33000.00	1220.80	1227.88	1225.85	1228.41	0.003178	5.98	5691.46	1200.00	0.53
23.598	33000.00	1221.40	1228.71	1227.21	1229.15	0.003034	6.49	6801.83	3227.39	0.53
23.598	33000.00	1221.40	1229.30	1227.20	1229.87	0.002705	6.64	5591.70	1088.35	0.51
23.692	33000.00	1223.80	1230.35	1229.87	1231.19	0.005373	8.83	5343.19	3401.54	0.71
23.692	33000.00	1223.80	1230.73	1230.15	1231.96	0.006046	9.85	4106.71	1025.00	0.76
23.79	31000.00	1224.20	1232.73	1231.37	1233.21	0.002868	6.75	6673.09	3195.31	0.53
23.79	31000.00	1224.20	1233.48	1232.11	1234.31	0.003416	8.07	4841.73	1005.00	0.59

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
23.881	31000.00	1225.10	1234.01	1232.81	1234.72	0.003216	7.73	5864.48	3518.92	0.57
23.881	31000.00	1225.10	1234.94	1232.98	1235.76	0.002697	7.81	5001.46	1035.00	0.53
23.974	31000.00	1227.50	1236.14	1234.37	1236.58	0.004339	6.28	6082.23	3451.88	0.46
23.974	31000.00	1227.50	1236.86	1234.56	1237.30	0.003496	6.06	5981.47	1106.29	0.42
24.067	31000.00	1229.30	1237.78	1234.90	1237.99	0.001962	4.07	8656.31	3653.44	0.31
24.067	31000.00	1229.30	1238.34	1235.50	1238.57	0.001869	4.24	8435.56	1640.00	0.30
24.165	31000.00	1231.40	1238.59	1236.09	1238.80	0.001300	4.61	9300.83	3809.94	0.36
24.165	31000.00	1231.40	1239.10	1236.20	1239.36	0.001259	4.83	8391.96	1875.00	0.36
24.212	31000.00	1231.30	1238.96	1236.84	1239.15	0.001529	4.76	9680.44	3974.76	0.38
24.212	31000.00	1231.30	1239.45	1237.17	1239.70	0.001508	5.04	8342.03	1950.00	0.38
24.26	31000.00	1231.70	1239.36	1237.20	1239.52	0.001351	3.91	10307.42	3834.13	0.35
24.26	31000.00	1231.70	1239.86	1237.49	1240.07	0.001409	4.32	8614.67	1981.00	0.36
24.353	31000.00	1233.60	1240.11	1238.62	1240.33	0.001955	4.44	9100.68	3576.85	0.41
24.353	31000.00	1233.60	1240.59	1238.61	1240.84	0.001660	4.44	8039.33	2028.00	0.39
24.449	31000.00	1235.00	1241.38		1241.80	0.004302	6.36	6708.91	2842.69	0.60
24.449	31000.00	1235.00	1241.69		1242.20	0.004191	6.63	5799.05	1854.58	0.60
24.543	31000.00	1237.60	1243.51		1243.80	0.003713	5.49	7510.30	3152.37	0.55
24.543	31000.00	1237.60	1243.76		1244.11	0.003468	5.57	6676.75	2034.11	0.54
24.631	31000.00	1239.80	1245.31		1245.61	0.004164	5.25	7636.57	3523.55	0.57
24.631	31000.00	1239.80	1245.57		1245.96	0.004637	5.90	6444.07	2175.00	0.61
24.721	31000.00	1241.10	1247.16		1247.39	0.003472	4.62	8766.79	4068.18	0.51
24.721	31000.00	1241.10	1247.60		1247.93	0.003789	5.28	6987.64	2227.58	0.55
24.816	31000.00	1241.80	1248.92		1249.12	0.003657	4.54	9103.78	4243.82	0.52
24.816	31000.00	1241.80	1249.46		1249.76	0.003699	5.24	7319.63	2345.00	0.54
24.91	31000.00	1244.70	1250.66		1250.84	0.003376	4.00	9550.52	4642.79	0.49
24.91	31000.00	1244.70	1251.25		1251.51	0.003470	4.63	7650.97	2569.25	0.51
24.996	31000.00	1246.30	1252.27		1252.51	0.004139	4.92	8404.80	4097.28	0.56
24.996	31000.00	1246.30	1252.87		1253.22	0.004130	5.69	7019.46	2513.65	0.58
25.098	31000.00	1249.70	1254.54		1254.81	0.004576	5.56	8077.74	3978.98	0.60
25.098	31000.00	1249.70	1255.15		1255.54	0.004622	6.22	6689.65	2369.36	0.62
25.192	29000.00	1250.00	1256.30	1255.25	1256.67	0.002901	6.38	7896.38	3718.51	0.58
25.192	29000.00	1250.00	1256.79	1255.59	1257.20	0.002466	6.37	6851.38	2119.54	0.55

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
25.288	29000.00	1251.30	1257.79		1258.60	0.004467	8.57	5594.23	2721.32	0.74
25.288	29000.00	1251.30	1258.05		1258.88	0.003999	8.44	5231.74	1950.44	0.71
25.382	29000.00	1253.70	1259.69		1260.45	0.003139	7.93	5877.71	2684.61	0.64
25.382	29000.00	1253.70	1259.82		1260.61	0.003049	7.96	5360.86	1871.42	0.63
25.478	29000.00	1253.90	1261.23		1262.39	0.004308	10.08	4711.36	1996.18	0.76
25.478	29000.00	1253.90	1261.33		1262.45	0.004049	9.88	4795.56	1939.66	0.74
25.526	29000.00	1253.70	1262.47	1261.45	1263.28	0.002662	8.79	5853.38	2028.59	0.61
25.526	29000.00	1253.70	1262.51	1261.45	1263.29	0.002582	8.69	5922.01	2025.67	0.60
25.572	29000.00	1254.70	1262.97	1261.89	1263.99	0.002671	9.73	5417.96	1628.64	0.63
25.572	29000.00	1254.70	1262.84	1262.12	1264.18	0.003364	10.78	4580.35	1370.00	0.70
25.666	29000.00	1255.40	1264.27		1265.20	0.002253	9.19	5113.78	1274.62	0.58
25.666	29000.00	1255.40	1264.48		1265.60	0.002428	9.71	4431.13	966.47	0.61
25.691	29000.00	1258.00	1265.63		1266.19	0.001893	6.55	5921.88	1626.09	0.50
25.691	29000.00	1258.00	1265.96		1266.63	0.001916	6.86	4815.17	979.00	0.51
25.72	29000.00	1257.80	1266.61	1266.61	1267.85	0.005153	12.63	4930.10	1662.02	0.86
25.72	29000.00	1257.80	1266.77	1266.77	1268.53	0.006054	13.90	3680.12	930.00	0.94
25.79	29000.00	1258.80	1268.39		1268.99	0.002026	9.33	6944.37	1849.97	0.56
25.79	29000.00	1258.80	1268.96		1269.84	0.002278	10.33	5159.21	950.00	0.60
25.86	29000.00	1260.00	1268.61		1270.51	0.004222	12.22	3922.93	1654.87	0.79
25.86	29000.00	1260.00	1269.69		1270.83	0.002257	9.77	4675.70	1051.00	0.59
25.94	29000.00	1264.20	1271.96		1272.88	0.006666	11.44	6366.74	2783.53	0.82
25.94	29000.00	1264.20	1272.20	1272.20	1273.70	0.008295	13.10	4177.68	1200.00	0.92
26.03	29000.00	1266.30	1274.26		1274.52	0.002334	5.58	9749.57	3363.96	0.46
26.03	29000.00	1266.30	1275.08		1275.50	0.002348	6.27	6771.35	1520.00	0.48
26.12	29000.00	1267.60	1275.42		1275.66	0.002757	6.09	9954.06	3604.81	0.50
26.12	29000.00	1267.60	1276.26		1276.61	0.002567	6.58	7587.91	1840.00	0.50
26.2	29000.00	1269.20	1277.05		1277.58	0.006216	8.19	6917.49	3215.64	0.74
26.2	29000.00	1269.20	1277.69		1278.59	0.006857	9.54	5221.60	1830.00	0.79
26.29	29000.00	1271.60	1279.23		1279.70	0.003816	7.34	8092.42	3589.29	0.60
26.29	29000.00	1271.60	1280.03		1280.64	0.003305	7.58	6042.78	1680.00	0.57
26.37	29000.00	1271.90	1280.81		1281.13	0.002440	6.67	9825.79	3676.54	0.49
26.37	29000.00	1271.90	1281.51		1282.14	0.003099	8.13	6184.31	1510.00	0.57

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
26.47	27000.00	1275.30	1282.19		1282.73	0.004228	7.48	6349.73	2418.82	0.62
26.47	27000.00	1275.30	1283.09		1283.78	0.003581	7.78	5293.95	1320.00	0.59
26.55	27000.00	1276.60	1284.07		1284.53	0.004132	7.31	6825.33	3574.97	0.62
26.55	27000.00	1276.60	1284.77		1285.52	0.004471	8.38	4852.72	1130.00	0.66
26.63	27000.00	1279.50	1285.88		1286.24	0.003351	6.82	9063.35	4005.76	0.56
26.63	27000.00	1279.50	1286.65		1287.13	0.002700	6.79	5629.77	990.00	0.51
26.73	27000.00	1279.80	1287.18	1285.34	1287.76	0.002771	8.30	7205.20	3791.48	0.55
26.73	27000.00	1279.80	1287.77	1285.34	1288.32	0.002186	7.77	6007.40	980.00	0.49
26.83	27000.00	1282.30	1288.59		1289.67	0.005915	10.93	6726.48	3641.75	0.78
26.83	27000.00	1282.30	1288.83		1289.94	0.005359	10.67	4447.98	996.00	0.75
26.94	27000.00	1282.10	1290.68		1291.14	0.001649	7.22	9478.77	3369.67	0.43
26.94	27000.00	1282.10	1290.89		1291.64	0.002164	8.41	5305.93	904.00	0.50
27.03	27000.00	1283.40	1291.38		1292.37	0.003942	10.11	5411.14	2795.46	0.65
27.03	27000.00	1283.40	1292.01		1292.69	0.002588	8.65	5060.52	796.00	0.54
27.11	27000.00	1288.00	1293.07		1293.27	0.001716	5.06	8894.82	2824.72	0.40
27.11	27000.00	1288.00	1293.23		1293.64	0.002890	6.72	5648.39	1010.00	0.53
27.19	27000.00	1287.80	1294.03		1294.35	0.002183	6.40	7682.20	2318.27	0.47
27.19	27000.00	1287.80	1294.61		1295.13	0.002636	7.50	6039.70	1350.00	0.52
27.3	27000.00	1289.20	1295.54		1295.90	0.002719	6.97	7646.45	2338.76	0.52
27.3	27000.00	1289.20	1296.31		1296.85	0.002855	7.75	6234.73	1592.00	0.54
27.39	27000.00	1290.30	1297.19		1297.62	0.002892	8.18	7637.90	2709.91	0.55
27.39	27000.00	1290.30	1297.98		1298.69	0.003290	9.40	5877.09	1670.00	0.60
27.48	27000.00	1291.50	1298.90		1299.32	0.003039	7.87	7370.43	2601.69	0.56
27.48	27000.00	1291.50	1299.86		1300.42	0.002810	8.34	6185.13	1630.00	0.55
27.58	27000.00	1294.20	1300.76		1301.06	0.002517	6.76	7724.42	2288.75	0.50
27.58	27000.00	1294.20	1301.64		1302.11	0.002644	7.63	6153.60	1414.00	0.53
27.68	27000.00	1294.70	1302.50		1303.10	0.005272	9.07	6205.81	2562.40	0.71
27.68	27000.00	1294.70	1303.30		1304.09	0.004647	9.39	4715.37	1171.00	0.68
27.77	27000.00	1297.40	1304.76		1305.32	0.004026	8.38	6324.62	2343.27	0.63
27.77	27000.00	1297.40	1305.43		1306.27	0.004263	9.31	4630.45	1125.00	0.66
27.86	25000.00	1297.50	1306.26		1306.71	0.002155	7.02	6675.41	2263.70	0.48
27.86	25000.00	1297.50	1307.08		1307.68	0.002063	7.42	5137.67	1040.00	0.48

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
27.94	25000.00	1299.10	1307.52		1308.08	0.004916	8.38	5202.57	1942.65	0.68
27.94	25000.00	1299.10	1308.23		1308.94	0.004244	8.55	4195.88	883.00	0.65
28.04	25000.00	1303.60	1309.62		1309.92	0.002574	6.44	7129.23	2359.88	0.50
28.04	25000.00	1303.60	1310.27		1310.87	0.003214	7.79	4629.01	960.00	0.57
28.12	25000.00	1304.60	1310.85		1311.63	0.004981	10.07	5161.40	1936.09	0.71
28.12	25000.00	1304.60	1311.66		1312.67	0.004420	10.31	3967.62	970.00	0.69
28.21	25000.00	1304.40	1312.62	1310.88	1313.21	0.002288	7.63	5737.11	1674.35	0.50
28.21	25000.00	1304.40	1313.37	1311.07	1314.25	0.002496	8.51	4312.26	950.00	0.53
28.31	25000.00	1305.90	1313.84		1314.52	0.003109	8.80	5263.77	1459.39	0.58
28.31	25000.00	1305.90	1314.75		1315.48	0.002543	8.62	4735.57	1010.00	0.53
28.39	25000.00	1306.70	1315.14		1315.84	0.003005	8.88	5641.38	1736.01	0.57
28.39	25000.00	1306.70	1315.79		1316.83	0.003388	9.96	4064.78	860.00	0.62
28.45	25000.00	1306.70	1316.15	1314.89	1317.30	0.004330	10.08	4039.27	1625.20	0.67
28.45	25000.00	1306.70	1316.83	1315.14	1318.33	0.004294	10.66	2944.13	504.00	0.68
28.52	25000.00	1307.10	1317.68	1315.58	1318.56	0.002767	8.91	4515.65	1459.62	0.56
28.52	25000.00	1307.10	1318.46	1315.47	1319.54	0.002569	9.14	3255.54	394.00	0.54
28.58	25000.00	1309.00	1318.58	1316.33	1319.41	0.002224	7.97	4549.88	1480.50	0.50
28.58	25000.00	1309.00	1319.33	1316.16	1320.35	0.002131	8.28	3223.08	386.00	0.50
28.67	25000.00	1311.50	1319.64	1318.69	1320.68	0.003587	9.74	4294.24	1342.46	0.63
28.67	25000.00	1311.50	1320.19	1318.39	1321.85	0.004231	11.09	2623.19	350.00	0.69
28.76	25000.00	1312.50	1321.08		1322.36	0.003746	9.85	3771.87	1218.95	0.63
28.76	25000.00	1312.50	1322.06		1323.56	0.003260	9.97	2657.93	342.12	0.60
28.86	25000.00	1313.10	1323.02	1322.67	1324.49	0.005160	10.96	3777.58	1568.75	0.74
28.86	25000.00	1313.10	1323.94	1322.42	1325.28	0.003710	10.08	3069.09	488.00	0.63
28.95	25000.00	1312.30	1325.57		1326.36	0.003348	8.03	4984.01	2018.52	0.58
28.95	25000.00	1312.30	1325.93		1326.92	0.003434	8.44	3465.28	654.00	0.59
29.04	25000.00	1317.20	1327.05		1327.54	0.001875	6.51	6250.32	1970.51	0.44
29.04	25000.00	1317.20	1327.54		1328.09	0.001738	6.57	4764.24	803.00	0.43
29.14	23000.00	1319.40	1328.06		1328.49	0.002239	6.27	5876.17	1939.04	0.47
29.14	23000.00	1319.40	1328.45		1329.14	0.002755	7.28	3831.97	760.00	0.53
29.23	23000.00	1321.40	1329.15		1329.58	0.002447	6.20	5257.66	1463.06	0.48
29.23	23000.00	1321.40	1329.76		1330.57	0.003219	7.67	3516.51	732.72	0.57

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
29.3	23000.00	1322.30	1330.35		1331.34	0.007741	9.07	3400.25	1231.17	0.82
29.3	23000.00	1322.30	1331.24		1332.24	0.005195	8.49	3048.35	690.00	0.70
29.39	23000.00	1324.60	1332.53		1333.05	0.002245	6.23	4646.72	1148.03	0.47
29.39	23000.00	1324.60	1333.04		1333.74	0.002324	6.73	3509.75	607.00	0.49
29.47	23000.00	1324.10	1333.44		1334.16	0.002547	7.37	4131.66	1049.33	0.51
29.47	23000.00	1324.10	1333.97		1334.88	0.002540	7.76	3199.43	551.00	0.52
29.54	23000.00	1326.70	1334.20		1335.64	0.004506	10.23	3061.85	921.34	0.69
29.54	23000.00	1326.70	1334.88		1336.04	0.003229	9.18	3012.90	515.86	0.59
29.611	23000.00	1328.90	1336.19	1335.70	1337.55	0.006106	10.44	3026.45	818.20	0.78
29.611	23000.00	1328.90	1336.06	1335.97	1338.14	0.008608	12.21	2203.03	490.00	0.92
29.6175	Bridge									
29.624	23000.00	1328.50	1339.10	1336.07	1339.47	0.001044	5.61	5865.90	1031.96	0.34
29.624	23000.00	1328.50	1339.22	1335.93	1339.93	0.001628	7.10	3669.98	484.00	0.43
29.72	23000.00	1330.50	1339.71	1337.27	1340.09	0.001637	5.63	5683.09	1287.31	0.37
29.72	23000.00	1330.50	1340.28	1337.09	1340.76	0.001641	5.93	4480.64	665.00	0.37
29.8	23000.00	1331.20	1340.43		1340.75	0.001215	5.14	5531.64	869.44	0.32
29.8	23000.00	1331.20	1341.04		1341.37	0.001068	5.06	5207.80	640.00	0.31
29.89	23000.00	1331.60	1341.08		1341.34	0.001477	4.62	5703.50	869.57	0.34
29.89	23000.00	1331.60	1341.62		1341.98	0.001755	5.33	4815.04	630.00	0.37
29.99	23000.00	1332.90	1341.94		1342.90	0.006089	9.41	3155.97	722.59	0.68
29.99	23000.00	1332.90	1342.56		1343.85	0.007027	10.50	2718.61	486.31	0.74
30.07	23000.00	1334.40	1344.44		1345.35	0.004450	9.01	3347.07	616.98	0.60
30.07	23000.00	1334.40	1345.27		1346.05	0.003240	8.25	3485.38	496.81	0.52
30.17	23000.00	1335.60	1346.23		1346.78	0.001794	6.89	4285.64	572.68	0.40
30.17	23000.00	1335.60	1346.65		1347.43	0.002196	7.85	3528.88	420.00	0.45
30.26	23000.00	1338.90	1347.23		1347.67	0.001796	5.88	4657.05	745.17	0.39
30.26	23000.00	1338.90	1347.88		1348.42	0.001783	6.20	4008.45	512.00	0.39
30.36	23000.00	1341.20	1348.28		1348.99	0.003342	7.57	3942.37	866.47	0.52
30.36	23000.00	1341.20	1348.85		1349.78	0.003445	8.12	3116.82	460.00	0.53
30.46	23000.00	1341.20	1349.88		1350.81	0.003693	8.14	3337.96	684.65	0.55
30.46	23000.00	1341.20	1350.48		1351.45	0.003215	8.03	2987.86	416.00	0.52
30.55	21000.00	1343.40	1351.61		1352.36	0.002505	7.04	3240.72	647.58	0.46

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
30.55	21000.00	1343.40	1352.08		1352.79	0.002169	6.79	3094.53	395.25	0.43
30.65	21000.00	1343.70	1353.07		1354.36	0.005132	10.06	2522.86	444.51	0.65
30.65	21000.00	1343.70	1353.33		1354.62	0.004855	9.96	2404.80	326.69	0.64
30.73	21000.00	1345.20	1354.85		1356.10	0.003414	9.65	2698.05	476.99	0.56
30.73	21000.00	1345.20	1355.01		1356.35	0.003475	9.84	2467.27	316.00	0.56
30.82	21000.00	1345.20	1356.80		1357.30	0.001764	6.44	4284.28	805.79	0.39
30.82	21000.00	1345.20	1356.97		1357.82	0.002481	7.74	2997.44	378.94	0.47
30.92	21000.00	1346.00	1357.71		1358.07	0.001212	5.66	5103.47	783.14	0.33
30.92	21000.00	1346.00	1358.21		1358.93	0.001872	7.29	3465.45	476.00	0.41
31.01	21000.00	1349.50	1358.40		1359.03	0.002446	7.17	4108.77	939.00	0.45
31.01	21000.00	1349.50	1359.21		1360.05	0.002474	7.70	3361.83	673.00	0.46
31.11	21000.00	1349.40	1359.70		1360.43	0.003166	7.95	3834.53	884.22	0.51
31.11	21000.00	1349.40	1360.52		1361.41	0.003050	8.36	3376.92	698.00	0.51
31.2	21000.00	1349.90	1361.38		1361.74	0.002055	6.34	4977.31	952.08	0.41
31.2	21000.00	1349.90	1362.25		1362.72	0.002081	6.88	4299.44	680.00	0.42
31.29	21000.00	1355.50	1362.58		1363.28	0.005436	8.14	3462.10	831.94	0.63
31.29	21000.00	1355.50	1363.37		1364.28	0.005223	8.72	2985.63	699.52	0.63
31.39	21000.00	1356.80	1364.86		1365.25	0.002750	6.05	4490.04	915.27	0.46
31.39	21000.00	1356.80	1365.63		1366.03	0.002271	6.00	4415.65	770.00	0.42
31.49	21000.00	1359.50	1366.43		1366.88	0.003096	6.18	4105.98	840.82	0.48
31.49	21000.00	1359.50	1366.97		1367.48	0.002932	6.42	3839.07	700.00	0.47
31.59	21000.00	1360.10	1367.82		1368.22	0.002277	5.82	4295.00	718.67	0.42
31.59	21000.00	1360.10	1368.38		1368.95	0.002803	6.86	3661.01	596.00	0.47
31.67	21000.00	1361.10	1368.80		1369.17	0.001900	5.39	4498.50	734.06	0.39
31.67	21000.00	1361.10	1369.57		1370.04	0.002052	6.06	4020.04	627.00	0.41
31.77	21000.00	1363.00	1369.87		1370.35	0.002865	6.39	3898.68	651.06	0.47
31.77	21000.00	1363.00	1370.70		1371.27	0.002886	7.01	3637.52	570.00	0.48
31.86	21000.00	1365.30	1371.34		1371.80	0.002803	5.86	3929.48	693.01	0.46
31.86	21000.00	1365.30	1372.16		1372.71	0.002748	6.40	3622.55	582.00	0.46
31.96	19000.00	1364.30	1372.53		1373.04	0.002127	6.30	3696.06	663.16	0.42
31.96	19000.00	1364.30	1373.30		1373.83	0.001816	6.24	3491.10	517.00	0.39
32.05	19000.00	1362.20	1373.57		1374.19	0.002311	7.07	3511.80	644.47	0.44

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
32.05	19000.00	1362.20	1374.19		1374.81	0.001976	6.87	3216.01	428.00	0.41
32.15	19000.00	1366.20	1374.98		1375.64	0.003944	7.50	3307.62	761.81	0.55
32.15	19000.00	1366.20	1375.37		1376.29	0.004430	8.31	2729.36	541.00	0.59
32.24	19000.00	1366.90	1376.73		1377.26	0.003236	6.63	3518.30	713.66	0.49
32.24	19000.00	1366.90	1377.37		1378.02	0.003175	7.05	3146.64	560.64	0.50
32.34	19000.00	1368.20	1378.52		1379.07	0.003770	5.74	3207.35	641.20	0.46
32.34	19000.00	1368.20	1379.18		1379.82	0.003745	6.20	2975.21	522.23	0.47
32.43	19000.00	1370.70	1379.78	1375.40	1380.06	0.001117	3.75	4501.36	605.08	0.26
32.43	19000.00	1370.70	1380.57	1376.18	1380.93	0.001393	4.50	3963.88	502.34	0.30
32.52	19000.00	1372.40	1380.42	1377.41	1380.97	0.002686	6.30	3293.23	613.53	0.42
32.52	19000.00	1372.40	1381.34	1377.78	1381.86	0.002293	6.24	3396.23	486.67	0.39
32.58	19000.00	1370.50	1381.21	1377.30	1381.93	0.002938	7.07	2822.63	442.98	0.44
32.58	19000.00	1370.50	1382.00	1377.30	1382.58	0.002139	6.41	3146.08	458.10	0.38
32.64	19000.00	1366.20	1382.12	1377.18	1382.68	0.002241	6.09	3176.33	457.03	0.38
32.64	19000.00	1366.20	1382.67	1377.18	1383.16	0.001816	5.71	3394.93	400.54	0.35
32.72	19000.00	1363.80	1382.69	1378.13	1383.80	0.003118	9.10	2387.40	367.22	0.47
32.72	19000.00	1363.80	1383.11	1378.13	1384.12	0.002752	8.68	2517.39	314.06	0.44
32.79	19000.00	1367.20	1383.85		1385.09	0.003403	9.08	2271.57	317.01	0.49
32.79	19000.00	1367.20	1384.14		1385.28	0.003120	8.77	2362.44	321.91	0.47
32.86	19000.00	1374.90	1385.57		1387.25	0.009759	11.06	1941.35	438.83	0.78
32.86	19000.00	1374.90	1385.70		1387.28	0.009036	10.74	2000.55	449.71	0.75
32.92	19000.00	1381.00	1388.42	1387.50	1390.21	0.009174	10.97	1831.61	358.62	0.76
32.92	19000.00	1381.00	1388.39	1387.48	1390.20	0.009344	11.03	1796.40	303.93	0.77
32.979	19000.00	1379.70	1391.13	1390.56	1393.75	0.012039	13.47	1472.80	219.04	0.88
32.979	19000.00	1379.70	1391.14	1390.57	1393.75	0.011970	13.45	1475.33	219.01	0.88
32.984	19000.00	1378.40	1392.13	1390.87	1394.08	0.007823	13.97	1817.70	270.44	0.75
32.984	19000.00	1378.40	1392.20	1390.87	1394.08	0.007353	13.60	1828.78	258.00	0.73
32.9885	Bridge									
32.993	19000.00	1378.40	1393.34	1390.87	1394.70	0.004717	11.64	2147.68	276.55	0.59
32.993	19000.00	1378.40	1393.34	1390.87	1394.70	0.004701	11.62	2147.76	275.12	0.59
32.998	19000.00	1381.40	1393.23	1391.72	1394.98	0.007849	10.62	1800.34	265.92	0.71
32.998	19000.00	1381.40	1393.23	1391.72	1394.98	0.007850	10.62	1800.17	265.37	0.71

River Sta	Q Total Min	Ch El	W.S. Elev	Crit W.S.	EG Elev	EG Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
33.06	19000.00	1384.00	1395.56		1396.11	0.001802	5.19	3253.42	358.02	0.32
33.06	19000.00	1384.00	1395.56		1396.11	0.001802	5.19	3253.24	357.67	0.32
33.12	19000.00	1384.40	1396.23		1396.40	0.000530	3.24	5652.44	563.17	0.18
33.12	19000.00	1384.40	1396.22		1396.45	0.000695	3.71	5001.36	490.00	0.20
33.19	19000.00	1385.80	1396.42		1396.64	0.000974	3.81	5036.50	677.69	0.23
33.19	19000.00	1385.80	1396.47		1396.78	0.001400	4.59	4282.22	580.97	0.28
33.25	19000.00	1385.20	1396.47	1394.66	1397.50	0.005906	8.51	2362.61	655.70	0.56
33.25	19000.00	1385.20	1396.80	1394.66	1397.71	0.005038	8.03	2487.88	488.78	0.52
33.29	19000.00	1380.30	1397.73	1395.64	1398.96	0.006373	9.04	2132.73	580.44	0.58
33.29	19000.00	1380.30	1397.86	1395.64	1399.05	0.005978	8.87	2172.69	315.62	0.56
33.3	19000.00	1380.40	1398.60		1399.17	0.001626	6.08	3233.05	388.41	0.32
33.3	19000.00	1380.40	1398.68		1399.25	0.001595	6.07	3176.73	297.60	0.31
33.36	19000.00	1381.90	1399.09		1399.76	0.002104	7.09	3065.52	374.46	0.36
33.36	19000.00	1381.90	1399.16		1399.82	0.002033	7.01	3083.76	363.51	0.35
33.41	19000.00	1386.90	1399.75		1400.50	0.003133	6.96	2730.94	316.40	0.42
33.41	19000.00	1386.90	1399.80		1400.54	0.003046	6.92	2745.13	313.41	0.41
33.46	9000.00	1381.90	1400.78		1400.90	0.000365	2.78	3401.81	417.08	0.15
33.46	9000.00	1381.90	1400.81		1400.93	0.000372	2.81	3263.42	331.13	0.15
33.54	9000.00	1384.40	1400.93		1401.10	0.000639	3.31	2721.51	292.10	0.19
33.54	9000.00	1384.40	1400.97		1401.14	0.000627	3.29	2732.01	290.52	0.19
33.63	9000.00	1384.00	1401.28		1401.59	0.001282	4.49	2005.38	228.23	0.27
33.63	9000.00	1384.00	1401.31		1401.62	0.001258	4.47	2011.76	226.57	0.26
33.73	9000.00	1390.50	1402.03		1402.57	0.002937	6.25	1593.38	282.07	0.40
33.73	9000.00	1390.50	1402.03		1402.63	0.003118	6.44	1505.74	239.75	0.41
33.82	9000.00	1387.40	1403.13		1403.60	0.001496	5.50	1645.01	170.61	0.29
33.82	9000.00	1387.40	1403.21		1403.67	0.001464	5.46	1657.95	169.79	0.29

Appendix B

Effects of Vegetated Trail on the Existing Regulatory Floodplain

Vegetated Trail Sensitivity Analysis

100-foot Wide Strip within the
Agua Fria River

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
0.16	916.87	916.76	0.11	5901.75	5535.43	366.32	Gila River
0.25	918.4	918.28	0.12	6680.03	6338.94	341.09	
0.35	919.79	919.69	0.1	8244.74	8172.41	72.33	
0.44	921.05	921.04	0.01	8512.78	8489.91	22.87	
0.54	922.15	922.08	0.07	8830.3	8795.83	34.47	
0.63	923.45	923.39	0.06	8613.83	8458.36	155.47	
0.73	924.85	924.79	0.06	8928.25	8890.79	37.46	
0.83	926.1	926.05	0.05	9667.93	9636.39	31.54	
0.92	927	926.96	0.04	8214.5	8188.29	26.21	
1.01	927.92	927.87	0.05	3964.01	3946.77	17.24	
1.1	928.92	928.87	0.05	4259.71	4240.28	19.43	
1.17	929.93	929.86	0.07	5727.24	4976.22	751.02	
1.25	931.17	931.06	0.11	3692.87	3682.01	10.86	
1.33	933.13	933.09	0.04	4866.59	4807.67	58.92	
1.4	934.33	934.22	0.11	4000.12	3950.12	50	
1.48	936.07	936.07	0	3976.88	3977.16	-0.28	
1.56	936.63	936.61	0.02	3647.91	3647.36	0.55	
1.64	936.91	936.88	0.03	3677.74	3671.47	6.27	
1.71	937.25	937.21	0.04	4028.9	4026.89	2.01	
1.79	937.67	937.62	0.05	4017.53	4013.8	3.73	
1.87	938.31	938.24	0.07	4036.63	4011.11	25.52	
1.94	939.36	939.31	0.05	3761.03	3760.39	0.64	
2.02	940.16	940.1	0.06	3500.11	3498.26	1.85	
2.1	940.93	940.86	0.07	3204.89	3201.94	2.95	
2.18	941.85	941.79	0.06	3050.39	3049.29	1.1	
2.25	942.79	942.7	0.09	2703.72	2702.82	0.9	
2.33	944.08	944.01	0.07	2606.7	2603.36	3.34	
2.41	945.05	944.97	0.08	2517.65	2514.41	3.24	
2.51	946.15	946.09	0.06	2203.99	2202.79	1.2	
2.6	947.2	947.14	0.06	2554.84	2551.27	3.57	
2.7	948.21	948.18	0.03	2679.65	2679.08	0.57	Lower Buckeye Rd
2.8	948.91	948.88	0.03	2251.67	2250.89	0.78	
2.89	949.56	949.52	0.04	2188.16	2187.99	0.17	
2.99	950.2	950.16	0.04	2451.05	2441.24	9.81	
3.08	950.74	950.7	0.04	2330.31	2316.24	14.07	
3.18	951.23	951.19	0.04	1932.28	1905.34	26.94	
3.27	952.02	951.96	0.06	1611.24	1602.83	8.41	
3.37	952.96	952.88	0.08	1715.61	1699.52	16.09	
3.4	952.8	952.8	0	1291.42	1290.2	1.22	
3.43	954.8	954.78	0.02	1191.69	1191.47	0.22	
3.47	955.43	955.39	0.04	1566.31	1555.68	10.63	
3.55	956.51	956.42	0.09	1573.72	1555.65	18.07	
3.64	957.99	957.86	0.13	819.8	819.06	0.74	
3.69	959.1	958.97	0.13	1030.81	1028.98	1.83	
3.729	960.59	960.52	0.07	1174.04	1173.95	0.09	
3.734	960.61	960.54	0.07	1185.12	1184.98	0.14	
3.747	960.81	960.74	0.07	1185.5	1185.36	0.14	SP RR
3.757	960.83	960.76	0.07	1110.94	1110.71	0.23	

Legend
.10<Δ<.50
Δ > .50
ΔTW>100

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
3.767	960.82	960.74	0.08	1054.26	1053.95	0.31	MC 85
3.77	961.04	960.97	0.07	1055.18	1054.89	0.29	
3.78	961.11	961.05	0.06	1110.19	1110.01	0.18	
3.8	961.23	961.16	0.07	1123.68	1123.37	0.31	
3.81	961.22	961.14	0.08	1025.83	1025.35	0.48	
3.83	961.53	961.45	0.08	1135.41	1135.25	0.16	
3.93	961.97	961.86	0.11	1112.55	1112.29	0.26	
4.02	962.51	962.38	0.13	1112.46	1112.09	0.37	
4.04	962.49	962.35	0.14	1014.38	1013.72	0.66	
4.06	962.76	962.63	0.13	1112.82	1112.47	0.35	
4.092	962.94	962.8	0.14	1112.39	1112.04	0.35	
4.094	962.61	962.61	0	1105.61	1105.61	0	
4.16	965.12	965.04	0.08	1120.48	1120.2	0.28	
4.26	965.88	965.75	0.13	1113.48	1113.03	0.45	
4.27	966.01	965.87	0.14	1017.52	1016.78	0.74	
4.3	966.33	966.19	0.14	1113.48	1113.12	0.36	
4.39	966.93	966.77	0.16	1119.59	1119.09	0.5	
4.48	967.5	967.33	0.17	1118.63	1118.05	0.58	
4.5	967.55	967.38	0.17	1010.86	1010.03	0.83	
4.52	967.74	967.57	0.17	1107.31	1106.92	0.39	
4.6	968.13	967.95	0.18	1111.71	1111.26	0.45	
4.7	968.56	968.36	0.2	1107.8	1107.41	0.39	
4.754	968.84	968.66	0.18	1124.37	1124.07	0.3	
4.759	968.99	968.81	0.18	1124.62	1124.33	0.29	Van Buren
4.79	968.92	968.71	0.21	1115.76	1115.13	0.63	
4.89	970.06	969.88	0.18	1170.22	1169.81	0.41	
4.98	971.04	970.87	0.17	1251.09	1250.69	0.4	
5	971.15	970.97	0.18	1170.61	1169.83	0.78	
5.02	971.27	971.1	0.17	1282.28	1281.86	0.42	
5.1	971.94	971.78	0.16	1345.36	1344.9	0.46	
5.15	972.64	972.48	0.16	1389.05	1388.65	0.4	
5.201	973.99	973.91	0.08	1392.2	1392.03	0.17	
5.203	973.52	973.52	0	1389.5	1389.5	0	
5.25	975.7	975.63	0.07	1378.28	1377.92	0.36	
5.27	975.99	975.89	0.1	1156.41	1155.79	0.62	
5.29	977.3	977.25	0.05	1387.07	1386.91	0.16	I-10
5.305	977.55	977.5	0.05	1387.9	1387.74	0.16	
5.317	977.6	977.54	0.06	1387.64	1387.45	0.19	
5.328	977.86	977.81	0.05	1388.52	1388.34	0.18	I-10
5.38	978.23	978.15	0.08	1292.57	1292.36	0.21	
5.48	979.67	979.58	0.09	1425.35	1424.93	0.42	
5.51	979.97	979.87	0.1	1529.12	1528.46	0.66	
5.54	980.36	980.27	0.09	1809.24	1809.12	0.12	
5.65	980.85	980.73	0.12	1123.29	1122.76	0.53	
5.689	981.56	981.45	0.11	1150.74	1150.38	0.36	McDowell
5.7	981.71	981.6	0.11	1151.24	1150.88	0.36	
5.75	981.97	981.84	0.13	1117.2	1116.61	0.59	
5.77	982.14	981.98	0.16	1011.76	1011.15	0.61	
5.79	982.43	982.25	0.18	1014.88	1013.93	0.95	
5.81	983.19	983.05	0.14	1110.46	1110.12	0.34	
5.9	983.97	983.8	0.17	1112.54	1112.11	0.43	
5.99	984.83	984.64	0.19	1109.89	1109.37	0.52	

