Hydrologic/Hydraulic Report

Barre City WACR(22) - Bridge 308 over Stevens Branch

WACR Montpelier Barre Subdivision MP 6.9, Barre City, VT

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Author:	John Blackburn
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Jacobs Engineering Group Inc.

2 Executive Park Drive, 2nd Floor
Bedford, New Hampshire 03110
United States
T +1.603.666.7181

www.jacobs.com

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1.0 Executive Summary

A hydrologic/hydraulic analysis was completed for Bridge 308, which is located on the Vermont Rail System, WACR Montpelier Barre Subdivision at Mile Post 6.9 in Barre City, Vermont. The existing bridge and several repair, replacement, and removal alternatives were evaluated. The bridge is currently closed to rail traffic as a result of ice damage to one of the piers in 2019.

The intent of this hydrologic/hydraulic report is to provide hydraulic data for several various proposed alternatives. This report makes no recommendations regarding future plans for Bridge 308. In addition, this report analyzed the hydraulic conditions of Stevens Branch in the immediate vicinity of Bridge 308 only. The analysis does not include other structures upstream or downstream of Bridge 308, nor does it include identify, analyze, and recommended solutions to flooding issues along Stevens Branch in Barre City.

Bridge 308 has a span length of 89'-3" from center to center of bearings with three 29'-0" spans. The bridge superstructure consists of an open timber deck supported by rolled steel beams. The bridge substructure consists of two timber pile bents with concrete backwall abutments. The bridge was constructed in 1950 and was rehabilitated in 2013.

The area bounding the river in the vicinity of Bridge 308 is located within Zone AE, as delineated by the National Flood Insurance Program (NFIP). The Flood Profile for Stevens Branch included in the FEMA Flood Insurance Study (FIS) indicates an elevation of approximately 89.7 at Bridge 308 for the 1% Annual Chance Flood (100-year flood).

A hydrologic analysis of the upstream watershed was completed to determine flow rates at the bridge by using various analytical methods described in the VTrans Hydraulic Manual and comparing those to peak discharges published in the FEMA Flood Insurance Study (FIS). The estimated peak discharge for the 1% Annual chance flood (100-year flood) is 12,400 cfs.

Hydraulic models of the existing bridge and several potential bridge alternatives were developed using HEC-RAS software. The 50%, 20%, 10%, 2%, 1%, and 0.2% Annual chance floods (2-year, 5-year, 10-year, 25-year, 50-year, and 100--year return frequencies) were included in the models. The alternatives include::

- Alternative #1: Existing bridge remains in place. Debris is not modeled.
- Alternative #1A: Existing bridge remains in place with debris modeling.
- Alternative #2: Replace damaged piers.
- Alternative #2A: Same as Alternative #2, with debris modeling
- Alternative #3: New 2 span bridge – one pier at the center of the span.
- Alternative #3A: Same as Alternative #3, with debris modeling.
- Alternative #4: New 1 span bridge – no piers.
- Alternative #5: Removal of the existing superstructure and piers.
- Alternative #6: Removal of the existing superstructure, piers, and abutments.

Alternative 1 is the existing conditions model without considering debris in the model. The 10%, 2%, 1%, and 0.2% floods all overtop the existing structure.

For Alternative 1A, the water surface elevation with debris modeling most impacted was in the smallest floods, the 50% and 20% Annual chance floods. The 10%, 2%, 1%, and 0.2% floods were not affected.

For Alternative 2, the water surface elevations for smaller floods decreased slightly compared to the existing bridge and have the same results for the 10% and greater annual chance of flood events.

Alternative 2A, which included debris modeling at the piers, resulted in water surface elevations that were identical or nearly identical to the elevations in Alternative 1A. Similar to 1A, the water surface elevations in larger floods were not affected when compared to Alternative 2.

With Alternative 3, the removal of one pier in the flow area results in less of an impact on water surface elevations in larger floods compared to smaller floods. The 10%, 2%, 1%, and 0.2% floods are expected to overtop the bridge structure. The water surface elevation decreased by 0.10 feet in the 50% flood.

Alternative 3A, which included debris modeling at the pier, resulted in a decrease in water surface elevation of 3.7 feet during the 50% flood compared to Alternative 1A. The water surface elevations in larger floods were not affected when compared to Alternative 3.

For Alternative 4, the water surface elevation at and upstream of the bridge decreased in all floods except for the 10% flood. This may be attributed to the deeper bridge superstructure. Water surface elevations in the smaller floods decreased, since there is no pier in the river.

For Alternative 5, bridge removal, the water surface elevations upstream of the bridge decreased in all floods. The 10% flood decreased by 0.02 feet while the 1% flood decreased by 0.13 feet.

Alternative 6 produced similar results as Alternative 5, as the existing abutments do not significantly obstruct the riverbanks.

The debris modeling performed in Alternatives 1A, 2A, and 3A indicates that water surface elevations in smaller floods such as the 50% and 20% floods are most impacted, while larger floods are not impacted. In the larger floods, the bridge is entirely inundated and water is flowing across the floodplain.

2.0 Introduction

2.1 Background

Located on the Vermont Rail System in Barre City, Vermont, Bridge 308 is a 3-span deck plate girder structure that crosses the Stevens Branch of the Winooksi River. The bridge was constructed in 1950 and was rehabilitated in 2013. Bridge 308 has a span length of 89'-3" from center to center of bearings. At the abutments and piers, the beams bear on steel bearings which are set on top of timber pile bents.

Previously, Jacobs completed an in-depth inspection and load rating report for Bridge 308 in 2013. In 2019 Jacobs completed an emergency inspection of Bridge 308, observing damage to the structure and prepared recommendations in a field observation report. A special inspection report was also completed for the bridge after being closed due to ice damage.

Since the ice damaged one of the timber pile bents, the bridge has been closed to rail traffic. The bridge provides railroad access to the Granite Industries of Vermont property located on the south side of Stevens Branch. The track terminates approximately 130 feet west of Bridge 308.

At Bridge 308, the area bounding the river is located within Zone AE, as delineated by the National Flood Insurance Program (NFIP). Zone AE areas are Special Flood Hazard Areas subject to inundation by the 1% Annual Chance Flood (100-year flood), with base flood elevations determined. The Flood Profile for Stevens Branch in the Flood Insurance Study indicates a flood elevation of 589.7 at Bridge 308 for the 1% Annual Chance Flood (100-year flood). A Firmette of the area is included in Appendix B and Flood Profiles are included in Appendix C.

Stevens Branch has a history of flooding in Barre City with a number of significant events since 1927. Most recently, in July 2023, Stevens Branch and the surrounding area flooded again after significant rainfall.

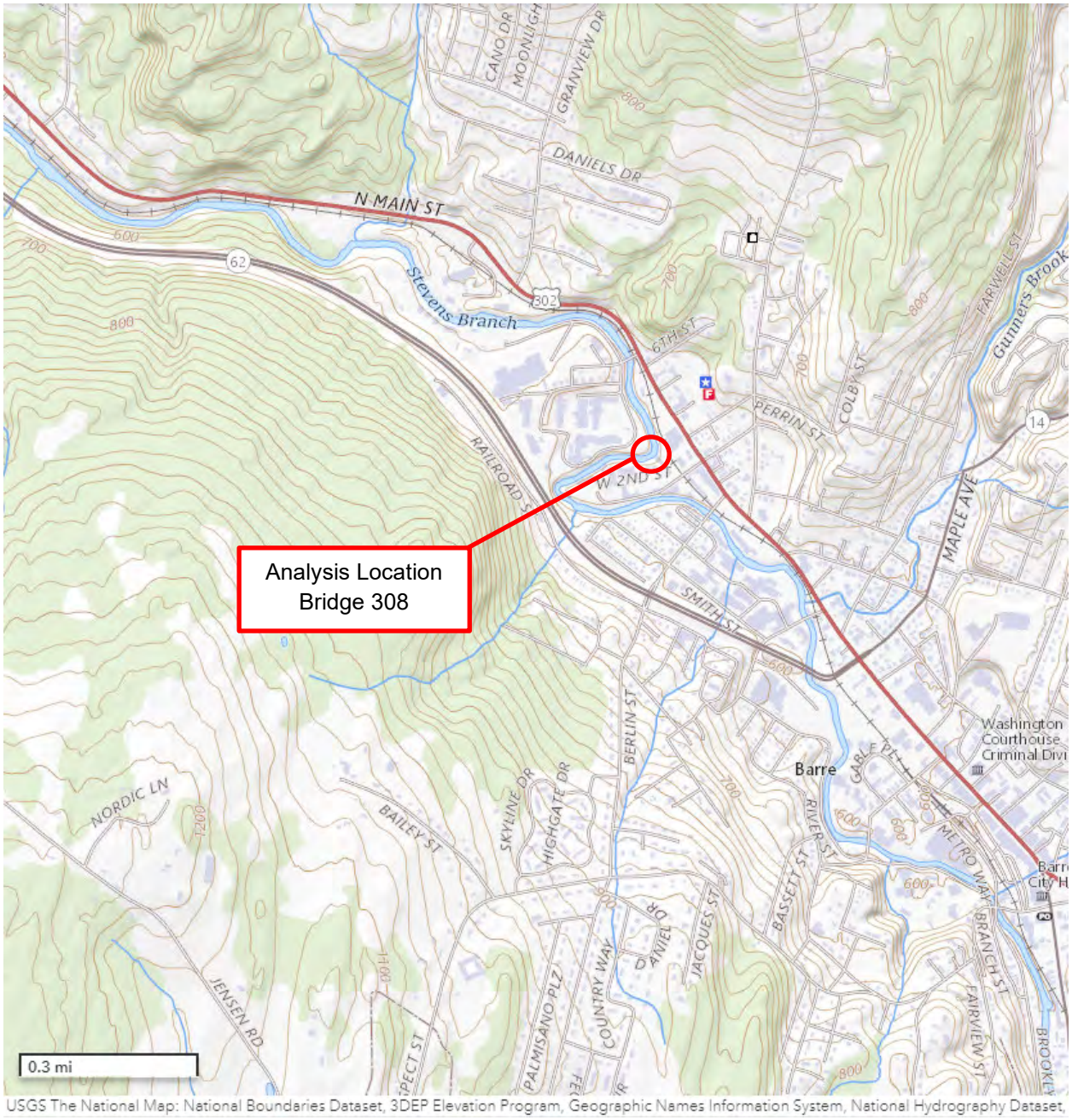
This report and the analyses included herein were prepared in accordance with the Hydraulic Manual, dated March 28, 2015 and published by the Vermont Agency of Transportation.

2.2 Site Location

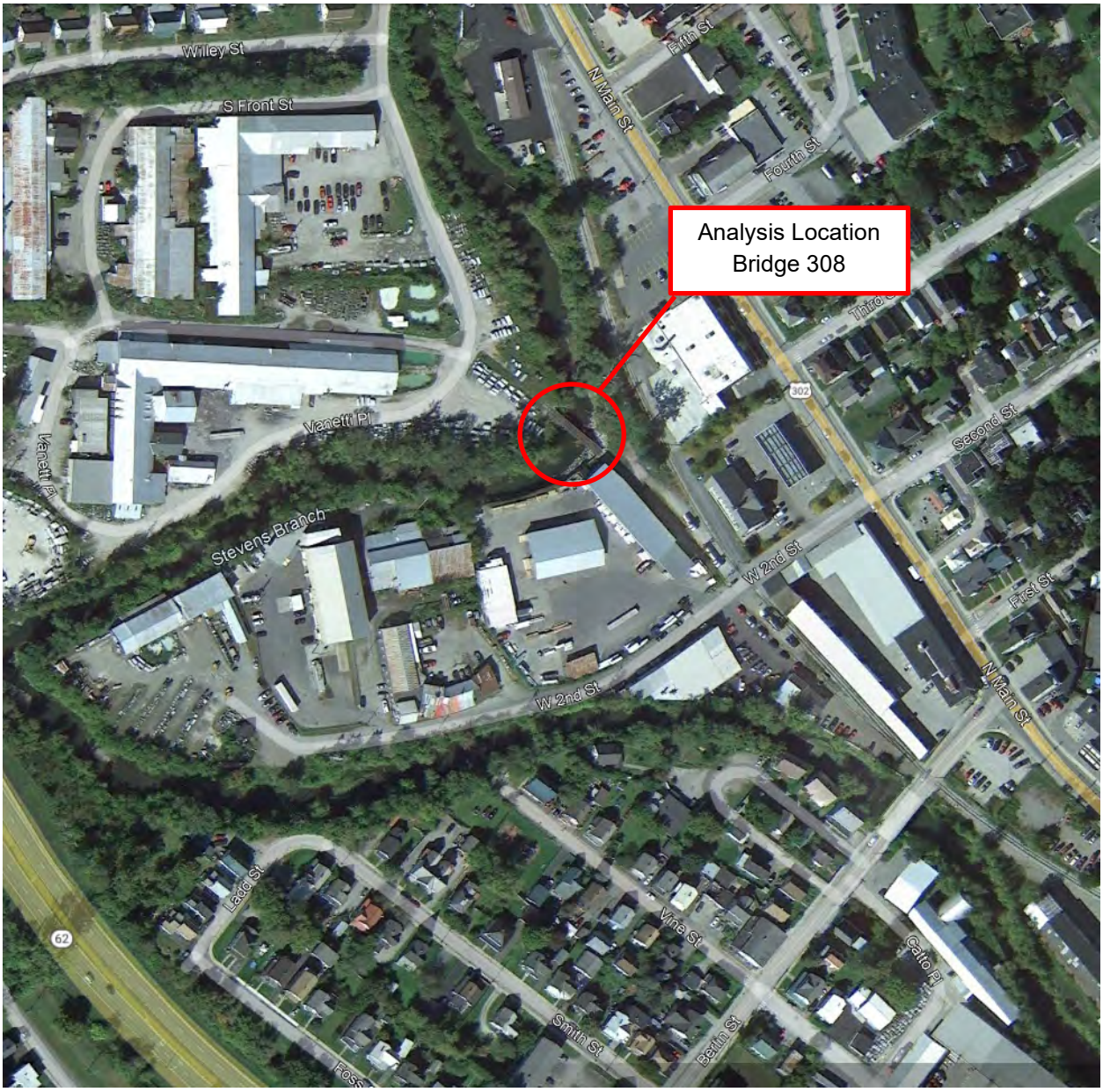
Bridge No. 308 is located along an 800 foot long siding on the WACR Montpelier Barre Subdivision at Mile Post 6.9 in Barre City. The siding terminates on the west side of Stevens Branch on the Granite Industries of Vermont property. The bridge is situated approximately 300 feet west of the W. 2nd Street railroad crossing.

A USGS map and aerial image showing the project location are included on the next page. Elevations in this report are based on NAVD 88.

Photos of Bridge 308 and Stevens Branch at the bridge are included in Appendix A.



USGS Quadrangle Map, Barre West, VT, 2018 (Source: USGS Map Service Center)



Aerial Photo (Source: Google Earth, 2022)

3.0 Data Sources and References

3.1 Data Sources

Data sources utilized for the hydrologic and hydraulic analysis of this project include:

- Topographic ground survey (provided by Vermont Agency of Transportation), performed in Spring 2023.
- USGS Topographic Map, Barre West, 2018, 7.5 Minute Series.
- National Flood Insurance Program (NFIP), Flood Insurance Study (FIS) 50023CV001A for Washington County, Vermont, March 19, 2013.
- National Flood Insurance Program (NFIP), Flood Insurance Rate Map (FIRM): Map Number 50023C0434E, Barre, VT March 19, 2013.
- StreamStats, USGS.

All elevations referenced in the report are in feet, vertical datum NAVD 88.

3.2 References

References utilized for the hydrologic and hydraulic analysis of this project include:

- Hydraulics Manual, May 28, 2015, published by Vermont Agency of Transportation.
- HEC-RAS River Analysis System, Hydraulic Reference Manual, version 6.4.1, June 2023, published by US Army Corps of Engineers Hydrologic Engineering Center.
- HEC-RAS Mapper User's Manual, December 2020, published by US Army Corps of Engineers Hydrologic Engineering Center.
- Hydraulic Engineering Circular No. 9 – Debris Control Structures, Evaluation and Countermeasures, Third Edition, October 2005, published by FHWA.

Uses of these references are discussed in further detail in the methodology portions of this report.

3.3 Design Criteria

Table 6-1 of the VTrans Hydraulics Manual lists the Minimum Design Frequency for various roadway classifications. For railroads, the Annual Exceedance Probability (AEP) used for design purposes is 2% (50 year return frequency).

Section 6.5.1.2 of the Hydraulics Manual defines freeboard, the vertical distance between the bottom of the bridge structure and the water surface elevation. The minimum freeboard required is 1.0 ft for the design frequency.

4.0 Hydrologic Analysis

4.1 Watershed Description

Stevens Branch is a tributary of the Winooski River. Stevens Branch originates in the town of Williamstown, and generally flows in a north to northwesterly direction through Barre Town, Barre City, and Berlin where it joins the Winooski River. The total length of Stevens Branch is approximately 13 miles, with a vertical drop of approximately 1,000 feet. Major tributaries of Stevens Branch include Martin Brook, Jail Branch, Gunners Brook, and Pond Brook.

As noted in the FEMA Flood Insurance Study, "The terrain of the Stevens Branch watershed is mountainous, and there are many steep-gradient tributary streams. Slopes vary from gently sloping to steep, and soils are moderately-drained to well-drained. The soils are loamy and silty with hardpan or bedrock in some locations."

4.2 River Channel and Floodplain

In the vicinity of Bridge 308, Stevens Branch is confined with steep banks on both sides of the river. Upstream of the bridge, there is a retaining wall along the east side of the river which supports the back parking lot of the adjacent Hutchins Roofing Company property. The wall is constructed of concrete and stone; the concrete segment extends south from the existing east bridge abutment for approximately 58 feet and then connects to the stone segment of the wall. On the north side of Stevens Branch upstream of the bridge, the bank slopes are wooded and typically range between 1(Horiz.):1(Vert.) and 1.5(Horiz.):1(Vert.). Downstream of the bridge, the riverbanks on both sides are wooded and typically range between 1(Horiz.):1(Vert.) and 1.5(Horiz.):1(Vert.). The river curves to the left as it flows under Bridge 308 from an easterly heading to a northerly heading. Stone riprap has been placed on the sloped banks in the vicinity of both bridge abutments in past years. The bottom of the river channel is generally clean with boulders and cobbles of various sizes, with no vegetative growth.

In the vicinity of Bridge 308, the Zone AE floodplain defined by FEMA extends into the surrounding neighborhoods. On the east side of Stevens Branch, the floodplain encompasses West Second Street and North Main Street. On the west side of Stevens Branch, the floodplain encompasses Vanetti Place and the Granite Industries of Vermont property. The floodplain areas are largely developed, with a mix of industrial, commercial, and residential properties.

4.3 Flood History

Stevens Branch has a history of flooding within the City of Barre and surrounding communities. Damaging flooding has occurred on a number of occasions since the 1927 Flood. Recent flooding events have occurred in July 2007, August 2011, July 2015, and July 2023.

Flood flow regulation is provided by the East Barre Dam, located on Jail Branch. The dam was constructed in 1936 and modified in 1961. The controls runoff from 38.8 square miles and discharges through a fixed opening near the base of the dam. Up to 12,000 acre-feet of storage is provided by the dam.

4.4 Hydrologic Study Approach

The VTrans Hydraulic Manual includes several methodologies for determining runoff rates. In addition, the FEMA Flood Insurance Study provides flow rates for various recurrence intervals. To determine estimated flow rates in Stevens Branch at Bridge 308, several different methods were

chosen and then compared to the flow rates published in the FIS. From Table 4.3 of the Hydraulic Manual, for a watershed of 95.1 square miles, the following methodologies are suitable:

- Bulletin 17B
- USGS Regression
- NETC Regression

For the USGS Regression and NETC Regression methods, USGS StreamStats was utilized to determine the size of the contributing watershed, annual precipitation, and percentage of standing water. The contributing watershed area is approximately 95.1 square miles. The StreamStats output is included in Appendix E. Appendix F contains hydrologic calculations using the two methods. Bulletin 17B was not used in this analysis, as there are no nearby gage sites. The nearest downstream site is on the Winooski River, while the nearest upstream site is approximately 6.22 miles upstream on Jail Branch.

Table 4 of the FIS provides peak charges for the 10%, 2%, 1%, and 0.2% Annual Chance Floods along Stevens Branch. Bridge 308 is situated between the two locations listed in Table 3.1.

Table 3.1 Peak Discharges published in the FIS for Stevens Branch

Location	Drainage Area (sq. miles)	Peak Discharges (cfs)			
		10% Annual Chance Flood (10-Year Flood)	2% Annual Chance Flood (50-Year Flood)	1% Annual chance Flood (100-Year Flood)	0.2% Annual Chance Flood (500-Year Flood)
At City of Barre – Town of Barre corporate limits	96.9	7,770	11,090	12,490	15,090
Below Gunners Brook in City of Barre	94.4	7,730	11,020	12,370	14,930

To determine peak discharges at Bridge 308, a linear interpolation was applied to the upstream and downstream peak discharges using the watershed area of 95.1 square miles determined by StreamStats. Calculated values were rounded to the nearest 10. The resultant estimated flow rates are listed in Table 3.2.

Table 3.2 Estimated Peak Discharges at Bridge 308 from FIS Flow Data

Location	Drainage Area (sq. miles)	Peak Discharges (cfs)			
		10% Annual Chance Flood (10-Year Flood)	2% Annual Chance Flood (50-Year Flood)	1% Annual Chance Flood (100-Year Flood)	0.2% Annual Chance Flood (500-Year Flood)
Bridge 308	95.1	7,740	11,040	12,400	14,980

Table 3.3 compares estimated flow rates from the USGS Regression method, NETC Regression method, and the FIS at Bridge 308.

Table 3.3 Comparison of Estimated Peak Discharges

Method	Peak Discharges (cfs)					
	50% Annual Chance Flood (2-Year Flood)	20% Annual Chance Flood (5-Year Flood)	10% Annual Chance Flood (10-Year Flood)	2% Annual Chance Flood (50-Year Flood)	1% Annual Chance Flood (100-Year Flood)	0.2% Annual Chance Flood (500-Year Flood)
USGS Regression (StreamStats)	2,401	3,609	4,511	6,927	8,092	11,311
NETC Regression	2,524	4,024	5,411	8,863	10,544	16,063
FEMA FIS (Estimated at Bridge 308)	N/A	N/A	7,740	11,040	12,400	14,980

The estimated peak discharge rates published in the FIS were higher for the 10%, 2%, and 1% Annual Chance Flood flow rates calculated by both the USGS Regression and NETC Regression methods. One important component of the watershed that is not accounted for by the USGS Regression and NETC Regression methods is the presence of the East Barre Reservoir, located on Jail Branch in East Barre. There is no lake at the East Barre Dam. The flood storage area is typically empty and is utilized only for flood storage purposes.

For the 10% Annual Chance Flood and higher, the peak discharge rates from the FEMA FIS will be used for the hydraulic analyses. For the 50% and 20% Annual Chance Floods, the NETC Regression Method will be used. Compared to the USGS Regression flow rates, the NETC Method flow rates are more conservative and closer to the published FEMA flow rates for the other floods. Table 3.4 contains the final flow rates used in this analysis.

Table 3.4 Summary of Estimated Peak Discharges for Bridge 308 Analysis

	50% Annual Chance Flood (2-Year Flood)	20% Annual Chance Flood (5-Year Flood)	10% Annual Chance Flood (10-Year Flood)	2% Annual Chance Flood (50-Year Flood)	1% Annual Chance Flood (100-Year Flood)	0.2% Annual Chance Flood (500-Year Flood)
Peak Discharge Flow Rate (cfs)	2,524	4,024	7,740	11,040	12,400	14,980

5.0 Hydraulic Analysis

5.1 General Hydraulic Model Approach

The U.S. Army Corps of Engineers (USACOE), Hydrologic Engineering Center River Analysis System (HEC-RAS) program, Version 6.4.1, was utilized for the hydraulic analysis of the existing conditions and the proposed conditions. The river model extends for a distance of approximately 750 feet downstream and 2,300 feet upstream of Bridge 308.

RAS Mapper was used for the geometric data used in the model. The topographic survey provided detailed topography at and around the bridge and for the bridge structure and track.

The following Manning's "n" values were selected for the analyses:

- Channel: 0.035
- Overbanks: 0.120

Table A.6 of the VTrans Hydraulics Manual a Manning's n range of 0.040 – 0.050 for "Mountain streams, no vegetation in channel, banks usually steep, trees and brush along banks submerged at high stage." For Stevens Branch, Table 6 of the FIS lists "n" values of 0.035 for the channel and 0.025 – 0.100 for the overbank. Because this model is located in Barre City, the overbank areas are largely developed. From the National Land Cover Database (NLCD), the overbank areas are defined as Developed, High Intensity and Developed, Medium Intensity. An "n" value of 0.12 falls within the range of both NLCD land cover types included in the HEC-RAS 2D Manual.

Contraction and expansion coefficients were held constant at 0.1 and 0.3 values, respectively at open stream cross sections and increased to 0.2 and 0.4, respectively at sections near the bridge site. Normal depth was selected for the upstream and downstream boundary conditions using the existing river profile through the site and as shown in the FIS profile. A subcritical flow regime was selected for the steady flow analysis.

As shown in the FIRMETTE, the land surrounding Stevens Branch in the vicinity of Bridge 308 is denoted as Zone AE, which is susceptible to flooding during the 1% Annual Chance Flood. The HEC-RAS hydraulic model developed for this analysis attempts to replicate the flow patterns in the FIS as much as possible. It should be noted that the topography used by RAS Mapper is not exactly the same as the topography presented in the FIS.

The Flood Zone along in the vicinity of Bridge 308 in Barre City encompasses a wide area to the west and east of Stevens Branch. Upstream of Bridge 308, the river winds through a 180-degree curve. The defined Flood Zone encompasses a peninsular area of land bordered by the river upstream of the bridge, as well as land to the east of Route 302. Once the river begins to overtop its well-defined banks, it appears that the flood water would shortcut the circuitous section of the river channel.

Ineffective flow areas were defined along the west side of Stevens Branch to account for the space between obstructions (buildings). Ineffective flow areas are used to describe portions of a cross section in which water will pond and the velocity of that water, in the downstream direction is close to zero.

According to the FIS Profile, the approximate water levels at Bridge 308 are 586.3, 588.8, 589.7, and 591.0 for the 10%, 2% chance, 1% chance and 0.2% Annual Chance Floods respectively. The existing bridge elevation and structure depth shown in the FEMA FIS profile is consistent with the elevations obtained from topographic survey used in this analysis and field measurements of the structure.

For Alternatives 1A, 2A, and 3A, the HEC-RAS analysis was run both with floating debris accumulation modeling turned on at the pier(s). A typical channel width of 35 feet was measured for Stevens Branch in the vicinity of Bridge 308. Using HEC-9, the resultant calculated design log length for simulated debris is 35 feet. The pier debris option in HEC-RAS blocks out a rectangular shaped area in front of the given pier(s). The assumed debris height used for the purpose of this report extends for the full height of the pier, from the stream bed to the top of water surface in smaller events or top of pier in larger events that overtop the bridge superstructure.

5.2 Existing Bridge

Bridge No. 308 is located on the Vermont Rail System, WACR Montpelier Barre Subdivision at Mile Post 6.9 in Barre City, Vermont. Bridge 308 is a 3-span deck plate girder structure that crosses the Stevens Branch. The bridge superstructure consists of an open timber deck supported by rolled steel beams with no skew. Beams are numbered 1 and 2 from north to south, and are spaced at 6'-6", centered under the rail. The bridge substructure consists of two timber pile bents with concrete backwall abutments which are labelled West (1) and East (2) and two timber pile bents. Concrete wingwalls are labelled Northeast and Southeast at the East Abutment. The bridge was constructed in 1950 and was rehabilitated in 2013. Bridge 308 has a span length of 89'-3" from center to center of bearings with three 29'-0" spans. At the abutments and piers, the beams bear on steel bearings which are set on top of timber pile bents.

The skew angle of the piers and abutments compared to the river flow path was measured to be approximately 18 degrees.

The vertical clearance from the bottom of the existing bridge structure to the riverbed is approximately 12 feet, although this value can vary across the channel. The total depth of the existing superstructure, including deck and girders, is approximately 3.96 feet.

The bridge has been closed to rail traffic since 2019 as a result of ice damage to one of the piers. Jacobs completed an in-depth inspection and load rating report for Bridge 308 in 2013. Subsequently, in 2019, Jacobs completed an emergency inspection of Bridge 308, observing damage to the structure and prepared recommendations in a field observation report.

5.2.1 Hydraulic Performance of Existing Bridge

The 10%, 1%, and 0.2% Annual Chance Floods are all expected to overtop Bridge 308 as demonstrated in the HEC-RAS results. These results are generally consistent with the FIS profile except for the 10% Annual Chance Flood, which partially submerges the structure but does not overtop it. The 50% and 20% Annual Chance Floods remain below the bridge structure.

Results from the HEC-RAS analysis for the existing bridge are included in Appendix G, including a river schematic, river profile, table of hydraulic calculated values at the bridge, and river hydraulic data. Table 4-1 displays the water surface elevations for various flood frequencies at Bridge 308 both without debris (Alternative 1) and with debris (Alternative 1A).

Modeling debris increased the water surface elevations most in floods less severe than the 10% flood compared to no debris. Larger floods, including the 2%, 1% and 0.2% floods, were affected by approximately 0.5 inches or less. The 10% chance flood increased by approximately 4.5 inches.

Table 4-1: Summary of Existing Bridge Hydraulic Performance

Annual Chance Flood (Return Frequency)	Peak Flow (cfs)	WS Elev w/o Debris Modeling (ft)	WS Elev with Debris Modeling (ft)	Water Surface Elevation Difference (ft)
50% (2-year)	2,524	580.47	585.91	5.44
20% (5-year)	4,024	584.00	586.51	2.51
10% (10-year)	7,740	586.97	587.35	0.38
2% (50-Year)	11,040	589.60	589.46	0.14
1% (100-Year)	12,400	590.49	590.54	0.05
0.2% (500-Year)	14,980	592.00	592.03	0.03

5.3 Alternatives for Bridge 308

Nine different alternatives were evaluated for Bridge 308. The alternatives include:

- Alternative 1 – No Action. The existing abutments, piers, and superstructure remain.
- Alternative 1A – Same as Alternative 1, except that debris modeling is turned on in HEC-RAS for the piers.
- Alternative 2 – Replace damaged piers with new steel pile bents. The existing abutments and superstructure remain.
- Alternative 2A – Same as Alternative 2, except that debris modeling is turned on in HEC-RAS for the piers.
- Alternative 3 – New 2 span structure. The new overall structure depth is 3.11 feet. The two existing piers are removed and replaced with a single pier in the center of the total bridge span. At Abutment 1, the concrete backwall remains and the timber pile bent is replaced with a steel pile bent. Abutment 2 remains in place. The track rails remain at the existing elevation.
- Alternative 3A – Same as Alternative 3, except that debris modeling is turned on in HEC-RAS for the piers.
- Alternative 4 – New single span structure. The new overall structure depth is 5.96 feet. The two existing piers are removed. At Abutment 1, the concrete backwall remains and the timber pile bent is replaced with a steel pile bent. Abutment 2 remains in place. The track is raised by approximately 2.67 feet to account for the deeper superstructure.
- Alternative 5 – Remove Existing Bridge and Piers. The existing abutments remain in place.
- Alternative 6 – Remove Existing Bridge, Piers, and Abutment 1; Abutment 2 remains in place.

5.3.1 Hydraulic Performance of Proposed Alternatives

Alternative 2 produced water surface elevations very similar to the existing bridge. The water surface elevations decreased by approximately 0.05 feet and 0.07 feet in the 50% flood and 20% flood, respectively. This can be attribute to the smaller pier size. The 10% flood and high floods remained the same.

For Alternative 2A, the water surface elevations remained identical or nearly identical to the results for Alternative 1A.

For Alternative 3, the 10%, 1%, and 0.2% Annual Chance Floods are all expected to overtop the new two span bridge structure. At lower flow rates, the removal of one pier and shallower

superstructure has a more notable impact on water surface elevation than larger floods. As the flow rate increases in larger floods, the pier and bridge structure become smaller obstructions in the overall flow area. In the 50% Annual Chance Flood, the calculated drop in water surface elevation is 0.10 feet.

For Alternative 3A, the water surface elevations decreased in smaller floods and remained nearly identical in larger floods when compared to the existing condition (Alternative 1A), which is similar to the trend observed in Alternative 3.

The results for Alternative 4 indicate that the proposed bridge will increase water surface elevations at and upstream of the bridge for floods that crest near the same elevation as the bridge structure. The 10% annual flood increased by approximately 0.05 feet, while smaller floods and larger floods recorded decreases between 0.02 to 0.39 feet.

For Alternative 5, the water surface elevations upstream of Bridge 308 decreased in all floods. The amount of the decrease varies depending on the flood. For the 50% Annual Chance Flood, the water surface elevation decreased by approximately 0.30 feet at river section 4962, which is 300 feet upstream of the bridge. For the 1% Annual Chance Flood, the decrease at the same river station is approximately 0.13 feet. As the flow rate increases in larger floods, the bridge structure becomes a smaller obstruction compared to the flow area.

The difference in water surface elevations between Alternatives 5 and 6 is negligible. Removal of the Abutment 1 does not have an effect on water surface elevations. The abutments are perched high on the riverbanks and do not protrude into the river flow in a significant manner. Abutment 2 is also in line with the retaining wall on the upstream side of the bridge.

Results from the HEC-RAS analyses for Alternatives 2, 2A, 3, 3A, 4, 5, and 6 are included in Appendix H. For Alternatives 2, 2A, 3, 3A, and 4, there is a river profile, river cross sections, a bridge data summary, and a river cross section data summary. For Alternatives 5 and 6, there is a river profile, river cross sections, and a river cross section data summary.

A summary of water surface elevations for the different alternatives at the bridge from the HEC-RAS analyses are included in Table 4.2.

Table 4-2: Water Surface Elevations at Bridge 308

Annual Chance Flood	WS Elev (ft)								
	Alt 1	Alt 1A	Alt 2	Alt 2A	Alt 3	Alt 3A	Alt 4	Alt 5	Alt 6
50%	580.47	585.91	580.42	585.91	580.37	582.21	580.31	-	-
20%	584.00	586.51	583.93	586.50	584.24	586.54	583.61	-	-
10%	586.97	587.35	586.97	587.36	586.96	587.05	587.02	-	-
2%	589.60	589.46	589.60	589.46	589.58	589.61	589.46	-	-
1%	590.49	590.54	590.49	590.54	590.48	590.51	590.35	-	-
0.2%	592.00	592.03	592.00	591.87	591.99	592.01	591.98	-	-

A summary of water surface elevations for the different alternative at river section 4962, upstream from the bridge, is included in Table 4.3.

Table 4-3: Water Surface Elevations Upstream of Bridge 308

Annual Chance Flood	Water Surface Elevation (ft)								
	Alt 1	Alt 1A	Alt 2	Alt 2A	Alt 3	Alt 3A	Alt 4	Alt 5	Alt 6
50%	579.97	585.88	579.91	585.88	579.83	582.00	579.76	579.67	579.67
20%	583.70	586.48	583.61	586.47	583.98	586.51	583.21	582.02	582.02
10%	586.99	587.43	586.99	587.45	586.97	587.09	587.04	586.97	586.97
2%	589.85	589.72	589.85	589.72	589.83	589.87	589.72	589.72	589.72
1%	590.74	590.78	590.74	590.78	590.72	590.75	590.61	590.61	590.61
0.2%	592.23	592.25	592.23	592.11	592.22	592.24	592.21	592.09	592.09

A summary of water surface elevations for the different alternative at river section 3921, downstream from the bridge, is included in Table 4.4.

Table 4-4: Water Surface Elevations Downstream of Bridge 308

Annual Chance Flood	Water Surface Elevation (ft)								
	Alt 1	Alt 1A	Alt 2	Alt 2A	Alt 3	Alt 3A	Alt 4	Alt 5	Alt 6
50%	580.30	580.30	580.30	580.30	580.30	580.30	580.30	580.33	580.33
20%	582.70	582.70	582.70	582.70	582.70	582.70	582.70	582.74	582.74
10%	587.06	587.06	587.06	587.06	587.06	587.06	587.06	587.10	587.10
2%	589.51	589.51	589.51	589.51	589.51	589.51	589.51	589.55	589.55
1%	590.40	590.40	590.40	590.40	590.40	590.40	590.40	590.43	590.43
0.2%	591.88	591.88	591.88	591.88	591.88	591.88	591.88	591.92	591.92

6.0 Conclusions

6.1 Conclusions

This report analyzes the hydraulics of Bridge 308 and Stevens Branch in the immediate vicinity of the bridge only. Other river crossing structures, river bank data, flood plain characteristics, and other conditions or factors either upstream or downstream of the bridge are beyond the scope of this study and may influence water surface elevations. This report makes no recommendations regarding future plans for Bridge 308.

Alternative 1, which leaves the bridge in its current state, has no effect on the river hydraulics.

Alternative 2, with smaller piers that replace the existing piers, showed a minor decrease in water surface elevations in the 50% and 20% floods.

The debris modeling performed in Alternatives 1A, 2A, and 3A indicates that water surface elevations in smaller floods are most impacted, while larger floods are not impacted. In the larger floods, the bridge is entirely inundated and water is flowing across the floodplain.

With Alternative 3, the removal of one pier in the river results in less of an impact on water surface elevations in larger floods compared to smaller floods. The 10%, 2%, 1%, and 0.2% floods are expected to overtop the bridge structure. The water surface elevation decreased by 0.10 feet in the 50% flood.

Alternative 4, which removes both existing piers but requires a deeper bridge structure, decreases the water surface elevation only slightly for all floods analyzed in this report except for the 10% flood.

Alternative 5, which removes the piers and bridge structure, and Alternative 6, which also removes the abutments, both result in similar decreases in water surface elevations across all floods upstream of the bridge when compared to alternatives with piers.

In general, alternatives that reduce or remove bridge piers result in decreases in water surface elevations in the 50% and 20% floods. The maximum decrease observed in the results for free flow (non-debris models) was 0.39 feet with Alternative 4. However, the removal, repair, or reduced number of piers has little to no effect on floods greater than the 10% flood. Alternatives that model debris have higher water surface elevations compared to the free flow non-debris alternatives for the 50% and 20% floods, but are unaffected by larger storm events.

A summary of changes in water surface elevations at Bridge 308 are included in Table 6.1.

Table 6-1: Change in Water Surface Elevations at Bridge 308

Annual Chance Flood	Water Surface Elevation Difference at Bridge (ft)								
	Alt 1	Alt 1A	Alt 2	Alt 2A	Alt 3	Alt 3A	Alt 4	Alt 5	Alt 6
50%	-	5.44	-0.05	5.44	-0.10	1.74	-.016	-.013	-.013
20%	-	2.51	-0.07	2.50	0.24	2.54	-.039	-1.26	-1.26
10%	-	0.38	0.00	0.39	-0.01	0.08	0.05	0.08	0.08
2%	-	-0.14	0.00	-0.14	-0.02	0.01	-.014	-0.09	-0.09
1%	-	0.05	0.00	0.05	-0.01	0.02	-0.14	-0.09	-0.09
0.2%	-	0.03	0.00	-0.13	-0.01	0.01	-0.02	-0.10	-0.10

APPENDIX A

Existing Conditions Site Photographs

Looking downstream at Stevens Branch from Bridge 308

Looking upstream at Stevens Branch from Bridge 308

Looking downstream along Stevens Branch at Bridge 308

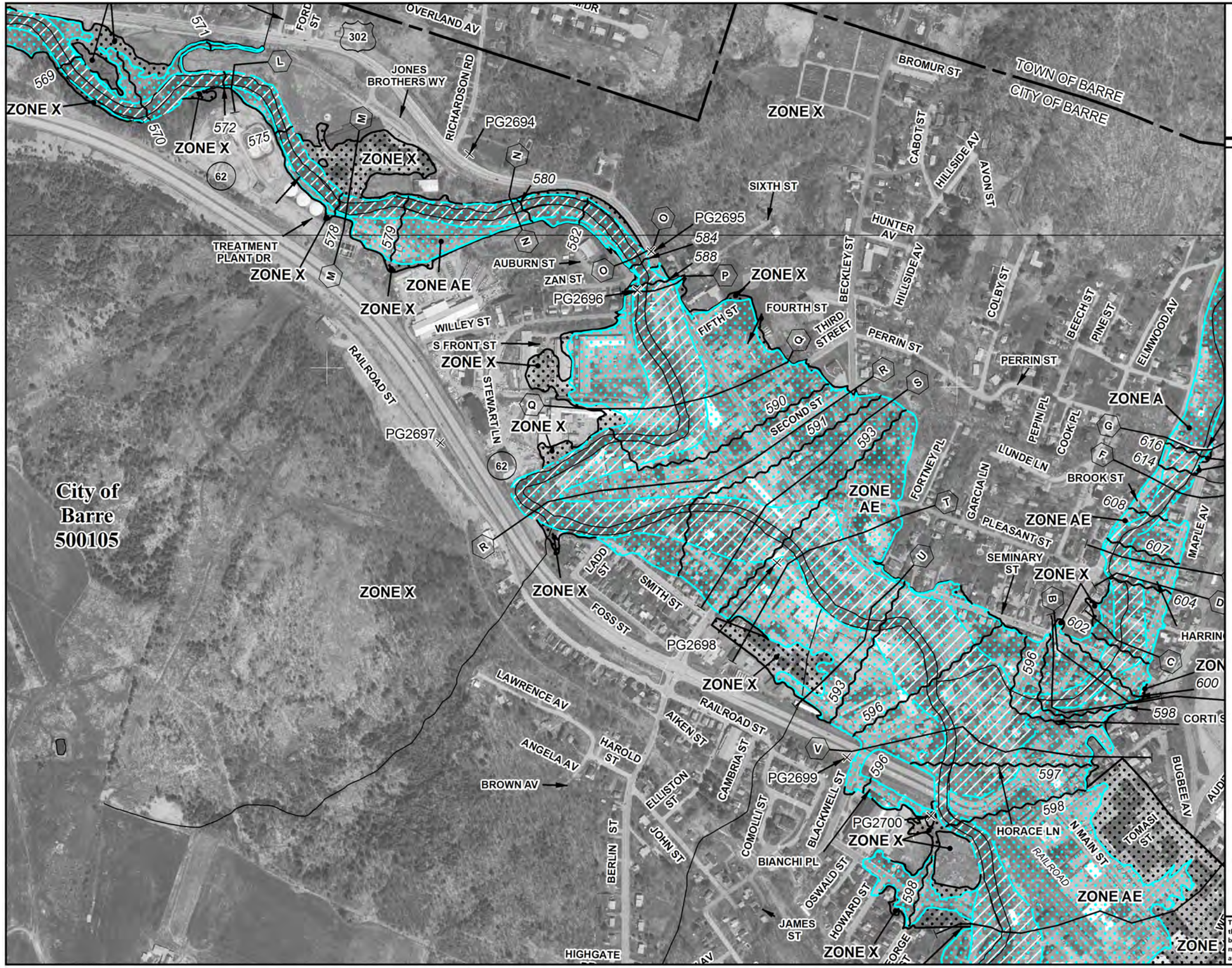
Looking upstream along Stevens Branch at Bridge 308

Looking at Pier 1 from west bank

APPENDIX B

FEMA Flood Insurance Rate Map

(FIRMETTE from Map Number 50023C0434E, March 19, 2013)



MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0434E

FIRM

FLOOD INSURANCE RATE MAP

WASHINGTON COUNTY, VERMONT
(ALL JURISDICTIONS)

PANEL 434 OF 580
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BARRE, CITY OF	500105	0434	E
BARRE, TOWN OF	500273	0434	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
50023C0434E

EFFECTIVE DATE
MARCH 19, 2013

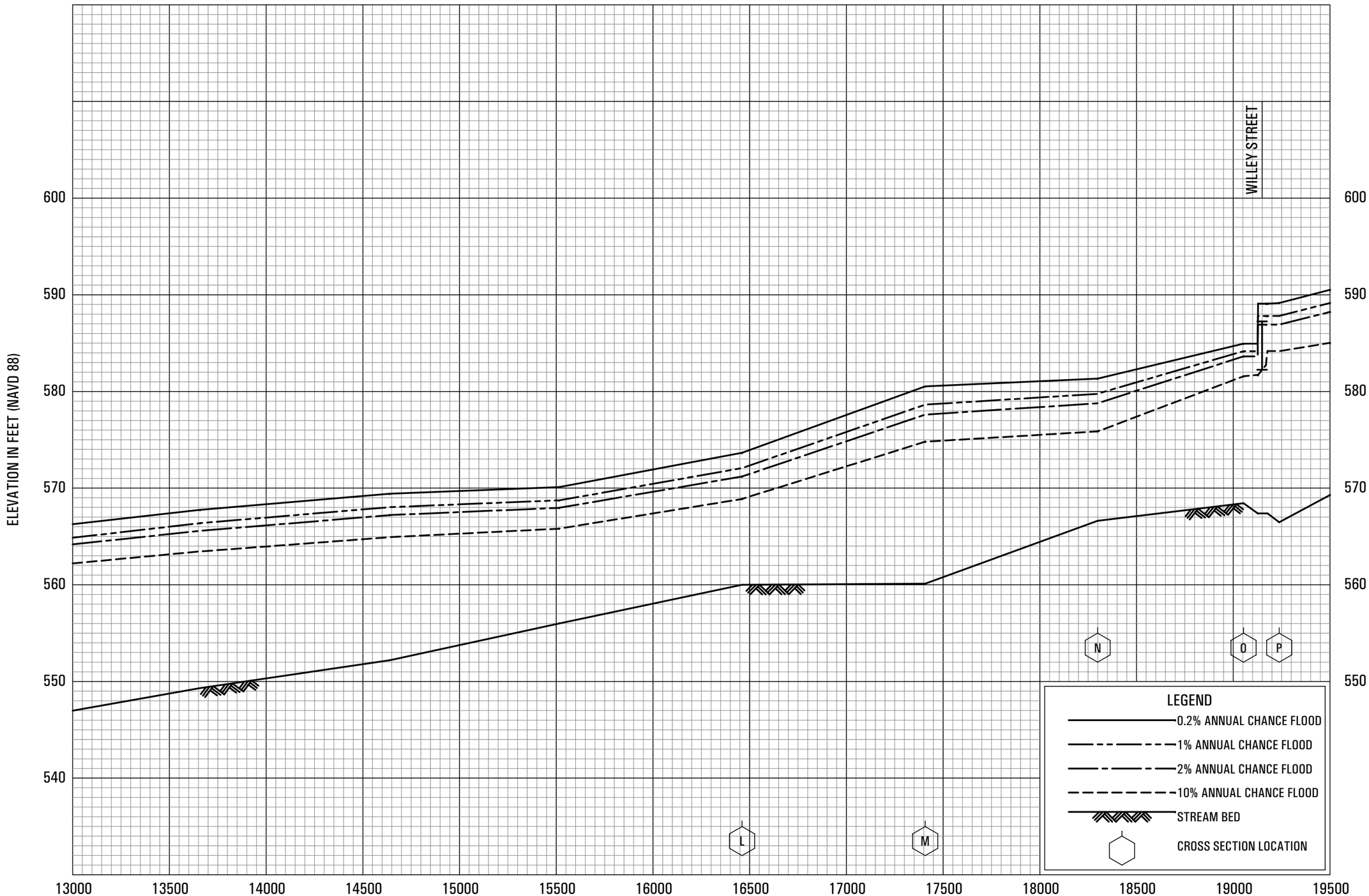
Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

APPENDIX C:

FEMA Flood Profile for Stevens Branch

(From FEMA Flood Insurance Study, Volume 3 of 3, March 19, 2013)



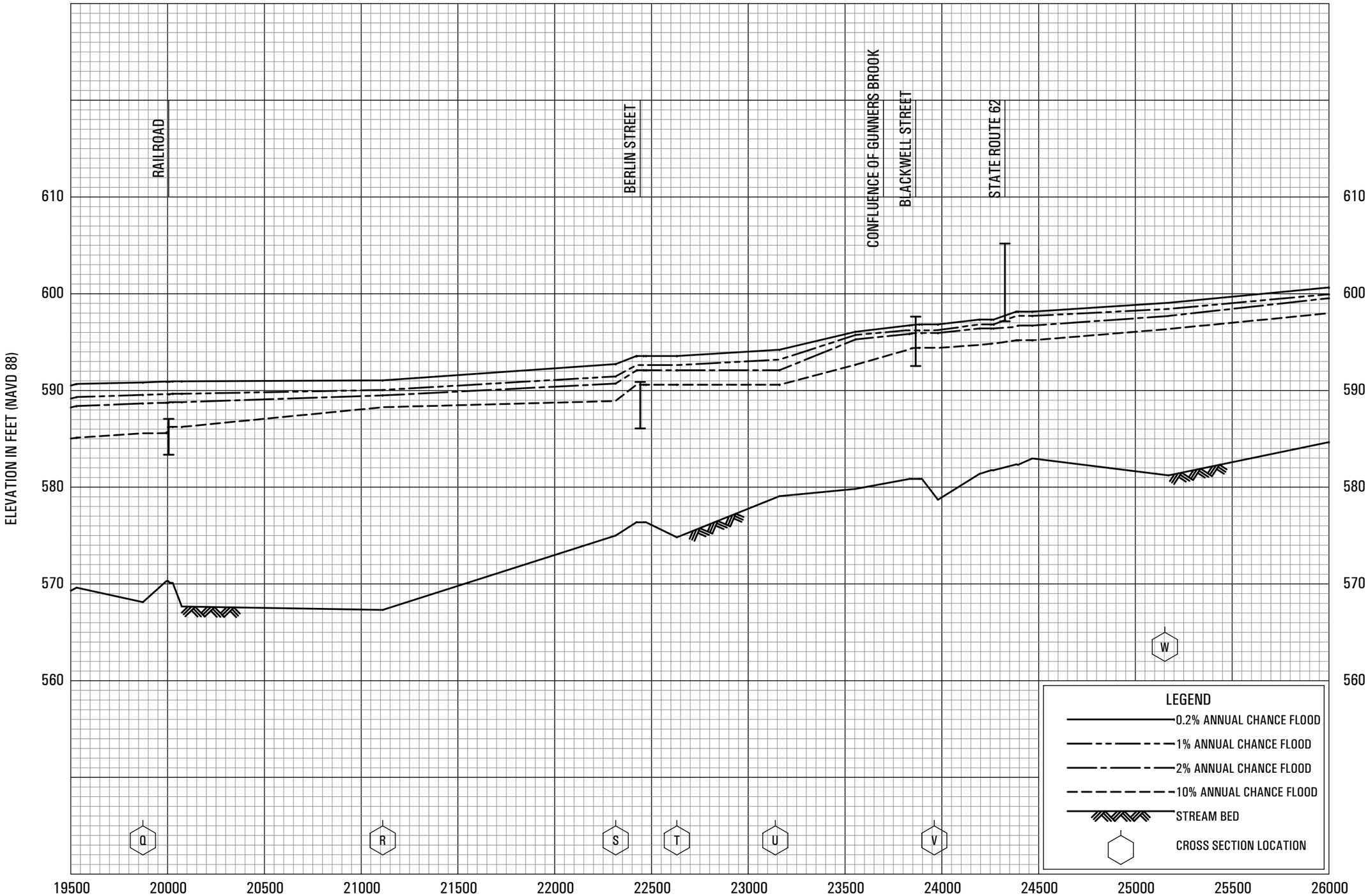
FLOOD PROFILES

STEVENS BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

WASHINGTON COUNTY, VT

(ALL JURISDICTIONS)



FLOOD PROFILES

STEVENS BRANCH

FEDERAL EMERGENCY MANAGEMENT AGENCY

WASHINGTON COUNTY, VT

(ALL JURISDICTIONS)

69P

APPENDIX D:

Summary of Discharges (Table 4) for Stevens Branch

(From FEMA Flood Insurance Study, Volume 1 of 3, March 19, 2013)

TABLE 4 - SUMMARY OF DISCHARGES – continued

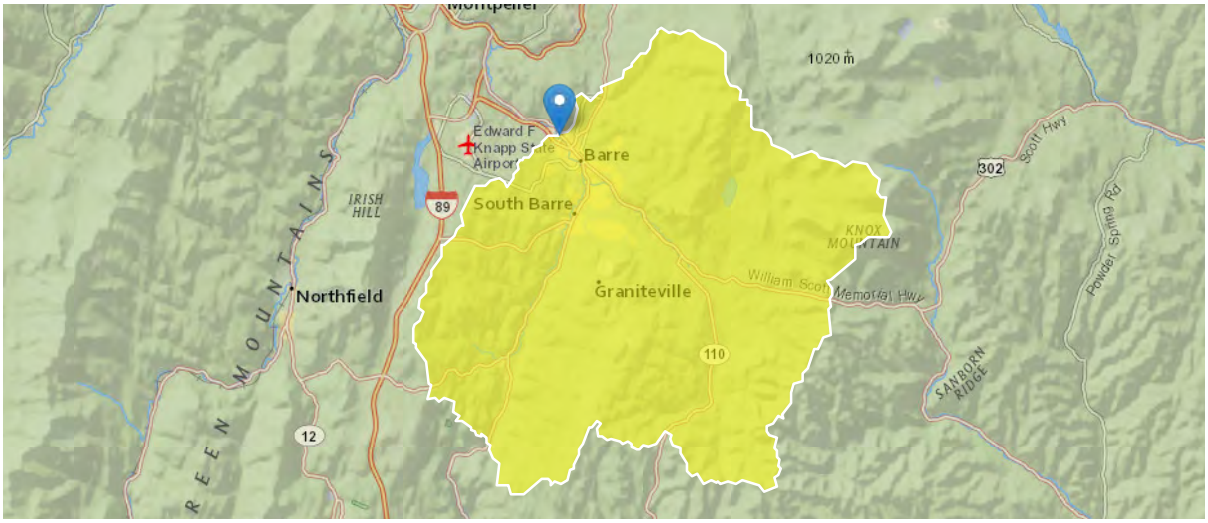
FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) 10-PERCENT	2-PERCENT	1-PERCENT	0.2-PERCENT
STEVENS BRANCH					
Above Winooski River in City of Montpelier	115.2	9,260	13,250	14,790	18,100
Below Berlin Pond Brook in Town of Berlin	114.2	9,260	13,250	14,710	18,100
Below Unnamed Tributary in Town of Berlin	99.6	7,820	11,180	12,610	15,240
At City of Barre-Town of Barre corporate limits	96.9	7,770	11,090	12,490	15,090
Below Gunners Brook in City of Barre	94.4	7,730	11,020	12,370	14,930
Above Gunners Brook in City of Barre	86.3	6,430	9,160	10,340	12,480
Below Jail Branch in City of Barre	83.2	6,050	8,590	9,690	11,690
Above Jail Branch in City of Barre	34.8	5,020	7,260	8,110	9,920
At City of Barre-Town of Barre corporate limits	34.6	5,020	7,260	8,100	9,920
At I-89 Access Road (Route 63) in Town of Barre	30.5	4,730	6,820	7,680	9,300
At Town of Barre-Williamstown corporate limits	24.1	3,860	5,590	6,290	7,610
Below Brook 1 in Williamstown	15.6	3,000	4,320	4,860	5,830
Below Brook 2 in Williamstown	12.1	2,530	3,620	4,070	4,860
Approximately 400 feet upstream of Meadow Street in Williamstown	8.2	1,770	2,530	2,850	3,400
At Landfill Access Road in Williamstown	4.7	1,100	1,570	1,770	2,100
Approximately 200 feet downstream of State Route 14 Bridge just north of Limehurst Pond Campground in Williamstown	2.1	520	740	830	990
At upstream end of Cutter Pond in Williamstown	1.0	240	340	390	460

APPENDIX E:

USGS StreamStats Delineation

StreamStats Report

Region ID: VT
Workspace ID: VT20230926171507734000
Clicked Point (Latitude, Longitude): 44.20740, -72.51483
Time: 2023-09-26 13:15:35 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	95.1	square miles
LC06STOR	Percentage of water bodies and wetlands determined from the NLCD 2006	1.45	percent
PRECPRIS10	Basin average mean annual precipitation for 1981 to 2010 from PRISM	41.9	inches

General Disclaimers

The delineation point is in an exclusion area. WARNING! U.S. Army Corp of Engineers flood control reservoir upstream of this location. The regression equations are not applicable.

Application Version: 4.17.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

APPENDIX F:

Hydrologic Calculations

(USGS Regression and NETC Regression Methods)

Jacobs
2 EXECUTIVE PARK DRIVE
BEDFORD, NH
603-666-7181

JOB NO. E2X88322 - Bridge 308 over Stevens Brook
SHEET NO. 1 OF 1
CALCULATED BY: JRB DATE: 12/4/2023
CHECKED BY: DATE:

Determine Flow Rates at Bridge 308 using the US Geological Survey (USGS) Regression Equation Method for Ungaged Sites:

Reference:
"Hydraulics Manual", Section 4.7, Vermont Agency of Transportation, May 28, 2015

1) Use USGS StreamStats to determine drainage area (A), percentage of basin with land cover categorized as wetlands or open water plus 1.0% (W), and average annual precipitation (p).

See attached output report from StreamStats.