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
6.07	985.52	985.32	0.2	1112.48	1112.01	0.47	
6.16	986.27	986.07	0.2	1115.19	1114.72	0.47	
6.26	987.1	986.91	0.19	1116.16	1115.65	0.51	
6.35	988.27	988.09	0.18	1095.31	1094.9	0.41	
6.43	989.19	989	0.19	1067.02	1066.52	0.5	
6.52	990.51	990.38	0.13	1095.56	1095.24	0.32	
6.54	990.43	990.28	0.15	1001.91	1001	0.91	
6.56	990.92	990.79	0.13	1108.26	1107.88	0.38	
6.59	991.24	991.11	0.13	1112.34	1112.03	0.31	
6.61	991.18	991.05	0.13	1067.59	1066.42	1.17	
6.64	991.64	991.51	0.13	1112.46	1112.15	0.31	
6.66	991.74	991.6	0.14	1112.68	1112.3	0.38	
6.69	992.11	991.98	0.13	1112.98	1112.6	0.38	
6.71	992.25	992.12	0.13	1014.17	1013.37	0.8	
6.73	992.44	992.3	0.14	1112.72	1112.35	0.37	
6.77	992.16	991.88	0.28	1103.7	1102.92	0.78	
6.79	993.04	992.94	0.1	1001.82	1001.25	0.57	
6.82	993.83	993.73	0.1	1106.37	1106.1	0.27	
6.89	994.38	994.18	0.2	1111	1110.41	0.59	
6.91	994.96	994.81	0.15	1019.37	1018.41	0.96	
6.93	996.18	996.11	0.07	1132.13	1131.95	0.18	
6.97	996.73	996.63	0.1	1143.26	1142.99	0.27	
6.99	996.72	996.59	0.13	1033.3	1032.41	0.89	
7.02	997.7	997.62	0.08	1115.71	1115.43	0.28	
7.06	998.08	997.96	0.12	1093.13	1092.77	0.36	
7.08	998.21	998.08	0.13	999.17	998.42	0.75	
7.1	998.51	998.35	0.16	1082.78	1082.37	0.41	
7.2	999.95	999.8	0.15	1063.68	1063.27	0.41	
7.29	1000.67	1000.48	0.19	1023.11	1022.39	0.72	
7.39	1001.87	1001.69	0.18	1002.78	1002.01	0.77	
7.49	1002.78	1002.6	0.18	980.78	979.93	0.85	
7.58	1003.74	1003.56	0.18	967.04	965.57	1.47	
7.67	1004.57	1004.39	0.18	1010.86	1010.02	0.84	
7.77	1004.88	1004.69	0.19	1032.88	1031.79	1.09	
7.87	1005.48	1005.28	0.2	1114.31	1113.54	0.77	
7.96	1006.15	1005.97	0.18	1315.5	1315.04	0.46	
7.99	1006.36	1006.18	0.18	1386.74	1385.65	1.09	
8	1006.48	1006.32	0.16	1462.87	1462.21	0.66	Indian School
8.01	1006.76	1006.61	0.15	1463.94	1463.35	0.59	
8.03	1006.52	1006.34	0.18	1438.11	1437.2	0.91	
8.105	1007.58	1007.45	0.13	2056.82	1944.5	112.32	
8.198	1008.44	1008.32	0.12	2328.5	2327.14	1.36	
8.325	1010.09	1010.01	0.08	1556.88	1556.64	0.24	
8.433	1012.03	1012	0.03	1682.82	1678.24	4.58	
8.534	1014.6	1014.59	0.01	2390.53	2388.66	1.87	
8.646	1016.33	1016.3	0.03	2526.52	2522.54	3.98	
8.768	1017.68	1017.65	0.03	2135.24	2130.88	4.36	
8.875	1019.82	1019.82	0	2715.03	2715.08	-0.05	
8.992	1021.74	1021.74	0	2055.44	2055.27	0.17	
9.098	1022.53	1022.52	0.01	1809.06	1809.05	0.01	
9.177	1023.05	1023.04	0.01	2029.64	2026.08	3.56	
9.191	1023.11	1023.09	0.02	1687.58	1687.47	0.11	Camelback

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
9.198	1023.14	1023.12	0.02	3527.23	3522.6	4.63	
9.266	1023.85	1023.81	0.04	5917.46	5890.25	27.21	
9.343	1024.52	1024.47	0.05	5778.51	5710.74	67.77	
9.435	1025.47	1025.41	0.06	5323.22	5191.7	131.52	
9.519	1026.42	1026.35	0.07	5087.05	5006.61	80.44	
9.605	1027.49	1027.43	0.06	5886.23	5775.99	110.24	
9.696	1028.76	1028.74	0.02	6592.98	6556.85	36.13	
9.79	1029.64	1029.62	0.02	6750.77	6722.81	27.96	
9.885	1030.31	1030.31	0	3902.69	3907.73	-5.04	
9.981	1031.69	1031.72	-0.03	4184.68	4222.71	-38.03	
10.07	1032.86	1032.84	0.02	4972.83	4952.12	20.71	
10.16	1033.89	1033.83	0.06	5035.45	5001.91	33.54	
10.26	1034.64	1034.48	0.16	4370.27	4254.14	116.13	
10.34	1036.73	1036.64	0.09	5022.61	5007.3	15.31	
10.44	1038.61	1038.57	0.04	5331.43	5313.82	17.61	
10.53	1039.71	1039.69	0.02	5077.9	5062.72	15.18	
10.63	1040.55	1040.52	0.03	5418.2	5414.21	3.99	
10.75	1041.75	1041.71	0.04	4203.87	4143.82	60.05	
10.84	1043.22	1043.16	0.06	3759.14	3597.36	161.78	
10.94	1044.45	1044.39	0.06	3118.23	2939.09	179.14	
11.02	1045.19	1045.13	0.06	1921.27	1782.72	138.55	
11.12	1045.97	1045.89	0.08	1984.4	1920.65	63.75	
11.22	1046.42	1046.29	0.13	1270.67	1157.55	113.12	
11.32	1047.46	1047.33	0.13	885.96	854.57	31.39	
11.41	1052.1	1052.13	-0.03	579.12	579.22	-0.1	Glendale
11.42	1052.7	1052.69	0.01	627.7	622.39	5.31	
11.46	1053.05	1052.94	0.11	6618.09	6613.7	4.39	
11.55	1055.37	1055.3	0.07	4084.82	4084.11	0.71	
11.65	1055.39	1055.59	-0.2	3995.63	4027.67	-32.04	
11.75	1059.4	1058.28	1.12	4113.02	3934.75	178.27	
11.84	1061.39	1061.11	0.28	4181.41	4178.73	2.68	
11.9	1061.78	1061.28	0.5	3882.96	3835.6	47.36	
11.94	1062.88	1062.51	0.37	2794.4	2778.22	16.18	
12.04	1064.35	1064.05	0.3	2907.18	2902.41	4.77	
12.14	1065.25	1064.92	0.33	2710.86	2708	2.86	
12.24	1066.06	1065.79	0.27	2597.21	2594.88	2.33	
12.35	1066.49	1066.25	0.24	2442.99	2424.39	18.6	
12.42	1066.71	1066.52	0.19	2448.73	2431.72	17.01	Northern
12.47	1066.82	1066.62	0.2	5326.76	5279.91	46.85	
12.52	1066.92	1066.72	0.2	4766.48	4726	40.48	
12.63	1067.17	1066.99	0.18	4159.64	3903.8	255.84	
12.72	1067.42	1067.24	0.18	2358.81	2161.81	197	
12.81	1068.02	1067.86	0.16	2304.34	2236.81	67.53	
12.91	1069.3	1069.09	0.21	2117.32	2029.99	87.33	
13	1070.81	1070.46	0.35	728.67	532.71	195.96	
13.1	1073.03	1072.73	0.3	1589.33	1572.71	16.62	
13.2	1073.89	1073.64	0.25	1035.43	1000.89	34.54	
13.29	1074.49	1074.24	0.25	1034.59	1001.14	33.45	
13.39	1075.01	1074.75	0.26	1047.51	1023.58	23.93	
13.45	1075.76	1075.55	0.21	1392.87	1382.48	10.39	Olive
13.46	1075.78	1075.58	0.2	1426.9	1417.03	9.87	
13.51	1076.14	1075.92	0.22	1851.3	1718.64	132.66	

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
13.56	1077.11	1077.19	-0.08	1785.56	1798.38	-12.82	
13.66	1078.97	1079.18	-0.21	1718.27	1737.09	-18.82	
13.76	1080.98	1080.94	0.04	1839.69	1832.86	6.83	
13.85	1082.33	1082.25	0.08	1700.81	1685.23	15.58	
13.95	1083.59	1083.55	0.04	1326.04	1323.08	2.96	
14.04	1085.89	1085.81	0.08	1790.12	1737.04	53.08	
14.14	1087.55	1087.49	0.06	2082.66	2063.75	18.91	
14.24	1088.64	1088.62	0.02	2289.84	2283.52	6.32	
14.33	1090	1089.96	0.04	2104.67	2098.57	6.1	
14.43	1091.49	1091.46	0.03	2293.07	2288.46	4.61	
14.52	1092.79	1092.76	0.03	2181.71	2163.83	17.88	
14.61	1093.96	1093.88	0.08	2149.61	2117.53	32.08	
14.7	1095.84	1095.73	0.11	2631.34	2575.62	55.72	
14.8	1097.28	1097.14	0.14	2537.38	2490.83	46.55	
14.9	1098.79	1098.66	0.13	1989.45	1956.04	33.41	
15	1099.59	1099.43	0.16	1340.53	1339.45	1.08	
15.09	1100.64	1100.47	0.17	939.91	933.97	5.94	
15.18	1102.05	1101.81	0.24	811.01	796.86	14.15	
15.28	1103.75	1103.33	0.42	716.47	715.46	1.01	
15.37	1105.54	1105.02	0.52	562.41	561.82	0.59	
15.46	1107.96	1107.73	0.23	621.42	621.16	0.26	
15.56	1109.03	1108.75	0.28	661.8	661.37	0.43	
15.65	1110.09	1109.8	0.29	756.68	756.03	0.65	
15.71	1110.7	1110.35	0.35	739.3	714.52	24.78	
15.81	1111.68	1111.17	0.51	698.35	660.78	37.57	
15.9	1112.93	1112.56	0.37	755.61	753.32	2.29	
16	1113.66	1113.3	0.36	893.58	816.44	77.14	
16.09	1114.12	1113.71	0.41	843.43	840.64	2.79	
16.19	1114.5	1114.02	0.48	573.29	567.07	6.22	
16.28	1115.44	1114.94	0.5	461.85	457.28	4.57	
16.38	1116.28	1115.7	0.58	473.32	470.74	2.58	
16.47	1119.34	1119.08	0.26	518.59	462.81	55.78	
16.48	1120.09	1119.84	0.25	1235.41	1203.56	31.85	
16.5	1120.26	1120.04	0.22	657.78	613.67	44.11	
16.51	1120.2	1119.95	0.25	596.17	589.65	6.52	Grand
16.51	1121.52	1121.5	0.02	437.5	437.41	0.09	
16.61	1122.54	1122.42	0.12	1488.66	1484.29	4.37	
16.7	1123.65	1123.42	0.23	2081.78	2042.67	39.11	
16.8	1124.74	1124.44	0.3	2297.5	2233.34	64.16	
16.89	1125.52	1125.17	0.35	2068.48	1529.36	539.12	
16.99	1126.42	1125.99	0.43	1783.24	1483.56	299.68	
17.08	1127.6	1127.13	0.47	2387.11	2280.69	106.42	
17.18	1128.67	1128.18	0.49	2994.08	2749.42	244.66	
17.27	1129.98	1129.59	0.39	4128.11	3832.84	295.27	
17.37	1130.27	1129.9	0.37	3918.76	3628.71	290.05	
17.45	1130.53	1130.2	0.33	3092.52	2721.79	370.73	
17.54	1130.88	1130.66	0.22	2514.43	2472.9	41.53	
17.63	1133.88	1133.89	-0.01	2441.93	2447.17	-5.24	
17.73	1138.32	1138.27	0.05	5766.7	5751.55	15.15	
17.82	1139.77	1139.65	0.12	5516.23	5423.13	93.1	
17.91	1140.63	1140.53	0.1	5423.24	5282.32	140.92	
18	1141.01	1140.9	0.11	3023.19	3012.28	10.91	

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
18.09	1141.51	1141.41	0.1	2647.92	2641.74	6.18	
18.18	1142.32	1142.21	0.11	2402.8	2393.77	9.03	
18.27	1143.6	1143.45	0.15	2580.21	2564.76	15.45	
18.36	1145.27	1145.07	0.2	2603.5	2594.32	9.18	
18.46	1147.54	1147.48	0.06	2641.05	2640.32	0.73	
18.55	1149.18	1149.09	0.09	2628.16	2627.83	0.33	
18.65	1150.81	1150.77	0.04	2498.08	2493.61	4.47	
18.74	1151.44	1151.43	0.01	2201.18	2200.85	0.33	
18.83	1154.17	1154.07	0.1	2256.4	2254.19	2.21	
18.93	1155.31	1155.19	0.12	2064.24	2046.63	17.61	
18.96	1155.5	1155.37	0.13	1098.22	1097.5	0.72	
18.97	1155.56	1155.43	0.13	1101.15	1100.49	0.66	Bell
19.06	1156.85	1156.72	0.13	1528.46	1495.54	32.92	
19.16	1158.68	1158.56	0.12	2416.36	2376.03	40.33	
19.25	1160.71	1160.47	0.24	2403.45	2336.06	67.39	
19.35	1163.29	1163.16	0.13	2690.37	2688.83	1.54	
19.44	1164.37	1164.3	0.07	2514.01	2509.73	4.28	
19.54	1165.59	1165.53	0.06	2597.95	2597.62	0.33	
19.63	1166.96	1166.92	0.04	2490.77	2470.52	20.25	
19.73	1168.28	1168.23	0.05	2603.88	2581.99	21.89	
19.82	1170	1169.93	0.07	2815.03	2812.94	2.09	
19.92	1171.39	1171.38	0.01	2562.28	2558.18	4.1	
20.01	1172.71	1172.66	0.05	2331.37	2317.73	13.64	
20.11	1174.26	1174.18	0.08	2234.89	2213.87	21.02	
20.2	1175.68	1175.53	0.15	2030.99	2013.36	17.63	
20.29	1177.04	1176.9	0.14	1992.26	1963.16	29.1	
20.34	1177.73	1177.58	0.15	2479.44	2449.31	30.13	
20.38	1178.24	1178.09	0.15	2485.82	2398.69	87.13	
20.43	1179.17	1179.03	0.14	2362.07	2332.73	29.34	
20.48	1180.11	1180.02	0.09	2129.94	2114.05	15.89	
20.57	1181.62	1181.5	0.12	2082.88	2056.5	26.38	
20.67	1183.27	1183.1	0.17	1814.25	1718.33	95.92	
20.76	1184.65	1184.57	0.08	1968.08	1952.46	15.62	
20.86	1185.48	1185.38	0.1	2378.71	2331.89	46.82	
20.95	1186.43	1186.29	0.14	2205.42	2109.3	96.12	
21.06	1187.52	1187.32	0.2	2360.03	2246.89	113.14	
21.15	1189.38	1189.3	0.08	2463.47	2385.67	77.8	
21.24	1190.33	1190.32	0.01	2334.08	2332.15	1.93	
21.33	1191.31	1191.3	0.01	2034.76	2032.87	1.89	
21.43	1191.33	1191.4	-0.07	1894.48	1928.6	-34.12	
21.52	1193.19	1193.52	-0.33	1679.2	1729.8	-50.6	
21.62	1193.92	1194.21	-0.29	1048.28	1086.54	-38.26	
21.71	1194.33	1194.57	-0.24	1011.51	1039.71	-28.2	
21.79	1196.06	1196.06	0	1128.78	1128.65	0.13	
21.89	1198.71	1198.41	0.3	1702.63	1688.12	14.51	
21.98	1201.03	1200.73	0.3	3185.74	3146.01	39.73	
22.08	1202.11	1201.97	0.14	2263.83	2245.7	18.13	
22.17	1202.56	1202.38	0.18	1880.56	1848.89	31.67	
22.27	1204.57	1204.46	0.11	1650.1	1581.44	68.66	
22.36	1206.61	1206.57	0.04	1987.93	1964.8	23.13	
22.46	1207.63	1207.58	0.05	2369.97	2359.55	10.42	
22.55	1209.08	1208.94	0.14	1947.66	1904.45	43.21	

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
22.65	1211.67	1211.66	0.01	2657.08	2654.41	2.67	
22.74	1213.1	1213.02	0.08	3189.3	3186.59	2.71	
22.83	1214.69	1214.65	0.04	3092.14	3084.28	7.86	
22.93	1215.9	1215.86	0.04	3185.35	3172.46	12.89	
23.02	1217.31	1217.26	0.05	3162.42	3124.43	37.99	
23.12	1219.49	1219.46	0.03	3153.63	3147.89	5.74	
23.21	1221.26	1221.24	0.02	3243.88	3232.1	11.78	
23.31	1223.23	1223.12	0.11	3610.37	3601.92	8.45	
23.4	1225.59	1225.49	0.1	3623.2	3608.86	14.34	
23.5	1227.34	1227.3	0.04	3501.19	3487.51	13.68	
23.59	1228.72	1228.71	0.01	3227.76	3227.39	0.37	
23.69	1230.44	1230.35	0.09	3401.9	3401.54	0.36	
23.79	1232.84	1232.73	0.11	3201.54	3195.31	6.23	
23.88	1234.15	1234.01	0.14	3521.02	3518.92	2.1	
23.97	1236.14	1236.14	0	3452.49	3451.88	0.61	
24.06	1237.76	1237.78	-0.02	3653.33	3653.44	-0.11	
24.16	1238.59	1238.59	0	3809.96	3809.94	0.02	
24.21	1238.97	1238.96	0.01	3975.04	3974.76	0.28	
24.26	1239.38	1239.36	0.02	3838.02	3834.13	3.89	
24.35	1240.14	1240.11	0.03	3580.94	3576.85	4.09	
24.44	1241.45	1241.38	0.07	2856.9	2842.69	14.21	
24.54	1243.52	1243.51	0.01	3153.91	3152.37	1.54	
24.63	1245.3	1245.31	-0.01	3521.97	3523.55	-1.58	
24.72	1247.18	1247.16	0.02	4084.82	4068.18	16.64	
24.81	1248.92	1248.92	0	4239.28	4243.82	-4.54	
24.91	1250.62	1250.66	-0.04	4586.71	4642.79	-56.08	
24.99	1252.26	1252.27	-0.01	4090.77	4097.28	-6.51	
25.09	1254.57	1254.54	0.03	4017.07	3978.98	38.09	
25.19	1256.41	1256.3	0.11	3791	3718.51	72.49	
25.28	1257.99	1257.79	0.2	2973.73	2721.32	252.41	
25.38	1259.78	1259.69	0.09	2695.7	2684.61	11.09	
25.47	1261.51	1261.23	0.28	2055.82	1996.18	59.64	
25.52	1262.71	1262.47	0.24	2140.82	2028.59	112.23	
25.57	1263.27	1262.97	0.3	1659.73	1628.64	31.09	Jomax
25.66	1264.52	1264.27	0.25	1318.25	1274.62	43.63	
25.69	1265.81	1265.63	0.18	1631.63	1626.09	5.54	
25.72	1266.72	1266.61	0.11	1673.83	1662.02	11.81	
25.79	1268.51	1268.39	0.12	1859.18	1849.97	9.21	
25.86	1269.27	1268.61	0.66	1809.63	1654.87	154.76	
25.94	1272.1	1271.96	0.14	2812.27	2783.53	28.74	
26.03	1274.18	1274.26	-0.08	3352.25	3363.96	-11.71	
26.12	1275.49	1275.42	0.07	3615.33	3604.81	10.52	
26.2	1277.16	1277.05	0.11	3373.59	3215.64	157.95	
26.29	1279.32	1279.23	0.09	3652.17	3589.29	62.88	
26.37	1280.93	1280.81	0.12	3732.4	3676.54	55.86	
26.47	1282.34	1282.19	0.15	2533.79	2418.82	114.97	
26.55	1284.17	1284.07	0.1	3691.97	3574.97	117	
26.63	1285.97	1285.88	0.09	4051.4	4005.76	45.64	
26.73	1287.44	1287.18	0.26	3884.8	3791.48	93.32	
26.83	1289.2	1288.59	0.61	3645.61	3641.75	3.86	
26.94	1290.49	1290.68	-0.19	3367.88	3369.67	-1.79	
27.03	1291.62	1291.38	0.24	2881.23	2795.46	85.77	

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
27.11	1293.04	1293.07	-0.03	2808.55	2824.72	-16.17	
27.19	1294.13	1294.03	0.1	2418.49	2318.27	100.22	
27.3	1295.68	1295.54	0.14	2339.55	2338.76	0.79	
27.39	1297.36	1297.19	0.17	2718.56	2709.91	8.65	
27.48	1298.97	1298.9	0.07	2602.4	2601.69	0.71	
27.58	1300.83	1300.76	0.07	2289.39	2288.75	0.64	
27.68	1302.6	1302.5	0.1	2563.51	2562.4	1.11	
27.77	1304.79	1304.76	0.03	2346.85	2343.27	3.58	
27.86	1306.37	1306.26	0.11	2371.82	2263.7	108.12	
27.94	1307.63	1307.52	0.11	2005.23	1942.65	62.58	
28.04	1309.7	1309.62	0.08	2392.31	2359.88	32.43	
28.12	1311.08	1310.85	0.23	1976.55	1936.09	40.46	
28.21	1312.7	1312.62	0.08	1698.33	1674.35	23.98	
28.31	1314.09	1313.84	0.25	1489.36	1459.39	29.97	
28.39	1315.42	1315.14	0.28	1755.94	1736.01	19.93	
28.45	1316.5	1316.15	0.35	1711.18	1625.2	85.98	
28.52	1317.91	1317.68	0.23	1536.28	1459.62	76.66	
28.58	1318.78	1318.58	0.2	1589.36	1480.5	108.86	
28.67	1319.97	1319.64	0.33	1420.67	1342.46	78.21	
28.76	1321.43	1321.08	0.35	1283.39	1218.95	64.44	
28.86	1323.32	1323.02	0.3	1692.89	1568.75	124.14	
28.95	1325.63	1325.57	0.06	2047.39	2018.52	28.87	
29.04	1327.14	1327.05	0.09	1971.26	1970.51	0.75	
29.14	1328.2	1328.06	0.14	1939.77	1939.04	0.73	
29.23	1329.29	1329.15	0.14	1482	1463.06	18.94	
29.3	1330.49	1330.35	0.14	1260.57	1231.17	29.4	
29.39	1332.61	1332.53	0.08	1148.42	1148.03	0.39	
29.47	1333.63	1333.44	0.19	1050.4	1049.33	1.07	
29.54	1334.62	1334.2	0.42	923.33	921.34	1.99	
29.61	1336.45	1336.19	0.26	850.67	818.2	32.47	Beardsley Canal
29.62	1339.27	1339.1	0.17	1033.3	1031.96	1.34	
29.72	1339.9	1339.71	0.19	1291.93	1287.31	4.62	
29.8	1340.59	1340.43	0.16	882.17	869.44	12.73	CAP
29.89	1341.24	1341.08	0.16	912.56	869.57	42.99	
29.99	1342.16	1341.94	0.22	758.96	722.59	36.37	
30.07	1344.67	1344.44	0.23	621.04	616.98	4.06	
30.17	1346.46	1346.23	0.23	573.95	572.68	1.27	
30.26	1347.45	1347.23	0.22	749.96	745.17	4.79	
30.36	1348.52	1348.28	0.24	884.61	866.47	18.14	
30.46	1350.09	1349.88	0.21	703.38	684.65	18.73	
30.55	1351.82	1351.61	0.21	658.15	647.58	10.57	
30.65	1353.4	1353.07	0.33	467.34	444.51	22.83	
30.73	1355.23	1354.85	0.38	528.86	476.99	51.87	
30.82	1357.04	1356.8	0.24	833.63	805.79	27.84	
30.92	1357.95	1357.71	0.24	784.54	783.14	1.4	
31.01	1358.7	1358.4	0.3	940.27	939	1.27	
31.11	1359.99	1359.7	0.29	885.53	884.22	1.31	
31.2	1361.55	1361.38	0.17	953.98	952.08	1.9	
31.29	1362.76	1362.58	0.18	836.33	831.94	4.39	
31.39	1364.91	1364.86	0.05	915.82	915.27	0.55	
31.49	1366.49	1366.43	0.06	841.36	840.82	0.54	
31.59	1367.93	1367.82	0.11	719.21	718.67	0.54	

River Station	Veg Strip WSE	Base WSE	Δ WSE	Veg Strip Top Width	Base Top Width	Δ Top Width	
(mi)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
31.67	1368.93	1368.8	0.13	734.71	734.06	0.65	
31.77	1370.01	1369.87	0.14	651.86	651.06	0.8	
31.86	1371.46	1371.34	0.12	693.54	693.01	0.53	
31.96	1372.67	1372.53	0.14	663.73	663.16	0.57	
32.05	1373.77	1373.57	0.2	645.56	644.47	1.09	
32.15	1375.17	1374.98	0.19	762.41	761.81	0.6	
32.24	1376.87	1376.73	0.14	714.01	713.66	0.35	
32.34	1378.63	1378.52	0.11	642.59	641.2	1.39	
32.43	1379.86	1379.78	0.08	605.54	605.08	0.46	
32.52	1380.52	1380.42	0.1	616.73	613.53	3.2	
32.58	1381.31	1381.21	0.1	447.13	442.98	4.15	
32.64	1382.23	1382.12	0.11	459.99	457.03	2.96	
32.72	1382.91	1382.69	0.22	376.55	367.22	9.33	
32.79	1384.18	1383.85	0.33	329.82	317.01	12.81	
32.86	1385.89	1385.57	0.32	472.48	438.83	33.65	
32.92	1388.47	1388.42	0.05	360.69	358.62	2.07	
32.97	1391.38	1391.13	0.25	221.39	219.04	2.35	
32.98	1392.54	1392.13	0.41	273.4	270.44	2.96	SR 74
32.99	1393.79	1393.34	0.45	278.33	276.55	1.78	
32.99	1393.65	1393.23	0.42	267.9	265.92	1.98	
33.06	1395.71	1395.56	0.15	359.02	358.02	1	
33.12	1396.35	1396.23	0.12	563.57	563.17	0.4	
33.19	1396.53	1396.42	0.11	678.26	677.69	0.57	
33.25	1396.58	1396.47	0.11	656.75	655.7	1.05	
33.29	1397.78	1397.73	0.05	580.94	580.44	0.5	
33.3	1398.64	1398.6	0.04	390.25	388.41	1.84	
33.36	1399.14	1399.09	0.05	375.94	374.46	1.48	
33.41	1399.81	1399.75	0.06	317.25	316.4	0.85	
33.46	1400.83	1400.78	0.05	419.06	417.08	1.98	
33.54	1400.97	1400.93	0.04	292.57	292.1	0.47	
33.63	1401.28	1401.28	0	228.97	228.23	0.74	
33.73	1402.03	1402.03	0	282.12	282.07	0.05	
33.82	1403.17	1403.13	0.04	171.89	170.61	1.28	Waddell

Appendix C

Effects of Plated Levee and Riparian Section on the Existing Regulatory Floodplain

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
1.87	938.24	938.81	6.32	938.24	938.81	6.32	0.00	0.00	938.24	938.81	6.32	0.00	0.00	938.24	938.81	6.32	0.00	0.00	
1.87	939.30	939.79	5.72	939.30	939.79	5.72	0.00	0.00	939.30	939.79	5.72	0.00	0.00	939.3	939.79	5.72	0.00	0.00	
1.94	939.31	939.72	5.55	939.31	939.72	5.55	0.00	0.00	939.31	939.72	5.55	0.00	0.00	939.31	939.72	5.55	0.00	0.00	Begin West Levee
1.94	940.03	940.54	5.73	940.03	940.54	5.73	0.00	0.00	940.03	940.54	5.73	0.00	0.00	940.03	940.54	5.73	0.00	0.00	
2.02	940.10	940.48	5.59	940.10	940.48	5.59	0.00	0.00	940.10	940.48	5.59	0.00	0.00	940.1	940.48	5.59	0.00	0.00	
2.02	940.75	941.6	7.4	940.75	941.60	7.4	0.00	0.00	940.75	941.60	7.4	0.00	0.00	940.75	941.6	7.4	0.00	0.00	
2.1	940.86	941.41	6.55	940.86	941.41	6.55	0.00	0.00	940.86	941.41	6.55	0.00	0.00	940.86	941.41	6.55	0.00	0.00	
2.1	941.98	942.71	6.86	941.98	942.71	6.86	0.00	0.00	941.98	942.71	6.86	0.00	0.00	941.98	942.71	6.86	0.00	0.00	
2.18	941.79	942.29	6.38	941.79	942.29	6.38	0.00	0.00	941.79	942.29	6.38	0.00	0.00	941.79	942.29	6.38	0.00	0.00	
2.18	942.87	943.54	6.86	942.87	943.54	6.86	0.00	0.00	942.87	943.54	6.86	0.00	0.00	942.87	943.54	6.86	0.00	0.00	
2.25	942.70	943.37	7.78	942.70	943.37	7.78	0.00	0.00	942.70	943.37	7.78	0.00	0.00	942.7	943.37	7.78	0.00	0.00	
2.25	943.74	944.64	8.21	943.74	944.64	8.21	0.00	0.00	943.74	944.64	8.21	0.00	0.00	943.74	944.64	8.21	0.00	0.00	
2.33	944.01	944.48	6.5	944.01	944.48	6.5	0.00	0.00	944.01	944.48	6.5	0.00	0.00	944.01	944.48	6.5	0.00	0.00	
2.33	944.96	945.93	8.21	944.96	945.93	8.21	0.00	0.00	944.96	945.93	8.21	0.00	0.00	944.96	945.93	8.21	0.00	0.00	
2.41	944.97	945.51	6.86	944.97	945.51	6.86	0.00	0.00	944.97	945.51	6.86	0.00	0.00	944.97	945.51	6.86	0.00	0.00	
2.41	946.42	947	6.65	946.42	947.00	6.65	0.00	0.00	946.42	947.00	6.65	0.00	0.00	946.42	947	6.65	0.00	0.00	
2.51	946.09	946.58	6.07	946.09	946.58	6.07	0.00	0.00	946.09	946.58	6.07	0.00	0.00	946.09	946.58	6.07	0.00	0.00	
2.51	947.29	947.73	5.56	947.29	947.73	5.56	0.00	0.00	947.29	947.73	5.56	0.00	0.00	947.29	947.73	5.56	0.00	0.00	
2.6	947.14	947.6	5.79	947.14	947.60	5.79	0.00	0.00	947.14	947.60	5.79	0.00	0.00	947.14	947.6	5.79	0.00	0.00	
2.6	948.00	948.39	5.18	948.00	948.39	5.18	0.00	0.00	948.00	948.39	5.18	0.00	0.00	948	948.39	5.18	0.00	0.00	
2.7	948.18	948.52	4.77	948.18	948.52	4.77	0.00	0.00	948.18	948.52	4.77	0.00	0.00	948.18	948.52	4.77	0.00	0.00	
2.7	948.70	949.04	4.67	948.70	949.04	4.67	0.00	0.00	948.70	949.04	4.67	0.00	0.00	948.7	949.04	4.67	0.00	0.00	
2.8	948.88	949.2	4.56	948.88	949.20	4.56	0.00	0.00	948.88	949.20	4.56	0.00	0.00	948.88	949.2	4.56	0.00	0.00	
2.8	949.32	949.67	4.76	949.32	949.67	4.76	0.00	0.00	949.32	949.67	4.76	0.00	0.00	949.32	949.67	4.76	0.00	0.00	
2.89	949.52	949.84	4.5	949.52	949.84	4.5	0.00	0.00	949.52	949.84	4.5	0.00	0.00	949.52	949.84	4.5	0.00	0.00	
2.89	949.96	950.36	5.11	949.96	950.36	5.11	0.00	0.00	949.96	950.36	5.11	0.00	0.00	949.96	950.36	5.11	0.00	0.00	
2.99	950.16	950.48	4.57	950.16	950.48	4.57	0.00	0.00	950.16	950.48	4.57	0.00	0.00	950.16	950.48	4.57	0.00	0.00	
2.99	950.68	951.08	5.05	950.68	951.08	5.05	0.00	0.00	950.68	951.08	5.05	0.00	0.00	950.68	951.08	5.05	0.00	0.00	
3.08	950.70	951	4.38	950.70	951.00	4.38	0.00	0.00	950.70	951.00	4.38	0.00	0.00	950.7	951	4.38	0.00	0.00	
3.08	951.27	951.69	5.16	951.27	951.69	5.16	0.00	0.00	951.27	951.69	5.16	0.00	0.00	951.27	951.69	5.16	0.00	0.00	
3.18	951.19	951.63	5.32	951.19	951.63	5.32	0.00	0.00	951.19	951.63	5.32	0.00	0.00	951.19	951.63	5.32	0.00	0.00	
3.18	951.84	952.5	6.5	951.84	952.50	6.5	0.00	0.00	951.84	952.50	6.5	0.00	0.00	951.84	952.5	6.5	0.00	0.00	
3.27	951.96	952.53	6.05	951.96	952.53	6.05	0.00	0.00	951.96	952.53	6.05	0.00	0.00	951.96	952.53	6.05	0.00	0.00	
3.27	952.82	953.41	6.16	952.82	953.41	6.16	0.00	0.00	952.82	953.41	6.16	0.00	0.00	952.82	953.41	6.16	0.00	0.00	
3.37	952.88	953.47	6.2	952.88	953.47	6.2	0.00	0.00	952.88	953.47	6.2	0.00	0.00	952.88	953.47	6.2	0.00	0.00	
3.37	953.61	954.15	5.91	953.61	954.15	5.91	0.00	0.00	953.61	954.15	5.91	0.00	0.00	953.61	954.15	5.91	0.00	0.00	
3.4	952.80	954.74	11.19	952.80	954.74	11.19	0.00	0.00	952.80	954.74	11.19	0.00	0.00	952.8	954.74	11.19	0.00	0.00	
3.4	953.31	954.93	10.25	953.31	954.93	10.25	0.00	0.00	953.31	954.93	10.25	0.00	0.00	953.31	954.93	10.25	0.00	0.00	
3.43	954.78	955.69	7.67	954.78	955.69	7.67	0.00	0.00	954.78	955.69	7.67	0.00	0.00	954.78	955.69	7.67	0.00	0.00	
3.43	954.63	955.81	8.74	954.63	955.81	8.74	0.00	0.00	954.63	955.81	8.74	0.00	0.00	954.63	955.81	8.74	0.00	0.00	
3.47	955.39	956.25	7.51	955.39	956.25	7.51	0.00	0.00	955.39	956.25	7.51	0.00	0.00	955.39	956.25	7.51	0.00	0.00	
3.47	955.30	956.47	8.67	955.30	956.47	8.67	0.00	0.00	955.30	956.47	8.67	0.00	0.00	955.3	956.47	8.67	0.00	0.00	
3.55	956.42	957.42	8.33	956.42	957.42	8.33	0.00	0.00	956.42	957.42	8.33	0.00	0.00	956.42	957.42	8.33	0.00	0.00	

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
3.55	956.55	957.67	8.72	956.55	957.67	8.72	0.00	0.00	956.55	957.67	8.72	0.00	0.00	956.55	957.67	8.72	0.00	0.00	
3.64	957.86	959.24	9.44	957.86	959.24	9.44	0.00	0.00	957.86	959.24	9.44	0.00	0.00	957.86	959.24	9.44	0.00	0.00	
3.64	958.02	959.34	9.21	958.02	959.34	9.21	0.00	0.00	958.02	959.34	9.21	0.00	0.00	958.02	959.34	9.21	0.00	0.00	Begin East Levee
3.69	958.97	960.36	9.45	958.97	960.36	9.45	0.00	0.00	958.97	960.36	9.45	0.00	0.00	958.97	960.36	9.45	0.00	0.00	
3.69	959.05	960.4	9.32	959.05	960.40	9.32	0.00	0.00	959.05	960.40	9.32	0.00	0.00	959.05	960.4	9.32	0.00	0.00	
3.729	960.52	960.95	5.24	960.52	960.95	5.24	0.00	0.00	960.52	960.95	5.24	0.00	0.00	960.52	960.95	5.24	0.00	0.00	
3.729	960.54	960.97	5.22	960.54	960.97	5.22	0.00	0.00	960.54	960.97	5.22	0.00	0.00	960.54	960.97	5.22	0.00	0.00	
3.734	960.54	960.97	5.25	960.54	960.97	5.25	0.00	0.00	960.54	960.97	5.25	0.00	0.00	960.54	960.97	5.25	0.00	0.00	
3.734	960.57	960.99	5.23	960.57	960.99	5.23	0.00	0.00	960.57	960.99	5.23	0.00	0.00	960.57	960.99	5.23	0.00	0.00	
3.7405	Bridge								Bridge					Bridge					
3.747	960.74	961.15	5.12	960.74	961.15	5.12	0.00	0.00	960.74	961.15	5.12	0.00	0.00	960.74	961.15	5.12	0.00	0.00	
3.747	960.78	961.23	5.37	960.78	961.23	5.37	0.00	0.00	960.78	961.23	5.37	0.00	0.00	960.78	961.23	5.37	0.00	0.00	
3.757	960.76	961.21	5.42	960.76	961.21	5.42	0.00	0.00	960.76	961.21	5.42	0.00	0.00	960.76	961.21	5.42	0.00	0.00	
3.757	960.83	961.28	5.38	960.83	961.28	5.38	0.00	0.00	960.83	961.28	5.38	0.00	0.00	960.83	961.28	5.38	0.00	0.00	
3.767	960.74	961.35	6.25	960.74	961.35	6.25	0.00	0.00	960.74	961.35	6.25	0.00	0.00	960.74	961.35	6.25	0.00	0.00	
3.767	960.81	961.41	6.2	960.81	961.41	6.2	0.00	0.00	960.81	961.41	6.2	0.00	0.00	960.81	961.41	6.2	0.00	0.00	
3.7685	Bridge								Bridge					Bridge					
3.77	960.97	961.55	6.07	960.97	961.55	6.07	0.00	0.00	960.97	961.55	6.07	0.00	0.00	960.97	961.55	6.07	0.00	0.00	
3.77	961.04	961.61	6.04	961.04	961.61	6.04	0.00	0.00	961.04	961.61	6.04	0.00	0.00	961.04	961.61	6.04	0.00	0.00	
3.78	961.05	961.59	5.91	961.05	961.59	5.91	0.00	0.00	960.95	961.62	6.6	-0.10	0.03	960.95	961.62	6.6	-0.10	0.03	
3.78	961.11	961.65	5.86	961.11	961.65	5.86	0.00	0.00	961.01	961.68	6.54	-0.10	0.03	961.01	961.68	6.54	-0.10	0.03	
3.8	961.16	961.7	5.93	961.16	961.70	5.93	0.00	0.00	961.13	961.77	6.43	-0.03	0.07	961.13	961.77	6.43	-0.03	0.07	Buckeye Rd
3.8	961.22	961.76	5.89	961.22	961.76	5.89	0.00	0.00	961.19	961.83	6.38	-0.03	0.07	961.19	961.83	6.38	-0.03	0.07	
3.81	961.14	961.83	6.69	961.14	961.83	6.69	0.00	0.00	961.11	961.94	7.3	-0.03	0.11	961.11	961.94	7.3	-0.03	0.11	
3.81	961.20	961.89	6.63	961.20	961.89	6.63	0.00	0.00	961.17	961.98	7.24	-0.03	0.09	961.17	961.98	7.24	-0.03	0.09	
3.83	961.45	961.96	5.75	961.45	961.96	5.75	0.00	0.00	961.48	962.09	6.25	0.03	0.13	961.48	962.09	6.25	0.03	0.13	
3.83	961.49	962.01	5.76	961.49	962.01	5.76	0.00	0.00	961.54	962.13	6.21	0.05	0.12	961.54	962.13	6.21	0.05	0.12	
3.93	961.86	962.44	6.08	961.86	962.44	6.08	0.00	0.00	961.99	962.67	6.62	0.13	0.23	961.99	962.67	6.62	0.13	0.23	
3.93	961.91	962.48	6.07	961.91	962.48	6.07	0.00	0.00	962.03	962.70	6.59	0.12	0.22	962.03	962.7	6.59	0.12	0.22	
4.02	962.38	962.9	5.79	962.38	962.90	5.79	0.00	0.00	962.62	963.22	6.25	0.24	0.32	962.62	963.22	6.25	0.24	0.32	
4.02	962.42	962.94	5.76	962.42	962.94	5.76	0.00	0.00	962.65	963.25	6.23	0.23	0.31	962.65	963.25	6.23	0.23	0.31	
4.04	962.35	963.07	6.79	962.35	963.07	6.79	0.00	0.00	962.54	963.44	7.6	0.19	0.37	962.54	963.44	7.6	0.19	0.37	
4.04	962.39	963.1	6.77	962.39	963.10	6.77	0.00	0.00	962.57	963.46	7.57	0.18	0.36	962.57	963.46	7.57	0.18	0.36	
4.06	962.63	963.22	6.16	962.63	963.22	6.16	0.00	0.00	962.93	963.63	6.7	0.30	0.41	962.93	963.63	6.7	0.30	0.41	
4.06	962.66	963.25	6.14	962.66	963.25	6.14	0.00	0.00	962.96	963.65	6.68	0.30	0.40	962.96	963.65	6.68	0.30	0.40	
4.092	962.80	963.4	6.21	962.80	963.40	6.21	0.00	0.00	963.13	963.84	6.76	0.33	0.44	963.13	963.84	6.76	0.33	0.44	
4.092	962.83	963.43	6.19	962.83	963.43	6.19	0.00	0.00	963.16	963.86	6.74	0.33	0.43	963.16	963.86	6.74	0.33	0.43	
4.094	962.61	964.67	11.51	962.61	964.67	11.51	0.00	0.00	962.95	965.12	11.82	0.34	0.45	962.95	965.12	11.82	0.34	0.45	
4.094	962.67	964.75	11.55	962.67	964.75	11.55	0.00	0.00	962.95	965.12	11.82	0.28	0.37	962.95	965.12	11.82	0.28	0.37	
4.16	965.04	965.75	6.78	965.04	965.75	6.78	0.00	0.00	965.45	966.22	7.01	0.41	0.47	965.45	966.22	7.01	0.41	0.47	
4.16	965.11	965.81	6.73	965.11	965.81	6.73	0.00	0.00	965.45	966.22	7.01	0.34	0.41	965.45	966.22	7.01	0.34	0.41	
4.26	965.75	966.49	6.91	965.75	966.49	6.91	0.00	0.00	966.18	966.95	7.04	0.43	0.46	966.18	966.95	7.04	0.43	0.46	
4.26	965.79	966.56	7.05	965.79	966.56	7.05	0.00	0.00	966.18	966.95	7.04	0.39	0.39	966.18	966.95	7.04	0.39	0.39	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
4.27	965.87	966.66	7.11	965.87	966.66	7.11	0.00	0.00	966.26	967.14	7.53	0.39	0.48	966.26	967.14	7.53	0.39	0.48	
4.27	965.94	966.71	7.04	965.94	966.71	7.04	0.00	0.00	966.26	967.14	7.53	0.32	0.43	966.26	967.14	7.53	0.32	0.43	
4.3	966.19	966.83	6.4	966.37	966.97	6.25	0.18	0.14	966.77	967.31	5.93	0.58	0.48	966.94	967.46	5.8	0.75	0.63	Begin Hydric
4.3	966.24	966.87	6.38	966.41	967.02	6.24	0.17	0.15	966.76	967.31	5.96	0.52	0.44	966.94	967.46	5.83	0.70	0.59	Riparian Section
4.39	966.77	967.37	6.2	968.38	968.79	5.1	1.61	1.42	967.22	967.75	5.85	0.45	0.38	968.63	969.01	4.97	1.86	1.64	
4.39	966.82	967.41	6.17	968.42	968.82	5.09	1.60	1.41	967.22	967.75	5.86	0.40	0.34	968.64	969.03	4.97	1.82	1.62	
4.48	967.33	967.86	5.85	969.60	969.92	4.55	2.27	2.06	967.68	968.16	5.61	0.35	0.30	969.76	970.07	4.48	2.43	2.21	
4.48	967.36	967.89	5.86	969.63	969.96	4.57	2.27	2.07	967.67	968.17	5.64	0.31	0.28	969.78	970.09	4.5	2.42	2.20	
4.5	967.38	967.98	6.21	969.78	970.14	4.81	2.40	2.16	967.72	968.27	5.97	0.34	0.29	969.93	970.28	4.74	2.55	2.30	
4.5	967.42	968.01	6.2	969.82	970.18	4.81	2.40	2.17	967.72	968.28	5.98	0.30	0.27	969.96	970.31	4.75	2.54	2.30	
4.52	967.57	968.1	5.86	970.06	970.37	4.47	2.49	2.27	967.88	968.37	5.64	0.31	0.27	970.2	970.5	4.41	2.63	2.40	
4.52	967.59	968.13	5.87	970.10	970.41	4.48	2.51	2.28	967.88	968.38	5.67	0.29	0.25	970.23	970.53	4.43	2.64	2.40	
4.6	967.95	968.47	5.78	970.78	971.07	4.28	2.83	2.60	968.21	968.70	5.59	0.26	0.23	970.89	971.17	4.23	2.94	2.70	
4.6	967.98	968.49	5.78	970.83	971.11	4.28	2.85	2.62	968.22	968.71	5.61	0.24	0.22	970.93	971.21	4.24	2.95	2.72	
4.7	968.36	968.94	6.07	971.54	971.83	4.3	3.18	2.89	968.59	969.13	5.9	0.23	0.19	971.63	971.91	4.26	3.27	2.97	
4.7	968.39	968.96	6.04	971.59	971.87	4.28	3.20	2.91	968.59	969.13	5.89	0.20	0.17	971.67	971.95	4.25	3.28	2.99	
4.754	968.66	969.14	5.57	971.90	972.14	4	3.24	3.00	968.85	969.31	5.44	0.19	0.17	971.97	972.22	3.98	3.31	3.08	
4.754	968.68	969.16	5.55	971.94	972.18	3.99	3.26	3.02	968.86	969.32	5.44	0.18	0.16	972.01	972.25	3.97	3.33	3.09	
4.7565	Bridge								Bridge					Bridge					Van Buren
4.759	968.81	969.28	5.47	972.08	972.32	3.94	3.27	3.04	969.00	969.44	5.35	0.19	0.16	972.15	972.39	3.92	3.34	3.11	
4.759	968.85	969.31	5.45	972.13	972.37	3.93	3.28	3.06	969.01	969.46	5.34	0.16	0.15	972.19	972.43	3.9	3.34	3.12	
4.79	968.71	969.66	7.83	972.31	972.68	4.87	3.60	3.02	968.90	969.79	7.58	0.19	0.13	972.38	972.74	4.83	3.67	3.08	
4.79	968.74	969.68	7.78	972.36	972.72	4.84	3.62	3.04	968.92	969.81	7.56	0.18	0.13	972.42	972.78	4.81	3.68	3.10	
4.89	969.88	970.67	7.17	973.42	973.74	4.56	3.54	3.07	969.96	970.73	7.08	0.08	0.06	973.46	973.78	4.53	3.58	3.11	
4.89	969.89	970.68	7.15	973.45	973.77	4.54	3.56	3.09	969.97	970.74	7.07	0.08	0.06	973.49	973.81	4.52	3.60	3.13	
4.98	970.87	971.5	6.35	974.40	974.66	4.12	3.53	3.16	970.91	971.53	6.31	0.04	0.03	974.43	974.69	4.11	3.56	3.19	
4.98	970.88	971.5	6.34	974.42	974.68	4.11	3.54	3.18	970.92	971.54	6.3	0.04	0.04	974.45	974.71	4.1	3.57	3.21	
5	970.97	971.62	6.46	974.53	974.81	4.25	3.56	3.19	971.01	971.65	6.43	0.04	0.03	974.56	974.84	4.24	3.59	3.22	
5	970.98	971.63	6.46	974.55	974.83	4.24	3.57	3.20	971.02	971.66	6.42	0.04	0.03	974.58	974.86	4.23	3.60	3.23	
5.02	971.10	971.77	6.61	974.71	974.98	4.15	3.61	3.21	971.13	971.80	6.57	0.03	0.03	974.74	975	4.14	3.64	3.23	
5.02	971.10	971.78	6.6	974.73	974.99	4.15	3.63	3.21	971.14	971.81	6.56	0.04	0.03	974.75	975.02	4.13	3.65	3.24	
5.1	971.78	972.66	7.55	975.46	975.76	4.38	3.68	3.10	971.80	972.68	7.52	0.02	0.02	975.48	975.78	4.37	3.70	3.12	
5.1	971.78	972.66	7.54	975.47	975.77	4.38	3.69	3.11	971.80	972.68	7.51	0.02	0.02	975.49	975.79	4.37	3.71	3.13	
5.15	972.48	973.77	9.11	976.12	976.48	4.83	3.64	2.71	972.49	973.77	9.09	0.01	0.00	976.13	976.49	4.82	3.65	2.72	
5.15	972.48	973.77	9.11	976.13	976.49	4.83	3.65	2.72	972.49	973.77	9.08	0.01	0.00	976.14	976.5	4.82	3.66	2.73	
5.201	973.91	974.86	7.79	976.94	977.29	4.77	3.03	2.43	973.91	974.86	7.79	0.00	0.00	976.95	977.3	4.76	3.04	2.44	
5.201	973.91	974.87	7.85	976.95	977.31	4.81	3.04	2.44	973.91	974.87	7.85	0.00	0.00	976.96	977.32	4.8	3.05	2.45	
5.203	973.52	975.29	10.65	976.90	977.36	5.42	3.38	2.07	973.52	975.29	10.65	0.00	0.00	976.92	977.37	5.41	3.40	2.08	
5.203	973.63	975.43	10.78	976.89	977.39	5.67	3.26	1.96	973.63	975.43	10.78	0.00	0.00	976.91	977.4	5.66	3.28	1.97	
5.25	975.63	976.73	8.45	978.02	978.49	5.49	2.39	1.76	975.63	976.73	8.45	0.00	0.00	978.03	978.5	5.49	2.40	1.77	
5.25	975.74	976.83	8.38	978.11	978.58	5.53	2.37	1.75	975.74	976.83	8.38	0.00	0.00	978.11	978.59	5.53	2.37	1.76	
5.27	976.04	977.31	9.04	978.59	979.11	5.77	2.55	1.80	976.04	977.31	9.04	0.00	0.00	978.6	979.11	5.77	2.56	1.80	
5.27	976.15	977.36	8.83	978.68	979.18	5.7	2.53	1.82	976.15	977.36	8.83	0.00	0.00	978.68	979.19	5.7	2.53	1.83	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
5.29	976.99	977.72	6.88	979.24	979.61	4.86	2.25	1.89	976.99	977.72	6.88	0.00	0.00	979.25	979.61	4.86	2.26	1.89	
5.29	977.03	977.75	6.83	979.31	979.67	4.83	2.28	1.92	977.03	977.75	6.83	0.00	0.00	979.31	979.67	4.82	2.28	1.92	
5.2975	Bridge								Bridge					Bridge					I-10 e/b
5.305	977.29	977.95	6.52	979.57	979.91	4.66	2.28	1.96	977.29	977.95	6.52	0.00	0.00	979.57	979.91	4.66	2.28	1.96	
5.305	977.32	977.97	6.49	979.63	979.96	4.64	2.31	1.99	977.32	977.97	6.49	0.00	0.00	979.63	979.96	4.64	2.31	1.99	
5.317	977.34	978.1	7.01	979.73	980.11	4.9	2.39	2.01	977.34	978.10	7.01	0.00	0.00	979.73	980.11	4.9	2.39	2.01	
5.317	977.37	978.12	6.97	979.78	980.15	4.87	2.41	2.03	977.37	978.12	6.97	0.00	0.00	979.79	980.16	4.87	2.42	2.04	
5.3225	Bridge								Bridge					Bridge					I-10 w/b
5.328	977.64	978.33	6.64	980.05	980.40	4.71	2.41	2.07	977.64	978.33	6.64	0.00	0.00	980.05	980.4	4.71	2.41	2.07	
5.328	977.67	978.35	6.62	980.10	980.44	4.69	2.43	2.09	977.67	978.35	6.62	0.00	0.00	980.1	980.44	4.69	2.43	2.09	
5.38	978.03	979.04	8.06	980.84	981.27	5.23	2.81	2.23	978.03	979.04	8.06	0.00	0.00	980.84	981.27	5.23	2.81	2.23	
5.38	978.04	979.05	8.03	980.87	981.30	5.22	2.83	2.25	978.04	979.05	8.03	0.00	0.00	980.88	981.3	5.22	2.84	2.25	
5.48	979.55	980.18	6.53	982.16	982.48	4.14	2.61	2.30	979.55	980.18	6.53	0.00	0.00	982.16	982.49	4.14	2.61	2.31	I-10 outfall
5.48	979.53	980.33	7.2	982.41	982.78	4.85	2.88	2.45	979.53	980.33	7.2	0.00	0.00	982.41	982.78	4.85	2.88	2.45	channel
5.51	979.85	980.42	6.38	982.39	982.71	3.54	2.54	2.29	979.85	980.42	6.38	0.00	0.00	982.39	982.72	3.54	2.54	2.30	
5.51	979.64	980.8	8.62	982.74	983.20	5.45	3.10	2.40	979.64	980.80	8.62	0.00	0.00	982.74	983.2	5.45	3.10	2.40	
5.54	980.25	980.62	5.14	982.62	982.87	2.69	2.37	2.25	980.25	980.62	5.14	0.00	0.00	982.62	982.87	2.69	2.37	2.25	
5.54	980.20	981.22	8.11	983.20	983.63	5.24	3.00	2.41	980.20	981.22	8.11	0.00	0.00	983.2	983.63	5.24	3.00	2.41	
5.65	980.71	981.69	7.95	983.35	983.83	5.54	2.64	2.14	980.71	981.69	7.95	0.00	0.00	983.35	983.83	5.54	2.64	2.14	
5.65	981.63	982.37	6.9	984.72	985.08	4.79	3.09	2.71	981.63	982.37	6.9	0.00	0.00	984.73	985.08	4.79	3.10	2.71	
5.689	981.44	982.05	6.3	984.04	984.38	4.67	2.60	2.33	981.44	982.05	6.3	0.00	0.00	984.04	984.38	4.67	2.60	2.33	
5.689	982.10	982.62	5.79	985.17	985.45	4.21	3.07	2.83	982.10	982.62	5.79	0.00	0.00	985.17	985.45	4.21	3.07	2.83	
5.6945	Bridge								Bridge					Bridge					McDowell Rd
5.7	981.59	982.18	6.18	984.24	984.57	4.58	2.65	2.39	981.59	982.18	6.18	0.00	0.00	984.24	984.57	4.58	2.65	2.39	End Hydric
5.7	982.22	982.72	5.71	985.32	985.58	4.15	3.10	2.86	982.22	982.72	5.71	0.00	0.00	985.32	985.58	4.15	3.10	2.86	Riparian Section
5.75	981.83	982.66	7.31	984.47	984.90	5.23	2.64	2.24	981.83	982.66	7.31	0.00	0.00	984.47	984.9	5.23	2.64	2.24	
5.75	982.39	983.1	6.75	985.47	985.82	4.73	3.08	2.72	982.39	983.10	6.75	0.00	0.00	985.47	985.82	4.73	3.08	2.72	
5.77	981.98	983.01	8.15	984.49	985.03	5.9	2.51	2.02	981.98	983.01	8.15	0.00	0.00	984.49	985.03	5.9	2.51	2.02	
5.77	982.48	983.37	7.57	985.47	985.92	5.32	2.99	2.55	982.48	983.37	7.57	0.00	0.00	985.48	985.92	5.32	3.00	2.55	
5.79	982.25	983.45	8.81	984.57	985.19	6.33	2.32	1.74	982.25	983.45	8.81	0.00	0.00	984.57	985.19	6.33	2.32	1.74	
5.79	982.68	983.73	8.22	985.53	986.03	5.65	2.85	2.30	982.68	983.73	8.22	0.00	0.00	985.53	986.03	5.65	2.85	2.30	
5.81	983.04	983.8	6.98	984.85	985.33	5.55	1.81	1.53	983.04	983.80	6.98	0.00	0.00	984.85	985.33	5.55	1.81	1.53	
5.81	983.32	984.02	6.72	985.73	986.13	5.05	2.41	2.11	983.32	984.02	6.72	0.00	0.00	985.73	986.13	5.05	2.41	2.11	
5.9	983.79	984.61	7.24	985.19	985.75	6	1.40	1.14	983.79	984.61	7.24	0.00	0.00	985.19	985.75	6	1.40	1.14	
5.9	983.98	984.75	7.04	985.97	986.44	5.47	1.99	1.69	983.98	984.75	7.04	0.00	0.00	985.97	986.44	5.47	1.99	1.69	
5.99	984.64	985.43	7.17	985.64	986.25	6.25	1.00	0.82	984.64	985.43	7.17	0.00	0.00	985.64	986.25	6.25	1.00	0.82	
5.99	984.75	985.52	7.05	986.30	986.82	5.76	1.55	1.30	984.75	985.52	7.05	0.00	0.00	986.3	986.82	5.76	1.55	1.30	
6.07	985.32	986.07	6.98	986.06	986.68	6.31	0.74	0.61	985.32	986.07	6.98	0.00	0.00	986.06	986.68	6.31	0.74	0.61	
6.07	985.39	986.13	6.91	986.62	987.16	5.89	1.23	1.03	985.39	986.13	6.91	0.00	0.00	986.62	987.16	5.89	1.23	1.03	
6.16	986.07	986.87	7.18	986.59	987.29	6.67	0.52	0.42	986.07	986.87	7.18	0.00	0.00	986.6	987.29	6.67	0.53	0.42	
6.16	986.12	986.91	7.13	987.04	987.65	6.29	0.92	0.74	986.12	986.91	7.13	0.00	0.00	987.04	987.65	6.29	0.92	0.74	
6.26	986.91	987.91	8.02	987.24	988.14	7.61	0.33	0.23	986.91	987.91	8.02	0.00	0.00	987.24	988.14	7.61	0.33	0.23	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
6.26	986.94	987.93	7.98	987.56	988.37	7.25	0.62	0.44	986.94	987.93	7.98	0.00	0.00	987.56	988.37	7.25	0.62	0.44	
6.35	988.09	989.02	7.72	988.23	989.11	7.56	0.14	0.09	988.09	989.02	7.72	0.00	0.00	988.23	989.11	7.56	0.14	0.09	
6.35	988.10	989.02	7.71	988.40	989.24	7.37	0.30	0.22	988.10	989.02	7.71	0.00	0.00	988.4	989.24	7.37	0.30	0.22	
6.43	989.00	990.2	8.8	989.07	990.24	8.69	0.07	0.04	989.00	990.20	8.8	0.00	0.00	989.07	990.24	8.69	0.07	0.04	
6.43	989.00	990.2	8.79	989.16	990.30	8.55	0.16	0.10	989.00	990.20	8.79	0.00	0.00	989.16	990.3	8.55	0.16	0.10	
6.52	990.38	991.06	6.65	990.40	991.08	6.63	0.02	0.02	990.38	991.06	6.65	0.00	0.00	990.4	991.08	6.63	0.02	0.02	
6.52	990.38	991.07	6.65	990.44	991.12	6.6	0.06	0.05	990.38	991.07	6.65	0.00	0.00	990.44	991.12	6.6	0.06	0.05	
6.54	990.28	991.32	8.2	990.30	991.34	8.17	0.02	0.02	990.28	991.32	8.2	0.00	0.00	990.3	991.34	8.17	0.02	0.02	
6.54	990.28	991.32	8.2	990.34	991.36	8.12	0.06	0.04	990.28	991.32	8.2	0.00	0.00	990.34	991.36	8.12	0.06	0.04	
6.56	990.79	991.53	6.88	990.81	991.54	6.86	0.02	0.01	990.79	991.53	6.88	0.00	0.00	990.81	991.54	6.86	0.02	0.01	
6.56	990.79	991.53	6.88	990.84	991.56	6.84	0.05	0.03	990.79	991.53	6.88	0.00	0.00	990.84	991.56	6.84	0.05	0.03	
6.59	991.11	991.72	6.25	991.13	991.73	6.23	0.02	0.01	991.11	991.72	6.25	0.00	0.00	991.13	991.73	6.23	0.02	0.01	
6.59	991.11	991.72	6.25	991.15	991.75	6.22	0.04	0.03	991.11	991.72	6.25	0.00	0.00	991.15	991.75	6.22	0.04	0.03	
6.61	991.05	991.94	7.6	991.06	991.95	7.58	0.01	0.01	991.05	991.94	7.6	0.00	0.00	991.06	991.95	7.58	0.01	0.01	
6.61	991.05	991.94	7.6	991.09	991.97	7.55	0.04	0.03	991.05	991.94	7.6	0.00	0.00	991.09	991.97	7.55	0.04	0.03	
6.64	991.51	992.19	6.65	991.52	992.20	6.64	0.01	0.01	991.51	992.19	6.65	0.00	0.00	991.52	992.2	6.64	0.01	0.01	
6.64	991.51	992.19	6.65	991.54	992.22	6.62	0.03	0.03	991.51	992.19	6.65	0.00	0.00	991.54	992.22	6.62	0.03	0.03	
6.66	991.60	992.44	7.31	991.62	992.44	7.3	0.02	0.00	991.60	992.44	7.31	0.00	0.00	991.62	992.44	7.3	0.02	0.00	
6.66	991.61	992.44	7.31	991.64	992.46	7.28	0.03	0.02	991.61	992.44	7.31	0.00	0.00	991.64	992.46	7.28	0.03	0.02	
6.69	991.98	992.63	6.45	991.99	992.64	6.44	0.01	0.01	991.98	992.63	6.45	0.00	0.00	991.99	992.64	6.44	0.01	0.01	
6.69	991.98	992.63	6.45	992.01	992.65	6.43	0.03	0.02	991.98	992.63	6.45	0.00	0.00	992.01	992.65	6.43	0.03	0.02	
6.71	992.12	992.77	6.46	992.13	992.77	6.45	0.01	0.00	992.12	992.77	6.46	0.00	0.00	992.13	992.77	6.45	0.01	0.00	
6.71	992.12	992.77	6.46	992.14	992.78	6.44	0.02	0.01	992.12	992.77	6.46	0.00	0.00	992.14	992.78	6.44	0.02	0.01	
6.73	992.30	992.88	6.1	992.31	992.89	6.1	0.01	0.01	992.30	992.88	6.1	0.00	0.00	992.31	992.89	6.1	0.01	0.01	
6.73	992.30	992.88	6.1	992.32	992.90	6.09	0.02	0.02	992.30	992.88	6.1	0.00	0.00	992.32	992.9	6.09	0.02	0.02	
6.77	991.88	993.72	10.86	991.90	993.72	10.83	0.02	0.00	991.88	993.72	10.86	0.00	0.00	991.9	993.72	10.83	0.02	0.00	
6.77	991.89	993.72	10.86	991.92	993.72	10.79	0.03	0.00	991.89	993.72	10.86	0.00	0.00	991.92	993.72	10.79	0.03	0.00	
6.79	992.94	994.26	9.23	992.94	994.26	9.23	0.00	0.00	992.94	994.26	9.23	0.00	0.00	992.94	994.26	9.23	0.00	0.00	
6.79	992.94	994.26	9.23	992.93	994.26	9.23	-0.01	0.00	992.94	994.26	9.23	0.00	0.00	992.93	994.26	9.23	-0.01	0.00	
6.82	993.73	994.58	7.39	993.73	994.58	7.39	0.00	0.00	993.73	994.58	7.39	0.00	0.00	993.73	994.58	7.39	0.00	0.00	
6.82	993.73	994.58	7.39	993.73	994.58	7.39	0.00	0.00	993.73	994.58	7.39	0.00	0.00	993.73	994.58	7.39	0.00	0.00	
6.89	994.18	995.96	10.72	994.18	995.96	10.72	0.00	0.00	994.18	995.96	10.72	0.00	0.00	994.18	995.96	10.72	0.00	0.00	
6.89	994.18	995.96	10.72	994.18	995.96	10.72	0.00	0.00	994.18	995.96	10.72	0.00	0.00	994.18	995.96	10.72	0.00	0.00	
6.91	994.81	996.63	10.81	994.81	996.63	10.81	0.00	0.00	994.81	996.63	10.81	0.00	0.00	994.81	996.63	10.81	0.00	0.00	
6.91	994.81	996.63	10.81	994.81	996.63	10.81	0.00	0.00	994.81	996.63	10.81	0.00	0.00	994.81	996.63	10.81	0.00	0.00	
6.93	996.11	997.07	7.86	996.11	997.07	7.86	0.00	0.00	996.11	997.07	7.86	0.00	0.00	996.11	997.07	7.86	0.00	0.00	
6.93	996.11	997.07	7.86	996.11	997.07	7.86	0.00	0.00	996.11	997.07	7.86	0.00	0.00	996.11	997.07	7.86	0.00	0.00	
6.97	996.63	997.59	7.86	996.63	997.59	7.86	0.00	0.00	996.63	997.59	7.86	0.00	0.00	996.63	997.59	7.86	0.00	0.00	
6.97	996.63	997.59	7.86	996.63	997.59	7.86	0.00	0.00	996.63	997.59	7.86	0.00	0.00	996.63	997.59	7.86	0.00	0.00	
6.99	996.59	998.06	9.72	996.59	998.06	9.72	0.00	0.00	996.59	998.06	9.72	0.00	0.00	996.59	998.06	9.72	0.00	0.00	
6.99	996.59	998.06	9.72	996.59	998.06	9.72	0.00	0.00	996.59	998.06	9.72	0.00	0.00	996.59	998.06	9.72	0.00	0.00	
7.02	997.62	998.44	7.26	997.62	998.44	7.26	0.00	0.00	997.62	998.44	7.26	0.00	0.00	997.62	998.44	7.26	0.00	0.00	
7.02	997.62	998.44	7.26	997.62	998.44	7.26	0.00	0.00	997.62	998.44	7.26	0.00	0.00	997.62	998.44	7.26	0.00	0.00	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
7.06	997.96	998.88	7.67	997.96	998.88	7.67	0.00	0.00	997.96	998.88	7.67	0.00	0.00	997.96	998.88	7.67	0.00	0.00	
7.06	997.96	998.88	7.67	997.96	998.88	7.67	0.00	0.00	997.96	998.88	7.67	0.00	0.00	997.96	998.88	7.67	0.00	0.00	
7.08	998.08	999.17	8.36	998.08	999.17	8.36	0.00	0.00	998.08	999.17	8.36	0.00	0.00	998.08	999.17	8.36	0.00	0.00	
7.08	998.08	999.17	8.36	998.08	999.17	8.36	0.00	0.00	998.08	999.17	8.36	0.00	0.00	998.08	999.17	8.36	0.00	0.00	
7.1	998.35	999.53	8.71	998.35	999.53	8.71	0.00	0.00	998.35	999.53	8.71	0.00	0.00	998.35	999.53	8.71	0.00	0.00	
7.1	998.35	999.53	8.71	998.35	999.53	8.71	0.00	0.00	998.35	999.53	8.71	0.00	0.00	998.35	999.53	8.71	0.00	0.00	
7.2	999.80	1000.56	7	999.80	1000.56	7	0.00	0.00	999.80	1000.56	7	0.00	0.00	999.8	1000.56	7	0.00	0.00	
7.2	999.80	1000.56	7	999.80	1000.56	7	0.00	0.00	999.80	1000.56	7	0.00	0.00	999.8	1000.56	7	0.00	0.00	
7.29	1000.48	1001.57	8.36	1000.48	1001.57	8.36	0.00	0.00	1000.48	1001.57	8.36	0.00	0.00	1000.48	1001.57	8.36	0.00	0.00	
7.29	1000.48	1001.57	8.36	1000.48	1001.57	8.36	0.00	0.00	1000.48	1001.57	8.36	0.00	0.00	1000.48	1001.57	8.36	0.00	0.00	
7.39	1001.69	1002.6	7.65	1001.69	1002.60	7.65	0.00	0.00	1001.69	1002.60	7.65	0.00	0.00	1001.69	1002.6	7.65	0.00	0.00	
7.39	1001.69	1002.6	7.65	1001.69	1002.60	7.65	0.00	0.00	1001.69	1002.60	7.65	0.00	0.00	1001.69	1002.6	7.65	0.00	0.00	
7.49	1002.60	1003.57	7.94	1002.60	1003.57	7.94	0.00	0.00	1002.60	1003.57	7.94	0.00	0.00	1002.6	1003.57	7.94	0.00	0.00	
7.49	1002.59	1003.57	7.94	1002.59	1003.57	7.94	0.00	0.00	1002.59	1003.57	7.94	0.00	0.00	1002.59	1003.57	7.94	0.00	0.00	
7.58	1003.56	1004.38	7.3	1003.56	1004.38	7.3	0.00	0.00	1003.56	1004.38	7.3	0.00	0.00	1003.56	1004.38	7.3	0.00	0.00	
7.58	1003.56	1004.38	7.3	1003.56	1004.38	7.3	0.00	0.00	1003.56	1004.38	7.3	0.00	0.00	1003.56	1004.38	7.3	0.00	0.00	
7.67	1004.39	1004.89	5.67	1004.39	1004.89	5.67	0.00	0.00	1004.39	1004.89	5.67	0.00	0.00	1004.39	1004.89	5.67	0.00	0.00	
7.67	1004.39	1004.89	5.67	1004.39	1004.89	5.67	0.00	0.00	1004.39	1004.89	5.67	0.00	0.00	1004.39	1004.89	5.67	0.00	0.00	
7.77	1004.69	1005.37	6.63	1004.69	1005.37	6.63	0.00	0.00	1004.69	1005.37	6.63	0.00	0.00	1004.69	1005.37	6.63	0.00	0.00	
7.77	1004.69	1005.37	6.63	1004.69	1005.37	6.63	0.00	0.00	1004.69	1005.37	6.63	0.00	0.00	1004.69	1005.37	6.63	0.00	0.00	
7.87	1005.28	1005.96	6.59	1005.28	1005.96	6.59	0.00	0.00	1005.28	1005.96	6.59	0.00	0.00	1005.28	1005.96	6.59	0.00	0.00	
7.87	1005.28	1005.96	6.59	1005.28	1005.96	6.59	0.00	0.00	1005.28	1005.96	6.59	0.00	0.00	1005.28	1005.96	6.59	0.00	0.00	
7.96	1005.97	1006.5	5.84	1005.97	1006.50	5.84	0.00	0.00	1005.97	1006.50	5.84	0.00	0.00	1005.97	1006.5	5.84	0.00	0.00	
7.96	1005.97	1006.5	5.84	1005.97	1006.50	5.84	0.00	0.00	1005.97	1006.50	5.84	0.00	0.00	1005.97	1006.5	5.84	0.00	0.00	
7.99	1006.18	1006.68	5.68	1006.18	1006.68	5.68	0.00	0.00	1006.18	1006.68	5.68	0.00	0.00	1006.18	1006.68	5.68	0.00	0.00	
7.99	1006.18	1006.68	5.68	1006.18	1006.68	5.68	0.00	0.00	1006.18	1006.68	5.68	0.00	0.00	1006.18	1006.68	5.68	0.00	0.00	
8	1006.32	1006.75	5.28	1006.32	1006.75	5.28	0.00	0.00	1006.32	1006.75	5.28	0.00	0.00	1006.32	1006.75	5.28	0.00	0.00	
8	1006.32	1006.75	5.28	1006.32	1006.75	5.28	0.00	0.00	1006.32	1006.75	5.28	0.00	0.00	1006.32	1006.75	5.28	0.00	0.00	
8.005	Bridge								Bridge					Bridge					Indian School
8.01	1006.61	1007.01	5.07	1006.61	1007.01	5.07	0.00	0.00	1006.61	1007.01	5.07	0.00	0.00	1006.61	1007.01	5.07	0.00	0.00	
8.01	1006.61	1007.01	5.07	1006.61	1007.01	5.07	0.00	0.00	1006.61	1007.01	5.07	0.00	0.00	1006.61	1007.01	5.07	0.00	0.00	
8.03	1006.34	1007.21	7.49	1006.34	1007.21	7.49	0.00	0.00	1006.34	1007.21	7.49	0.00	0.00	1006.34	1007.21	7.49	0.00	0.00	
8.03	1006.34	1007.21	7.49	1006.34	1007.21	7.49	0.00	0.00	1006.34	1007.21	7.49	0.00	0.00	1006.34	1007.21	7.49	0.00	0.00	
8.105	1007.45	1008.08	6.44	1007.45	1008.08	6.44	0.00	0.00	1007.45	1008.08	6.44	0.00	0.00	1007.45	1008.08	6.44	0.00	0.00	
8.105	1007.43	1008.12	6.7	1007.43	1008.12	6.7	0.00	0.00	1007.43	1008.12	6.7	0.00	0.00	1007.43	1008.12	6.7	0.00	0.00	
8.198	1008.32	1009.05	6.87	1008.32	1009.05	6.87	0.00	0.00	1008.32	1009.05	6.87	0.00	0.00	1008.32	1009.05	6.87	0.00	0.00	
8.198	1008.37	1009.09	6.79	1008.37	1009.09	6.79	0.00	0.00	1008.37	1009.09	6.79	0.00	0.00	1008.37	1009.09	6.79	0.00	0.00	
8.325	1010.01	1010.77	7.04	1010.01	1010.77	7.04	0.00	0.00	1010.01	1010.77	7.04	0.00	0.00	1010.01	1010.77	7.04	0.00	0.00	
8.325	1010.02	1010.82	7.2	1010.02	1010.82	7.2	0.00	0.00	1010.02	1010.82	7.2	0.00	0.00	1010.02	1010.82	7.2	0.00	0.00	End West Levee
8.433	1012.00	1012.97	8.46	1012.00	1012.97	8.46	0.00	0.00	1012.00	1012.97	8.46	0.00	0.00	1012	1012.97	8.46	0.00	0.00	
8.433	1012.10	1013.44	9.7	1012.10	1013.44	9.7	0.00	0.00	1012.10	1013.44	9.7	0.00	0.00	1012.1	1013.44	9.7	0.00	0.00	
8.534	1014.59	1015.21	6.41	1014.59	1015.21	6.41	0.00	0.00	1014.59	1015.21	6.41	0.00	0.00	1014.59	1015.21	6.41	0.00	0.00	Cmlback Rnch
8.534	1015.13	1015.74	6.4	1015.13	1015.74	6.4	0.00	0.00	1015.13	1015.74	6.4	0.00	0.00	1015.13	1015.74	6.4	0.00	0.00	Levee