A =	95.1	sq. mi.	
W=	2.45	%	(1.45% + 1.0% = 2.45%)
p=	41.9	in	

2) Use regression equations from Table 4-9b to estimate flow rate (Q) for various storm events:

Table 4-9b. USGS Regression Equations for Peak Flows

Annual Exceedance Probability (%)	Function	Root-Mean-Square Error (log units)
50%	$Q_{50} = 0.145\,A^{0.900}\,W^{-0.274}\,P^{1.569}$	0.147
20%	$Q_{20} = 0.179\,A^{0.884}\,W^{-0.277}\,P^{1.642}$	0.152
10%	$Q_{10} = 0.199\,A^{0.875}\,W^{-0.280}\,P^{1.685}$	0.162
4%	$Q_{4} = 0.219\,A^{0.866}\,W^{-0.286}\,P^{1.740}$	0.177
2%	$Q_{2} = 0.237\,A^{0.860}\,W^{-0.291}\,P^{1.774}$	0.186
1%	$Q_{1} = 0.251\,A^{0.854}\,W^{-0.297}\,P^{1.809}$	0.195
0.5%	$Q_{0.5} = 0.266\,A^{0.849}\,W^{-0.301}\,P^{1.840}$	0.208
0.2%	$Q_{0.2} = 0.289\,A^{0.844}\,W^{-0.309}\,P^{1.876}$	0.224

Annual Exceedence Probability		Flow Rate, Q(cfs)
50%	2 year	2401
20%	5 year	3609
10%	10 year	4511
4%	25 year	5820
2%	50 year	6927
1%	100 year	8092
0.2%	500 year	11311

Jacobs
2 EXECUTIVE PARK DRIVE
BEDFORD, NH
603-666-7181

JOB NO. E2X88322 - Bridge 308 over Stevens Brook
SHEET NO. 1 OF 1
CALCULATED BY: JRB DATE: 12/4/2023
CHECKED BY: DATE:

Determine Flow Rates at Bridge 308 using the New England Transportation Consortium (NETC) Regression Equation Method for Ungaged Sites in Steep Watersheds:

Reference:
"Hydraulics Manual", Section 4.8, Vermont Agency of Transportation, May 28, 2015

1) Use USGS StreamStats to determine drainage area (A) and average annual precipitation (p).

See attached output report from StreamStats.

A = 95.1 sq. mi.
p= 41.9 in

2) Use regression equations from Table 4-10b to estimate flow rate (Q) for various storm events:

Table 4-10b. Regression Equations for Peak Flows

Annual Exceedance Probability (%)	Function	Root-Mean-Square Error (log units)
50%	$Q_{50} = 0.01601\ A^{0.889} P^{2.12}$	0.171
20%	$Q_{20} = 0.01965\ A^{0.889} P^{2.19}$	0.165
10%	$Q_{10} = 0.02430\ A^{0.891} P^{2.21}$	0.169
4%	$Q_{4} = 0.03387\ A^{0.893} P^{2.20}$	0.180
2%	$Q_{2} = 0.04372\ A^{0.895} P^{2.18}$	0.193
1%	$Q_{1} = 0.05765\ A^{0.897} P^{2.15}$	0.206
0.2%	$Q_{0.2} = 0.111\ A^{0.903} P^{2.08}$	0.243

Annual Exceedence Probability		Flow Rate, Q(cfs)
50%	2 year	2524
20%	5 year	4024
10%	10 year	5411
4%	25 year	7332
2%	50 year	8863
1%	100 year	10544
0.2%	500 year	16063

APPENDIX G:

HEC-RAS Results for Existing Bridge without and with Debris Modeling

River Profile

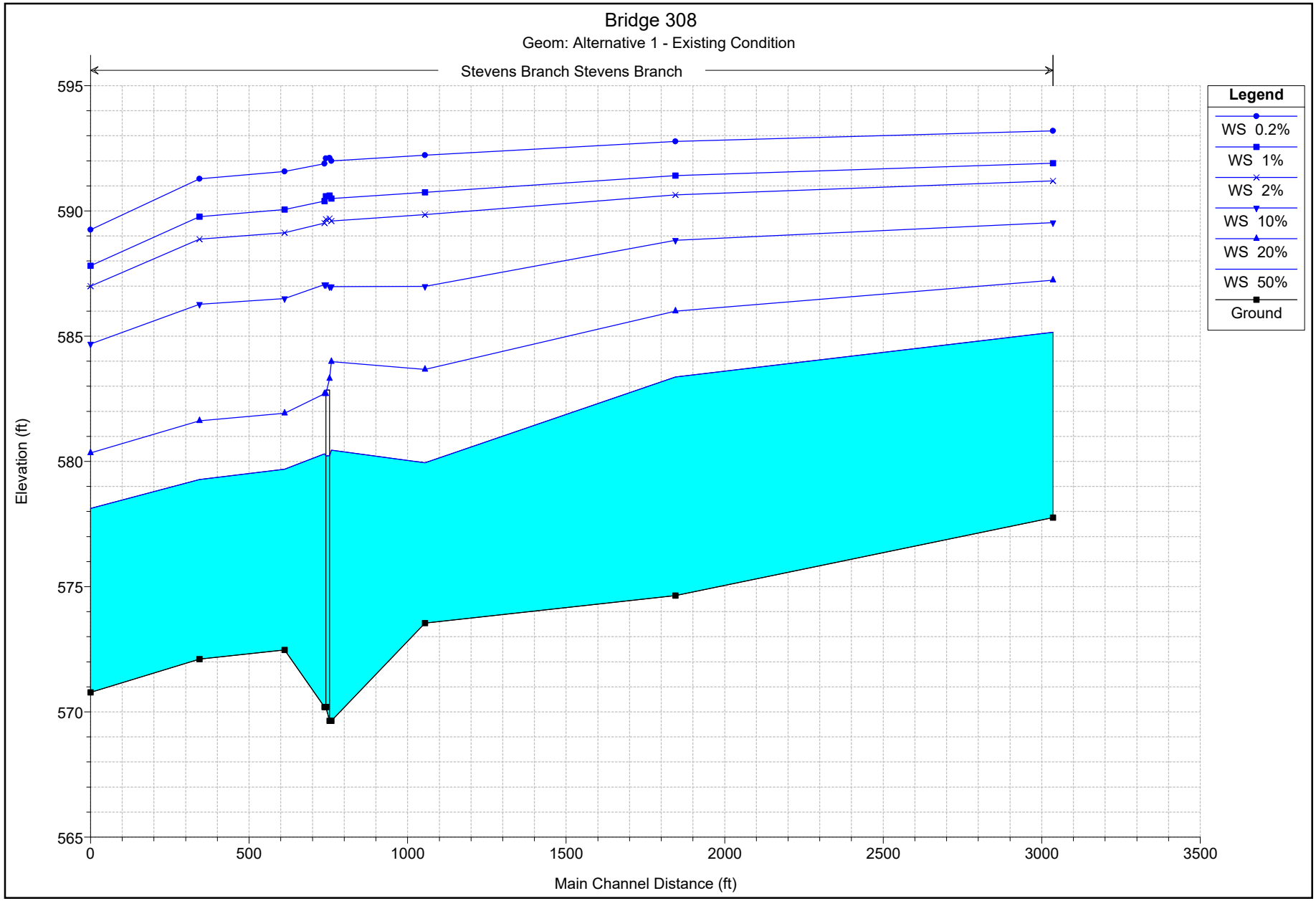
River Cross Sections

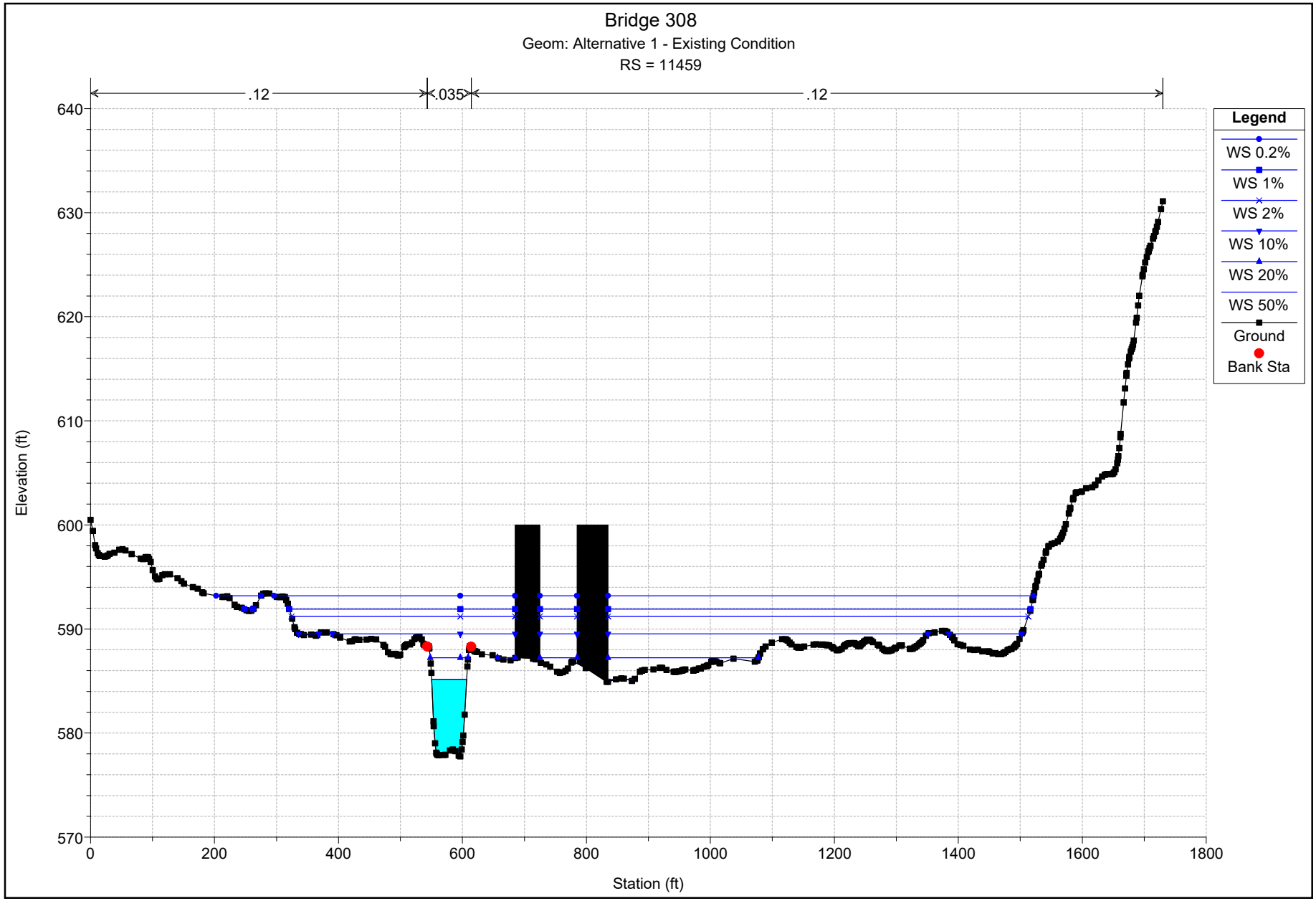
Bridge Summary Table

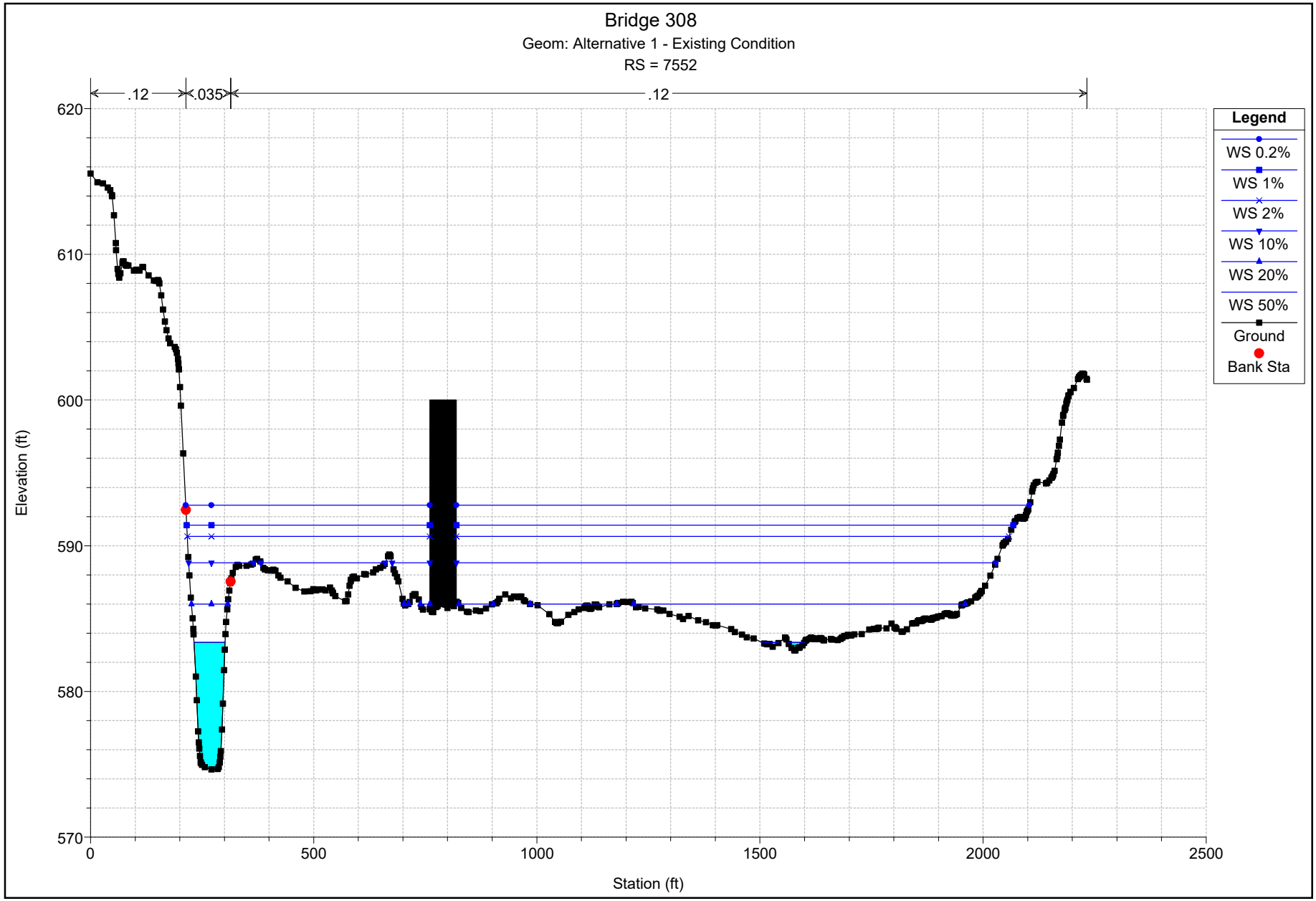
River Cross Section Data Summary

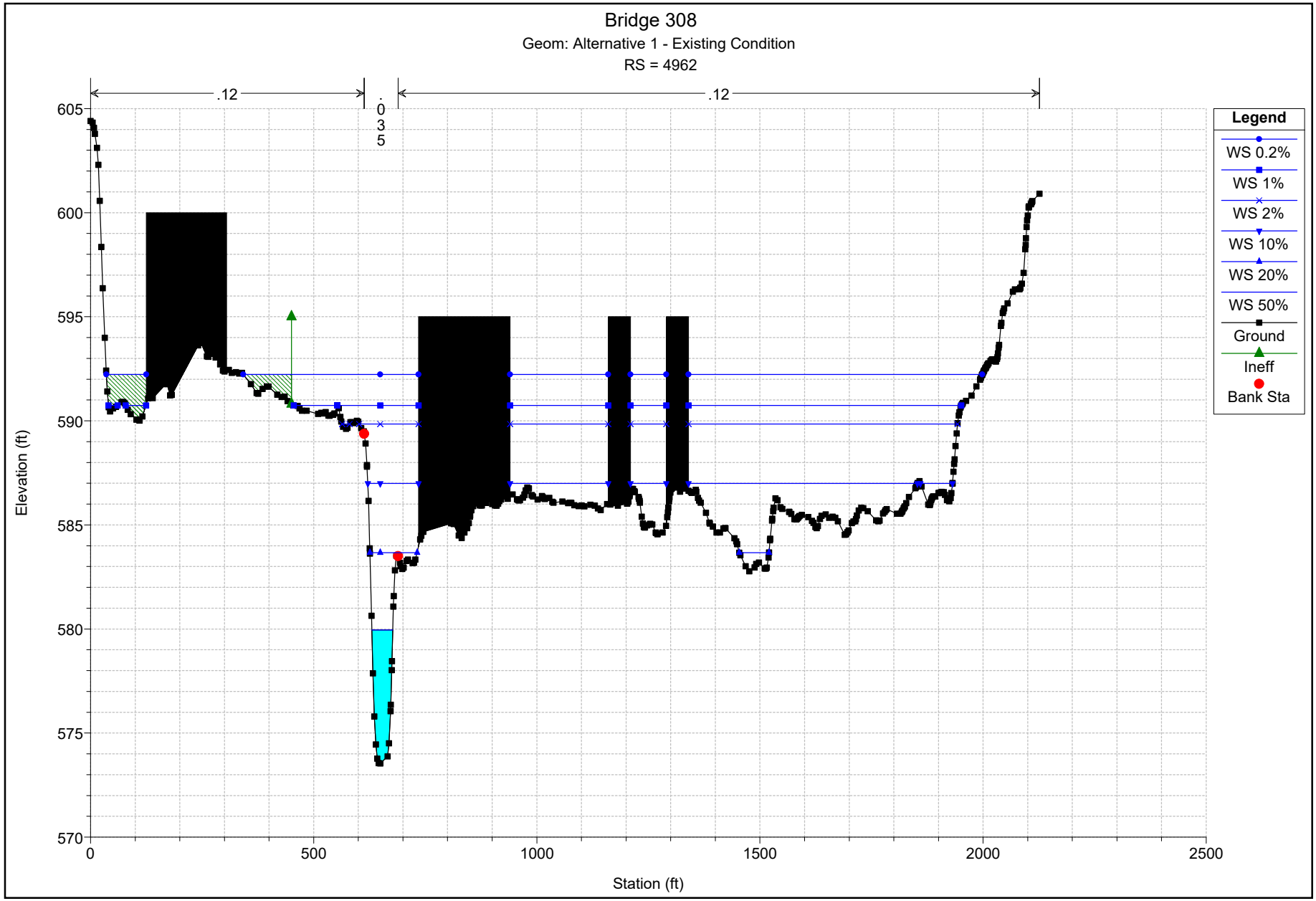

1501
2628
3508
3994
4962
Stevens Branch
7552
11459

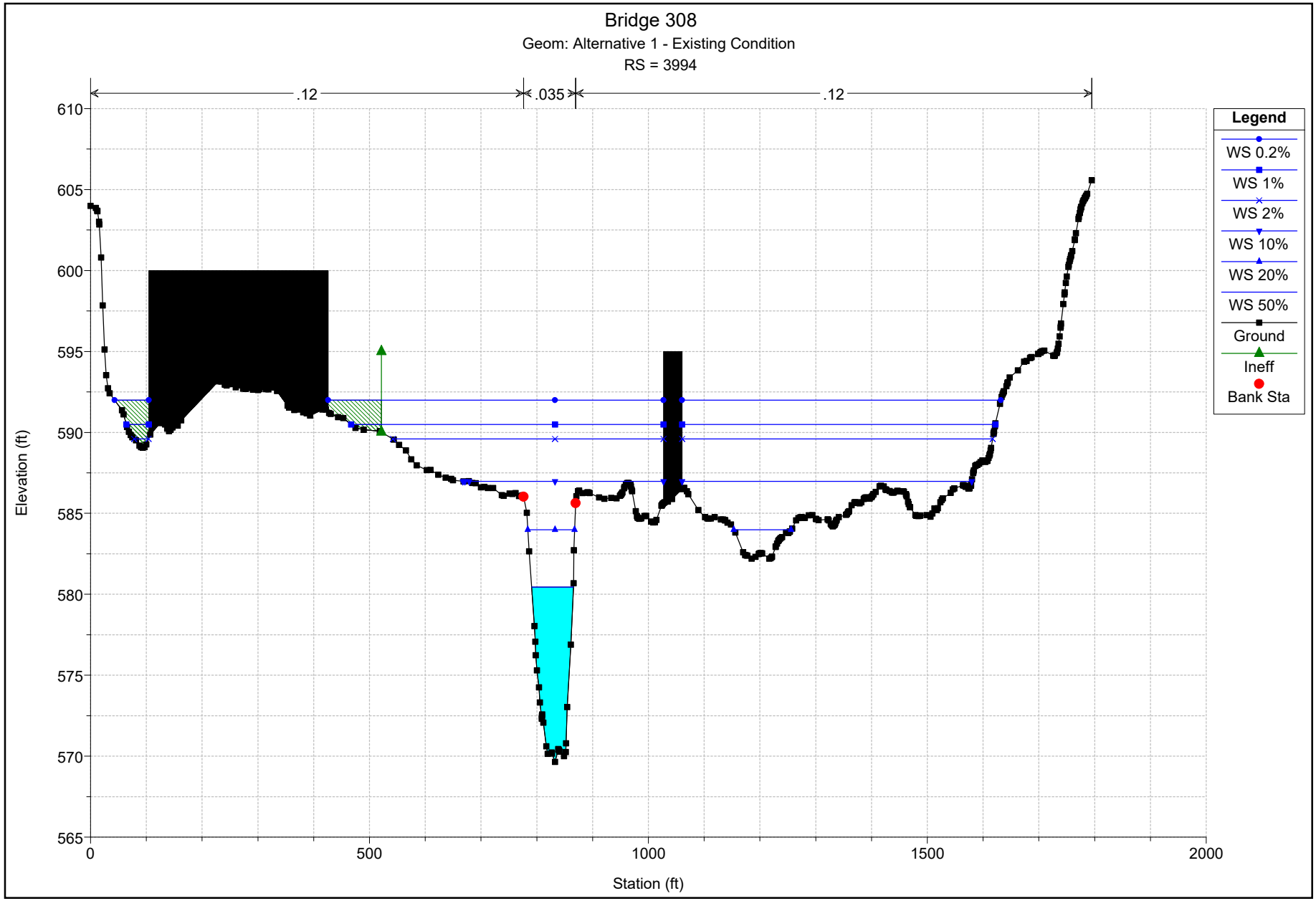
HEC-RAS Results for Alternative 1

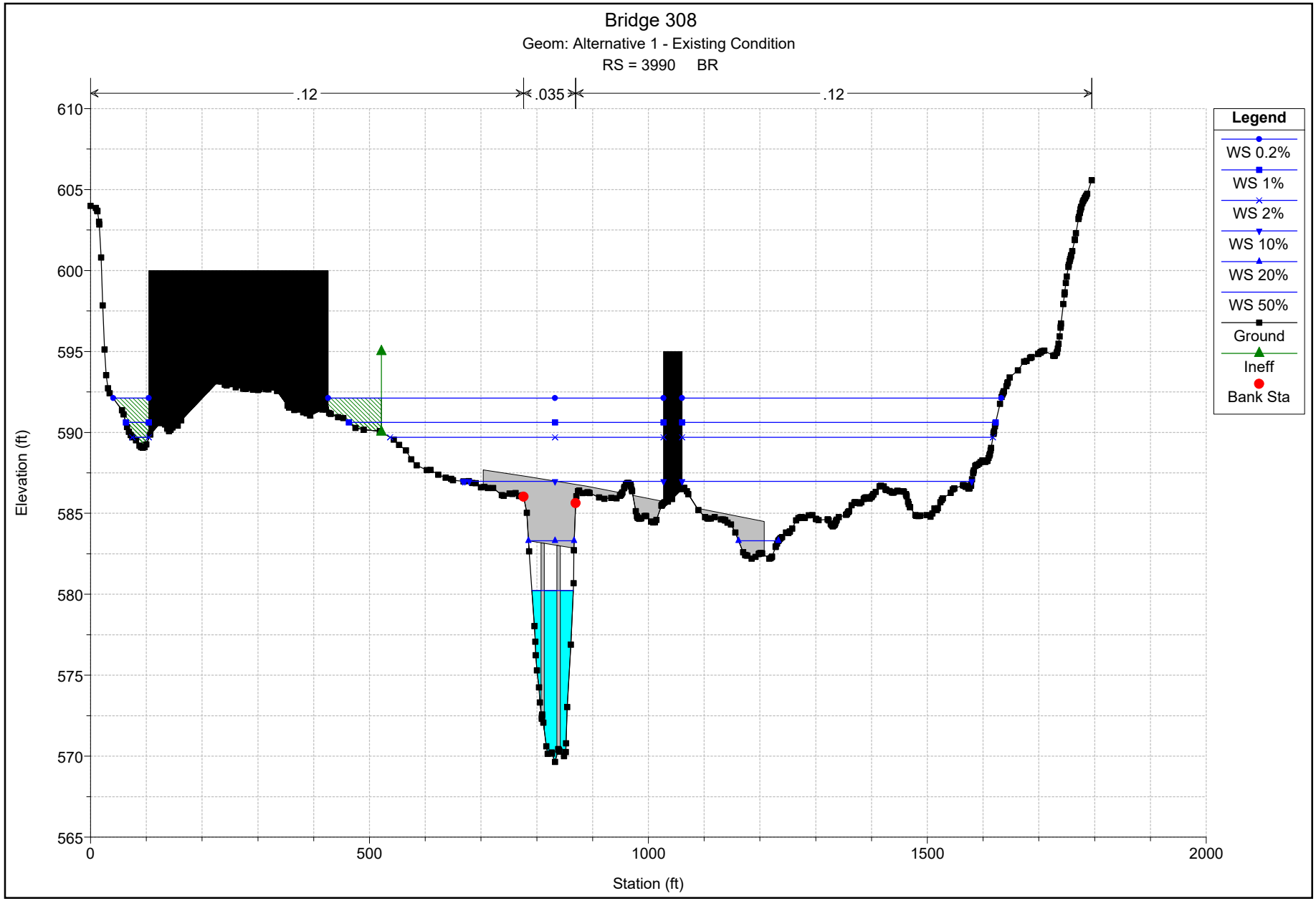

Bridge 308
Geom: Alternative 1 - Existing Condition
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

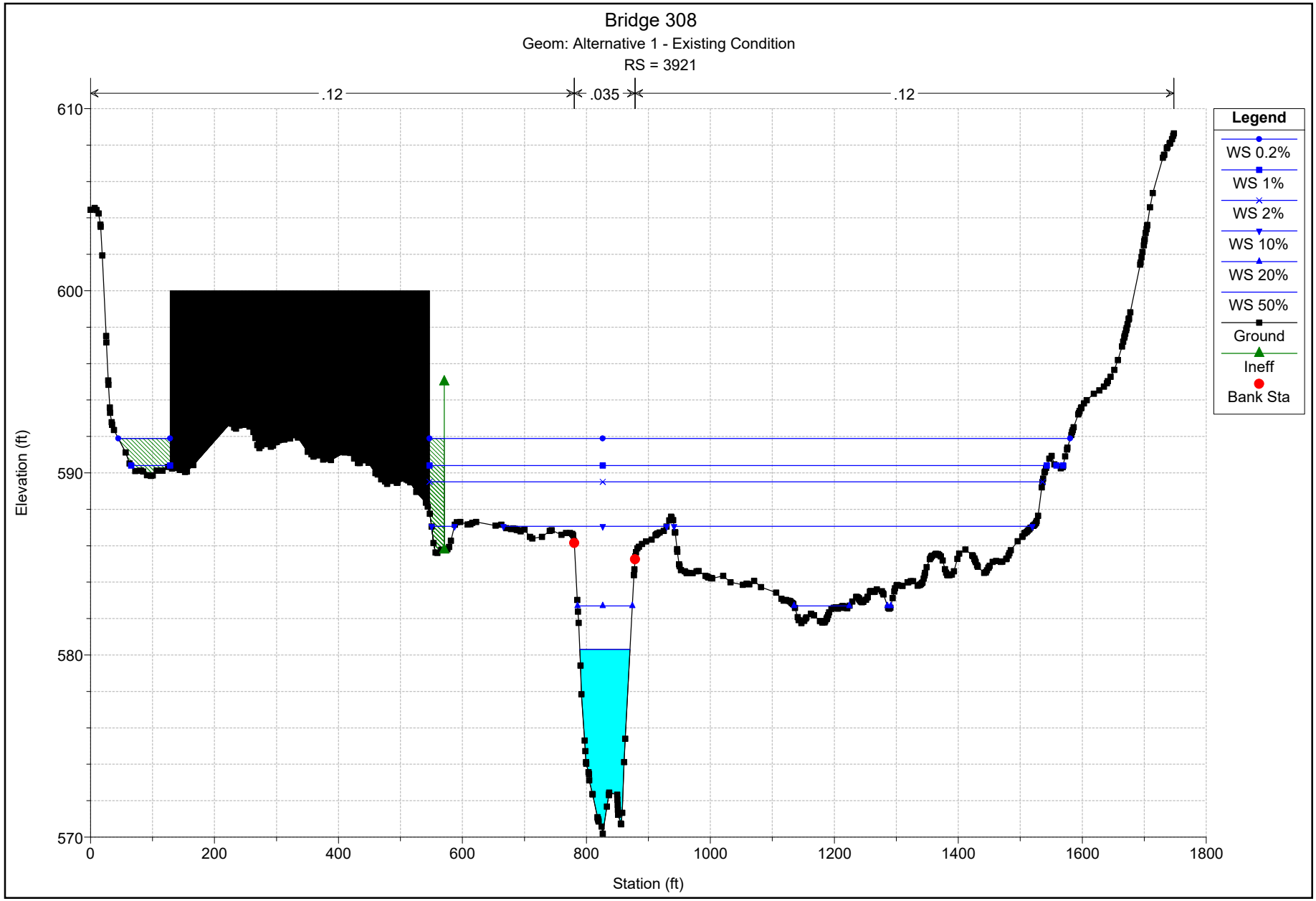

Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 11459
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

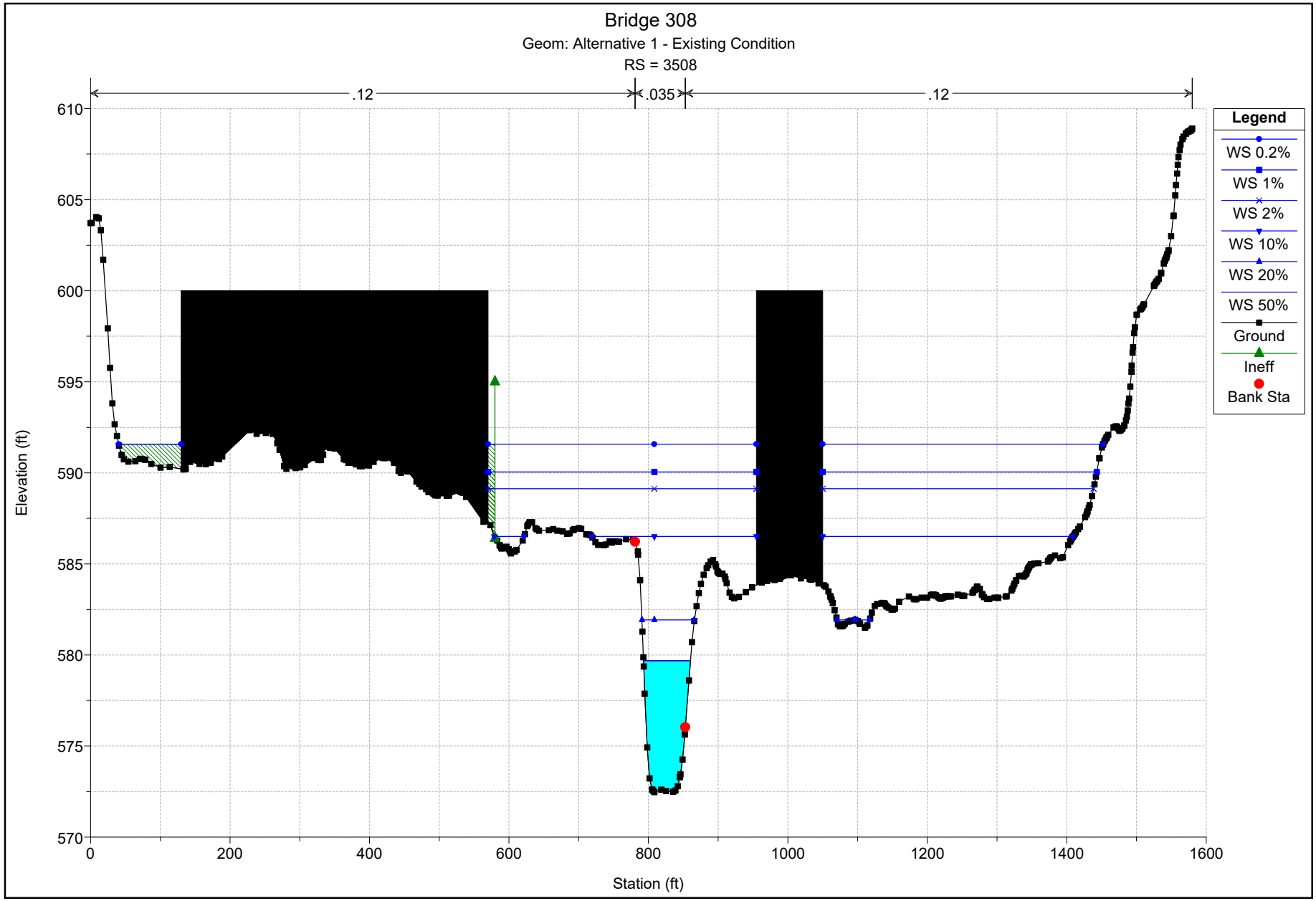

Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 7552
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
500
1000
1500
2000
2500
Station (ft)

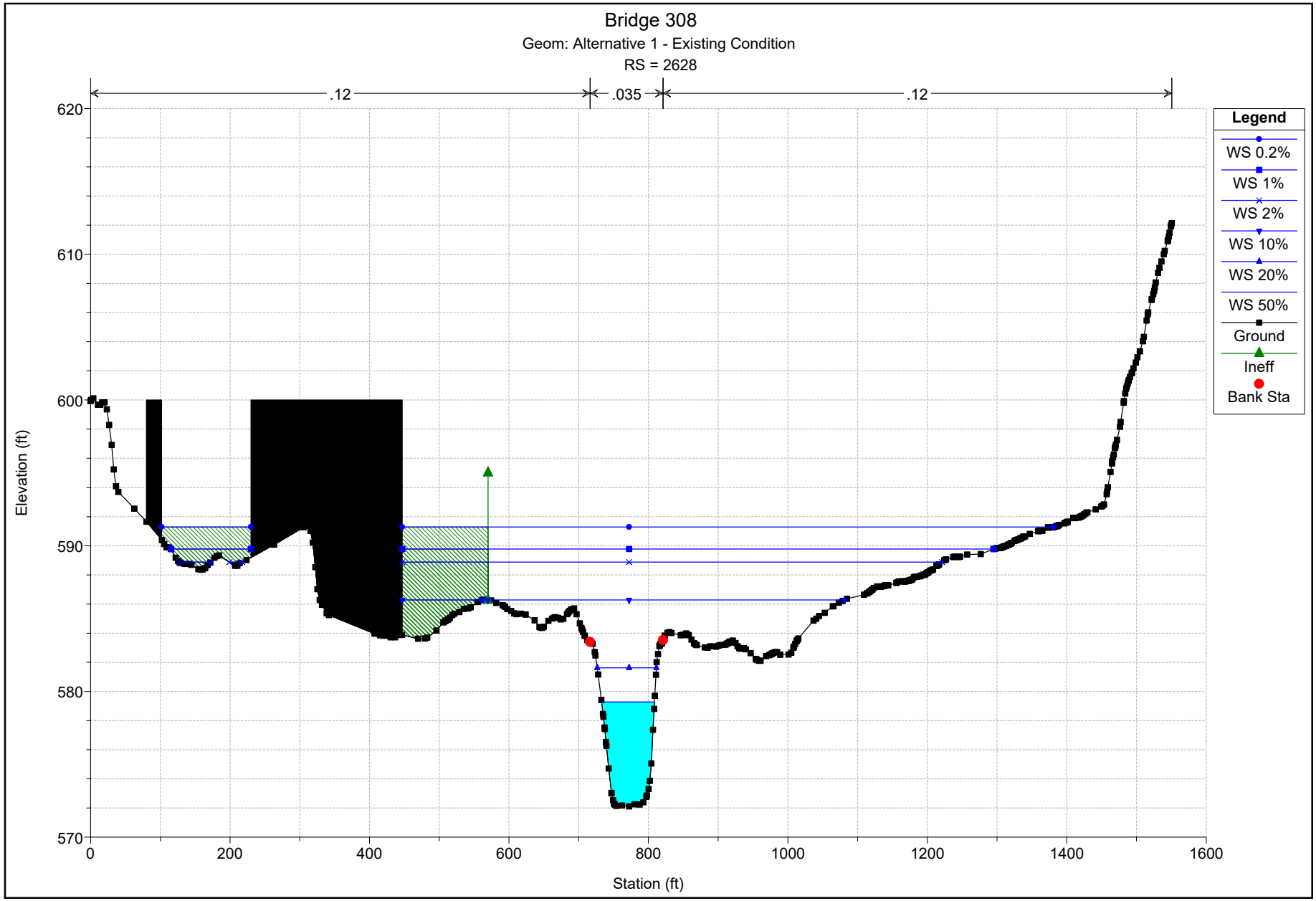

Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 4962
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)

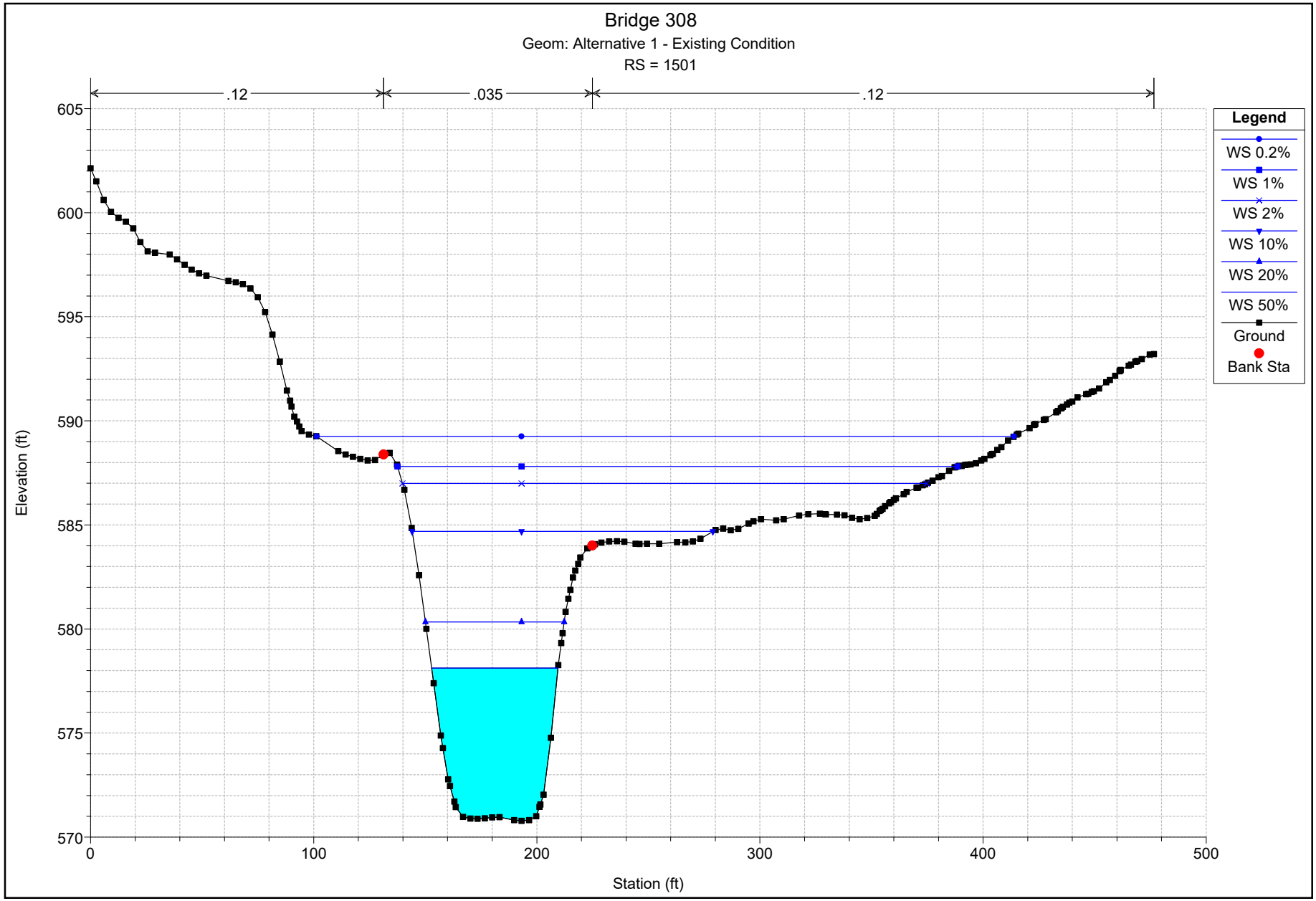

Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 3994
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 3990 BR
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 3921
.12
.035
.12
610
600
590
580
570
Elevation (ft)
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta


Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 3508
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600


Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 2628
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 1 - Existing Condition
RS = 1501
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
Station (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 50%

E.G. US. (ft)	580.75	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	580.45	E.G. Elev (ft)	580.70	580.66
Q Total (cfs)	2524.00	W.S. Elev (ft)	580.23	580.22
Q Bridge (cfs)	2524.00	Crit W.S. (ft)	575.81	576.29
Q Weir (cfs)		Max Chl Dpth (ft)	10.59	10.03
Weir Sta Lft (ft)		Vel Total (ft/s)	5.52	5.33
Weir Sta Rgt (ft)		Flow Area (sq ft)	457.32	473.65
Weir Submerg		Froude # Chl	0.36	0.30
Weir Max Depth (ft)		Specif Force (cu ft)	2445.51	2280.87
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	7.31	7.04
Min El Prs (ft)	582.85	W.P. Total (ft)	104.30	108.94
Delta EG (ft)	0.15	Conv. Total (cfs)	52011.1	53566.0
Delta WS (ft)	0.15	Top Width (ft)	62.53	67.27
BR Open Area (sq ft)	645.64	Frctn Loss (ft)	0.03	0.01
BR Open Vel (ft/s)	5.52	C & E Loss (ft)	0.01	0.06
BR Sluice Coef		Shear Total (lb/sq ft)	0.64	0.60
BR Sel Method	Energy only	Power Total (lb/ft s)	3.56	3.21

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 20%

E.G. US. (ft)	584.31	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	583.98	E.G. Elev (ft)	584.31	583.10
Q Total (cfs)	4024.00	W.S. Elev (ft)	583.31	582.70
Q Bridge (cfs)	4024.00	Crit W.S. (ft)	577.53	577.82
Q Weir (cfs)		Max Chl Dpth (ft)	13.67	12.51
Weir Sta Lft (ft)		Vel Total (ft/s)	6.05	6.23
Weir Sta Rgt (ft)		Flow Area (sq ft)	664.85	646.37
Weir Submerg		Froude # Chl	0.30	0.31
Weir Max Depth (ft)		Specif Force (cu ft)	4511.69	4027.12
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	26.27	7.42
Min El Prs (ft)	582.85	W.P. Total (ft)	221.26	142.09
Delta EG (ft)	1.21	Conv. Total (cfs)	61078.7	81362.9
Delta WS (ft)	1.28	Top Width (ft)	25.30	87.15
BR Open Area (sq ft)	645.64	Frctn Loss (ft)		
BR Open Vel (ft/s)	6.23	C & E Loss (ft)		
BR Sluice Coef	0.32	Shear Total (lb/sq ft)	0.81	0.69
BR Sel Method	Press Only	Power Total (lb/ft s)	4.93	4.32

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 10%

E.G. US. (ft)	587.52	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	586.98	E.G. Elev (ft)	587.52	587.46
Q Total (cfs)	7740.00	W.S. Elev (ft)	586.98	587.06
Q Bridge (cfs)	2797.40	Crit W.S. (ft)	580.79	580.65
Q Weir (cfs)	4942.60	Max Chl Dpth (ft)	17.33	16.88
Weir Sta Lft (ft)	617.07	Vel Total (ft/s)	4.58	3.99
Weir Sta Rgt (ft)	1582.36	Flow Area (sq ft)	1688.90	1940.57
Weir Submerg	0.85	Froude # Chl	0.33	0.29
Weir Max Depth (ft)	5.32	Specif Force (cu ft)	8975.41	9236.00
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	2.29	2.63
Min El Prs (ft)	582.85	W.P. Total (ft)	937.77	939.94
Delta EG (ft)	0.06	Conv. Total (cfs)		
Delta WS (ft)	-0.09	Top Width (ft)	738.16	757.67
BR Open Area (sq ft)	645.64	Frctn Loss (ft)		
BR Open Vel (ft/s)	4.33	C & E Loss (ft)		

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 10% (Continued)

BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 2%

E.G. US. (ft)	590.01	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	589.60	E.G. Elev (ft)	589.93	589.88
Q Total (cfs)	11040.00	W.S. Elev (ft)	589.70	589.67
Q Bridge (cfs)	3661.73	Crit W.S. (ft)	582.88	582.75
Q Weir (cfs)		Max Chl Dpth (ft)	20.06	19.49
Weir Sta Lft (ft)		Vel Total (ft/s)	2.56	2.51
Weir Sta Rgt (ft)		Flow Area (sq ft)	4318.51	4393.51
Weir Submerg		Froude # Chl	0.15	0.15
Weir Max Depth (ft)		Specif Force (cu ft)	16439.65	17101.65
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	4.12	4.55
Min El Prs (ft)	582.85	W.P. Total (ft)	1253.49	1169.91
Delta EG (ft)	0.16	Conv. Total (cfs)	183112.6	194430.3
Delta WS (ft)	0.09	Top Width (ft)	1077.13	990.02
BR Open Area (sq ft)	645.64	Frctn Loss (ft)	0.04	0.00
BR Open Vel (ft/s)	5.67	C & E Loss (ft)	0.01	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.78	0.76
BR Sel Method	Energy only	Power Total (lb/ft s)	2.00	1.90

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 1%

E.G. US. (ft)	590.88	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	590.49	E.G. Elev (ft)	590.79	590.75
Q Total (cfs)	12400.00	W.S. Elev (ft)	590.61	590.59
Q Bridge (cfs)	3143.37	Crit W.S. (ft)	582.96	582.93
Q Weir (cfs)		Max Chl Dpth (ft)	20.97	20.40
Weir Sta Lft (ft)		Vel Total (ft/s)	2.35	2.35
Weir Sta Rgt (ft)		Flow Area (sq ft)	5286.30	5283.03
Weir Submerg		Froude # Chl	0.13	0.13
Weir Max Depth (ft)		Specif Force (cu ft)	20800.40	21534.09
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	4.95	5.33
Min El Prs (ft)	582.85	W.P. Total (ft)	1276.11	1194.45
Delta EG (ft)	0.16	Conv. Total (cfs)	240122.4	251425.0
Delta WS (ft)	0.10	Top Width (ft)	1167.89	1080.78
BR Open Area (sq ft)	645.64	Frctn Loss (ft)	0.03	0.00
BR Open Vel (ft/s)	4.87	C & E Loss (ft)	0.00	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.69	0.67
BR Sel Method	Energy only	Power Total (lb/ft s)	1.62	1.58

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 0.2%

E.G. US. (ft)	592.34	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	592.00	E.G. Elev (ft)	592.25	592.23
Q Total (cfs)	14980.00	W.S. Elev (ft)	592.12	592.10
Q Bridge (cfs)	2576.37	Crit W.S. (ft)	587.97	587.87
Q Weir (cfs)		Max Chl Dpth (ft)	22.48	21.91
Weir Sta Lft (ft)		Vel Total (ft/s)	2.17	2.20
Weir Sta Rgt (ft)		Flow Area (sq ft)	6904.44	6799.74
Weir Submerg		Froude # Chl	0.11	0.11
Weir Max Depth (ft)		Specif Force (cu ft)	30060.61	30759.68
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	6.40	6.72
Min El Prs (ft)	582.85	W.P. Total (ft)	1289.34	1215.65

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3990 Profile: 0.2% (Continued)

Delta EG (ft)	0.15	Conv. Total (cfs)	351149.5	358312.3
Delta WS (ft)	0.11	Top Width (ft)	1237.38	1122.32
BR Open Area (sq ft)	645.64	Frctn Loss (ft)	0.02	0.00
BR Open Vel (ft/s)	3.99	C & E Loss (ft)	0.00	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.61	0.61
BR Sel Method	Energy only	Power Total (lb/ft s)	1.32	1.34

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	585.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.15	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.65	Flow Area (sq ft)		352.91	2.15
E.G. Slope (ft/ft)	0.002799	Area (sq ft)		352.91	2.15
Q Total (cfs)	2524.00	Flow (cfs)		2523.71	0.30
Top Width (ft)	79.61	Top Width (ft)		56.44	23.17
Vel Total (ft/s)	7.11	Avg. Vel. (ft/s)		7.15	0.14
Max Chl Dpth (ft)	7.39	Hydr. Depth (ft)		6.25	0.09
Conv. Total (cfs)	47708.5	Conv. (cfs)		47702.9	5.6
Length Wtd. (ft)	1190.99	Wetted Per. (ft)		62.12	23.41
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.99	0.02
Alpha	1.01	Stream Power (lb/ft s)		7.10	0.00
Frctn Loss (ft)	2.05	Cum Volume (acre-ft)		28.25	0.45
C & E Loss (ft)	0.12	Cum SA (acres)		4.37	1.84

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.96	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.24	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)		474.78	311.63
E.G. Slope (ft/ft)	0.002724	Area (sq ft)		474.78	311.63
Q Total (cfs)	4024.00	Flow (cfs)		3823.57	200.43
Top Width (ft)	392.35	Top Width (ft)		61.23	331.12
Vel Total (ft/s)	5.12	Avg. Vel. (ft/s)		8.05	0.64
Max Chl Dpth (ft)	9.48	Hydr. Depth (ft)		7.75	0.94
Conv. Total (cfs)	77096.7	Conv. (cfs)		73256.7	3840.0
Length Wtd. (ft)	1190.06	Wetted Per. (ft)		68.52	334.60
Min Ch El (ft)	577.76	Shear (lb/sq ft)		1.18	0.16
Alpha	2.35	Stream Power (lb/ft s)		9.49	0.10
Frctn Loss (ft)	1.68	Cum Volume (acre-ft)		40.61	30.78
C & E Loss (ft)	0.19	Cum SA (acres)		5.03	26.47

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.54	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	136.13	629.37	1612.70
E.G. Slope (ft/ft)	0.002992	Area (sq ft)	136.13	629.37	1612.70
Q Total (cfs)	7740.00	Flow (cfs)	82.19	5848.68	1809.13
Top Width (ft)	1021.64	Top Width (ft)	186.34	70.80	764.50
Vel Total (ft/s)	3.25	Avg. Vel. (ft/s)	0.60	9.29	1.12
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	0.73	8.89	2.11
Conv. Total (cfs)	141506.0	Conv. (cfs)	1502.7	106928.0	33075.3
Length Wtd. (ft)	1187.82	Wetted Per. (ft)	186.54	78.62	777.55
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.50	0.39
Alpha	6.19	Stream Power (lb/ft s)	0.08	13.90	0.43
Frctn Loss (ft)	1.30	Cum Volume (acre-ft)	4.56	58.52	158.50
C & E Loss (ft)	0.25	Cum SA (acres)	4.93	5.81	59.57

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.20	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	491.63	747.08	2943.05
E.G. Slope (ft/ft)	0.002157	Area (sq ft)	491.63	747.08	2943.05
Q Total (cfs)	11040.00	Flow (cfs)	483.78	6608.38	3947.84
Top Width (ft)	1098.59	Top Width (ft)	219.29	70.80	808.50
Vel Total (ft/s)	2.64	Avg. Vel. (ft/s)	0.98	8.85	1.34
Max Chl Dpth (ft)	13.44	Hydr. Depth (ft)	2.24	10.55	3.64
Conv. Total (cfs)	237722.0	Conv. (cfs)	10417.2	142296.9	85008.0
Length Wtd. (ft)	1186.76	Wetted Per. (ft)	219.63	78.62	828.35
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.28	0.48
Alpha	6.82	Stream Power (lb/ft s)	0.30	11.32	0.64
Frctn Loss (ft)	0.98	Cum Volume (acre-ft)	17.19	71.44	286.54
C & E Loss (ft)	0.18	Cum SA (acres)	6.82	6.02	63.15

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.64	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.91	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	649.52	797.13	3516.09
E.G. Slope (ft/ft)	0.001848	Area (sq ft)	649.52	797.13	3516.09
Q Total (cfs)	12400.00	Flow (cfs)	701.90	6814.53	4883.57
Top Width (ft)	1120.33	Top Width (ft)	237.14	70.80	812.38
Vel Total (ft/s)	2.50	Avg. Vel. (ft/s)	1.08	8.55	1.39
Max Chl Dpth (ft)	14.15	Hydr. Depth (ft)	2.74	11.26	4.33
Conv. Total (cfs)	288483.4	Conv. (cfs)	16329.5	158538.7	113615.2
Length Wtd. (ft)	1186.45	Wetted Per. (ft)	237.57	78.62	835.13
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.32	1.17	0.49
Alpha	6.57	Stream Power (lb/ft s)	0.34	10.00	0.67
Frctn Loss (ft)	0.86	Cum Volume (acre-ft)	23.88	76.35	337.24
C & E Loss (ft)	0.16	Cum SA (acres)	9.71	6.06	64.09

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.19	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	993.99	888.37	4566.21
E.G. Slope (ft/ft)	0.001454	Area (sq ft)	993.99	888.37	4566.21
Q Total (cfs)	14980.00	Flow (cfs)	1101.85	7241.17	6636.97
Top Width (ft)	1207.86	Top Width (ft)	319.68	70.80	817.38
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)	1.11	8.15	1.45
Max Chl Dpth (ft)	15.43	Hydr. Depth (ft)	3.11	12.55	5.59
Conv. Total (cfs)	392890.6	Conv. (cfs)	28899.0	189919.2	174072.4
Length Wtd. (ft)	1186.04	Wetted Per. (ft)	320.31	78.62	845.44
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.28	1.03	0.49
Alpha	6.14	Stream Power (lb/ft s)	0.31	8.36	0.71
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	40.27	84.98	428.39
C & E Loss (ft)	0.12	Cum SA (acres)	12.95	6.12	66.13

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	583.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.37	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		493.30	18.10
E.G. Slope (ft/ft)	0.001166	Area (sq ft)		493.30	18.10
Q Total (cfs)	2524.00	Flow (cfs)		2520.82	3.18
Top Width (ft)	147.30	Top Width (ft)		69.53	77.77
Vel Total (ft/s)	4.94	Avg. Vel. (ft/s)		5.11	0.18
Max Chl Dpth (ft)	8.73	Hydr. Depth (ft)		7.10	0.23
Conv. Total (cfs)	73904.2	Conv. (cfs)		73811.2	93.0
Length Wtd. (ft)	789.30	Wetted Per. (ft)		74.56	77.80
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.48	0.02
Alpha	1.07	Stream Power (lb/ft s)		2.46	0.00
Frctn Loss (ft)	1.93	Cum Volume (acre-ft)		16.68	0.18
C & E Loss (ft)	0.14	Cum SA (acres)		2.65	0.47

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	586.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.00	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		689.59	1318.44
E.G. Slope (ft/ft)	0.000862	Area (sq ft)		689.59	1318.44
Q Total (cfs)	4024.00	Flow (cfs)		3400.25	623.75
Top Width (ft)	1126.28	Top Width (ft)		81.40	1044.87
Vel Total (ft/s)	2.00	Avg. Vel. (ft/s)		4.93	0.47
Max Chl Dpth (ft)	11.36	Hydr. Depth (ft)		8.47	1.26
Conv. Total (cfs)	137097.6	Conv. (cfs)		115846.4	21251.2
Length Wtd. (ft)	764.11	Wetted Per. (ft)		87.61	1045.44
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.42	0.07
Alpha	5.12	Stream Power (lb/ft s)		2.09	0.03
Frctn Loss (ft)	1.24	Cum Volume (acre-ft)		24.69	8.67
C & E Loss (ft)	0.10	Cum SA (acres)		3.08	7.80

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.83	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		941.79	5209.32
E.G. Slope (ft/ft)	0.000560	Area (sq ft)		941.79	5209.32
Q Total (cfs)	7740.00	Flow (cfs)		4195.66	3544.34
Top Width (ft)	1716.87	Top Width (ft)		93.86	1623.01
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)		4.46	0.68
Max Chl Dpth (ft)	14.19	Hydr. Depth (ft)		10.03	3.21
Conv. Total (cfs)	327004.9	Conv. (cfs)		177261.1	149743.8
Length Wtd. (ft)	688.27	Wetted Per. (ft)		100.89	1629.66
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.33	0.11
Alpha	6.93	Stream Power (lb/ft s)		1.45	0.08
Frctn Loss (ft)	0.74	Cum Volume (acre-ft)	2.70	37.04	65.95
C & E Loss (ft)	0.10	Cum SA (acres)	2.39	3.56	27.18

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.64	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1114.51	8220.10
E.G. Slope (ft/ft)	0.000435	Area (sq ft)		1114.51	8220.10
Q Total (cfs)	11040.00	Flow (cfs)		4783.16	6256.84
Top Width (ft)	1780.97	Top Width (ft)		96.94	1684.04
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		4.29	0.76
Max Chl Dpth (ft)	16.00	Hydr. Depth (ft)		11.50	4.88
Conv. Total (cfs)	529281.2	Conv. (cfs)		229315.0	299966.1
Length Wtd. (ft)	631.65	Wetted Per. (ft)		104.46	1694.44
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.29	0.13
Alpha	5.94	Stream Power (lb/ft s)		1.24	0.10
Frctn Loss (ft)	0.44	Cum Volume (acre-ft)	10.46	45.99	135.11
C & E Loss (ft)	0.03	Cum SA (acres)	3.82	3.73	29.34

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.41	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1189.41	9516.55
E.G. Slope (ft/ft)	0.000386	Area (sq ft)		1189.41	9516.55
Q Total (cfs)	12400.00	Flow (cfs)		4971.54	7428.46
Top Width (ft)	1792.07	Top Width (ft)		98.20	1693.87
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)		4.18	0.78
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)		12.11	5.62
Conv. Total (cfs)	631508.7	Conv. (cfs)		253191.1	378317.6
Length Wtd. (ft)	620.31	Wetted Per. (ft)		105.94	1705.84
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.27	0.13
Alpha	5.49	Stream Power (lb/ft s)		1.13	0.10
Frctn Loss (ft)	0.37	Cum Volume (acre-ft)	15.00	49.20	160.44
C & E Loss (ft)	0.03	Cum SA (acres)	6.47	3.75	30.10