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
8.646	1016.30	1016.7	5.41	1016.30	1016.70	5.41	0.00	0.00	1016.30	1016.70	5.41	0.00	0.00	1016.3	1016.7	5.41	0.00	0.00	
8.646	1016.69	1017.2	5.99	1016.69	1017.20	5.99	0.00	0.00	1016.69	1017.20	5.99	0.00	0.00	1016.69	1017.2	5.99	0.00	0.00	
8.768	1017.65	1018.47	8.68	1017.65	1018.47	8.68	0.00	0.00	1017.65	1018.47	8.68	0.00	0.00	1017.65	1018.47	8.68	0.00	0.00	
8.768	1018.14	1018.96	8.58	1018.14	1018.96	8.58	0.00	0.00	1018.14	1018.96	8.58	0.00	0.00	1018.14	1018.96	8.58	0.00	0.00	
8.875	1019.82	1020.77	8.73	1019.82	1020.77	8.73	0.00	0.00	1019.82	1020.77	8.73	0.00	0.00	1019.82	1020.77	8.73	0.00	0.00	
8.875	1020.06	1020.95	8.34	1020.06	1020.95	8.34	0.00	0.00	1020.06	1020.95	8.34	0.00	0.00	1020.06	1020.95	8.34	0.00	0.00	
8.992	1021.74	1022.17	5.31	1021.74	1022.17	5.31	0.00	0.00	1021.74	1022.17	5.31	0.00	0.00	1021.74	1022.17	5.31	0.00	0.00	
8.992	1021.82	1022.27	5.37	1021.82	1022.27	5.37	0.00	0.00	1021.82	1022.27	5.37	0.00	0.00	1021.82	1022.27	5.37	0.00	0.00	
9.098	1022.52	1022.9	4.96	1022.52	1022.90	4.96	0.00	0.00	1022.52	1022.90	4.96	0.00	0.00	1022.52	1022.9	4.96	0.00	0.00	
9.098	1022.62	1022.99	4.93	1022.62	1022.99	4.93	0.00	0.00	1022.62	1022.99	4.93	0.00	0.00	1022.62	1022.99	4.93	0.00	0.00	End East Levee
9.177	1023.04	1023.49	5.41	1023.04	1023.49	5.41	0.00	0.00	1023.04	1023.49	5.41	0.00	0.00	1023.04	1023.49	5.41	0.00	0.00	
9.177	1023.12	1023.56	5.34	1023.12	1023.56	5.34	0.00	0.00	1023.12	1023.56	5.34	0.00	0.00	1023.12	1023.56	5.34	0.00	0.00	
9.184	Bridge								Bridge					Bridge					Camelback Rd
9.191	1023.09	1023.53	5.3	1023.09	1023.53	5.3	0.00	0.00	1023.09	1023.53	5.3	0.00	0.00	1023.09	1023.53	5.3	0.00	0.00	
9.191	1023.17	1023.59	5.24	1023.17	1023.59	5.24	0.00	0.00	1023.17	1023.59	5.24	0.00	0.00	1023.17	1023.59	5.24	0.00	0.00	
9.198	1023.12	1023.6	5.58	1023.12	1023.60	5.58	0.00	0.00	1023.12	1023.60	5.58	0.00	0.00	1023.12	1023.6	5.58	0.00	0.00	
9.198	1023.19	1023.67	5.51	1023.19	1023.67	5.51	0.00	0.00	1023.19	1023.67	5.51	0.00	0.00	1023.19	1023.67	5.51	0.00	0.00	
9.266	1023.81	1024.21	5.18	1023.81	1024.21	5.18	0.00	0.00	1023.81	1024.21	5.18	0.00	0.00	1023.81	1024.21	5.18	0.00	0.00	
9.266	1023.82	1024.27	5.39	1023.82	1024.27	5.39	0.00	0.00	1023.82	1024.27	5.39	0.00	0.00	1023.82	1024.27	5.39	0.00	0.00	
9.343	1024.47	1024.98	5.78	1024.47	1024.98	5.78	0.00	0.00	1024.47	1024.98	5.78	0.00	0.00	1024.47	1024.98	5.78	0.00	0.00	
9.343	1024.53	1025.05	5.8	1024.53	1025.05	5.8	0.00	0.00	1024.53	1025.05	5.8	0.00	0.00	1024.53	1025.05	5.8	0.00	0.00	
9.435	1025.41	1025.96	6	1025.41	1025.96	6	0.00	0.00	1025.41	1025.96	6	0.00	0.00	1025.41	1025.96	6	0.00	0.00	
9.435	1025.47	1026.03	6.05	1025.47	1026.03	6.05	0.00	0.00	1025.47	1026.03	6.05	0.00	0.00	1025.47	1026.03	6.05	0.00	0.00	
9.519	1026.35	1026.98	6.47	1026.35	1026.98	6.47	0.00	0.00	1026.35	1026.98	6.47	0.00	0.00	1026.35	1026.98	6.47	0.00	0.00	
9.519	1026.40	1027.05	6.54	1026.40	1027.05	6.54	0.00	0.00	1026.40	1027.05	6.54	0.00	0.00	1026.4	1027.05	6.54	0.00	0.00	
9.605	1027.43	1028.09	6.53	1027.43	1028.09	6.53	0.00	0.00	1027.43	1028.09	6.53	0.00	0.00	1027.43	1028.09	6.53	0.00	0.00	
9.605	1027.50	1028.15	6.5	1027.50	1028.15	6.5	0.00	0.00	1027.50	1028.15	6.5	0.00	0.00	1027.5	1028.15	6.5	0.00	0.00	
9.696	1028.74	1029.1	5.03	1028.74	1029.10	5.03	0.00	0.00	1028.74	1029.10	5.03	0.00	0.00	1028.74	1029.1	5.03	0.00	0.00	
9.696	1028.76	1029.68	7.75	1028.76	1029.68	7.75	0.00	0.00	1028.76	1029.68	7.75	0.00	0.00	1028.76	1029.68	7.75	0.00	0.00	
9.79	1029.62	1029.82	3.89	1029.62	1029.82	3.89	0.00	0.00	1029.62	1029.82	3.89	0.00	0.00	1029.62	1029.82	3.89	0.00	0.00	
9.79	1030.49	1030.73	3.9	1030.49	1030.73	3.9	0.00	0.00	1030.49	1030.73	3.9	0.00	0.00	1030.49	1030.73	3.9	0.00	0.00	
9.885	1030.31	1030.74	5.51	1030.31	1030.74	5.51	0.00	0.00	1030.31	1030.74	5.51	0.00	0.00	1030.31	1030.74	5.51	0.00	0.00	
9.885	1031.02	1031.44	5.19	1031.02	1031.44	5.19	0.00	0.00	1031.02	1031.44	5.19	0.00	0.00	1031.02	1031.44	5.19	0.00	0.00	
9.981	1031.72	1032.09	5.23	1031.72	1032.09	5.23	0.00	0.00	1031.72	1032.09	5.23	0.00	0.00	1031.72	1032.09	5.23	0.00	0.00	
9.981	1032.14	1032.6	5.51	1032.14	1032.60	5.51	0.00	0.00	1032.14	1032.60	5.51	0.00	0.00	1032.14	1032.6	5.51	0.00	0.00	
10.071	1032.84	1033.26	5.46	1032.84	1033.26	5.46	0.00	0.00	1032.84	1033.26	5.46	0.00	0.00	1032.84	1033.26	5.46	0.00	0.00	
10.071	1033.25	1033.74	5.6	1033.25	1033.74	5.6	0.00	0.00	1033.25	1033.74	5.6	0.00	0.00	1033.25	1033.74	5.6	0.00	0.00	
10.167	1033.83	1034.25	5.43	1033.83	1034.25	5.43	0.00	0.00	1033.83	1034.25	5.43	0.00	0.00	1033.83	1034.25	5.43	0.00	0.00	
10.167	1034.23	1034.68	5.43	1034.23	1034.68	5.43	0.00	0.00	1034.23	1034.68	5.43	0.00	0.00	1034.23	1034.68	5.43	0.00	0.00	
10.265	1034.48	1035.7	9.03	1034.48	1035.70	9.03	0.00	0.00	1034.48	1035.70	9.03	0.00	0.00	1034.48	1035.7	9.03	0.00	0.00	
10.265	1034.82	1035.99	8.74	1034.82	1035.99	8.74	0.00	0.00	1034.82	1035.99	8.74	0.00	0.00	1034.82	1035.99	8.74	0.00	0.00	
10.343	1036.64	1037.37	7.34	1036.64	1037.37	7.34	0.00	0.00	1036.64	1037.37	7.34	0.00	0.00	1036.64	1037.37	7.34	0.00	0.00	
10.343	1036.67	1037.75	8.44	1036.67	1037.75	8.44	0.00	0.00	1036.67	1037.75	8.44	0.00	0.00	1036.67	1037.75	8.44	0.00	0.00	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
10.442	1038.57	1038.97	5.53	1038.57	1038.97	5.53	0.00	0.00	1038.57	1038.97	5.53	0.00	0.00	1038.57	1038.97	5.53	0.00	0.00	
10.442	1039.14	1039.73	6.21	1039.14	1039.73	6.21	0.00	0.00	1039.14	1039.73	6.21	0.00	0.00	1039.14	1039.73	6.21	0.00	0.00	
10.538	1039.69	1039.99	4.64	1039.69	1039.99	4.64	0.00	0.00	1039.69	1039.99	4.64	0.00	0.00	1039.69	1039.99	4.64	0.00	0.00	
10.538	1040.40	1040.72	4.54	1040.40	1040.72	4.54	0.00	0.00	1040.40	1040.72	4.54	0.00	0.00	1040.4	1040.72	4.54	0.00	0.00	
10.632	1040.52	1040.84	4.77	1040.52	1040.84	4.77	0.00	0.00	1040.52	1040.84	4.77	0.00	0.00	1040.52	1040.84	4.77	0.00	0.00	
10.632	1041.10	1041.44	4.71	1041.10	1041.44	4.71	0.00	0.00	1041.10	1041.44	4.71	0.00	0.00	1041.1	1041.44	4.71	0.00	0.00	
10.752	1041.71	1042.36	6.53	1041.71	1042.36	6.53	0.00	0.00	1041.71	1042.36	6.53	0.00	0.00	1041.71	1042.36	6.53	0.00	0.00	
10.752	1042.13	1042.71	6.12	1042.13	1042.71	6.12	0.00	0.00	1042.13	1042.71	6.12	0.00	0.00	1042.13	1042.71	6.12	0.00	0.00	
10.846	1043.16	1043.79	6.58	1043.16	1043.79	6.58	0.00	0.00	1043.16	1043.79	6.58	0.00	0.00	1043.16	1043.79	6.58	0.00	0.00	
10.846	1043.34	1043.97	6.52	1043.34	1043.97	6.52	0.00	0.00	1043.34	1043.97	6.52	0.00	0.00	1043.34	1043.97	6.52	0.00	0.00	
10.942	1044.39	1044.79	5.15	1044.39	1044.79	5.15	0.00	0.00	1044.39	1044.79	5.15	0.00	0.00	1044.39	1044.79	5.15	0.00	0.00	
10.942	1044.53	1044.96	5.24	1044.53	1044.96	5.24	0.00	0.00	1044.53	1044.96	5.24	0.00	0.00	1044.53	1044.96	5.24	0.00	0.00	
11.029	1045.13	1045.48	4.75	1045.13	1045.48	4.75	0.00	0.00	1045.13	1045.48	4.75	0.00	0.00	1045.13	1045.48	4.75	0.00	0.00	
11.029	1045.30	1045.64	4.66	1045.30	1045.64	4.66	0.00	0.00	1045.30	1045.64	4.66	0.00	0.00	1045.3	1045.64	4.66	0.00	0.00	
11.128	1045.89	1046.03	3.05	1045.89	1046.03	3.05	0.00	0.00	1045.89	1046.03	3.05	0.00	0.00	1045.89	1046.03	3.05	0.00	0.00	
11.128	1046.11	1046.49	5	1046.11	1046.49	5	0.00	0.00	1046.11	1046.49	5	0.00	0.00	1046.11	1046.49	5	0.00	0.00	
11.224	1046.29	1046.68	5.34	1046.29	1046.68	5.34	0.00	0.00	1046.29	1046.68	5.34	0.00	0.00	1046.29	1046.68	5.34	0.00	0.00	
11.224	1047.06	1047.54	5.72	1047.06	1047.54	5.72	0.00	0.00	1047.06	1047.54	5.72	0.00	0.00	1047.06	1047.54	5.72	0.00	0.00	
11.325	1047.33	1049.83	12.71	1047.33	1049.83	12.71	0.00	0.00	1047.33	1049.83	12.71	0.00	0.00	1047.33	1049.83	12.71	0.00	0.00	
11.325	1048.31	1050.06	10.71	1048.31	1050.06	10.71	0.00	0.00	1048.31	1050.06	10.71	0.00	0.00	1048.31	1050.06	10.71	0.00	0.00	
11.41	1052.13	1052.85	6.86	1052.13	1052.85	6.86	0.00	0.00	1052.13	1052.85	6.86	0.00	0.00	1052.13	1052.85	6.86	0.00	0.00	
11.41	1051.84	1052.63	7.12	1051.84	1052.63	7.12	0.00	0.00	1051.84	1052.63	7.12	0.00	0.00	1051.84	1052.63	7.12	0.00	0.00	
11.419	Bridge								Bridge					Bridge					Glendale Ave
11.428	1052.69	1053.7	8.28	1052.69	1053.70	8.28	0.00	0.00	1052.69	1053.70	8.28	0.00	0.00	1052.69	1053.7	8.28	0.00	0.00	
11.428	1052.48	1053.56	8.52	1052.48	1053.56	8.52	0.00	0.00	1052.48	1053.56	8.52	0.00	0.00	1052.48	1053.56	8.52	0.00	0.00	
11.46	1052.94	1054.57	10.4	1052.94	1054.57	10.4	0.00	0.00	1052.94	1054.57	10.4	0.00	0.00	1052.94	1054.57	10.4	0.00	0.00	
11.46	1052.77	1054.49	10.68	1052.77	1054.49	10.68	0.00	0.00	1052.77	1054.49	10.68	0.00	0.00	1052.77	1054.49	10.68	0.00	0.00	
11.557	1055.30	1055.34	3.13	1055.30	1055.34	3.13	0.00	0.00	1055.30	1055.34	3.13	0.00	0.00	1055.3	1055.34	3.13	0.00	0.00	
11.557	1054.53	1056.87	13.38	1054.53	1056.87	13.38	0.00	0.00	1054.53	1056.87	13.38	0.00	0.00	1054.53	1056.87	13.38	0.00	0.00	
11.653	1055.59	1057.98	13.97	1055.59	1057.98	13.97	0.00	0.00	1055.59	1057.98	13.97	0.00	0.00	1055.59	1057.98	13.97	0.00	0.00	
11.653	1057.47	1058.98	11.28	1057.47	1058.98	11.28	0.00	0.00	1057.47	1058.98	11.28	0.00	0.00	1057.47	1058.98	11.28	0.00	0.00	
11.75	1058.28	1060.4	12.95	1058.28	1060.40	12.95	0.00	0.00	1058.28	1060.40	12.95	0.00	0.00	1058.28	1060.4	12.95	0.00	0.00	
11.75	1058.87	1060.83	12.41	1058.87	1060.83	12.41	0.00	0.00	1058.87	1060.83	12.41	0.00	0.00	1058.87	1060.83	12.41	0.00	0.00	
11.847	1061.11	1061.96	9.01	1061.11	1061.96	9.01	0.00	0.00	1061.11	1061.96	9.01	0.00	0.00	1061.11	1061.96	9.01	0.00	0.00	
11.847	1061.16	1062.33	10.04	1061.16	1062.33	10.04	0.00	0.00	1061.16	1062.33	10.04	0.00	0.00	1061.16	1062.33	10.04	0.00	0.00	
11.9	1061.28	1062.92	11.41	1061.28	1062.92	11.41	0.00	0.00	1061.28	1062.92	11.41	0.00	0.00	1061.28	1062.92	11.41	0.00	0.00	
11.9	1061.40	1063.42	12.21	1061.40	1063.42	12.21	0.00	0.00	1061.40	1063.42	12.21	0.00	0.00	1061.4	1063.42	12.21	0.00	0.00	
11.943	1062.51	1063.57	9.98	1062.51	1063.57	9.98	0.00	0.00	1062.51	1063.57	9.98	0.00	0.00	1062.51	1063.57	9.98	0.00	0.00	Glendale Landfill
11.943	1063.22	1064.21	9.55	1063.22	1064.21	9.55	0.00	0.00	1063.22	1064.21	9.55	0.00	0.00	1063.22	1064.21	9.55	0.00	0.00	
12.042	1064.05	1064.59	8.37	1064.05	1064.59	8.37	0.00	0.00	1064.05	1064.59	8.37	0.00	0.00	1064.05	1064.59	8.37	0.00	0.00	
12.042	1064.60	1065.09	8	1064.60	1065.09	8	0.00	0.00	1064.60	1065.09	8	0.00	0.00	1064.6	1065.09	8	0.00	0.00	
12.141	1064.92	1065.36	8.07	1064.92	1065.36	8.07	0.00	0.00	1064.92	1065.36	8.07	0.00	0.00	1064.92	1065.36	8.07	0.00	0.00	
12.141	1065.39	1065.76	7.5	1065.39	1065.76	7.5	0.00	0.00	1065.39	1065.76	7.5	0.00	0.00	1065.39	1065.76	7.5	0.00	0.00	

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee Section & Hydric Riparian Section on Current SPF Conditions

	100-Yr Floodway Base Comparison			100-Yr Floodway w/ Hydric Riparian Section at I-10					100-Yr Floodway w/ Plated Levee					100-Yr Floodway w/ Hydric Riparian & Plated Levee					
River Station	WSEL	EGL	Channel Velocity	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	WSEL	EGL	Channel Velocity	Change in WSEL	Change in EGL	Comments
12.247	1065.79	1066.08	6.82	1065.79	1066.08	6.82	0.00	0.00	1065.79	1066.08	6.82	0.00	0.00	1065.79	1066.08	6.82	0.00	0.00	
12.247	1066.10	1066.37	6.52	1066.10	1066.37	6.52	0.00	0.00	1066.10	1066.37	6.52	0.00	0.00	1066.1	1066.37	6.52	0.00	0.00	
12.359	1066.25	1066.51	5.1	1066.25	1066.51	5.1	0.00	0.00	1066.25	1066.51	5.1	0.00	0.00	1066.25	1066.51	5.1	0.00	0.00	
12.359	1066.51	1066.75	4.93	1066.51	1066.75	4.93	0.00	0.00	1066.51	1066.75	4.93	0.00	0.00	1066.51	1066.75	4.93	0.00	0.00	
12.42	1066.52	1066.67	3.23	1066.52	1066.67	3.23	0.00	0.00	1066.52	1066.67	3.23	0.00	0.00	1066.52	1066.67	3.23	0.00	0.00	
12.42	1066.75	1066.9	3.14	1066.75	1066.90	3.14	0.00	0.00	1066.75	1066.90	3.14	0.00	0.00	1066.75	1066.9	3.14	0.00	0.00	Northern Ave

Notes: (1)

(2)

Appendix D

Effects of Plated Levee and Riparian Section on Levee Freeboard for the Standard Project Flood

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions
Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)
Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
1.87	6.88			6.88			6.88			6.88			6.88			
1.87	7.45			7.45			7.45			7.45			7.45			
1.94	7.08		3.55	7.08		3.55	7.08		3.55	7.08		3.55	7.08		3.55	Begin West Levee
1.94	7.16		1.92	7.17		1.92	7.17		1.92	7.17		1.92	7.16		1.92	
2.02	7.06		3	7.06		3	7.06		3	7.06		3	7.06		3	
2.02	8.37		1.56	8.38		1.56	8.38		1.56	8.38		1.56	8.37		1.56	
2.1	8.13		4.13	8.13		4.13	8.13		4.13	8.13		4.13	8.13		4.13	
2.1	8.88		2.54	8.89		2.54	8.89		2.54	8.89		2.54	8.88		2.54	
2.18	8.06		3.56	8.06		3.56	8.06		3.56	8.06		3.56	8.06		3.56	
2.18	8.76		1.95	8.76		1.95	8.76		1.95	8.76		1.95	8.76		1.95	
2.25	9.64		4.82	9.64		4.82	9.64		4.82	9.64		4.82	9.64		4.82	
2.25	10.62		3.26	10.63		3.26	10.63		3.26	10.63		3.26	10.62		3.26	
2.33	8.31		3.67	8.31		3.67	8.31		3.67	8.31		3.67	8.31		3.67	
2.33	9.36		2.02	9.37		2.03	9.37		2.03	9.37		2.03	9.36		2.02	
2.41	8.59		4.13	8.59		4.13	8.59		4.13	8.59		4.13	8.59		4.13	
2.41	8.65		2.29	8.65		2.29	8.65		2.29	8.65		2.29	8.65		2.29	
2.51	7.95		4.66	7.95		4.66	7.95		4.66	7.95		4.66	7.95		4.66	
2.51	7.94		3.05	7.94		3.05	7.94		3.05	7.94		3.05	7.94		3.05	
2.6	7.04		5.22	7.04		5.22	7.04		5.22	7.04		5.22	7.04		5.22	
2.6	6.69		3.8	6.69		3.8	6.69		3.8	6.69		3.8	6.69		3.8	
2.7	5.98		5.1	5.98		5.1	5.98		5.1	5.98		5.1	5.98		5.1	
2.7	5.8		3.95	5.8		3.95	5.8		3.95	5.8		3.95	5.8		3.95	
2.8	6.08		5.52	6.08		5.52	6.08		5.52	6.08		5.52	6.08		5.52	
2.8	5.6		4.49	5.6		4.49	5.6		4.49	5.6		4.49	5.6		4.49	
2.89	6.05		6.22	6.05		6.22	6.05		6.22	6.05		6.22	6.05		6.22	
2.89	5.82		5.38	5.82		5.38	5.82		5.38	5.82		5.38	5.82		5.38	
2.99	5.83		6.48	5.83		6.48	5.83		6.48	5.83		6.48	5.83		6.48	
2.99	5.83		5.81	5.84		5.81	5.84		5.81	5.84		5.81	5.83		5.81	
3.08	5.79		6.92	5.79		6.92	5.79		6.92	5.79		6.92	5.79		6.92	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions
Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)
Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
3.08	5.64		6.28	5.64		6.28	5.64		6.28	5.64		6.28	5.64		6.28	
3.18	6.84		5.6	6.84		5.6	6.84		5.6	6.84		5.6	6.84		5.6	
3.18	6.72		5.06	6.73		5.06	6.73		5.06	6.73		5.06	6.72		5.06	
3.27	8.03		6.16	8.03		6.16	8.03		6.16	8.03		6.16	8.03		6.16	
3.27	7.79		5.71	7.8		5.71	7.8		5.71	7.8		5.71	7.79		5.71	
3.37	8.04		6.48	8.04		6.48	8.04		6.48	8.04		6.48	8.04		6.48	
3.37	8.64		6.23	8.65		6.23	8.65		6.23	8.65		6.23	8.64		6.23	
3.4	13.03		8.17	13.03		8.17	13.03		8.17	13.03		8.17	13.03		8.17	
3.4	12.98		7.89	12.99		7.9	12.99		7.9	12.99		7.9	12.98		7.89	
3.43	10.74		6.89	10.74		6.89	10.74		6.89	10.74		6.89	10.74		6.89	
3.43	10.36		6.51	10.36		6.51	10.36		6.51	10.36		6.51	10.36		6.51	
3.47	9.16		7.04	9.16		7.04	9.16		7.04	9.16		7.04	9.16		7.04	
3.47	10.18		7.17	10.18		7.17	10.18		7.17	10.18		7.17	10.18		7.17	
3.55	10.16		5	10.16		5	10.16		5	10.16		5	10.16		5	
3.55	10.87		4.89	10.88		4.89	10.88		4.89	10.88		4.89	10.87		4.89	
3.64	12.9	2.93	5.03	12.9	2.93	5.03	12.9	2.93	5.03	12.9	2.93	5.03	12.9	2.93	5.03	
3.64	12.04	2.39	4.49	12.91	2.65	4.75	12.91	2.65	4.75	12.91	2.65	4.75	12.04	2.39	4.49	Begin East Levee
3.69	11.29	1.93	3.93	11.29	1.93	3.93	11.29	1.93	3.93	11.29	1.93	3.93	11.29	1.93	3.93	
3.69	11.2	1.87	3.87	11.07	1.75	3.75	11.07	1.75	3.75	11.07	1.75	3.75	11.2	1.87	3.87	
3.729	7.09	8.11	3.31	7.09	8.11	3.31	7.09	8.11	3.31	7.09	8.11	3.31	7.09	8.11	3.31	
3.729	7.07	8.08	3.28	7.04	8.02	3.22	7.04	8.02	3.22	7.04	8.02	3.22	7.07	8.08	3.28	
3.734	7.07	8.48	7.18	7.07	8.48	7.18	7.07	8.48	7.18	7.07	8.48	7.18	7.07	8.48	7.18	
3.734	7.05	8.45	7.15	7.02	8.39	7.09	7.02	8.39	7.09	7.02	8.39	7.09	7.05	8.45	7.15	
3.7405	Bridge			Bridge			Bridge			Bridge			Bridge			
3.747	6.89	8.17	6.87	6.89	8.17	6.87	6.89	8.17	6.87	6.89	8.17	6.87	6.89	8.17	6.87	
3.747	6.87	8.14	6.84	6.84	8.09	6.79	6.84	8.09	6.79	6.84	8.09	6.79	6.87	8.14	6.84	
3.757	7.31	4.06	3.46	7.31	4.06	3.46	7.31	4.06	3.46	7.31	4.06	3.46	7.31	4.06	3.46	
3.757	7.29	4.04	3.44	7.27	3.98	3.38	7.27	3.98	3.38	7.27	3.98	3.38	7.29	4.04	3.44	
3.767	8.22	6.7	6.7	8.22	6.7	6.7	8.22	6.7	6.7	8.22	6.7	6.7	8.22	6.7	6.7	

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions

Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)

Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
3.767	8.2	6.68	6.68	8.18	6.62	6.62	8.18	6.62	6.62	8.18	6.62	6.62	8.2	6.68	6.68	
3.7685	Bridge			Bridge			Bridge			Bridge			Bridge			
3.77	7.94	6.31	6.31	7.94	6.31	6.31	7.94	6.31	6.31	7.94	6.31	6.31	7.94	6.31	6.31	
3.77	7.92	6.29	6.29	7.91	6.25	6.25	7.91	6.25	6.25	7.91	6.25	6.25	7.92	6.29	6.29	
3.78	7.7	3.31	3.41	8.43	3.42	3.52	7.7	3.31	3.41	8.43	3.42	3.52	7.7	3.31	3.41	Begin Plate
3.78	7.68	3.29	3.39	8.38	3.35	3.45	7.66	3.24	3.34	8.38	3.35	3.45	7.68	3.29	3.39	Section
3.8	7.68	2.68	3.38	7.94	2.36	3.06	7.68	2.68	3.38	7.94	2.36	3.06	7.68	2.68	3.38	Buckeye Rd
3.8	7.66	2.66	3.36	7.9	2.31	3.01	7.65	2.62	3.32	7.9	2.31	3.01	7.66	2.66	3.36	
3.81	8.4	2.72	3.72	8.51	2.19	3.19	8.4	2.72	3.72	8.51	2.19	3.19	8.4	2.72	3.72	
3.81	8.39	2.7	3.7	8.48	2.14	3.14	8.39	2.67	3.67	8.48	2.14	3.14	8.39	2.7	3.7	
3.83	7.47	2.86	3.06	7.51	2.08	2.28	7.47	2.86	3.06	7.51	2.08	2.28	7.47	2.86	3.06	
3.83	7.46	2.84	3.04	7.48	2.04	2.24	7.44	2.8	3	7.48	2.04	2.24	7.46	2.84	3.04	
3.93	7.82	3.55	5.05	7.38	1.9	3.4	7.82	3.55	5.05	7.38	1.9	3.4	7.82	3.55	5.05	
3.93	7.81	3.53	5.03	7.36	1.88	3.38	7.79	3.5	5	7.36	1.88	3.38	7.81	3.53	5.03	
4.02	7.54	5.41	4.61	6.84	3.12	2.32	7.54	5.41	4.61	6.84	3.12	2.32	7.54	5.41	4.61	
4.02	7.53	5.4	4.6	6.83	3.1	2.3	7.53	5.37	4.57	6.83	3.1	2.3	7.53	5.4	4.6	
4.04	8.54	6.18	5.18	7.64	3.73	2.73	8.54	6.18	5.18	7.64	3.73	2.73	8.54	6.18	5.18	
4.04	8.53	6.17	5.17	7.63	3.71	2.71	8.52	6.14	5.14	7.63	3.71	2.71	8.53	6.17	5.17	
4.06	7.86	7.05	5.25	7.03	4.5	2.7	7.86	7.05	5.25	7.03	4.5	2.7	7.86	7.05	5.25	
4.06	7.85	7.04	5.24	7.02	4.48	2.68	7.85	7.01	5.21	7.02	4.48	2.68	7.85	7.04	5.24	
4.092	7.9	6.79	6.49	7	4.05	3.75	7.9	6.79	6.49	7	4.05	3.75	7.9	6.79	6.49	
4.092	7.89	6.77	6.47	6.99	4.04	3.74	7.89	6.75	6.45	6.99	4.04	3.74	7.89	6.77	6.47	
4.094	13.09	7.94	7.64	9.32	4.43	4.13	13.09	7.94	7.64	9.32	4.43	4.13	13.09	7.94	7.64	
4.094	13.04	7.92	7.62	9.31	4.42	4.12	13	7.89	7.59	9.31	4.42	4.12	13.04	7.92	7.62	
4.16	9.22	5.84	6.54	7.66	3.05	3.75	9.22	5.84	6.54	7.66	3.05	3.75	9.22	5.84	6.54	
4.16	9.22	5.84	6.54	7.65	3.04	3.74	9.23	5.83	6.53	7.65	3.04	3.74	9.22	5.84	6.54	
4.26	9.22	7.08	5.78	7.33	3.81	2.51	9.22	7.08	5.78	7.33	3.81	2.51	9.22	7.08	5.78	
4.26	9.22	7.08	5.78	7.32	3.81	2.51	9.24	7.08	5.78	7.32	3.81	2.51	9.22	7.08	5.78	
4.27	9.65	6.29	5.69	7.67	2.91	2.31	9.65	6.29	5.69	7.67	2.91	2.31	9.65	6.29	5.69	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions
Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)
Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
4.27	9.65	6.29	5.69	7.67	2.91	2.31	9.66	6.29	5.69	7.67	2.91	2.31	9.65	6.29	5.69	End Plate Section
4.3	8.6	5.57	5.67	6.52	2.31	2.41	8.4	5.34	5.44	6.42	2.11	2.21	8.47	5.42	5.52	Begin Riparian Section
4.3	8.6	5.57	5.67	6.54	2.31	2.41	8.41	5.34	5.44	6.44	2.11	2.21	8.47	5.42	5.52	
4.39	8.29	6.17	6.27	6.54	3.35	3.45	6.96	4.15	4.25	6.04	2.24	2.34	7.45	4.97	5.07	
4.39	8.29	6.17	6.27	6.57	3.35	3.45	6.98	4.15	4.25	6.06	2.23	2.33	7.45	4.97	5.07	
4.48	7.88	7.7	5.1	6.46	5.26	2.66	6.26	4.83	2.23	5.69	3.44	0.84	6.81	5.95	3.35	
4.48	7.88	7.7	5.1	6.48	5.26	2.66	6.28	4.81	2.21	5.72	3.42	0.82	6.81	5.95	3.35	
4.5	8.49	7.79	5.89	6.93	5.36	3.46	6.59	4.7	2.8	6	3.38	1.48	7.22	5.89	3.99	
4.5	8.49	7.79	5.89	6.95	5.36	3.46	6.61	4.68	2.78	6.02	3.36	1.46	7.22	5.89	3.99	
4.52	7.86	5.58	5.08	6.54	3.3	2.8	6.13	2.41	1.91	5.65	1.19	0.69	6.7	3.63	3.13	
4.52	7.86	5.58	5.08	6.55	3.3	2.8	6.14	2.39	1.89	5.67	1.17	0.67	6.7	3.63	3.13	
4.6	7.72	7.53	5.53	6.54	5.47	3.47	5.86	3.91	1.91	5.49	2.9	0.9	6.45	5.28	3.28	
4.6	7.72	7.53	5.53	6.56	5.47	3.47	5.88	3.89	1.89	5.51	2.87	0.87	6.45	5.28	3.28	
4.7	7.97	6.57	7.07	6.83	4.72	5.22	5.83	2.49	2.99	5.52	1.65	2.15	6.48	4.01	4.51	
4.7	7.97	6.57	7.07	6.84	4.71	5.21	5.84	2.46	2.96	5.53	1.62	2.12	6.48	4.01	4.51	
4.754	7.44	15.92	16.52	6.49	14.21	14.81	5.49	11.75	12.35	5.24	10.99	11.59	6.09	13.31	13.91	
4.754	7.44	15.92	16.52	6.5	14.2	14.8	5.5	11.72	12.32	5.24	10.95	11.55	6.09	13.31	13.91	
4.7565	Bridge			Bridge			Bridge			Bridge			Bridge			Van Buren
4.759	7.3	15.69	16.29	6.42	14.06	14.66	5.4	11.49	12.09	5.17	10.76	11.36	5.98	13.06	13.66	
4.759	7.3	15.69	16.29	6.43	14.06	14.66	5.41	11.46	12.06	5.17	10.73	11.33	5.98	13.06	13.66	
4.79	9.3	7.92	8.52	7.9	6.24	6.84	6.25	3.34	3.94	5.95	2.64	3.24	7.1	5	5.6	
4.79	9.3	7.92	8.52	7.92	6.24	6.84	6.28	3.31	3.91	5.98	2.61	3.21	7.1	5	5.6	
4.89	8.84	9.07	8.77	7.81	7.81	7.51	5.89	4.31	4.01	5.67	3.78	3.48	6.7	6.04	5.74	
4.89	8.84	9.07	8.77	7.83	7.81	7.51	5.9	4.28	3.98	5.68	3.74	3.44	6.7	6.04	5.74	
4.98	8.01	9.3	11.1	7.32	8.38	10.18	5.37	4.49	6.29	5.21	4.06	5.86	6.1	6.24	8.04	
4.98	8.01	9.3	11.1	7.33	8.37	10.17	5.37	4.45	6.25	5.22	4.02	5.82	6.1	6.24	8.04	
5	8.31	9.04	11.44	7.63	8.14	10.54	5.52	4.15	6.55	5.36	3.74	6.14	6.3	5.93	8.33	
5	8.31	9.04	11.44	7.64	8.14	10.54	5.52	4.11	6.51	5.37	3.7	6.1	6.3	5.93	8.33	
5.02	8.13	8.76	10.56	7.45	7.89	9.69	5.34	3.85	5.65	5.2	3.45	5.25	6.1	5.63	7.43	

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions
Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)
Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
5.02	8.13	8.76	10.56	7.46	7.89	9.69	5.35	3.81	5.61	5.21	3.41	5.21	6.1	5.63	7.43	
5.1	8.84	10.33	10.93	8.14	9.62	10.22	5.46	5.24	5.84	5.33	4.91	5.51	6.33	7.06	7.66	
5.1	8.84	10.33	10.93	8.15	9.61	10.21	5.47	5.2	5.8	5.34	4.86	5.46	6.33	7.06	7.66	
5.15	10.19	10.64	10.64	9.38	10.05	10.05	5.8	5.39	5.39	5.66	5.11	5.11	6.84	7.24	7.24	
5.15	10.19	10.64	10.64	9.39	10.04	10.04	5.81	5.35	5.35	5.67	5.06	5.06	6.84	7.24	7.24	
5.201	9.93	10.73	10.73	9.5	10.4	10.4	5.84	5.74	5.74	5.72	5.5	5.5	6.87	7.56	7.56	
5.201	9.93	10.73	10.73	9.5	10.39	10.39	5.84	5.7	5.7	5.72	5.45	5.45	6.87	7.56	7.56	
5.203	12.59	11.33	11.33	11.56	10.83	10.83	6.33	5.78	5.78	6.19	5.53	5.53	7.6	7.64	7.64	
5.203	12.59	11.33	11.33	11.57	10.83	10.83	6.33	5.73	5.73	6.19	5.49	5.49	7.6	7.64	7.64	
5.25	11.34	10.41	18.61	11.59	10.55	18.75	6.57	5.87	14.07	6.46	5.69	13.89	7.88	7.66	15.86	
5.25	11.34	10.41	18.61	11.6	10.55	18.75	6.59	5.83	14.03	6.47	5.64	13.84	7.88	7.66	15.86	
5.27	12.26	9.34	18.44	12.42	9.42	18.52	7	4.75	13.85	6.9	4.59	13.69	8.41	6.51	15.61	
5.27	12.26	9.34	18.44	12.43	9.42	18.52	7	4.7	13.8	6.89	4.54	13.64	8.41	6.51	15.61	
5.29	9.03	15.06	18.26	9.04	15.07	18.27	6.16	11.42	14.62	6.09	11.29	14.49	7.16	13.02	16.22	
5.29	9.03	15.06	18.26	9.05	15.07	18.27	6.17	11.38	14.58	6.09	11.24	14.44	7.16	13.02	16.22	
5.2975	Bridge			Bridge			Bridge			Bridge			Bridge			I-10 e/b
5.305	8.56	14.63	17.83	8.57	14.64	17.84	5.97	11.05	14.25	5.91	10.93	14.13	6.89	12.62	15.82	
5.305	8.56	14.63	17.83	8.58	14.64	17.84	5.98	11.02	14.22	5.92	10.89	14.09	6.89	12.62	15.82	
5.317	8.99	14.59	17.79	9	14.6	17.8	6.18	10.9	14.1	6.12	10.79	13.99	7.14	12.49	15.69	
5.317	8.99	14.59	17.79	9.01	14.6	17.8	6.18	10.87	14.07	6.12	10.75	13.95	7.14	12.49	15.69	
5.3225	Bridge			Bridge			Bridge			Bridge			Bridge			I-10 w/b
5.328	8.56	14.18	17.38	8.57	14.19	17.39	5.99	10.54	13.74	5.94	10.44	13.64	6.89	12.11	15.31	
5.328	8.56	14.18	17.38	8.58	14.19	17.39	6	10.51	13.71	5.95	10.4	13.6	6.89	12.11	15.31	
5.38	10.11	12.4	8	10.12	12.4	8	6.62	8.31	3.91	6.57	8.23	3.83	7.68	9.94	5.54	
5.38	10.11	12.4	8	10.13	12.41	8.01	6.63	8.28	3.88	6.58	8.2	3.8	7.68	9.94	5.54	
5.48	8.44	-2.27	6.73	8.44	-2.27	6.73	5.36	-6.03	2.97	5.34	-6.09	2.91	6.31	-4.56	4.44	I-10 outfall
5.48	9.46	-2.1	6.9	9.47	-2.1	6.9	6.36	-6.28	2.72	6.33	-6.33	2.67	7.29	-4.64	4.36	channel
5.51	7.98	-2.67	7.43	7.98	-2.67	7.43	4.51	-6.3	3.8	4.49	-6.36	3.74	5.53	-4.89	5.21	
5.51	11.04	-2.14	7.96	11.05	-2.14	7.96	6.93	-6.6	3.5	6.9	-6.65	3.45	8.06	-4.92	5.18	