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.78	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.09	1325.19	11862.88
E.G. Slope (ft/ft)	0.000324	Area (sq ft)	0.09	1325.19	11862.88
Q Total (cfs)	14980.00	Flow (cfs)	0.01	5385.65	9594.34
Top Width (ft)	1830.40	Top Width (ft)	0.54	99.90	1729.95
Vel Total (ft/s)	1.14	Avg. Vel. (ft/s)	0.06	4.06	0.81
Max Chl Dpth (ft)	18.14	Hydr. Depth (ft)	0.17	13.27	6.86
Conv. Total (cfs)	832845.5	Conv. (cfs)	0.3	299426.8	533418.3
Length Wtd. (ft)	607.51	Wetted Per. (ft)	0.64	107.93	1744.71
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.25	0.14
Alpha	4.93	Stream Power (lb/ft s)	0.00	1.01	0.11
Frctn Loss (ft)	0.30	Cum Volume (acre-ft)	26.67	54.72	205.52
C & E Loss (ft)	0.02	Cum SA (acres)	8.57	3.78	31.57

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	581.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.76	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.95	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		236.91	
E.G. Slope (ft/ft)	0.008022	Area (sq ft)		236.91	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	47.10	Top Width (ft)		47.10	
Vel Total (ft/s)	10.65	Avg. Vel. (ft/s)		10.65	
Max Chl Dpth (ft)	6.41	Hydr. Depth (ft)		5.03	
Conv. Total (cfs)	28180.3	Conv. (cfs)		28180.3	
Length Wtd. (ft)	295.10	Wetted Per. (ft)		50.52	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.35	
Alpha	1.00	Stream Power (lb/ft s)		25.02	
Frctn Loss (ft)	0.52	Cum Volume (acre-ft)		10.06	0.08
C & E Loss (ft)	0.44	Cum SA (acres)		1.59	0.04

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	584.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.32	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.67	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		432.12	59.33
E.G. Slope (ft/ft)	0.004104	Area (sq ft)		432.12	59.33
Q Total (cfs)	4024.00	Flow (cfs)		3992.43	31.57
Top Width (ft)	172.26	Top Width (ft)		63.28	108.98
Vel Total (ft/s)	8.19	Avg. Vel. (ft/s)		9.24	0.53
Max Chl Dpth (ft)	10.13	Hydr. Depth (ft)		6.83	0.54
Conv. Total (cfs)	62810.5	Conv. (cfs)		62317.7	492.8
Length Wtd. (ft)	295.85	Wetted Per. (ft)		69.02	109.11
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.60	0.14
Alpha	1.26	Stream Power (lb/ft s)		14.82	0.07
Frctn Loss (ft)	0.38	Cum Volume (acre-ft)		14.52	1.11
C & E Loss (ft)	0.30	Cum SA (acres)		1.77	1.47

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		649.69	1492.17
E.G. Slope (ft/ft)	0.002889	Area (sq ft)		649.69	1492.17
Q Total (cfs)	7740.00	Flow (cfs)		6258.57	1481.43
Top Width (ft)	998.57	Top Width (ft)		68.12	930.45
Vel Total (ft/s)	3.61	Avg. Vel. (ft/s)		9.63	0.99
Max Chl Dpth (ft)	13.45	Hydr. Depth (ft)		9.54	1.60
Conv. Total (cfs)	143990.2	Conv. (cfs)		116430.7	27559.5
Length Wtd. (ft)	307.27	Wetted Per. (ft)		74.91	938.80
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.56	0.29
Alpha	5.76	Stream Power (lb/ft s)		15.07	0.28
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	2.70	22.62	29.21
C & E Loss (ft)	0.19	Cum SA (acres)	2.39	2.09	13.18

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.85	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	4.95	855.56	4189.97
E.G. Slope (ft/ft)	0.001267	Area (sq ft)	4.95	855.56	4189.97
Q Total (cfs)	11040.00	Flow (cfs)	0.71	6118.03	4921.26
Top Width (ft)	1052.46	Top Width (ft)	28.03	75.90	948.53
Vel Total (ft/s)	2.19	Avg. Vel. (ft/s)	0.14	7.15	1.17
Max Chl Dpth (ft)	16.31	Hydr. Depth (ft)	0.18	11.27	4.42
Conv. Total (cfs)	310166.5	Conv. (cfs)	19.9	171884.8	138261.8
Length Wtd. (ft)	321.66	Wetted Per. (ft)	28.05	83.11	974.41
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.81	0.34
Alpha	6.06	Stream Power (lb/ft s)	0.00	5.82	0.40
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	10.41	28.14	67.07
C & E Loss (ft)	0.01	Cum SA (acres)	3.55	2.16	14.90

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.74	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	80.25	922.84	5033.92
E.G. Slope (ft/ft)	0.001058	Area (sq ft)	103.72	922.84	5033.92
Q Total (cfs)	12400.00	Flow (cfs)	23.85	6343.05	6033.10
Top Width (ft)	1256.17	Top Width (ft)	223.28	75.90	956.99
Vel Total (ft/s)	2.05	Avg. Vel. (ft/s)	0.30	6.87	1.20
Max Chl Dpth (ft)	17.20	Hydr. Depth (ft)	0.51	12.16	5.26
Conv. Total (cfs)	381206.8	Conv. (cfs)	733.3	195001.1	185472.4
Length Wtd. (ft)	323.64	Wetted Per. (ft)	157.56	83.11	988.24
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.73	0.34
Alpha	5.89	Stream Power (lb/ft s)	0.01	5.04	0.40
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	13.98	30.05	80.66
C & E Loss (ft)	0.00	Cum SA (acres)	4.28	2.17	15.56

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.23	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	323.55	1035.94	6500.89
E.G. Slope (ft/ft)	0.000843	Area (sq ft)	559.46	1035.94	6500.89
Q Total (cfs)	14980.00	Flow (cfs)	183.41	6866.72	7929.87
Top Width (ft)	1440.72	Top Width (ft)	360.96	75.90	1003.86
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)	0.57	6.63	1.22
Max Chl Dpth (ft)	18.69	Hydr. Depth (ft)	1.98	13.65	6.48
Conv. Total (cfs)	515793.8	Conv. (cfs)	6315.2	236436.0	273042.6
Length Wtd. (ft)	324.48	Wetted Per. (ft)	163.49	83.11	1044.08
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.66	0.33
Alpha	5.76	Stream Power (lb/ft s)	0.06	4.35	0.40
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	21.19	33.32	104.83
C & E Loss (ft)	0.00	Cum SA (acres)	5.03	2.19	16.58

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	580.75	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.45	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	575.10	Flow Area (sq ft)		579.89	
E.G. Slope (ft/ft)	0.000761	Area (sq ft)		579.89	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.06	Top Width (ft)		75.06	
Vel Total (ft/s)	4.35	Avg. Vel. (ft/s)		4.35	
Max Chl Dpth (ft)	10.81	Hydr. Depth (ft)		7.73	
Conv. Total (cfs)	91510.4	Conv. (cfs)		91510.4	
Length Wtd. (ft)	6.00	Wetted Per. (ft)		80.92	
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.34	
Alpha	1.00	Stream Power (lb/ft s)		1.48	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		7.30	0.08
C & E Loss (ft)	0.04	Cum SA (acres)		1.18	0.04

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	584.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.98	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	576.62	Flow Area (sq ft)		859.59	114.56
E.G. Slope (ft/ft)	0.000615	Area (sq ft)		859.59	114.56
Q Total (cfs)	4024.00	Flow (cfs)		3986.21	37.79
Top Width (ft)	186.58	Top Width (ft)		83.80	102.78
Vel Total (ft/s)	4.13	Avg. Vel. (ft/s)		4.64	0.33
Max Chl Dpth (ft)	14.34	Hydr. Depth (ft)		10.26	1.11
Conv. Total (cfs)	162255.6	Conv. (cfs)		160732.0	1523.6
Length Wtd. (ft)	6.00	Wetted Per. (ft)		93.00	102.91
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.35	0.04
Alpha	1.25	Stream Power (lb/ft s)		1.65	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)		10.15	0.35
C & E Loss (ft)		Cum SA (acres)		1.27	0.55

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.98	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	579.48	Flow Area (sq ft)	53.56	1127.20	1267.42
E.G. Slope (ft/ft)	0.000884	Area (sq ft)	53.56	1127.20	1267.42
Q Total (cfs)	7740.00	Flow (cfs)	13.20	7005.07	721.73
Top Width (ft)	871.36	Top Width (ft)	101.38	93.01	676.96
Vel Total (ft/s)	3.16	Avg. Vel. (ft/s)	0.25	6.21	0.57
Max Chl Dpth (ft)	17.33	Hydr. Depth (ft)	0.53	12.12	1.87
Conv. Total (cfs)	260291.9	Conv. (cfs)	443.9	235576.5	24271.5
Length Wtd. (ft)	6.00	Wetted Per. (ft)	101.40	103.20	679.59
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.03	0.60	0.10
Alpha	3.50	Stream Power (lb/ft s)	0.01	3.75	0.06
Frctn Loss (ft)		Cum Volume (acre-ft)	2.64	16.60	17.11
C & E Loss (ft)		Cum SA (acres)	2.27	1.55	6.14

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	590.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.60	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	581.57	Flow Area (sq ft)	553.62	1371.14	3095.04
E.G. Slope (ft/ft)	0.000629	Area (sq ft)	561.97	1371.14	3095.04
Q Total (cfs)	11040.00	Flow (cfs)	304.78	8192.66	2542.56
Top Width (ft)	1067.63	Top Width (ft)	260.22	93.01	714.40
Vel Total (ft/s)	2.20	Avg. Vel. (ft/s)	0.55	5.98	0.82
Max Chl Dpth (ft)	19.96	Hydr. Depth (ft)	2.36	14.74	4.33
Conv. Total (cfs)	440023.6	Conv. (cfs)	12147.6	326536.5	101339.5
Length Wtd. (ft)	6.00	Wetted Per. (ft)	234.70	103.20	722.47
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.09	0.52	0.17
Alpha	5.51	Stream Power (lb/ft s)	0.05	3.12	0.14
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	9.79	20.60	35.14
C & E Loss (ft)	0.07	Cum SA (acres)	3.23	1.59	7.61

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.49	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	582.35	Flow Area (sq ft)	778.08	1454.54	3737.68
E.G. Slope (ft/ft)	0.000572	Area (sq ft)	834.79	1454.54	3737.68
Q Total (cfs)	12400.00	Flow (cfs)	484.42	8618.67	3296.92
Top Width (ft)	1162.05	Top Width (ft)	349.85	93.01	719.19
Vel Total (ft/s)	2.08	Avg. Vel. (ft/s)	0.62	5.93	0.88
Max Chl Dpth (ft)	20.85	Hydr. Depth (ft)	3.05	15.64	5.20
Conv. Total (cfs)	518386.9	Conv. (cfs)	20251.4	360306.8	137828.8
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	729.13
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.11	0.50	0.18
Alpha	5.71	Stream Power (lb/ft s)	0.07	2.98	0.16
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	12.94	22.00	42.22
C & E Loss (ft)	0.08	Cum SA (acres)	3.65	1.60	8.22

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.00	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	584.19	Flow Area (sq ft)	1161.59	1594.28	4825.56
E.G. Slope (ft/ft)	0.000503	Area (sq ft)	1417.18	1594.28	4825.56
Q Total (cfs)	14980.00	Flow (cfs)	886.04	9419.45	4674.52
Top Width (ft)	1234.00	Top Width (ft)	411.84	93.01	729.15
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	0.76	5.91	0.97
Max Chl Dpth (ft)	22.36	Hydr. Depth (ft)	4.55	17.14	6.62
Conv. Total (cfs)	667663.0	Conv. (cfs)	39491.0	419827.5	208344.5
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	742.21
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.14	0.49	0.20
Alpha	5.71	Stream Power (lb/ft s)	0.11	2.87	0.20
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	19.01	24.41	55.19
C & E Loss (ft)	0.08	Cum SA (acres)	4.18	1.62	8.99

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.30	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.67	Flow Area (sq ft)		582.54	
E.G. Slope (ft/ft)	0.000827	Area (sq ft)		582.54	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	81.27	Top Width (ft)		81.27	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	10.12	Hydr. Depth (ft)		7.17	
Conv. Total (cfs)	87756.6	Conv. (cfs)		87756.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		87.15	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.50	
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		7.05	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.14	0.04

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.70	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	577.01	Flow Area (sq ft)		785.33	41.44
E.G. Slope (ft/ft)	0.000877	Area (sq ft)		785.33	41.44
Q Total (cfs)	4024.00	Flow (cfs)		4015.05	8.95
Top Width (ft)	183.16	Top Width (ft)		88.47	94.69
Vel Total (ft/s)	4.87	Avg. Vel. (ft/s)		5.11	0.22
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)		8.88	0.44
Conv. Total (cfs)	135845.6	Conv. (cfs)		135543.6	302.0
Length Wtd. (ft)	126.22	Wetted Per. (ft)		95.81	94.80
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.45	0.02
Alpha	1.10	Stream Power (lb/ft s)		2.30	0.01
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		9.80	0.34
C & E Loss (ft)	0.10	Cum SA (acres)		1.25	0.53

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.06	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.64	Flow Area (sq ft)	55.60	1197.93	1779.79
E.G. Slope (ft/ft)	0.000663	Area (sq ft)	79.98	1197.93	1779.79
Q Total (cfs)	7740.00	Flow (cfs)	10.95	6559.58	1169.46
Top Width (ft)	878.09	Top Width (ft)	151.28	97.77	629.04
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)	0.20	5.48	0.66
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	0.42	12.25	2.83
Conv. Total (cfs)	300520.7	Conv. (cfs)	425.3	254688.8	45406.7
Length Wtd. (ft)	134.79	Wetted Per. (ft)	131.01	106.89	630.02
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.46	0.12
Alpha	3.91	Stream Power (lb/ft s)	0.00	2.54	0.08
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	2.63	16.20	16.49
C & E Loss (ft)	0.07	Cum SA (acres)	2.24	1.52	5.80

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.54	Flow Area (sq ft)	558.45	1437.35	3373.49
E.G. Slope (ft/ft)	0.000524	Area (sq ft)	639.77	1437.35	3373.49
Q Total (cfs)	11040.00	Flow (cfs)	303.61	7896.79	2839.60
Top Width (ft)	989.21	Top Width (ft)	233.77	97.77	657.67
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.54	5.49	0.84
Max Chl Dpth (ft)	19.32	Hydr. Depth (ft)	2.66	14.70	5.13
Conv. Total (cfs)	482407.9	Conv. (cfs)	13266.7	345060.9	124080.2
Length Wtd. (ft)	137.38	Wetted Per. (ft)	210.15	106.89	658.97
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.09	0.44	0.17
Alpha	5.15	Stream Power (lb/ft s)	0.05	2.42	0.14
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	9.50	20.07	33.61
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.54	7.26

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	582.43	Flow Area (sq ft)	744.43	1523.94	3959.44
E.G. Slope (ft/ft)	0.000486	Area (sq ft)	866.26	1523.94	3959.44
Q Total (cfs)	12400.00	Flow (cfs)	472.05	8382.81	3545.14
Top Width (ft)	1069.46	Top Width (ft)	296.65	97.77	675.04
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	0.63	5.50	0.90
Max Chl Dpth (ft)	20.21	Hydr. Depth (ft)	3.55	15.59	5.87
Conv. Total (cfs)	562692.6	Conv. (cfs)	21420.9	380398.7	160873.0
Length Wtd. (ft)	137.55	Wetted Per. (ft)	210.15	106.89	676.41
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.11	0.43	0.18
Alpha	5.22	Stream Power (lb/ft s)	0.07	2.38	0.16
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	12.52	21.43	40.36
C & E Loss (ft)	0.04	Cum SA (acres)	3.48	1.55	7.86

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.88	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	585.01	Flow Area (sq ft)	1056.59	1669.28	4990.37
E.G. Slope (ft/ft)	0.000446	Area (sq ft)	1322.20	1669.28	4990.37
Q Total (cfs)	14980.00	Flow (cfs)	810.99	9351.54	4817.47
Top Width (ft)	1117.25	Top Width (ft)	317.28	97.77	702.20
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.77	5.60	0.97
Max Chl Dpth (ft)	21.70	Hydr. Depth (ft)	5.03	17.07	7.11
Conv. Total (cfs)	709252.4	Conv. (cfs)	38397.7	442763.8	228090.9
Length Wtd. (ft)	137.47	Wetted Per. (ft)	210.15	106.89	703.71
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.14	0.43	0.20
Alpha	5.29	Stream Power (lb/ft s)	0.11	2.44	0.19
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.32	23.77	52.79
C & E Loss (ft)	0.04	Cum SA (acres)	3.99	1.57	8.62

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.36	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

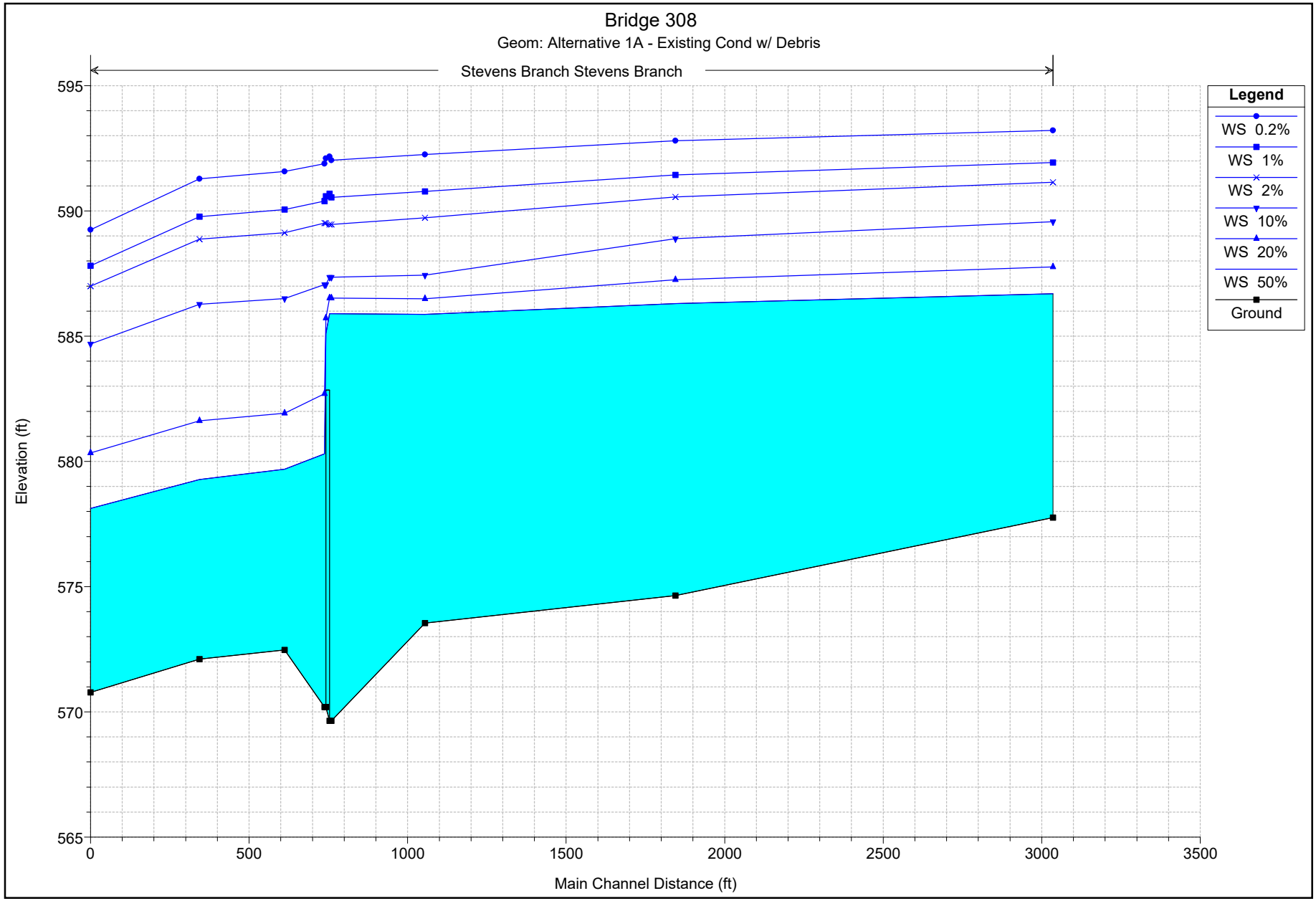
Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 1501 Profile: 1%

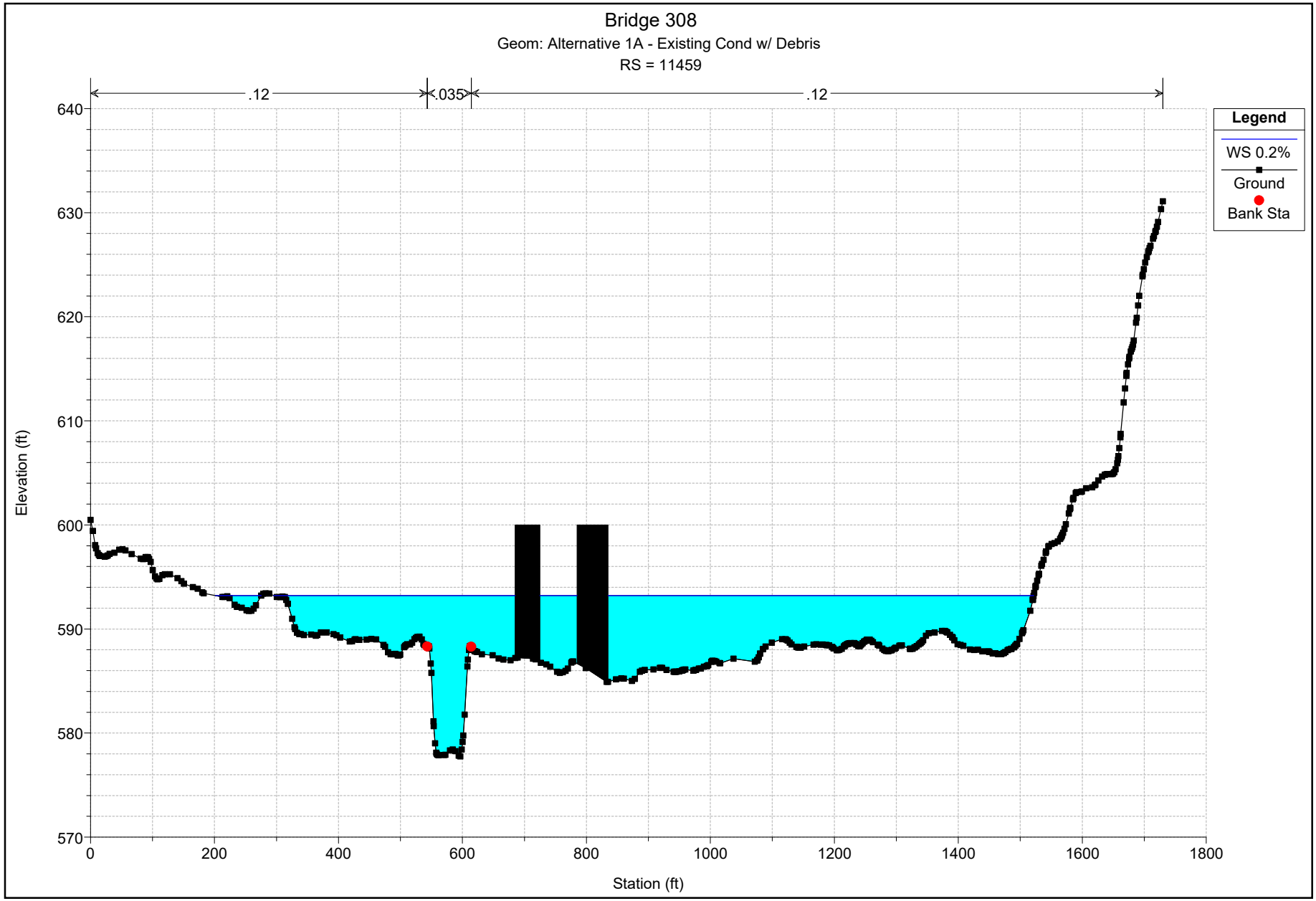
E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

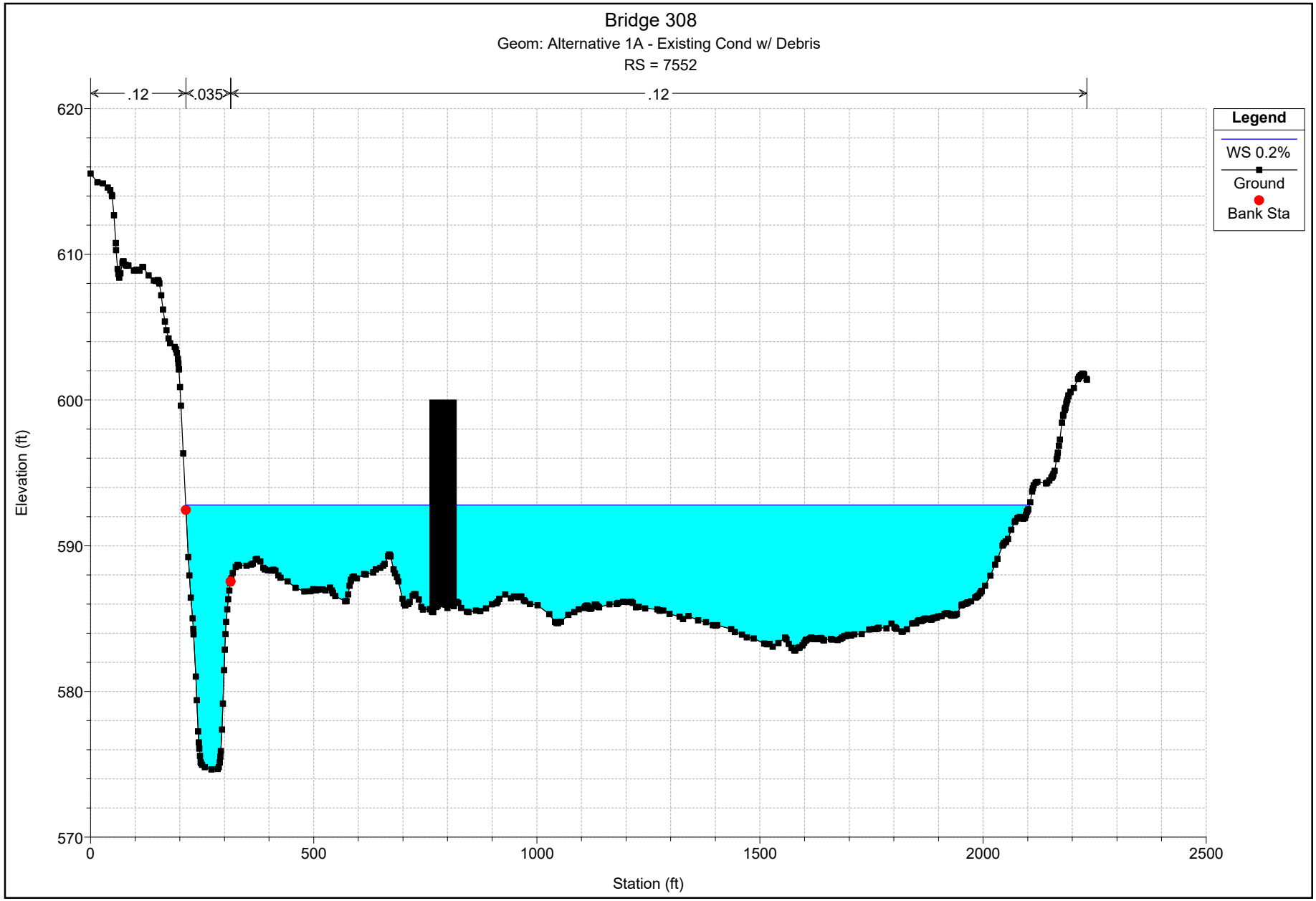
Plan: Alt 1 Ex_Cond Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

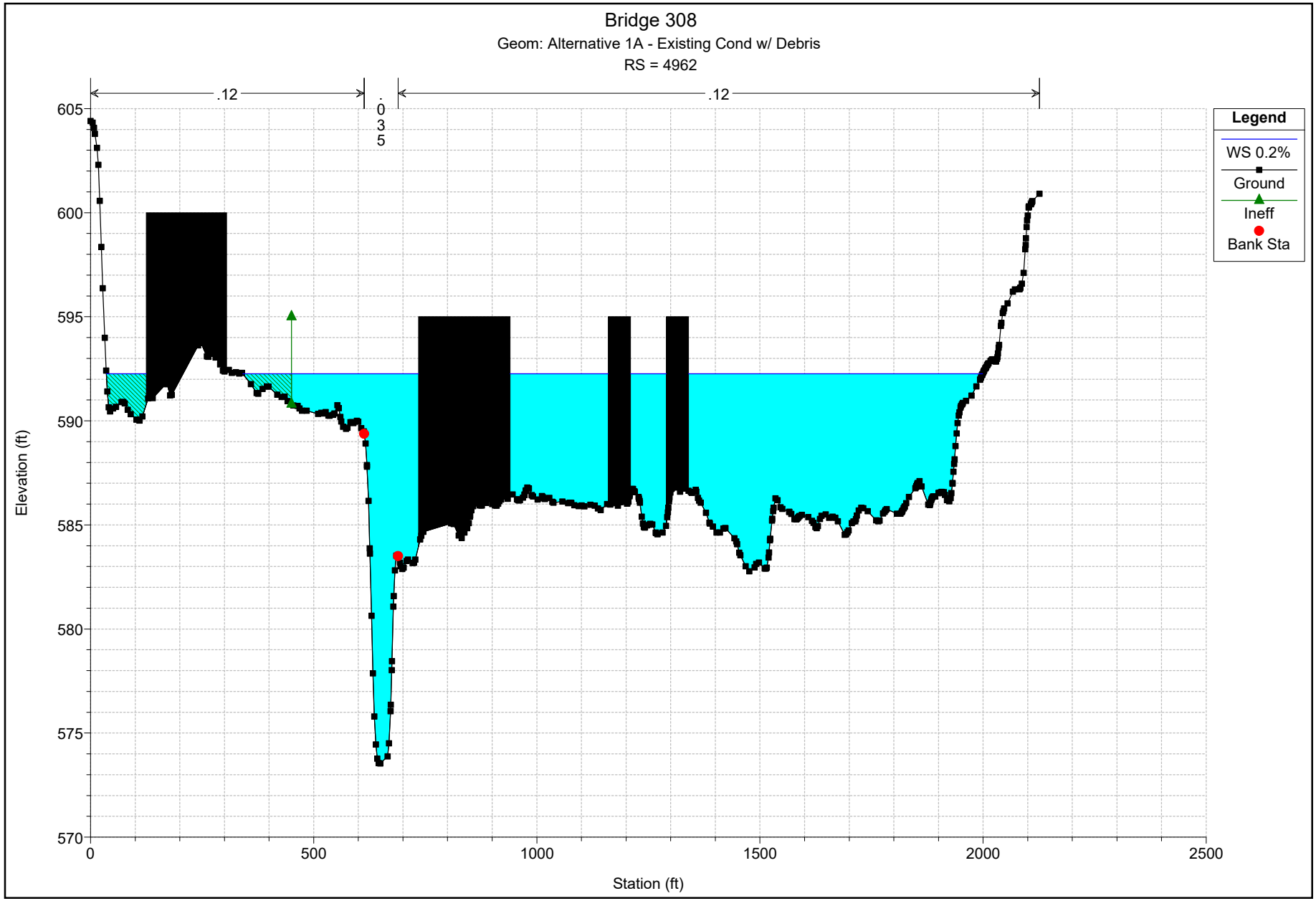
E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

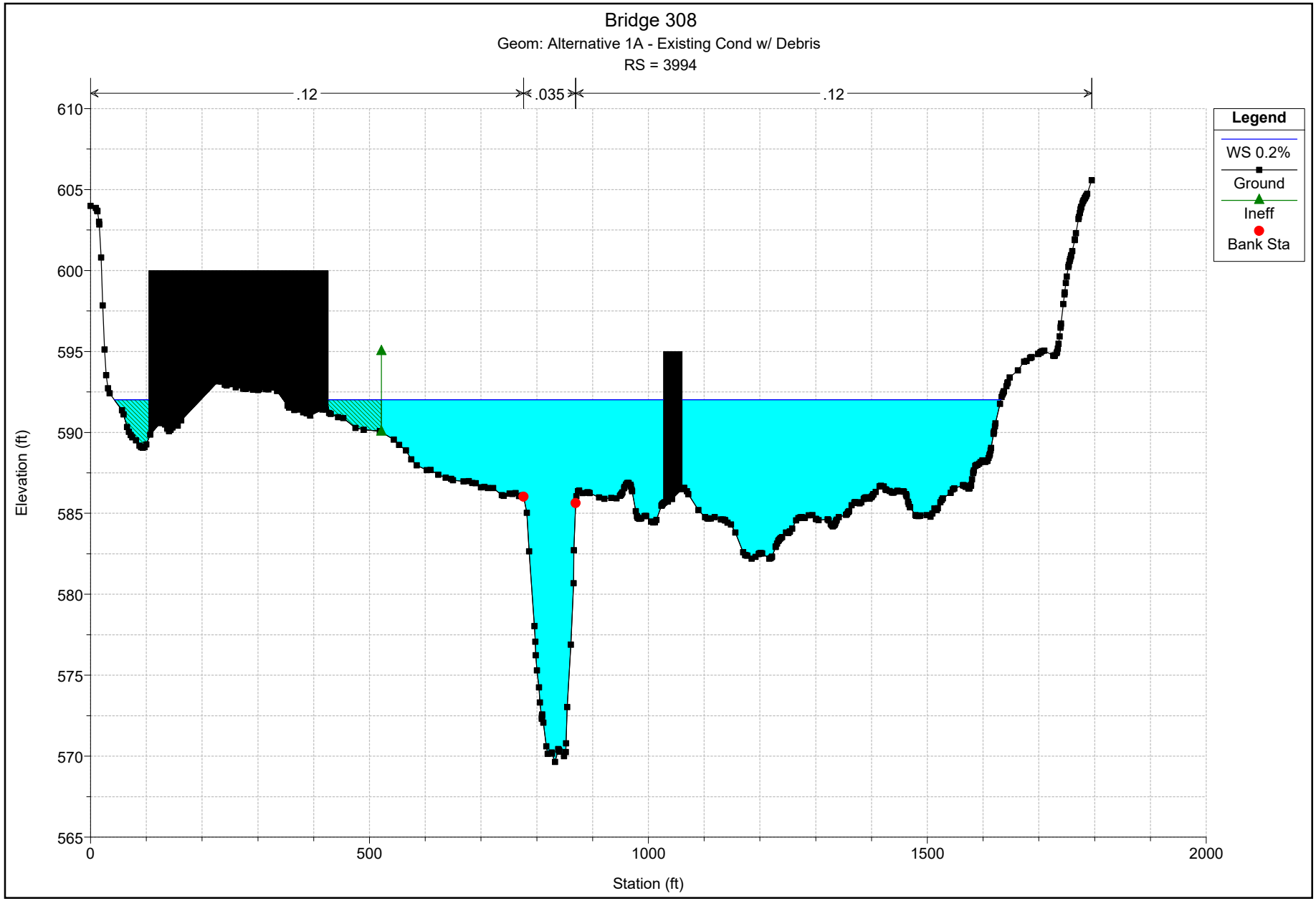
HEC-RAS Results for Alternative 1A

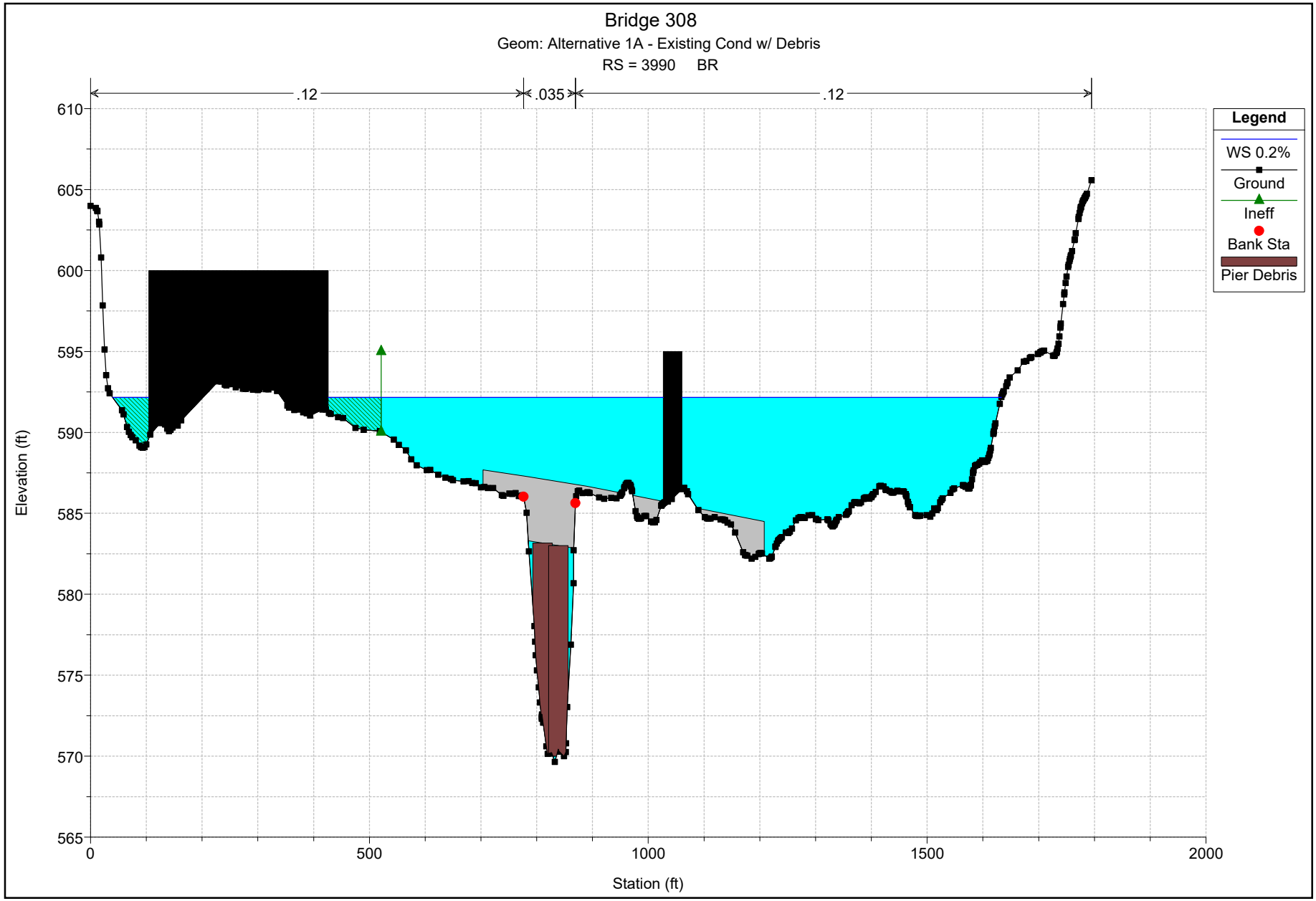

Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

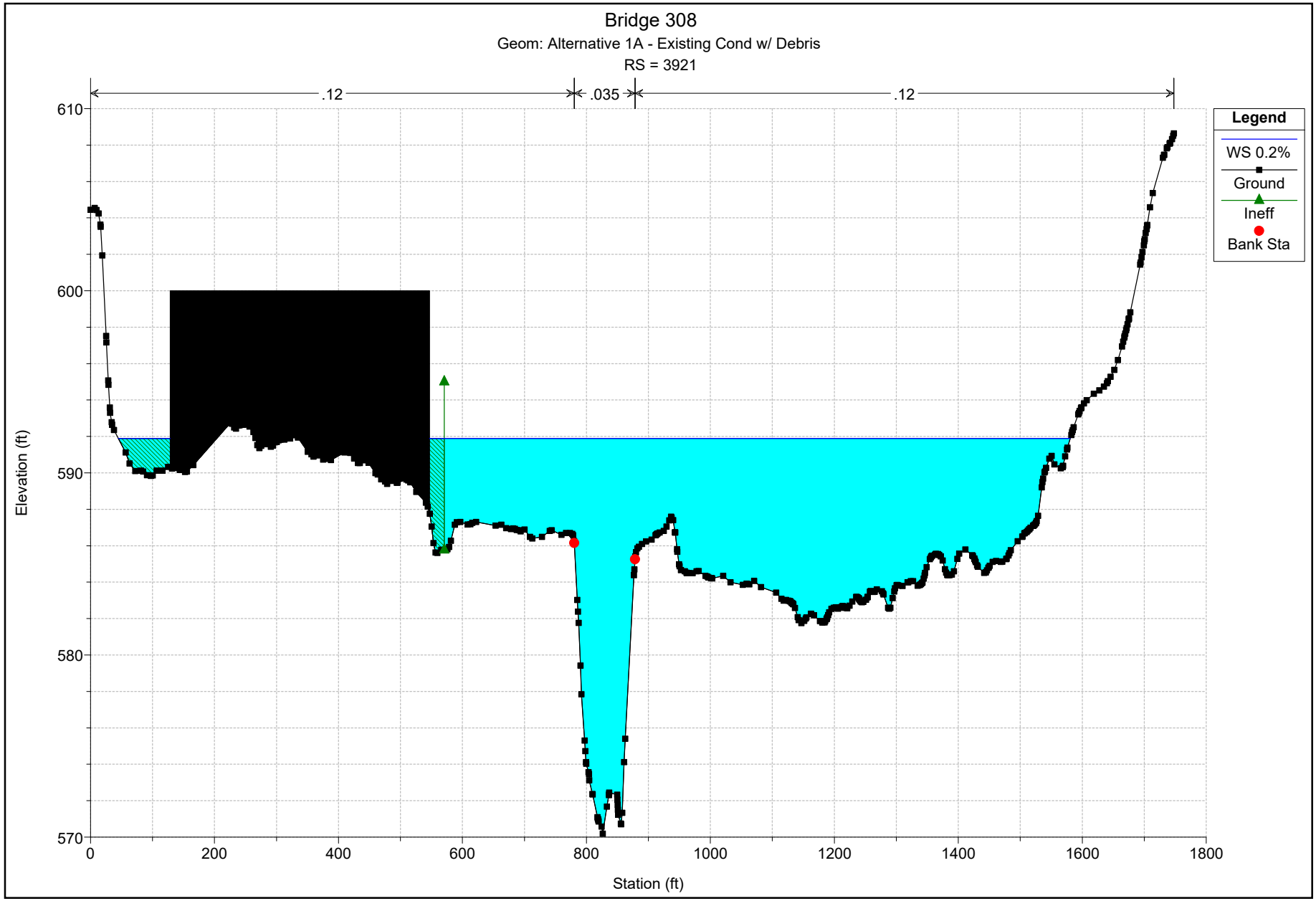

Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 11459
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

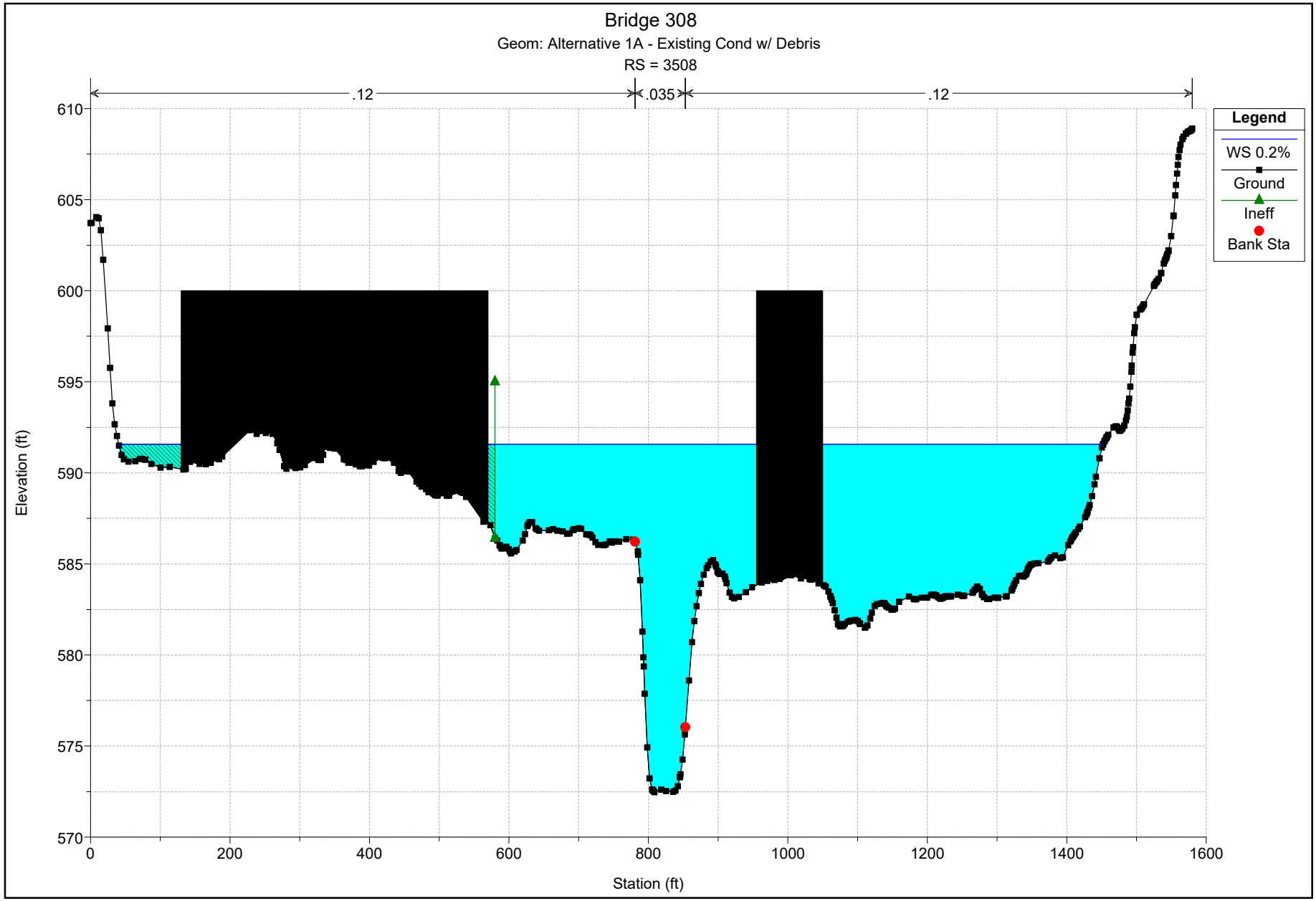

Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 7552
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
500
1000
1500
2000
2500
Station (ft)

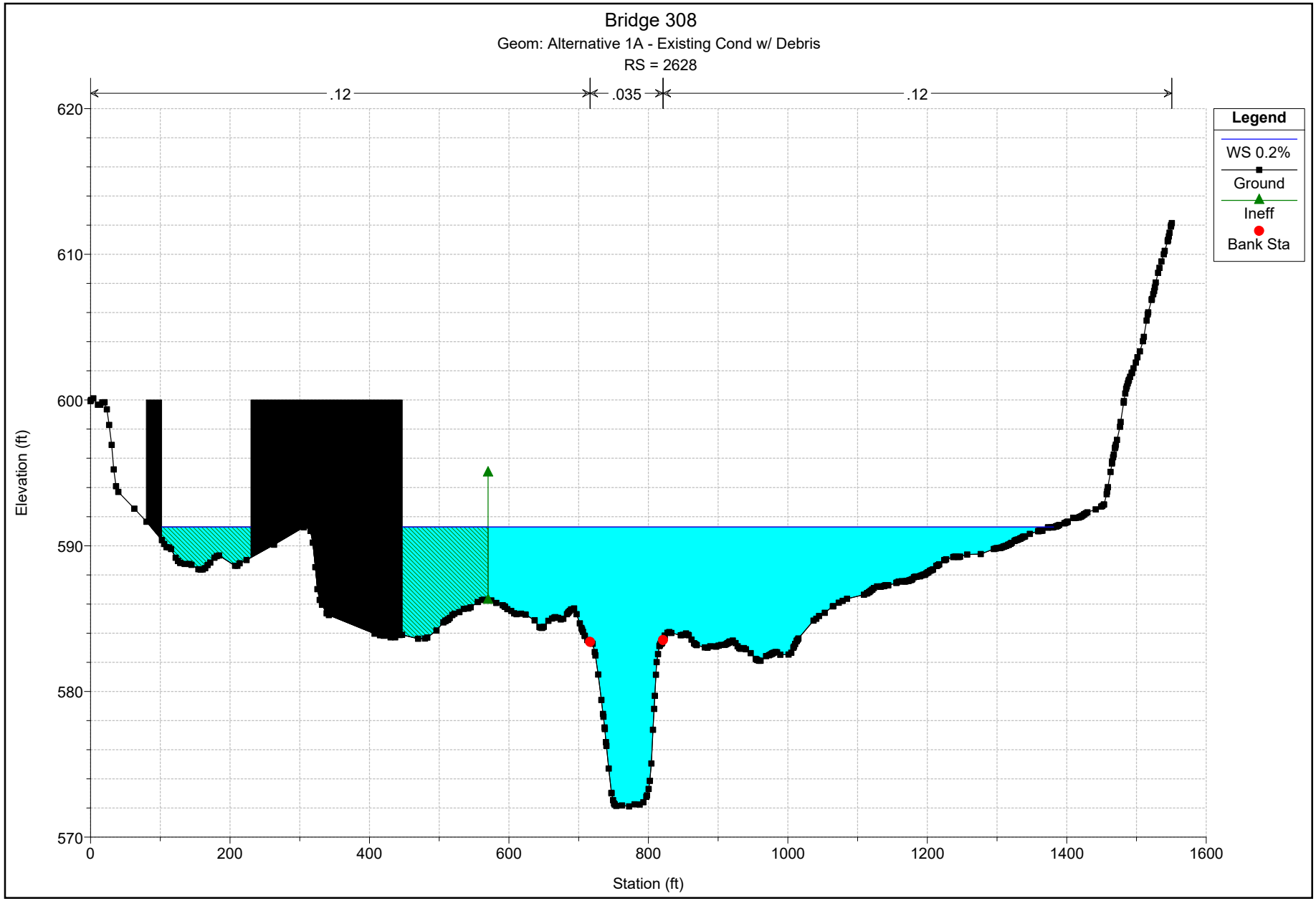

Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 4962
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)

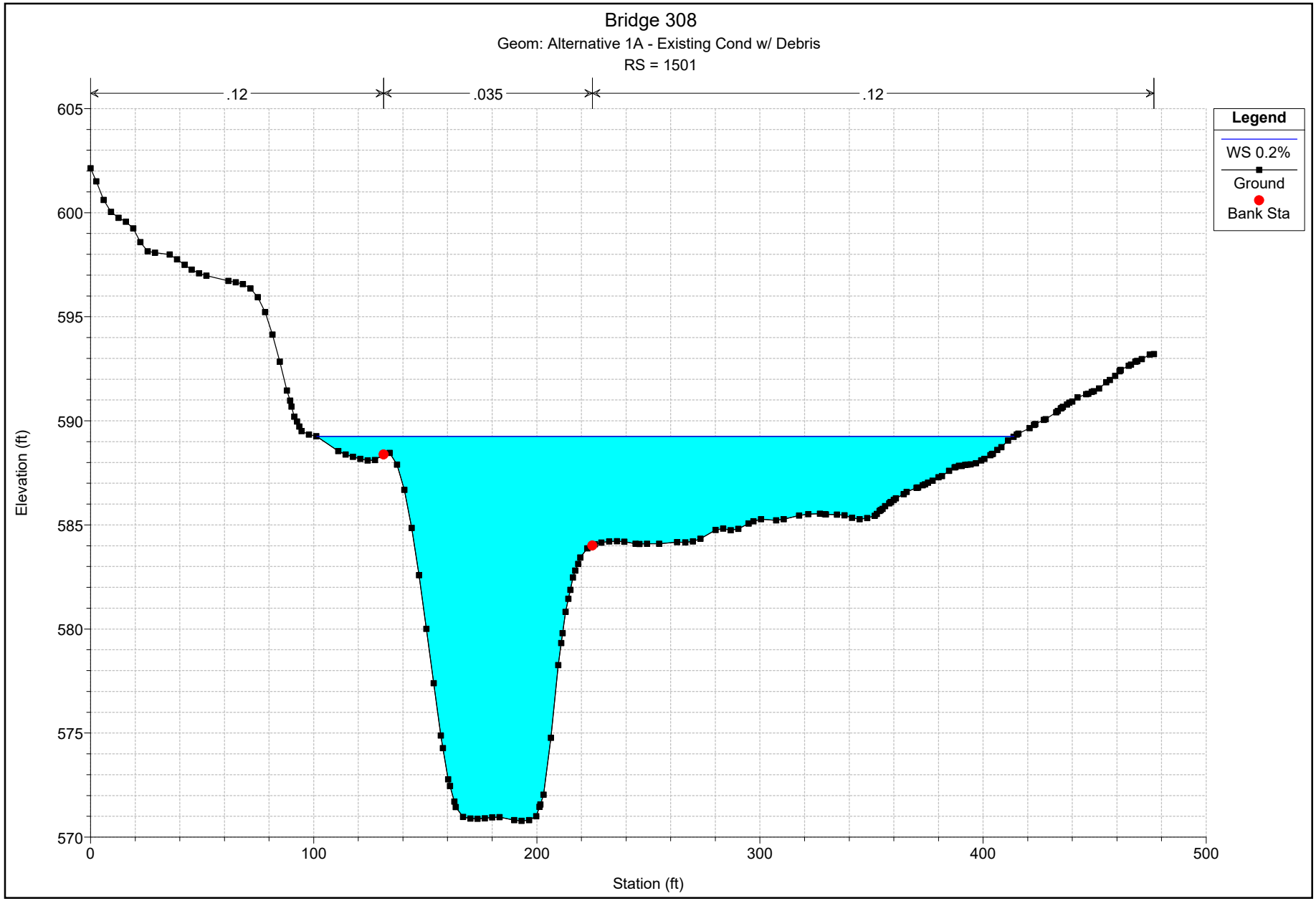

Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 3994
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 3990 BR
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Pier Debris
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 3921
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)


Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 3508
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 2628
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 1A - Existing Cond w/ Debris
RS = 1501
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500
Station (ft)

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 50%

E.G. US. (ft)	585.98	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	585.90	E.G. Elev (ft)	585.98	585.60
Q Total (cfs)	2524.00	W.S. Elev (ft)	585.90	585.10
Q Bridge (cfs)	958.18	Crit W.S. (ft)	585.94	576.29
Q Weir (cfs)	1565.83	Max Chl Dpth (ft)	16.26	14.92
Weir Sta Lft (ft)	991.41	Vel Total (ft/s)	4.68	2.66
Weir Sta Rgt (ft)	1530.12	Flow Area (sq ft)	539.38	948.33
Weir Submerg	0.00	Froude # Chl	0.24	0.16
Weir Max Depth (ft)	3.78	Specif Force (cu ft)	1509.86	5346.39
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	1.36	3.44
Min El Prs (ft)	582.85	W.P. Total (ft)	568.48	477.49
Delta EG (ft)	5.39	Conv. Total (cfs)		
Delta WS (ft)	5.60	Top Width (ft)	397.09	275.71
BR Open Area (sq ft)	93.03	Frctn Loss (ft)		
BR Open Vel (ft/s)	10.30	C & E Loss (ft)		
BR Sluice Coef	0.46	Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 20%

E.G. US. (ft)	586.69	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	586.52	E.G. Elev (ft)	586.69	586.29
Q Total (cfs)	4024.00	W.S. Elev (ft)	586.52	585.72
Q Bridge (cfs)	1028.25	Crit W.S. (ft)	586.30	577.82
Q Weir (cfs)	2995.75	Max Chl Dpth (ft)	16.88	15.53
Weir Sta Lft (ft)	696.78	Vel Total (ft/s)	4.81	3.43
Weir Sta Rgt (ft)	1577.95	Flow Area (sq ft)	836.70	1173.32
Weir Submerg	0.01	Froude # Chl	0.22	0.23
Weir Max Depth (ft)	4.49	Specif Force (cu ft)	2154.09	6350.44
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	1.46	2.64
Min El Prs (ft)	582.85	W.P. Total (ft)	743.35	645.51
Delta EG (ft)	3.59	Conv. Total (cfs)		
Delta WS (ft)	3.82	Top Width (ft)	571.21	451.44
BR Open Area (sq ft)	93.03	Frctn Loss (ft)		
BR Open Vel (ft/s)	11.05	C & E Loss (ft)		
BR Sluice Coef	0.48	Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 10%

E.G. US. (ft)	587.82	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	587.35	E.G. Elev (ft)	587.82	587.47
Q Total (cfs)	7740.00	W.S. Elev (ft)	587.35	587.06
Q Bridge (cfs)	520.94	Crit W.S. (ft)	587.04	580.65
Q Weir (cfs)	7219.06	Max Chl Dpth (ft)	17.71	16.88
Weir Sta Lft (ft)	593.62	Vel Total (ft/s)	5.37	3.99
Weir Sta Rgt (ft)	1584.86	Flow Area (sq ft)	1441.41	1940.57
Weir Submerg	0.67	Froude # Chl	0.23	0.29
Weir Max Depth (ft)	5.62	Specif Force (cu ft)	3767.66	9236.00
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	1.68	2.63
Min El Prs (ft)	582.85	W.P. Total (ft)	1032.68	939.94
Delta EG (ft)	0.37	Conv. Total (cfs)		
Delta WS (ft)	0.29	Top Width (ft)	858.03	757.67
BR Open Area (sq ft)	93.03	Frctn Loss (ft)		
BR Open Vel (ft/s)	5.60	C & E Loss (ft)		

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 10% (Continued)

BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 2%

E.G. US. (ft)	589.89	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	589.46	E.G. Elev (ft)	589.89	589.85
Q Total (cfs)	11040.00	W.S. Elev (ft)	589.46	589.51
Q Bridge (cfs)	368.46	Crit W.S. (ft)	587.40	582.75
Q Weir (cfs)	10671.54	Max Chl Dpth (ft)	19.82	19.32
Weir Sta Lft (ft)	527.62	Vel Total (ft/s)	3.14	2.61
Weir Sta Rgt (ft)	1618.61	Flow Area (sq ft)	3513.11	4237.77
Weir Submerg	0.98	Froude # Chl	0.13	0.15
Weir Max Depth (ft)	7.69	Specif Force (cu ft)	8743.29	16455.68
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	3.39	4.39
Min El Prs (ft)	582.85	W.P. Total (ft)	1216.00	1169.09
Delta EG (ft)	0.04	Conv. Total (cfs)		
Delta WS (ft)	-0.05	Top Width (ft)	1056.68	989.21
BR Open Area (sq ft)	93.03	Frctn Loss (ft)		
BR Open Vel (ft/s)	3.96	C & E Loss (ft)		
BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 1%

E.G. US. (ft)	590.91	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	590.54	E.G. Elev (ft)	590.80	590.75
Q Total (cfs)	12400.00	W.S. Elev (ft)	590.68	590.59
Q Bridge (cfs)	176.04	Crit W.S. (ft)	587.53	582.93
Q Weir (cfs)		Max Chl Dpth (ft)	21.04	20.40
Weir Sta Lft (ft)		Vel Total (ft/s)	2.58	2.35
Weir Sta Rgt (ft)		Flow Area (sq ft)	4812.28	5283.03
Weir Submerg		Froude # Chl	0.11	0.13
Weir Max Depth (ft)		Specif Force (cu ft)	13758.74	21534.09
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	4.50	5.33
Min El Prs (ft)	582.85	W.P. Total (ft)	1250.61	1194.45
Delta EG (ft)	0.20	Conv. Total (cfs)	175919.0	251425.0
Delta WS (ft)	0.14	Top Width (ft)	1171.62	1080.78
BR Open Area (sq ft)	93.03	Frctn Loss (ft)	0.04	0.00
BR Open Vel (ft/s)	1.89	C & E Loss (ft)	0.01	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	1.19	0.67
BR Sel Method	Energy only	Power Total (lb/ft s)	3.08	1.58

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 0.2%

E.G. US. (ft)	592.37	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	592.03	E.G. Elev (ft)	592.27	592.23
Q Total (cfs)	14980.00	W.S. Elev (ft)	592.17	592.10
Q Bridge (cfs)	132.59	Crit W.S. (ft)	587.86	587.87
Q Weir (cfs)		Max Chl Dpth (ft)	22.53	21.91
Weir Sta Lft (ft)		Vel Total (ft/s)	2.34	2.20
Weir Sta Rgt (ft)		Flow Area (sq ft)	6404.76	6799.74
Weir Submerg		Froude # Chl	0.09	0.11
Weir Max Depth (ft)		Specif Force (cu ft)	22173.99	30759.68
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	5.94	6.72
Min El Prs (ft)	582.85	W.P. Total (ft)	1263.65	1215.65

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 0.2% (Continued)

Delta EG (ft)	0.18	Conv. Total (cfs)	277763.8	358312.3
Delta WS (ft)	0.14	Top Width (ft)	1238.75	1122.32
BR Open Area (sq ft)	93.03	Frctn Loss (ft)	0.03	0.00
BR Open Vel (ft/s)	1.43	C & E Loss (ft)	0.01	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.92	0.61
BR Sel Method	Energy only	Power Total (lb/ft s)	2.15	1.34

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	587.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.70	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.65	Flow Area (sq ft)		442.19	165.12
E.G. Slope (ft/ft)	0.001372	Area (sq ft)		442.19	165.12
Q Total (cfs)	2524.00	Flow (cfs)		2458.42	65.58
Top Width (ft)	268.94	Top Width (ft)		59.53	209.41
Vel Total (ft/s)	4.16	Avg. Vel. (ft/s)		5.56	0.40
Max Chl Dpth (ft)	8.94	Hydr. Depth (ft)		7.43	0.79
Conv. Total (cfs)	68151.4	Conv. (cfs)		66380.6	1770.8
Length Wtd. (ft)	1190.05	Wetted Per. (ft)		66.51	211.30
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.57	0.07
Alpha	1.74	Stream Power (lb/ft s)		3.17	0.03
Frctn Loss (ft)	0.65	Cum Volume (acre-ft)		40.20	42.60
C & E Loss (ft)	0.11	Cum SA (acres)		5.00	32.46

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.76	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)	3.90	507.68	498.88
E.G. Slope (ft/ft)	0.002088	Area (sq ft)	3.90	507.68	498.88
Q Total (cfs)	4024.00	Flow (cfs)	0.71	3665.64	357.65
Top Width (ft)	475.96	Top Width (ft)	21.28	63.13	391.56
Vel Total (ft/s)	3.98	Avg. Vel. (ft/s)	0.18	7.22	0.72
Max Chl Dpth (ft)	10.00	Hydr. Depth (ft)	0.18	8.04	1.27
Conv. Total (cfs)	88065.9	Conv. (cfs)	15.6	80223.1	7827.2
Length Wtd. (ft)	1189.19	Wetted Per. (ft)	21.30	70.70	397.20
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.02	0.94	0.16
Alpha	3.00	Stream Power (lb/ft s)	0.00	6.76	0.12
Frctn Loss (ft)	0.93	Cum Volume (acre-ft)	0.07	46.45	76.61
C & E Loss (ft)	0.18	Cum SA (acres)	0.35	5.31	43.38

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.00	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.57	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	141.84	631.52	1635.91
E.G. Slope (ft/ft)	0.002932	Area (sq ft)	141.84	631.52	1635.91
Q Total (cfs)	7740.00	Flow (cfs)	85.61	5823.06	1831.33
Top Width (ft)	1026.92	Top Width (ft)	190.18	70.80	765.93
Vel Total (ft/s)	3.21	Avg. Vel. (ft/s)	0.60	9.22	1.12
Max Chl Dpth (ft)	11.81	Hydr. Depth (ft)	0.75	8.92	2.14
Conv. Total (cfs)	142937.8	Conv. (cfs)	1581.0	107536.9	33819.9
Length Wtd. (ft)	1187.79	Wetted Per. (ft)	190.38	78.62	779.11
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.47	0.38
Alpha	6.23	Stream Power (lb/ft s)	0.08	13.56	0.43
Frctn Loss (ft)	1.26	Cum Volume (acre-ft)	4.71	59.08	166.03
C & E Loss (ft)	0.25	Cum SA (acres)	5.06	5.84	59.77

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.14	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	479.10	743.03	2896.82
E.G. Slope (ft/ft)	0.002229	Area (sq ft)	479.10	743.03	2896.82
Q Total (cfs)	11040.00	Flow (cfs)	471.51	6657.44	3911.05
Top Width (ft)	1097.97	Top Width (ft)	219.00	70.80	808.17
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)	0.98	8.96	1.35
Max Chl Dpth (ft)	13.38	Hydr. Depth (ft)	2.19	10.49	3.58
Conv. Total (cfs)	233842.6	Conv. (cfs)	9987.2	141013.9	82841.6
Length Wtd. (ft)	1186.79	Wetted Per. (ft)	219.35	78.62	827.78
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.32	0.49
Alpha	6.83	Stream Power (lb/ft s)	0.30	11.78	0.66
Frctn Loss (ft)	1.02	Cum Volume (acre-ft)	16.92	70.92	281.60
C & E Loss (ft)	0.19	Cum SA (acres)	6.71	6.02	63.12

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.93	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	654.88	798.73	3534.38
E.G. Slope (ft/ft)	0.001826	Area (sq ft)	654.88	798.73	3534.38
Q Total (cfs)	12400.00	Flow (cfs)	706.63	6797.13	4896.25
Top Width (ft)	1121.68	Top Width (ft)	238.41	70.80	812.48
Vel Total (ft/s)	2.49	Avg. Vel. (ft/s)	1.08	8.51	1.39
Max Chl Dpth (ft)	14.17	Hydr. Depth (ft)	2.75	11.28	4.35
Conv. Total (cfs)	290187.1	Conv. (cfs)	16536.6	159067.6	114582.9
Length Wtd. (ft)	1186.44	Wetted Per. (ft)	238.84	78.62	835.31
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.31	1.16	0.48
Alpha	6.56	Stream Power (lb/ft s)	0.34	9.86	0.67
Frctn Loss (ft)	0.85	Cum Volume (acre-ft)	24.07	76.38	338.94
C & E Loss (ft)	0.15	Cum SA (acres)	9.82	6.06	64.12

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.21	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	999.93	889.67	4581.33
E.G. Slope (ft/ft)	0.001442	Area (sq ft)	999.93	889.67	4581.33
Q Total (cfs)	14980.00	Flow (cfs)	1104.64	7229.54	6645.82
Top Width (ft)	1210.52	Top Width (ft)	322.27	70.80	817.44
Vel Total (ft/s)	2.31	Avg. Vel. (ft/s)	1.10	8.13	1.45
Max Chl Dpth (ft)	15.45	Hydr. Depth (ft)	3.10	12.57	5.60
Conv. Total (cfs)	394489.9	Conv. (cfs)	29090.0	190385.9	175014.0
Length Wtd. (ft)	1186.03	Wetted Per. (ft)	322.91	78.62	845.58
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.28	1.02	0.49
Alpha	6.14	Stream Power (lb/ft s)	0.31	8.28	0.71
Frctn Loss (ft)	0.70	Cum Volume (acre-ft)	40.48	84.97	429.71
C & E Loss (ft)	0.12	Cum SA (acres)	13.00	6.12	66.14

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	586.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.30	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		713.95	1646.34
E.G. Slope (ft/ft)	0.000292	Area (sq ft)		713.95	1646.34
Q Total (cfs)	2524.00	Flow (cfs)		2066.25	457.75
Top Width (ft)	1239.01	Top Width (ft)		83.20	1155.81
Vel Total (ft/s)	1.07	Avg. Vel. (ft/s)		2.89	0.28
Max Chl Dpth (ft)	11.66	Hydr. Depth (ft)		8.58	1.42
Conv. Total (cfs)	147817.0	Conv. (cfs)		121008.9	26808.2
Length Wtd. (ft)	746.98	Wetted Per. (ft)		89.50	1156.90
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.15	0.03
Alpha	6.01	Stream Power (lb/ft s)		0.42	0.01
Frctn Loss (ft)	0.29	Cum Volume (acre-ft)		24.40	18.03
C & E Loss (ft)	0.01	Cum SA (acres)		3.04	13.94

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	587.39	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.25	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		796.44	2869.30
E.G. Slope (ft/ft)	0.000408	Area (sq ft)		796.44	2869.30
Q Total (cfs)	4024.00	Flow (cfs)		2799.76	1224.24
Top Width (ft)	1468.68	Top Width (ft)		89.27	1379.41
Vel Total (ft/s)	1.10	Avg. Vel. (ft/s)		3.52	0.43
Max Chl Dpth (ft)	12.61	Hydr. Depth (ft)		8.92	2.08
Conv. Total (cfs)	199302.4	Conv. (cfs)		138667.7	60634.8
Length Wtd. (ft)	720.51	Wetted Per. (ft)		95.90	1382.64
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.21	0.05
Alpha	7.18	Stream Power (lb/ft s)		0.74	0.02
Frctn Loss (ft)	0.44	Cum Volume (acre-ft)	0.02	28.62	30.92
C & E Loss (ft)	0.03	Cum SA (acres)	0.06	3.22	19.36

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.16	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.89	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		947.51	5308.32
E.G. Slope (ft/ft)	0.000541	Area (sq ft)		947.51	5308.32
Q Total (cfs)	7740.00	Flow (cfs)		4159.41	3580.59
Top Width (ft)	1721.51	Top Width (ft)		93.98	1627.54
Vel Total (ft/s)	1.24	Avg. Vel. (ft/s)		4.39	0.67
Max Chl Dpth (ft)	14.25	Hydr. Depth (ft)		10.08	3.26
Conv. Total (cfs)	332913.1	Conv. (cfs)		178904.5	154008.5
Length Wtd. (ft)	680.01	Wetted Per. (ft)		101.02	1634.32
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.32	0.11
Alpha	6.90	Stream Power (lb/ft s)		1.39	0.07
Frctn Loss (ft)	0.66	Cum Volume (acre-ft)	2.77	37.49	71.83
C & E Loss (ft)	0.07	Cum SA (acres)	2.46	3.59	27.30

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.56	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1106.64	8083.33
E.G. Slope (ft/ft)	0.000453	Area (sq ft)		1106.64	8083.33
Q Total (cfs)	11040.00	Flow (cfs)		4825.76	6214.24
Top Width (ft)	1779.87	Top Width (ft)		96.80	1683.07
Vel Total (ft/s)	1.20	Avg. Vel. (ft/s)		4.36	0.77
Max Chl Dpth (ft)	15.92	Hydr. Depth (ft)		11.43	4.80
Conv. Total (cfs)	518967.9	Conv. (cfs)		226849.1	292118.8
Length Wtd. (ft)	633.36	Wetted Per. (ft)		104.30	1693.30
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.30	0.13
Alpha	5.99	Stream Power (lb/ft s)		1.31	0.10
Frctn Loss (ft)	0.46	Cum Volume (acre-ft)	10.37	45.63	132.65
C & E Loss (ft)	0.03	Cum SA (acres)	3.71	3.72	29.32

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.44	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1192.27	9565.87
E.G. Slope (ft/ft)	0.000381	Area (sq ft)		1192.27	9565.87
Q Total (cfs)	12400.00	Flow (cfs)		4957.99	7442.01
Top Width (ft)	1792.53	Top Width (ft)		98.24	1694.28
Vel Total (ft/s)	1.15	Avg. Vel. (ft/s)		4.16	0.78
Max Chl Dpth (ft)	16.80	Hydr. Depth (ft)		12.14	5.65
Conv. Total (cfs)	635549.8	Conv. (cfs)		254116.9	381432.8
Length Wtd. (ft)	619.90	Wetted Per. (ft)		105.99	1706.31
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.27	0.13
Alpha	5.48	Stream Power (lb/ft s)		1.11	0.10
Frctn Loss (ft)	0.37	Cum Volume (acre-ft)	15.12	49.16	161.23
C & E Loss (ft)	0.03	Cum SA (acres)	6.56	3.75	30.11

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.80	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.10	1327.42	11901.53
E.G. Slope (ft/ft)	0.000321	Area (sq ft)	0.10	1327.42	11901.53
Q Total (cfs)	14980.00	Flow (cfs)	0.01	5377.25	9602.74
Top Width (ft)	1830.65	Top Width (ft)	0.58	99.90	1730.17
Vel Total (ft/s)	1.13	Avg. Vel. (ft/s)	0.06	4.05	0.81
Max Chl Dpth (ft)	18.16	Hydr. Depth (ft)	0.18	13.29	6.88
Conv. Total (cfs)	836488.8	Conv. (cfs)	0.4	300267.8	536220.6
Length Wtd. (ft)	607.32	Wetted Per. (ft)	0.68	107.93	1744.97
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.25	0.14
Alpha	4.92	Stream Power (lb/ft s)	0.00	1.00	0.11
Frctn Loss (ft)	0.30	Cum Volume (acre-ft)	26.80	54.66	206.12
C & E Loss (ft)	0.02	Cum SA (acres)	8.59	3.78	31.58

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	586.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.22	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.87	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		574.94	602.00
E.G. Slope (ft/ft)	0.000560	Area (sq ft)		574.94	602.00
Q Total (cfs)	2524.00	Flow (cfs)		2293.31	230.69
Top Width (ft)	625.76	Top Width (ft)		66.14	559.62
Vel Total (ft/s)	2.14	Avg. Vel. (ft/s)		3.99	0.38
Max Chl Dpth (ft)	12.33	Hydr. Depth (ft)		8.69	1.08
Conv. Total (cfs)	106700.3	Conv. (cfs)		96948.1	9752.2
Length Wtd. (ft)	301.24	Wetted Per. (ft)		72.63	563.04
Min Ch El (ft)	573.54	Shear (lb/sq ft)		0.28	0.04
Alpha	3.15	Stream Power (lb/ft s)		1.10	0.01
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)		12.72	5.70
C & E Loss (ft)	0.04	Cum SA (acres)		1.69	4.53

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	586.92	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.49	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		616.01	1042.35
E.G. Slope (ft/ft)	0.001039	Area (sq ft)		616.01	1042.35
Q Total (cfs)	4024.00	Flow (cfs)		3467.59	556.41
Top Width (ft)	911.46	Top Width (ft)		67.15	844.32
Vel Total (ft/s)	2.43	Avg. Vel. (ft/s)		5.63	0.53
Max Chl Dpth (ft)	12.95	Hydr. Depth (ft)		9.17	1.23
Conv. Total (cfs)	124858.6	Conv. (cfs)		107594.0	17264.7
Length Wtd. (ft)	304.33	Wetted Per. (ft)		73.82	849.79
Min Ch El (ft)	573.54	Shear (lb/sq ft)		0.54	0.08
Alpha	4.64	Stream Power (lb/ft s)		3.05	0.04
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	0.02	15.82	9.47
C & E Loss (ft)	0.08	Cum SA (acres)	0.06	1.80	7.17

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.89	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.44	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		680.36	1911.27
E.G. Slope (ft/ft)	0.002229	Area (sq ft)		680.36	1911.27
Q Total (cfs)	7740.00	Flow (cfs)		5884.90	1855.10
Top Width (ft)	1007.90	Top Width (ft)		68.99	938.91
Vel Total (ft/s)	2.99	Avg. Vel. (ft/s)		8.65	0.97
Max Chl Dpth (ft)	13.90	Hydr. Depth (ft)		9.86	2.04
Conv. Total (cfs)	163939.2	Conv. (cfs)		124646.7	39292.5
Length Wtd. (ft)	310.17	Wetted Per. (ft)		75.89	950.00
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.25	0.28
Alpha	6.40	Stream Power (lb/ft s)		10.79	0.27
Frctn Loss (ft)	0.37	Cum Volume (acre-ft)	2.77	22.74	32.24
C & E Loss (ft)	0.13	Cum SA (acres)	2.46	2.11	13.23

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.72	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	1.89	845.75	4067.50
E.G. Slope (ft/ft)	0.001351	Area (sq ft)	1.89	845.75	4067.50
Q Total (cfs)	11040.00	Flow (cfs)	0.20	6196.70	4843.10
Top Width (ft)	1043.34	Top Width (ft)	19.48	75.90	947.96
Vel Total (ft/s)	2.25	Avg. Vel. (ft/s)	0.11	7.33	1.19
Max Chl Dpth (ft)	16.18	Hydr. Depth (ft)	0.10	11.14	4.29
Conv. Total (cfs)	300403.6	Conv. (cfs)	5.5	168615.0	131783.0
Length Wtd. (ft)	321.25	Wetted Per. (ft)	19.49	83.11	973.05
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.86	0.35
Alpha	6.10	Stream Power (lb/ft s)	0.00	6.29	0.42
Frctn Loss (ft)	0.29	Cum Volume (acre-ft)	10.35	27.94	66.03
C & E Loss (ft)	0.01	Cum SA (acres)	3.52	2.16	14.90

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.78	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	86.53	925.82	5071.49
E.G. Slope (ft/ft)	0.001041	Area (sq ft)	112.66	925.82	5071.49
Q Total (cfs)	12400.00	Flow (cfs)	22.81	6324.92	6052.27
Top Width (ft)	1264.76	Top Width (ft)	230.81	75.90	958.05
Vel Total (ft/s)	2.04	Avg. Vel. (ft/s)	0.26	6.83	1.19
Max Chl Dpth (ft)	17.24	Hydr. Depth (ft)	0.54	12.20	5.29
Conv. Total (cfs)	384358.6	Conv. (cfs)	707.0	196051.3	187600.3
Length Wtd. (ft)	323.72	Wetted Per. (ft)	161.41	83.11	989.54
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.72	0.33
Alpha	5.90	Stream Power (lb/ft s)	0.01	4.94	0.40
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	14.01	29.97	80.97
C & E Loss (ft)	0.00	Cum SA (acres)	4.30	2.17	15.57

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.26	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	328.11	1038.06	6528.91
E.G. Slope (ft/ft)	0.000834	Area (sq ft)	569.54	1038.06	6528.91
Q Total (cfs)	14980.00	Flow (cfs)	186.73	6853.14	7940.13
Top Width (ft)	1442.38	Top Width (ft)	362.07	75.90	1004.42
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.57	6.60	1.22
Max Chl Dpth (ft)	18.72	Hydr. Depth (ft)	2.01	13.68	6.50
Conv. Total (cfs)	518577.1	Conv. (cfs)	6464.2	237241.8	274871.1
Length Wtd. (ft)	324.48	Wetted Per. (ft)	163.49	83.11	1044.81
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.65	0.33
Alpha	5.76	Stream Power (lb/ft s)	0.06	4.30	0.40
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	21.22	33.23	105.06
C & E Loss (ft)	0.00	Cum SA (acres)	5.04	2.19	16.59

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	585.98	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.08	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.90	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	575.10	Flow Area (sq ft)		1027.29	638.77
E.G. Slope (ft/ft)	0.000140	Area (sq ft)		1027.29	638.77
Q Total (cfs)	2524.00	Flow (cfs)		2397.37	126.63
Top Width (ft)	520.22	Top Width (ft)		92.35	427.87
Vel Total (ft/s)	1.51	Avg. Vel. (ft/s)		2.33	0.20
Max Chl Dpth (ft)	16.26	Hydr. Depth (ft)		11.12	1.49
Conv. Total (cfs)	213404.1	Conv. (cfs)		202697.4	10706.7
Length Wtd. (ft)	6.00	Wetted Per. (ft)		102.53	428.69
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.09	0.01
Alpha	2.25	Stream Power (lb/ft s)		0.20	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)		7.29	0.26
C & E Loss (ft)		Cum SA (acres)		1.15	0.20

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	586.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.52	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	576.62	Flow Area (sq ft)	17.18	1085.05	969.41
E.G. Slope (ft/ft)	0.000283	Area (sq ft)	17.18	1085.05	969.41
Q Total (cfs)	4024.00	Flow (cfs)	1.69	3718.32	303.99
Top Width (ft)	760.18	Top Width (ft)	53.07	93.01	614.10
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.10	3.43	0.31
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	0.32	11.67	1.58
Conv. Total (cfs)	239250.2	Conv. (cfs)	100.3	221076.0	18073.9
Length Wtd. (ft)	6.00	Wetted Per. (ft)	53.08	103.20	615.75
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.01	0.19	0.03
Alpha	2.88	Stream Power (lb/ft s)	0.00	0.64	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)	0.00	10.06	0.65
C & E Loss (ft)		Cum SA (acres)	0.01	1.26	0.77

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.82	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.47	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.35	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	579.48	Flow Area (sq ft)	104.45	1162.42	1524.12
E.G. Slope (ft/ft)	0.000755	Area (sq ft)	104.45	1162.42	1524.12
Q Total (cfs)	7740.00	Flow (cfs)	27.78	6813.43	898.80
Top Width (ft)	922.99	Top Width (ft)	151.14	93.01	678.84
Vel Total (ft/s)	2.77	Avg. Vel. (ft/s)	0.27	5.86	0.59
Max Chl Dpth (ft)	17.71	Hydr. Depth (ft)	0.69	12.50	2.25
Conv. Total (cfs)	281694.1	Conv. (cfs)	1010.9	247971.8	32711.3
Length Wtd. (ft)	6.00	Wetted Per. (ft)	151.17	103.20	682.26
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.03	0.53	0.11
Alpha	3.94	Stream Power (lb/ft s)	0.01	3.11	0.06
Frctn Loss (ft)		Cum Volume (acre-ft)	2.65	16.50	17.18
C & E Loss (ft)		Cum SA (acres)	2.29	1.56	6.14

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	589.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.44	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.46	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	581.57	Flow Area (sq ft)	520.98	1358.06	2994.58
E.G. Slope (ft/ft)	0.000664	Area (sq ft)	526.15	1358.06	2994.58
Q Total (cfs)	11040.00	Flow (cfs)	286.69	8279.44	2473.88
Top Width (ft)	1056.68	Top Width (ft)	249.96	93.01	713.70
Vel Total (ft/s)	2.27	Avg. Vel. (ft/s)	0.55	6.10	0.83
Max Chl Dpth (ft)	19.82	Hydr. Depth (ft)	2.27	14.60	4.20
Conv. Total (cfs)	428507.9	Conv. (cfs)	11127.5	321359.2	96021.3
Length Wtd. (ft)	6.00	Wetted Per. (ft)	229.97	103.20	721.47
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.09	0.55	0.17
Alpha	5.46	Stream Power (lb/ft s)	0.05	3.32	0.14
Frctn Loss (ft)		Cum Volume (acre-ft)	9.77	20.47	35.08
C & E Loss (ft)		Cum SA (acres)	3.23	1.59	7.61

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.91	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.54	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	582.35	Flow Area (sq ft)	789.05	1458.54	3768.59
E.G. Slope (ft/ft)	0.000563	Area (sq ft)	849.86	1458.54	3768.59
Q Total (cfs)	12400.00	Flow (cfs)	492.07	8592.09	3315.84
Top Width (ft)	1164.20	Top Width (ft)	351.75	93.01	719.44
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.62	5.89	0.88
Max Chl Dpth (ft)	20.90	Hydr. Depth (ft)	3.09	15.68	5.24
Conv. Total (cfs)	522374.0	Conv. (cfs)	20729.4	361958.3	139686.3
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	729.47
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.11	0.50	0.18
Alpha	5.71	Stream Power (lb/ft s)	0.07	2.93	0.16
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	12.95	21.89	42.23
C & E Loss (ft)	0.10	Cum SA (acres)	3.65	1.60	8.22

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.37	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.03	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	584.19	Flow Area (sq ft)	1169.20	1597.06	4847.32
E.G. Slope (ft/ft)	0.000499	Area (sq ft)	1429.48	1597.06	4847.33
Q Total (cfs)	14980.00	Flow (cfs)	891.52	9402.20	4686.28
Top Width (ft)	1234.83	Top Width (ft)	412.46	93.01	729.36
Vel Total (ft/s)	1.97	Avg. Vel. (ft/s)	0.76	5.89	0.97
Max Chl Dpth (ft)	22.39	Hydr. Depth (ft)	4.58	17.17	6.65
Conv. Total (cfs)	670830.0	Conv. (cfs)	39923.6	421046.7	209859.8
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	742.48
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.14	0.48	0.20
Alpha	5.70	Stream Power (lb/ft s)	0.11	2.84	0.20
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	19.02	24.30	55.20
C & E Loss (ft)	0.10	Cum SA (acres)	4.18	1.62	8.99

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.30	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.67	Flow Area (sq ft)		582.54	
E.G. Slope (ft/ft)	0.000827	Area (sq ft)		582.54	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	81.27	Top Width (ft)		81.27	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	10.12	Hydr. Depth (ft)		7.17	
Conv. Total (cfs)	87756.6	Conv. (cfs)		87756.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		87.15	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.50	
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		7.05	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.14	0.04

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.70	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	577.01	Flow Area (sq ft)		785.33	41.44
E.G. Slope (ft/ft)	0.000877	Area (sq ft)		785.33	41.44
Q Total (cfs)	4024.00	Flow (cfs)		4015.05	8.95
Top Width (ft)	183.16	Top Width (ft)		88.47	94.69
Vel Total (ft/s)	4.87	Avg. Vel. (ft/s)		5.11	0.22
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)		8.88	0.44
Conv. Total (cfs)	135845.6	Conv. (cfs)		135543.6	302.0
Length Wtd. (ft)	126.22	Wetted Per. (ft)		95.81	94.80
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.45	0.02
Alpha	1.10	Stream Power (lb/ft s)		2.30	0.01
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		9.80	0.34
C & E Loss (ft)	0.10	Cum SA (acres)		1.25	0.53

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.06	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.64	Flow Area (sq ft)	55.60	1197.93	1779.79
E.G. Slope (ft/ft)	0.000663	Area (sq ft)	79.98	1197.93	1779.79
Q Total (cfs)	7740.00	Flow (cfs)	10.95	6559.58	1169.46
Top Width (ft)	878.09	Top Width (ft)	151.28	97.77	629.04
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)	0.20	5.48	0.66
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	0.42	12.25	2.83
Conv. Total (cfs)	300520.7	Conv. (cfs)	425.3	254688.8	45406.7
Length Wtd. (ft)	134.79	Wetted Per. (ft)	131.01	106.89	630.02
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.46	0.12
Alpha	3.91	Stream Power (lb/ft s)	0.00	2.54	0.08
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	2.63	16.20	16.49
C & E Loss (ft)	0.07	Cum SA (acres)	2.24	1.52	5.80

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.54	Flow Area (sq ft)	558.45	1437.35	3373.49
E.G. Slope (ft/ft)	0.000524	Area (sq ft)	639.77	1437.35	3373.49
Q Total (cfs)	11040.00	Flow (cfs)	303.61	7896.79	2839.60
Top Width (ft)	989.21	Top Width (ft)	233.77	97.77	657.67
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.54	5.49	0.84
Max Chl Dpth (ft)	19.32	Hydr. Depth (ft)	2.66	14.70	5.13
Conv. Total (cfs)	482407.9	Conv. (cfs)	13266.7	345060.9	124080.2
Length Wtd. (ft)	137.38	Wetted Per. (ft)	210.15	106.89	658.97
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.09	0.44	0.17
Alpha	5.15	Stream Power (lb/ft s)	0.05	2.42	0.14
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	9.50	20.07	33.61
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.54	7.26

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	582.43	Flow Area (sq ft)	744.43	1523.94	3959.44
E.G. Slope (ft/ft)	0.000486	Area (sq ft)	866.26	1523.94	3959.44
Q Total (cfs)	12400.00	Flow (cfs)	472.05	8382.81	3545.14
Top Width (ft)	1069.46	Top Width (ft)	296.65	97.77	675.04
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	0.63	5.50	0.90
Max Chl Dpth (ft)	20.21	Hydr. Depth (ft)	3.55	15.59	5.87
Conv. Total (cfs)	562692.6	Conv. (cfs)	21420.9	380398.7	160873.0
Length Wtd. (ft)	137.55	Wetted Per. (ft)	210.15	106.89	676.41
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.11	0.43	0.18
Alpha	5.22	Stream Power (lb/ft s)	0.07	2.38	0.16
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	12.52	21.43	40.36
C & E Loss (ft)	0.04	Cum SA (acres)	3.48	1.55	7.86

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.88	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	585.01	Flow Area (sq ft)	1056.59	1669.28	4990.37
E.G. Slope (ft/ft)	0.000446	Area (sq ft)	1322.20	1669.28	4990.37
Q Total (cfs)	14980.00	Flow (cfs)	810.99	9351.54	4817.47
Top Width (ft)	1117.25	Top Width (ft)	317.28	97.77	702.20
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.77	5.60	0.97
Max Chl Dpth (ft)	21.70	Hydr. Depth (ft)	5.03	17.07	7.11
Conv. Total (cfs)	709252.4	Conv. (cfs)	38397.7	442763.8	228090.9
Length Wtd. (ft)	137.47	Wetted Per. (ft)	210.15	106.89	703.71
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.14	0.43	0.20
Alpha	5.29	Stream Power (lb/ft s)	0.11	2.44	0.19
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.32	23.77	52.79
C & E Loss (ft)	0.04	Cum SA (acres)	3.99	1.57	8.62

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.36	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 1%

E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 1A Ex_Cond, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

APPENDIX H:

HEC-RAS Results for Alternatives 2 – 6

River Profile

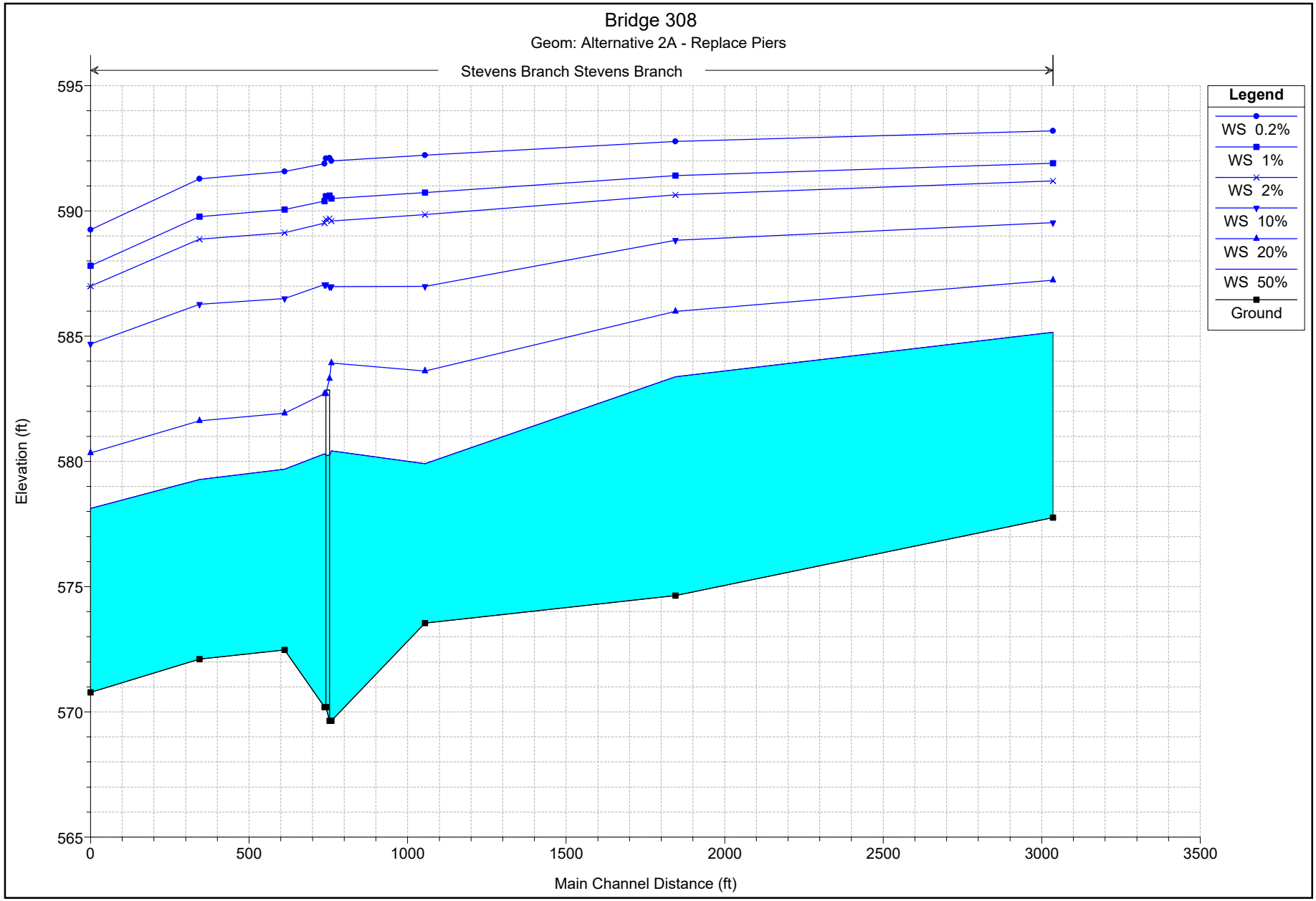
River Cross Sections

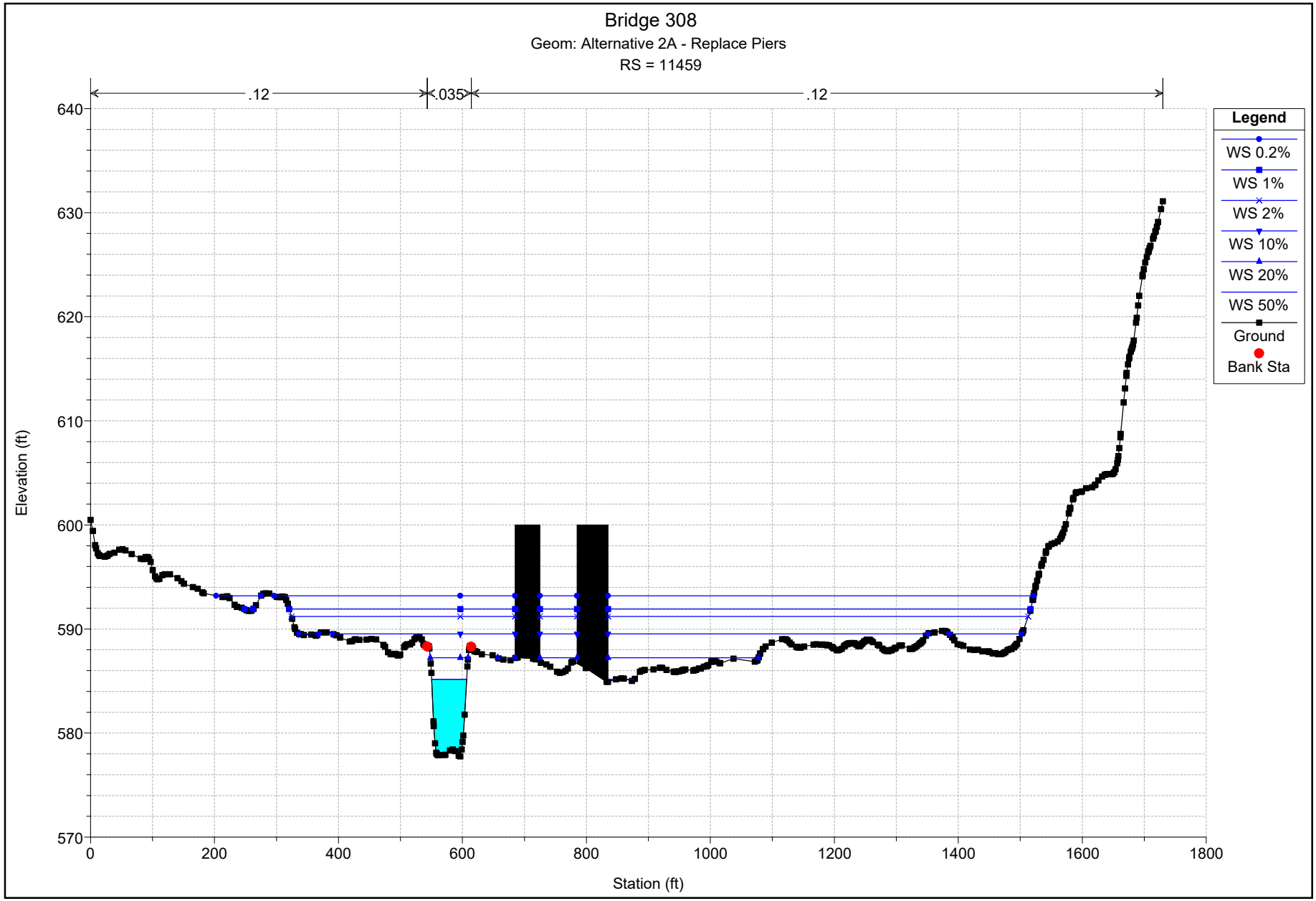
Bridge Summary Table (Alternatives 2, 2A, 3, 3A, and 4)

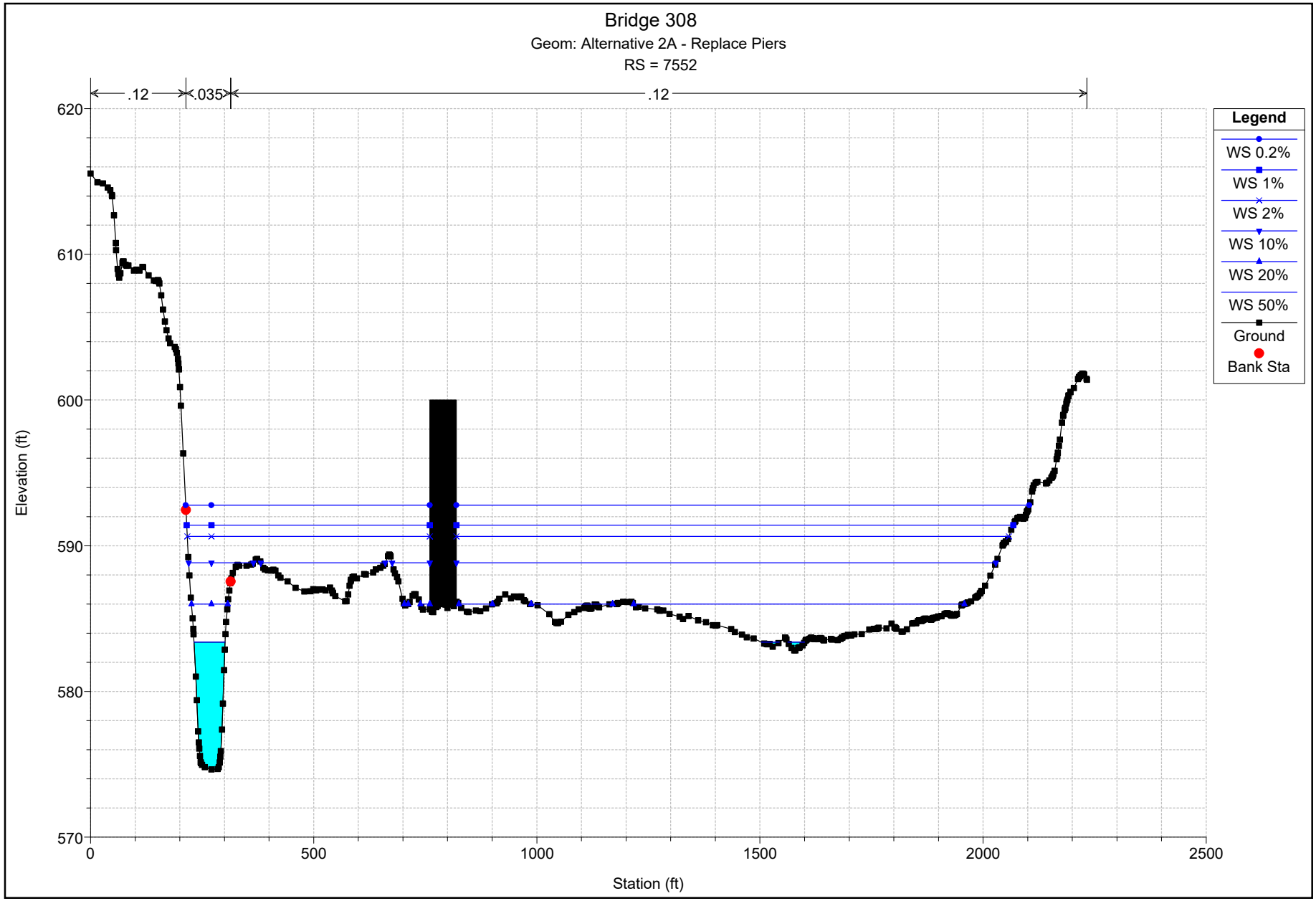
River Cross Section Data Summary

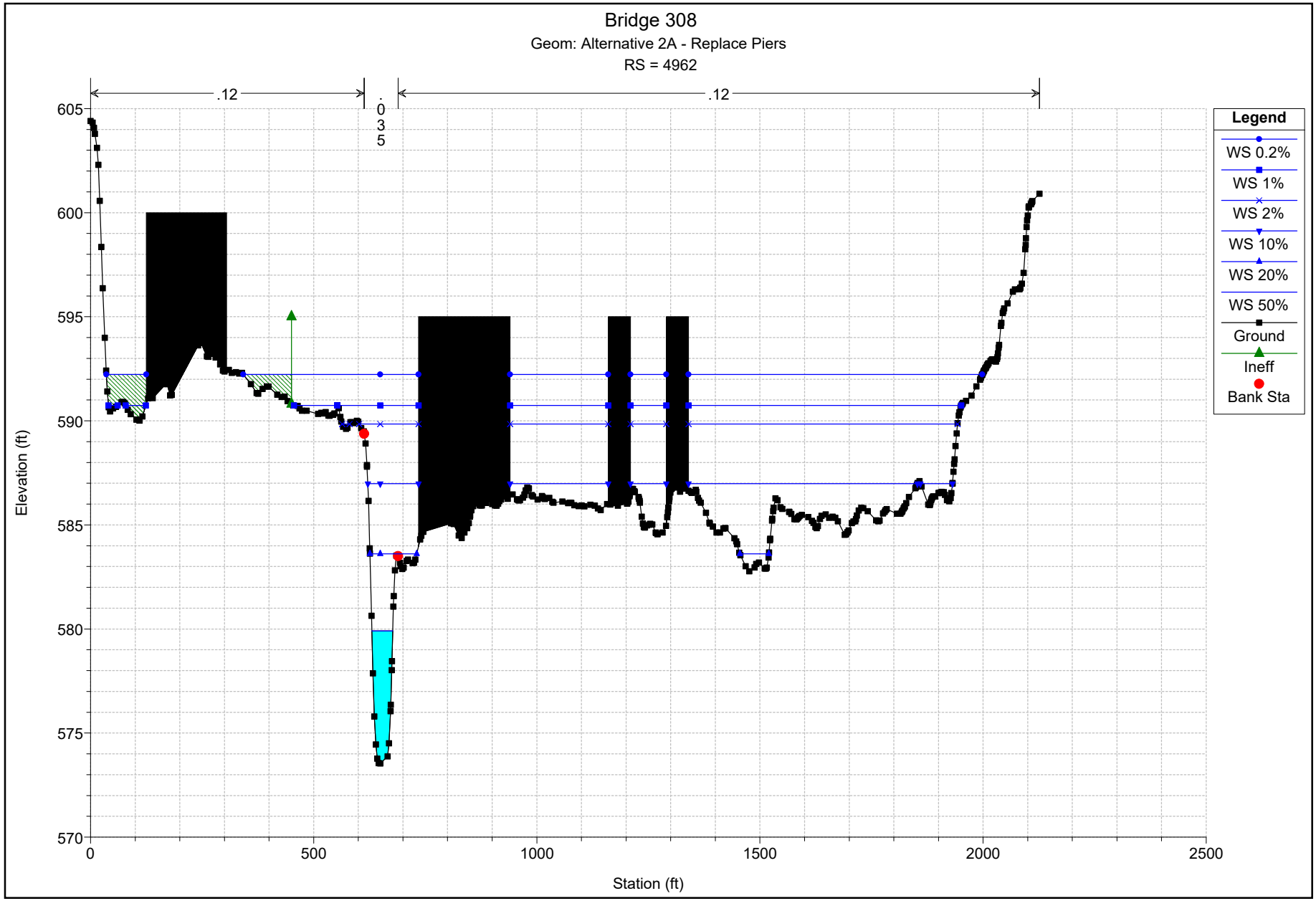

1501
2628
3508
3994
4962
Stevens Branch
7552
11459

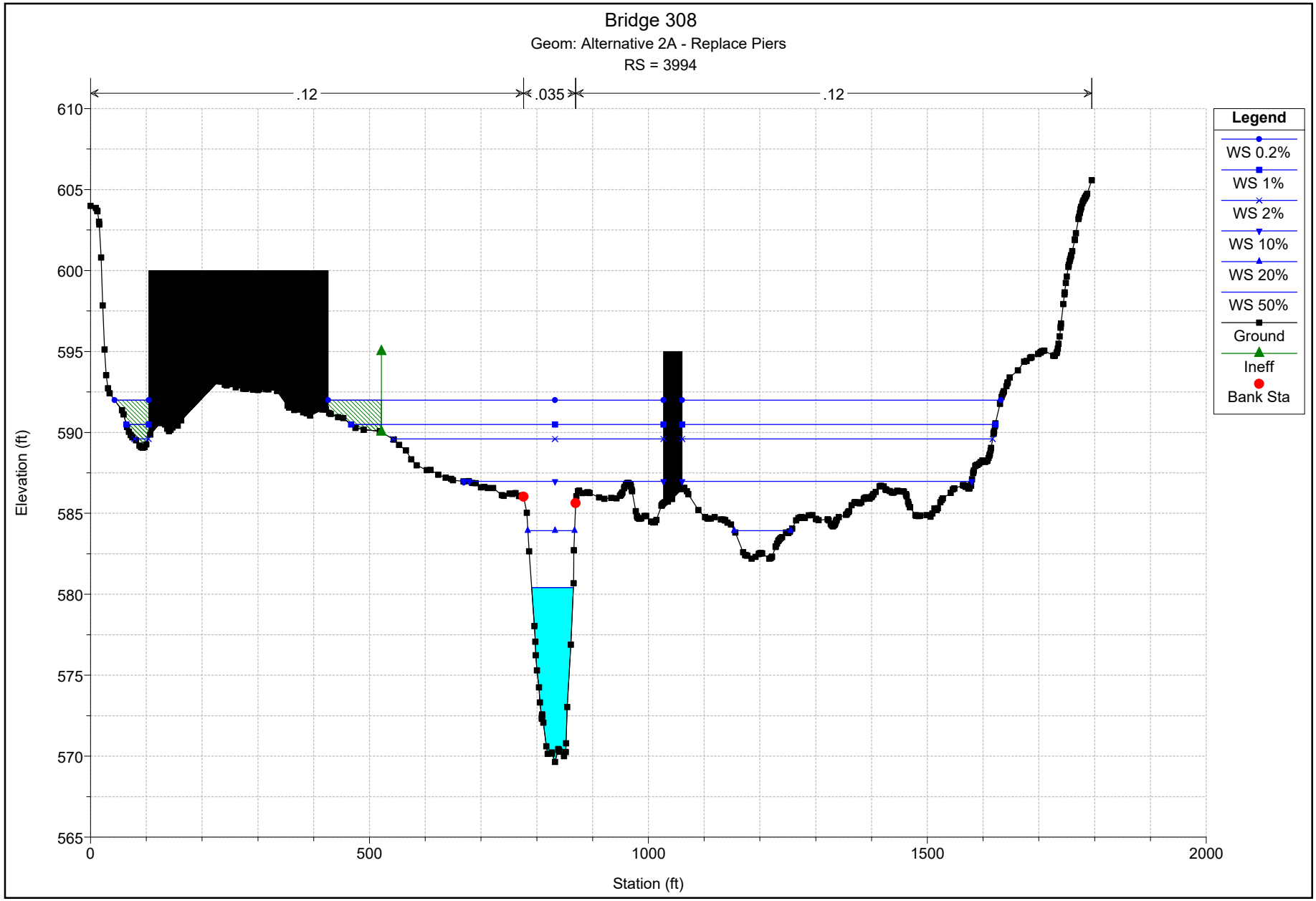
HEC-RAS Results for Alternative 2A

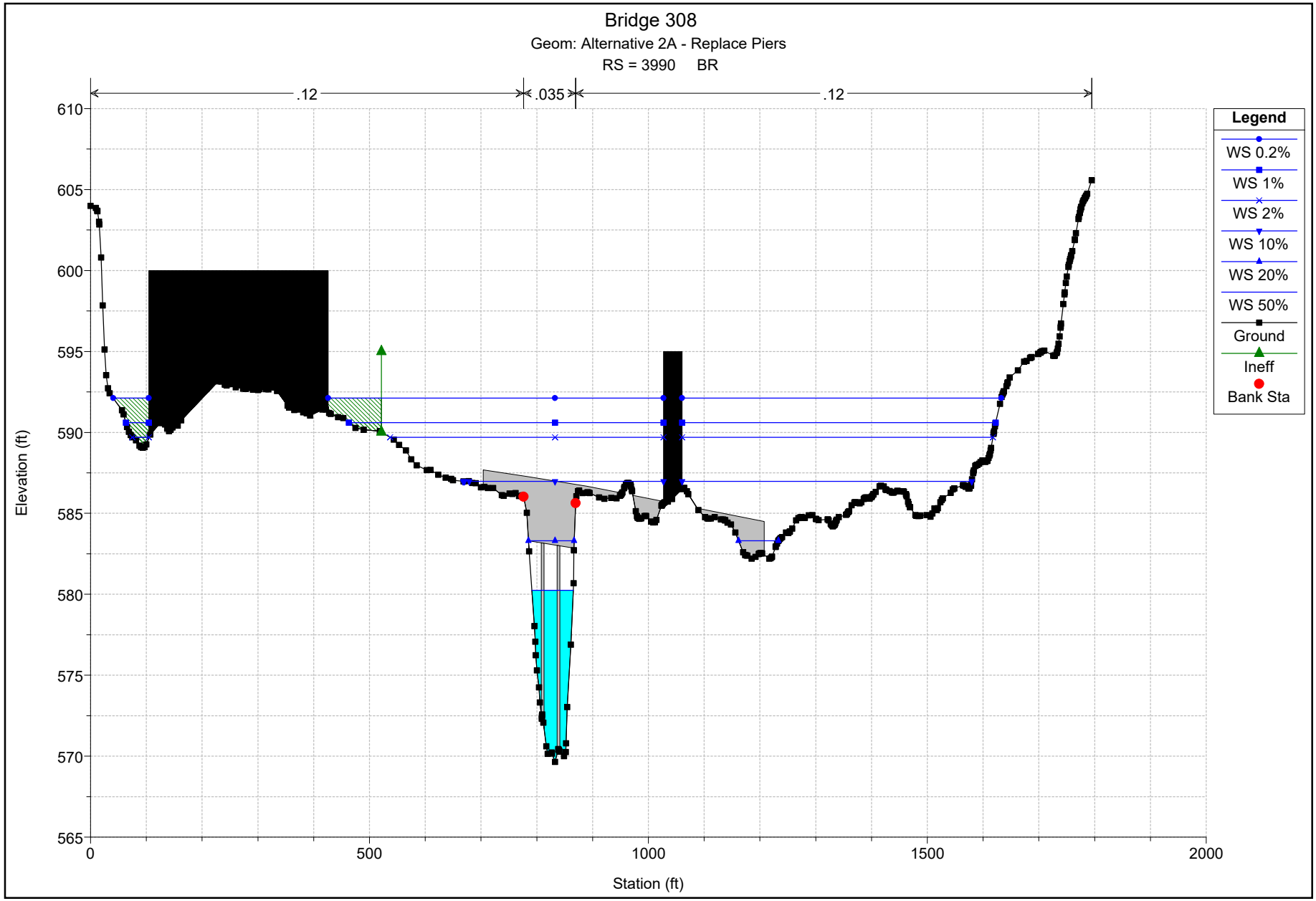

Bridge 308
Geom: Alternative 2A - Replace Piers
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

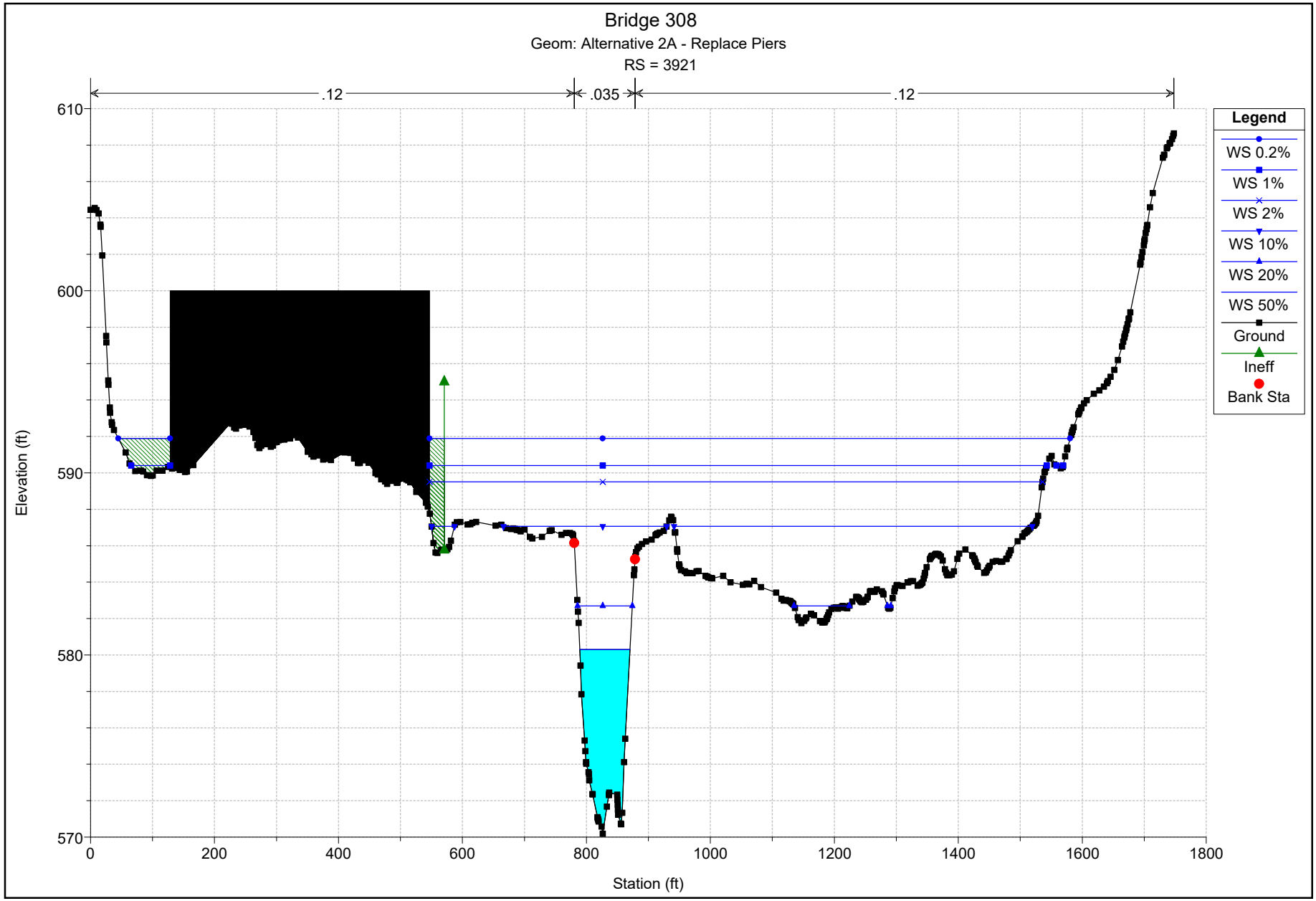

Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 11459
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