Agua Fria Watercourse Master Plan
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Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)
Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
5.54	6.62	-3.18	5.42	6.62	-3.17	5.43	3.55	-6.58	2.02	3.53	-6.62	1.98	4.45	-5.22	3.38	
5.54	10.35	-2.81	5.79	10.36	-2.81	5.79	6.78	-7.07	1.53	6.76	-7.11	1.49	7.82	-5.42	3.18	
5.65	10.43	4.09	12.19	10.43	4.09	12.19	7.17	0.2	8.3	7.15	0.16	8.26	8.12	1.64	9.74	
5.65	9.27	3.01	11.11	9.29	3.02	11.12	6.43	-1.32	6.78	6.42	-1.35	6.75	7.26	0.35	8.45	
5.689	8.54	12.6	12.6	8.54	12.6	12.6	6.27	8.9	8.9	6.26	8.87	8.87	6.99	10.33	10.33	
5.689	7.96	11.84	11.84	7.97	11.85	11.85	5.77	7.61	7.61	5.76	7.59	7.59	6.45	9.27	9.27	
5.6945	Bridge			Bridge			Bridge			Bridge			Bridge			McDowell Rd
5.7	8.35	12.36	12.36	8.35	12.36	12.36	6.15	8.63	8.63	6.14	8.6	8.6	6.85	10.07	10.07	End Riparian
5.7	7.83	11.66	11.66	7.84	11.66	11.66	5.69	7.41	7.41	5.68	7.38	7.38	6.36	9.08	9.08	Section
5.75	9.48	5.92	4.82	9.49	5.92	4.82	6.77	2.19	1.09	6.75	2.16	1.06	7.6	3.6	2.5	
5.75	8.88	5.28	4.18	8.91	5.29	4.19	6.3	1.04	-0.06	6.29	1.02	-0.08	7.04	2.67	1.57	
5.77	10.65	4.57	6.27	10.65	4.57	6.27	7.46	0.89	2.59	7.44	0.86	2.56	8.45	2.29	3.99	
5.77	10	3.96	5.66	10.03	3.97	5.67	6.85	-0.26	1.44	6.84	-0.28	1.42	7.78	1.37	3.07	
5.79	11.06	7.15	5.15	11.06	7.15	5.15	7.82	3.71	1.71	7.81	3.68	1.68	8.85	5.06	3.06	
5.79	10.39	6.61	4.61	10.42	6.62	4.62	7.16	2.58	0.58	7.15	2.56	0.56	8.16	4.18	2.18	
5.81	9.08	4.66	4.86	9.08	4.66	4.86	7.12	1.91	2.11	7.11	1.88	2.08	7.85	3.09	3.29	
5.81	8.77	4.31	4.51	8.78	4.32	4.52	6.6	0.85	1.05	6.59	0.84	1.04	7.36	2.33	2.53	
5.9	9.28	6.09	4.19	9.28	6.09	4.19	7.51	3.78	1.88	7.5	3.76	1.86	8.23	4.84	2.94	
5.9	9.04	5.83	3.93	9.05	5.83	3.93	6.97	2.81	0.91	6.96	2.79	0.89	7.76	4.16	2.26	
5.99	9.21	4.74	5.44	9.21	4.74	5.44	7.76	2.88	3.58	7.74	2.86	3.56	8.4	3.78	4.48	
5.99	9.05	4.56	5.26	9.06	4.56	5.26	7.24	2.01	2.71	7.23	1.99	2.69	7.98	3.22	3.92	
6.07	9.02	4.23	3.93	9.02	4.23	3.93	7.84	2.71	2.41	7.83	2.69	2.39	8.4	3.49	3.19	
6.07	8.9	4.1	3.8	8.92	4.1	3.8	7.35	1.92	1.62	7.35	1.9	1.6	8.04	3	2.7	
6.16	9.18	4.77	3.97	9.18	4.77	3.97	8.18	3.55	2.75	8.16	3.54	2.74	8.68	4.2	3.4	
6.16	9.09	4.67	3.87	9.11	4.68	3.88	7.71	2.86	2.06	7.7	2.84	2.04	8.36	3.8	3	
6.26	9.96	4.1	3.3	9.96	4.1	3.3	9.03	3.16	2.36	9.01	3.15	2.35	9.52	3.68	2.88	
6.26	9.89	4.03	3.23	9.9	4.04	3.24	8.54	2.57	1.77	8.53	2.55	1.75	9.21	3.36	2.56	
6.35	9.89	5.23	5.23	9.89	5.23	5.23	9.27	4.61	4.61	9.26	4.6	4.6	9.62	4.97	4.97	
6.35	9.85	5.2	5.2	9.86	5.2	5.2	8.88	4.16	4.16	8.87	4.15	4.15	9.41	4.76	4.76	

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions

Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)

Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
6.43	11.02	4.63	4.23	11.02	4.63	4.23	10.48	4.19	3.79	10.48	4.19	3.79	10.8	4.46	4.06	
6.43	10.98	4.61	4.21	11	4.61	4.21	10.11	3.85	3.45	10.11	3.84	3.44	10.61	4.3	3.9	
6.52	8.82	4.14	4.14	8.82	4.14	4.14	8.65	3.93	3.93	8.65	3.93	3.93	8.75	4.06	4.06	
6.52	8.81	4.13	4.13	8.82	4.13	4.13	8.5	3.74	3.74	8.5	3.73	3.73	8.69	3.99	3.99	
6.54	10.38	4.6	4.2	10.38	4.6	4.2	10.13	4.38	3.98	10.12	4.38	3.98	10.28	4.52	4.12	
6.54	10.36	4.59	4.19	10.38	4.59	4.19	9.92	4.18	3.78	9.92	4.18	3.78	10.19	4.44	4.04	
6.56	8.92	4.14	3.74	8.92	4.14	3.74	8.78	3.98	3.58	8.78	3.97	3.57	8.87	4.08	3.68	
6.56	8.92	4.13	3.73	8.93	4.13	3.73	8.66	3.82	3.42	8.66	3.81	3.41	8.82	4.02	3.62	
6.59	8.28	4.16	3.66	8.28	4.16	3.66	8.18	4.01	3.51	8.18	4.01	3.51	8.24	4.1	3.6	
6.59	8.28	4.15	3.65	8.29	4.15	3.65	8.09	3.87	3.37	8.08	3.87	3.37	8.21	4.05	3.55	
6.61	9.63	4.57	3.97	9.63	4.57	3.97	9.48	4.43	3.83	9.48	4.42	3.82	9.57	4.52	3.92	
6.61	9.62	4.57	3.97	9.63	4.57	3.97	9.36	4.28	3.68	9.36	4.28	3.68	9.52	4.47	3.87	
6.64	8.62	4.53	3.63	8.62	4.53	3.63	8.53	4.41	3.51	8.53	4.41	3.51	8.59	4.48	3.58	
6.64	8.62	4.52	3.62	8.63	4.52	3.62	8.44	4.29	3.39	8.44	4.29	3.39	8.55	4.44	3.54	
6.66	9.21	4.74	4.14	9.21	4.74	4.14	9.11	4.63	4.03	9.11	4.63	4.03	9.18	4.7	4.1	
6.66	9.21	4.74	4.14	9.22	4.74	4.14	9.02	4.51	3.91	9.02	4.51	3.91	9.14	4.66	4.06	
6.69	8.42	4.73	3.53	8.42	4.73	3.53	8.34	4.63	3.43	8.34	4.63	3.43	8.39	4.69	3.49	
6.69	8.42	4.72	3.52	8.43	4.72	3.52	8.28	4.53	3.33	8.28	4.53	3.33	8.36	4.66	3.46	
6.71	8.53	4.89	3.69	8.53	4.89	3.69	8.46	4.8	3.6	8.46	4.8	3.6	8.5	4.86	3.66	
6.71	8.53	4.89	3.69	8.54	4.89	3.69	8.4	4.7	3.5	8.39	4.7	3.5	8.48	4.82	3.62	
6.73	8.05	4.83	3.63	8.05	4.83	3.63	7.99	4.74	3.54	7.99	4.74	3.54	8.02	4.79	3.59	
6.73	8.04	4.82	3.62	8.05	4.82	3.62	7.94	4.65	3.45	7.94	4.65	3.45	8	4.76	3.56	
6.77	11.55	6.77	6.37	11.55	6.77	6.37	11.41	6.67	6.27	11.41	6.67	6.27	11.5	6.73	6.33	
6.77	11.55	6.76	6.36	11.58	6.77	6.37	11.31	6.58	6.18	11.3	6.58	6.18	11.45	6.7	6.3	
6.79	11.84	7.27	6.57	11.84	7.27	6.57	11.73	7.19	6.49	11.73	7.19	6.49	11.8	7.24	6.54	
6.79	11.83	7.26	6.56	11.85	7.27	6.57	11.64	7.11	6.41	11.64	7.11	6.41	11.76	7.21	6.51	
6.82	9.52	5.94	4.24	9.52	5.94	4.24	9.47	5.9	4.2	9.47	5.9	4.2	9.5	5.93	4.23	
6.82	9.51	5.94	4.24	9.52	5.94	4.24	9.44	5.85	4.15	9.44	5.85	4.15	9.48	5.91	4.21	
6.89	12.29	7.13	5.63	12.29	7.13	5.63	12.23	7.09	5.59	12.23	7.09	5.59	12.27	7.11	5.61	

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions

Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)

Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
6.89	12.29	7.13	5.63	12.31	7.13	5.63	12.2	7.06	5.56	12.19	7.06	5.56	12.25	7.1	5.6	
6.91	13.54	5.55	5.45	13.54	5.55	5.45	13.49	5.53	5.43	13.49	5.52	5.42	13.53	5.54	5.44	
6.91	13.54	5.55	5.45	13.56	5.56	5.46	13.46	5.5	5.4	13.46	5.5	5.4	13.5	5.53	5.43	
6.93	9.97	5.78	4.88	9.97	5.78	4.88	9.97	5.78	4.88	9.97	5.78	4.88	9.97	5.78	4.88	
6.93	9.97	5.78	4.88	9.98	5.78	4.88	9.97	5.77	4.87	9.97	5.77	4.87	9.97	5.78	4.88	
6.97	9.95	4.67	5.07	9.95	4.67	5.07	9.95	4.67	5.07	9.95	4.67	5.07	9.95	4.67	5.07	
6.97	9.95	4.67	5.07	9.96	4.67	5.07	9.95	4.66	5.06	9.95	4.66	5.06	9.95	4.67	5.07	
6.99	11.85	4.02	4.62	11.85	4.02	4.62	11.84	4.01	4.61	11.84	4.01	4.61	11.85	4.02	4.62	
6.99	11.85	4.02	4.62	11.9	4.03	4.63	11.89	4.02	4.62	11.89	4.02	4.62	11.84	4.01	4.61	
7.02	9.43	3.92	3.42	9.43	3.92	3.42	9.43	3.92	3.42	9.43	3.92	3.42	9.43	3.92	3.42	
7.02	9.43	3.92	3.42	9.43	3.91	3.41	9.43	3.91	3.41	9.43	3.91	3.41	9.43	3.92	3.42	
7.06	9.87	5.09	3.89	9.87	5.09	3.89	9.87	5.08	3.88	9.87	5.08	3.88	9.87	5.09	3.89	
7.06	9.87	5.09	3.89	9.88	5.08	3.88	9.88	5.08	3.88	9.88	5.08	3.88	9.87	5.09	3.89	
7.08	10.79	5.63	4.63	10.79	5.63	4.63	10.79	5.63	4.63	10.79	5.63	4.63	10.79	5.63	4.63	
7.08	10.79	5.63	4.63	10.79	5.63	4.63	10.79	5.62	4.62	10.79	5.62	4.62	10.79	5.63	4.63	
7.1	10.78	4.99	4.79	10.78	4.99	4.79	10.78	4.99	4.79	10.78	4.99	4.79	10.78	4.99	4.79	
7.1	10.78	4.99	4.79	10.79	4.99	4.79	10.79	4.99	4.79	10.79	4.99	4.79	10.78	4.99	4.79	
7.2	9.26	4.06	4.66	9.26	4.06	4.66	9.26	4.06	4.66	9.26	4.06	4.66	9.26	4.06	4.66	
7.2	9.26	4.06	4.66	9.27	4.06	4.66	9.27	4.06	4.66	9.27	4.06	4.66	9.26	4.06	4.66	
7.29	10.61	5.4	5.6	10.61	5.4	5.6	10.61	5.4	5.6	10.61	5.4	5.6	10.61	5.4	5.6	
7.29	10.61	5.4	5.6	10.64	5.4	5.6	10.64	5.4	5.6	10.64	5.4	5.6	10.61	5.4	5.6	
7.39	10	4.04	5.14	10	4.04	5.14	10	4.04	5.14	10	4.04	5.14	10	4.04	5.14	
7.39	10	4.04	5.14	10.02	4.04	5.14	10.02	4.04	5.14	10.02	4.04	5.14	10	4.04	5.14	
7.49	10.28	3.79	5.19	10.28	3.79	5.19	10.28	3.79	5.19	10.28	3.79	5.19	10.28	3.79	5.19	
7.49	10.28	3.79	5.19	10.32	3.8	5.21	10.32	3.8	5.2	10.32	3.8	5.2	10.28	3.79	5.19	
7.58	9.6	3.5	4.2	9.6	3.5	4.2	9.6	3.5	4.2	9.6	3.5	4.2	9.6	3.5	4.2	
7.58	9.6	3.5	4.2	9.66	3.53	4.23	9.66	3.53	4.23	9.66	3.53	4.23	9.6	3.5	4.2	
7.67	7.73	1.98	2.18	7.73	1.98	2.18	7.73	1.98	2.18	7.73	1.98	2.18	7.73	1.98	2.18	
7.67	7.73	1.98	2.18	7.76	2	2.2	7.76	2	2.2	7.76	2	2.2	7.73	1.98	2.18	

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions

Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)

Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
7.77	8.55	2.24	2.64	8.55	2.24	2.64	8.55	2.24	2.64	8.55	2.24	2.64	8.55	2.24	2.64	
7.77	8.55	2.24	2.64	8.59	2.26	2.66	8.59	2.26	2.66	8.59	2.26	2.66	8.55	2.24	2.64	
7.87	8.27	1.88	4.18	8.27	1.88	4.18	8.27	1.88	4.18	8.27	1.88	4.18	8.27	1.88	4.18	
7.87	8.27	1.88	4.18	8.3	1.89	4.19	8.3	1.89	4.19	8.3	1.89	4.19	8.27	1.88	4.18	
7.96	7.18	3.71	5.11	7.18	3.71	5.11	7.18	3.71	5.11	7.18	3.71	5.11	7.18	3.71	5.11	
7.96	7.18	3.71	5.11	7.19	3.72	5.12	7.19	3.72	5.12	7.19	3.72	5.12	7.18	3.71	5.11	
7.99	6.9	7.09	7.39	6.9	7.09	7.39	6.9	7.09	7.39	6.9	7.09	7.39	6.9	7.09	7.39	
7.99	6.9	7.09	7.39	6.93	7.11	7.41	6.93	7.11	7.41	6.93	7.11	7.41	6.9	7.09	7.39	
8	6.45	8.63	11.23	6.45	8.63	11.23	6.45	8.63	11.23	6.45	8.63	11.23	6.45	8.63	11.23	
8	6.45	8.63	11.23	6.47	8.64	11.24	6.47	8.64	11.24	6.47	8.64	11.24	6.45	8.63	11.23	
8.005	Bridge			Bridge			Bridge			Bridge			Bridge			Indian School
8.01	6.24	8.27	10.87	6.24	8.27	10.87	6.24	8.27	10.87	6.24	8.27	10.87	6.24	8.27	10.87	
8.01	6.24	8.27	10.87	6.25	8.28	10.88	6.25	8.28	10.88	6.25	8.28	10.88	6.24	8.27	10.87	
8.03	7.93	8.68	11.48	7.93	8.68	11.48	7.93	8.68	11.48	7.93	8.68	11.48	7.93	8.68	11.48	
8.03	7.93	8.68	11.48	7.96	8.7	11.5	7.96	8.7	11.5	7.96	8.7	11.5	7.93	8.68	11.48	
8.105	3.76	3.77	3.57	3.76		3.57	3.76		3.57	3.76		3.57	7.41		4.01	
8.105	3.91	3.78	3.58	3.91		3.58	3.91		3.58	3.91		3.58	7.74		4.08	
8.198	4.31	5.24	4.34	4.31		4.34	4.31		4.34	4.31		4.34	8.1		4.36	
8.198	4.3	5.23	4.33	4.31		4.33	4.31		4.33	4.31		4.33	8.07		4.33	
8.325	5.16	9.07	6.17	5.16	9.07	6.17	5.16	9.07	6.17	5.16	9.07	6.17	8.57	8.18	5.28	
8.325	5.3	9.07	6.17	5.31	9.08	6.18	5.31	9.08	6.18	5.31	9.08	6.18	8.8	8.19	5.29	End West Levee
8.433	7.45	8.02		7.45	8.02		7.45	8.02		7.45	8.02		9.77	6.18		
8.433	8.83	8.07		8.84	8.07		8.84	8.07		8.84	8.07		11.62	6.19		
8.534	6.47	6.45		6.47	6.45		6.47	6.45		6.47	6.45		7.81	4.21		Cmlback Rnch
8.534	6.49	5.93		6.49	5.93		6.49	5.93		6.49	5.93		7.87	3.51		Levee
8.646	5.41	4.7		5.41	4.7		5.41	4.7		5.41	4.7		7	2.6		
8.646	6	4.32		6	4.32		6	4.32		6	4.32		7.71	2.03		
8.768	8.68	3.35		8.68	3.35		8.68	3.35		8.68	3.35		9.66	1.21		
8.768	8.58	2.86		8.58	2.86		8.58	2.86		8.58	2.86		10.29	0.59		

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions
Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)
Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
8.875	8.73	7.18		8.73	7.18		8.73	7.18		8.73	7.18		10.17	5.41		
8.875	8.34	6.94		8.34	6.94		8.34	6.94		8.34	6.94		10.35	4.76		
8.992	5.31	5.26		5.31	5.26		5.31	5.26		5.31	5.26		7.65	3.5		
8.992	5.37	5.18		5.37	5.18		5.37	5.18		5.37	5.18		7.21	2.78		
9.098	4.96	4.48		4.96	4.48		4.96	4.48		4.96	4.48		6.88	2.32		
9.098	4.93	4.38		4.93	4.38		4.93	4.38		4.93	4.38		6.59	1.82		End East Levee
9.177	5.41			5.41			5.41			5.41			7.32			
9.177	5.34			5.34			5.34			5.34			6.97			
9.184	Bridge			Bridge			Bridge			Bridge			Bridge			Camelback Rd
9.191	5.3			5.3			5.3			5.3			7.16			
9.191	5.24			5.24			5.24			5.24			6.85			
9.198	5.58			5.58			5.58			5.58			4.85			
9.198	5.51			5.51			5.51			5.51			7.09			
9.266	5.18			5.18			5.18			5.18			4.31			
9.266	5.39			5.39			5.39			5.39			6.71			
9.343	5.78			5.78			5.78			5.78			4.47			
9.343	5.8			5.8			5.8			5.8			7.24			
9.435	6			6			6			6			8.72			
9.435	6.05			6.05			6.05			6.05			7.81			
9.519	6.47			6.47			6.47			6.47			8.45			
9.519	6.54			6.54			6.54			6.54			8.29			
9.605	6.53			6.53			6.53			6.53			8.18			
9.605	6.5			6.5			6.5			6.5			8.34			
9.696	5.03			5.03			5.03			5.03			4.5			
9.696	7.75			7.75			7.75			7.75			9.75			
9.79	3.89			3.89			3.89			3.89			1.55			
9.79	3.9			3.9			3.9			3.9			2.61			
9.885	5.51			5.51			5.51			5.51			4.03			
9.885	5.19			5.19			5.19			5.19			3.32			

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions

Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)

Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
9.981	5.23			5.23			5.23			5.23			4.78			
9.981	5.51			5.51			5.51			5.51			4.08			
10.071	5.46			5.46			5.46			5.46			5.34			
10.071	5.6			5.6			5.6			5.6			4.71			
10.167	5.43			5.43			5.43			5.43			5.41			
10.167	5.43			5.43			5.43			5.43			5.05			
10.265	9.03			9.03			9.03			9.03			9.02			
10.265	8.74			8.74			8.74			8.74			8.32			
10.343	7.34			7.34			7.34			7.34			7.34			
10.343	8.44			8.44			8.44			8.44			8.41			
10.442	5.53			5.53			5.53			5.53			5.53			
10.442	6.21			6.21			6.21			6.21			6.21			
10.538	4.64			4.64			4.64			4.64			4.64			
10.538	4.54			4.54			4.54			4.54			4.54			
10.632	4.77			4.77			4.77			4.77			4.77			
10.632	4.71			4.71			4.71			4.71			4.7			
10.752	6.53			6.53			6.53			6.53			6.53			
10.752	6.12			6.12			6.12			6.12			6.12			
10.846	6.58			6.58			6.58			6.58			6.58			
10.846	6.52			6.52			6.52			6.52			6.52			
10.942	5.15			5.15			5.15			5.15			5.15			
10.942	5.24			5.24			5.24			5.24			5.24			
11.029	4.75			4.75			4.75			4.75			4.75			
11.029	4.66			4.66			4.66			4.66			4.66			
11.128	3.05			3.05			3.05			3.05			3.05			
11.128	5			5			5			5			5			
11.224	5.34			5.34			5.34			5.34			5.34			
11.224	5.72			5.72			5.72			5.72			5.72			
11.325	12.71			12.71			12.71			12.71			12.71			
11.325	10.71			10.71			10.71			10.71			10.71			

Agua Fria Watercourse Master Plan
Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions
Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)
Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments
11.41	6.86			6.86			6.86			6.86			6.86			
11.41	7.12			7.12			7.12			7.12			7.12			
11.419	Bridge			Bridge			Bridge			Bridge			Bridge			Glendale Ave
11.428	8.28			8.28			8.28			8.28			8.28			
11.428	7.56			8.52			8.52			8.52			7.56			
11.46	10.4			10.4			10.4			10.4			10.4			
11.46	9.73			10.68			10.68			10.68			9.73			
11.557	3.13			3.13			3.13			3.13			3.13			
11.557	12.85			13.38			13.38			13.38			12.85			
11.653	13.97			13.97			13.97			13.97			13.97			
11.653	11.38			11.28			11.28			11.28			11.38			
11.75	12.95			12.95			12.95			12.95			12.95			
11.75	12.47			12.41			12.41			12.41			12.47			
11.847	9.01			9.01			9.01			9.01			9.01			
11.847	10.04			10.04			10.04			10.04			10.04			
11.9	11.41			11.41			11.41			11.41			11.41			
11.9	12.2			12.21			12.21			12.21			12.2			
11.943	9.98	2.55		9.98	2.55		9.98	2.55		9.98	2.55		9.98	2.55		Glendale Landfill
11.943	9.55	1.84		9.55	1.84		9.55	1.84		9.55	1.84		9.55	1.84		
12.042	8.37	1.95		8.37	1.95		8.37	1.95		8.37	1.95		8.37	1.95		
12.042	8	1.4		8	1.4		8	1.4		8	1.4		8	1.4		
12.141	8.07	2.42		8.07	2.42		8.07	2.42		8.07	2.42		8.07	2.42		
12.141	7.5	1.95		7.5	1.95		7.5	1.95		7.5	1.95		7.5	1.95		
12.247	6.82	2.29		6.82	2.29		6.82	2.29		6.82	2.29		6.82	2.29		
12.247	6.52	1.98		6.52	1.98		6.52	1.98		6.52	1.98		6.52	1.98		
12.359	5.1	2.97		5.1	2.97		5.1	2.97		5.1	2.97		5.1	2.97		
12.359	4.93	2.71		4.93	2.71		4.93	2.71		4.93	2.71		4.93	2.71		
12.42	3.23	3.63		3.23	3.63		3.23	3.63		3.23	3.63		3.23	3.63		
12.42	3.14	3.4		3.14	3.4		3.14	3.4		3.14	3.4		3.14	3.4		Northern Ave

Agua Fria Watercourse Master Plan

Evaluation of Effect of Plated Levee & Riparian Sections on Current SPF Conditions

Plate Section: Buckeye Road (RS 3.78) to 1/2 mile north (RS 4.3)

Riparian Section: edge of plate (RS 4.3) to McDowell Rd. (RS 5.7)

	1989 SPF			1989 SPF w/ Plated Levee			1989 SPF w/ HYDRIC Riparian Channel at I-10			1989 SPF w/ HYDRIC Riparian Channel & Plated Levee			1989 SPF w/ ISOLATED Riparian Channel at I-10			
River Station	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Channel Velocity	Left Levee Freebd	Right Levee Freebd	Comments

Notes: (1) Top numbers at each cross section represent the floodplain run. Bottom numbers are the floodway (encroached) run.

(2) Shaded cells indicate that the freeboard of the levee is less than 3 feet.

River Sta	HEC-2 Levee El. (East)	New East Levee El.	Difference (old - new)	HEC-2 Levee El. (West)	New West Levee El.	Difference (old - new)	Comments
1.94				944.5	942.79	1.71 *	Begin west levee
2.02				944.8			
2.1				946.7	946.72	-0.02	
2.18				947.1			
2.25				949.3	949.9	-0.6	
2.33				949.6			
2.41				951.1	952.27	-1.17	
2.51				952.8			
2.6				954.6			
2.7				955.5	**954.86**	0.64 *	
2.8				956.6			
2.89				958	956.29	1.71 *	
2.99				959			
3.08				960	960.91	-0.91	
3.18				959.2			
3.27				960.5			
3.37				961.9	962.82	-0.92	
3.4				963.2			
3.43				963.7			
3.47				965.1			
3.55				964	964.91	-0.91	
3.64	963.1			965.2			
3.69	964			966			
3.729	972			967.2			
3.734	972.4			971.1	967.32	3.78 *	Begin east levee
3.7405	Bridge						Buckeye Rd.

River Sta	HEC-2 Levee El. (East)	New East Levee El.	Difference (old - new)	HEC-2 Levee El. (West)	New West Levee El.	Difference (old - new)	Comments
3.747	972.4			971.1			
3.757	968.3			967.7			
3.767	970.9			970.9			
3.7685	Bridge						SPRR
3.77	970.9			970.9			
3.78	968			968.1			
3.8	967.5			968.2			
3.81	967.5			968.5			
3.83	968	969.3	-1.3	968.2	969.5	-1.3	
3.93	969.1			970.6			
4.02	971.5			970.7			
4.04	972.2	**971.89**	0.31 *	971.2	**971.78**	-0.58	
4.06	973.4			971.6			
4.092	973.3			973			
4.094	973.3	**972.49**	0.81 *	973	**973.14**	-0.14	
4.16	973.6			974.3			
4.26	975.7	974.82	0.88 *	974.4	974.95	-0.55	
4.27	975			974.4			
4.3	974.8			974.9			
4.39	976.1	977.22	-1.12	976.2	977.13	-0.93	
4.48	978.3			975.7			
4.5	978.4			976.5			
4.52	976.5			976			
4.6	978.9	**979.53**	-0.63	976.9	979.56	-2.66	
4.7	978.4			978.9			
4.754	988.1			988.7			

River Sta	HEC-2 Levee El. (East)	New East Levee El.	Difference (old - new)	HEC-2 Levee El. (West)	New West Levee El.	Difference (old - new)	Comments
4.7565	Bridge						Van Buren St.
4.759	988.1			988.7			
4.79	980.2			980.8	**981.58**	-0.78	
4.89	982.3	981.35	0.95 *	982			
4.98	983.5			985.3			
5	983.3			985.7	**985.55**	0.15 *	
5.02	983.2			985			
5.1	985.3			985.9			
5.15	986			986			
5.201	987			987			
5.203	987	985.78	1.22 *	987	**988.1**	-1.1	
5.25	987.9	986.08	1.82 *	996.1			
5.27	987.2			996.3			
5.29	994.5			997.7			
5.2975	Bridge						I-10
5.305	994.5			997.7			
5.317	994.5			997.7			
5.3225	Bridge						I-10
5.328	994.5			997.7			
5.38	993	984.9	8.1 *	988.6	988.31	0.29 *	
5.48	980			989			
5.51	980			990.1	**989.94**	0.16 *	
5.54	980			988.6			
5.65	987.4	988	-0.6	995.5			
5.689	996.9			996.9	988.74	8.16 *	
5.6945	Bridge						McDowell Rd.

River Sta	HEC-2 Levee El. (East)	New East Levee El.	Difference (old - new)	HEC-2 Levee El. (West)	New West Levee El.	Difference (old - new)	Comments
5.7	996.9			996.9			
5.75	990.7			989.6			
5.77	989.4	**990.68**	-1.28	991.1			
5.79	992.3			990.3	990.68	-0.38	
5.81	990.8			991	991.25	-0.25	
5.9	993			991.1			
5.99	992.5	992.78	-0.28	993.2	993.77	-0.57	
6.07	992.7	**993.72**	-1.02	992.4	993.83	-1.43	
6.16	994			993.2			
6.26	994.1	996.28	-2.18	993.3	995.66	-2.36	
6.35	996.3			996.3			
6.43	996.5	998.54	-2.04	996.1	997.85	-1.75	
6.52	997.6			997.6			
6.54	997.9			997.5			
6.56	998.1	1000.28	-2.18	997.7			
6.59	998.5			998			
6.61	998.8			998.2	**1000**	-1.8	
6.64	999.3			998.4			
6.66	999.6			999			
6.69	1000			998.8			
6.71	1000.3			999.1			
6.73	1000.5			999.3			
6.77	1002.1	**1002.97**	-0.87	1001.7	**1002.2**	-0.5	
6.79	1002.9			1002.2			
6.82	1002.7			1001			
6.89	1004.2	1003.35	0.85 *	1002.7	1003.2	-0.5	

River Sta	HEC-2 Levee El. (East)	New East Levee El.	Difference (old - new)	HEC-2 Levee El. (West)	New West Levee El.	Difference (old - new)	Comments
6.91	1002.8			1002.7			
6.93	1004.8			1003.9			
6.97	1004.2			1004.6	1005.31	-0.71	
6.99	1003.4	**1004.34**	-0.94	1004			
7.02	1004.5			1004			
7.06	1006			1004.8			
7.08	1006.6	1005.45	1.15 *	1005.6			
7.1	1006.3			1006.1	1006.03	0.07 *	
7.2	1006.9	1006.32	0.58 *	1007.5			
7.29	1008.9			1009.1			
7.39	1008.8	1008.53	0.27 *	1009.9			
7.49	1009.5			1010.9			
7.58	1010.3	1010.07	0.23 *	1011	1010.51	0.49 *	
7.67	1009.9			1010.1			
7.77	1010.5	1012.87	-2.37	1010.9	1011.99	-1.09	
7.87	1010.8			1013.1			
7.96	1013.4	1014.46	-1.06	1014.8	1014.89	-0.09	
7.99	1017			1017.3			
8	1018.7			1021.3			
8.005	Bridge						Indian School Rd.
8.01	1018.7			1021.3			
8.03	1018.9			1021.7			
8.105	1015.1	**1015.78**	-0.68	1014.9	1015.24	-0.34	
8.198	1016.7			1015.8			
8.325	1020.9			1018			End west levee
8.433	1020.6						

River Sta	HEC-2 Levee El. (East)	New East Levee El.	Difference (old - new)	HEC-2 Levee El. (West)	New West Levee El.	Difference (old - new)	Comments
8.534	1021						
8.646	1021						
8.768	1021						
8.875	1027						
8.992	1027						
9.098	1027						End east levee

* Denotes new elevation data are lower than HEC-2 levee elevations.

Note: Elevations shown in bold are located very close to HEC-RAS cross section locations. All others fall between cross sections and were compared with the closest upstream or downstream cross section elevation.

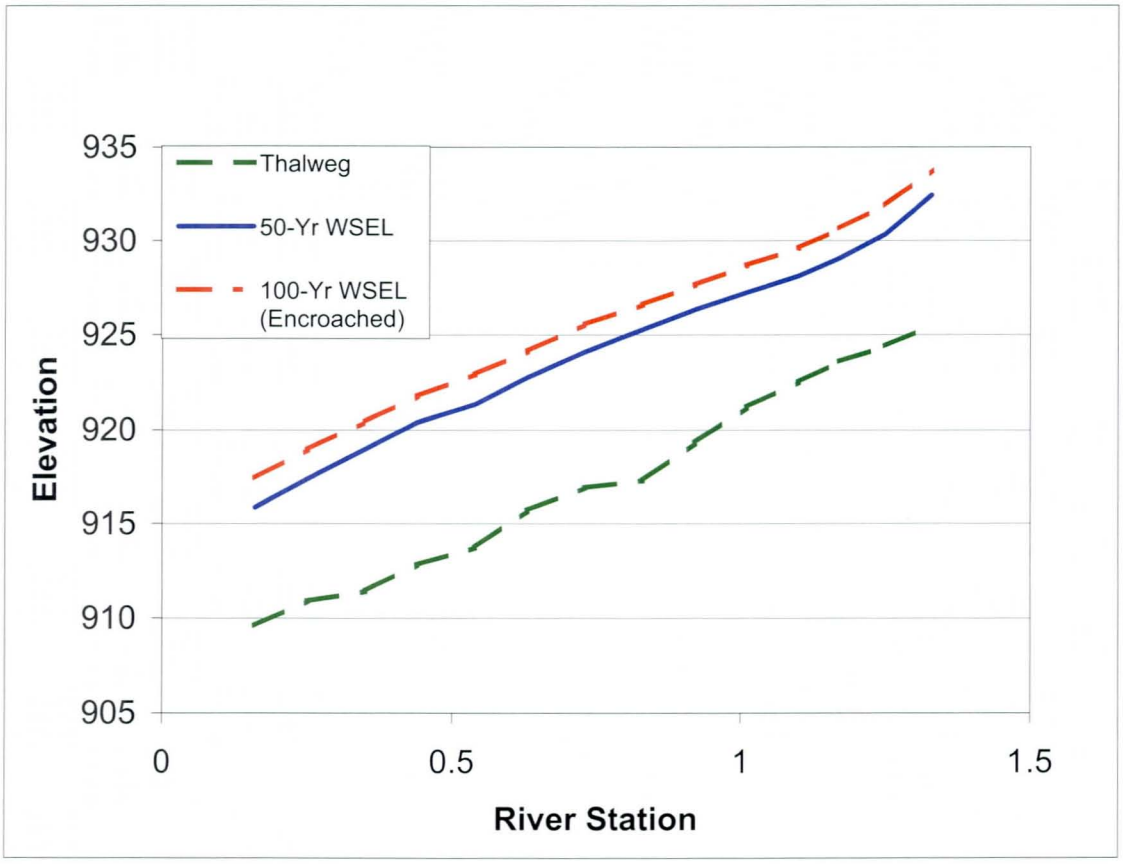
Appendix E

Comparison of the 50-Year and Encroached 100-Year Water Surface Elevations

50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Gila River Confluence to Broadway Road Alignment

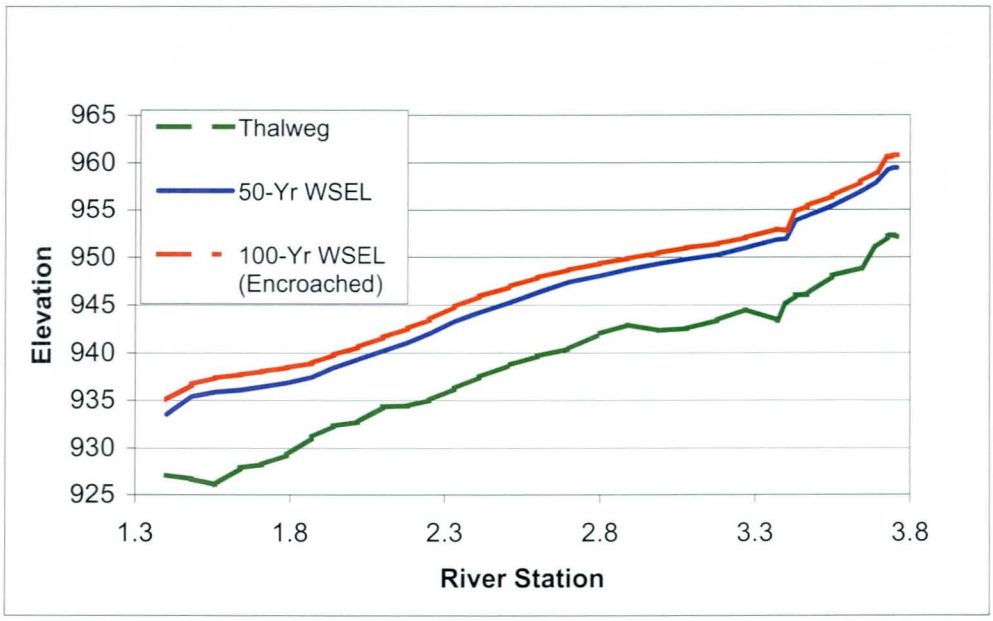
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
37,000	0.16	909.6	915.86	917.43	1.57
37,000	0.25	910.9	917.4	918.95	1.55
37,000	0.35	911.4	918.97	920.42	1.45
37,000	0.44	912.8	920.38	921.78	1.4
37,000	0.54	913.7	921.34	922.91	1.57
37,000	0.63	915.7	922.76	924.15	1.39
37,000	0.73	916.9	924.1	925.54	1.44
37,000	0.83	917.3	925.27	926.6	1.33
37,000	0.92	919.3	926.32	927.63	1.31
37,000	1.01	921.2	927.24	928.7	1.46
37,000	1.1	922.5	928.12	929.6	1.48
37,000	1.17	923.6	929.05	930.64	1.59
37,000	1.25	924.4	930.33	931.91	1.58
37,000	1.33	925.5	932.42	933.79	1.37



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Broadway Road Alignment to MC 85