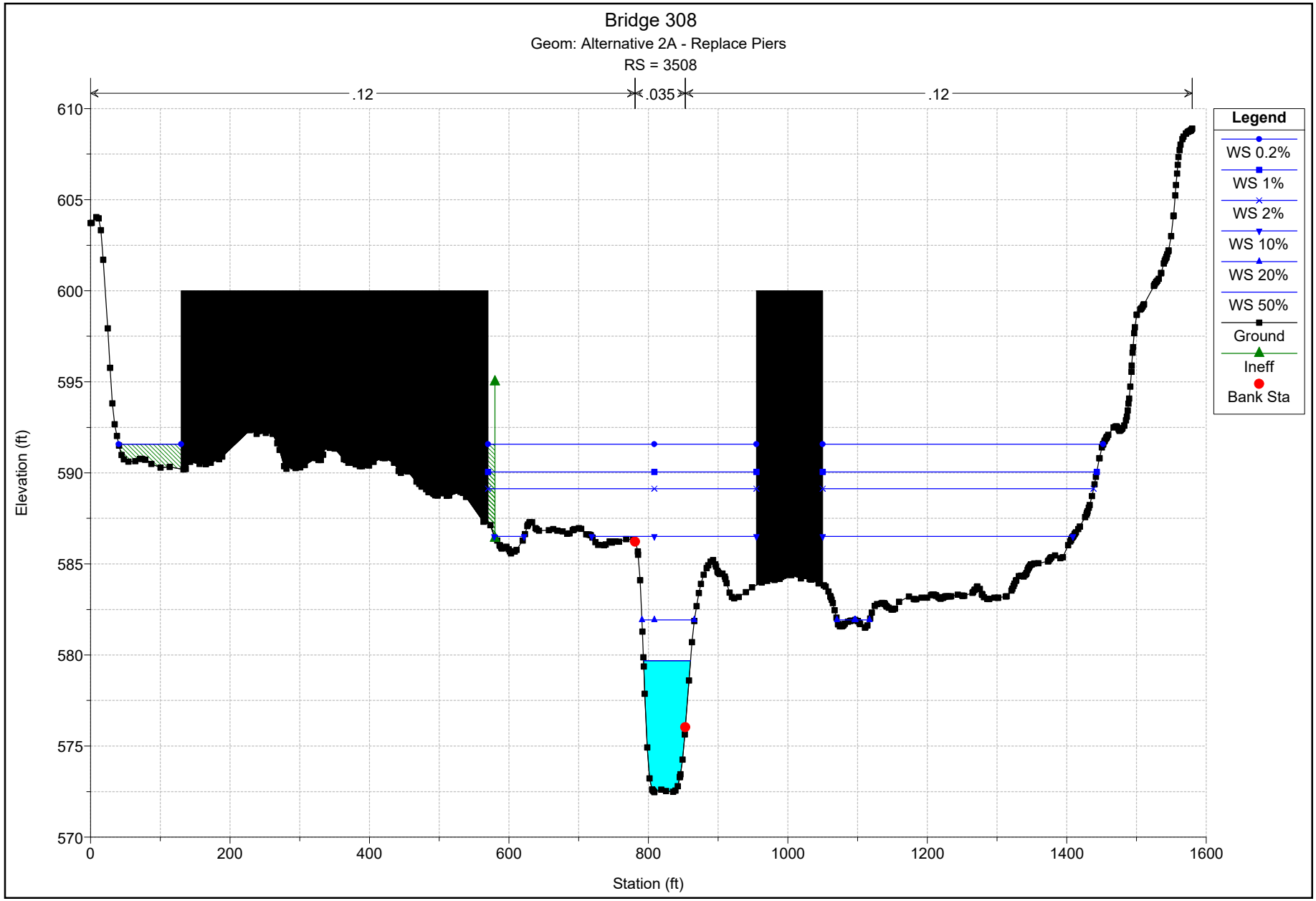

Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 7552
.12
.035
.12
620
610
600
590
580
570
Elevation (ft)
0
500
1000
1500
2000
2500
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta

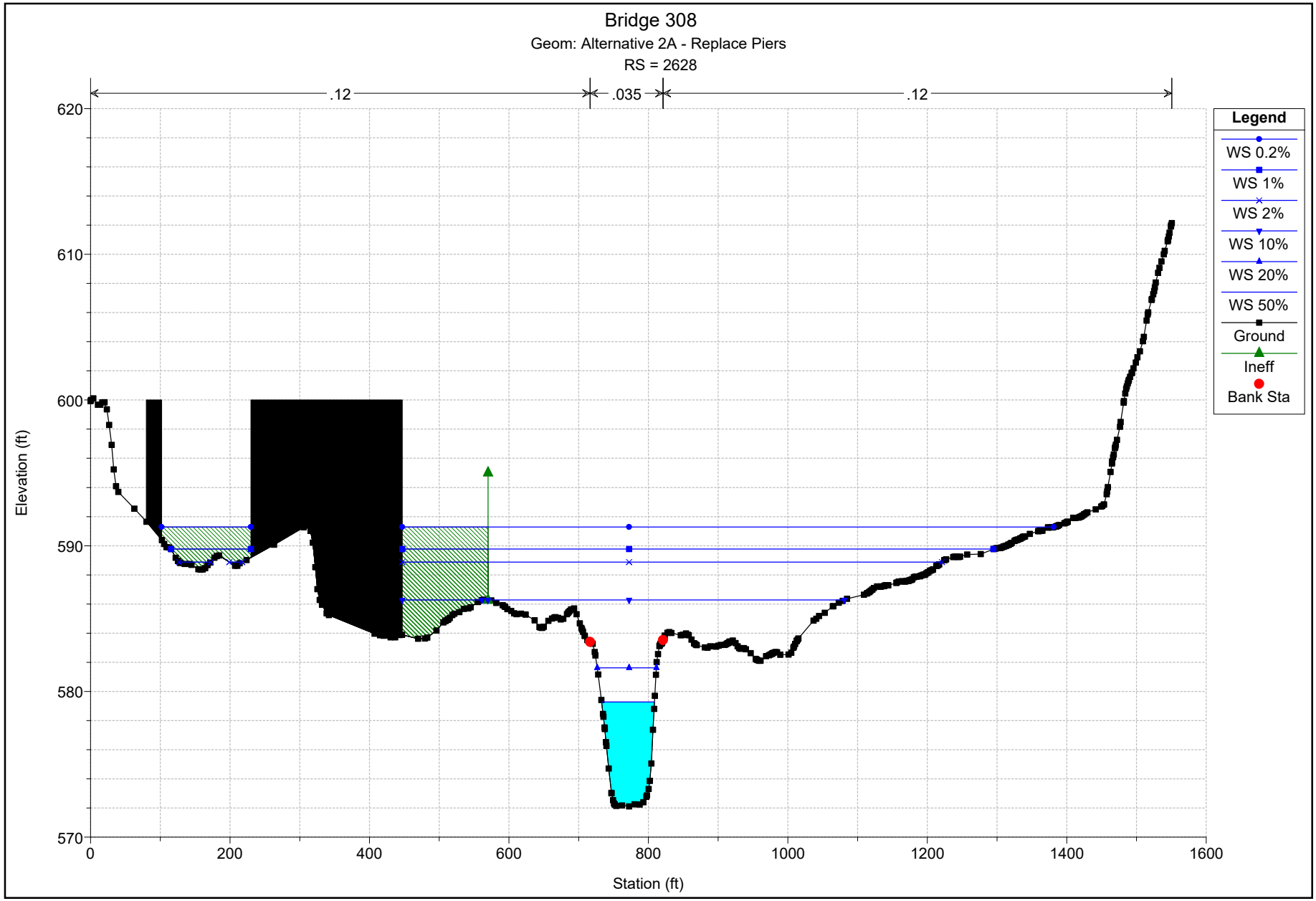

Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 4962
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)

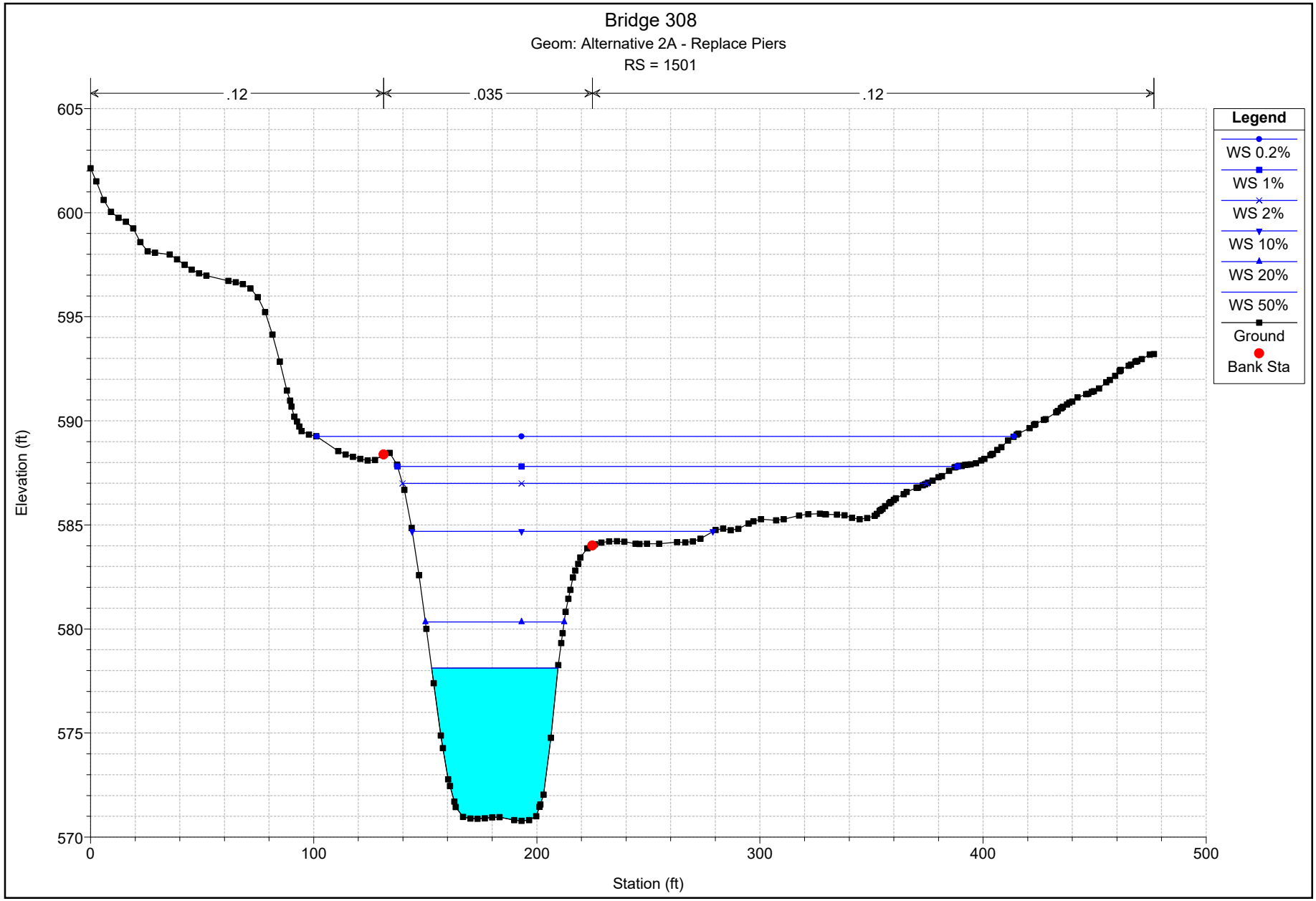

Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 3994
.12
.035
.12
610
605
600
595
590
585
580
575
570
565
Elevation (ft)
0
500
1000
1500
2000
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta


Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 3990 BR
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 3921
.12
.035
.12
610
600
590
580
570
Elevation (ft)
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta


Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 3508
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 2628
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 2A - Replace Piers
RS = 1501
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
Station (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 50%

E.G. US. (ft)	580.72	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	580.42	E.G. Elev (ft)	580.68	580.65
Q Total (cfs)	2524.00	W.S. Elev (ft)	580.25	580.24
Q Bridge (cfs)	2524.00	Crit W.S. (ft)	575.63	576.17
Q Weir (cfs)		Max Chl Dpth (ft)	10.61	10.05
Weir Sta Lft (ft)		Vel Total (ft/s)	5.29	5.14
Weir Sta Rgt (ft)		Flow Area (sq ft)	476.93	491.30
Weir Submerg		Froude # Chl	0.34	0.29
Weir Max Depth (ft)		Specif Force (cu ft)	2522.98	2345.78
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	7.39	7.10
Min El Prs (ft)	582.85	W.P. Total (ft)	106.39	110.72
Delta EG (ft)	0.12	Conv. Total (cfs)	55048.9	56323.6
Delta WS (ft)	0.12	Top Width (ft)	64.58	69.20
BR Open Area (sq ft)	669.59	Frctn Loss (ft)	0.02	0.01
BR Open Vel (ft/s)	5.29	C & E Loss (ft)	0.01	0.05
BR Sluice Coef		Shear Total (lb/sq ft)	0.59	0.56
BR Sel Method	Energy only	Power Total (lb/ft s)	3.11	2.86

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 20%

E.G. US. (ft)	584.26	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	583.93	E.G. Elev (ft)	584.26	583.10
Q Total (cfs)	4024.00	W.S. Elev (ft)	583.31	582.70
Q Bridge (cfs)	4024.00	Crit W.S. (ft)	577.34	577.66
Q Weir (cfs)		Max Chl Dpth (ft)	13.67	12.51
Weir Sta Lft (ft)		Vel Total (ft/s)	5.84	6.03
Weir Sta Rgt (ft)		Flow Area (sq ft)	688.80	667.45
Weir Submerg		Froude # Chl	0.29	0.30
Weir Max Depth (ft)		Specif Force (cu ft)	4635.86	4119.68
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	27.22	7.50
Min El Prs (ft)	582.85	W.P. Total (ft)	225.17	143.74
Delta EG (ft)	1.16	Conv. Total (cfs)	64040.0	85100.8
Delta WS (ft)	1.23	Top Width (ft)	25.30	89.05
BR Open Area (sq ft)	669.59	Frctn Loss (ft)		
BR Open Vel (ft/s)	6.01	C & E Loss (ft)		
BR Sluice Coef	0.31	Shear Total (lb/sq ft)	0.75	0.65
BR Sel Method	Press Only	Power Total (lb/ft s)	4.41	3.91

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 10%

E.G. US. (ft)	587.52	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	586.97	E.G. Elev (ft)	587.52	587.46
Q Total (cfs)	7740.00	W.S. Elev (ft)	586.97	587.06
Q Bridge (cfs)	2897.00	Crit W.S. (ft)	580.56	580.46
Q Weir (cfs)	4843.00	Max Chl Dpth (ft)	17.33	16.88
Weir Sta Lft (ft)	617.13	Vel Total (ft/s)	4.52	3.94
Weir Sta Rgt (ft)	1582.36	Flow Area (sq ft)	1711.60	1962.35
Weir Submerg	0.85	Froude # Chl	0.33	0.28
Weir Max Depth (ft)	5.32	Specif Force (cu ft)	9185.48	9432.89
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	2.32	2.66
Min El Prs (ft)	582.85	W.P. Total (ft)	940.08	943.49
Delta EG (ft)	0.06	Conv. Total (cfs)		
Delta WS (ft)	-0.09	Top Width (ft)	736.57	757.67
BR Open Area (sq ft)	669.59	Frctn Loss (ft)		
BR Open Vel (ft/s)	4.33	C & E Loss (ft)		

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 10% (Continued)

BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 2%

E.G. US. (ft)	590.01	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	589.60	E.G. Elev (ft)	589.93	589.88
Q Total (cfs)	11040.00	W.S. Elev (ft)	589.70	589.67
Q Bridge (cfs)	3779.98	Crit W.S. (ft)	582.80	582.49
Q Weir (cfs)		Max Chl Dpth (ft)	20.06	19.49
Weir Sta Lft (ft)		Vel Total (ft/s)	2.54	2.50
Weir Sta Rgt (ft)		Flow Area (sq ft)	4341.45	4415.52
Weir Submerg		Froude # Chl	0.15	0.15
Weir Max Depth (ft)		Specif Force (cu ft)	16740.09	17371.02
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	4.14	4.57
Min El Prs (ft)	582.85	W.P. Total (ft)	1257.35	1173.46
Delta EG (ft)	0.16	Conv. Total (cfs)	185937.2	197071.0
Delta WS (ft)	0.08	Top Width (ft)	1077.05	990.02
BR Open Area (sq ft)	669.59	Frctn Loss (ft)	0.04	0.00
BR Open Vel (ft/s)	5.65	C & E Loss (ft)	0.01	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.76	0.74
BR Sel Method	Energy only	Power Total (lb/ft s)	1.93	1.84

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 1%

E.G. US. (ft)	590.88	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	590.49	E.G. Elev (ft)	590.79	590.75
Q Total (cfs)	12400.00	W.S. Elev (ft)	590.61	590.59
Q Bridge (cfs)	3256.93	Crit W.S. (ft)	582.93	582.91
Q Weir (cfs)		Max Chl Dpth (ft)	20.97	20.40
Weir Sta Lft (ft)		Vel Total (ft/s)	2.34	2.34
Weir Sta Rgt (ft)		Flow Area (sq ft)	5309.28	5304.68
Weir Submerg		Froude # Chl	0.13	0.13
Weir Max Depth (ft)		Specif Force (cu ft)	21122.55	21822.06
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	4.97	5.35
Min El Prs (ft)	582.85	W.P. Total (ft)	1280.01	1197.99
Delta EG (ft)	0.16	Conv. Total (cfs)	243045.7	254138.8
Delta WS (ft)	0.10	Top Width (ft)	1167.84	1080.78
BR Open Area (sq ft)	669.59	Frctn Loss (ft)	0.03	0.00
BR Open Vel (ft/s)	4.86	C & E Loss (ft)	0.00	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.67	0.66
BR Sel Method	Energy only	Power Total (lb/ft s)	1.57	1.54

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 0.2%

E.G. US. (ft)	592.34	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	592.00	E.G. Elev (ft)	592.25	592.23
Q Total (cfs)	14980.00	W.S. Elev (ft)	592.12	592.10
Q Bridge (cfs)	2679.64	Crit W.S. (ft)	587.97	587.85
Q Weir (cfs)		Max Chl Dpth (ft)	22.48	21.91
Weir Sta Lft (ft)		Vel Total (ft/s)	2.16	2.20
Weir Sta Rgt (ft)		Flow Area (sq ft)	6927.74	6821.33
Weir Submerg		Froude # Chl	0.11	0.11
Weir Max Depth (ft)		Specif Force (cu ft)	30419.39	31079.97
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	6.42	6.74
Min El Prs (ft)	582.85	W.P. Total (ft)	1293.24	1219.20

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3990 Profile: 0.2% (Continued)

Delta EG (ft)	0.15	Conv. Total (cfs)	354229.3	361151.2
Delta WS (ft)	0.11	Top Width (ft)	1237.37	1122.31
BR Open Area (sq ft)	669.59	Frctn Loss (ft)	0.02	0.00
BR Open Vel (ft/s)	4.00	C & E Loss (ft)	0.00	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.60	0.60
BR Sel Method	Energy only	Power Total (lb/ft s)	1.29	1.32

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	585.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.15	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.65	Flow Area (sq ft)		352.96	2.17
E.G. Slope (ft/ft)	0.002798	Area (sq ft)		352.96	2.17
Q Total (cfs)	2524.00	Flow (cfs)		2523.70	0.30
Top Width (ft)	79.72	Top Width (ft)		56.44	23.28
Vel Total (ft/s)	7.11	Avg. Vel. (ft/s)		7.15	0.14
Max Chl Dpth (ft)	7.39	Hydr. Depth (ft)		6.25	0.09
Conv. Total (cfs)	47718.3	Conv. (cfs)		47712.6	5.6
Length Wtd. (ft)	1190.99	Wetted Per. (ft)		62.12	23.52
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.99	0.02
Alpha	1.01	Stream Power (lb/ft s)		7.10	0.00
Frctn Loss (ft)	2.05	Cum Volume (acre-ft)		28.23	0.45
C & E Loss (ft)	0.12	Cum SA (acres)		4.37	1.85

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.96	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.23	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)		474.54	310.34
E.G. Slope (ft/ft)	0.002730	Area (sq ft)		474.54	310.34
Q Total (cfs)	4024.00	Flow (cfs)		3824.67	199.33
Top Width (ft)	392.18	Top Width (ft)		61.22	330.96
Vel Total (ft/s)	5.13	Avg. Vel. (ft/s)		8.06	0.64
Max Chl Dpth (ft)	9.47	Hydr. Depth (ft)		7.75	0.94
Conv. Total (cfs)	77022.0	Conv. (cfs)		73206.6	3815.3
Length Wtd. (ft)	1190.07	Wetted Per. (ft)		68.51	334.42
Min Ch El (ft)	577.76	Shear (lb/sq ft)		1.18	0.16
Alpha	2.35	Stream Power (lb/ft s)		9.51	0.10
Frctn Loss (ft)	1.69	Cum Volume (acre-ft)		40.53	30.41
C & E Loss (ft)	0.19	Cum SA (acres)		5.03	26.12

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.54	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	136.13	629.37	1612.70
E.G. Slope (ft/ft)	0.002992	Area (sq ft)	136.13	629.37	1612.70
Q Total (cfs)	7740.00	Flow (cfs)	82.19	5848.68	1809.13
Top Width (ft)	1021.64	Top Width (ft)	186.34	70.80	764.50
Vel Total (ft/s)	3.25	Avg. Vel. (ft/s)	0.60	9.29	1.12
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	0.73	8.89	2.11
Conv. Total (cfs)	141506.0	Conv. (cfs)	1502.7	106928.0	33075.3
Length Wtd. (ft)	1187.82	Wetted Per. (ft)	186.54	78.62	777.55
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.50	0.39
Alpha	6.19	Stream Power (lb/ft s)	0.08	13.90	0.43
Frctn Loss (ft)	1.30	Cum Volume (acre-ft)	4.56	58.53	158.47
C & E Loss (ft)	0.25	Cum SA (acres)	4.93	5.81	59.57

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.20	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	491.53	747.05	2942.66
E.G. Slope (ft/ft)	0.002157	Area (sq ft)	491.53	747.05	2942.66
Q Total (cfs)	11040.00	Flow (cfs)	483.68	6608.80	3947.53
Top Width (ft)	1098.58	Top Width (ft)	219.28	70.80	808.50
Vel Total (ft/s)	2.64	Avg. Vel. (ft/s)	0.98	8.85	1.34
Max Chl Dpth (ft)	13.44	Hydr. Depth (ft)	2.24	10.55	3.64
Conv. Total (cfs)	237688.8	Conv. (cfs)	10413.5	142285.9	84989.4
Length Wtd. (ft)	1186.76	Wetted Per. (ft)	219.63	78.62	828.35
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.28	0.48
Alpha	6.82	Stream Power (lb/ft s)	0.30	11.32	0.64
Frctn Loss (ft)	0.98	Cum Volume (acre-ft)	17.19	71.45	286.50
C & E Loss (ft)	0.18	Cum SA (acres)	6.82	6.02	63.15

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.64	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.91	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	649.42	797.10	3515.74
E.G. Slope (ft/ft)	0.001848	Area (sq ft)	649.42	797.10	3515.74
Q Total (cfs)	12400.00	Flow (cfs)	701.81	6814.87	4883.33
Top Width (ft)	1120.30	Top Width (ft)	237.12	70.80	812.38
Vel Total (ft/s)	2.50	Avg. Vel. (ft/s)	1.08	8.55	1.39
Max Chl Dpth (ft)	14.15	Hydr. Depth (ft)	2.74	11.26	4.33
Conv. Total (cfs)	288451.1	Conv. (cfs)	16325.6	158528.6	113596.9
Length Wtd. (ft)	1186.45	Wetted Per. (ft)	237.54	78.62	835.12
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.32	1.17	0.49
Alpha	6.57	Stream Power (lb/ft s)	0.34	10.00	0.67
Frctn Loss (ft)	0.86	Cum Volume (acre-ft)	23.88	76.36	337.20
C & E Loss (ft)	0.16	Cum SA (acres)	9.71	6.06	64.09

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.19	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	993.89	888.34	4565.96
E.G. Slope (ft/ft)	0.001454	Area (sq ft)	993.89	888.34	4565.96
Q Total (cfs)	14980.00	Flow (cfs)	1101.81	7241.37	6636.83
Top Width (ft)	1207.82	Top Width (ft)	319.64	70.80	817.38
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)	1.11	8.15	1.45
Max Chl Dpth (ft)	15.43	Hydr. Depth (ft)	3.11	12.55	5.59
Conv. Total (cfs)	392864.1	Conv. (cfs)	28895.9	189911.5	174056.8
Length Wtd. (ft)	1186.04	Wetted Per. (ft)	320.27	78.62	845.44
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.28	1.03	0.49
Alpha	6.14	Stream Power (lb/ft s)	0.31	8.36	0.71
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	40.27	84.99	428.36
C & E Loss (ft)	0.12	Cum SA (acres)	12.95	6.12	66.13

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	583.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.38	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		493.47	18.29
E.G. Slope (ft/ft)	0.001165	Area (sq ft)		493.47	18.29
Q Total (cfs)	2524.00	Flow (cfs)		2520.78	3.22
Top Width (ft)	147.66	Top Width (ft)		69.53	78.13
Vel Total (ft/s)	4.93	Avg. Vel. (ft/s)		5.11	0.18
Max Chl Dpth (ft)	8.74	Hydr. Depth (ft)		7.10	0.23
Conv. Total (cfs)	73941.9	Conv. (cfs)		73847.7	94.3
Length Wtd. (ft)	789.30	Wetted Per. (ft)		74.57	78.15
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.48	0.02
Alpha	1.07	Stream Power (lb/ft s)		2.46	0.00
Frctn Loss (ft)	1.94	Cum Volume (acre-ft)		16.66	0.18
C & E Loss (ft)	0.14	Cum SA (acres)		2.65	0.47

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	586.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.99	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		688.50	1304.51
E.G. Slope (ft/ft)	0.000868	Area (sq ft)		688.50	1304.51
Q Total (cfs)	4024.00	Flow (cfs)		3405.77	618.23
Top Width (ft)	1109.57	Top Width (ft)		81.32	1028.25
Vel Total (ft/s)	2.02	Avg. Vel. (ft/s)		4.95	0.47
Max Chl Dpth (ft)	11.35	Hydr. Depth (ft)		8.47	1.27
Conv. Total (cfs)	136603.5	Conv. (cfs)		115616.3	20987.2
Length Wtd. (ft)	764.51	Wetted Per. (ft)		87.52	1028.80
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.43	0.07
Alpha	5.09	Stream Power (lb/ft s)		2.11	0.03
Frctn Loss (ft)	1.26	Cum Volume (acre-ft)		24.63	8.50
C & E Loss (ft)	0.10	Cum SA (acres)		3.08	7.68

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.83	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		941.79	5209.32
E.G. Slope (ft/ft)	0.000560	Area (sq ft)		941.79	5209.32
Q Total (cfs)	7740.00	Flow (cfs)		4195.66	3544.34
Top Width (ft)	1716.87	Top Width (ft)		93.86	1623.01
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)		4.46	0.68
Max Chl Dpth (ft)	14.19	Hydr. Depth (ft)		10.03	3.21
Conv. Total (cfs)	327004.9	Conv. (cfs)		177261.1	149743.8
Length Wtd. (ft)	688.31	Wetted Per. (ft)		100.89	1629.66
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.33	0.11
Alpha	6.93	Stream Power (lb/ft s)		1.45	0.08
Frctn Loss (ft)	0.74	Cum Volume (acre-ft)	2.70	37.05	65.93
C & E Loss (ft)	0.10	Cum SA (acres)	2.38	3.56	27.18

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.64	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1114.45	8218.97
E.G. Slope (ft/ft)	0.000435	Area (sq ft)		1114.45	8218.97
Q Total (cfs)	11040.00	Flow (cfs)		4783.51	6256.49
Top Width (ft)	1780.97	Top Width (ft)		96.93	1684.03
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		4.29	0.76
Max Chl Dpth (ft)	16.00	Hydr. Depth (ft)		11.50	4.88
Conv. Total (cfs)	529195.7	Conv. (cfs)		229294.6	299901.1
Length Wtd. (ft)	631.67	Wetted Per. (ft)		104.46	1694.43
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.29	0.13
Alpha	5.94	Stream Power (lb/ft s)		1.24	0.10
Frctn Loss (ft)	0.44	Cum Volume (acre-ft)	10.46	46.00	135.09
C & E Loss (ft)	0.03	Cum SA (acres)	3.82	3.73	29.34

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.41	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1189.36	9515.62
E.G. Slope (ft/ft)	0.000386	Area (sq ft)		1189.36	9515.62
Q Total (cfs)	12400.00	Flow (cfs)		4971.80	7428.21
Top Width (ft)	1792.06	Top Width (ft)		98.20	1693.86
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)		4.18	0.78
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)		12.11	5.62
Conv. Total (cfs)	631432.4	Conv. (cfs)		253173.6	378258.8
Length Wtd. (ft)	620.32	Wetted Per. (ft)		105.94	1705.83
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.27	0.13
Alpha	5.49	Stream Power (lb/ft s)		1.13	0.10
Frctn Loss (ft)	0.37	Cum Volume (acre-ft)	14.99	49.20	160.43
C & E Loss (ft)	0.03	Cum SA (acres)	6.47	3.75	30.10

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.78	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.09	1325.14	11862.14
E.G. Slope (ft/ft)	0.000324	Area (sq ft)	0.09	1325.14	11862.14
Q Total (cfs)	14980.00	Flow (cfs)	0.01	5385.81	9594.19
Top Width (ft)	1830.39	Top Width (ft)	0.54	99.90	1729.95
Vel Total (ft/s)	1.14	Avg. Vel. (ft/s)	0.06	4.06	0.81
Max Chl Dpth (ft)	18.14	Hydr. Depth (ft)	0.17	13.26	6.86
Conv. Total (cfs)	832776.0	Conv. (cfs)	0.3	299410.8	533364.9
Length Wtd. (ft)	607.51	Wetted Per. (ft)	0.64	107.93	1744.70
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.25	0.14
Alpha	4.93	Stream Power (lb/ft s)	0.00	1.01	0.11
Frctn Loss (ft)	0.30	Cum Volume (acre-ft)	26.67	54.73	205.51
C & E Loss (ft)	0.02	Cum SA (acres)	8.57	3.78	31.57

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	581.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.79	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.91	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		235.04	
E.G. Slope (ft/ft)	0.008210	Area (sq ft)		235.04	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	47.00	Top Width (ft)		47.00	
Vel Total (ft/s)	10.74	Avg. Vel. (ft/s)		10.74	
Max Chl Dpth (ft)	6.37	Hydr. Depth (ft)		5.00	
Conv. Total (cfs)	27856.0	Conv. (cfs)		27856.0	
Length Wtd. (ft)	295.10	Wetted Per. (ft)		50.39	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.39	
Alpha	1.00	Stream Power (lb/ft s)		25.67	
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		10.06	0.08
C & E Loss (ft)	0.45	Cum SA (acres)		1.59	0.04

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	584.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.34	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.61	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		428.29	52.80
E.G. Slope (ft/ft)	0.004229	Area (sq ft)		428.29	52.80
Q Total (cfs)	4024.00	Flow (cfs)		3997.20	26.80
Top Width (ft)	170.09	Top Width (ft)		63.19	106.90
Vel Total (ft/s)	8.36	Avg. Vel. (ft/s)		9.33	0.51
Max Chl Dpth (ft)	10.07	Hydr. Depth (ft)		6.78	0.49
Conv. Total (cfs)	61879.0	Conv. (cfs)		61466.9	412.1
Length Wtd. (ft)	295.77	Wetted Per. (ft)		68.91	107.02
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.64	0.13
Alpha	1.24	Stream Power (lb/ft s)		15.31	0.07
Frctn Loss (ft)	0.39	Cum Volume (acre-ft)		14.51	1.06
C & E Loss (ft)	0.30	Cum SA (acres)		1.77	1.46

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		649.54	1490.12
E.G. Slope (ft/ft)	0.002893	Area (sq ft)		649.54	1490.12
Q Total (cfs)	7740.00	Flow (cfs)		6260.56	1479.45
Top Width (ft)	998.48	Top Width (ft)		68.11	930.37
Vel Total (ft/s)	3.62	Avg. Vel. (ft/s)		9.64	0.99
Max Chl Dpth (ft)	13.45	Hydr. Depth (ft)		9.54	1.60
Conv. Total (cfs)	143895.5	Conv. (cfs)		116391.0	27504.6
Length Wtd. (ft)	307.25	Wetted Per. (ft)		74.91	938.70
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.57	0.29
Alpha	5.76	Stream Power (lb/ft s)		15.10	0.28
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	2.70	22.63	29.19
C & E Loss (ft)	0.19	Cum SA (acres)	2.38	2.09	13.18

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.30	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.85	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	4.92	855.47	4188.93
E.G. Slope (ft/ft)	0.001268	Area (sq ft)	4.92	855.47	4188.93
Q Total (cfs)	11040.00	Flow (cfs)	0.70	6118.69	4920.61
Top Width (ft)	1052.38	Top Width (ft)	27.96	75.90	948.53
Vel Total (ft/s)	2.19	Avg. Vel. (ft/s)	0.14	7.15	1.17
Max Chl Dpth (ft)	16.31	Hydr. Depth (ft)	0.18	11.27	4.42
Conv. Total (cfs)	310082.8	Conv. (cfs)	19.7	171856.9	138206.2
Length Wtd. (ft)	321.65	Wetted Per. (ft)	27.98	83.11	974.40
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.81	0.34
Alpha	6.06	Stream Power (lb/ft s)	0.00	5.83	0.40
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	10.41	28.15	67.06
C & E Loss (ft)	0.01	Cum SA (acres)	3.55	2.16	14.90

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.12	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.74	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	80.13	922.79	5033.21
E.G. Slope (ft/ft)	0.001058	Area (sq ft)	103.56	922.79	5033.21
Q Total (cfs)	12400.00	Flow (cfs)	23.83	6343.42	6032.76
Top Width (ft)	1255.69	Top Width (ft)	222.83	75.90	956.97
Vel Total (ft/s)	2.05	Avg. Vel. (ft/s)	0.30	6.87	1.20
Max Chl Dpth (ft)	17.20	Hydr. Depth (ft)	0.51	12.16	5.26
Conv. Total (cfs)	381146.6	Conv. (cfs)	732.4	194981.5	185432.7
Length Wtd. (ft)	323.64	Wetted Per. (ft)	157.17	83.11	988.21
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.73	0.34
Alpha	5.89	Stream Power (lb/ft s)	0.01	5.04	0.40
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	13.98	30.06	80.66
C & E Loss (ft)	0.00	Cum SA (acres)	4.28	2.17	15.56

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.23	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	323.46	1035.90	6500.34
E.G. Slope (ft/ft)	0.000844	Area (sq ft)	559.26	1035.90	6500.34
Q Total (cfs)	14980.00	Flow (cfs)	183.35	6866.99	7929.67
Top Width (ft)	1440.69	Top Width (ft)	360.94	75.90	1003.85
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)	0.57	6.63	1.22
Max Chl Dpth (ft)	18.69	Hydr. Depth (ft)	1.98	13.65	6.48
Conv. Total (cfs)	515739.1	Conv. (cfs)	6312.3	236420.1	273006.7
Length Wtd. (ft)	324.48	Wetted Per. (ft)	163.49	83.11	1044.07
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.66	0.33
Alpha	5.76	Stream Power (lb/ft s)	0.06	4.35	0.40
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	21.19	33.33	104.83
C & E Loss (ft)	0.00	Cum SA (acres)	5.03	2.19	16.58

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	580.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.42	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	575.10	Flow Area (sq ft)		577.72	
E.G. Slope (ft/ft)	0.000769	Area (sq ft)		577.72	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	74.96	Top Width (ft)		74.96	
Vel Total (ft/s)	4.37	Avg. Vel. (ft/s)		4.37	
Max Chl Dpth (ft)	10.78	Hydr. Depth (ft)		7.71	
Conv. Total (cfs)	91024.8	Conv. (cfs)		91024.8	
Length Wtd. (ft)	6.00	Wetted Per. (ft)		80.81	
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.34	
Alpha	1.00	Stream Power (lb/ft s)		1.50	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		7.31	0.08
C & E Loss (ft)	0.03	Cum SA (acres)		1.18	0.04

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	584.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.93	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	576.62	Flow Area (sq ft)		855.38	109.43
E.G. Slope (ft/ft)	0.000624	Area (sq ft)		855.38	109.43
Q Total (cfs)	4024.00	Flow (cfs)		3988.28	35.72
Top Width (ft)	184.52	Top Width (ft)		83.66	100.86
Vel Total (ft/s)	4.17	Avg. Vel. (ft/s)		4.66	0.33
Max Chl Dpth (ft)	14.29	Hydr. Depth (ft)		10.23	1.08
Conv. Total (cfs)	161053.3	Conv. (cfs)		159623.7	1429.5
Length Wtd. (ft)	6.00	Wetted Per. (ft)		92.82	100.99
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.36	0.04
Alpha	1.24	Stream Power (lb/ft s)		1.67	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)		10.16	0.35
C & E Loss (ft)		Cum SA (acres)		1.27	0.55

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.52	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.97	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	579.48	Flow Area (sq ft)	53.39	1127.05	1266.26
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	53.39	1127.05	1266.26
Q Total (cfs)	7740.00	Flow (cfs)	13.14	7005.93	720.93
Top Width (ft)	870.07	Top Width (ft)	100.10	93.01	676.96
Vel Total (ft/s)	3.16	Avg. Vel. (ft/s)	0.25	6.22	0.57
Max Chl Dpth (ft)	17.33	Hydr. Depth (ft)	0.53	12.12	1.87
Conv. Total (cfs)	260198.8	Conv. (cfs)	441.9	235521.2	24235.8
Length Wtd. (ft)	6.00	Wetted Per. (ft)	100.12	103.20	679.58
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.03	0.60	0.10
Alpha	3.50	Stream Power (lb/ft s)	0.01	3.75	0.06
Frctn Loss (ft)		Cum Volume (acre-ft)	2.64	16.61	17.11
C & E Loss (ft)		Cum SA (acres)	2.27	1.55	6.14

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	590.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.60	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	581.57	Flow Area (sq ft)	553.35	1371.03	3094.21
E.G. Slope (ft/ft)	0.000630	Area (sq ft)	561.66	1371.03	3094.21
Q Total (cfs)	11040.00	Flow (cfs)	304.64	8193.36	2542.00
Top Width (ft)	1067.52	Top Width (ft)	260.11	93.01	714.40
Vel Total (ft/s)	2.20	Avg. Vel. (ft/s)	0.55	5.98	0.82
Max Chl Dpth (ft)	19.96	Hydr. Depth (ft)	2.36	14.74	4.33
Conv. Total (cfs)	439928.5	Conv. (cfs)	12139.6	326493.8	101295.2
Length Wtd. (ft)	6.00	Wetted Per. (ft)	234.64	103.20	722.46
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.09	0.52	0.17
Alpha	5.51	Stream Power (lb/ft s)	0.05	3.12	0.14
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	9.79	20.61	35.14
C & E Loss (ft)	0.07	Cum SA (acres)	3.23	1.59	7.61

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.49	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	582.35	Flow Area (sq ft)	777.88	1454.47	3737.11
E.G. Slope (ft/ft)	0.000572	Area (sq ft)	834.51	1454.47	3737.11
Q Total (cfs)	12400.00	Flow (cfs)	484.28	8619.16	3296.56
Top Width (ft)	1162.01	Top Width (ft)	349.81	93.01	719.18
Vel Total (ft/s)	2.08	Avg. Vel. (ft/s)	0.62	5.93	0.88
Max Chl Dpth (ft)	20.85	Hydr. Depth (ft)	3.05	15.64	5.20
Conv. Total (cfs)	518313.4	Conv. (cfs)	20242.6	360276.3	137794.6
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	729.12
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.11	0.50	0.18
Alpha	5.71	Stream Power (lb/ft s)	0.07	2.98	0.16
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	12.94	22.01	42.22
C & E Loss (ft)	0.08	Cum SA (acres)	3.65	1.60	8.22

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.34	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.00	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	584.19	Flow Area (sq ft)	1161.45	1594.23	4825.16
E.G. Slope (ft/ft)	0.000503	Area (sq ft)	1416.95	1594.23	4825.16
Q Total (cfs)	14980.00	Flow (cfs)	885.94	9419.77	4674.30
Top Width (ft)	1233.99	Top Width (ft)	411.83	93.01	729.15
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	0.76	5.91	0.97
Max Chl Dpth (ft)	22.35	Hydr. Depth (ft)	4.55	17.14	6.62
Conv. Total (cfs)	667604.6	Conv. (cfs)	39483.1	419805.0	208316.6
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	742.21
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.14	0.49	0.20
Alpha	5.71	Stream Power (lb/ft s)	0.11	2.87	0.20
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	19.01	24.42	55.19
C & E Loss (ft)	0.08	Cum SA (acres)	4.18	1.62	8.99

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.30	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.67	Flow Area (sq ft)		582.54	
E.G. Slope (ft/ft)	0.000827	Area (sq ft)		582.54	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	81.27	Top Width (ft)		81.27	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	10.12	Hydr. Depth (ft)		7.17	
Conv. Total (cfs)	87756.6	Conv. (cfs)		87756.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		87.15	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.50	
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		7.05	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.14	0.04

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.70	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	577.01	Flow Area (sq ft)		785.33	41.44
E.G. Slope (ft/ft)	0.000877	Area (sq ft)		785.33	41.44
Q Total (cfs)	4024.00	Flow (cfs)		4015.05	8.95
Top Width (ft)	183.16	Top Width (ft)		88.47	94.69
Vel Total (ft/s)	4.87	Avg. Vel. (ft/s)		5.11	0.22
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)		8.88	0.44
Conv. Total (cfs)	135845.6	Conv. (cfs)		135543.6	302.0
Length Wtd. (ft)	126.22	Wetted Per. (ft)		95.81	94.80
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.45	0.02
Alpha	1.10	Stream Power (lb/ft s)		2.30	0.01
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		9.80	0.34
C & E Loss (ft)	0.10	Cum SA (acres)		1.25	0.53

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.06	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.64	Flow Area (sq ft)	55.60	1197.93	1779.79
E.G. Slope (ft/ft)	0.000663	Area (sq ft)	79.98	1197.93	1779.79
Q Total (cfs)	7740.00	Flow (cfs)	10.95	6559.58	1169.46
Top Width (ft)	878.09	Top Width (ft)	151.28	97.77	629.04
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)	0.20	5.48	0.66
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	0.42	12.25	2.83
Conv. Total (cfs)	300520.7	Conv. (cfs)	425.3	254688.8	45406.6
Length Wtd. (ft)	134.79	Wetted Per. (ft)	131.01	106.89	630.02
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.46	0.12
Alpha	3.91	Stream Power (lb/ft s)	0.00	2.54	0.08
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	2.63	16.20	16.49
C & E Loss (ft)	0.07	Cum SA (acres)	2.24	1.52	5.80

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.54	Flow Area (sq ft)	558.45	1437.35	3373.49
E.G. Slope (ft/ft)	0.000524	Area (sq ft)	639.77	1437.35	3373.49
Q Total (cfs)	11040.00	Flow (cfs)	303.61	7896.79	2839.60
Top Width (ft)	989.21	Top Width (ft)	233.77	97.77	657.67
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.54	5.49	0.84
Max Chl Dpth (ft)	19.32	Hydr. Depth (ft)	2.66	14.70	5.13
Conv. Total (cfs)	482407.9	Conv. (cfs)	13266.7	345060.9	124080.2
Length Wtd. (ft)	137.38	Wetted Per. (ft)	210.15	106.89	658.97
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.09	0.44	0.17
Alpha	5.15	Stream Power (lb/ft s)	0.05	2.42	0.14
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	9.50	20.07	33.61
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.54	7.26

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	582.43	Flow Area (sq ft)	744.43	1523.94	3959.43
E.G. Slope (ft/ft)	0.000486	Area (sq ft)	866.26	1523.94	3959.43
Q Total (cfs)	12400.00	Flow (cfs)	472.05	8382.81	3545.14
Top Width (ft)	1069.46	Top Width (ft)	296.65	97.77	675.04
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	0.63	5.50	0.90
Max Chl Dpth (ft)	20.21	Hydr. Depth (ft)	3.55	15.59	5.87
Conv. Total (cfs)	562692.5	Conv. (cfs)	21420.9	380398.7	160872.9
Length Wtd. (ft)	137.55	Wetted Per. (ft)	210.15	106.89	676.41
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.11	0.43	0.18
Alpha	5.22	Stream Power (lb/ft s)	0.07	2.38	0.16
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	12.52	21.43	40.36
C & E Loss (ft)	0.04	Cum SA (acres)	3.48	1.55	7.86

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.88	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	585.01	Flow Area (sq ft)	1056.59	1669.28	4990.37
E.G. Slope (ft/ft)	0.000446	Area (sq ft)	1322.20	1669.28	4990.37
Q Total (cfs)	14980.00	Flow (cfs)	810.99	9351.54	4817.47
Top Width (ft)	1117.25	Top Width (ft)	317.28	97.77	702.20
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.77	5.60	0.97
Max Chl Dpth (ft)	21.70	Hydr. Depth (ft)	5.03	17.07	7.11
Conv. Total (cfs)	709252.4	Conv. (cfs)	38397.7	442763.8	228090.8
Length Wtd. (ft)	137.47	Wetted Per. (ft)	210.15	106.89	703.71
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.14	0.43	0.20
Alpha	5.29	Stream Power (lb/ft s)	0.11	2.44	0.19
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.32	23.77	52.79
C & E Loss (ft)	0.04	Cum SA (acres)	3.99	1.57	8.62

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.36	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

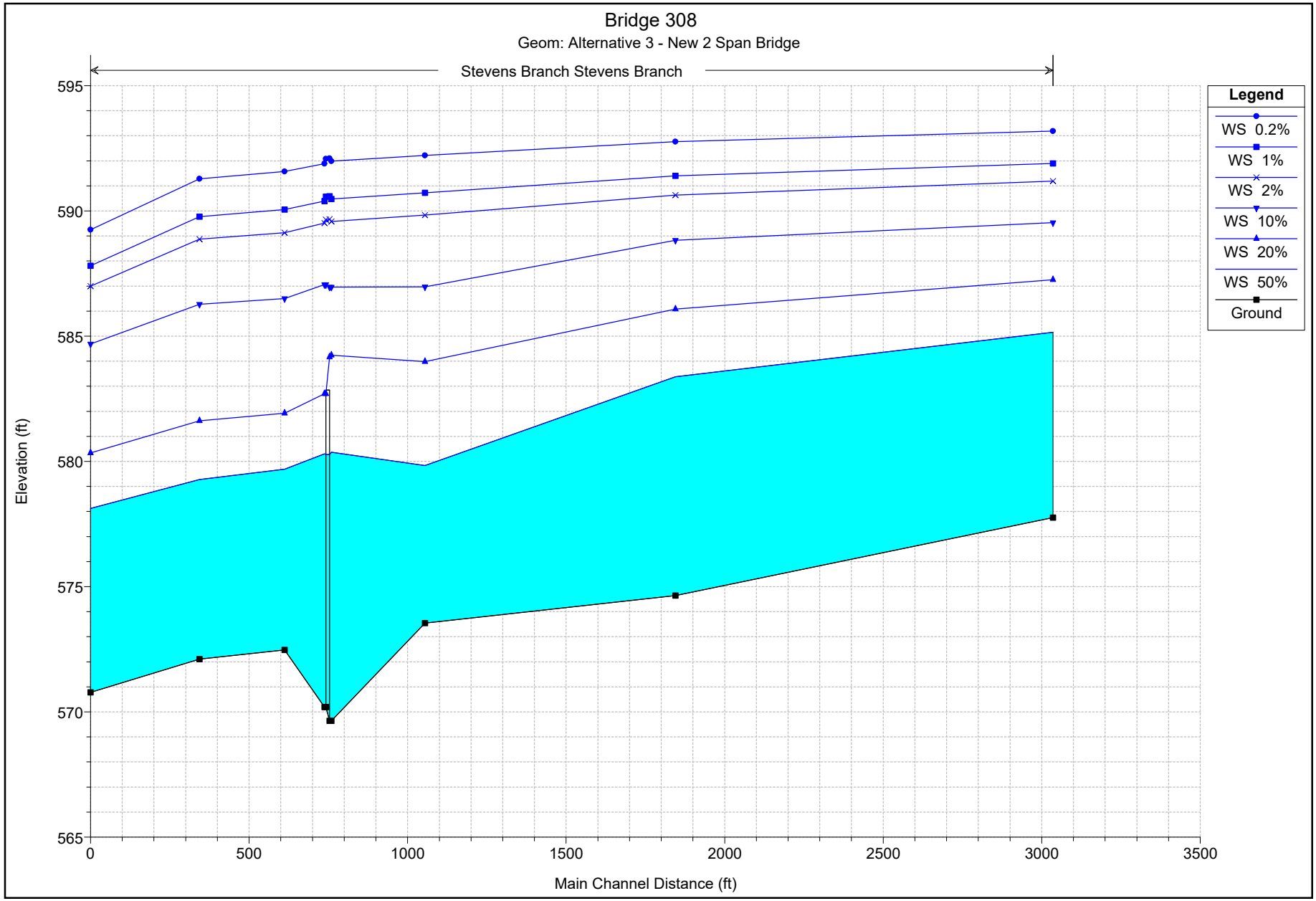
Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 1501 Profile: 1%

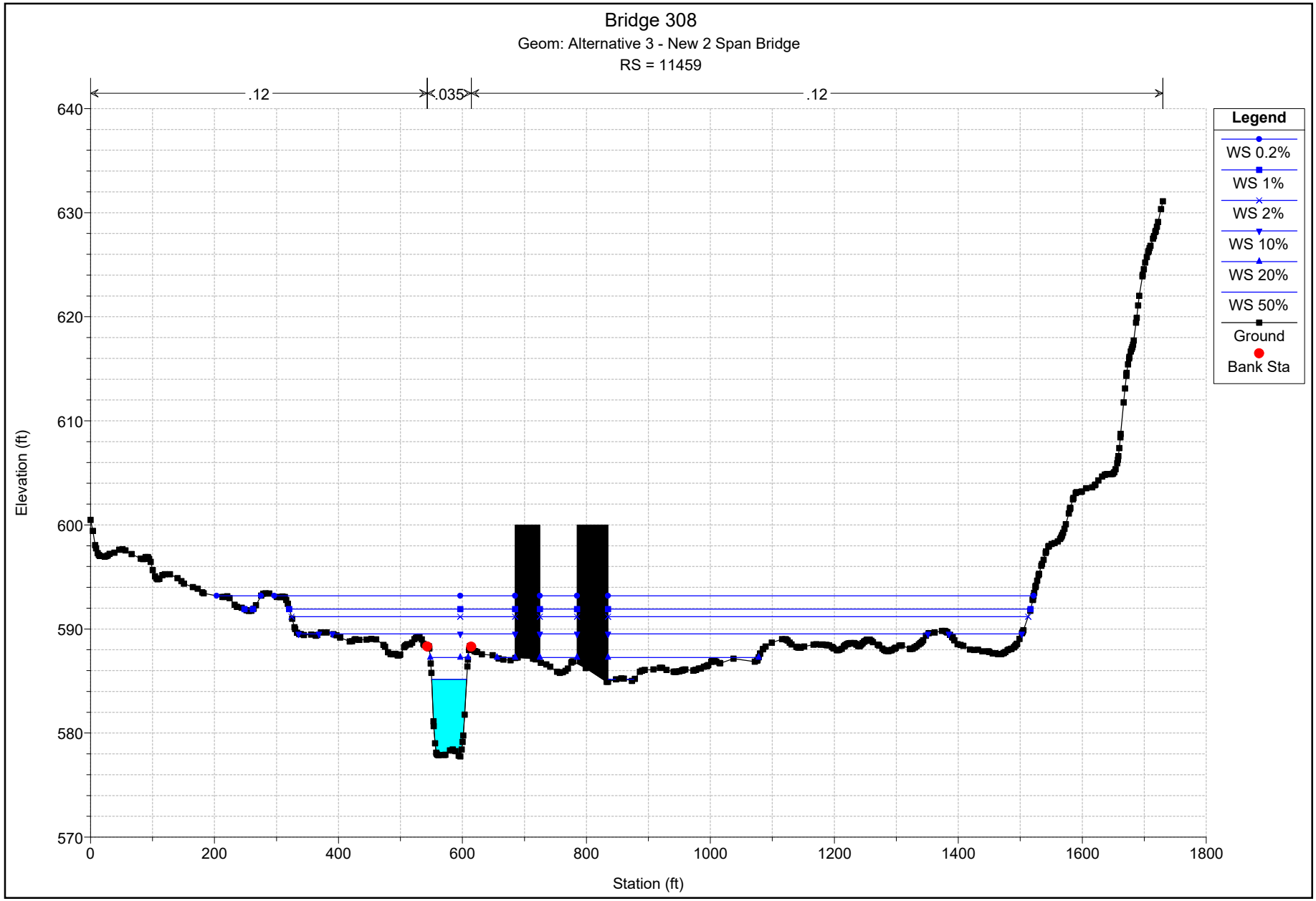
E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

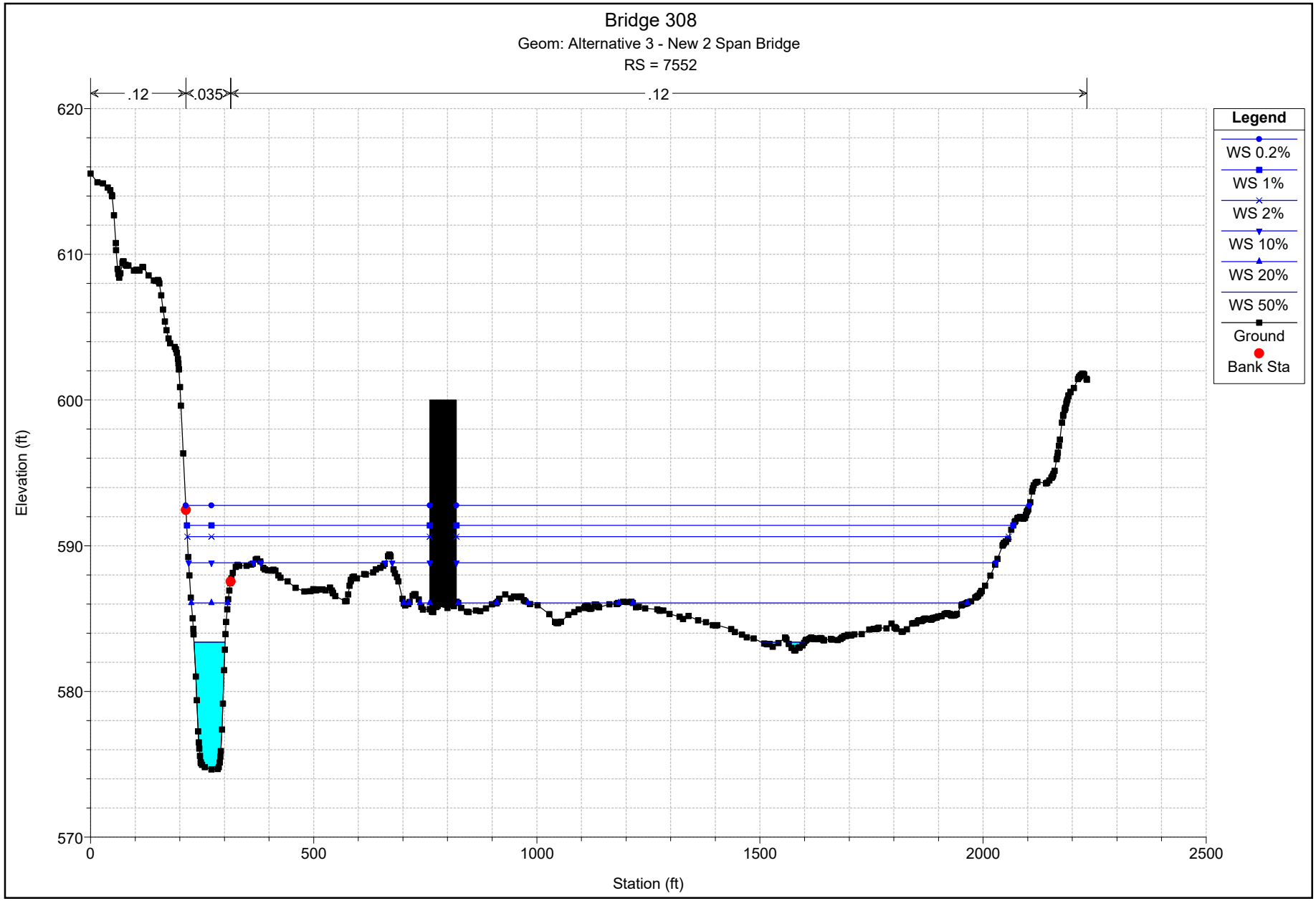
Plan: Alt 2A Ex_Cond, New Piers Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

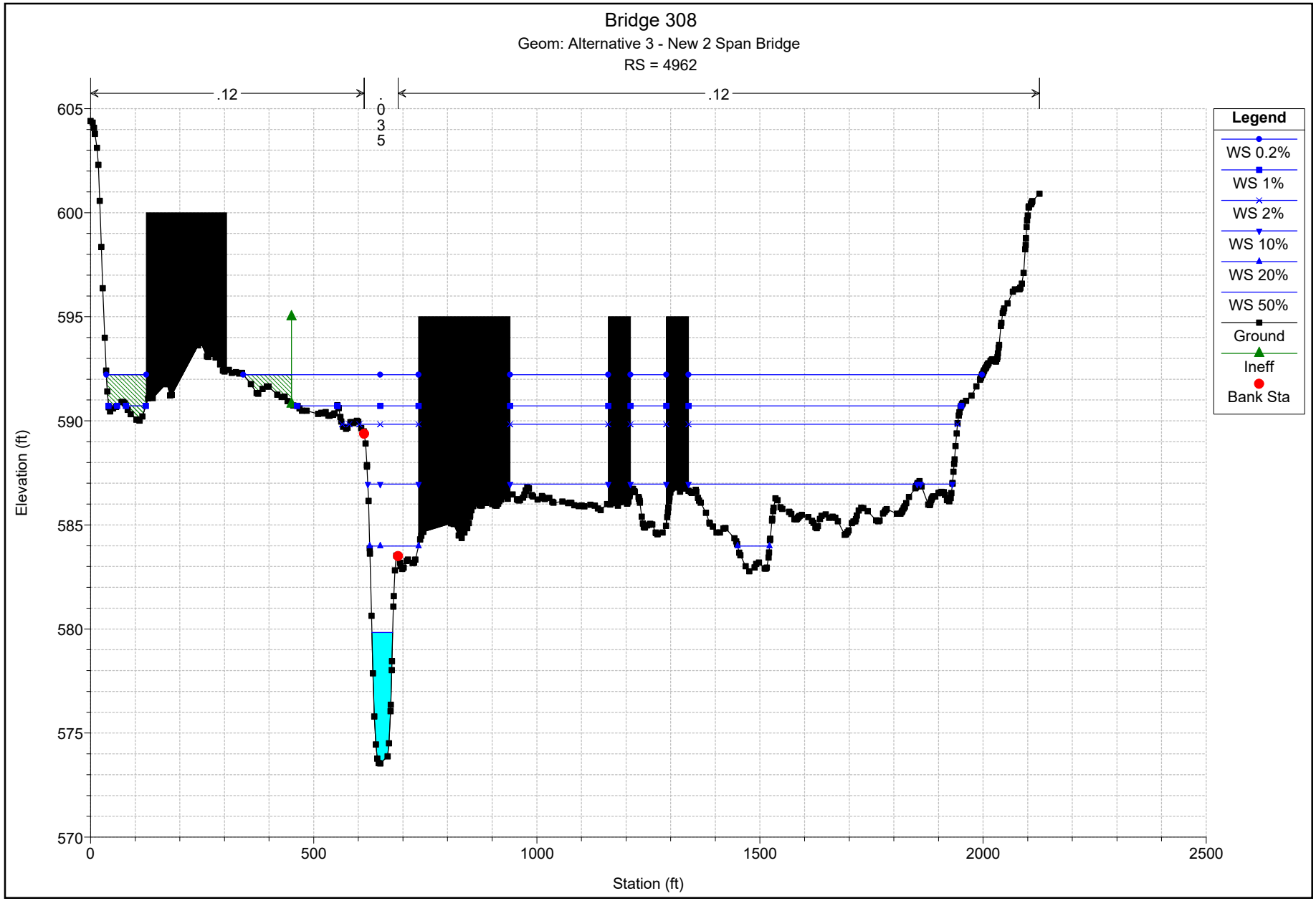
E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

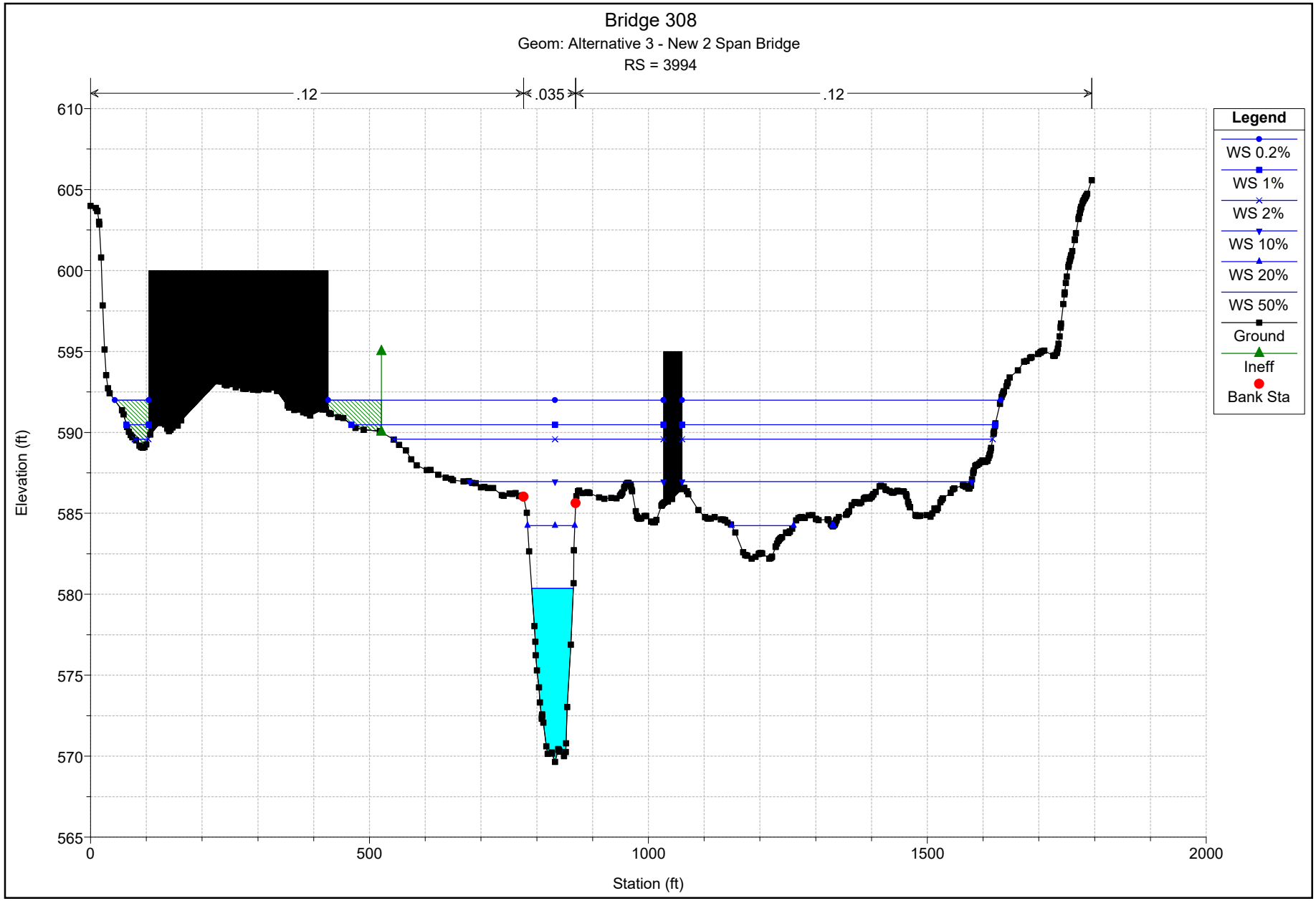
HEC-RAS Results for Alternative 3

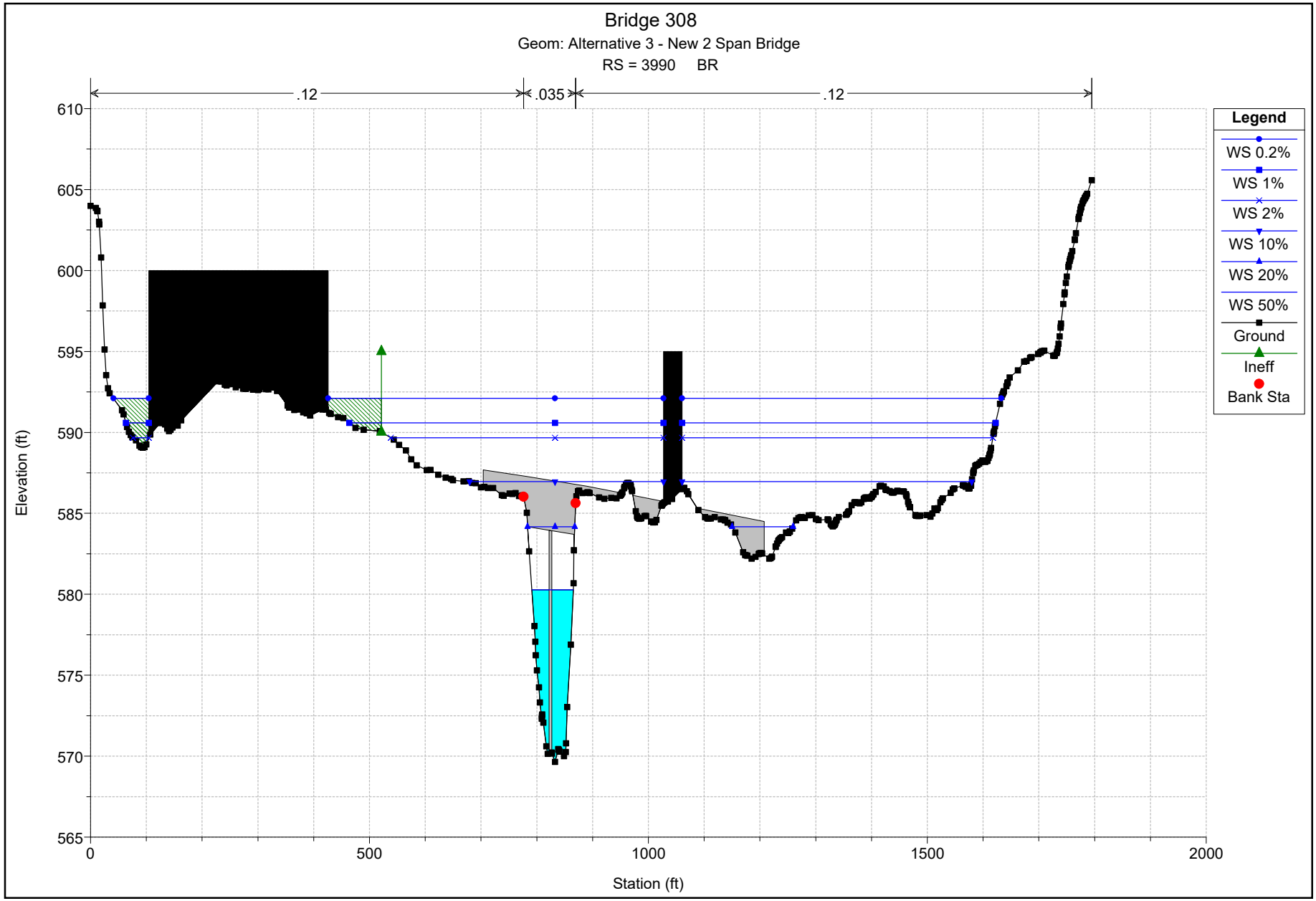

Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

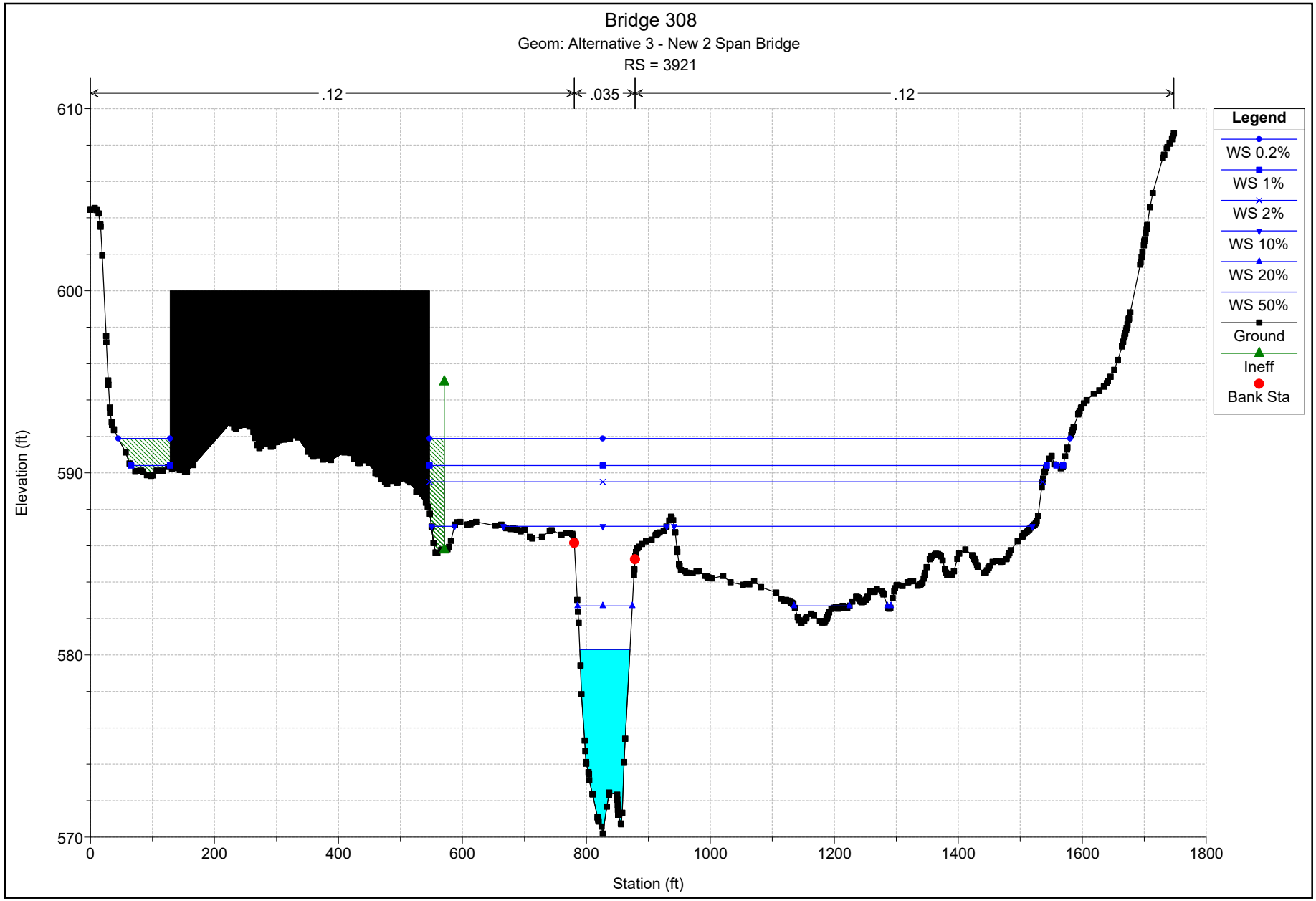

Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 11459
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

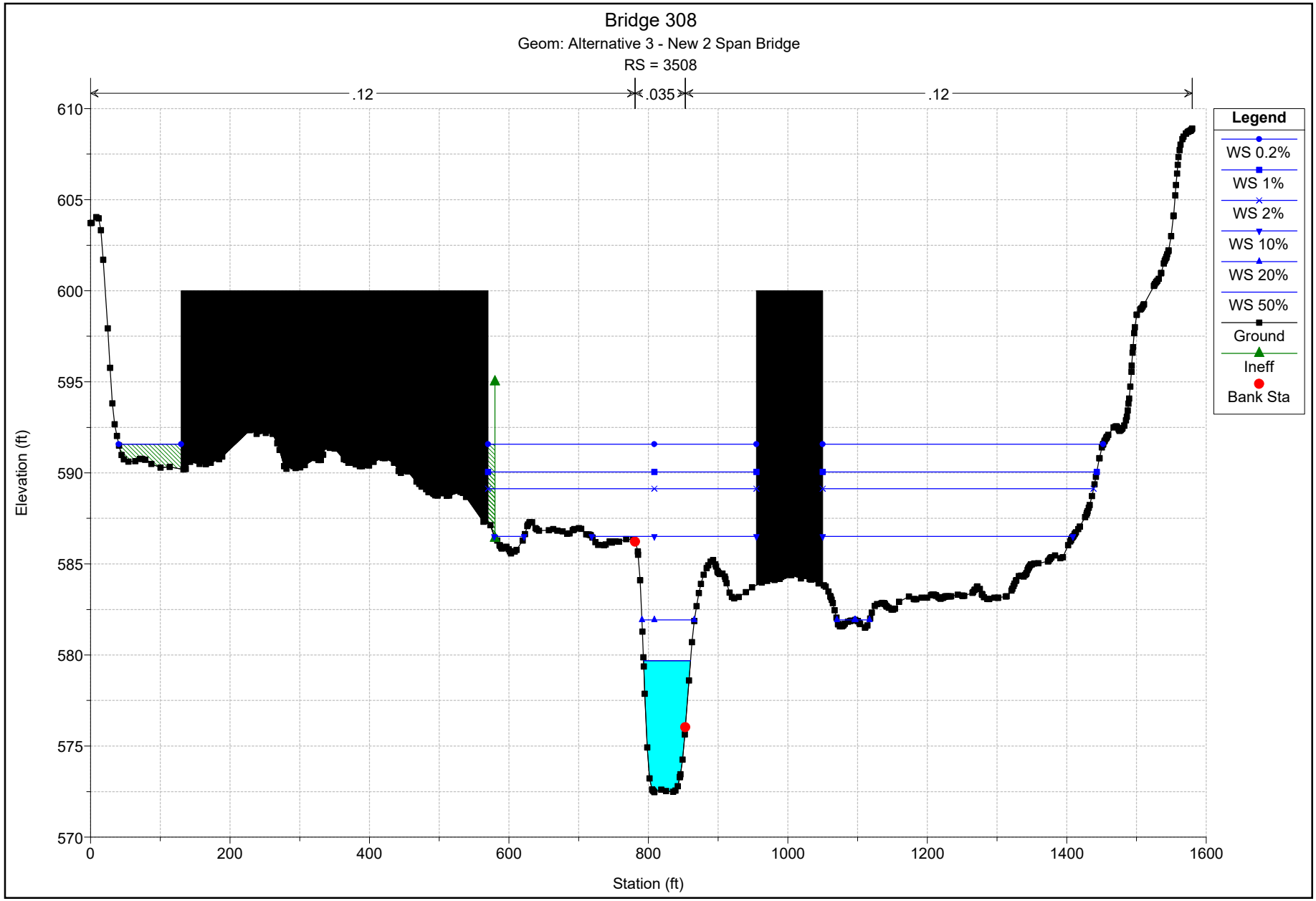

Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 7552
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
500
1000
1500
2000
2500
Station (ft)

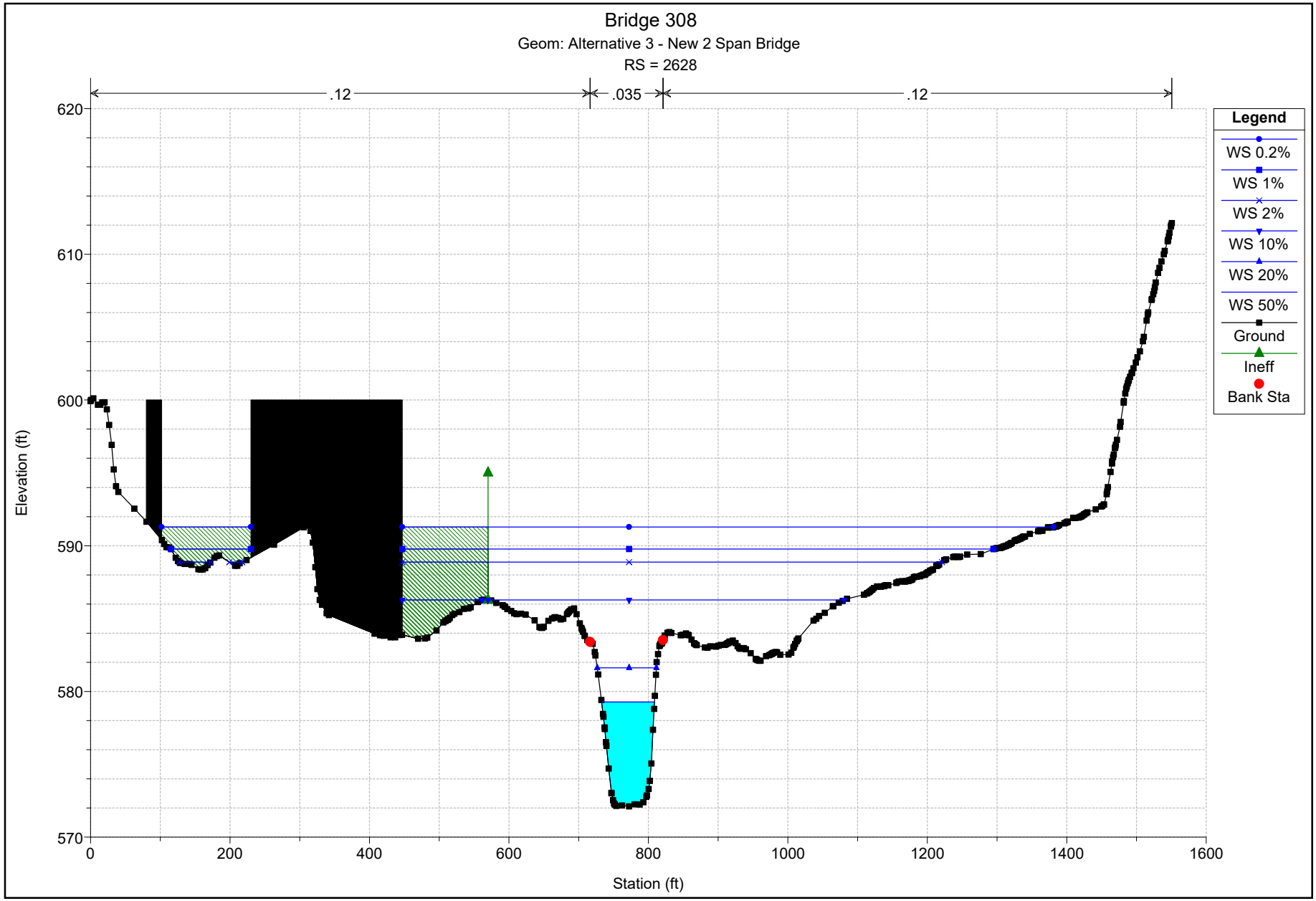

Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 4962
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)

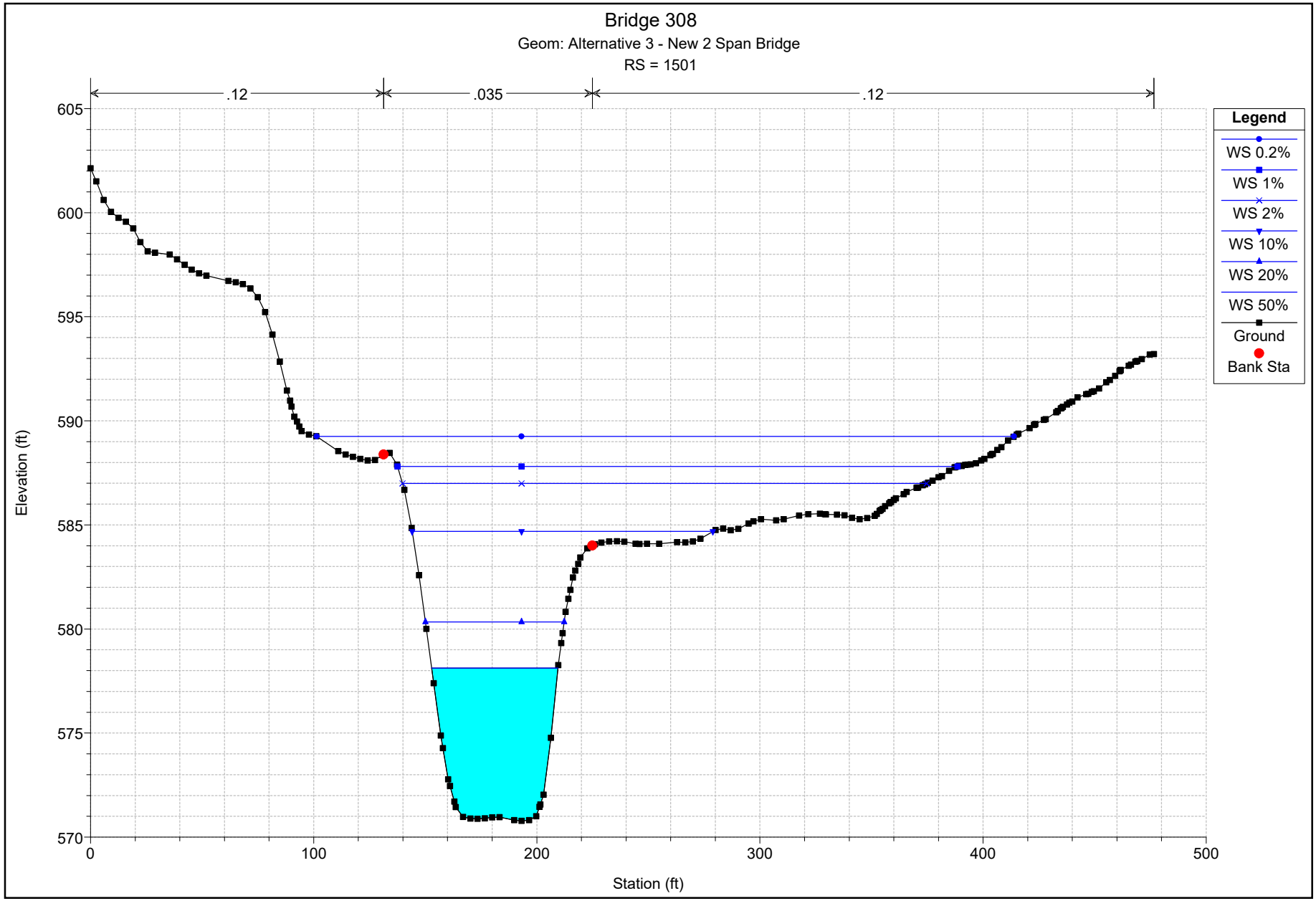

Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 3994
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 3990 BR
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 3921
.12
.035
.12
610
600
590
580
570
Elevation (ft)
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta


Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 3508
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 2628
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 3 - New 2 Span Bridge
RS = 1501
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500
Station (ft)

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 50%

E.G. US. (ft)	580.67	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	580.37	E.G. Elev (ft)	580.65	580.62
Q Total (cfs)	2524.00	W.S. Elev (ft)	580.28	580.28
Q Bridge (cfs)	2524.00	Crit W.S. (ft)	575.46	575.89
Q Weir (cfs)		Max Chl Dpth (ft)	10.64	10.09
Weir Sta Lft (ft)		Vel Total (ft/s)	4.88	4.70
Weir Sta Rgt (ft)		Flow Area (sq ft)	517.62	536.48
Weir Submerg		Froude # Chl	0.32	0.26
Weir Max Depth (ft)		Specif Force (cu ft)	2656.90	2516.52
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	7.44	7.23
Min El Prs (ft)	582.85	W.P. Total (ft)	95.52	98.32
Delta EG (ft)	0.07	Conv. Total (cfs)	67798.8	70594.1
Delta WS (ft)	0.06	Top Width (ft)	69.58	74.20
BR Open Area (sq ft)	787.65	Frctn Loss (ft)	0.02	0.00
BR Open Vel (ft/s)	4.88	C & E Loss (ft)	0.01	0.02
BR Sluice Coef		Shear Total (lb/sq ft)	0.47	0.44
BR Sel Method	Energy only	Power Total (lb/ft s)	2.29	2.05

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 20%

E.G. US. (ft)	584.56	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	584.24	E.G. Elev (ft)	584.56	583.10
Q Total (cfs)	4024.00	W.S. Elev (ft)	584.17	582.70
Q Bridge (cfs)	4024.00	Crit W.S. (ft)	577.05	577.29
Q Weir (cfs)		Max Chl Dpth (ft)	14.53	12.51
Weir Sta Lft (ft)		Vel Total (ft/s)	4.79	5.57
Weir Sta Rgt (ft)		Flow Area (sq ft)	840.19	721.92
Weir Submerg		Froude # Chl	0.23	0.28
Weir Max Depth (ft)		Specif Force (cu ft)	5502.97	4365.53
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	16.33	7.68
Min El Prs (ft)	582.85	W.P. Total (ft)	246.18	126.23
Delta EG (ft)	1.45	Conv. Total (cfs)	86063.2	107044.8
Delta WS (ft)	1.55	Top Width (ft)	51.44	93.99
BR Open Area (sq ft)	787.65	Frctn Loss (ft)		
BR Open Vel (ft/s)	5.11	C & E Loss (ft)		
BR Sluice Coef	0.27	Shear Total (lb/sq ft)	0.47	0.50
BR Sel Method	Press Only	Power Total (lb/ft s)	2.23	2.81

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 10%

E.G. US. (ft)	587.50	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	586.96	E.G. Elev (ft)	587.50	587.46
Q Total (cfs)	7740.00	W.S. Elev (ft)	586.96	587.06
Q Bridge (cfs)	3345.22	Crit W.S. (ft)	580.10	579.99
Q Weir (cfs)	4394.78	Max Chl Dpth (ft)	17.31	16.88
Weir Sta Lft (ft)	617.75	Vel Total (ft/s)	4.26	3.71
Weir Sta Rgt (ft)	1582.29	Flow Area (sq ft)	1817.14	2085.29
Weir Submerg	0.87	Froude # Chl	0.31	0.27
Weir Max Depth (ft)	5.30	Specif Force (cu ft)	9779.62	10167.95
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	2.49	2.83
Min El Prs (ft)	582.85	W.P. Total (ft)	927.58	933.97
Delta EG (ft)	0.05	Conv. Total (cfs)		
Delta WS (ft)	-0.11	Top Width (ft)	730.12	757.67
BR Open Area (sq ft)	787.65	Frctn Loss (ft)		
BR Open Vel (ft/s)	4.25	C & E Loss (ft)		

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 10% (Continued)

BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 2%

E.G. US. (ft)	589.99	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	589.58	E.G. Elev (ft)	589.92	589.88
Q Total (cfs)	11040.00	W.S. Elev (ft)	589.67	589.65
Q Bridge (cfs)	4566.45	Crit W.S. (ft)	582.12	581.94
Q Weir (cfs)		Max Chl Dpth (ft)	20.03	19.47
Weir Sta Lft (ft)		Vel Total (ft/s)	2.49	2.44
Weir Sta Rgt (ft)		Flow Area (sq ft)	4430.76	4519.30
Weir Submerg		Froude # Chl	0.16	0.15
Weir Max Depth (ft)		Specif Force (cu ft)	17689.64	18423.34
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	4.24	4.68
Min El Prs (ft)	582.85	W.P. Total (ft)	1249.83	1163.83
Delta EG (ft)	0.14	Conv. Total (cfs)	204399.2	217682.3
Delta WS (ft)	0.07	Top Width (ft)	1074.69	989.92
BR Open Area (sq ft)	787.65	Frctn Loss (ft)	0.03	0.00
BR Open Vel (ft/s)	5.80	C & E Loss (ft)	0.01	0.02
BR Sluice Coef		Shear Total (lb/sq ft)	0.65	0.62
BR Sel Method	Energy only	Power Total (lb/ft s)	1.61	1.52

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 1%

E.G. US. (ft)	590.86	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	590.48	E.G. Elev (ft)	590.78	590.75
Q Total (cfs)	12400.00	W.S. Elev (ft)	590.59	590.57
Q Bridge (cfs)	4025.81	Crit W.S. (ft)	583.06	582.71
Q Weir (cfs)		Max Chl Dpth (ft)	20.95	20.38
Weir Sta Lft (ft)		Vel Total (ft/s)	2.30	2.29
Weir Sta Rgt (ft)		Flow Area (sq ft)	5402.76	5409.79
Weir Submerg		Froude # Chl	0.14	0.13
Weir Max Depth (ft)		Specif Force (cu ft)	22178.10	22980.44
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	5.06	5.46
Min El Prs (ft)	582.85	W.P. Total (ft)	1273.81	1187.96
Delta EG (ft)	0.14	Conv. Total (cfs)	262812.7	276196.9
Delta WS (ft)	0.08	Top Width (ft)	1166.67	1080.09
BR Open Area (sq ft)	787.65	Frctn Loss (ft)	0.03	0.00
BR Open Vel (ft/s)	5.11	C & E Loss (ft)	0.00	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.59	0.57
BR Sel Method	Energy only	Power Total (lb/ft s)	1.35	1.31

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 0.2%

E.G. US. (ft)	592.33	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	591.99	E.G. Elev (ft)	592.25	592.23
Q Total (cfs)	14980.00	W.S. Elev (ft)	592.10	592.08
Q Bridge (cfs)	3393.62	Crit W.S. (ft)	587.91	587.42
Q Weir (cfs)		Max Chl Dpth (ft)	22.46	21.89
Weir Sta Lft (ft)		Vel Total (ft/s)	2.13	2.16
Weir Sta Rgt (ft)		Flow Area (sq ft)	7027.04	6929.02
Weir Submerg		Froude # Chl	0.11	0.12
Weir Max Depth (ft)		Specif Force (cu ft)	31653.73	32418.47
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	6.52	6.85
Min El Prs (ft)	582.85	W.P. Total (ft)	1287.08	1209.55

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3990 Profile: 0.2% (Continued)

Delta EG (ft)	0.14	Conv. Total (cfs)	376219.2	385603.4
Delta WS (ft)	0.10	Top Width (ft)	1236.88	1121.96
BR Open Area (sq ft)	787.65	Frctn Loss (ft)	0.02	0.00
BR Open Vel (ft/s)	4.31	C & E Loss (ft)	0.00	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.54	0.54
BR Sel Method	Energy only	Power Total (lb/ft s)	1.15	1.17

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	585.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.16	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.67	Flow Area (sq ft)		353.07	2.22
E.G. Slope (ft/ft)	0.002795	Area (sq ft)		353.07	2.22
Q Total (cfs)	2524.00	Flow (cfs)		2523.69	0.31
Top Width (ft)	79.98	Top Width (ft)		56.44	23.53
Vel Total (ft/s)	7.10	Avg. Vel. (ft/s)		7.15	0.14
Max Chl Dpth (ft)	7.40	Hydr. Depth (ft)		6.26	0.09
Conv. Total (cfs)	47739.9	Conv. (cfs)		47734.1	5.8
Length Wtd. (ft)	1190.99	Wetted Per. (ft)		62.13	23.77
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.99	0.02
Alpha	1.01	Stream Power (lb/ft s)		7.09	0.00
Frctn Loss (ft)	2.05	Cum Volume (acre-ft)		28.20	0.46
C & E Loss (ft)	0.12	Cum SA (acres)		4.37	1.87

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.95	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.25	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)		475.96	318.05
E.G. Slope (ft/ft)	0.002698	Area (sq ft)		475.96	318.05
Q Total (cfs)	4024.00	Flow (cfs)		3818.13	205.87
Top Width (ft)	393.21	Top Width (ft)		61.30	331.91
Vel Total (ft/s)	5.07	Avg. Vel. (ft/s)		8.02	0.65
Max Chl Dpth (ft)	9.49	Hydr. Depth (ft)		7.76	0.96
Conv. Total (cfs)	77468.2	Conv. (cfs)		73504.9	3963.3
Length Wtd. (ft)	1190.01	Wetted Per. (ft)		68.60	335.47
Min Ch El (ft)	577.76	Shear (lb/sq ft)		1.17	0.16
Alpha	2.38	Stream Power (lb/ft s)		9.37	0.10
Frctn Loss (ft)	1.63	Cum Volume (acre-ft)		41.14	32.93
C & E Loss (ft)	0.19	Cum SA (acres)		5.06	27.17

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.54	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	136.10	629.36	1612.60
E.G. Slope (ft/ft)	0.002992	Area (sq ft)	136.10	629.36	1612.60
Q Total (cfs)	7740.00	Flow (cfs)	82.18	5848.78	1809.04
Top Width (ft)	1021.62	Top Width (ft)	186.32	70.80	764.49
Vel Total (ft/s)	3.25	Avg. Vel. (ft/s)	0.60	9.29	1.12
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	0.73	8.89	2.11
Conv. Total (cfs)	141500.3	Conv. (cfs)	1502.4	106925.6	33072.3
Length Wtd. (ft)	1187.82	Wetted Per. (ft)	186.52	78.62	777.55
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.50	0.39
Alpha	6.19	Stream Power (lb/ft s)	0.08	13.90	0.43
Frctn Loss (ft)	1.30	Cum Volume (acre-ft)	4.56	58.55	158.20
C & E Loss (ft)	0.25	Cum SA (acres)	4.93	5.81	59.56

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.93	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.19	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	489.76	746.48	2936.14
E.G. Slope (ft/ft)	0.002167	Area (sq ft)	489.76	746.48	2936.14
Q Total (cfs)	11040.00	Flow (cfs)	481.96	6615.66	3942.39
Top Width (ft)	1098.50	Top Width (ft)	219.24	70.80	808.45
Vel Total (ft/s)	2.65	Avg. Vel. (ft/s)	0.98	8.86	1.34
Max Chl Dpth (ft)	13.43	Hydr. Depth (ft)	2.23	10.54	3.63
Conv. Total (cfs)	237140.2	Conv. (cfs)	10352.5	142104.9	84682.9
Length Wtd. (ft)	1186.77	Wetted Per. (ft)	219.59	78.62	828.27
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.28	0.48
Alpha	6.82	Stream Power (lb/ft s)	0.30	11.39	0.64
Frctn Loss (ft)	0.99	Cum Volume (acre-ft)	17.15	71.44	285.81
C & E Loss (ft)	0.18	Cum SA (acres)	6.81	6.02	63.14

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.64	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.90	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	647.54	796.54	3509.30
E.G. Slope (ft/ft)	0.001856	Area (sq ft)	647.54	796.54	3509.30
Q Total (cfs)	12400.00	Flow (cfs)	700.14	6821.02	4878.84
Top Width (ft)	1119.82	Top Width (ft)	236.67	70.80	812.35
Vel Total (ft/s)	2.50	Avg. Vel. (ft/s)	1.08	8.56	1.39
Max Chl Dpth (ft)	14.14	Hydr. Depth (ft)	2.74	11.25	4.32
Conv. Total (cfs)	287852.3	Conv. (cfs)	16252.9	158342.5	113256.8
Length Wtd. (ft)	1186.45	Wetted Per. (ft)	237.10	78.62	835.06
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.32	1.17	0.49
Alpha	6.57	Stream Power (lb/ft s)	0.34	10.05	0.68
Frctn Loss (ft)	0.87	Cum Volume (acre-ft)	23.81	76.36	336.60
C & E Loss (ft)	0.16	Cum SA (acres)	9.61	6.06	64.09

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.19	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	991.67	887.85	4560.27
E.G. Slope (ft/ft)	0.001458	Area (sq ft)	991.67	887.85	4560.27
Q Total (cfs)	14980.00	Flow (cfs)	1100.76	7245.76	6633.48
Top Width (ft)	1206.87	Top Width (ft)	318.71	70.80	817.36
Vel Total (ft/s)	2.33	Avg. Vel. (ft/s)	1.11	8.16	1.45
Max Chl Dpth (ft)	15.43	Hydr. Depth (ft)	3.11	12.54	5.58
Conv. Total (cfs)	392263.1	Conv. (cfs)	28824.1	189736.0	173703.0
Length Wtd. (ft)	1186.04	Wetted Per. (ft)	319.34	78.62	845.39
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.28	1.03	0.49
Alpha	6.14	Stream Power (lb/ft s)	0.31	8.39	0.71
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	40.19	84.99	427.87
C & E Loss (ft)	0.13	Cum SA (acres)	12.94	6.12	66.12

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	583.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.38	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		493.90	18.77
E.G. Slope (ft/ft)	0.001162	Area (sq ft)		493.90	18.77
Q Total (cfs)	2524.00	Flow (cfs)		2520.68	3.32
Top Width (ft)	148.57	Top Width (ft)		69.55	79.02
Vel Total (ft/s)	4.92	Avg. Vel. (ft/s)		5.10	0.18
Max Chl Dpth (ft)	8.74	Hydr. Depth (ft)		7.10	0.24
Conv. Total (cfs)	74037.3	Conv. (cfs)		73939.9	97.5
Length Wtd. (ft)	789.29	Wetted Per. (ft)		74.59	79.05
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.48	0.02
Alpha	1.07	Stream Power (lb/ft s)		2.45	0.00
Frctn Loss (ft)	1.96	Cum Volume (acre-ft)		16.62	0.18
C & E Loss (ft)	0.14	Cum SA (acres)		2.65	0.47

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	586.38	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.08	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		696.00	1401.73
E.G. Slope (ft/ft)	0.000823	Area (sq ft)		696.00	1401.73
Q Total (cfs)	4024.00	Flow (cfs)		3362.57	661.43
Top Width (ft)	1155.94	Top Width (ft)		81.88	1074.06
Vel Total (ft/s)	1.92	Avg. Vel. (ft/s)		4.83	0.47
Max Chl Dpth (ft)	11.44	Hydr. Depth (ft)		8.50	1.31
Conv. Total (cfs)	140253.2	Conv. (cfs)		117199.4	23053.7
Length Wtd. (ft)	761.53	Wetted Per. (ft)		88.11	1074.72
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.41	0.07
Alpha	5.31	Stream Power (lb/ft s)		1.96	0.03
Frctn Loss (ft)	1.14	Cum Volume (acre-ft)		25.12	9.61
C & E Loss (ft)	0.09	Cum SA (acres)		3.10	8.10

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.83	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		941.75	5208.73
E.G. Slope (ft/ft)	0.000560	Area (sq ft)		941.75	5208.73
Q Total (cfs)	7740.00	Flow (cfs)		4195.88	3544.12
Top Width (ft)	1716.84	Top Width (ft)		93.86	1622.98
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)		4.46	0.68
Max Chl Dpth (ft)	14.19	Hydr. Depth (ft)		10.03	3.21
Conv. Total (cfs)	326969.7	Conv. (cfs)		177251.3	149718.3
Length Wtd. (ft)	688.71	Wetted Per. (ft)		100.89	1629.63
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.33	0.11
Alpha	6.93	Stream Power (lb/ft s)		1.45	0.08
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	2.70	37.07	65.67
C & E Loss (ft)	0.10	Cum SA (acres)	2.38	3.56	27.17

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.63	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1113.34	8199.75
E.G. Slope (ft/ft)	0.000438	Area (sq ft)		1113.34	8199.75
Q Total (cfs)	11040.00	Flow (cfs)		4789.44	6250.56
Top Width (ft)	1780.81	Top Width (ft)		96.92	1683.90
Vel Total (ft/s)	1.19	Avg. Vel. (ft/s)		4.30	0.76
Max Chl Dpth (ft)	15.99	Hydr. Depth (ft)		11.49	4.87
Conv. Total (cfs)	527740.5	Conv. (cfs)		228947.5	298793.0
Length Wtd. (ft)	631.90	Wetted Per. (ft)		104.44	1694.27
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.29	0.13
Alpha	5.95	Stream Power (lb/ft s)		1.25	0.10
Frctn Loss (ft)	0.44	Cum Volume (acre-ft)	10.45	46.01	134.75
C & E Loss (ft)	0.03	Cum SA (acres)	3.81	3.73	29.33

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.40	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1188.35	9498.25
E.G. Slope (ft/ft)	0.000387	Area (sq ft)		1188.35	9498.25
Q Total (cfs)	12400.00	Flow (cfs)		4976.59	7423.41
Top Width (ft)	1791.90	Top Width (ft)		98.18	1693.72
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)		4.19	0.78
Max Chl Dpth (ft)	16.76	Hydr. Depth (ft)		12.10	5.61
Conv. Total (cfs)	630012.3	Conv. (cfs)		252848.0	377164.3
Length Wtd. (ft)	620.46	Wetted Per. (ft)		105.92	1705.66
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.27	0.13
Alpha	5.50	Stream Power (lb/ft s)		1.14	0.11
Frctn Loss (ft)	0.37	Cum Volume (acre-ft)	14.95	49.22	160.15
C & E Loss (ft)	0.03	Cum SA (acres)	6.37	3.75	30.09

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.87	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.77	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.09	1324.31	11847.67
E.G. Slope (ft/ft)	0.000325	Area (sq ft)	0.09	1324.31	11847.67
Q Total (cfs)	14980.00	Flow (cfs)	0.01	5388.97	9591.03
Top Width (ft)	1830.30	Top Width (ft)	0.53	99.90	1729.87
Vel Total (ft/s)	1.14	Avg. Vel. (ft/s)	0.06	4.07	0.81
Max Chl Dpth (ft)	18.13	Hydr. Depth (ft)	0.16	13.26	6.85
Conv. Total (cfs)	831414.3	Conv. (cfs)	0.3	299096.3	532317.6
Length Wtd. (ft)	607.58	Wetted Per. (ft)	0.62	107.93	1744.60
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.25	0.14
Alpha	4.93	Stream Power (lb/ft s)	0.00	1.01	0.11
Frctn Loss (ft)	0.30	Cum Volume (acre-ft)	26.62	54.75	205.29
C & E Loss (ft)	0.02	Cum SA (acres)	8.57	3.78	31.57

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	581.68	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.85	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.83	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		231.41	
E.G. Slope (ft/ft)	0.008591	Area (sq ft)		231.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	46.81	Top Width (ft)		46.81	
Vel Total (ft/s)	10.91	Avg. Vel. (ft/s)		10.91	
Max Chl Dpth (ft)	6.29	Hydr. Depth (ft)		4.94	
Conv. Total (cfs)	27230.7	Conv. (cfs)		27230.7	
Length Wtd. (ft)	295.10	Wetted Per. (ft)		50.15	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.47	
Alpha	1.00	Stream Power (lb/ft s)		26.99	
Frctn Loss (ft)	0.55	Cum Volume (acre-ft)		10.05	0.08
C & E Loss (ft)	0.46	Cum SA (acres)		1.59	0.04

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	585.16	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.18	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.98	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		451.99	94.76
E.G. Slope (ft/ft)	0.003520	Area (sq ft)		451.99	94.76
Q Total (cfs)	4024.00	Flow (cfs)		3963.51	60.50
Top Width (ft)	180.97	Top Width (ft)		63.74	117.23
Vel Total (ft/s)	7.36	Avg. Vel. (ft/s)		8.77	0.64
Max Chl Dpth (ft)	10.44	Hydr. Depth (ft)		7.09	0.81
Conv. Total (cfs)	67827.1	Conv. (cfs)		66807.4	1019.7
Length Wtd. (ft)	296.29	Wetted Per. (ft)		69.58	117.45
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.43	0.18
Alpha	1.40	Stream Power (lb/ft s)		12.52	0.11
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)		14.71	1.40
C & E Loss (ft)	0.26	Cum SA (acres)		1.78	1.57

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.19	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.97	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		648.05	1469.74
E.G. Slope (ft/ft)	0.002931	Area (sq ft)		648.05	1469.74
Q Total (cfs)	7740.00	Flow (cfs)		6280.25	1459.75
Top Width (ft)	997.50	Top Width (ft)		68.07	929.43
Vel Total (ft/s)	3.65	Avg. Vel. (ft/s)		9.69	0.99
Max Chl Dpth (ft)	13.43	Hydr. Depth (ft)		9.52	1.58
Conv. Total (cfs)	142956.6	Conv. (cfs)		115995.3	26961.3
Length Wtd. (ft)	307.11	Wetted Per. (ft)		74.86	937.63
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.58	0.29
Alpha	5.72	Stream Power (lb/ft s)		15.35	0.28
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	2.70	22.67	29.05
C & E Loss (ft)	0.19	Cum SA (acres)	2.38	2.09	13.18

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.29	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.83	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	4.44	854.12	4172.02
E.G. Slope (ft/ft)	0.001279	Area (sq ft)	4.44	854.12	4172.02
Q Total (cfs)	11040.00	Flow (cfs)	0.61	6129.39	4910.00
Top Width (ft)	1051.13	Top Width (ft)	26.78	75.90	948.45
Vel Total (ft/s)	2.19	Avg. Vel. (ft/s)	0.14	7.18	1.18
Max Chl Dpth (ft)	16.29	Hydr. Depth (ft)	0.17	11.25	4.40
Conv. Total (cfs)	308726.3	Conv. (cfs)	17.1	171404.2	137304.9
Length Wtd. (ft)	321.59	Wetted Per. (ft)	26.80	83.11	974.21
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.82	0.34
Alpha	6.06	Stream Power (lb/ft s)	0.00	5.89	0.40
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	10.41	28.18	66.92
C & E Loss (ft)	0.01	Cum SA (acres)	3.54	2.16	14.90

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.11	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.72	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	77.98	921.72	5019.78
E.G. Slope (ft/ft)	0.001065	Area (sq ft)	100.49	921.72	5019.78
Q Total (cfs)	12400.00	Flow (cfs)	23.32	6350.40	6026.29
Top Width (ft)	1246.56	Top Width (ft)	214.08	75.90	956.58
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.30	6.89	1.20
Max Chl Dpth (ft)	17.18	Hydr. Depth (ft)	0.52	12.14	5.25
Conv. Total (cfs)	379995.3	Conv. (cfs)	714.6	194606.5	184674.2
Length Wtd. (ft)	323.62	Wetted Per. (ft)	149.74	83.11	987.75
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.74	0.34
Alpha	5.89	Stream Power (lb/ft s)	0.01	5.08	0.41
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	13.97	30.10	80.54
C & E Loss (ft)	0.00	Cum SA (acres)	4.27	2.17	15.56

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.22	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	321.76	1035.11	6489.87
E.G. Slope (ft/ft)	0.000847	Area (sq ft)	555.49	1035.11	6489.87
Q Total (cfs)	14980.00	Flow (cfs)	182.10	6872.09	7925.81
Top Width (ft)	1440.07	Top Width (ft)	360.53	75.90	1003.64
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)	0.57	6.64	1.22
Max Chl Dpth (ft)	18.68	Hydr. Depth (ft)	1.97	13.64	6.47
Conv. Total (cfs)	514699.8	Conv. (cfs)	6256.9	236118.9	272323.9
Length Wtd. (ft)	324.47	Wetted Per. (ft)	163.49	83.11	1043.79
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.66	0.33
Alpha	5.77	Stream Power (lb/ft s)	0.06	4.37	0.40
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	21.18	33.37	104.74
C & E Loss (ft)	0.00	Cum SA (acres)	5.03	2.19	16.58

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	580.67	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.37	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	575.10	Flow Area (sq ft)		573.57	
E.G. Slope (ft/ft)	0.000785	Area (sq ft)		573.57	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	74.78	Top Width (ft)		74.78	
Vel Total (ft/s)	4.40	Avg. Vel. (ft/s)		4.40	
Max Chl Dpth (ft)	10.72	Hydr. Depth (ft)		7.67	
Conv. Total (cfs)	90101.3	Conv. (cfs)		90101.3	
Length Wtd. (ft)	6.00	Wetted Per. (ft)		80.59	
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.53	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		7.32	0.08
C & E Loss (ft)	0.01	Cum SA (acres)		1.18	0.04

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	584.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.24	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	576.62	Flow Area (sq ft)		881.85	142.97
E.G. Slope (ft/ft)	0.000569	Area (sq ft)		881.85	142.97
Q Total (cfs)	4024.00	Flow (cfs)		3974.16	49.84
Top Width (ft)	198.65	Top Width (ft)		84.56	114.09
Vel Total (ft/s)	3.93	Avg. Vel. (ft/s)		4.51	0.35
Max Chl Dpth (ft)	14.60	Hydr. Depth (ft)		10.43	1.25
Conv. Total (cfs)	168703.0	Conv. (cfs)		166613.5	2089.5
Length Wtd. (ft)	6.00	Wetted Per. (ft)		93.93	114.23
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.33	0.04
Alpha	1.30	Stream Power (lb/ft s)		1.50	0.02
Frctn Loss (ft)		Cum Volume (acre-ft)		10.19	0.36
C & E Loss (ft)		Cum SA (acres)		1.28	0.55

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.55	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.96	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	579.48	Flow Area (sq ft)	51.72	1125.46	1254.69
E.G. Slope (ft/ft)	0.000891	Area (sq ft)	51.72	1125.46	1254.69
Q Total (cfs)	7740.00	Flow (cfs)	12.59	7014.52	712.89
Top Width (ft)	866.65	Top Width (ft)	96.77	93.01	676.86
Vel Total (ft/s)	3.18	Avg. Vel. (ft/s)	0.24	6.23	0.57
Max Chl Dpth (ft)	17.31	Hydr. Depth (ft)	0.53	12.10	1.85
Conv. Total (cfs)	259269.6	Conv. (cfs)	421.8	234967.8	23880.0
Length Wtd. (ft)	6.00	Wetted Per. (ft)	96.79	103.20	679.45
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.03	0.61	0.10
Alpha	3.48	Stream Power (lb/ft s)	0.01	3.78	0.06
Frctn Loss (ft)		Cum Volume (acre-ft)	2.64	16.66	17.11
C & E Loss (ft)		Cum SA (acres)	2.27	1.55	6.14

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	589.99	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.58	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	581.57	Flow Area (sq ft)	548.80	1369.23	3080.35
E.G. Slope (ft/ft)	0.000634	Area (sq ft)	556.63	1369.23	3080.35
Q Total (cfs)	11040.00	Flow (cfs)	302.38	8205.05	2532.58
Top Width (ft)	1065.63	Top Width (ft)	258.32	93.01	714.30
Vel Total (ft/s)	2.21	Avg. Vel. (ft/s)	0.55	5.99	0.82
Max Chl Dpth (ft)	19.94	Hydr. Depth (ft)	2.35	14.72	4.31
Conv. Total (cfs)	438338.1	Conv. (cfs)	12005.8	325777.5	100554.8
Length Wtd. (ft)	6.00	Wetted Per. (ft)	233.71	103.20	722.32
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.09	0.53	0.17
Alpha	5.50	Stream Power (lb/ft s)	0.05	3.15	0.14
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	9.79	20.65	35.13
C & E Loss (ft)	0.07	Cum SA (acres)	3.23	1.59	7.61

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.48	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	582.35	Flow Area (sq ft)	773.97	1453.04	3726.09
E.G. Slope (ft/ft)	0.000575	Area (sq ft)	829.16	1453.04	3726.09
Q Total (cfs)	12400.00	Flow (cfs)	481.54	8628.68	3289.77
Top Width (ft)	1161.24	Top Width (ft)	349.14	93.01	719.09
Vel Total (ft/s)	2.08	Avg. Vel. (ft/s)	0.62	5.94	0.88
Max Chl Dpth (ft)	20.84	Hydr. Depth (ft)	3.03	15.62	5.18
Conv. Total (cfs)	516896.3	Conv. (cfs)	20073.3	359688.2	137134.8
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	729.00
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.11	0.51	0.18
Alpha	5.71	Stream Power (lb/ft s)	0.07	3.00	0.16
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	12.94	22.06	42.21
C & E Loss (ft)	0.08	Cum SA (acres)	3.65	1.60	8.22

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.33	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.99	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	584.19	Flow Area (sq ft)	1158.59	1593.19	4817.02
E.G. Slope (ft/ft)	0.000505	Area (sq ft)	1412.35	1593.19	4817.02
Q Total (cfs)	14980.00	Flow (cfs)	883.88	9426.24	4669.88
Top Width (ft)	1233.67	Top Width (ft)	411.59	93.01	729.07
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	0.76	5.92	0.97
Max Chl Dpth (ft)	22.34	Hydr. Depth (ft)	4.54	17.13	6.61
Conv. Total (cfs)	666421.6	Conv. (cfs)	39321.6	419349.2	207750.7
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	742.10
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.14	0.49	0.20
Alpha	5.71	Stream Power (lb/ft s)	0.11	2.88	0.20
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)	19.01	24.47	55.19
C & E Loss (ft)	0.08	Cum SA (acres)	4.18	1.62	8.99

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.30	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.67	Flow Area (sq ft)		582.54	
E.G. Slope (ft/ft)	0.000827	Area (sq ft)		582.54	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	81.27	Top Width (ft)		81.27	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	10.12	Hydr. Depth (ft)		7.17	
Conv. Total (cfs)	87756.6	Conv. (cfs)		87756.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		87.15	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.50	
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		7.05	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.14	0.04

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.70	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	577.01	Flow Area (sq ft)		785.33	41.44
E.G. Slope (ft/ft)	0.000877	Area (sq ft)		785.33	41.44
Q Total (cfs)	4024.00	Flow (cfs)		4015.05	8.95
Top Width (ft)	183.16	Top Width (ft)		88.47	94.69
Vel Total (ft/s)	4.87	Avg. Vel. (ft/s)		5.11	0.22
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)		8.88	0.44
Conv. Total (cfs)	135845.6	Conv. (cfs)		135543.6	302.0
Length Wtd. (ft)	126.22	Wetted Per. (ft)		95.81	94.80
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.45	0.02
Alpha	1.10	Stream Power (lb/ft s)		2.30	0.01
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		9.80	0.34
C & E Loss (ft)	0.10	Cum SA (acres)		1.25	0.53

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.06	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.64	Flow Area (sq ft)	55.60	1197.93	1779.79
E.G. Slope (ft/ft)	0.000663	Area (sq ft)	79.98	1197.93	1779.79
Q Total (cfs)	7740.00	Flow (cfs)	10.95	6559.58	1169.46
Top Width (ft)	878.09	Top Width (ft)	151.28	97.77	629.04
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)	0.20	5.48	0.66
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	0.42	12.25	2.83
Conv. Total (cfs)	300520.7	Conv. (cfs)	425.3	254688.8	45406.6
Length Wtd. (ft)	134.79	Wetted Per. (ft)	131.01	106.89	630.02
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.46	0.12
Alpha	3.91	Stream Power (lb/ft s)	0.00	2.54	0.08
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	2.63	16.20	16.49
C & E Loss (ft)	0.07	Cum SA (acres)	2.24	1.52	5.80

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.54	Flow Area (sq ft)	558.45	1437.35	3373.49
E.G. Slope (ft/ft)	0.000524	Area (sq ft)	639.77	1437.35	3373.49
Q Total (cfs)	11040.00	Flow (cfs)	303.61	7896.79	2839.60
Top Width (ft)	989.21	Top Width (ft)	233.77	97.77	657.67
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.54	5.49	0.84
Max Chl Dpth (ft)	19.32	Hydr. Depth (ft)	2.66	14.70	5.13
Conv. Total (cfs)	482407.9	Conv. (cfs)	13266.7	345060.9	124080.2
Length Wtd. (ft)	137.38	Wetted Per. (ft)	210.15	106.89	658.97
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.09	0.44	0.17
Alpha	5.15	Stream Power (lb/ft s)	0.05	2.42	0.14
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	9.50	20.07	33.61
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.54	7.26

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	582.43	Flow Area (sq ft)	744.43	1523.94	3959.43
E.G. Slope (ft/ft)	0.000486	Area (sq ft)	866.26	1523.94	3959.43
Q Total (cfs)	12400.00	Flow (cfs)	472.05	8382.81	3545.14
Top Width (ft)	1069.46	Top Width (ft)	296.65	97.77	675.04
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	0.63	5.50	0.90
Max Chl Dpth (ft)	20.21	Hydr. Depth (ft)	3.55	15.59	5.87
Conv. Total (cfs)	562692.5	Conv. (cfs)	21420.9	380398.7	160872.9
Length Wtd. (ft)	137.55	Wetted Per. (ft)	210.15	106.89	676.41
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.11	0.43	0.18
Alpha	5.22	Stream Power (lb/ft s)	0.07	2.38	0.16
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	12.52	21.43	40.36
C & E Loss (ft)	0.04	Cum SA (acres)	3.48	1.55	7.86