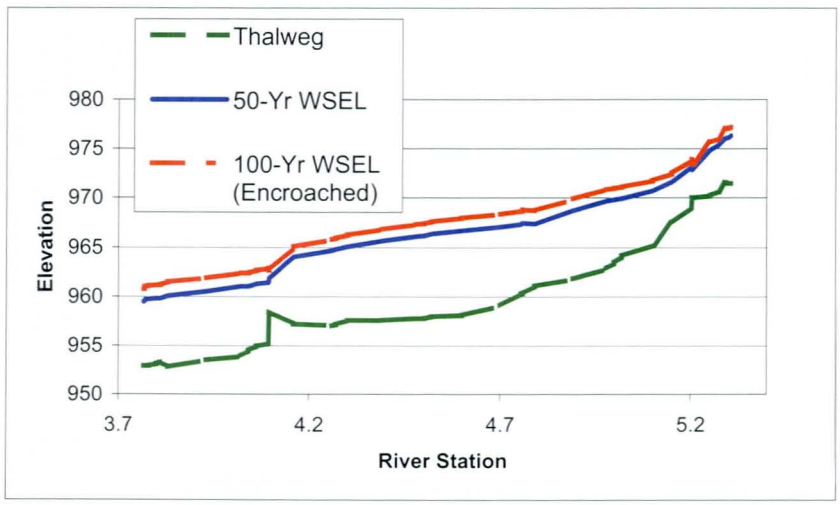
	50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
	37,000	1.4	927.1	933.54	935.1	1.56
	37,000	1.48	926.7	935.37	936.68	1.31
	37,000	1.56	926.1	935.86	937.34	1.48
	37,000	1.64	927.9	936.09	937.7	1.61
	37,000	1.71	928.2	936.38	938	1.62
	37,000	1.79	929.2	936.79	938.42	1.63
	37,000	1.87	931.1	937.43	938.91	1.48
	37,000	1.94	932.3	938.44	939.77	1.33
	37,000	2.02	932.7	939.32	940.57	1.25
	37,000	2.1	934.3	940.16	941.6	1.44
	37,000	2.18	934.4	941.07	942.54	1.47
	37,000	2.25	935	941.99	943.43	1.44
	37,000	2.33	936.2	943.26	944.82	1.56
	37,000	2.41	937.4	944.19	945.89	1.7
	37,000	2.51	938.7	945.29	946.9	1.61
	37,000	2.6	939.6	946.26	947.83	1.57
	37,000	2.7	940.4	947.33	948.64	1.31
	37,000	2.8	942	948.05	949.27	1.22
	37,000	2.89	942.9	948.66	949.83	1.17
	37,000	2.99	942.3	949.27	950.44	1.17
	37,000	3.08	942.5	949.78	950.94	1.16
	37,000	3.18	943.4	950.23	951.37	1.14
	37,000	3.27	944.5	950.97	952.07	1.1
	37,000	3.37	943.4	951.86	952.94	1.08
	37,000	3.4	945.1	951.92	952.76	0.84
	37,000	3.43	946	953.85	954.8	0.95
	37,000	3.47	946.1	954.39	955.39	1
	37,000	3.55	948	955.37	956.42	1.05
	37,000	3.64	948.8	956.88	957.9	1.02
	37,000	3.69	951	957.85	958.99	1.14
	37,000	3.729	952.2	959.26	960.53	1.27
	37,000	3.734	952.3	959.28	960.55	1.27
Bridge		3.7405	952.3	959.35	960.62	1.27
	37,000	3.747	952.3	959.43	960.74	1.31
	37,000	3.757	952.1	959.46	960.76	1.3



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

MC 85 to I-10

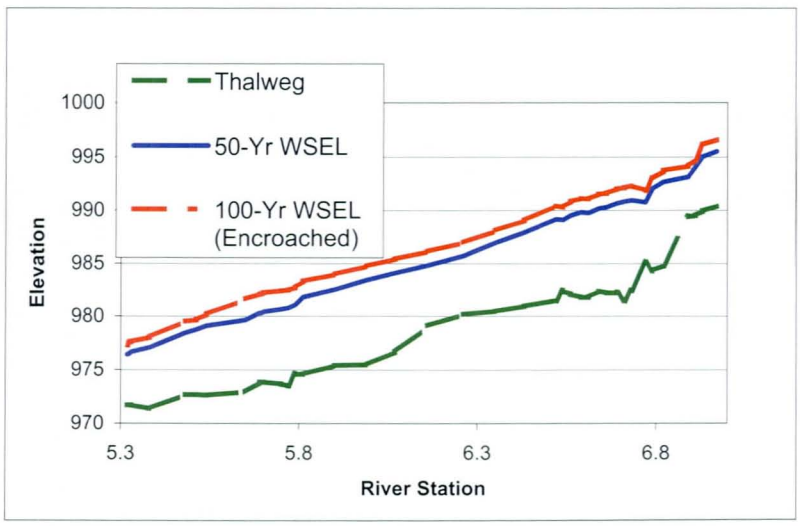
	50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
	37,000	3.767	952.9	959.45	960.75	1.3
Bridge		3.7685	952.9	959.5	960.74	1.24
	37,000	3.77	952.9	959.63	960.98	1.35
	38,000	3.78	952.9	959.69	961.05	1.36
	38,000	3.8	953.1	959.8	961.16	1.36
	38,000	3.81	953.3	959.8	961.14	1.34
	38,000	3.83	952.8	960.07	961.45	1.38
	38,000	3.93	953.5	960.5	961.87	1.37
	38,000	4.02	953.9	961.01	962.39	1.38
	38,000	4.04	954.5	961	962.35	1.35
	38,000	4.06	954.9	961.25	962.63	1.38
	38,000	4.092	955.2	961.43	962.8	1.37
	38,000	4.094	958.5	961.83	962.61	0.78
	38,000	4.16	957.2	964	965.04	1.04
	38,000	4.26	957	964.67	965.75	1.08
	38,000	4.27	957.1	964.79	965.87	1.08
	38,000	4.3	957.6	965.05	966.19	1.14
	38,000	4.39	957.6	965.59	966.77	1.18
	38,000	4.48	957.8	966.1	967.33	1.23
	38,000	4.5	957.8	966.16	967.38	1.22
	38,000	4.52	958	966.3	967.57	1.27
	38,000	4.6	958.1	966.66	967.95	1.29
	38,000	4.7	959.1	967.06	968.36	1.3
	38,000	4.754	960.3	967.33	968.66	1.33
Bridge		4.7565	960.3	967.4	968.68	1.28
	38,000	4.759	960.3	967.46	968.81	1.35
	38,000	4.79	961.1	967.36	968.71	1.35
	38,000	4.89	961.8	968.72	969.88	1.16
	38,000	4.98	962.8	969.72	970.87	1.15
	38,000	5	963.4	969.83	970.97	1.14
	38,000	5.02	964.1	969.94	971.1	1.16
	38,000	5.1	965.2	970.71	971.78	1.07
	38,000	5.15	967.4	971.61	972.48	0.87
	38,000	5.201	969.1	973.14	973.91	0.77
	38,000	5.203	970	972.85	973.52	0.67
	38,000	5.25	970.2	974.9	975.63	0.73
	38,000	5.27	970.7	975.32	976.04	0.72
	38,000	5.29	971.5	976.1	976.99	0.89
Bridge		5.2975	971.5	976.2	977.14	0.94
	38,000	5.305	971.5	976.36	977.29	0.93



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

I-10 to Thomas Road

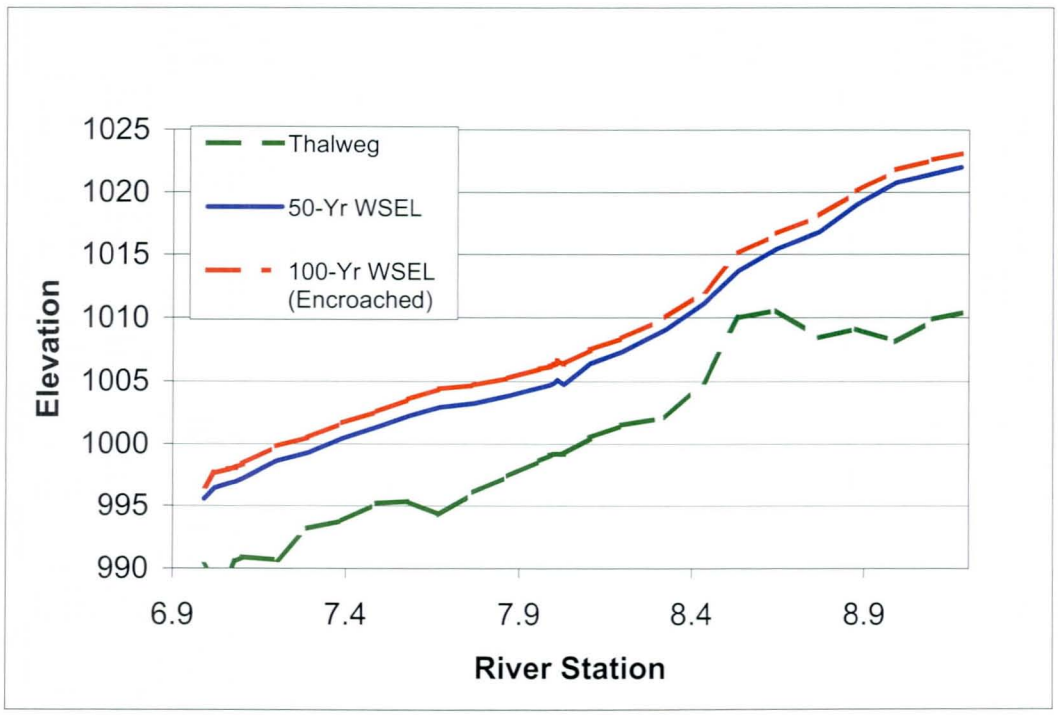
	50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
	39,000	5.317	971.7	976.43	977.34	0.91
Bridge		5.3225	971.7	976.5	977.49	0.99
	39,000	5.328	971.7	976.67	977.64	0.97
	39,000	5.38	971.4	977.07	978.03	0.96
	39,000	5.48	972.7	978.49	979.52	1.03
	39,000	5.51	972.7	978.76	979.64	0.88
	39,000	5.54	972.6	979.11	980.2	1.09
	39,000	5.65	972.9	979.68	981.63	1.95
	39,000	5.689	973.85	980.29	982.1	1.81
Bridge		5.6945	973.85	980.3	982.13	1.83
	39,000	5.7	973.85	980.41	982.21	1.8
	39,000	5.75	973.7	980.65	982.39	1.74
	39,000	5.77	973.5	980.82	982.48	1.66
	39,000	5.79	974.6	981.1	982.68	1.58
	39,000	5.81	974.6	981.8	983.32	1.52
	39,000	5.9	975.4	982.55	983.98	1.43
	39,000	5.99	975.5	983.39	984.75	1.36
	39,000	6.07	976.7	984.06	985.39	1.33
	39,000	6.16	979.1	984.81	986.12	1.31
	39,000	6.26	980.2	985.7	986.94	1.24
	39,000	6.35	980.5	986.93	988.1	1.17
	39,000	6.43	981	987.88	989	1.12
	39,000	6.52	981.5	989.16	990.38	1.22
	39,000	6.54	982.4	989.09	990.28	1.19
	39,000	6.56	982.1	989.52	990.79	1.27
	39,000	6.59	981.8	989.82	991.11	1.29
	39,000	6.61	981.8	989.77	991.05	1.28
	39,000	6.64	982.4	990.18	991.51	1.33
	39,000	6.66	982.2	990.29	991.61	1.32
	39,000	6.69	982.2	990.66	991.98	1.32
	39,000	6.71	981.5	990.8	992.12	1.32
	39,000	6.73	982.4	990.95	992.3	1.35
	39,000	6.77	985.1	990.73	991.89	1.16
	39,000	6.79	984.3	992.07	992.94	0.87
	39,000	6.82	984.8	992.66	993.73	1.07
	39,000	6.89	989.4	993.13	994.18	1.05
	39,000	6.91	989.5	994.09	994.81	0.72
	39,000	6.93	989.9	995.03	996.11	1.08
	39,000	6.97	990.4	995.54	996.63	1.09



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Thomas Road to Camelback Road

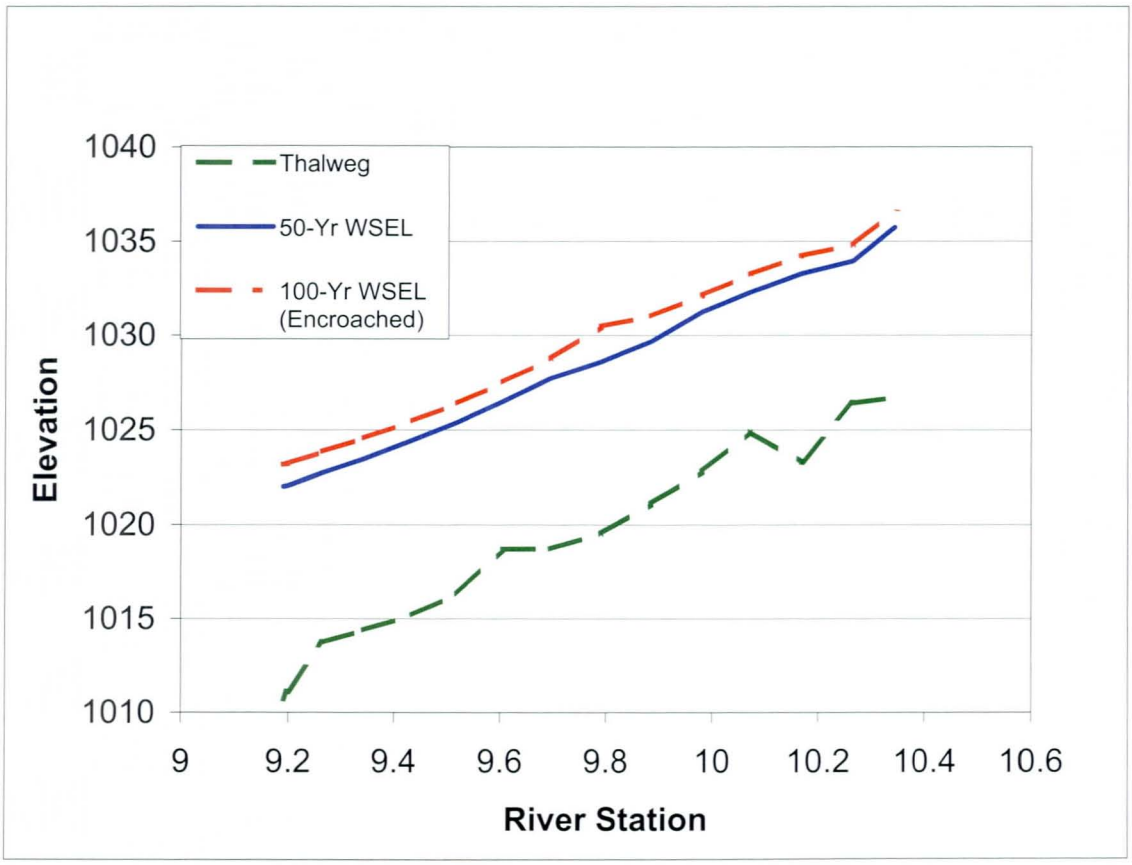
	50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
	39,000	6.99	990.2	995.57	996.59	1.02
	39,000	7.02	989.1	996.46	997.62	1.16
	39,000	7.06	989.6	996.8	997.96	1.16
	39,000	7.08	990.5	996.95	998.08	1.13
	39,000	7.1	990.9	997.2	998.35	1.15
	39,000	7.2	990.7	998.6	999.8	1.2
	39,000	7.29	993.2	999.28	1000.48	1.2
	39,000	7.39	993.8	1000.47	1001.69	1.22
	39,000	7.49	995.2	1001.34	1002.6	1.26
	39,000	7.58	995.4	1002.25	1003.56	1.31
	39,000	7.67	994.3	1002.96	1004.39	1.43
	39,000	7.77	996.1	1003.23	1004.69	1.46
	39,000	7.87	997.4	1003.83	1005.28	1.45
	39,000	7.96	998.6	1004.51	1005.97	1.46
	39,000	7.99	999.1	1004.73	1006.18	1.45
	39,000	8	999.2	1004.86	1006.32	1.46
Bridge		8.005	999.2	1005	1006.37	1.37
	39,000	8.01	999.2	1005.13	1006.61	1.48
	39,000	8.03	999.2	1004.78	1006.34	1.56
	39,000	8.105	1000.5	1006.36	1007.43	1.07
	39,000	8.198	1001.5	1007.3	1008.37	1.07
	39,000	8.325	1002.1	1009.06	1010.02	0.96
	39,000	8.433	1005	1011.12	1012.1	0.98
	39,000	8.534	1010	1013.75	1015.13	1.38
	39,000	8.646	1010.6	1015.48	1016.69	1.21
	39,000	8.768	1008.4	1016.81	1018.14	1.33
	39,000	8.875	1009.1	1019.01	1020.06	1.05
	39,000	8.992	1008.1	1020.79	1021.82	1.03
	39,000	9.098	1009.9	1021.5	1022.62	1.12
	39,000	9.177	1010.4	1022	1023.12	1.12



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Camelback Road to Bethany Home Road

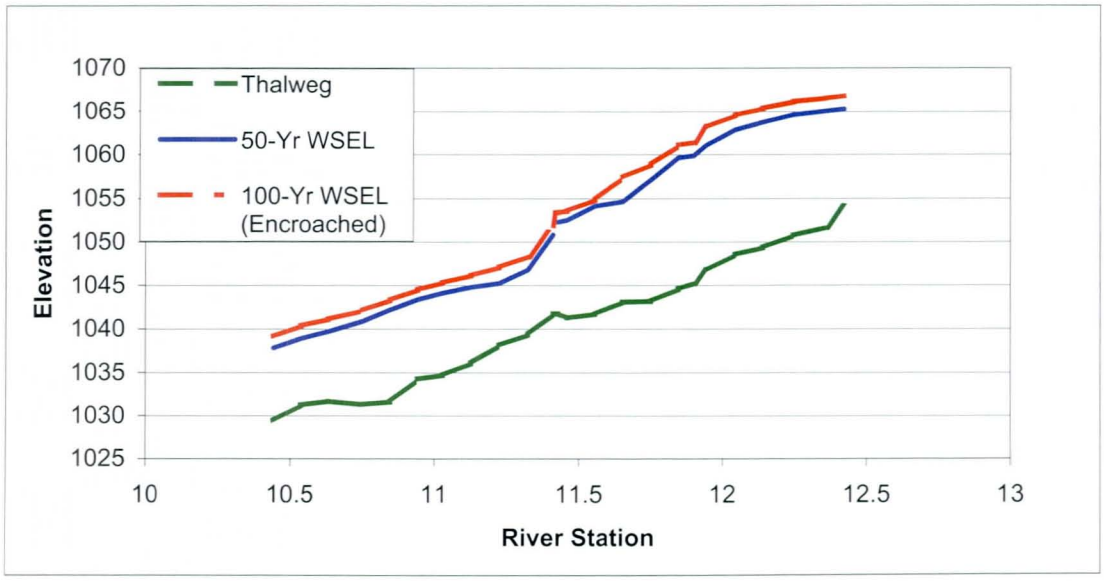
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
39,000	9.191	1010.7	1022.03	1023.17	1.14
39,000	9.198	1011.1	1022.06	1023.19	1.13
39,000	9.266	1013.7	1022.73	1023.82	1.09
39,000	9.343	1014.4	1023.47	1024.53	1.06
39,000	9.435	1015.2	1024.45	1025.47	1.02
39,000	9.519	1016.3	1025.38	1026.4	1.02
39,000	9.605	1018.7	1026.5	1027.5	1
39,000	9.696	1018.7	1027.71	1028.76	1.05
23,000	9.79	1019.5	1028.59	1030.49	1.9
23,000	9.885	1021.1	1029.66	1031.02	1.36
23,000	9.981	1022.8	1031.25	1032.14	0.89
23,000	10.071	1024.9	1032.31	1033.25	0.94
23,000	10.167	1023.3	1033.28	1034.23	0.95
23,000	10.265	1026.4	1033.95	1034.82	0.87
23,000	10.343	1026.7	1035.74	1036.67	0.93



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Bethany Home Road to Northern Avenue

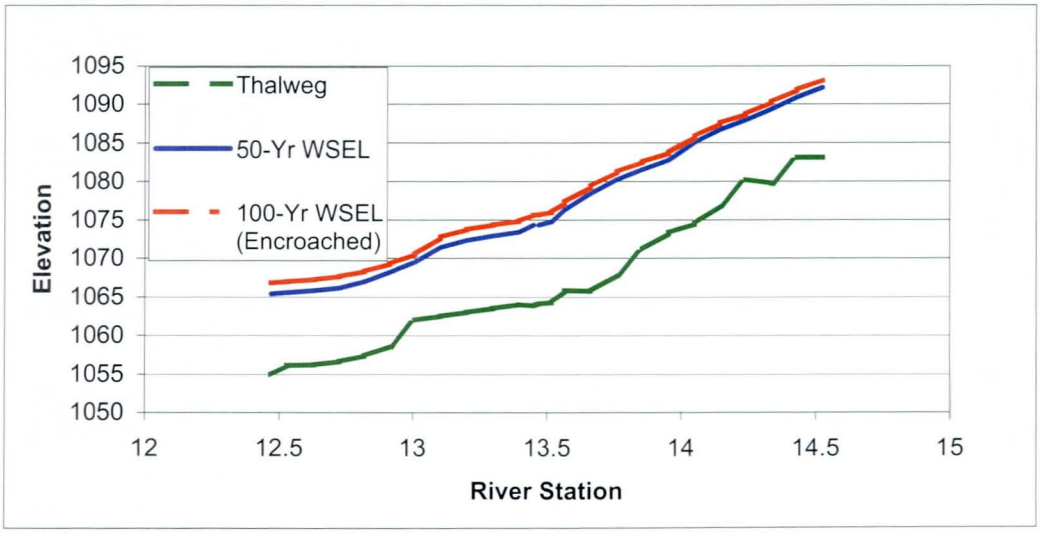
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
23,000	10.442	1029.4	1037.82	1039.14	1.32
23,000	10.538	1031.2	1038.94	1040.4	1.46
23,000	10.632	1031.7	1039.74	1041.1	1.36
23,000	10.752	1031.3	1040.93	1042.13	1.2
23,000	10.846	1031.6	1042.23	1043.34	1.11
23,000	10.942	1034.2	1043.39	1044.53	1.14
23,000	11.029	1034.7	1044.12	1045.3	1.18
23,000	11.128	1036.1	1044.82	1046.11	1.29
23,000	11.224	1038.1	1045.26	1047.06	1.8
23,000	11.325	1039.4	1046.76	1048.31	1.55
23,000	11.41	1041.8	1050.82	1051.84	1.02
Bridge	11.419	1041.8		1053.3	
23,000	11.428	1041.8	1052.26	1053.38	1.12
26,500	11.46	1041.3	1052.45	1053.53	1.08
26,500	11.557	1041.7	1054.09	1054.85	0.76
26,500	11.653	1043.1	1054.63	1057.41	2.78
26,500	11.75	1043.2	1057.09	1058.84	1.75
26,500	11.847	1044.6	1059.69	1061.16	1.47
26,500	11.9	1045.2	1059.89	1061.4	1.51
26,500	11.943	1046.7	1061.16	1063.22	2.06
26,500	12.042	1048.5	1062.88	1064.6	1.72
26,500	12.141	1049.3	1063.78	1065.39	1.61
26,500	12.247	1050.7	1064.64	1066.1	1.46
26,500	12.359	1051.7	1065.1	1066.51	1.41
26,500	12.42	1054	1065.34	1066.75	1.41



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Northern Avenue to Peoria Avenue Alignment

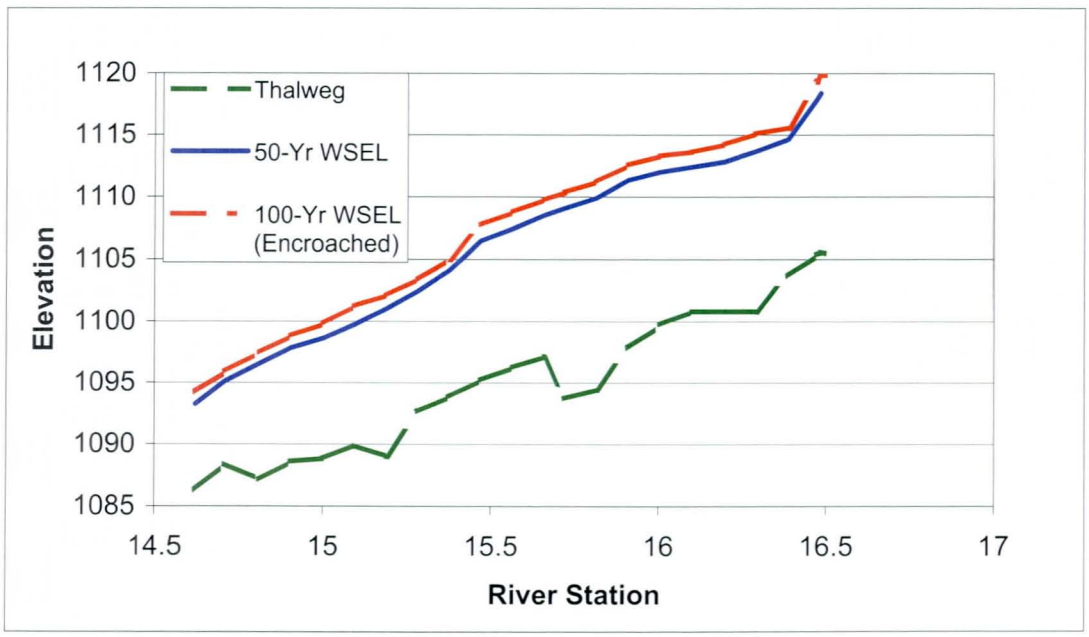
	50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
	26,500	12.47	1054.9	1065.42	1066.82	1.4
	26,500	12.529	1056.1	1065.54	1066.94	1.4
	26,500	12.63	1056.2	1065.84	1067.17	1.33
	26,500	12.725	1056.6	1066.15	1067.66	1.51
	26,500	12.816	1057.4	1066.93	1068.28	1.35
	26,500	12.913	1058.6	1068.16	1069.3	1.14
	26,500	13.007	1062	1069.53	1070.55	1.02
	26,500	13.103	1062.5	1071.45	1072.72	1.27
	26,500	13.2	1063	1072.35	1073.72	1.37
	26,500	13.296	1063.5	1072.9	1074.33	1.43
	26,500	13.395	1064	1073.37	1074.84	1.47
	26,500	13.45	1063.8	1074.32	1075.61	1.29
Bridge		13.4585	1064		1075.61	
	26,500	13.467	1064.1	1074.35	1075.64	1.29
	26,500	13.518	1064.2	1074.76	1075.94	1.18
	26,500	13.565	1065.8	1076.3	1077.28	0.98
	26,500	13.663	1065.7	1078.44	1079.39	0.95
	26,500	13.76	1067.9	1080.24	1081.24	1
	26,500	13.856	1071.2	1081.56	1082.58	1.02
	26,500	13.952	1073.3	1082.84	1083.75	0.91
	26,500	14.049	1074.5	1085.1	1085.84	0.74
	26,500	14.145	1076.9	1086.76	1087.55	0.79
	26,500	14.24	1080.3	1087.94	1088.74	0.8
	26,500	14.335	1079.8	1089.4	1090.25	0.85
	26,500	14.43	1083.2	1090.93	1091.83	0.9
	26,500	14.525	1083.2	1092.18	1093.19	1.01



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Peoria Avenue Alignment to Grand Avenue

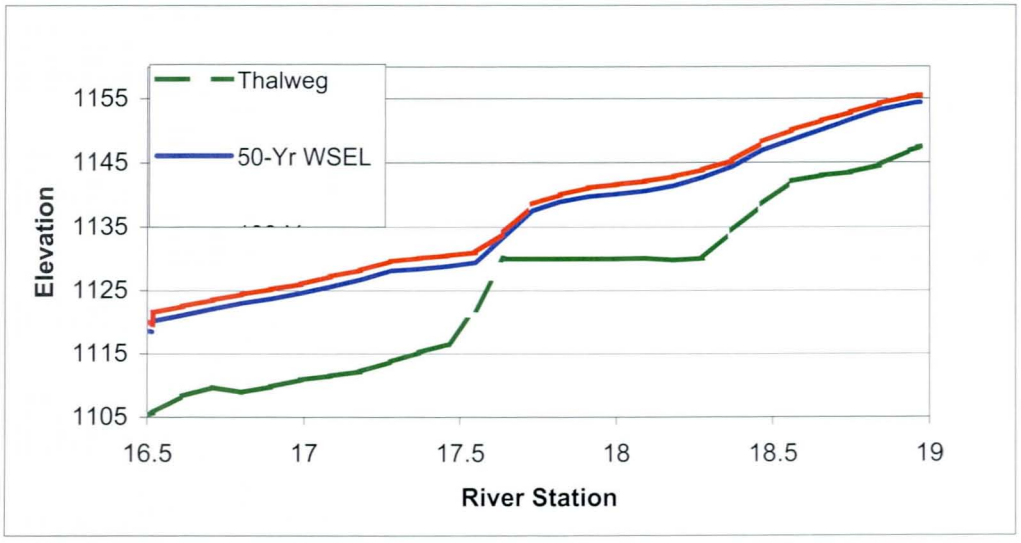
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
26,500	14.619	1086.3	1093.25	1094.2	0.95
26,500	14.708	1088.4	1095.11	1095.85	0.74
26,500	14.809	1087.1	1096.54	1097.43	0.89
26,500	14.905	1088.6	1097.8	1098.81	1.01
26,500	15	1088.8	1098.58	1099.75	1.17
26,500	15.094	1089.9	1099.72	1101.2	1.48
26,500	15.188	1089	1101.01	1102.1	1.09
26,500	15.281	1092.6	1102.44	1103.4	0.96
26,500	15.374	1093.8	1104.11	1105.02	0.91
26,500	15.469	1095.2	1106.48	1107.73	1.25
26,500	15.564	1096.2	1107.45	1108.76	1.31
26,500	15.658	1097.1	1108.51	1109.77	1.26
26,500	15.719	1093.7	1109.11	1110.39	1.28
26,500	15.814	1094.4	1109.93	1111.2	1.27
26,500	15.909	1097.8	1111.33	1112.57	1.24
26,500	16.004	1099.7	1112.03	1113.32	1.29
26,500	16.099	1100.8	1112.43	1113.62	1.19
26,500	16.195	1100.8	1112.83	1114.21	1.38
26,500	16.289	1100.8	1113.67	1115.12	1.45
26,500	16.385	1103.7	1114.64	1115.57	0.93
29,000	16.471	1105.4	1117.88	1119.31	1.43
29,000	16.482	1105.6	1118.43	1119.83	1.4
Bridge	16.494	1105.5		1119.83	



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Grand Avenue to Bell Road

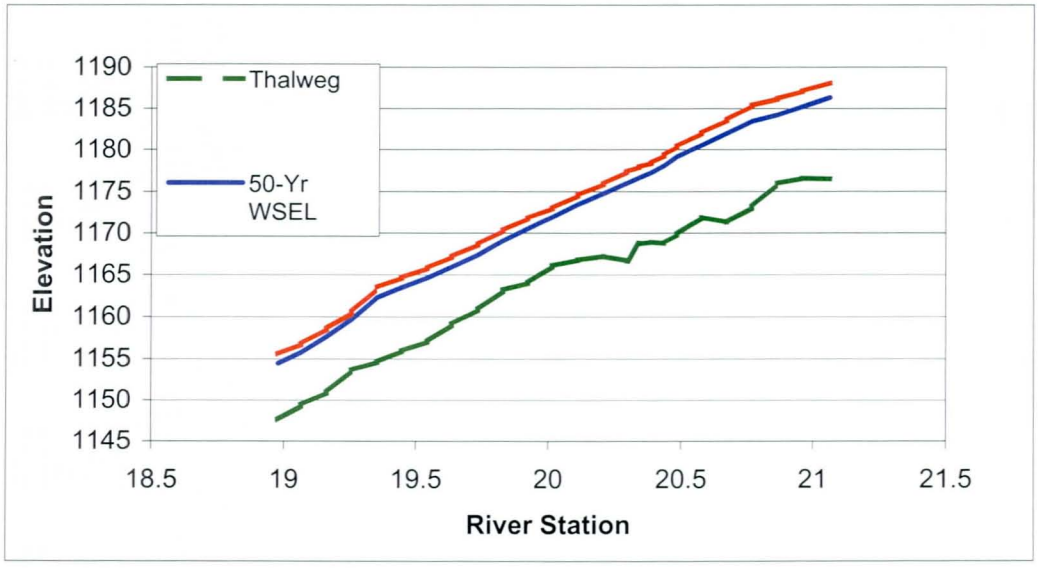
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
29,000	16.506	1105.4	1118.62	1120.02	1.4
29,000	16.514	1105.7	1118.52	1119.87	1.35
Bridge	16.516	1105.7		1119.61	
29,000	16.518	1105.7	1120.23	1121.55	1.32
29,000	16.612	1108.3	1121.13	1122.46	1.33
29,000	16.707	1109.7	1122.08	1123.45	1.37
29,000	16.801	1108.9	1123.03	1124.39	1.36
29,000	16.895	1109.8	1123.75	1125.22	1.47
29,000	16.99	1110.9	1124.57	1126.03	1.46
29,000	17.085	1111.5	1125.64	1127.15	1.51
29,000	17.18	1112.2	1126.7	1128.18	1.48
29,000	17.277	1113.7	1128.08	1129.6	1.52
29,000	17.37	1115.2	1128.42	1130.07	1.65
29,000	17.458	1116.5	1128.79	1130.51	1.72
29,000	17.548	1122	1129.39	1131.05	1.66
29,000	17.638	1130	1133.39	1134.12	0.73
29,000	17.73	1130	1137.52	1138.53	1.01
29,000	17.821	1130	1138.91	1140.02	1.11
29,000	17.91	1130	1139.7	1141.12	1.42
29,000	18	1130	1140.08	1141.6	1.52
29,000	18.093	1130.1	1140.62	1142.14	1.52
29,000	18.182	1129.8	1141.44	1142.83	1.39
29,000	18.275	1130.1	1142.66	1143.87	1.21
29,000	18.369	1134.4	1144.42	1145.31	0.89
29,000	18.464	1138.5	1146.91	1148.18	1.27
29,000	18.558	1142.1	1148.47	1150.01	1.54
29,000	18.653	1143	1150.11	1151.51	1.4
29,000	18.748	1143.5	1151.69	1152.77	1.08
29,000	18.839	1144.6	1153.15	1154.19	1.04
29,000	18.937	1146.8	1154.22	1155.31	1.09
29,000	18.962	1147.3	1154.4	1155.48	1.08
Bridge	18.97	1147.5	1154.4	1155.48	1.08



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Bell Road to Beardsley Road Alignment

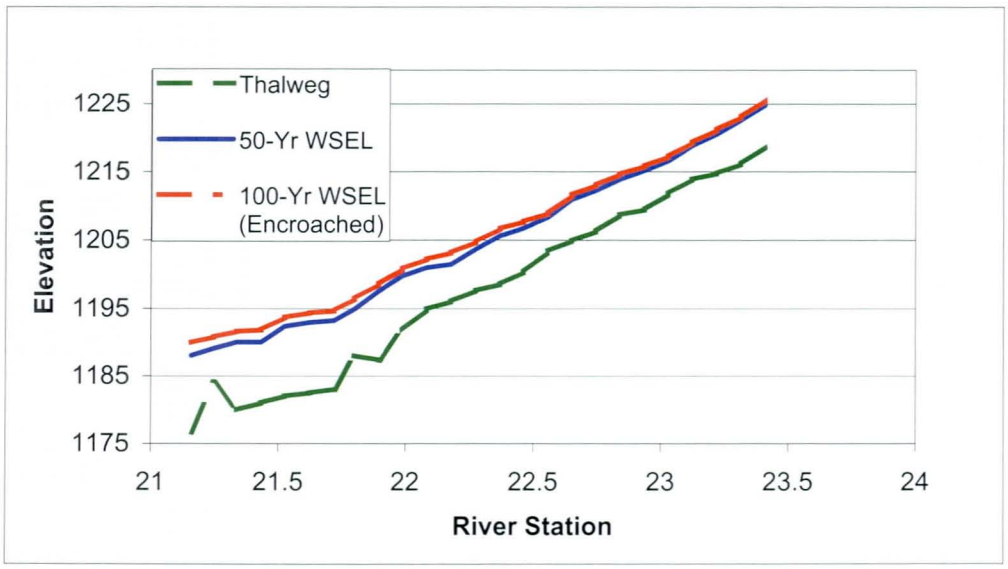
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
27,000	18.978	1147.6	1154.44	1155.54	1.1
27,000	19.066	1149.4	1155.71	1156.76	1.05
27,000	19.162	1150.9	1157.65	1158.55	0.9
27,000	19.256	1153.6	1159.72	1160.57	0.85
27,000	19.352	1154.6	1162.31	1163.44	1.13
27,000	19.446	1155.9	1163.45	1164.66	1.21
27,000	19.542	1157	1164.61	1165.77	1.16
27,000	19.635	1159.1	1165.96	1167.17	1.21
27,000	19.732	1160.9	1167.36	1168.61	1.25
27,000	19.827	1163.2	1169.09	1170.33	1.24
27,000	19.92	1164	1170.55	1171.75	1.2
27,000	20.015	1166.1	1171.87	1172.98	1.11
27,000	20.111	1166.8	1173.42	1174.5	1.08
27,000	20.207	1167.2	1174.73	1175.89	1.16
27,000	20.294	1166.7	1175.97	1177.37	1.4
27,000	20.343	1168.7	1176.63	1177.93	1.3
27,000	20.388	1168.9	1177.26	1178.46	1.2
27,000	20.435	1168.8	1178.12	1179.31	1.19
27,000	20.483	1169.8	1179.17	1180.38	1.21
27,000	20.579	1171.9	1180.54	1182.04	1.5
27,000	20.675	1171.3	1182.02	1183.66	1.64
25,410	20.769	1173.1	1183.48	1185.4	1.92
25,410	20.864	1176	1184.26	1186.13	1.87
25,410	20.958	1176.6	1185.28	1187.06	1.78
25,410	21.061	1176.5	1186.34	1188.15	1.81



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Beardsley Road Alignment to Pinnacle Peak Road Alignment