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.88	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	585.01	Flow Area (sq ft)	1056.59	1669.28	4990.37
E.G. Slope (ft/ft)	0.000446	Area (sq ft)	1322.20	1669.28	4990.37
Q Total (cfs)	14980.00	Flow (cfs)	810.99	9351.54	4817.47
Top Width (ft)	1117.25	Top Width (ft)	317.28	97.77	702.20
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.77	5.60	0.97
Max Chl Dpth (ft)	21.70	Hydr. Depth (ft)	5.03	17.07	7.11
Conv. Total (cfs)	709252.4	Conv. (cfs)	38397.7	442763.8	228090.8
Length Wtd. (ft)	137.47	Wetted Per. (ft)	210.15	106.89	703.71
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.14	0.43	0.20
Alpha	5.29	Stream Power (lb/ft s)	0.11	2.44	0.19
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.32	23.77	52.79
C & E Loss (ft)	0.04	Cum SA (acres)	3.99	1.57	8.62

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.37	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

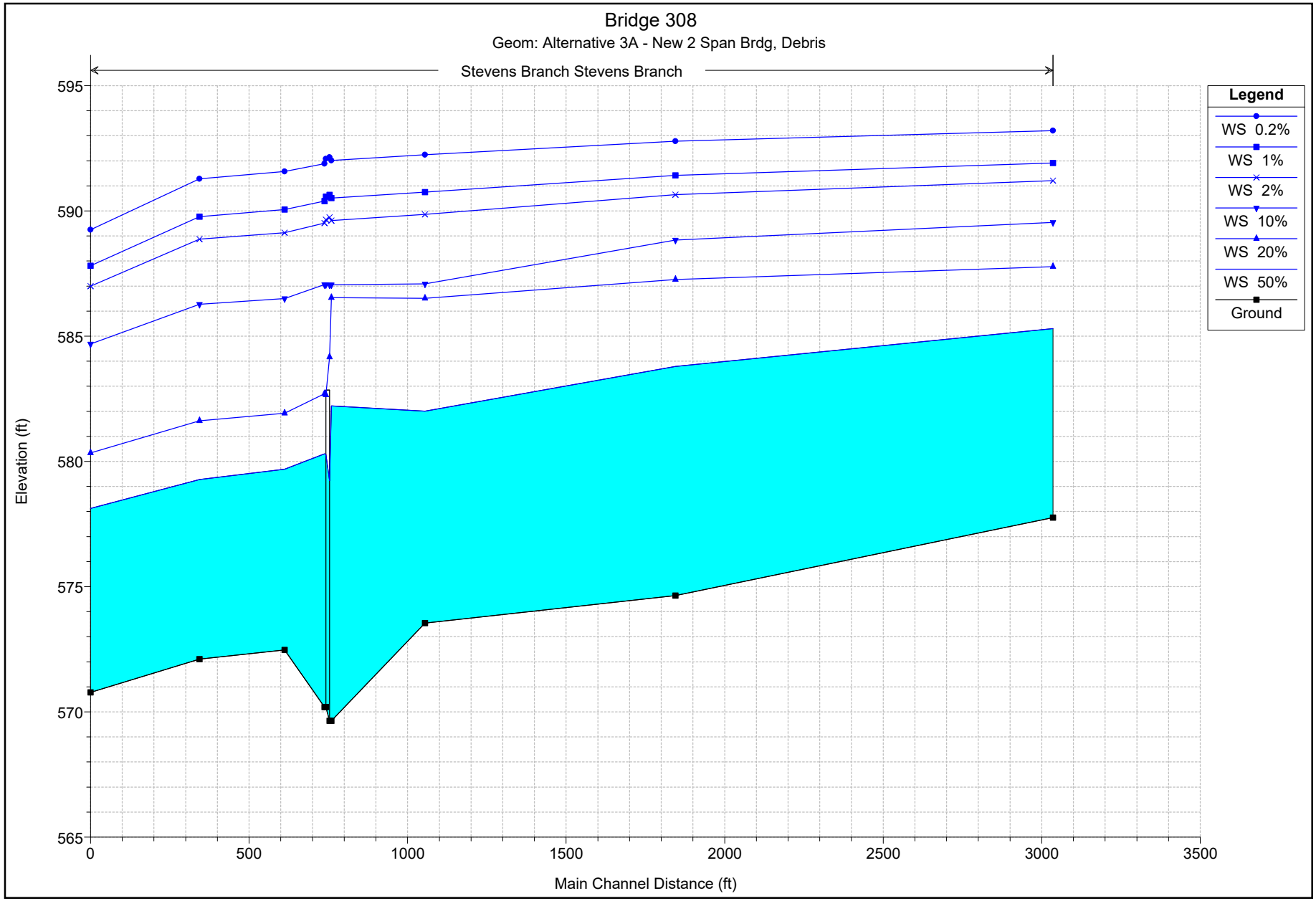
Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 1501 Profile: 1%

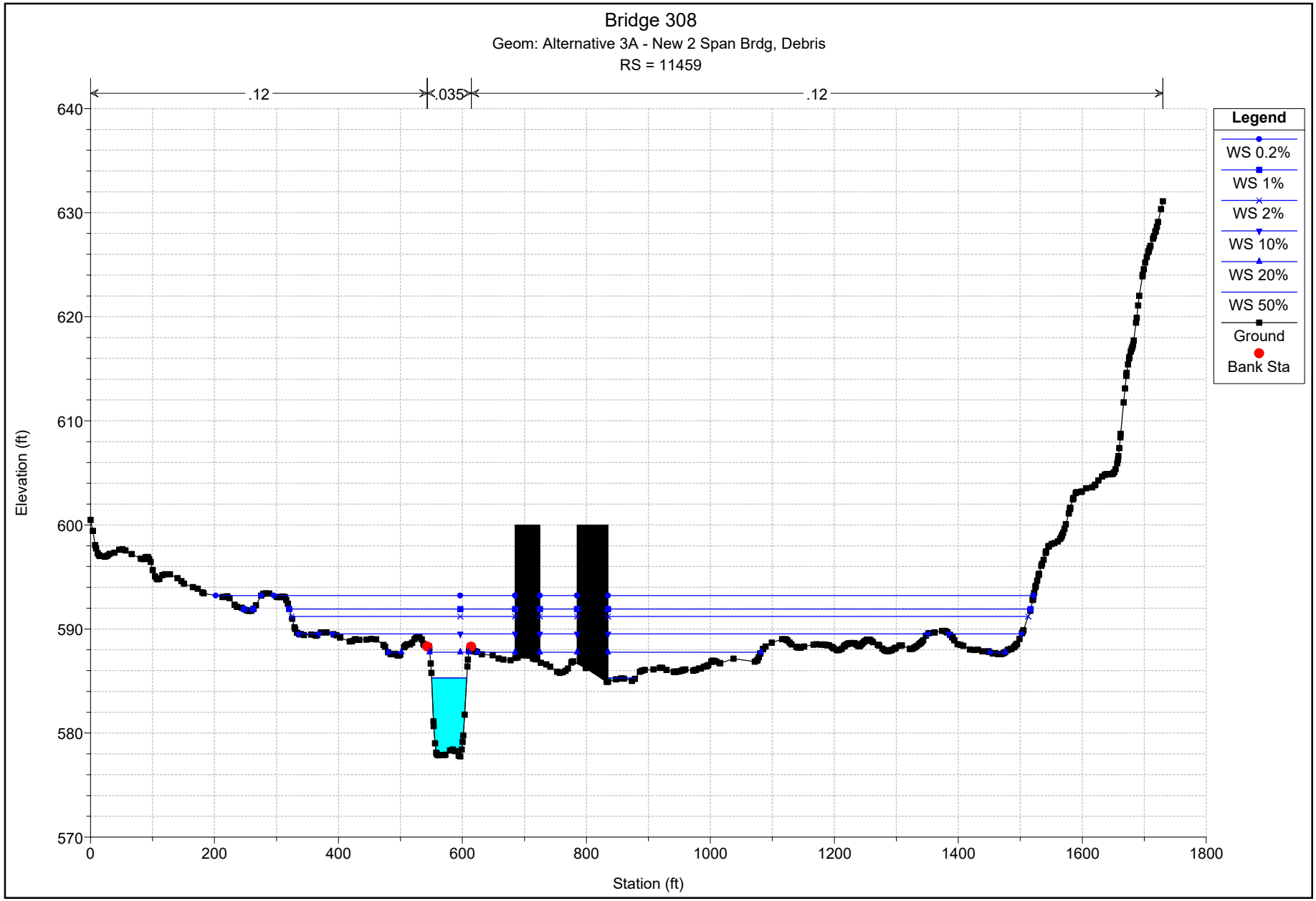
E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

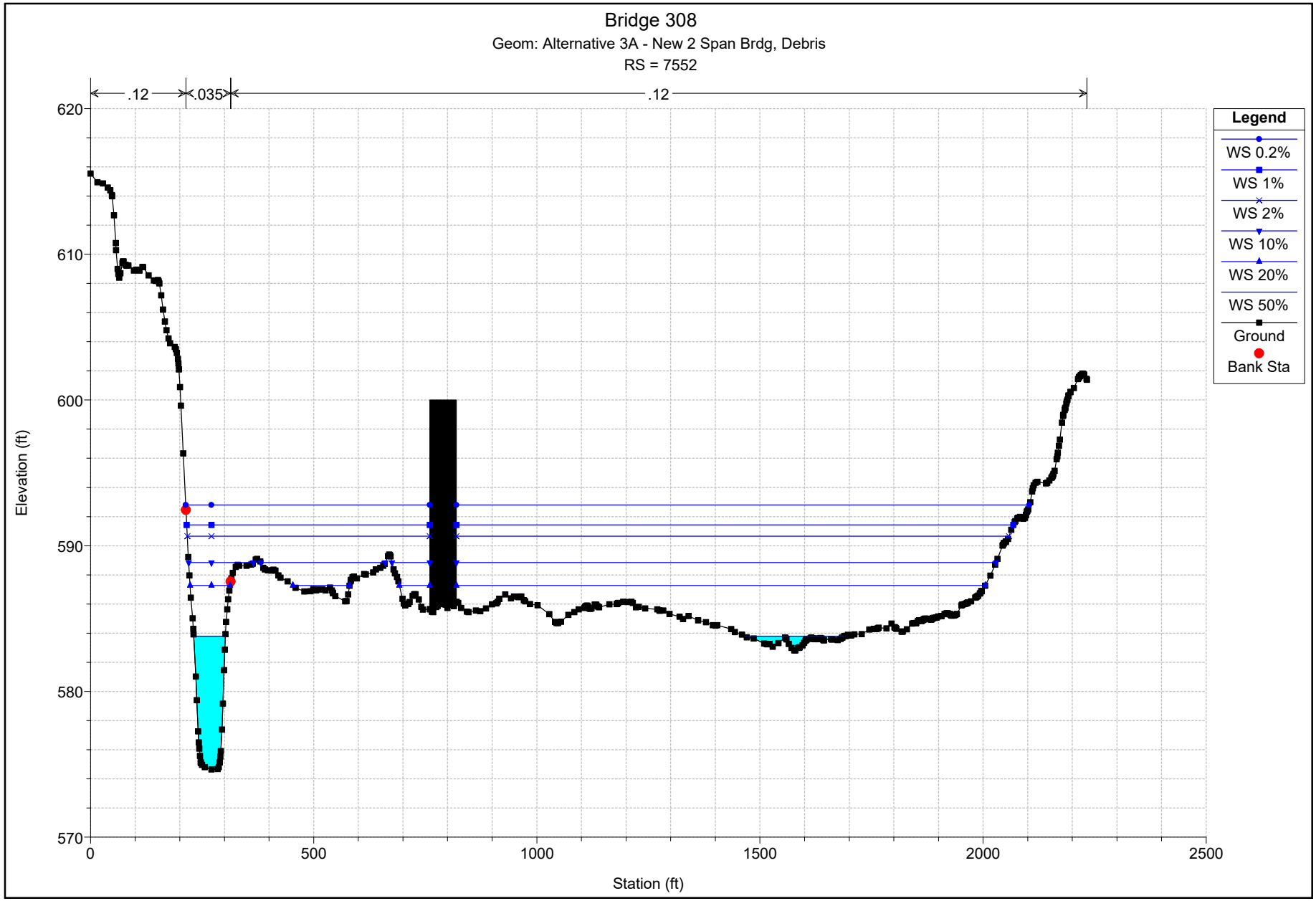
Plan: Alt 3 New 2 Span Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

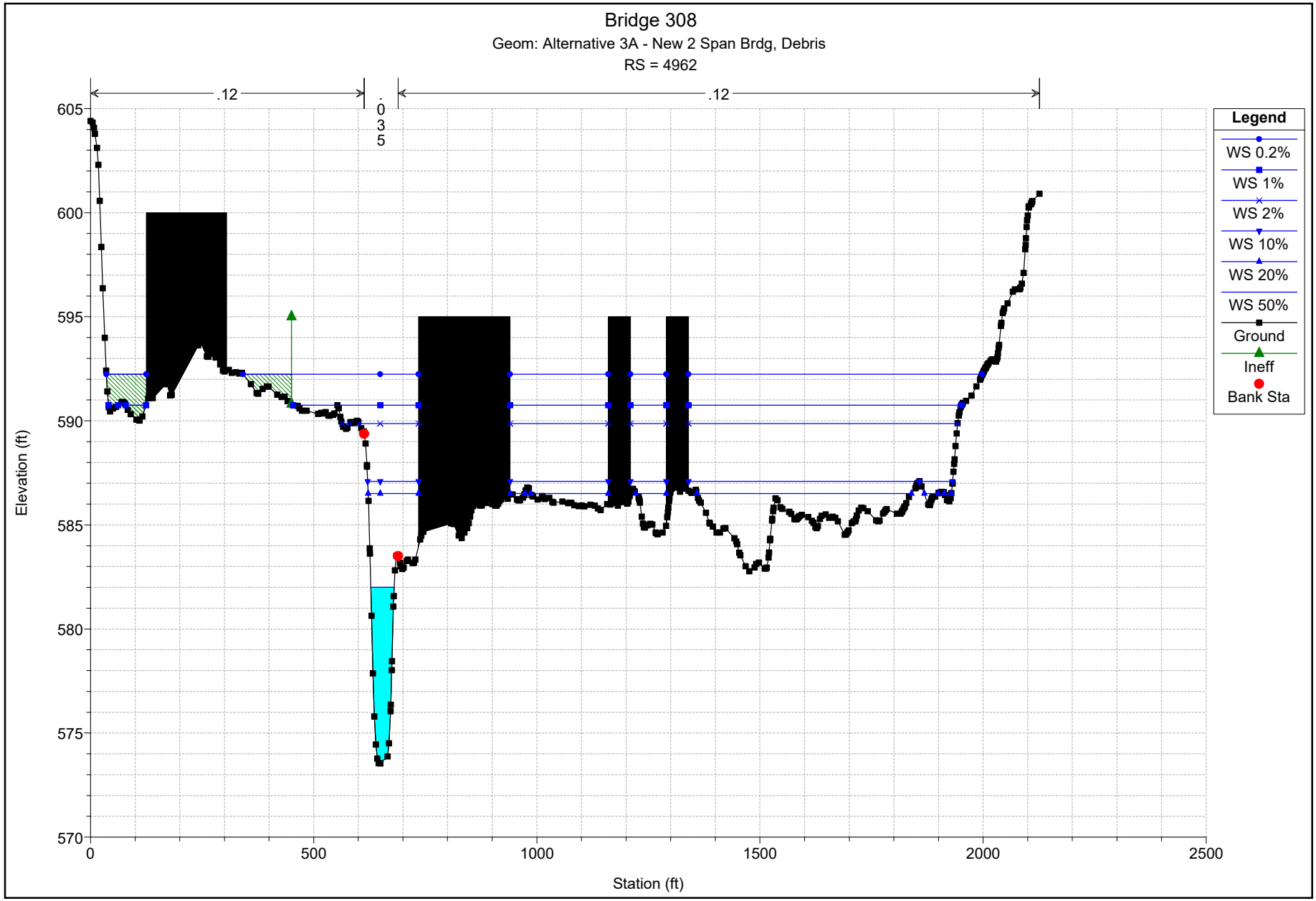
E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

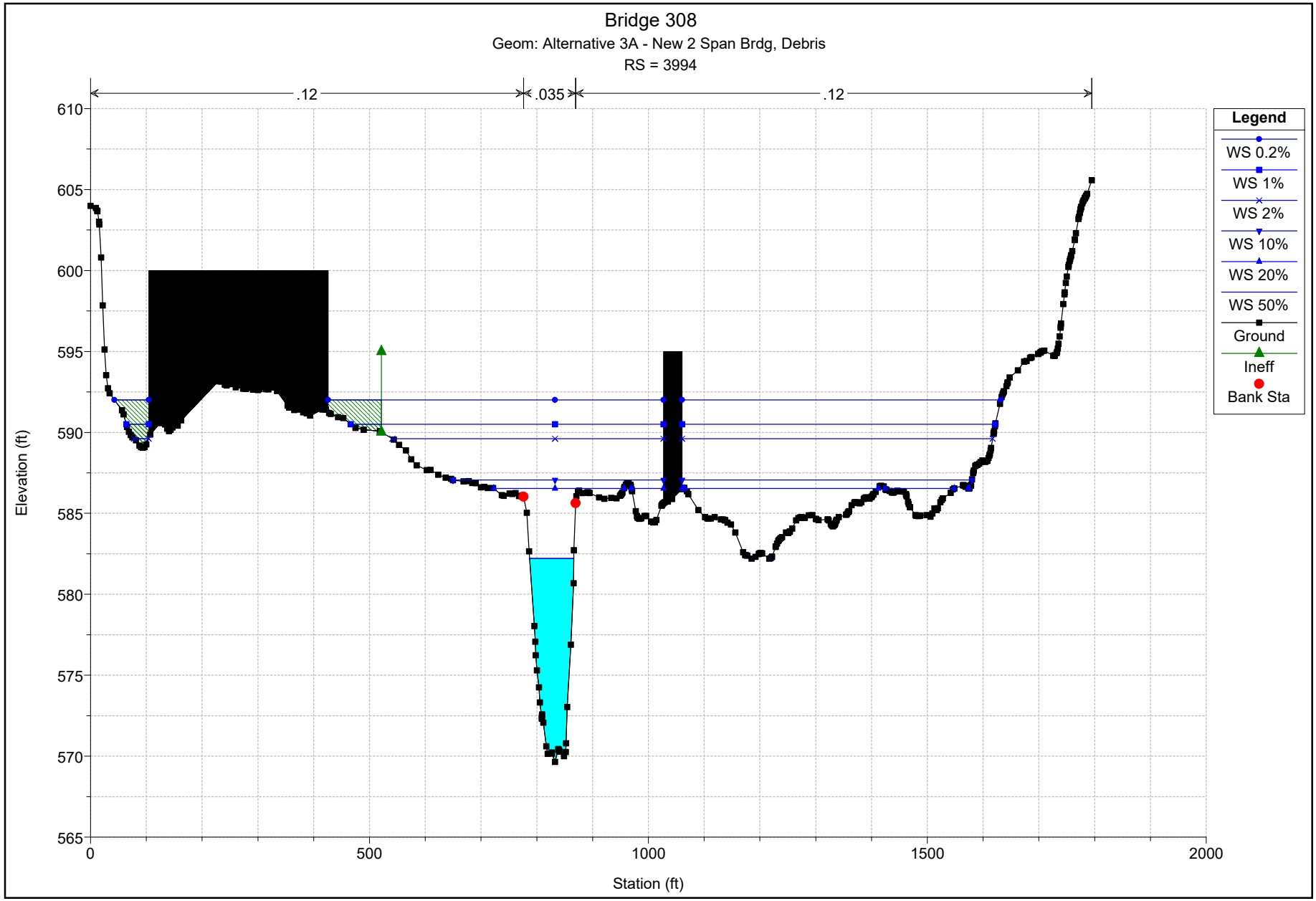
HEC-RAS Results for Alternative 3A

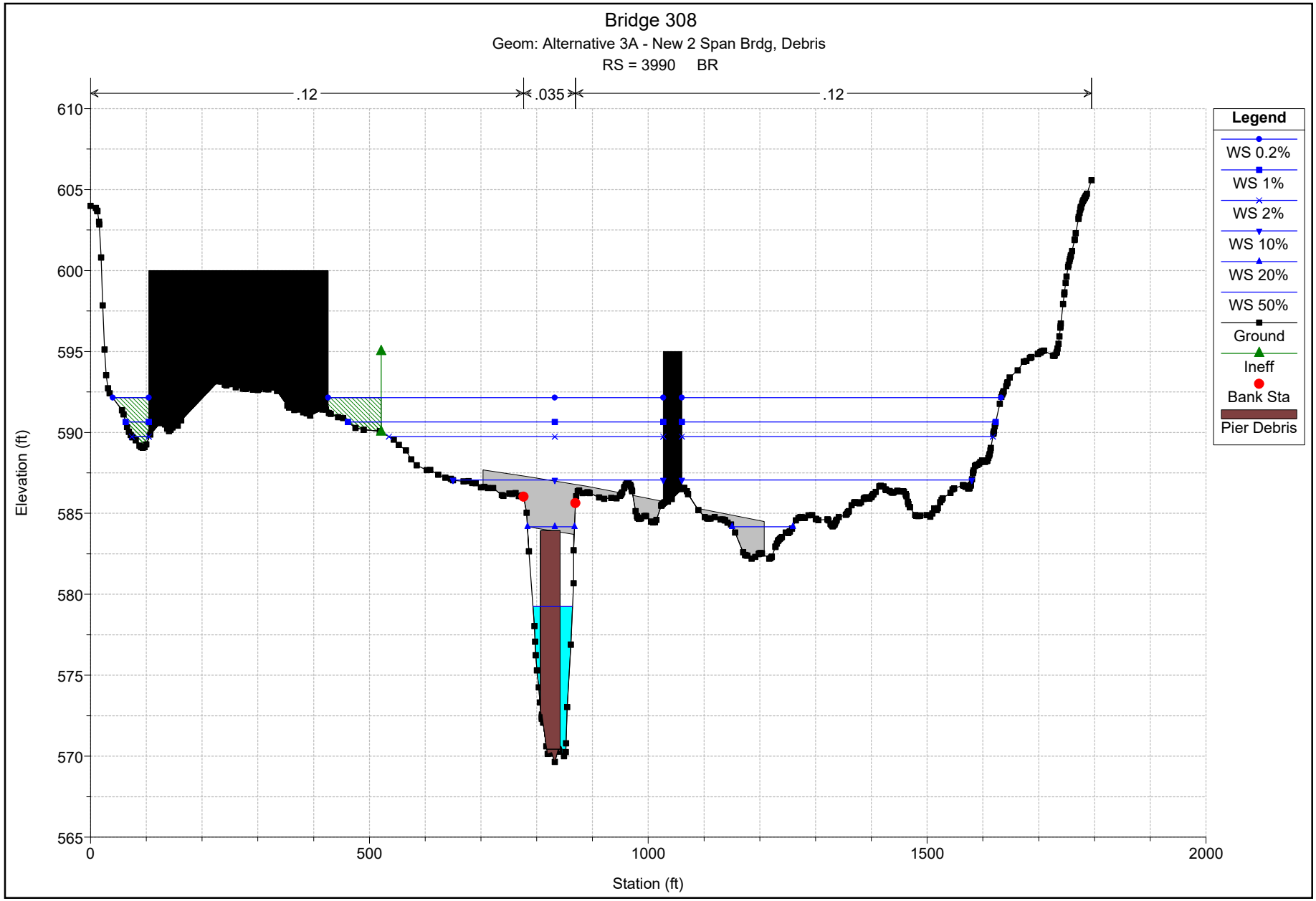

Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

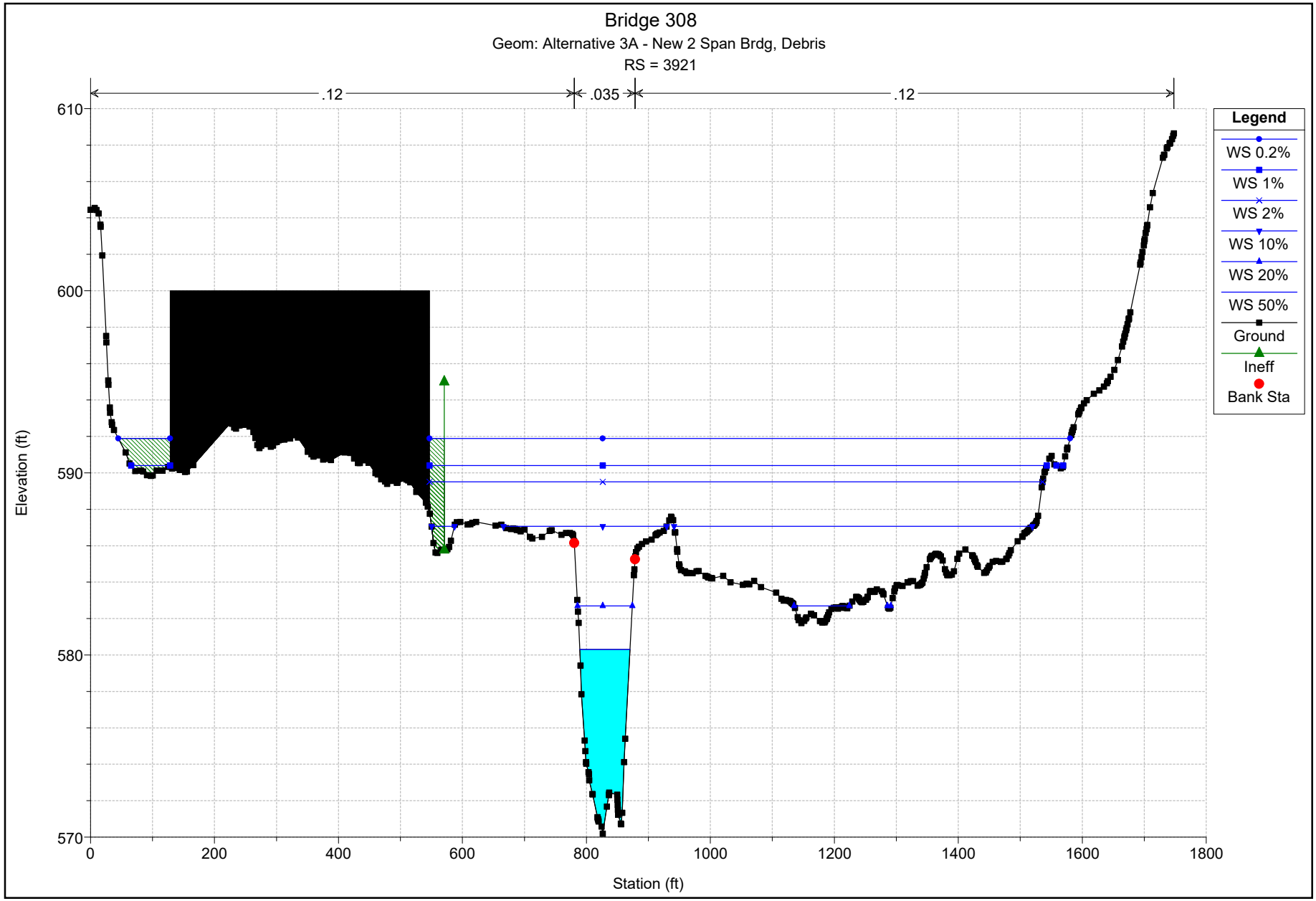

Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 11459
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

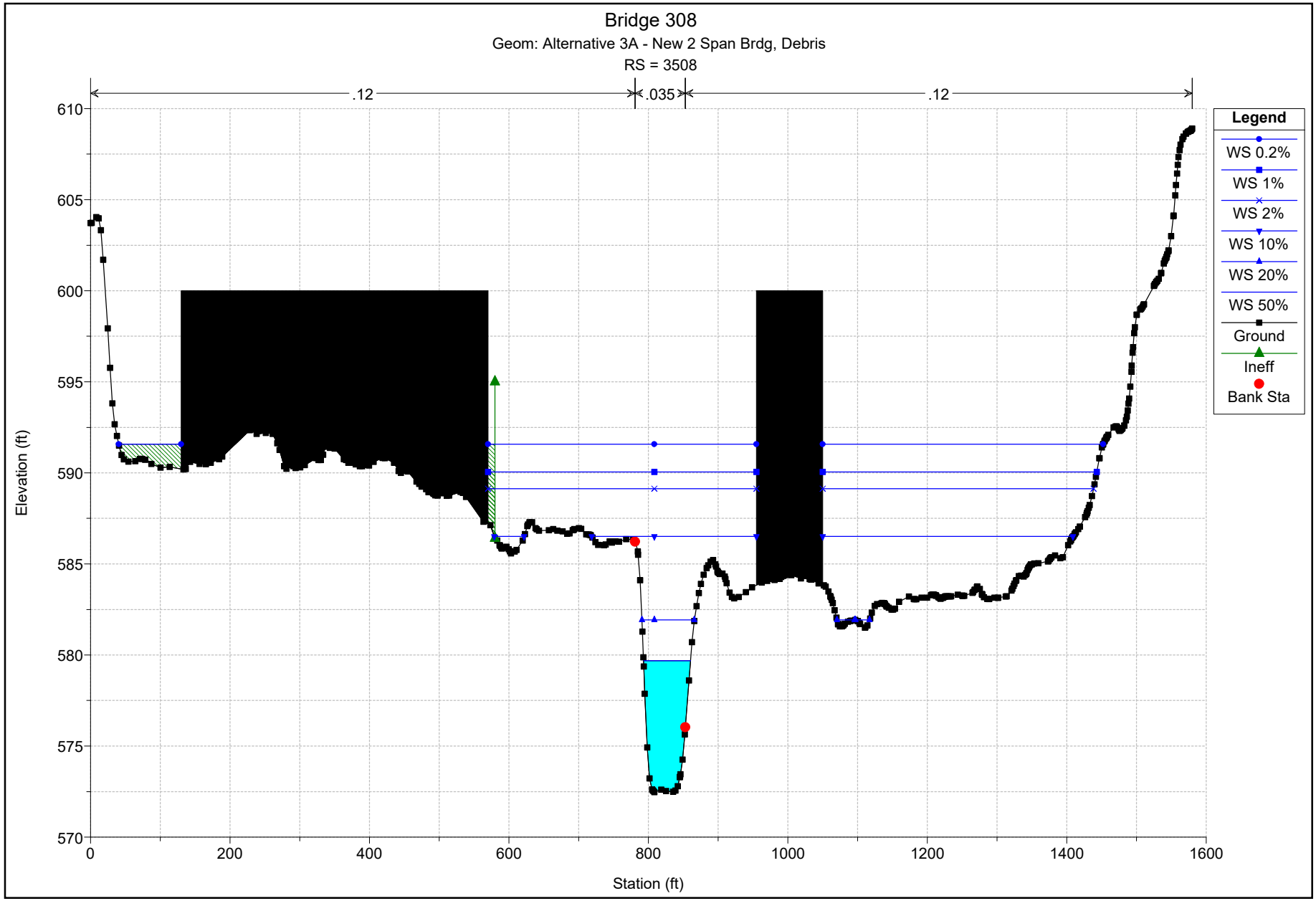

Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 7552
.12
.035
.12
620
610
600
590
580
570
Elevation (ft)
0
500
1000
1500
2000
2500
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta

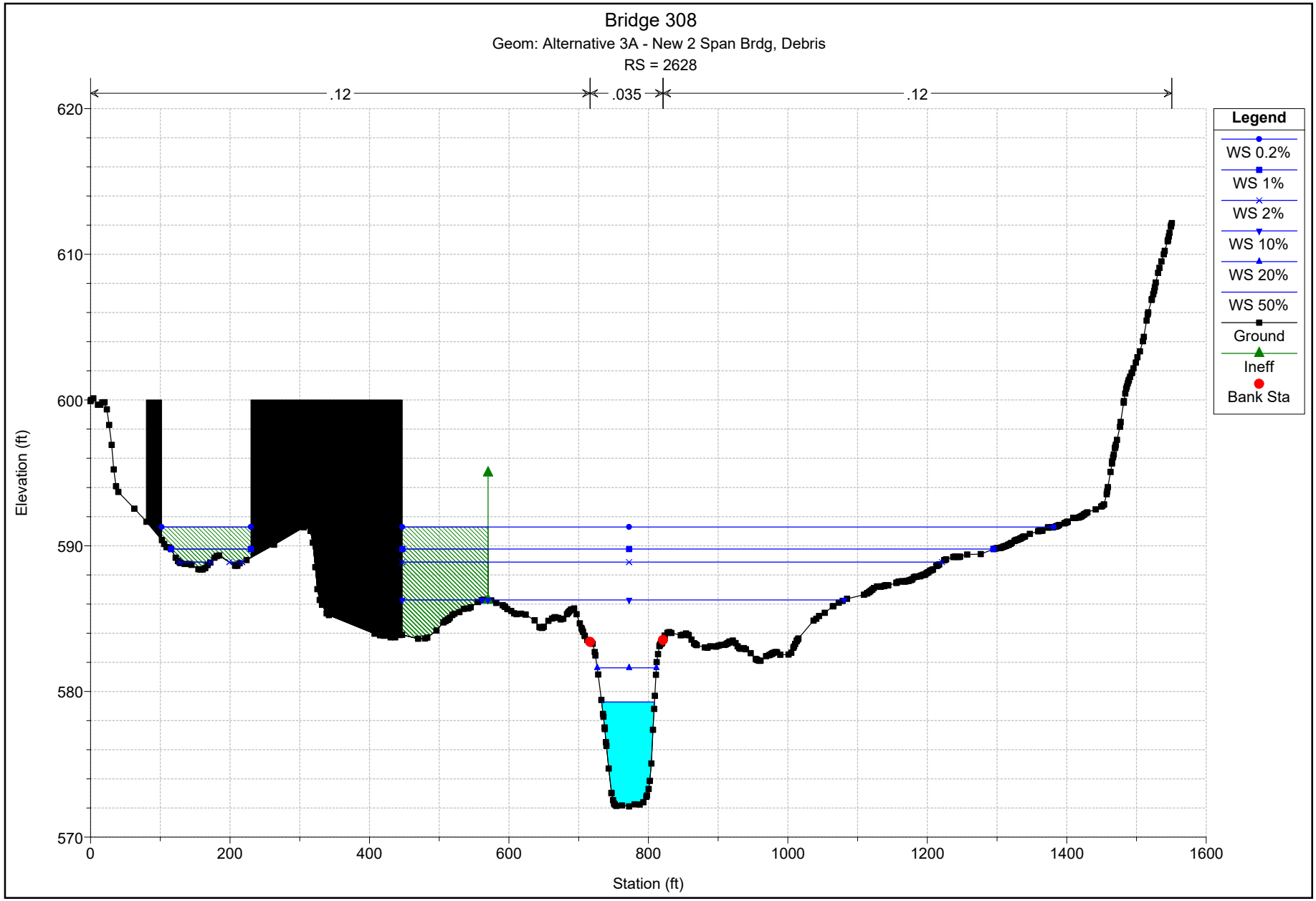

Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 4962
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)

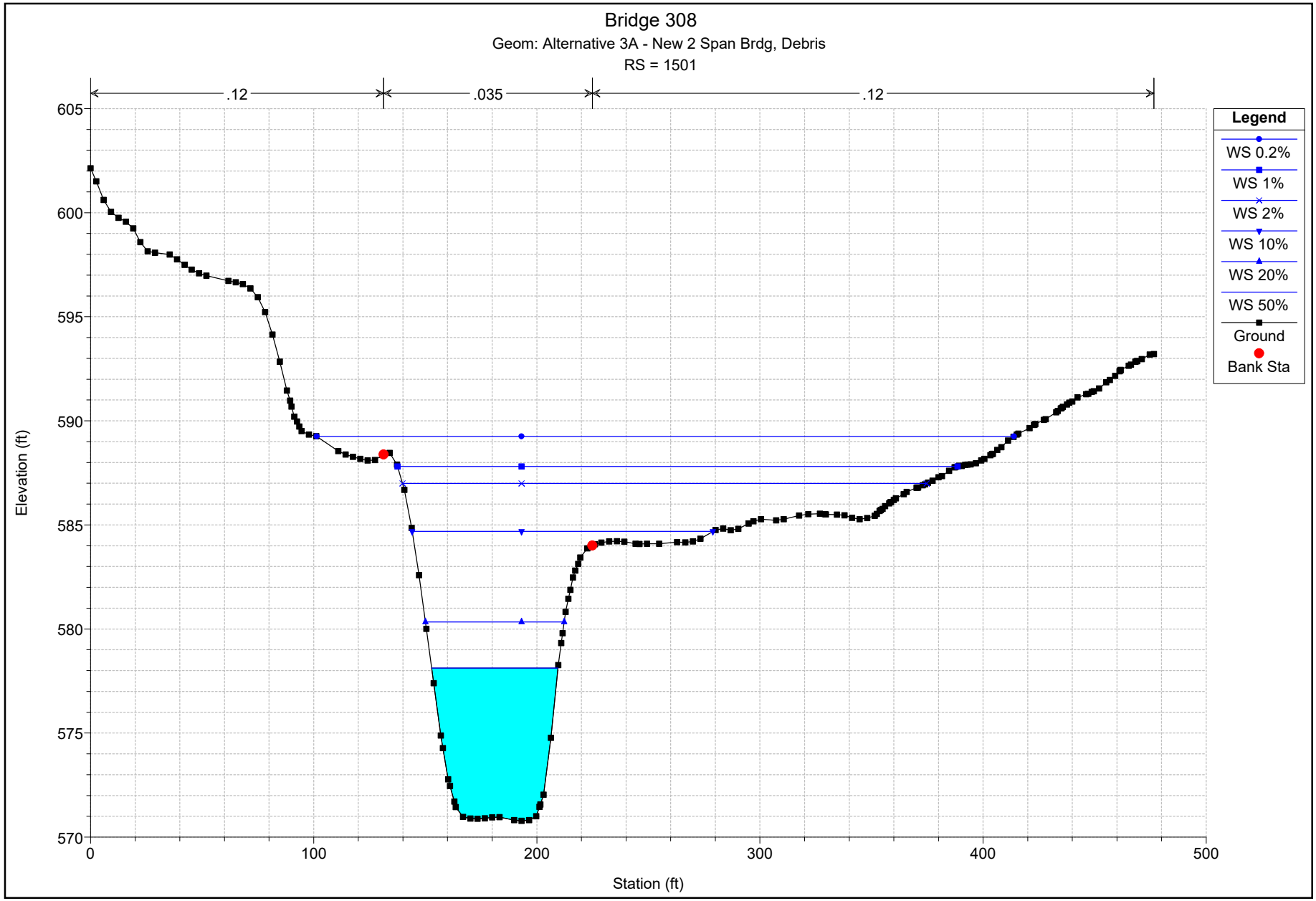

Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 3994
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 3990 BR
.12
.035
.12
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Pier Debris


Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 3921
.12
.035
.12
610
600
590
580
570
Elevation (ft)
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta


Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 3508
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600


Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 2628
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 3A - New 2 Span Brdg, Debris
RS = 1501
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500
Station (ft)

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 50%

E.G. US. (ft)	582.41	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	582.21	E.G. Elev (ft)	581.90	580.62
Q Total (cfs)	2524.00	W.S. Elev (ft)	579.23	580.28
Q Bridge (cfs)	2524.00	Crit W.S. (ft)	579.23	575.89
Q Weir (cfs)		Max Chl Dpth (ft)	9.59	10.09
Weir Sta Lft (ft)		Vel Total (ft/s)	13.11	4.70
Weir Sta Rgt (ft)		Flow Area (sq ft)	192.57	536.48
Weir Submerg		Froude # Chl	1.00	0.26
Weir Max Depth (ft)		Specif Force (cu ft)	1715.18	2516.52
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	5.36	7.23
Min El Prs (ft)	582.85	W.P. Total (ft)	101.93	98.32
Delta EG (ft)	1.81	Conv. Total (cfs)	12493.9	70594.1
Delta WS (ft)	1.91	Top Width (ft)	35.96	74.20
BR Open Area (sq ft)	399.38	Frctn Loss (ft)	0.04	0.71
BR Open Vel (ft/s)	13.11	C & E Loss (ft)	0.93	0.74
BR Sluice Coef		Shear Total (lb/sq ft)	4.81	0.44
BR Sel Method	Energy only	Power Total (lb/ft s)	63.09	2.05

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 20%

E.G. US. (ft)	586.71	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	586.54	E.G. Elev (ft)	586.71	583.14
Q Total (cfs)	4024.00	W.S. Elev (ft)	584.17	582.65
Q Bridge (cfs)	4024.00	Crit W.S. (ft)	581.39	577.29
Q Weir (cfs)		Max Chl Dpth (ft)	14.53	12.46
Weir Sta Lft (ft)		Vel Total (ft/s)	8.90	5.61
Weir Sta Rgt (ft)		Flow Area (sq ft)	451.93	717.69
Weir Submerg		Froude # Chl	0.45	0.28
Weir Max Depth (ft)		Specif Force (cu ft)	3479.00	4336.08
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	8.79	7.95
Min El Prs (ft)	582.85	W.P. Total (ft)	252.46	122.38
Delta EG (ft)	3.60	Conv. Total (cfs)	27604.4	106305.4
Delta WS (ft)	3.84	Top Width (ft)	51.44	90.32
BR Open Area (sq ft)	399.38	Frctn Loss (ft)		
BR Open Vel (ft/s)	10.08	C & E Loss (ft)		
BR Sluice Coef	0.46	Shear Total (lb/sq ft)	2.37	0.52
BR Sel Method	Press Only	Power Total (lb/ft s)	21.15	2.94

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 10%

E.G. US. (ft)	587.58	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	587.05	E.G. Elev (ft)	587.58	587.46
Q Total (cfs)	7740.00	W.S. Elev (ft)	587.05	587.06
Q Bridge (cfs)	1846.97	Crit W.S. (ft)	587.31	579.99
Q Weir (cfs)	5893.03	Max Chl Dpth (ft)	17.41	16.88
Weir Sta Lft (ft)	614.20	Vel Total (ft/s)	5.15	3.71
Weir Sta Rgt (ft)	1582.74	Flow Area (sq ft)	1502.46	2085.29
Weir Submerg	0.77	Froude # Chl	0.34	0.27
Weir Max Depth (ft)	5.38	Specif Force (cu ft)	6352.73	10167.95
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	1.93	2.83
Min El Prs (ft)	582.85	W.P. Total (ft)	981.89	933.97
Delta EG (ft)	0.12	Conv. Total (cfs)		
Delta WS (ft)	-0.01	Top Width (ft)	777.86	757.67
BR Open Area (sq ft)	399.38	Frctn Loss (ft)		
BR Open Vel (ft/s)	4.62	C & E Loss (ft)		

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 10% (Continued)

BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 2%

E.G. US. (ft)	590.03	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	589.61	E.G. Elev (ft)	589.93	589.88
Q Total (cfs)	11040.00	W.S. Elev (ft)	589.74	589.65
Q Bridge (cfs)	1959.77	Crit W.S. (ft)	587.61	581.94
Q Weir (cfs)		Max Chl Dpth (ft)	20.10	19.47
Weir Sta Lft (ft)		Vel Total (ft/s)	2.68	2.44
Weir Sta Rgt (ft)		Flow Area (sq ft)	4113.80	4519.30
Weir Submerg		Froude # Chl	0.14	0.15
Weir Max Depth (ft)		Specif Force (cu ft)	13108.70	18423.34
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	3.92	4.68
Min El Prs (ft)	582.85	W.P. Total (ft)	1259.86	1163.83
Delta EG (ft)	0.18	Conv. Total (cfs)	151347.6	217682.3
Delta WS (ft)	0.10	Top Width (ft)	1080.13	989.92
BR Open Area (sq ft)	399.38	Frctn Loss (ft)	0.04	0.00
BR Open Vel (ft/s)	4.91	C & E Loss (ft)	0.01	0.02
BR Sluice Coef		Shear Total (lb/sq ft)	1.08	0.62
BR Sel Method	Energy only	Power Total (lb/ft s)	2.91	1.52

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 1%

E.G. US. (ft)	590.89	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	590.51	E.G. Elev (ft)	590.79	590.75
Q Total (cfs)	12400.00	W.S. Elev (ft)	590.64	590.57
Q Bridge (cfs)	1603.22	Crit W.S. (ft)	587.80	582.71
Q Weir (cfs)		Max Chl Dpth (ft)	21.00	20.38
Weir Sta Lft (ft)		Vel Total (ft/s)	2.44	2.29
Weir Sta Rgt (ft)		Flow Area (sq ft)	5075.65	5409.79
Weir Submerg		Froude # Chl	0.12	0.13
Weir Max Depth (ft)		Specif Force (cu ft)	17260.33	22980.44
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	4.75	5.46
Min El Prs (ft)	582.85	W.P. Total (ft)	1280.58	1187.96
Delta EG (ft)	0.17	Conv. Total (cfs)	205811.3	276196.9
Delta WS (ft)	0.11	Top Width (ft)	1169.58	1080.09
BR Open Area (sq ft)	399.38	Frctn Loss (ft)	0.03	0.00
BR Open Vel (ft/s)	4.01	C & E Loss (ft)	0.01	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.90	0.57
BR Sel Method	Energy only	Power Total (lb/ft s)	2.19	1.31

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 0.2%

E.G. US. (ft)	592.36	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	592.01	E.G. Elev (ft)	592.26	592.23
Q Total (cfs)	14980.00	W.S. Elev (ft)	592.15	592.08
Q Bridge (cfs)	1252.97	Crit W.S. (ft)	588.12	587.42
Q Weir (cfs)		Max Chl Dpth (ft)	22.50	21.89
Weir Sta Lft (ft)		Vel Total (ft/s)	2.24	2.16
Weir Sta Rgt (ft)		Flow Area (sq ft)	6687.15	6929.02
Weir Submerg		Froude # Chl	0.10	0.12
Weir Max Depth (ft)		Specif Force (cu ft)	26170.57	32418.47
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	6.20	6.85
Min El Prs (ft)	582.85	W.P. Total (ft)	1293.76	1209.55

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3990 Profile: 0.2% (Continued)

Delta EG (ft)	0.16	Conv. Total (cfs)	312733.5	385603.4
Delta WS (ft)	0.13	Top Width (ft)	1238.13	1121.96
BR Open Area (sq ft)	399.38	Frctn Loss (ft)	0.02	0.00
BR Open Vel (ft/s)	3.14	C & E Loss (ft)	0.01	0.03
BR Sluice Coef		Shear Total (lb/sq ft)	0.74	0.54
BR Sel Method	Energy only	Power Total (lb/ft s)	1.66	1.17

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	586.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.30	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.65	Flow Area (sq ft)		361.38	7.44
E.G. Slope (ft/ft)	0.002606	Area (sq ft)		361.38	7.44
Q Total (cfs)	2524.00	Flow (cfs)		2522.57	1.43
Top Width (ft)	100.82	Top Width (ft)		56.69	44.12
Vel Total (ft/s)	6.84	Avg. Vel. (ft/s)		6.98	0.19
Max Chl Dpth (ft)	7.54	Hydr. Depth (ft)		6.37	0.17
Conv. Total (cfs)	49443.7	Conv. (cfs)		49415.8	27.9
Length Wtd. (ft)	1190.97	Wetted Per. (ft)		62.52	44.51
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.94	0.03
Alpha	1.04	Stream Power (lb/ft s)		6.56	0.01
Frctn Loss (ft)	1.79	Cum Volume (acre-ft)		30.73	1.71
C & E Loss (ft)	0.12	Cum SA (acres)		4.48	4.89

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.51	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.77	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)	4.03	508.05	501.17
E.G. Slope (ft/ft)	0.002082	Area (sq ft)	4.03	508.05	501.17
Q Total (cfs)	4024.00	Flow (cfs)	0.75	3663.77	359.48
Top Width (ft)	476.82	Top Width (ft)	21.45	63.15	392.22
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.19	7.21	0.72
Max Chl Dpth (ft)	10.01	Hydr. Depth (ft)	0.19	8.05	1.28
Conv. Total (cfs)	88197.7	Conv. (cfs)	16.3	80302.3	7879.1
Length Wtd. (ft)	1189.18	Wetted Per. (ft)	21.47	70.72	397.88
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.02	0.93	0.16
Alpha	3.01	Stream Power (lb/ft s)	0.00	6.73	0.12
Frctn Loss (ft)	0.93	Cum Volume (acre-ft)	0.08	46.56	76.85
C & E Loss (ft)	0.18	Cum SA (acres)	0.36	5.32	43.27

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.54	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	136.64	629.56	1614.80
E.G. Slope (ft/ft)	0.002986	Area (sq ft)	136.64	629.56	1614.80
Q Total (cfs)	7740.00	Flow (cfs)	82.50	5846.35	1811.15
Top Width (ft)	1022.12	Top Width (ft)	186.69	70.80	764.63
Vel Total (ft/s)	3.25	Avg. Vel. (ft/s)	0.60	9.29	1.12
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	0.73	8.89	2.11
Conv. Total (cfs)	141635.2	Conv. (cfs)	1509.7	106983.1	33142.4
Length Wtd. (ft)	1187.82	Wetted Per. (ft)	186.88	78.62	777.70
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.49	0.39
Alpha	6.19	Stream Power (lb/ft s)	0.08	13.86	0.43
Frctn Loss (ft)	1.29	Cum Volume (acre-ft)	4.58	58.62	159.87
C & E Loss (ft)	0.25	Cum SA (acres)	4.97	5.82	59.64

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.94	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.74	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.21	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	493.11	747.56	2948.48
E.G. Slope (ft/ft)	0.002148	Area (sq ft)	493.11	747.56	2948.48
Q Total (cfs)	11040.00	Flow (cfs)	485.22	6602.68	3952.11
Top Width (ft)	1098.66	Top Width (ft)	219.32	70.80	808.54
Vel Total (ft/s)	2.64	Avg. Vel. (ft/s)	0.98	8.83	1.34
Max Chl Dpth (ft)	13.45	Hydr. Depth (ft)	2.25	10.56	3.65
Conv. Total (cfs)	238179.8	Conv. (cfs)	10468.2	142447.8	85263.8
Length Wtd. (ft)	1186.76	Wetted Per. (ft)	219.67	78.62	828.42
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.28	0.48
Alpha	6.82	Stream Power (lb/ft s)	0.30	11.26	0.64
Frctn Loss (ft)	0.98	Cum Volume (acre-ft)	17.22	71.47	287.11
C & E Loss (ft)	0.18	Cum SA (acres)	6.84	6.02	63.15

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.91	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	651.52	797.73	3522.93
E.G. Slope (ft/ft)	0.001839	Area (sq ft)	651.52	797.73	3522.93
Q Total (cfs)	12400.00	Flow (cfs)	703.67	6808.01	4888.32
Top Width (ft)	1120.83	Top Width (ft)	237.61	70.80	812.42
Vel Total (ft/s)	2.49	Avg. Vel. (ft/s)	1.08	8.53	1.39
Max Chl Dpth (ft)	14.15	Hydr. Depth (ft)	2.74	11.27	4.34
Conv. Total (cfs)	289119.9	Conv. (cfs)	16406.8	158736.4	113976.7
Length Wtd. (ft)	1186.45	Wetted Per. (ft)	238.04	78.62	835.20
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.31	1.17	0.48
Alpha	6.56	Stream Power (lb/ft s)	0.34	9.94	0.67
Frctn Loss (ft)	0.86	Cum Volume (acre-ft)	23.95	76.38	337.86
C & E Loss (ft)	0.16	Cum SA (acres)	9.76	6.06	64.10

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.51	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.20	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	996.98	889.03	4573.84
E.G. Slope (ft/ft)	0.001448	Area (sq ft)	996.98	889.03	4573.84
Q Total (cfs)	14980.00	Flow (cfs)	1103.26	7235.29	6641.45
Top Width (ft)	1209.17	Top Width (ft)	320.96	70.80	817.41
Vel Total (ft/s)	2.32	Avg. Vel. (ft/s)	1.11	8.14	1.45
Max Chl Dpth (ft)	15.44	Hydr. Depth (ft)	3.11	12.56	5.60
Conv. Total (cfs)	393697.8	Conv. (cfs)	28995.4	190154.8	174547.6
Length Wtd. (ft)	1186.04	Wetted Per. (ft)	321.59	78.62	845.51
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.28	1.02	0.49
Alpha	6.14	Stream Power (lb/ft s)	0.31	8.32	0.71
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	40.37	85.01	429.06
C & E Loss (ft)	0.12	Cum SA (acres)	12.98	6.12	66.13

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	584.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.79	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		522.66	80.49
E.G. Slope (ft/ft)	0.000978	Area (sq ft)		522.66	80.49
Q Total (cfs)	2524.00	Flow (cfs)		2508.18	15.82
Top Width (ft)	293.38	Top Width (ft)		70.79	222.60
Vel Total (ft/s)	4.18	Avg. Vel. (ft/s)		4.80	0.20
Max Chl Dpth (ft)	9.15	Hydr. Depth (ft)		7.38	0.36
Conv. Total (cfs)	80701.0	Conv. (cfs)		80195.2	505.8
Length Wtd. (ft)	788.52	Wetted Per. (ft)		76.07	222.65
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.42	0.02
Alpha	1.31	Stream Power (lb/ft s)		2.01	0.00
Frctn Loss (ft)	1.23	Cum Volume (acre-ft)		18.65	0.52
C & E Loss (ft)	0.05	Cum SA (acres)		2.74	1.28

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	587.40	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.26	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		797.33	2883.11
E.G. Slope (ft/ft)	0.000405	Area (sq ft)		797.33	2883.11
Q Total (cfs)	4024.00	Flow (cfs)		2794.63	1229.37
Top Width (ft)	1469.47	Top Width (ft)		89.34	1380.13
Vel Total (ft/s)	1.09	Avg. Vel. (ft/s)		3.50	0.43
Max Chl Dpth (ft)	12.62	Hydr. Depth (ft)		8.92	2.09
Conv. Total (cfs)	199945.8	Conv. (cfs)		138860.6	61085.2
Length Wtd. (ft)	720.04	Wetted Per. (ft)		95.97	1383.39
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.21	0.05
Alpha	7.18	Stream Power (lb/ft s)		0.74	0.02
Frctn Loss (ft)	0.44	Cum Volume (acre-ft)	0.02	28.72	30.94
C & E Loss (ft)	0.03	Cum SA (acres)	0.06	3.24	19.23

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.01	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.84	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		942.30	5218.14
E.G. Slope (ft/ft)	0.000558	Area (sq ft)		942.30	5218.14
Q Total (cfs)	7740.00	Flow (cfs)		4192.40	3547.60
Top Width (ft)	1717.28	Top Width (ft)		93.87	1623.41
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)		4.45	0.68
Max Chl Dpth (ft)	14.20	Hydr. Depth (ft)		10.04	3.21
Conv. Total (cfs)	327529.1	Conv. (cfs)		177407.4	150121.7
Length Wtd. (ft)	686.43	Wetted Per. (ft)		100.90	1630.08
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.33	0.11
Alpha	6.93	Stream Power (lb/ft s)		1.45	0.08
Frctn Loss (ft)	0.73	Cum Volume (acre-ft)	2.71	37.14	67.18
C & E Loss (ft)	0.09	Cum SA (acres)	2.42	3.57	27.25

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.65	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1115.42	8235.93
E.G. Slope (ft/ft)	0.000433	Area (sq ft)		1115.42	8235.93
Q Total (cfs)	11040.00	Flow (cfs)		4778.30	6261.70
Top Width (ft)	1781.10	Top Width (ft)		96.95	1684.15
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		4.28	0.76
Max Chl Dpth (ft)	16.01	Hydr. Depth (ft)		11.51	4.89
Conv. Total (cfs)	530480.8	Conv. (cfs)		229601.0	300879.8
Length Wtd. (ft)	631.46	Wetted Per. (ft)		104.48	1694.57
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.29	0.13
Alpha	5.93	Stream Power (lb/ft s)		1.24	0.10
Frctn Loss (ft)	0.43	Cum Volume (acre-ft)	10.47	46.00	135.39
C & E Loss (ft)	0.03	Cum SA (acres)	3.84	3.73	29.34

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.11	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.42	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1190.47	9534.85
E.G. Slope (ft/ft)	0.000384	Area (sq ft)		1190.47	9534.85
Q Total (cfs)	12400.00	Flow (cfs)		4966.50	7433.50
Top Width (ft)	1792.24	Top Width (ft)		98.21	1694.03
Vel Total (ft/s)	1.16	Avg. Vel. (ft/s)		4.17	0.78
Max Chl Dpth (ft)	16.78	Hydr. Depth (ft)		12.12	5.63
Conv. Total (cfs)	633006.8	Conv. (cfs)		253534.5	379472.3
Length Wtd. (ft)	620.14	Wetted Per. (ft)		105.96	1706.01
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.27	0.13
Alpha	5.49	Stream Power (lb/ft s)		1.12	0.10
Frctn Loss (ft)	0.37	Cum Volume (acre-ft)	15.04	49.20	160.73
C & E Loss (ft)	0.03	Cum SA (acres)	6.51	3.75	30.10

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.79	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.10	1326.32	11882.52
E.G. Slope (ft/ft)	0.000322	Area (sq ft)	0.10	1326.32	11882.52
Q Total (cfs)	14980.00	Flow (cfs)	0.01	5381.38	9598.62
Top Width (ft)	1830.52	Top Width (ft)	0.56	99.90	1730.06
Vel Total (ft/s)	1.13	Avg. Vel. (ft/s)	0.06	4.06	0.81
Max Chl Dpth (ft)	18.15	Hydr. Depth (ft)	0.17	13.28	6.87
Conv. Total (cfs)	834696.1	Conv. (cfs)	0.3	299854.1	534841.6
Length Wtd. (ft)	607.41	Wetted Per. (ft)	0.66	107.93	1744.84
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.25	0.14
Alpha	4.92	Stream Power (lb/ft s)	0.00	1.00	0.11
Frctn Loss (ft)	0.30	Cum Volume (acre-ft)	26.74	54.72	205.82
C & E Loss (ft)	0.02	Cum SA (acres)	8.58	3.78	31.58

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	582.87	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.86	Wt. n-Val.		0.035	
W.S. Elev (ft)	582.00	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		338.97	
E.G. Slope (ft/ft)	0.002880	Area (sq ft)		338.97	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	52.54	Top Width (ft)		52.54	
Vel Total (ft/s)	7.45	Avg. Vel. (ft/s)		7.45	
Max Chl Dpth (ft)	8.46	Hydr. Depth (ft)		6.45	
Conv. Total (cfs)	47036.0	Conv. (cfs)		47036.0	
Length Wtd. (ft)	295.10	Wetted Per. (ft)		57.37	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.06	
Alpha	1.00	Stream Power (lb/ft s)		7.91	
Frctn Loss (ft)	0.26	Cum Volume (acre-ft)		10.84	0.08
C & E Loss (ft)	0.20	Cum SA (acres)		1.62	0.05