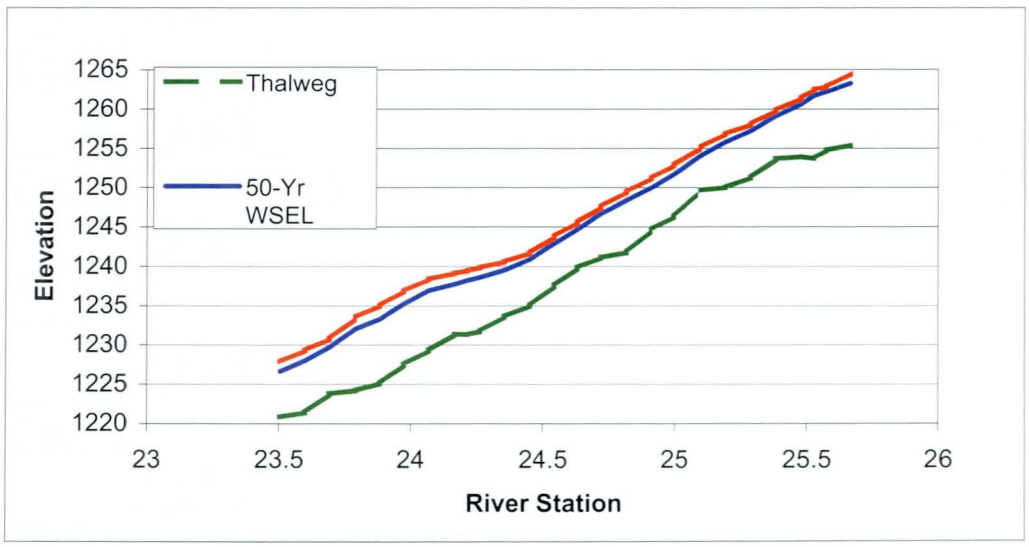
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
25,410	21.157	1176.6	1188.04	1189.87	1.83
25,410	21.245	1184	1189.07	1190.7	1.63
25,410	21.337	1180	1189.97	1191.59	1.62
25,410	21.431	1181	1189.96	1191.75	1.79
25,410	21.524	1182	1192.33	1193.63	1.3
25,410	21.621	1182.5	1192.91	1194.29	1.38
25,410	21.716	1183.1	1193.21	1194.59	1.38
25,410	21.798	1188	1194.87	1196.35	1.48
25,410	21.893	1187.4	1197.51	1198.55	1.04
25,410	21.986	1191.8	1199.75	1200.79	1.04
25,410	22.082	1194.9	1200.96	1202.19	1.23
25,410	22.177	1196	1201.41	1203.12	1.71
25,410	22.273	1197.6	1203.65	1204.73	1.08
23,960	22.368	1198.5	1205.6	1206.64	1.04
23,960	22.462	1200.3	1206.73	1207.7	0.97
23,960	22.558	1203.4	1208.34	1208.95	0.61
23,960	22.651	1204.9	1210.99	1211.65	0.66
23,960	22.745	1206.3	1212.32	1213.01	0.69
23,960	22.839	1208.7	1213.93	1214.64	0.71
23,960	22.935	1209.5	1215.18	1215.86	0.68
23,960	23.029	1211.8	1216.64	1217.26	0.62
23,960	23.124	1213.9	1218.82	1219.36	0.54
23,960	23.219	1214.7	1220.55	1221.16	0.61
23,960	23.314	1216.1	1222.56	1223.11	0.55
23,960	23.409	1218.8	1224.85	1225.65	0.8



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Pinnacle Peak Road Alignment to Jomax Road

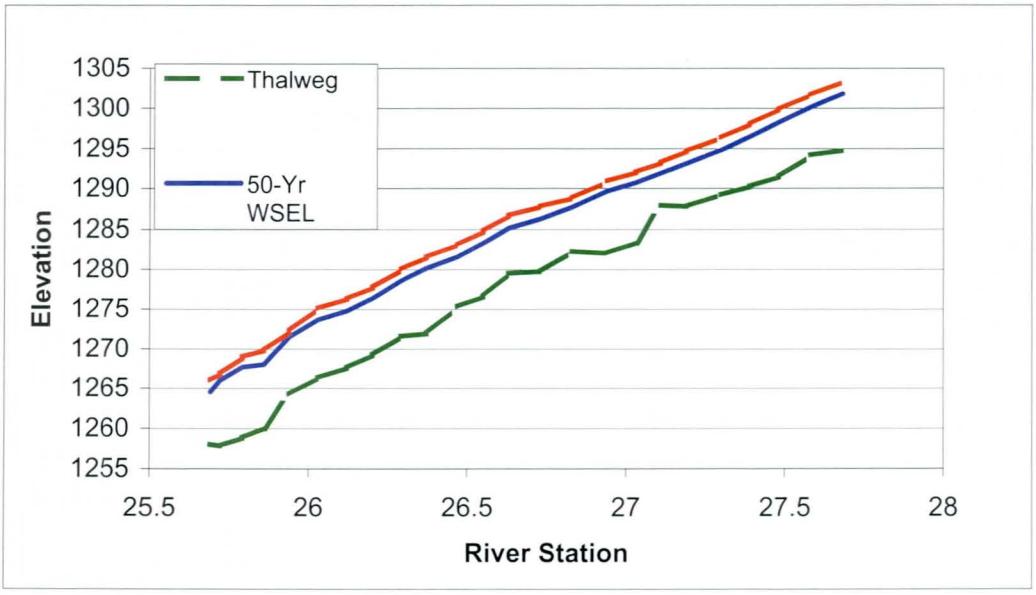
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
23,960	23.504	1220.8	1226.6	1227.88	1.28
23,960	23.598	1221.4	1228.02	1229.3	1.28
23,960	23.692	1223.8	1229.73	1230.73	1
22,510	23.79	1224.2	1232.04	1233.48	1.44
22,510	23.881	1225.1	1233.26	1234.94	1.68
22,510	23.974	1227.5	1235.24	1236.86	1.62
22,510	24.067	1229.3	1236.89	1238.34	1.45
22,510	24.165	1231.4	1237.75	1239.1	1.35
22,510	24.212	1231.3	1238.17	1239.45	1.28
22,510	24.26	1231.7	1238.65	1239.86	1.21
22,510	24.353	1233.6	1239.48	1240.59	1.11
22,510	24.449	1235	1240.87	1241.69	0.82
22,510	24.543	1237.6	1242.93	1243.76	0.83
22,510	24.631	1239.8	1244.72	1245.57	0.85
22,510	24.721	1241.1	1246.67	1247.61	0.94
22,510	24.816	1241.8	1248.38	1249.47	1.09
22,510	24.91	1244.7	1250.06	1251.25	1.19
22,510	24.996	1246.3	1251.69	1252.87	1.18
22,510	25.098	1249.7	1254.07	1255.16	1.09
21,060	25.192	1250	1255.78	1256.79	1.01
21,060	25.288	1251.3	1257.25	1258.05	0.8
21,060	25.382	1253.7	1259.1	1259.82	0.72
21,060	25.478	1253.9	1260.6	1261.33	0.73
21,060	25.526	1253.7	1261.66	1262.51	0.85
21,060	25.572	1254.7	1262.15	1262.84	0.69
21,060	25.666	1255.4	1263.26	1264.48	1.22



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Jomax Road to Dixileta Drive Alignment

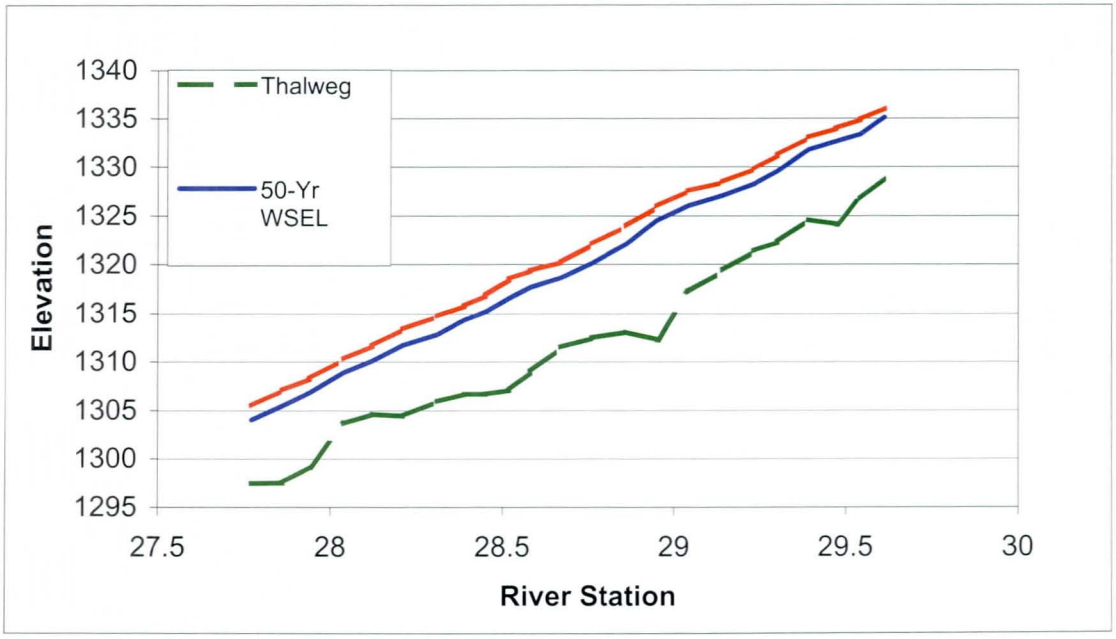
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
21,060	25.691	1258	1264.59	1265.96	1.37
21,060	25.72	1257.8	1266.01	1266.77	0.76
21,060	25.79	1258.8	1267.63	1268.96	1.33
21,060	25.86	1260	1267.97	1269.69	1.72
21,060	25.94	1264.2	1271.52	1272.2	0.68
21,060	26.03	1266.3	1273.65	1275.08	1.43
21,060	26.12	1267.6	1274.73	1276.26	1.53
21,060	26.2	1269.2	1276.32	1277.69	1.37
21,060	26.29	1271.6	1278.54	1280.03	1.49
21,060	26.37	1271.9	1280.15	1281.51	1.36
19,610	26.47	1275.3	1281.59	1283.09	1.5
19,610	26.55	1276.6	1283.36	1284.77	1.41
19,610	26.63	1279.5	1285.15	1286.65	1.5
19,610	26.73	1279.8	1286.28	1287.77	1.49
19,610	26.83	1282.3	1287.74	1288.83	1.09
19,610	26.94	1282.1	1289.69	1290.89	1.2
19,610	27.03	1283.4	1290.73	1292.01	1.28
19,610	27.11	1288	1291.91	1293.23	1.32
19,610	27.19	1287.8	1293.11	1294.61	1.5
19,610	27.3	1289.2	1294.78	1296.31	1.53
19,610	27.39	1290.3	1296.47	1297.98	1.51
19,610	27.48	1291.5	1298.22	1299.86	1.64
19,610	27.58	1294.2	1300.13	1301.64	1.51
19,610	27.68	1294.7	1301.82	1303.3	1.48



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Dixileta Drive Alignment to the CAP Canal

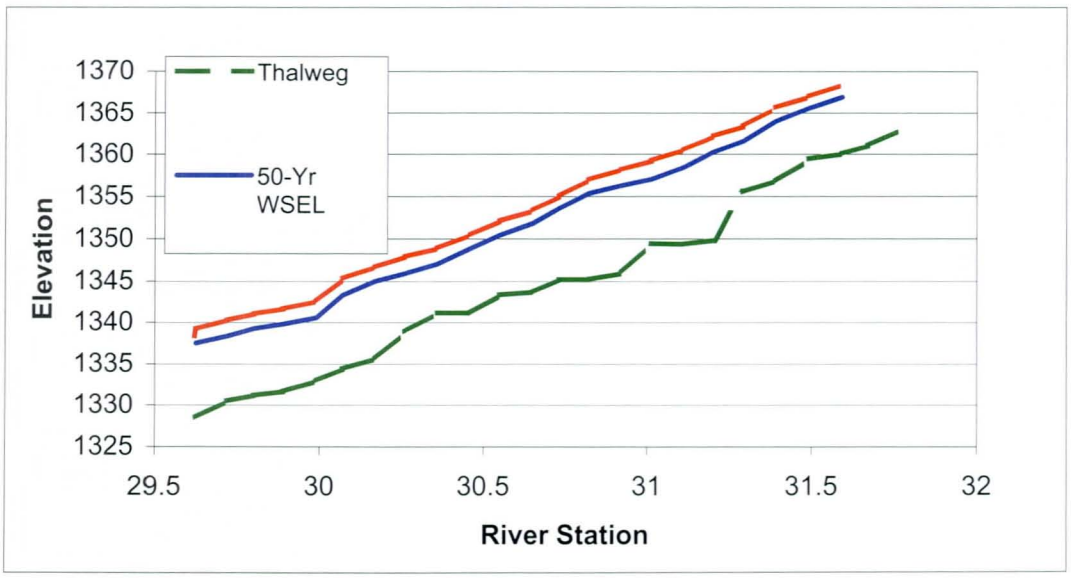
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
19,610	27.77	1297.4	1303.98	1305.43	1.45
18,150	27.86	1297.5	1305.41	1307.08	1.67
18,150	27.94	1299.1	1306.83	1308.23	1.4
18,150	28.04	1303.6	1308.92	1310.27	1.35
18,150	28.12	1304.6	1310.12	1311.66	1.54
18,150	28.21	1304.4	1311.71	1313.37	1.66
18,150	28.31	1305.9	1312.87	1314.75	1.88
18,150	28.39	1306.7	1314.32	1315.79	1.47
18,150	28.45	1306.7	1315.22	1316.83	1.61
18,150	28.52	1307.1	1316.55	1318.46	1.91
18,150	28.58	1309	1317.64	1319.33	1.69
18,150	28.67	1311.5	1318.59	1320.19	1.6
18,150	28.76	1312.5	1320.15	1322.06	1.91
18,150	28.86	1313.1	1322.06	1323.94	1.88
18,150	28.95	1312.3	1324.54	1325.93	1.39
18,150	29.04	1317.2	1326.03	1327.54	1.51
16,700	29.14	1319.4	1327.06	1328.45	1.39
16,700	29.23	1321.4	1328.28	1329.76	1.48
16,700	29.3	1322.3	1329.55	1331.24	1.69
16,700	29.39	1324.6	1331.78	1333.04	1.26
16,700	29.47	1324.1	1332.63	1333.97	1.34
16,700	29.54	1326.7	1333.38	1334.88	1.5
16,700	29.611	1328.9	1335.15	1336.06	0.91



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

CAP Canal to the Cloud Road Alignment

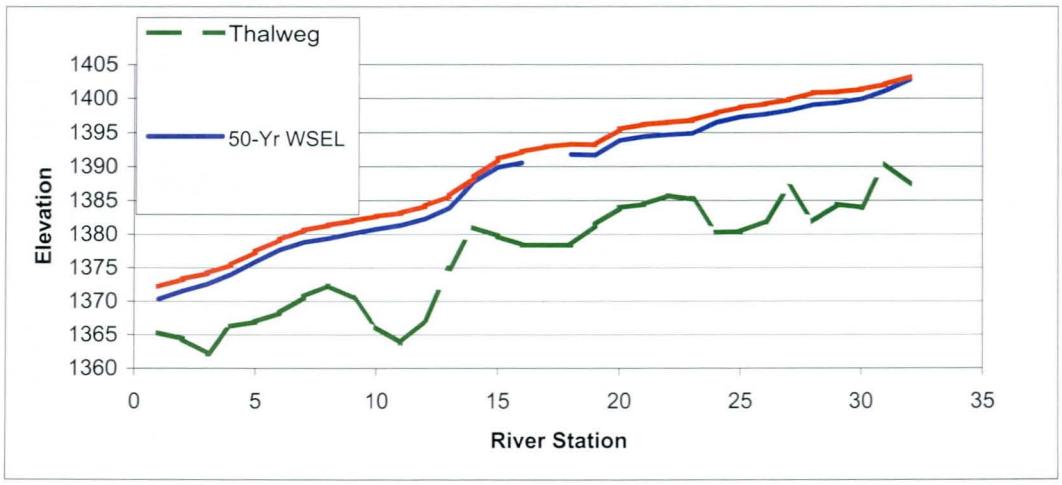
50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
Bridge	29.6175			1338.31	1338.31
16,700	29.624	1328.5	1337.54	1339.22	1.68
16,700	29.72	1330.5	1338.33	1340.28	1.95
16,700	29.8	1331.2	1339.23	1341.04	1.81
16,700	29.89	1331.6	1339.8	1341.62	1.82
16,700	29.99	1332.9	1340.57	1342.56	1.99
16,700	30.07	1334.4	1343.31	1345.27	1.96
16,700	30.17	1335.6	1344.97	1346.65	1.68
16,700	30.26	1338.9	1345.91	1347.88	1.97
16,700	30.36	1341.2	1347.08	1348.85	1.77
16,700	30.46	1341.2	1348.86	1350.48	1.62
15,250	30.55	1343.4	1350.45	1352.08	1.63
15,250	30.65	1343.7	1351.88	1353.33	1.45
15,250	30.73	1345.2	1353.55	1355.01	1.46
15,250	30.82	1345.2	1355.34	1356.97	1.63
15,250	30.92	1346	1356.26	1358.21	1.95
15,250	31.01	1349.5	1357.06	1359.21	2.15
15,250	31.11	1349.4	1358.51	1360.52	2.01
15,250	31.2	1349.9	1360.28	1362.25	1.97
15,250	31.29	1355.5	1361.61	1363.37	1.76
15,250	31.39	1356.8	1363.99	1365.63	1.64
15,250	31.49	1359.5	1365.55	1366.97	1.42
15,250	31.59	1360.1	1366.9	1368.38	1.48
15,250	31.67	1361.1	1367.8	1369.57	1.77
15,250	31.77	1363	1368.84	1370.7	1.86



50-Year and Encroached 100-Year Water Surface Elevations
Agua Fria River Watercourse Master Plan

Cloud Road Alignment to New Waddell Dam

	50-Year Peak Flow	River Station	Thalweg	50-Yr WSEL	Encroached 100-Yr WSEL	Delta WSEL
	15,250	31.86	1365.3	1370.3	1372.16	1.86
	13,800	31.96	1364.3	1371.49	1373.3	1.81
	13,800	32.05	1362.2	1372.51	1374.19	1.68
	13,800	32.15	1366.2	1373.95	1375.37	1.42
	13,800	32.24	1366.9	1375.89	1377.37	1.48
	13,800	32.34	1368.2	1377.63	1379.18	1.55
	13,800	32.43	1370.7	1378.74	1380.57	1.83
	13,800	32.52	1372.4	1379.32	1381.34	2.02
	13,800	32.58	1370.5	1380.05	1382	1.95
	13,800	32.64	1366.2	1380.78	1382.67	1.89
	13,800	32.72	1363.8	1381.3	1383.11	1.81
	13,800	32.79	1367.2	1382.22	1384.14	1.92
	13,800	32.86	1374.9	1383.85	1385.7	1.85
	13,800	32.92	1381	1387.75	1388.39	0.64
	13,800	32.979	1379.7	1389.93	1391.15	1.22
	13,800	32.984	1378.4	1390.54	1392.2	1.66
Bridge		32.9885	1378.4		1392.92	1392.92
	13,800	32.993	1378.4	1391.76	1393.34	1.58
	13,800	32.998	1381.4	1391.68	1393.23	1.55
	13,800	33.06	1384	1393.9	1395.56	1.66
	13,800	33.12	1384.4	1394.48	1396.22	1.74
	13,800	33.19	1385.8	1394.68	1396.47	1.79
	13,800	33.25	1385.2	1394.89	1396.8	1.91
	13,800	33.29	1380.3	1396.52	1397.86	1.34
	13,800	33.3	1380.4	1397.26	1398.68	1.42
	13,800	33.36	1381.9	1397.62	1399.17	1.55
	13,800	33.41	1386.9	1398.19	1399.81	1.62
	9,000	33.46	1381.9	1399.02	1400.82	1.8
	9,000	33.54	1384.4	1399.3	1400.98	1.68
	9,000	33.63	1384	1399.9	1401.32	1.42
	9,000	33.73	1390.5	1401.09	1402.05	0.96
	9,000	33.82	1387.4	1402.69	1403.22	0.53



Appendix F

HEC-RAS Output for the Sand & Gravel Alternative

Agua Fria Watercourse Master Plan
Sand & Gravel Alternative
(Based on the Current Planning Model)

Profile Output Table - Standard Table 1
HEC-RAS Plan: S&G-COE50Yr River: Agua Fria Reach: 1

Project: Agua Fria River (42401UPD.PRJ)
Plan: S&G Corps 50-yr no encroach (42401UPD.P16)
Geometry: Converted HEC-2 Modified (42401UPD.G03)
Flow: Corps 50-yr Flows (42401UPD.F05)

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	0.16	37000.00	909.60	915.86	914.03	916.21	0.003000	6.70	10249.46	3232.13	0.53
1	0.25	37000.00	910.90	917.40		917.85	0.003553	8.09	10860.93	4756.92	0.60
1	0.35	37000.00	911.40	918.97		919.43	0.002983	8.07	12551.08	6886.47	0.56
1	0.44	37000.00	912.80	920.38		920.59	0.001712	4.82	14168.22	6247.89	0.40
1	0.54	37000.00	913.70	921.34		921.71	0.002592	7.35	12154.27	7356.56	0.52
1	0.63	37000.00	915.70	922.76	922.05	923.09	0.002784	7.30	13600.15	7311.89	0.53
1	0.73	37000.00	916.90	924.10		924.35	0.002247	6.50	11549.79	4262.33	0.47
1	0.83	37000.00	917.30	925.27		925.56	0.002616	7.41	13204.47	9204.79	0.52
1	0.92	37000.00	919.30	926.32		926.63	0.002211	5.96	13596.58	7188.83	0.46
1	1.01	37000.00	921.20	927.24		927.56	0.002001	5.53	11282.22	3727.91	0.44
1	1.1	37000.00	922.50	928.12		928.38	0.001416	4.72	11917.06	3948.26	0.37
1	1.17	37000.00	923.60	929.05		929.46	0.002847	6.40	10201.05	4070.71	0.52
1	1.25	37000.00	924.40	930.33		931.29	0.004207	8.78	7250.81	3610.55	0.65
1	1.33	37000.00	925.50	932.42		932.84	0.002282	6.55	9976.47	4174.68	0.48
1	1.4	37000.00	927.10	933.54		934.48	0.004795	8.99	6626.02	3345.01	0.68
1	1.48	37000.00	926.70	935.37		935.69	0.001378	5.24	10676.86	3838.04	0.37
1	1.56	37000.00	926.10	935.86		936.04	0.000463	4.02	14616.57	3623.66	0.23
1	1.64	37000.00	927.90	936.09		936.29	0.000566	3.88	12599.26	3490.50	0.25
1	1.71	37000.00	928.20	936.38		936.63	0.000815	4.22	11412.44	3910.00	0.29
1	1.79	37000.00	929.20	936.79		937.15	0.001273	4.87	8732.69	3482.10	0.36
1	1.87	37000.00	931.10	937.43	935.26	937.88	0.001858	5.54	7510.26	2790.83	0.43
1	1.94	37000.00	932.30	938.44	936.50	938.82	0.001846	5.14	8540.37	3242.13	0.42
1	2.02	37000.00	932.70	939.32	937.92	939.66	0.002026	5.21	9230.95	3483.14	0.43
1	2.1	37000.00	934.30	940.16	938.90	940.63	0.002552	5.91	7975.61	3043.36	0.49
1	2.18	37000.00	934.40	941.07	939.63	941.50	0.002049	5.74	8580.47	3036.33	0.44
1	2.25	37000.00	935.00	941.99	941.15	942.58	0.002768	7.06	7625.66	2695.52	0.52
1	2.33	37000.00	936.20	943.26	941.90	943.65	0.001932	5.78	8824.05	2564.48	0.44
1	2.41	37000.00	937.40	944.19	943.10	944.65	0.002413	6.19	8113.00	2483.43	0.48
1	2.51	37000.00	938.70	945.29	943.48	945.68	0.001782	5.33	8223.96	2188.02	0.41
1	2.6	37000.00	939.60	946.26	944.48	946.67	0.002082	5.34	7880.17	2439.59	0.44

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	2.7	37000.00	940.40	947.33	945.34	947.60	0.001571	4.32	9168.96	2663.26	0.38
1	2.8	37000.00	942.00	948.05	945.74	948.29	0.001193	3.96	9566.87	2227.78	0.33
1	2.89	37000.00	942.90	948.66	946.25	948.90	0.001327	3.89	9405.68	2183.64	0.34
1	2.99	37000.00	942.30	949.27	946.37	949.51	0.001097	3.96	9607.01	2185.70	0.32
1	3.08	37000.00	942.50	949.78	946.37	950.00	0.000855	3.76	9847.18	1964.61	0.29
1	3.18	37000.00	943.40	950.23	947.60	950.56	0.001381	4.61	8020.50	1600.80	0.36
1	3.27	37000.00	944.50	950.97	948.68	951.41	0.001851	5.29	6992.69	1451.50	0.42
1	3.37	37000.00	943.40	951.86	948.95	952.31	0.001674	5.41	6962.28	1493.65	0.41
1	3.4	37000.00	945.10	951.92	951.92	953.59	0.011903	10.37	3569.17	1061.38	1.00
1	3.43	37000.00	946.00	953.85	952.05	954.53	0.002825	6.64	5623.24	1179.79	0.52
1	3.47	37000.00	946.10	954.39	952.19	955.05	0.002440	6.55	5766.10	1286.50	0.49
1	3.55	37000.00	948.00	955.37	953.80	956.20	0.003209	7.47	5402.70	1360.85	0.56
1	3.64	37000.00	948.80	956.88	955.19	957.89	0.003593	8.05	4593.93	813.79	0.60
1	3.69	37000.00	951.00	957.85	956.93	959.02	0.005816	8.69	4259.59	968.35	0.73
1	3.729	37000.00	952.20	959.26	955.34	959.57	0.000839	4.49	8239.58	1172.29	0.30
1	3.734	37000.00	952.30	959.28	955.43	959.59	0.000859	4.51	8203.31	1182.56	0.30
1	3.7405	Bridge									
1	3.747	37000.00	952.30	959.43	955.43	959.74	0.000797	4.41	8390.13	1182.86	0.29
1	3.757	37000.00	952.10	959.46	955.49	959.80	0.000871	4.65	7951.49	1106.64	0.31
1	3.767	37000.00	952.90	959.45	956.32	959.91	0.001468	5.46	6781.94	1048.64	0.38
1	3.7685	Bridge									
1	3.77	37000.00	952.90	959.63	956.32	960.07	0.001342	5.31	6970.88	1049.38	0.36
1	3.78	38000.00	952.90	959.69	956.38	960.11	0.000901	5.21	7291.51	1106.50	0.36
1	3.8	38000.00	953.10	959.80	956.58	960.23	0.000934	5.25	7237.93	1117.80	0.36
1	3.81	38000.00	953.30	959.80	956.96	960.35	0.001244	5.93	6410.63	1017.64	0.42
1	3.83	38000.00	952.80	960.07	956.67	960.47	0.000852	5.08	7484.53	1132.61	0.35
1	3.93	38000.00	953.50	960.50	957.44	960.95	0.001021	5.41	7028.31	1108.93	0.38
1	4.02	38000.00	953.90	961.01	957.55	961.42	0.000833	5.09	7466.81	1108.15	0.35
1	4.04	38000.00	954.50	961.00	958.24	961.57	0.001303	6.03	6299.53	1007.13	0.43
1	4.06	38000.00	954.90	961.25	958.31	961.72	0.001083	5.50	6904.71	1108.93	0.39
1	4.092	38000.00	955.20	961.43	958.53	961.91	0.001108	5.54	6858.38	1108.61	0.39
1	4.094	38000.00	958.50	961.83	961.83	963.51	0.008884	10.38	3662.18	1103.23	1.00
1	4.16	38000.00	957.20	964.00	961.43	964.53	0.001326	5.84	6512.18	1116.52	0.43
1	4.26	38000.00	957.00	964.67	962.26	965.23	0.001450	6.01	6321.97	1109.16	0.44
1	4.27	38000.00	957.10	964.79	962.13	965.37	0.001363	6.11	6220.67	1010.83	0.43
1	4.3	38000.00	957.60	965.05	962.16	965.52	0.001110	5.54	6855.15	1110.10	0.39
1	4.39	38000.00	957.60	965.59	962.53	966.04	0.001011	5.38	7062.52	1115.18	0.38
1	4.48	38000.00	957.80	966.10	962.61	966.49	0.000822	5.06	7508.61	1113.79	0.34
1	4.5	38000.00	957.80	966.16	962.52	966.60	0.000854	5.32	7140.97	1004.01	0.35
1	4.52	38000.00	958.00	966.30	962.83	966.70	0.000825	5.08	7476.82	1103.99	0.34
1	4.6	38000.00	958.10	966.66	963.12	967.05	0.000796	5.02	7569.95	1108.08	0.34
1	4.7	38000.00	959.10	967.06	963.91	967.50	0.000968	5.33	7131.77	1104.79	0.37
1	4.754	38000.00	960.30	967.33	963.60	967.70	0.000720	4.84	7848.56	1121.86	0.32
1	4.7565	Bridge									
1	4.759	38000.00	960.30	967.46	963.60	967.81	0.000677	4.75	7994.83	1122.07	0.31
1	4.79	38000.00	961.10	967.36	966.03	968.21	0.002884	7.38	5146.90	1111.15	0.60
1	4.89	38000.00	961.80	968.72	966.84	969.37	0.001945	6.43	5908.91	1167.25	0.50
1	4.98	38000.00	962.80	969.72	967.35	970.21	0.001363	5.63	6752.78	1248.03	0.43
1	5	38000.00	963.40	969.83	967.25	970.33	0.001272	5.66	6715.70	1164.77	0.42

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	5.02	38000.00	964.10	969.94	967.94	970.49	0.001688	5.94	6396.11	1279.03	0.47
1	5.1	38000.00	965.20	970.71	969.56	971.46	0.003052	6.96	5457.01	1342.03	0.61
1	5.15	38000.00	967.40	971.61	971.22	972.72	0.006037	8.44	4504.72	1386.51	0.82
1	5.201	38000.00	969.10	973.14	971.95	973.86	0.002939	6.79	5599.17	1390.26	0.60
1	5.203	38000.00	970.00	972.85	972.85	974.29	0.009384	9.62	3948.49	1387.88	1.01
1	5.25	38000.00	970.20	974.90	974.00	975.74	0.003810	7.37	5153.76	1374.54	0.67
1	5.27	38000.00	970.70	975.32	974.52	976.28	0.004202	7.85	4842.73	1262.35	0.71
1	5.29	38000.00	971.50	976.10	974.37	976.66	0.001939	6.00	6328.66	1383.13	0.49
1	5.2975	Bridge									
1	5.305	38000.00	971.50	976.36	974.37	976.86	0.001621	5.69	6680.97	1383.97	0.46
1	5.317	39000.00	971.70	976.43	974.62	976.99	0.001863	5.99	6507.28	1383.75	0.49
1	5.3225	Bridge									
1	5.328	39000.00	971.70	976.67	974.62	977.18	0.001574	5.70	6846.98	1384.57	0.45
1	5.38	39000.00	971.40	977.07	975.84	977.85	0.002944	7.07	5516.20	1289.74	0.60
1	5.48	39000.00	972.70	978.49	976.35	978.97	0.001532	5.67	7104.38	1420.17	0.45
1	5.51	39000.00	972.70	978.76	976.61	979.21	0.001628	5.58	7371.43	1521.23	0.45
1	5.54	39000.00	972.60	979.11	976.54	979.40	0.001101	4.46	9045.60	1804.92	0.37
1	5.65	39000.00	972.90	979.68	977.92	980.41	0.002196	6.86	5688.24	1118.11	0.54
1	5.689	39000.00	973.85	980.29	977.17	980.74	0.000981	5.33	7320.11	1146.54	0.37
1	5.6945	Bridge									
1	5.7	39000.00	973.85	980.41	977.18	980.84	0.000923	5.23	7457.01	1146.94	0.36
1	5.75	39000.00	973.70	980.65	978.49	981.28	0.001707	6.37	6121.75	1111.33	0.48
1	5.77	39000.00	973.50	980.82	978.91	981.60	0.002153	7.08	5510.27	1006.61	0.53
1	5.79	39000.00	974.60	981.10	979.71	982.04	0.002932	7.78	5012.11	1007.87	0.61
1	5.81	39000.00	974.60	981.80	979.37	982.38	0.001458	6.08	6413.40	1107.29	0.45
1	5.9	39000.00	975.40	982.55	980.38	983.18	0.001694	6.36	6131.95	1109.09	0.48
1	5.99	39000.00	975.50	983.39	981.13	984.00	0.001613	6.28	6214.93	1105.94	0.47
1	6.07	39000.00	976.70	984.06	981.66	984.64	0.001472	6.10	6396.01	1109.06	0.45
1	6.16	39000.00	979.10	984.81	982.60	985.43	0.001661	6.32	6174.51	1111.66	0.47
1	6.26	39000.00	980.20	985.70	984.16	986.50	0.002537	7.17	5437.80	1112.39	0.57
1	6.35	39000.00	980.50	986.93	985.02	987.64	0.002020	6.74	5782.42	1092.21	0.52
1	6.43	39000.00	981.00	987.88	986.64	988.83	0.003176	7.81	4993.82	1063.69	0.64
1	6.52	39000.00	981.50	989.16	986.29	989.66	0.001155	5.70	6840.62	1092.41	0.40
1	6.54	39000.00	982.40	989.09	987.20	989.89	0.002172	7.15	5453.01	993.86	0.54
1	6.56	39000.00	982.10	989.52	987.00	990.08	0.001385	6.00	6501.51	1104.12	0.44
1	6.59	39000.00	981.80	989.82	986.60	990.26	0.000962	5.37	7268.17	1108.76	0.37
1	6.61	39000.00	981.80	989.77	987.56	990.47	0.001784	6.70	5821.46	1007.70	0.49
1	6.64	39000.00	982.40	990.18	987.49	990.71	0.001253	5.81	6713.41	1108.93	0.42
1	6.66	39000.00	982.20	990.29	988.15	990.95	0.001847	6.52	5977.77	1108.76	0.50
1	6.69	39000.00	982.20	990.66	987.73	991.15	0.001107	5.60	6966.50	1108.77	0.39
1	6.71	39000.00	981.50	990.80	987.29	991.27	0.000921	5.50	7091.93	1005.67	0.36
1	6.73	39000.00	982.40	990.95	987.62	991.38	0.000904	5.27	7405.20	1108.82	0.36
1	6.77	39000.00	985.10	990.73	990.73	992.42	0.008718	10.44	3735.86	1099.62	1.00
1	6.79	39000.00	984.30	992.07	990.61	993.00	0.002849	7.75	5031.43	996.60	0.61
1	6.82	39000.00	984.80	992.66	990.43	993.28	0.001641	6.31	6176.53	1103.12	0.47
1	6.89	39000.00	989.40	993.13	992.96	994.67	0.007597	9.99	3904.48	1107.28	0.94
1	6.91	39000.00	989.50	994.09	993.41	995.37	0.004926	9.08	4297.31	1013.73	0.78
1	6.93	39000.00	989.90	995.03	993.30	995.76	0.002213	6.84	5698.10	1128.97	0.54
1	6.97	39000.00	990.40	995.54	993.86	996.27	0.002268	6.87	5677.14	1139.89	0.54

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	6.99	39000.00	990.20	995.57	994.66	996.71	0.004147	8.58	4546.31	1025.42	0.72
1	7.02	39000.00	989.10	996.46	994.22	997.07	0.001632	6.29	6205.24	1111.66	0.47
1	7.06	39000.00	989.60	996.80	994.85	997.50	0.001961	6.70	5823.82	1089.05	0.51
1	7.08	39000.00	990.50	996.95	995.13	997.77	0.002271	7.25	5378.21	992.01	0.55
1	7.1	39000.00	990.90	997.20	995.97	998.14	0.003222	7.80	5001.15	1079.34	0.64
1	7.2	39000.00	990.70	998.60	995.93	999.16	0.001317	6.00	6496.25	1059.85	0.43
1	7.29	39000.00	993.20	999.28	997.65	1000.13	0.002486	7.39	5278.84	1017.65	0.57
1	7.39	39000.00	993.80	1000.47	998.15	1001.15	0.001689	6.63	5879.80	996.58	0.48
1	7.49	39000.00	995.20	1001.34	999.22	1002.09	0.001899	6.93	5625.21	974.24	0.51
1	7.58	39000.00	995.40	1002.25	999.41	1002.86	0.001336	6.29	6198.41	955.25	0.44
1	7.67	39000.00	994.30	1002.96	998.34	1003.31	0.000573	4.78	8159.13	1003.20	0.30
1	7.77	39000.00	996.10	1003.23	1000.17	1003.76	0.001125	5.81	6711.63	1023.64	0.40
1	7.87	39000.00	997.40	1003.83	1001.19	1004.36	0.001301	5.88	6632.53	1107.83	0.42
1	7.96	39000.00	998.60	1004.51	1001.84	1004.94	0.001134	5.27	7393.60	1311.38	0.39
1	7.99	39000.00	999.10	1004.73	1002.11	1005.14	0.001113	5.15	7577.76	1376.73	0.39
1	8	39000.00	999.20	1004.86	1002.03	1005.21	0.000932	4.77	8175.93	1456.50	0.35
1	8.005	Bridge									
1	8.01	39000.00	999.20	1005.13	1002.03	1005.45	0.000798	4.55	8568.82	1457.56	0.33
1	8.03	39000.00	999.20	1004.78	1004.07	1005.71	0.004607	7.77	5020.60	1425.49	0.73
1	8.105	39000.00	1000.50	1006.36	1004.66	1006.87	0.001896	5.76	6876.48	1572.05	0.49
1	8.198	39000.00	1001.50	1007.30	1005.76	1007.88	0.002161	6.08	6413.60	1490.60	0.52
1	8.325	39000.00	1002.10	1009.06	1007.66	1009.65	0.003295	6.22	6324.42	1553.00	0.54
1	8.433	39000.00	1005.00	1011.12	1010.17	1011.89	0.004583	7.54	5694.17	1523.49	0.64
1	8.534	39000.00	1010.00	1013.75	1012.77	1014.27	0.004252	5.76	6805.72	2221.44	0.59
1	8.646	39000.00	1010.60	1015.48	1013.28	1015.77	0.001647	4.71	9232.58	2355.20	0.39
1	8.768	39000.00	1008.40	1016.81	1016.16	1017.51	0.004391	7.92	6454.55	2048.07	0.64
1	8.875	39000.00	1009.10	1019.01	1018.25	1019.80	0.003730	7.76	6223.33	2297.80	0.60
1	8.992	39000.00	1008.10	1020.79	1017.96	1021.11	0.001313	4.55	8751.88	1968.04	0.35
1	9.098	39000.00	1009.90	1021.50	1018.55	1021.78	0.001097	4.26	9248.24	1806.06	0.33
1	9.177	39000.00	1010.40	1022.00	1019.58	1022.34	0.001470	4.70	8290.99	1775.84	0.37
1	9.184	Bridge									
1	9.191	39000.00	1010.70	1022.03	1019.51	1022.36	0.001362	4.60	8470.73	1679.57	0.36
1	9.198	39000.00	1011.10	1022.06	1019.81	1022.44	0.001681	4.90	7965.43	3324.43	0.40
1	9.266	39000.00	1013.70	1022.73	1020.28	1023.07	0.001788	4.72	8573.70	3764.12	0.40
1	9.343	39000.00	1014.40	1023.47	1021.42	1023.89	0.002137	5.17	7678.64	3616.81	0.44
1	9.435	39000.00	1015.20	1024.45	1022.35	1024.88	0.001961	5.26	7566.96	3649.95	0.43
1	9.519	39000.00	1016.30	1025.38	1023.64	1025.90	0.002542	5.78	6973.05	2633.16	0.48
1	9.605	39000.00	1018.70	1026.50	1024.61	1027.00	0.002340	5.69	6913.08	1804.13	0.47
1	9.696	39000.00	1018.70	1027.71	1025.01	1028.00	0.001715	4.43	9164.89	5064.68	0.39
1	9.79	23000.00	1019.50	1028.59	1026.32	1028.85	0.001550	4.19	6487.28	4600.79	0.37
1	9.885	23000.00	1021.10	1029.66	1028.36	1030.09	0.004133	5.48	4819.84	3255.13	0.57
1	9.981	23000.00	1022.80	1031.25	1029.07	1031.56	0.002214	4.76	5885.50	3522.52	0.44
1	10.071	23000.00	1024.90	1032.31	1030.49	1032.69	0.002587	5.10	5354.97	4431.95	0.47
1	10.167	23000.00	1023.30	1033.28	1030.66	1033.63	0.001379	4.82	5622.71	4192.91	0.37
1	10.265	23000.00	1026.40	1033.95	1032.36	1034.86	0.003514	7.76	3254.96	2496.63	0.59
1	10.343	23000.00	1026.70	1035.74	1033.84	1036.46	0.004345	7.06	3824.29	4385.80	0.51
1	10.442	23000.00	1029.40	1037.82	1035.53	1038.19	0.002524	5.17	5405.94	4998.33	0.39
1	10.538	23000.00	1031.20	1038.94	1035.95	1039.20	0.001577	4.16	6078.28	4493.13	0.31
1	10.632	23000.00	1031.70	1039.74	1036.71	1040.03	0.001722	4.37	5859.30	4250.94	0.32
1	10.752	23000.00	1031.30	1040.93	1037.77	1041.44	0.002741	5.71	4060.16	2506.76	0.41

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	10.846	23000.00	1031.60	1042.23	1039.08	1042.76	0.002507	5.94	4150.73	1791.80	0.40
1	10.942	23000.00	1034.20	1043.39	1039.41	1043.72	0.001437	4.65	5308.84	1445.38	0.31
1	11.029	23000.00	1034.70	1044.12	1040.69	1044.40	0.001513	4.26	5452.60	1374.60	0.31
1	11.128	23000.00	1036.10	1044.82	1040.56	1044.94	0.000705	2.72	8300.24	1486.46	0.20
1	11.224	23000.00	1038.10	1045.26	1042.85	1045.61	0.002563	5.04	5010.84	1065.89	0.39
1	11.325	23000.00	1039.40	1046.76	1046.18	1048.60	0.012434	10.90	2132.64	704.20	0.85
1	11.41	23000.00	1041.80	1050.82		1051.44	0.003070	6.33	3654.82	573.11	0.44
1	11.419	Bridge									
1	11.428	23000.00	1041.80	1052.26	1048.38	1052.94	0.002383	6.74	3682.98	569.23	0.40
1	11.46	26500.00	1041.30	1052.45	1049.54	1053.55	0.002408	8.51	3782.99	6590.67	0.52
1	11.557	26500.00	1041.70	1054.09	1050.01	1054.11	0.000199	2.71	33077.75	4070.72	0.15
1	11.653	26500.00	1043.10	1054.63	1054.63	1056.77	0.005076	12.80	5020.54	3885.50	0.76
1	11.75	26500.00	1043.20	1057.09	1056.27	1059.06	0.003815	12.03	4900.68	3315.64	0.67
1	11.847	26500.00	1044.60	1059.69	1057.70	1060.60	0.001630	8.79	9807.83	4078.37	0.45
1	11.9	26500.00	1045.20	1059.89	1056.88	1061.60	0.002851	11.06	5499.05	3287.75	0.58
1	11.943	26500.00	1046.70	1061.16	1059.83	1062.32	0.002127	9.79	8650.69	2691.46	0.51
1	12.042	26500.00	1048.50	1062.88	1060.96	1063.42	0.001504	7.95	13600.73	2882.53	0.42
1	12.141	26500.00	1049.30	1063.78	1061.53	1064.20	0.001378	7.53	14654.59	2693.17	0.40
1	12.247	26500.00	1050.70	1064.64	1061.64	1064.91	0.001125	6.32	16063.38	2589.82	0.36
1	12.359	26500.00	1051.70	1065.10	1060.26	1065.31	0.000495	4.51	15995.23	2401.33	0.25
1	12.42	26500.00	1054.00	1065.34	1058.79	1065.46	0.000289	2.87	12055.41	2246.73	0.18
1	12.47	26500.00	1054.90	1065.42	1061.45	1065.55	0.000460	3.23	10374.23	4706.06	0.22
1	12.529	26500.00	1056.10	1065.54	1061.28	1065.72	0.000503	3.63	9282.04	3644.13	0.23
1	12.63	26500.00	1056.20	1065.84	1062.64	1066.04	0.000685	3.97	8331.32	3003.01	0.27
1	12.725	26500.00	1056.60	1066.15	1063.67	1066.63	0.001708	5.75	5156.90	2041.52	0.42
1	12.816	26500.00	1057.40	1066.93	1064.73	1067.66	0.002332	6.92	3992.70	1953.19	0.49
1	12.913	26500.00	1058.60	1068.16	1066.17	1069.08	0.003032	7.72	3452.08	1589.89	0.55
1	13.007	26500.00	1062.00	1069.53	1067.75	1070.89	0.003847	9.41	2856.34	433.58	0.64
1	13.103	26500.00	1062.50	1071.45	1067.92	1072.18	0.001685	6.88	3904.96	575.89	0.43
1	13.2	26500.00	1063.00	1072.35	1067.50	1072.83	0.000921	5.61	4858.06	646.92	0.33
1	13.296	26500.00	1063.50	1072.90	1067.84	1073.26	0.000711	4.82	5592.38	766.64	0.29
1	13.395	26500.00	1064.00	1073.37		1074.00	0.002865	6.33	4186.17	894.77	0.52
1	13.45	26500.00	1063.80	1074.32		1074.59	0.001117	4.20	6409.97	1335.47	0.33
1	13.4585	Bridge									
1	13.467	26500.00	1064.10	1074.35	1072.06	1074.64	0.001426	4.35	6085.81	1357.19	0.36
1	13.518	26500.00	1064.20	1074.76	1074.06	1075.62	0.006042	7.56	3676.24	1240.01	0.71
1	13.565	26500.00	1065.80	1076.30		1076.94	0.004479	6.60	4325.92	1440.31	0.62
1	13.663	26500.00	1065.70	1078.44	1077.25	1078.97	0.003460	6.18	4865.16	1545.10	0.55
1	13.76	26500.00	1067.90	1080.24		1080.71	0.003349	5.85	5213.08	1656.52	0.54
1	13.856	26500.00	1071.20	1081.56	1079.61	1082.12	0.002223	6.60	5114.98	1584.71	0.47
1	13.952	26500.00	1073.30	1082.84	1081.87	1083.75	0.004308	7.90	3746.23	1112.67	0.64
1	14.049	26500.00	1074.50	1085.10	1083.86	1085.78	0.003601	6.82	4179.41	1342.67	0.57
1	14.145	26500.00	1076.90	1086.76	1084.86	1087.16	0.002029	5.18	5474.29	1731.16	0.43
1	14.24	26500.00	1080.30	1087.94	1086.58	1088.33	0.002713	5.23	5582.13	1937.86	0.48
1	14.335	26500.00	1079.80	1089.40	1088.27	1089.82	0.003281	5.51	5461.44	2024.21	0.53
1	14.43	26500.00	1083.20	1090.93	1089.60	1091.35	0.002821	5.47	5639.51	2158.45	0.50
1	14.525	26500.00	1083.20	1092.18	1090.08	1092.49	0.001806	4.80	6192.31	1876.69	0.41
1	14.619	26500.00	1086.30	1093.25	1092.29	1093.93	0.004311	6.90	4379.52	1830.16	0.62
1	14.708	26500.00	1088.40	1095.11	1094.16	1095.72	0.003370	6.70	5073.20	2307.34	0.56

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	14.809	26500.00	1087.10	1096.54	1094.29	1097.23	0.002378	6.72	4198.01	1771.74	0.49
1	14.905	26500.00	1088.60	1097.80	1094.94	1098.15	0.001329	5.07	5991.89	1778.52	0.37
1	15	26500.00	1088.80	1098.58	1096.79	1099.04	0.002298	5.85	5227.47	1333.79	0.47
1	15.094	26500.00	1089.90	1099.72	1097.84	1100.37	0.002897	6.57	4139.96	906.67	0.52
1	15.188	26500.00	1089.00	1101.01	1099.08	1101.92	0.003064	7.69	3599.40	783.41	0.56
1	15.281	26500.00	1092.60	1102.44	1101.06	1103.76	0.003999	9.77	3259.77	713.31	0.65
1	15.374	26500.00	1093.80	1104.11	1103.18	1105.86	0.004173	11.19	2864.45	560.79	0.68
1	15.469	26500.00	1095.20	1106.48	1103.58	1107.22	0.001688	7.73	4243.36	608.37	0.45
1	15.564	26500.00	1096.20	1107.45	1104.26	1108.10	0.001814	7.80	4362.99	659.39	0.46
1	15.658	26500.00	1097.10	1108.51		1109.07	0.001964	6.84	4522.57	727.64	0.46
1	15.719	26500.00	1093.70	1109.11		1109.75	0.001882	7.71	4369.08	659.79	0.45
1	15.814	26500.00	1094.40	1109.93		1110.99	0.002636	9.61	3702.34	652.67	0.55
1	15.909	26500.00	1097.80	1111.33		1111.89	0.001207	6.98	4949.94	720.70	0.38
1	16.004	26500.00	1099.70	1112.03		1112.41	0.000843	5.88	5868.19	808.13	0.32
1	16.099	26500.00	1100.80	1112.43		1112.91	0.001041	6.45	5398.95	835.58	0.35
1	16.195	26500.00	1100.80	1112.83		1113.69	0.001674	7.65	3746.13	514.67	0.44
1	16.289	26500.00	1100.80	1113.67		1114.55	0.001750	7.56	3550.36	441.52	0.45
1	16.385	26500.00	1103.70	1114.64	1114.64	1117.16	0.009343	12.76	2124.14	465.97	0.96
1	16.471	29000.00	1105.40	1117.88		1118.99	0.002097	8.57	3504.76	424.93	0.50
1	16.482	29000.00	1105.60	1118.43		1119.20	0.001409	7.07	4337.27	716.35	0.41
1	16.494	Bridge									
1	16.506	29000.00	1105.40	1118.62	1114.60	1119.44	0.001626	7.28	4017.93	539.46	0.43
1	16.514	29000.00	1105.70	1118.52		1119.70	0.002358	8.82	3480.41	545.81	0.52
1	16.516	Bridge									
1	16.518	29000.00	1105.70	1120.23	1115.72	1121.12	0.001857	7.62	3965.67	433.29	0.42
1	16.612	29000.00	1108.30	1121.13	1116.45	1122.04	0.001834	7.67	3847.87	1184.06	0.41
1	16.707	29000.00	1109.70	1122.08	1117.17	1122.96	0.001829	7.54	3876.32	1271.65	0.41
1	16.801	29000.00	1108.90	1123.03	1117.66	1123.80	0.001523	7.15	4229.85	1213.70	0.38
1	16.895	29000.00	1109.80	1123.75	1118.62	1124.62	0.001685	7.51	3908.61	712.23	0.40
1	16.99	29000.00	1110.90	1124.57	1119.61	1125.56	0.001913	8.02	3665.59	915.19	0.43
1	17.085	29000.00	1111.50	1125.64	1121.40	1126.56	0.002062	7.72	3812.53	1358.50	0.43
1	17.18	29000.00	1112.20	1126.70	1122.41	1127.64	0.002242	7.79	3839.41	1324.96	0.45
1	17.277	29000.00	1113.70	1128.08	1122.66	1128.29	0.000617	4.17	8454.17	2484.90	0.24
1	17.37	29000.00	1115.20	1128.42	1122.82	1128.64	0.000669	4.35	8563.92	3033.89	0.25
1	17.458	29000.00	1116.50	1128.79	1124.28	1129.05	0.001074	4.32	7381.95	2412.34	0.29
1	17.548	29000.00	1122.00	1129.39	1126.35	1129.82	0.002366	5.47	5645.35	2210.25	0.42
1	17.638	29000.00	1130.00	1133.39	1133.39	1134.76	0.019208	10.17	3108.24	1968.84	1.07
1	17.73	29000.00	1130.00	1137.52	1136.39	1138.34	0.003822	7.76	4907.72	5396.41	0.55
1	17.821	29000.00	1130.00	1138.91	1135.87	1139.47	0.001545	6.56	6133.19	5138.60	0.41
1	17.91	29000.00	1130.00	1139.70	1135.56	1139.97	0.000717	4.76	9320.27	3588.11	0.29
1	18	29000.00	1130.00	1140.08	1135.79	1140.38	0.001013	5.08	8266.29	2685.58	0.33
1	18.093	29000.00	1130.10	1140.62	1138.10	1141.08	0.001762	6.09	6177.45	2592.84	0.43
1	18.182	29000.00	1129.80	1141.44	1139.56	1142.11	0.002393	7.35	5267.23	2330.54	0.50
1	18.275	29000.00	1130.10	1142.66	1141.09	1143.35	0.002597	7.44	5497.90	2512.52	0.52
1	18.369	29000.00	1134.40	1144.42	1143.97	1145.26	0.005695	8.95	4756.24	2527.33	0.73
1	18.464	29000.00	1138.50	1146.91	1145.56	1147.37	0.003111	6.73	5916.01	2633.21	0.54
1	18.558	29000.00	1142.10	1148.47	1147.36	1149.05	0.003546	6.85	5218.51	2625.51	0.57
1	18.653	29000.00	1143.00	1150.11	1148.79	1150.80	0.003382	7.19	4767.13	2424.43	0.57
1	18.748	29000.00	1143.50	1151.69	1150.29	1152.62	0.003700	8.24	4274.31	2209.78	0.61

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	18.839	29000.00	1144.60	1153.15	1150.13	1153.76	0.001606	6.48	5215.55	2218.78	0.42
1	18.937	29000.00	1146.80	1154.22	1151.16	1154.56	0.001491	5.41	6401.42	1987.51	0.39
1	18.962	29000.00	1147.30	1154.40	1151.88	1154.83	0.002084	6.07	5755.37	1092.13	0.45
1	18.97	Bridge									
1	18.978	27000.00	1147.60	1154.44	1152.35	1154.89	0.002419	6.21	5233.68	1095.25	0.48
1	19.066	27000.00	1149.40	1155.71	1154.50	1156.36	0.003875	7.48	4627.69	1340.85	0.60
1	19.162	27000.00	1150.90	1157.65	1156.51	1158.26	0.003702	7.38	5086.67	2117.78	0.59
1	19.256	27000.00	1153.60	1159.72	1159.57	1160.82	0.006944	10.29	3902.70	1716.40	0.81
1	19.352	27000.00	1154.60	1162.31		1162.74	0.002307	6.84	6550.83	2525.24	0.49
1	19.446	27000.00	1155.90	1163.45	1161.48	1163.84	0.002166	6.06	6445.04	2161.32	0.46
1	19.542	27000.00	1157.00	1164.61		1165.02	0.002528	6.60	6124.14	2134.69	0.50
1	19.635	27000.00	1159.10	1165.96		1166.32	0.002705	5.71	6151.12	1999.52	0.49
1	19.732	27000.00	1160.90	1167.36		1167.79	0.003096	6.23	5705.84	1919.24	0.53
1	19.827	27000.00	1163.20	1169.09		1169.45	0.003520	6.28	6138.58	2300.21	0.56
1	19.92	27000.00	1164.00	1170.55		1170.84	0.002328	5.40	6796.10	2186.97	0.46
1	20.015	27000.00	1166.10	1171.87		1172.29	0.003507	6.63	5779.26	1944.37	0.56
1	20.111	27000.00	1166.80	1173.42		1173.84	0.002781	6.48	5916.94	1860.81	0.51
1	20.207	27000.00	1167.20	1174.73		1175.29	0.002908	7.28	5284.66	1603.42	0.54
1	20.294	27000.00	1166.70	1175.97		1176.44	0.002232	6.87	5916.93	1758.23	0.48
1	20.343	27000.00	1168.70	1176.63		1177.12	0.003080	7.25	5880.40	2095.96	0.55
1	20.388	27000.00	1168.90	1177.26	1176.00	1177.98	0.004050	8.15	4699.98	1914.45	0.63
1	20.435	27000.00	1168.80	1178.12	1177.18	1179.07	0.004027	8.90	4221.14	1511.75	0.64
1	20.483	27000.00	1169.80	1179.17		1179.89	0.002562	7.24	4666.14	1519.80	0.51
1	20.579	27000.00	1171.90	1180.54		1181.46	0.003541	8.16	4012.95	1179.90	0.60
1	20.675	27000.00	1171.30	1182.02	1180.17	1182.95	0.002510	8.55	4569.07	1451.18	0.53
1	20.769	25410.00	1173.10	1183.48	1180.93	1183.94	0.001498	6.13	5640.41	1720.05	0.40
1	20.864	25410.00	1176.00	1184.26	1182.13	1184.81	0.001959	6.53	5127.97	1905.93	0.45
1	20.958	25410.00	1176.60	1185.28	1183.56	1185.85	0.002311	6.46	4760.83	1671.49	0.48
1	21.061	25410.00	1176.50	1186.34	1183.78	1187.19	0.002388	7.52	3698.19	1719.38	0.50
1	21.157	25410.00	1176.60	1188.04	1184.69	1188.30	0.001763	4.10	6300.12	1903.44	0.30
1	21.245	25410.00	1184.00	1189.07	1187.19	1189.60	0.005152	5.35	4376.24	2212.60	0.47
1	21.337	25410.00	1180.00	1189.97	1182.96	1190.08	0.000395	2.74	9826.99	1635.35	0.15
1	21.431	25410.00	1181.00	1189.96	1187.04	1190.87	0.010857	7.66	3371.72	1289.78	0.68
1	21.524	25410.00	1182.00	1192.33	1186.76	1192.60	0.001629	4.17	6103.26	1554.29	0.29
1	21.621	25410.00	1182.50	1192.91	1185.98	1193.06	0.000556	3.32	8310.85	996.81	0.18
1	21.716	25410.00	1183.10	1193.21	1190.37	1193.71	0.003172	6.00	4740.27	969.98	0.40
1	21.798	25410.00	1188.00	1194.87	1193.75	1195.65	0.006217	7.81	3734.11	973.90	0.73
1	21.893	25410.00	1187.40	1197.51	1196.16	1198.33	0.004537	7.84	3904.08	1596.22	0.65
1	21.986	25410.00	1191.80	1199.75	1198.35	1200.26	0.003389	7.16	5217.04	2969.45	0.57
1	22.082	25410.00	1194.90	1200.96	1195.25	1201.09	0.000909	3.25	9080.02	2105.37	0.28
1	22.177	25410.00	1196.00	1201.41	1200.52	1202.18	0.005126	7.68	3883.81	1539.70	0.67
1	22.273	25410.00	1197.60	1203.65	1202.40	1204.42	0.003865	7.26	3782.77	1296.62	0.60
1	22.368	23960.00	1198.50	1205.60		1205.87	0.002105	4.83	6221.29	1729.92	0.43
1	22.462	23960.00	1200.30	1206.73		1206.98	0.002590	4.92	6115.33	2081.56	0.47
1	22.558	23960.00	1203.40	1208.34		1209.21	0.008685	8.99	3661.22	1686.91	0.85
1	22.651	23960.00	1204.90	1210.99		1211.25	0.002397	5.18	6323.23	2339.78	0.46
1	22.745	23960.00	1206.30	1212.32		1212.66	0.003865	6.22	5707.31	2549.81	0.58
1	22.839	23960.00	1208.70	1213.93		1214.20	0.002857	5.45	6278.32	2735.18	0.50
1	22.935	23960.00	1209.50	1215.18		1215.40	0.002284	4.26	6643.34	2687.87	0.43

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	23.029	23960.00	1211.80	1216.64	1215.64	1217.02	0.005491	6.49	5355.56	2815.77	0.66
1	23.124	23960.00	1213.90	1218.82	1217.40	1219.09	0.003498	5.45	5921.43	2719.14	0.54
1	23.219	23960.00	1214.70	1220.55	1219.12	1220.85	0.003560	5.30	5740.09	2935.12	0.54
1	23.314	23960.00	1216.10	1222.56	1221.75	1223.07	0.005323	7.76	4856.94	3447.45	0.68
1	23.409	23960.00	1218.80	1224.85	1223.50	1225.23	0.003637	6.24	5256.63	3396.54	0.56
1	23.504	23960.00	1220.80	1226.60	1224.95	1226.86	0.002979	4.53	5935.01	3358.99	0.48
1	23.598	23960.00	1221.40	1228.02	1226.43	1228.40	0.003132	5.92	5479.41	3212.06	0.53
1	23.692	23960.00	1223.80	1229.73	1229.27	1230.47	0.005373	8.05	4238.34	3376.86	0.69
1	23.79	22510.00	1224.20	1232.04	1230.62	1232.42	0.002723	5.97	5512.28	3141.17	0.50
1	23.881	22510.00	1225.10	1233.26	1232.05	1233.82	0.002949	6.75	4648.08	3476.72	0.53
1	23.974	22510.00	1227.50	1235.24	1233.85	1235.61	0.004449	5.77	4879.74	3295.86	0.45
1	24.067	22510.00	1229.30	1236.89	1234.36	1237.06	0.002024	3.67	7025.39	3649.31	0.30
1	24.165	22510.00	1231.40	1237.75	1235.66	1237.95	0.001478	4.38	7264.00	3796.36	0.37
1	24.212	22510.00	1231.30	1238.17	1236.40	1238.36	0.001854	4.66	7429.65	3859.93	0.41
1	24.26	22510.00	1231.70	1238.65	1236.78	1238.78	0.001505	3.62	8187.31	3584.55	0.35
1	24.353	22510.00	1233.60	1239.48	1238.21	1239.67	0.002109	4.06	7030.65	3113.92	0.41
1	24.449	22510.00	1235.00	1240.87		1241.23	0.004492	5.86	5275.74	2710.53	0.60
1	24.543	22510.00	1237.60	1242.93		1243.18	0.003379	4.80	5784.87	2680.89	0.51
1	24.631	22510.00	1239.80	1244.72		1244.99	0.004656	4.74	5709.01	3101.89	0.58
1	24.721	22510.00	1241.10	1246.67		1246.87	0.003461	4.13	6878.33	3722.21	0.50
1	24.816	22510.00	1241.80	1248.38		1248.57	0.003561	4.53	6959.08	3662.76	0.52
1	24.91	22510.00	1244.70	1250.06		1250.23	0.003259	3.51	7025.73	3645.62	0.47
1	24.996	22510.00	1246.30	1251.69		1251.93	0.004504	5.07	6257.78	3277.05	0.58
1	25.098	22510.00	1249.70	1254.07		1254.29	0.004423	5.03	6365.54	3262.73	0.57
1	25.192	21060.00	1250.00	1255.78	1254.82	1256.09	0.002834	5.71	6117.80	3065.34	0.56
1	25.288	21060.00	1251.30	1257.25		1257.98	0.004381	7.77	4247.49	2319.47	0.72
1	25.382	21060.00	1253.70	1259.10		1259.76	0.003013	7.14	4415.65	2226.44	0.61
1	25.478	21060.00	1253.90	1260.60		1261.53	0.003802	8.78	3550.69	1550.48	0.70
1	25.526	21060.00	1253.70	1261.66	1260.58	1262.32	0.002446	7.76	4398.16	1871.22	0.57
1	25.572	21060.00	1254.70	1262.15	1261.11	1262.95	0.002340	8.42	4124.66	1344.29	0.58
1	25.666	21060.00	1255.40	1263.26		1264.07	0.002211	8.30	3941.18	1070.49	0.56
1	25.691	21060.00	1258.00	1264.59		1265.15	0.002400	6.38	4254.96	1593.61	0.54
1	25.72	21060.00	1257.80	1266.01	1266.01	1267.11	0.004772	11.42	3951.52	1599.39	0.81
1	25.79	21060.00	1258.80	1267.63		1268.16	0.001859	8.40	5576.55	1753.23	0.53
1	25.86	21060.00	1260.00	1267.97		1269.43	0.003432	10.37	2935.14	1182.54	0.70
1	25.94	21060.00	1264.20	1271.52	1271.52	1272.34	0.005913	10.24	5163.38	2694.58	0.77
1	26.03	21060.00	1266.30	1273.65		1273.85	0.002202	4.92	7736.37	3150.30	0.44
1	26.12	21060.00	1267.60	1274.73		1274.92	0.002542	5.24	7656.76	3030.34	0.47
1	26.2	21060.00	1269.20	1276.32		1276.76	0.006471	7.30	5080.12	2235.10	0.73
1	26.29	21060.00	1271.60	1278.54		1278.97	0.003986	6.76	5845.80	2850.05	0.59
1	26.37	21060.00	1271.90	1280.15		1280.46	0.002572	6.31	7498.02	3347.09	0.50
1	26.47	19610.00	1275.30	1281.59		1282.00	0.003797	6.43	5037.07	1957.98	0.58
1	26.55	19610.00	1276.60	1283.36		1283.78	0.004538	6.80	4892.60	1740.82	0.63
1	26.63	19610.00	1279.50	1285.15		1285.40	0.002757	5.52	6465.18	3069.27	0.49
1	26.73	19610.00	1279.80	1286.28	1284.51	1286.80	0.002720	7.51	5121.72	1408.13	0.53
1	26.83	19610.00	1282.30	1287.74		1288.62	0.005551	9.58	4035.69	2026.00	0.74
1	26.94	19610.00	1282.10	1289.69		1290.27	0.002008	7.35	6179.57	3227.05	0.47
1	27.03	19610.00	1283.40	1290.73		1291.28	0.002549	7.65	4339.15	1042.60	0.52
1	27.11	19610.00	1288.00	1291.91		1292.11	0.002224	4.81	6037.84	2082.86	0.44
1	27.19	19610.00	1287.80	1293.11		1293.42	0.002514	6.16	5860.07	1873.26	0.49

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	27.3	19610.00	1289.20	1294.78		1295.13	0.002893	6.58	5894.96	2261.37	0.52
1	27.39	19610.00	1290.30	1296.47		1296.90	0.002980	7.71	5708.31	2569.27	0.55
1	27.48	19610.00	1291.50	1298.22		1298.65	0.003221	7.50	5641.20	2463.96	0.56
1	27.58	19610.00	1294.20	1300.13		1300.38	0.002432	6.14	6274.03	2241.65	0.48
1	27.68	19610.00	1294.70	1301.82		1302.32	0.005011	8.02	4580.03	1980.46	0.68
1	27.77	19610.00	1297.40	1303.98		1304.44	0.003880	7.42	4699.52	1843.87	0.60
1	27.86	18150.00	1297.50	1305.41		1305.88	0.002375	6.74	4889.90	1963.54	0.49
1	27.94	18150.00	1299.10	1306.83		1307.34	0.005179	7.75	3978.63	1656.55	0.68
1	28.04	18150.00	1303.60	1308.92		1309.18	0.002479	5.74	5545.15	2017.16	0.48
1	28.12	18150.00	1304.60	1310.12		1310.75	0.004446	8.75	3916.92	1463.33	0.66
1	28.21	18150.00	1304.40	1311.71	1310.16	1312.19	0.002136	6.74	4408.96	1375.05	0.47
1	28.31	18150.00	1305.90	1312.87		1313.56	0.003512	8.49	3860.21	1405.77	0.60
1	28.39	18150.00	1306.70	1314.32		1314.87	0.002597	7.64	4291.13	1475.68	0.52
1	28.45	18150.00	1306.70	1315.22	1314.05	1316.16	0.004038	8.86	3032.67	1089.64	0.64
1	28.52	18150.00	1307.10	1316.55	1314.56	1317.43	0.003113	8.54	3337.98	1116.65	0.58
1	28.58	18150.00	1309.00	1317.64	1315.24	1318.29	0.001970	6.89	3533.62	1069.08	0.46
1	28.67	18150.00	1311.50	1318.59	1317.58	1319.56	0.003824	9.09	3104.38	1040.83	0.63
1	28.76	18150.00	1312.50	1320.15		1321.24	0.003520	8.77	2761.73	968.48	0.60
1	28.86	18150.00	1313.10	1322.06	1321.49	1323.32	0.005001	9.80	2538.27	974.04	0.71
1	28.95	18150.00	1312.30	1324.54		1325.23	0.003539	7.29	3254.04	1122.87	0.58
1	29.04	18150.00	1317.20	1326.03		1326.44	0.001861	5.81	4452.22	1345.08	0.43
1	29.14	16700.00	1319.40	1327.06		1327.45	0.002547	5.85	4149.16	1501.89	0.49
1	29.23	16700.00	1321.40	1328.28		1328.64	0.002585	5.62	4051.69	1304.11	0.48
1	29.3	16700.00	1322.30	1329.55		1330.51	0.008219	8.72	2504.09	1025.51	0.83
1	29.39	16700.00	1324.60	1331.78		1332.19	0.002115	5.48	3786.47	1144.48	0.45
1	29.47	16700.00	1324.10	1332.63		1333.21	0.002272	6.45	3294.26	996.84	0.48
1	29.54	16700.00	1326.70	1333.38		1334.48	0.003914	8.79	2360.72	720.77	0.63
1	29.611	16700.00	1328.90	1335.15	1334.92	1336.45	0.007281	9.96	2217.79	746.59	0.82
1	29.6175	Bridge									
1	29.624	16700.00	1328.50	1337.54	1335.31	1337.92	0.001319	5.54	4268.55	1013.67	0.37
1	29.72	16700.00	1330.50	1338.33	1336.18	1338.74	0.002174	5.64	3930.78	1222.66	0.41
1	29.8	16700.00	1331.20	1339.23		1339.46	0.001132	4.44	4540.98	773.70	0.30
1	29.89	16700.00	1331.60	1339.80		1340.00	0.001283	3.96	4684.95	737.23	0.31
1	29.99	16700.00	1332.90	1340.57		1341.53	0.007418	9.45	2325.23	539.91	0.74
1	30.07	16700.00	1334.40	1343.31		1344.06	0.004008	7.99	2673.48	580.95	0.56
1	30.17	16700.00	1335.60	1344.97		1345.39	0.001663	6.01	3566.42	565.62	0.38
1	30.26	16700.00	1338.90	1345.91		1346.27	0.001933	5.33	3691.23	716.36	0.39
1	30.36	16700.00	1341.20	1347.08		1347.73	0.003838	7.10	2957.06	775.29	0.54
1	30.46	16700.00	1341.20	1348.86		1349.59	0.003514	7.13	2675.81	612.38	0.52
1	30.55	15250.00	1343.40	1350.45		1351.04	0.002345	6.17	2537.22	517.65	0.43
1	30.65	15250.00	1343.70	1351.88		1352.90	0.004863	8.95	2021.09	392.83	0.62
1	30.73	15250.00	1345.20	1353.55		1354.55	0.003231	8.50	2154.04	393.65	0.53
1	30.82	15250.00	1345.20	1355.34		1355.76	0.001875	5.84	3231.30	631.63	0.39
1	30.92	15250.00	1346.00	1356.26		1356.59	0.001336	5.30	3976.11	774.64	0.34
1	31.01	15250.00	1349.50	1357.06		1357.63	0.002744	6.68	2962.41	749.46	0.47
1	31.11	15250.00	1349.40	1358.51		1359.18	0.003505	7.44	2787.04	819.16	0.53
1	31.2	15250.00	1349.90	1360.28		1360.60	0.002190	5.88	3941.12	938.67	0.41
1	31.29	15250.00	1355.50	1361.61		1362.26	0.006056	7.78	2666.96	793.77	0.65
1	31.39	15250.00	1356.80	1363.99		1364.30	0.002710	5.35	3697.20	906.34	0.44

Reach	River Sta	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
1	31.49	15250.00	1359.50	1365.55		1365.91	0.003098	5.46	3375.06	834.05	0.46
1	31.59	15250.00	1360.10	1366.90		1367.19	0.002088	4.98	3630.45	713.96	0.39
1	31.67	15250.00	1361.10	1367.80		1368.07	0.001806	4.65	3762.44	728.94	0.36
1	31.77	15250.00	1363.00	1368.84		1369.20	0.002808	5.54	3230.03	645.26	0.45
1	31.86	15250.00	1365.30	1370.30		1370.66	0.002890	5.11	3210.62	688.23	0.45
1	31.96	13800.00	1364.30	1371.49		1371.91	0.002082	5.61	3010.32	658.79	0.40
1	32.05	13800.00	1362.20	1372.51		1373.02	0.002241	6.32	2831.30	638.67	0.43
1	32.15	13800.00	1366.20	1373.95		1374.58	0.004649	7.15	2527.70	758.67	0.58
1	32.24	13800.00	1366.90	1375.89		1376.30	0.003103	5.85	2917.14	711.50	0.47
1	32.34	13800.00	1368.20	1377.63		1378.05	0.003713	5.03	2639.78	630.02	0.44
1	32.43	13800.00	1370.70	1378.74	1374.51	1378.94	0.000952	3.10	3877.73	599.54	0.24
1	32.52	13800.00	1372.40	1379.32	1376.65	1379.75	0.002490	5.51	2728.83	577.81	0.39
1	32.58	13800.00	1370.50	1380.05	1376.23	1380.57	0.002452	6.01	2406.01	411.75	0.40
1	32.64	13800.00	1366.20	1380.78	1376.00	1381.20	0.001906	5.29	2666.63	416.41	0.35
1	32.72	13800.00	1363.80	1381.30	1376.66	1382.11	0.002494	7.72	2005.20	307.85	0.41
1	32.79	13800.00	1367.20	1382.22		1383.19	0.002937	7.96	1807.19	249.59	0.45
1	32.86	13800.00	1374.90	1383.85	1383.85	1385.83	0.014495	11.85	1281.18	334.58	0.92
1	32.92	13800.00	1381.00	1387.75	1386.47	1388.96	0.007105	8.97	1615.32	326.53	0.66
1	32.979	13800.00	1379.70	1389.93	1389.24	1391.97	0.011114	11.96	1215.83	207.64	0.83
1	32.984	13800.00	1378.40	1390.54	1389.61	1392.27	0.008405	13.02	1406.22	245.77	0.76
1	32.9885	Bridge									
1	32.993	13800.00	1378.40	1391.76	1389.61	1392.92	0.004848	10.75	1718.17	265.98	0.59
1	32.998	13800.00	1381.40	1391.68	1390.52	1393.20	0.008815	9.89	1400.60	249.35	0.73
1	33.06	13800.00	1384.00	1393.90		1394.33	0.001744	4.53	2670.63	343.08	0.30
1	33.12	13800.00	1384.40	1394.48		1394.61	0.000520	2.83	4672.71	557.31	0.17
1	33.19	13800.00	1385.80	1394.68		1394.87	0.001218	3.70	3863.38	668.95	0.25
1	33.25	13800.00	1385.20	1394.89	1393.84	1395.90	0.007637	8.57	1759.36	639.99	0.62
1	33.29	13800.00	1380.30	1396.52	1394.74	1397.47	0.006180	8.06	1764.74	568.50	0.55
1	33.3	13800.00	1380.40	1397.26		1397.65	0.001274	5.04	2759.87	314.00	0.27
1	33.36	13800.00	1381.90	1397.62		1398.14	0.001738	6.14	2546.37	332.22	0.32
1	33.41	13800.00	1386.90	1398.19		1398.77	0.002837	6.12	2254.06	293.86	0.39
1	33.46	9000.00	1381.90	1399.02		1399.20	0.000655	3.37	2726.22	351.17	0.19
1	33.54	9000.00	1384.40	1399.30		1399.55	0.001084	3.98	2260.92	273.33	0.24
1	33.63	9000.00	1384.00	1399.90		1400.33	0.001970	5.28	1703.55	209.44	0.33
1	33.73	9000.00	1390.50	1401.09		1401.86	0.004717	7.39	1337.58	261.59	0.49
1	33.82	9000.00	1387.40	1402.69		1403.20	0.001676	5.73	1572.79	159.61	0.31