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	586.93	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.42	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		617.17	1056.91
E.G. Slope (ft/ft)	0.001029	Area (sq ft)		617.17	1056.91
Q Total (cfs)	4024.00	Flow (cfs)		3460.44	563.56
Top Width (ft)	915.14	Top Width (ft)		67.18	847.96
Vel Total (ft/s)	2.40	Avg. Vel. (ft/s)		5.61	0.53
Max Chl Dpth (ft)	12.97	Hydr. Depth (ft)		9.19	1.25
Conv. Total (cfs)	125465.2	Conv. (cfs)		107894.0	17571.3
Length Wtd. (ft)	304.43	Wetted Per. (ft)		73.86	853.50
Min Ch El (ft)	573.54	Shear (lb/sq ft)		0.54	0.08
Alpha	4.69	Stream Power (lb/ft s)		3.01	0.04
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)	0.02	15.90	9.34
C & E Loss (ft)	0.08	Cum SA (acres)	0.06	1.82	7.01

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.10	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.09	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		656.56	1586.09
E.G. Slope (ft/ft)	0.002723	Area (sq ft)		656.56	1586.09
Q Total (cfs)	7740.00	Flow (cfs)		6170.64	1569.36
Top Width (ft)	1005.03	Top Width (ft)		68.31	936.71
Vel Total (ft/s)	3.45	Avg. Vel. (ft/s)		9.40	0.99
Max Chl Dpth (ft)	13.55	Hydr. Depth (ft)		9.61	1.69
Conv. Total (cfs)	148332.2	Conv. (cfs)		118256.4	30075.8
Length Wtd. (ft)	307.96	Wetted Per. (ft)		75.13	945.69
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.49	0.29
Alpha	5.93	Stream Power (lb/ft s)		13.96	0.28
Frctn Loss (ft)	0.43	Cum Volume (acre-ft)	2.71	22.65	29.87
C & E Loss (ft)	0.17	Cum SA (acres)	2.42	2.10	13.21

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.31	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.45	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.87	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	5.37	856.67	4203.86
E.G. Slope (ft/ft)	0.001258	Area (sq ft)	5.37	856.67	4203.86
Q Total (cfs)	11040.00	Flow (cfs)	0.79	6109.28	4929.93
Top Width (ft)	1053.50	Top Width (ft)	29.00	75.90	948.59
Vel Total (ft/s)	2.18	Avg. Vel. (ft/s)	0.15	7.13	1.17
Max Chl Dpth (ft)	16.33	Hydr. Depth (ft)	0.19	11.29	4.43
Conv. Total (cfs)	311283.9	Conv. (cfs)	22.2	172257.3	139004.4
Length Wtd. (ft)	321.70	Wetted Per. (ft)	29.03	83.11	974.57
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.81	0.34
Alpha	6.06	Stream Power (lb/ft s)	0.00	5.77	0.40
Frctn Loss (ft)	0.28	Cum Volume (acre-ft)	10.42	28.13	67.18
C & E Loss (ft)	0.01	Cum SA (acres)	3.55	2.16	14.90

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.14	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.75	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	82.52	923.93	5047.59
E.G. Slope (ft/ft)	0.001052	Area (sq ft)	106.94	923.93	5047.59
Q Total (cfs)	12400.00	Flow (cfs)	21.33	6337.53	6041.14
Top Width (ft)	1260.18	Top Width (ft)	226.91	75.90	957.37
Vel Total (ft/s)	2.05	Avg. Vel. (ft/s)	0.26	6.86	1.20
Max Chl Dpth (ft)	17.21	Hydr. Depth (ft)	0.52	12.17	5.27
Conv. Total (cfs)	382286.2	Conv. (cfs)	657.5	195383.0	186245.6
Length Wtd. (ft)	323.69	Wetted Per. (ft)	159.85	83.11	988.71
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.73	0.34
Alpha	5.90	Stream Power (lb/ft s)	0.01	5.01	0.40
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	13.99	30.04	80.77
C & E Loss (ft)	0.00	Cum SA (acres)	4.29	2.17	15.56

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.57	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.24	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	325.87	1037.01	6515.11
E.G. Slope (ft/ft)	0.000839	Area (sq ft)	564.57	1037.01	6515.11
Q Total (cfs)	14980.00	Flow (cfs)	185.09	6859.82	7935.09
Top Width (ft)	1441.57	Top Width (ft)	361.52	75.90	1004.14
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.57	6.61	1.22
Max Chl Dpth (ft)	18.70	Hydr. Depth (ft)	1.99	13.66	6.49
Conv. Total (cfs)	517205.6	Conv. (cfs)	6390.7	236844.9	273970.1
Length Wtd. (ft)	324.48	Wetted Per. (ft)	163.49	83.11	1044.45
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.65	0.33
Alpha	5.76	Stream Power (lb/ft s)	0.06	4.32	0.40
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	21.21	33.31	104.94
C & E Loss (ft)	0.00	Cum SA (acres)	5.04	2.19	16.59

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	582.41	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.19	Wt. n-Val.		0.035	0.001
W.S. Elev (ft)	582.21	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	575.10	Flow Area (sq ft)		716.02	0.02
E.G. Slope (ft/ft)	0.000414	Area (sq ft)		716.02	0.02
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	0.00
Top Width (ft)	82.17	Top Width (ft)		79.11	3.06
Vel Total (ft/s)	3.52	Avg. Vel. (ft/s)		3.53	0.01
Max Chl Dpth (ft)	12.57	Hydr. Depth (ft)		9.05	0.01
Conv. Total (cfs)	124013.7	Conv. (cfs)		124013.7	0.0
Length Wtd. (ft)	6.00	Wetted Per. (ft)		86.89	3.06
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.21	
Alpha	1.00	Stream Power (lb/ft s)		0.75	
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)		7.26	0.08
C & E Loss (ft)	0.50	Cum SA (acres)		1.17	0.04

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	586.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.54	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	576.62	Flow Area (sq ft)	18.03	1086.53	979.23
E.G. Slope (ft/ft)	0.000281	Area (sq ft)	18.03	1086.53	979.23
Q Total (cfs)	4024.00	Flow (cfs)	1.81	3715.16	307.03
Top Width (ft)	765.63	Top Width (ft)	53.63	93.01	618.98
Vel Total (ft/s)	1.93	Avg. Vel. (ft/s)	0.10	3.42	0.31
Max Chl Dpth (ft)	16.90	Hydr. Depth (ft)	0.34	11.68	1.58
Conv. Total (cfs)	239999.0	Conv. (cfs)	107.9	221579.3	18311.8
Length Wtd. (ft)	6.00	Wetted Per. (ft)	53.65	103.20	620.66
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.01	0.18	0.03
Alpha	2.90	Stream Power (lb/ft s)	0.00	0.63	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)	0.00	10.13	0.42
C & E Loss (ft)		Cum SA (acres)	0.00	1.28	0.59

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.58	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.05	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	579.48	Flow Area (sq ft)	62.79	1134.51	1320.61
E.G. Slope (ft/ft)	0.000856	Area (sq ft)	62.79	1134.51	1320.61
Q Total (cfs)	7740.00	Flow (cfs)	14.24	6966.95	758.81
Top Width (ft)	897.15	Top Width (ft)	126.75	93.01	677.38
Vel Total (ft/s)	3.07	Avg. Vel. (ft/s)	0.23	6.14	0.57
Max Chl Dpth (ft)	17.41	Hydr. Depth (ft)	0.50	12.20	1.95
Conv. Total (cfs)	264549.4	Conv. (cfs)	486.8	238127.0	25935.7
Length Wtd. (ft)	6.00	Wetted Per. (ft)	126.77	103.20	680.17
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.03	0.59	0.10
Alpha	3.60	Stream Power (lb/ft s)	0.01	3.61	0.06
Frctn Loss (ft)		Cum Volume (acre-ft)	2.65	16.58	17.13
C & E Loss (ft)		Cum SA (acres)	2.28	1.55	6.14

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	590.03	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.61	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	581.57	Flow Area (sq ft)	557.35	1372.62	3106.38
E.G. Slope (ft/ft)	0.000626	Area (sq ft)	566.11	1372.62	3106.38
Q Total (cfs)	11040.00	Flow (cfs)	306.63	8183.13	2550.24
Top Width (ft)	1069.18	Top Width (ft)	261.69	93.01	714.48
Vel Total (ft/s)	2.19	Avg. Vel. (ft/s)	0.55	5.96	0.82
Max Chl Dpth (ft)	19.97	Hydr. Depth (ft)	2.37	14.76	4.35
Conv. Total (cfs)	441326.9	Conv. (cfs)	12257.8	327122.6	101946.6
Length Wtd. (ft)	6.00	Wetted Per. (ft)	235.46	103.20	722.58
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.09	0.52	0.17
Alpha	5.52	Stream Power (lb/ft s)	0.05	3.10	0.14
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	9.79	20.57	35.15
C & E Loss (ft)	0.09	Cum SA (acres)	3.23	1.59	7.61

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.38	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.51	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	582.35	Flow Area (sq ft)	782.10	1456.01	3749.01
E.G. Slope (ft/ft)	0.000569	Area (sq ft)	840.30	1456.01	3749.01
Q Total (cfs)	12400.00	Flow (cfs)	487.23	8608.90	3303.87
Top Width (ft)	1162.84	Top Width (ft)	350.54	93.01	719.28
Vel Total (ft/s)	2.07	Avg. Vel. (ft/s)	0.62	5.91	0.88
Max Chl Dpth (ft)	20.87	Hydr. Depth (ft)	3.06	15.65	5.21
Conv. Total (cfs)	519846.0	Conv. (cfs)	20426.1	360911.6	138508.3
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	729.26
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.11	0.50	0.18
Alpha	5.71	Stream Power (lb/ft s)	0.07	2.96	0.16
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	12.95	21.98	42.22
C & E Loss (ft)	0.09	Cum SA (acres)	3.65	1.60	8.22

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.01	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	584.19	Flow Area (sq ft)	1165.43	1595.69	4836.55
E.G. Slope (ft/ft)	0.000501	Area (sq ft)	1423.39	1595.69	4836.55
Q Total (cfs)	14980.00	Flow (cfs)	888.81	9410.73	4680.47
Top Width (ft)	1234.42	Top Width (ft)	412.15	93.01	729.26
Vel Total (ft/s)	1.97	Avg. Vel. (ft/s)	0.76	5.90	0.97
Max Chl Dpth (ft)	22.37	Hydr. Depth (ft)	4.57	17.16	6.63
Conv. Total (cfs)	669261.6	Conv. (cfs)	39709.3	420443.1	209109.3
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	742.35
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.14	0.48	0.20
Alpha	5.70	Stream Power (lb/ft s)	0.11	2.85	0.20
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	19.01	24.39	55.20
C & E Loss (ft)	0.09	Cum SA (acres)	4.18	1.62	8.99

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.30	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.67	Flow Area (sq ft)		582.54	
E.G. Slope (ft/ft)	0.000827	Area (sq ft)		582.54	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	81.27	Top Width (ft)		81.27	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	10.12	Hydr. Depth (ft)		7.17	
Conv. Total (cfs)	87756.6	Conv. (cfs)		87756.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		87.15	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.50	
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		7.05	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.14	0.04

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.70	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	577.01	Flow Area (sq ft)		785.33	41.44
E.G. Slope (ft/ft)	0.000877	Area (sq ft)		785.33	41.44
Q Total (cfs)	4024.00	Flow (cfs)		4015.05	8.95
Top Width (ft)	183.16	Top Width (ft)		88.47	94.69
Vel Total (ft/s)	4.87	Avg. Vel. (ft/s)		5.11	0.22
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)		8.88	0.44
Conv. Total (cfs)	135845.6	Conv. (cfs)		135543.6	302.0
Length Wtd. (ft)	126.22	Wetted Per. (ft)		95.81	94.80
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.45	0.02
Alpha	1.10	Stream Power (lb/ft s)		2.30	0.01
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		9.80	0.34
C & E Loss (ft)	0.10	Cum SA (acres)		1.25	0.53

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.06	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.64	Flow Area (sq ft)	55.60	1197.93	1779.79
E.G. Slope (ft/ft)	0.000663	Area (sq ft)	79.98	1197.93	1779.79
Q Total (cfs)	7740.00	Flow (cfs)	10.95	6559.58	1169.46
Top Width (ft)	878.09	Top Width (ft)	151.28	97.77	629.04
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)	0.20	5.48	0.66
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	0.42	12.25	2.83
Conv. Total (cfs)	300520.7	Conv. (cfs)	425.3	254688.8	45406.6
Length Wtd. (ft)	134.79	Wetted Per. (ft)	131.01	106.89	630.02
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.46	0.12
Alpha	3.91	Stream Power (lb/ft s)	0.00	2.54	0.08
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	2.63	16.20	16.49
C & E Loss (ft)	0.07	Cum SA (acres)	2.24	1.52	5.80

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.54	Flow Area (sq ft)	558.45	1437.35	3373.49
E.G. Slope (ft/ft)	0.000524	Area (sq ft)	639.77	1437.35	3373.49
Q Total (cfs)	11040.00	Flow (cfs)	303.61	7896.79	2839.60
Top Width (ft)	989.21	Top Width (ft)	233.77	97.77	657.67
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.54	5.49	0.84
Max Chl Dpth (ft)	19.32	Hydr. Depth (ft)	2.66	14.70	5.13
Conv. Total (cfs)	482407.9	Conv. (cfs)	13266.7	345060.9	124080.2
Length Wtd. (ft)	137.38	Wetted Per. (ft)	210.15	106.89	658.97
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.09	0.44	0.17
Alpha	5.15	Stream Power (lb/ft s)	0.05	2.42	0.14
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	9.50	20.07	33.61
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.54	7.26

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	582.43	Flow Area (sq ft)	744.43	1523.94	3959.43
E.G. Slope (ft/ft)	0.000486	Area (sq ft)	866.26	1523.94	3959.43
Q Total (cfs)	12400.00	Flow (cfs)	472.05	8382.81	3545.14
Top Width (ft)	1069.46	Top Width (ft)	296.65	97.77	675.04
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	0.63	5.50	0.90
Max Chl Dpth (ft)	20.21	Hydr. Depth (ft)	3.55	15.59	5.87
Conv. Total (cfs)	562692.5	Conv. (cfs)	21420.9	380398.7	160872.9
Length Wtd. (ft)	137.55	Wetted Per. (ft)	210.15	106.89	676.41
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.11	0.43	0.18
Alpha	5.22	Stream Power (lb/ft s)	0.07	2.38	0.16
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	12.52	21.43	40.36
C & E Loss (ft)	0.04	Cum SA (acres)	3.48	1.55	7.86

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.88	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	585.01	Flow Area (sq ft)	1056.59	1669.28	4990.37
E.G. Slope (ft/ft)	0.000446	Area (sq ft)	1322.20	1669.28	4990.37
Q Total (cfs)	14980.00	Flow (cfs)	810.99	9351.54	4817.47
Top Width (ft)	1117.25	Top Width (ft)	317.28	97.77	702.20
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.77	5.60	0.97
Max Chl Dpth (ft)	21.70	Hydr. Depth (ft)	5.03	17.07	7.11
Conv. Total (cfs)	709252.4	Conv. (cfs)	38397.7	442763.8	228090.8
Length Wtd. (ft)	137.47	Wetted Per. (ft)	210.15	106.89	703.71
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.14	0.43	0.20
Alpha	5.29	Stream Power (lb/ft s)	0.11	2.44	0.19
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.32	23.77	52.79
C & E Loss (ft)	0.04	Cum SA (acres)	3.99	1.57	8.62

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.36	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

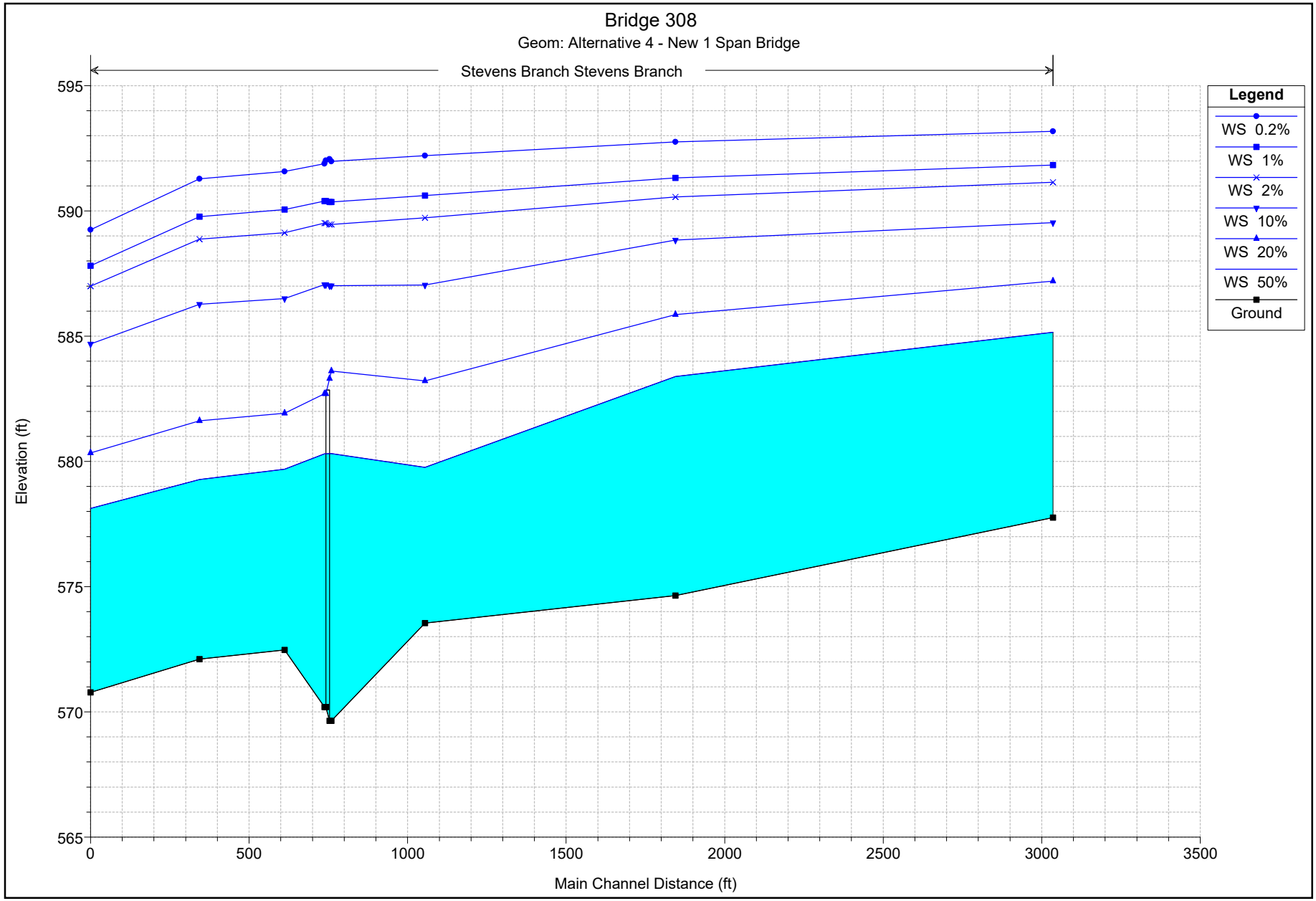
Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 1%

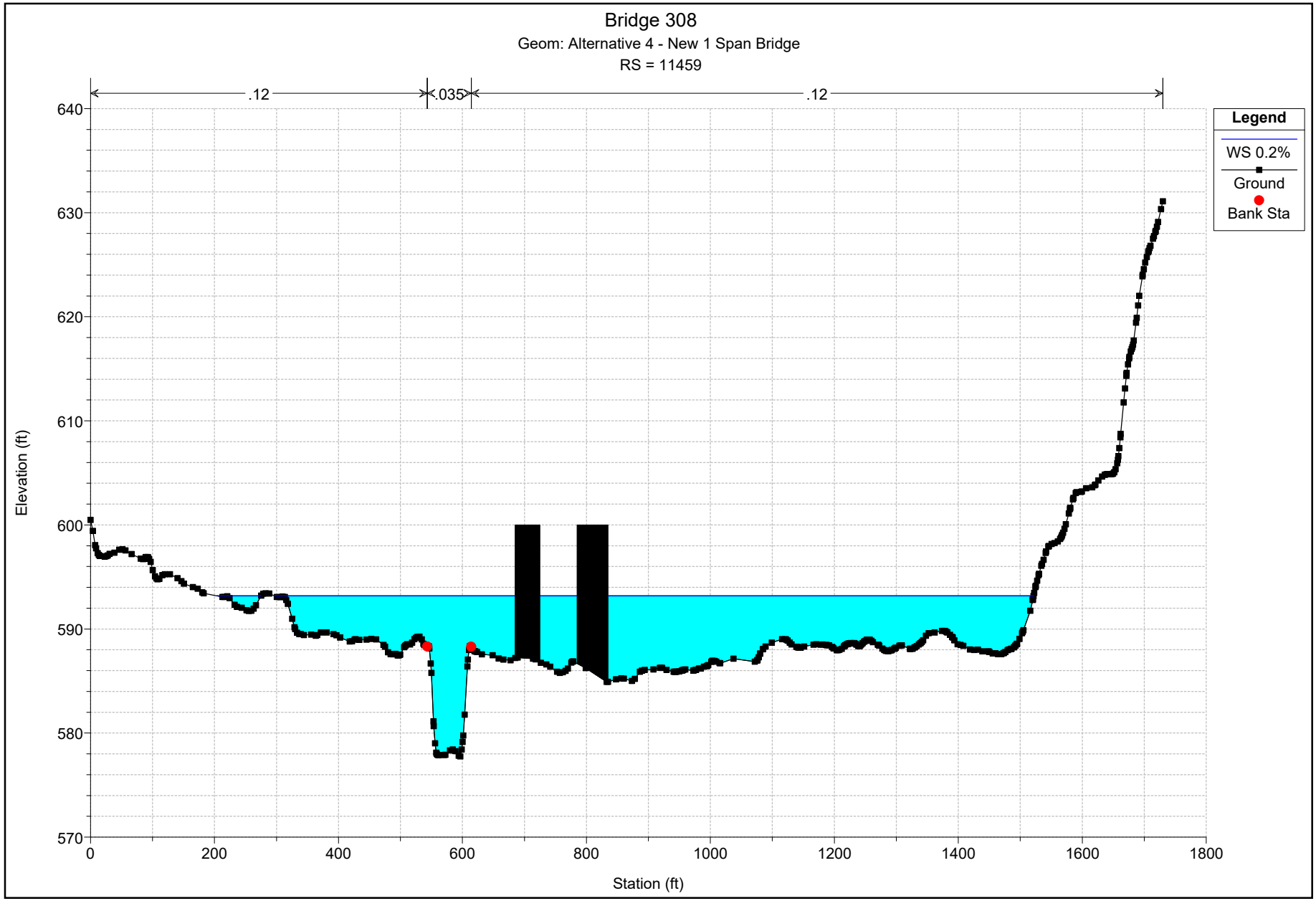
E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

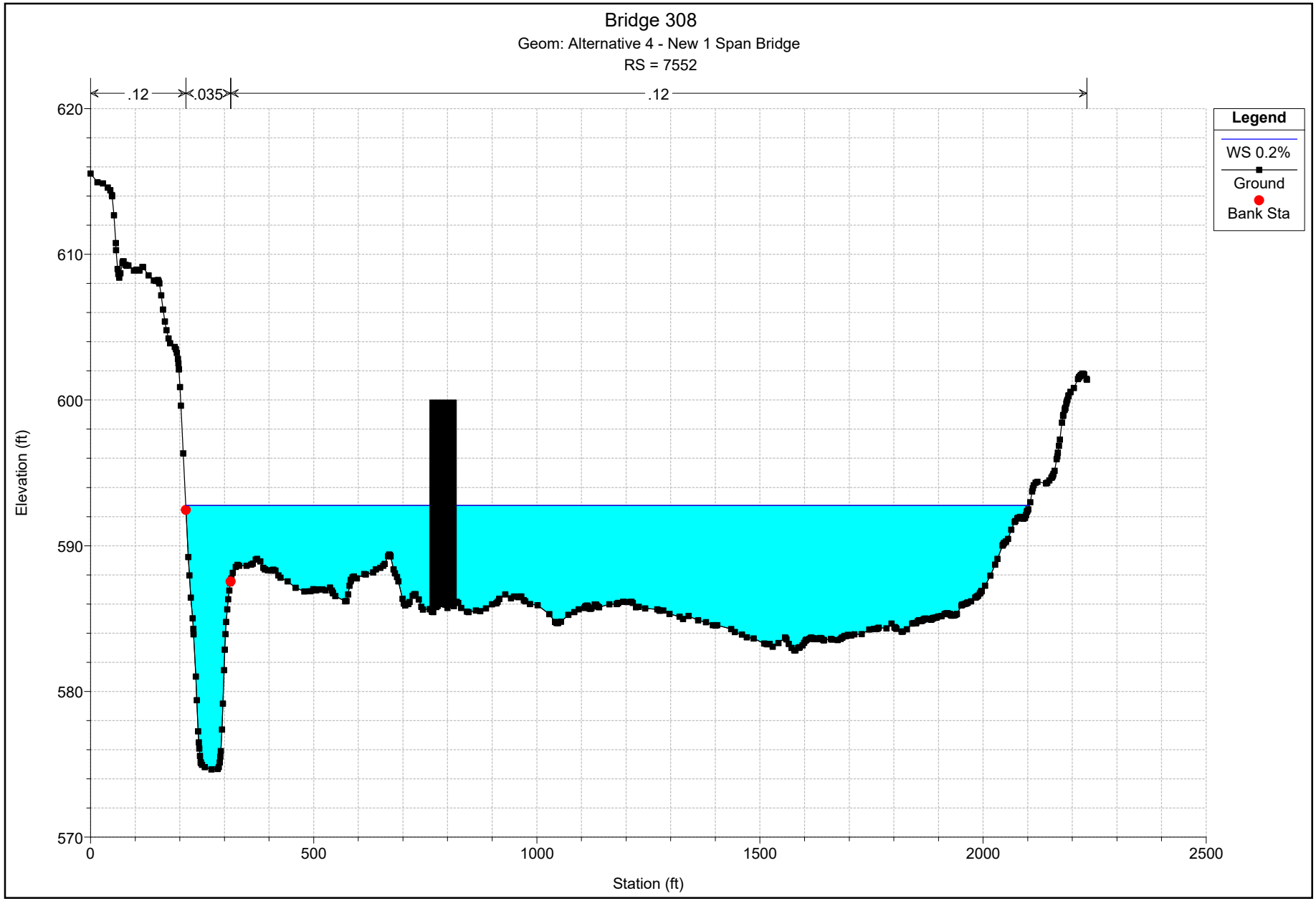
Plan: Alt 3 New 2 Span, Debris Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

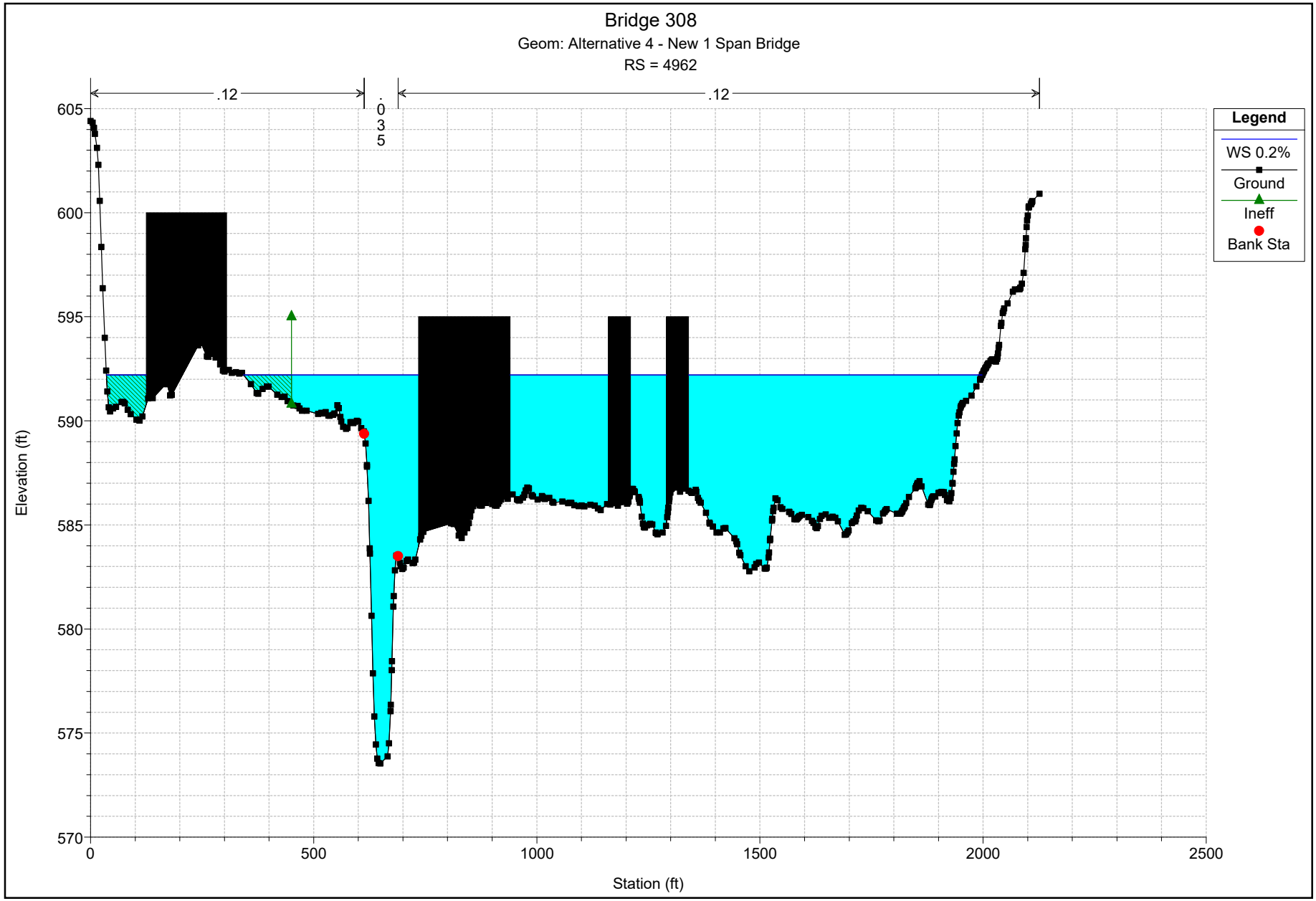
E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

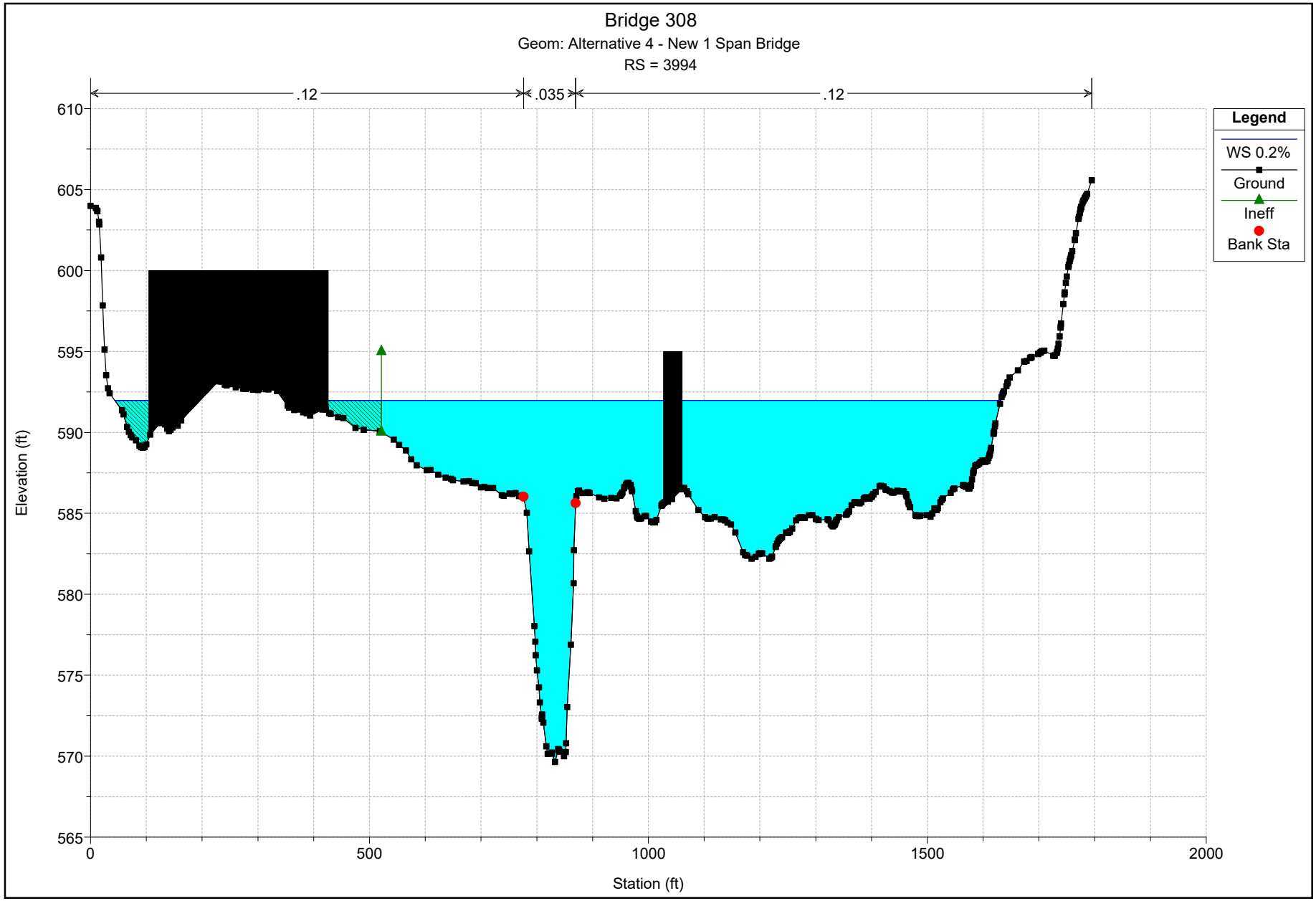
HEC-RAS Results for Alternative 4

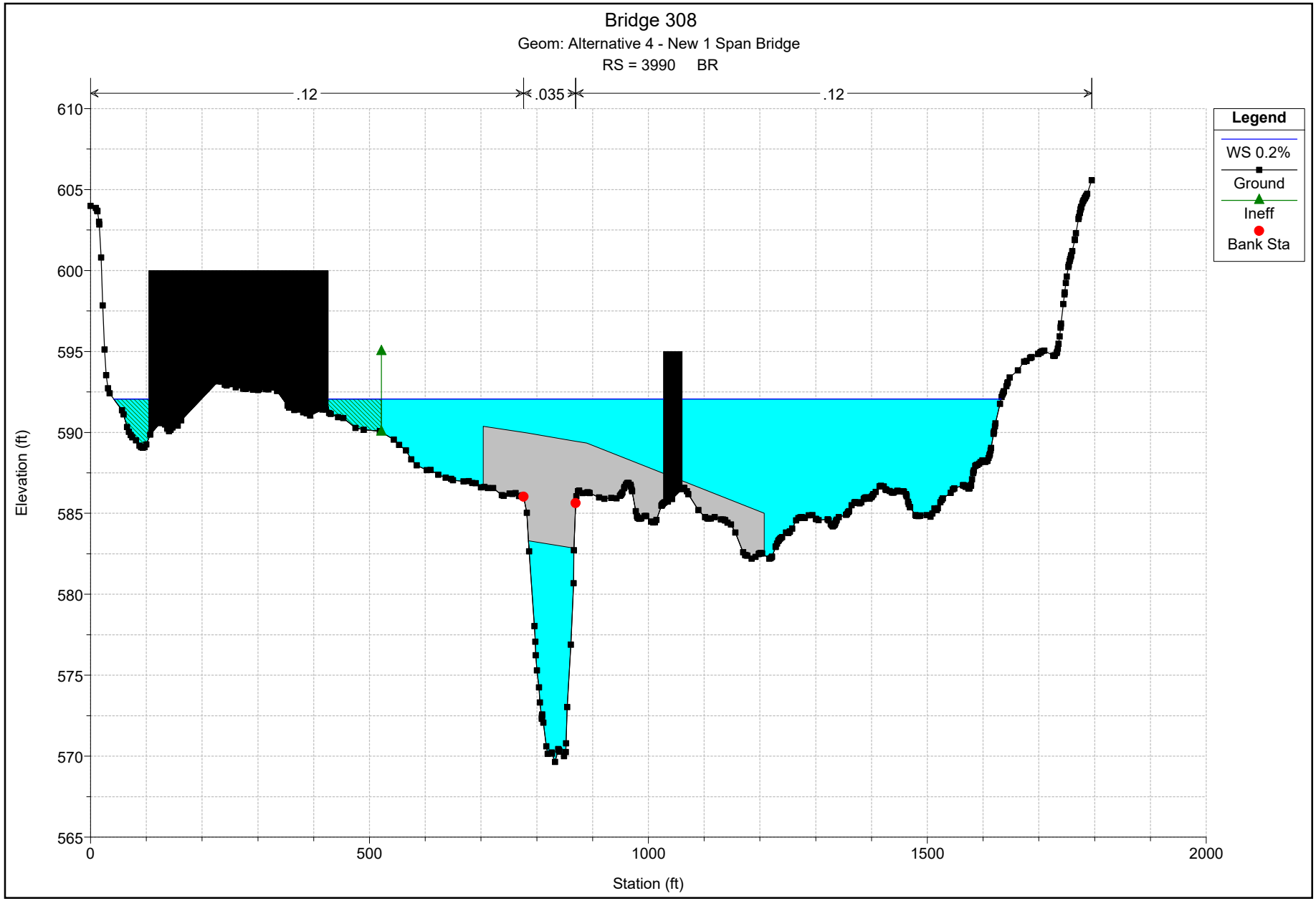

Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

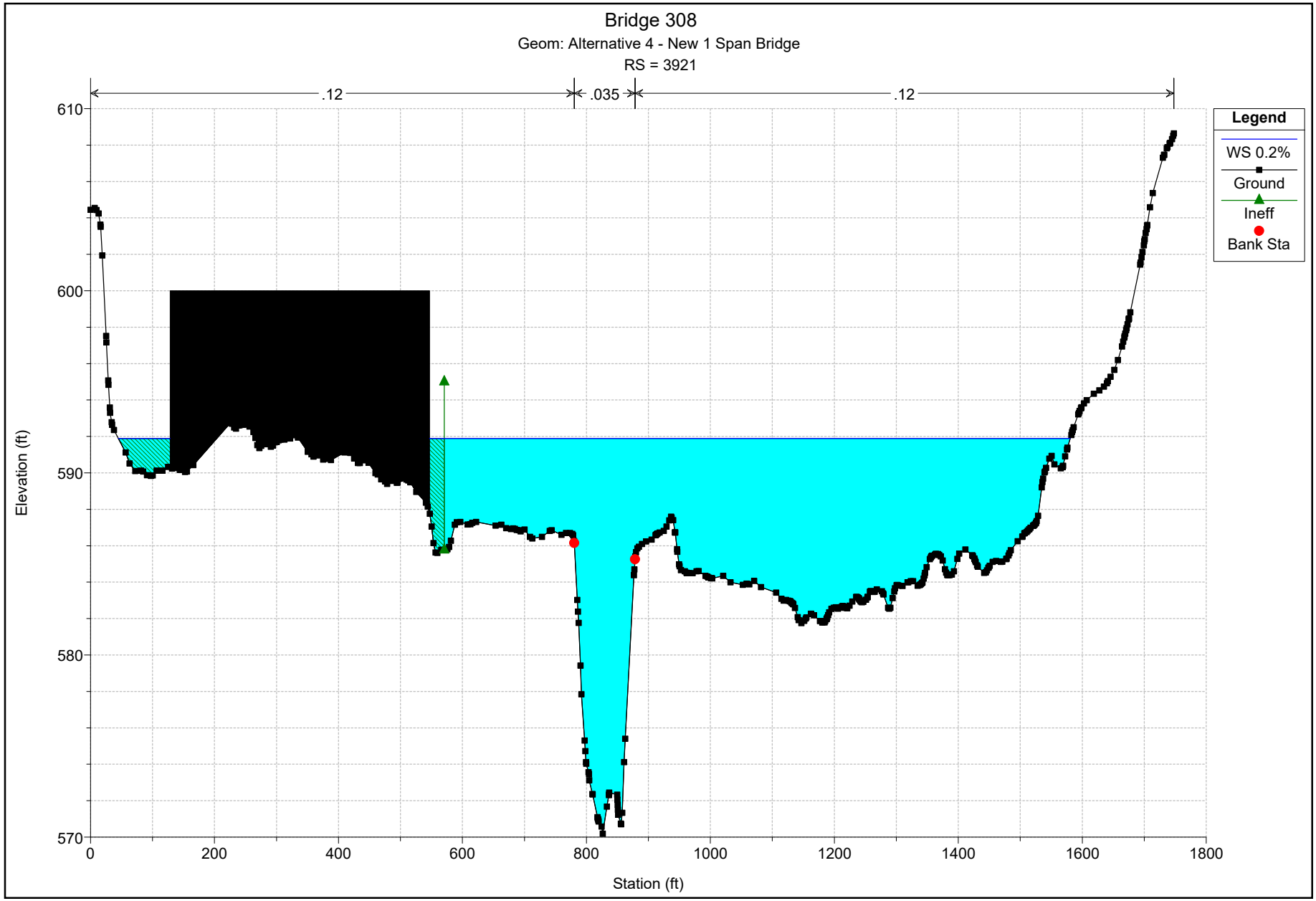

Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 11459
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

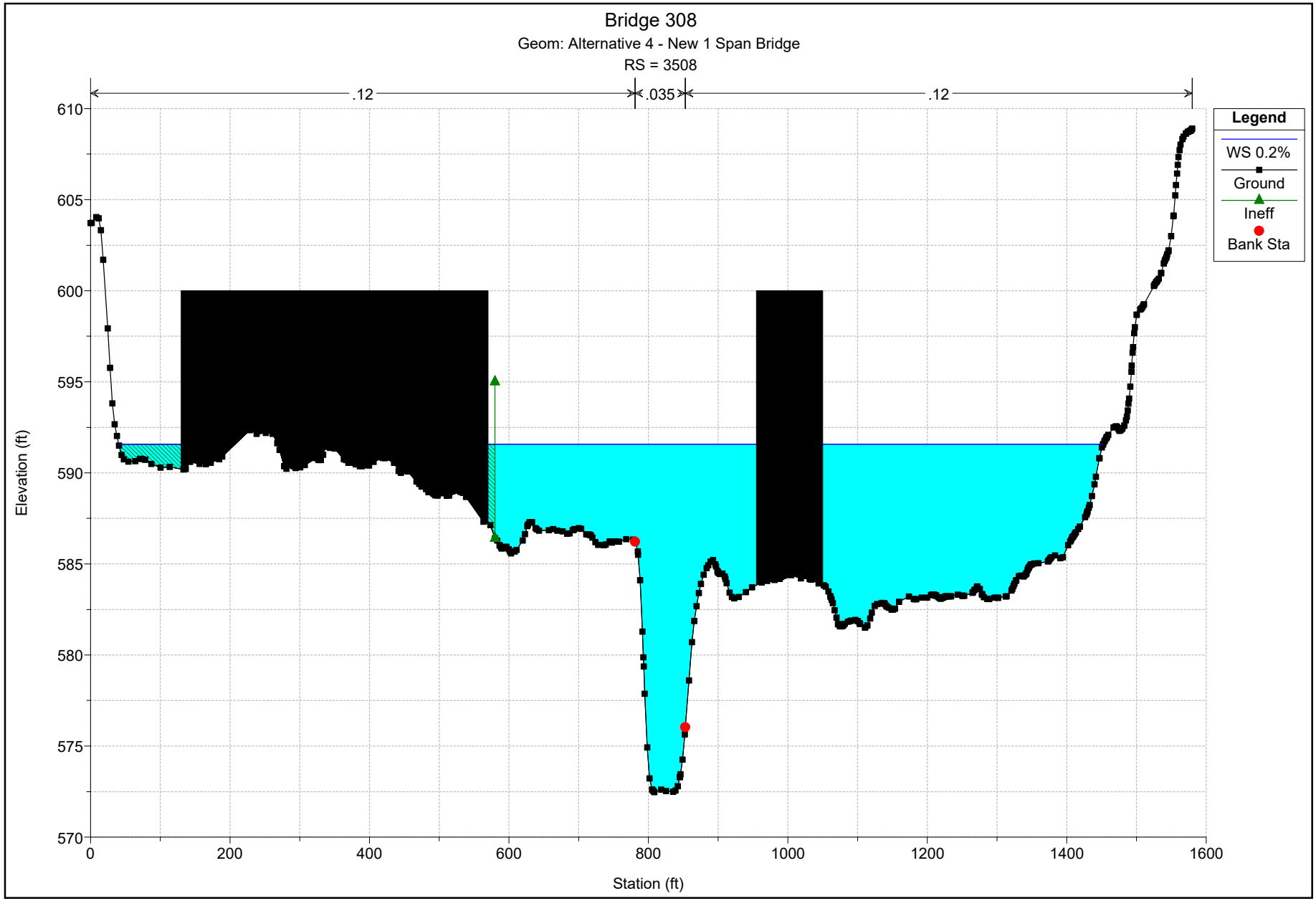

Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 7552
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
500
1000
1500
2000
2500
Station (ft)

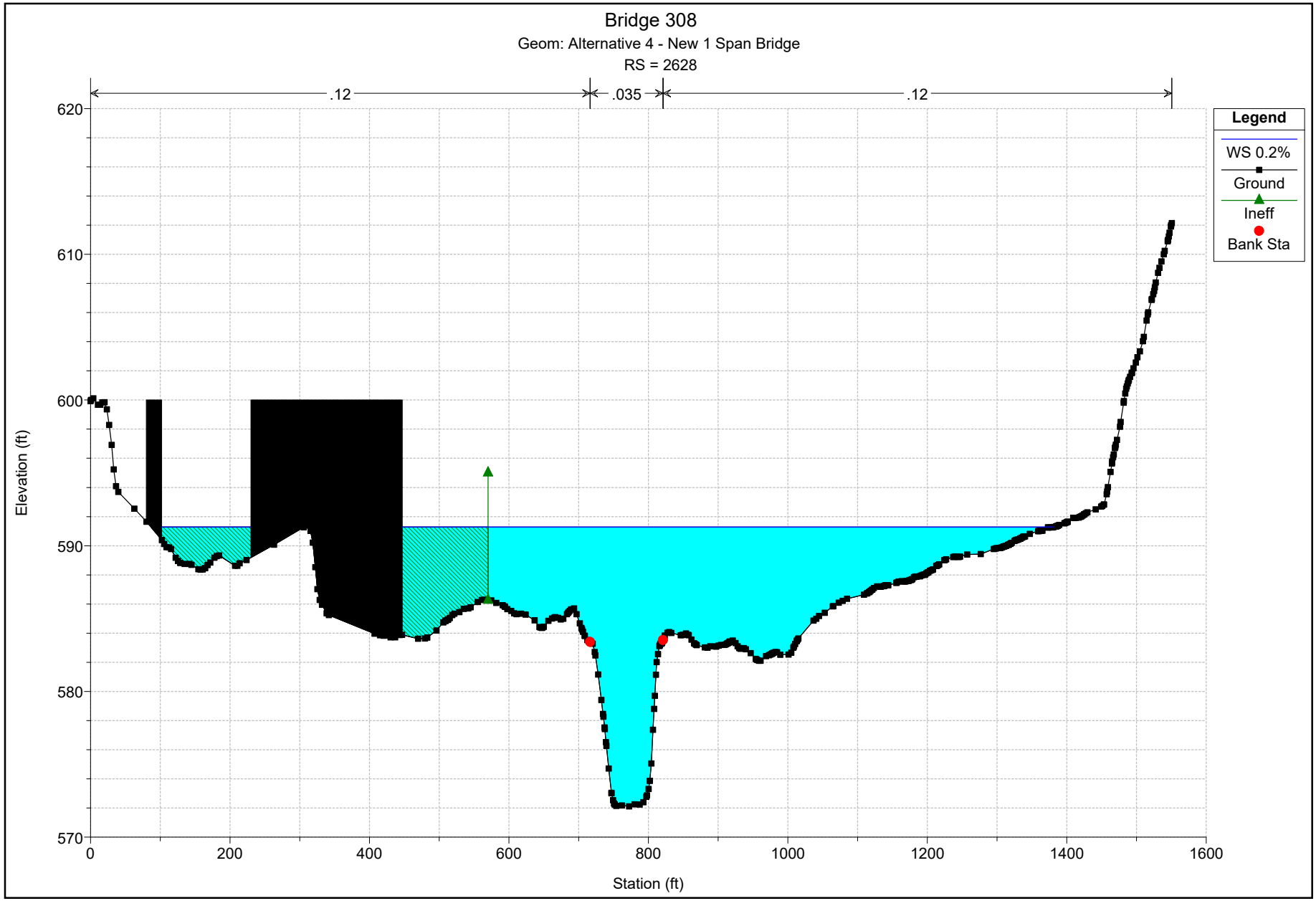

Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 4962
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)

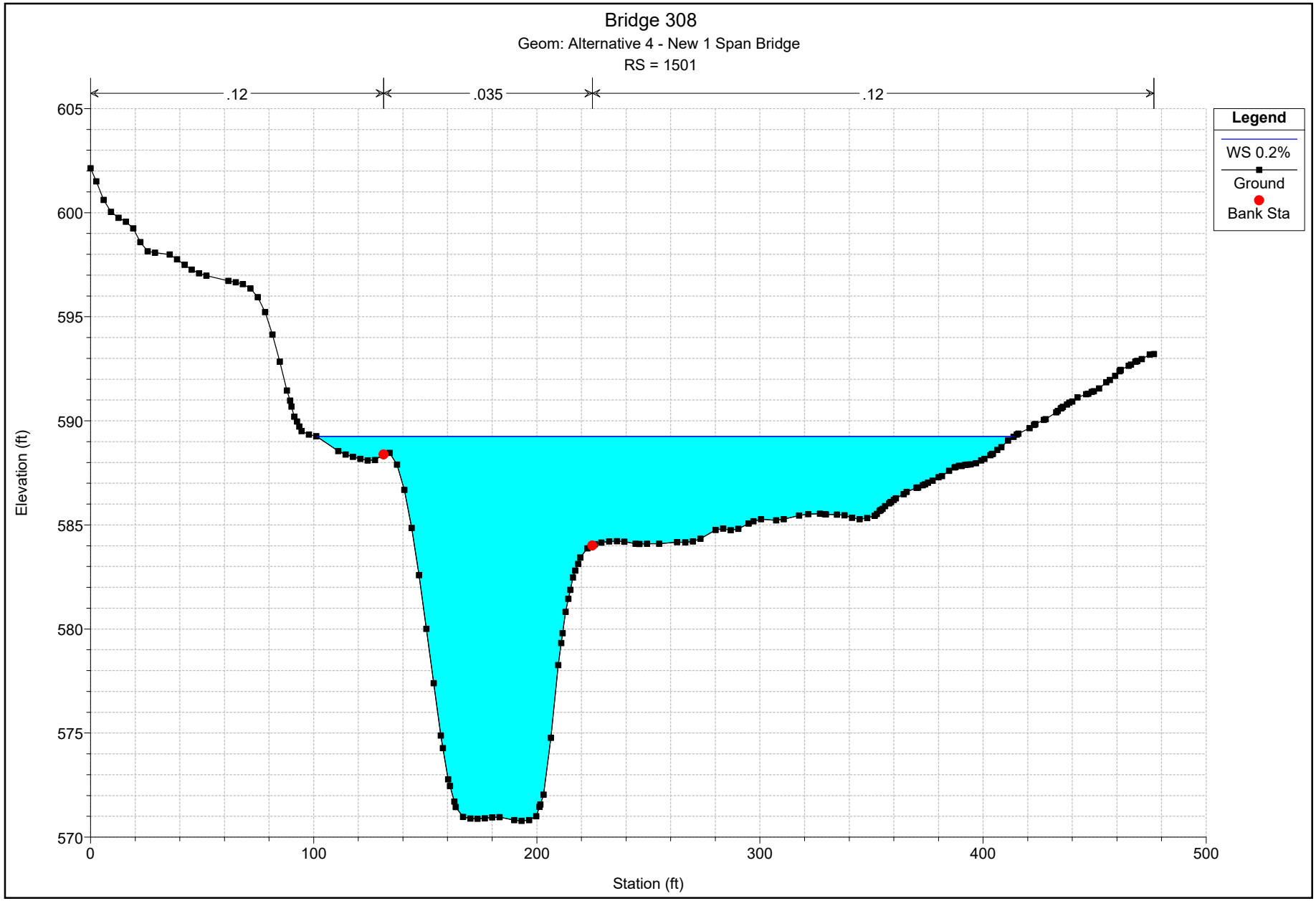

Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 3994
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 3990 BR
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 3921
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)


Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 3508
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 2628
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 4 - New 1 Span Bridge
RS = 1501
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500
Station (ft)

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3990 Profile: 50%

E.G. US. (ft)	580.62	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	580.31	E.G. Elev (ft)	580.62	580.60
Q Total (cfs)	2524.00	W.S. Elev (ft)	580.31	580.31
Q Bridge (cfs)	2524.00	Crit W.S. (ft)	575.10	575.66
Q Weir (cfs)		Max Chl Dpth (ft)	10.67	10.12
Weir Sta Lft (ft)		Vel Total (ft/s)	4.43	4.34
Weir Sta Rgt (ft)		Flow Area (sq ft)	569.33	580.92
Weir Submerg		Froude # Chl	0.28	0.24
Weir Max Depth (ft)		Specif Force (cu ft)	2888.65	2686.75
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	7.63	7.34
Min El Prs (ft)	582.85	W.P. Total (ft)	80.36	86.21
Delta EG (ft)	0.02	Conv. Total (cfs)	89158.4	87984.5
Delta WS (ft)	0.01	Top Width (ft)	74.58	79.13
BR Open Area (sq ft)	785.22	Frctn Loss (ft)	0.01	0.00
BR Open Vel (ft/s)	4.43	C & E Loss (ft)	0.00	0.00
BR Sluice Coef		Shear Total (lb/sq ft)	0.35	0.35
BR Sel Method	Energy only	Power Total (lb/ft s)	1.57	1.50

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3990 Profile: 20%

E.G. US. (ft)	583.97	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	583.61	E.G. Elev (ft)	583.97	583.10
Q Total (cfs)	4024.00	W.S. Elev (ft)	583.31	582.70
Q Bridge (cfs)	4024.00	Crit W.S. (ft)	576.62	577.02
Q Weir (cfs)		Max Chl Dpth (ft)	13.67	12.51
Weir Sta Lft (ft)		Vel Total (ft/s)	5.00	5.19
Weir Sta Rgt (ft)		Flow Area (sq ft)	804.43	775.83
Weir Submerg		Froude # Chl	0.24	0.26
Weir Max Depth (ft)		Specif Force (cu ft)	5239.60	4614.38
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	31.79	7.85
Min El Prs (ft)	582.85	W.P. Total (ft)	197.36	109.20
Delta EG (ft)	0.87	Conv. Total (cfs)	92247.5	135035.9
Delta WS (ft)	0.91	Top Width (ft)	25.30	98.87
BR Open Area (sq ft)	785.22	Frctn Loss (ft)		
BR Open Vel (ft/s)	5.12	C & E Loss (ft)		
BR Sluice Coef	0.27	Shear Total (lb/sq ft)	0.48	0.39
BR Sel Method	Press Only	Power Total (lb/ft s)	2.42	2.04

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3990 Profile: 10%

E.G. US. (ft)	587.55	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	587.02	E.G. Elev (ft)	587.55	587.46
Q Total (cfs)	7740.00	W.S. Elev (ft)	587.02	587.06
Q Bridge (cfs)	3529.33	Crit W.S. (ft)	579.53	579.62
Q Weir (cfs)	4210.67	Max Chl Dpth (ft)	17.38	16.88
Weir Sta Lft (ft)	615.47	Vel Total (ft/s)	4.78	4.34
Weir Sta Rgt (ft)	1582.53	Flow Area (sq ft)	1617.94	1784.00
Weir Submerg	0.80	Froude # Chl	0.34	0.31
Weir Max Depth (ft)	5.35	Specif Force (cu ft)	10285.74	10500.66
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	2.86	3.45
Min El Prs (ft)	582.85	W.P. Total (ft)	740.59	698.05
Delta EG (ft)	0.09	Conv. Total (cfs)		
Delta WS (ft)	-0.04	Top Width (ft)	566.13	537.59
BR Open Area (sq ft)	785.22	Frctn Loss (ft)		
BR Open Vel (ft/s)	4.49	C & E Loss (ft)		
BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3990 Profile: 2%

E.G. US. (ft)	589.89	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	589.46	E.G. Elev (ft)	589.89	589.85
Q Total (cfs)	11040.00	W.S. Elev (ft)	589.46	589.51
Q Bridge (cfs)	3108.53	Crit W.S. (ft)	581.56	581.48
Q Weir (cfs)	7931.47	Max Chl Dpth (ft)	19.82	19.32
Weir Sta Lft (ft)	570.63	Vel Total (ft/s)	3.28	3.17
Weir Sta Rgt (ft)	1538.33	Flow Area (sq ft)	3362.96	3481.51
Weir Submerg	0.97	Froude # Chl	0.24	0.23
Weir Max Depth (ft)	7.35	Specif Force (cu ft)	16182.51	16922.19
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	3.86	4.31
Min El Prs (ft)	582.85	W.P. Total (ft)	1053.38	990.79
Delta EG (ft)	0.04	Conv. Total (cfs)		
Delta WS (ft)	-0.06	Top Width (ft)	891.87	830.96
BR Open Area (sq ft)	785.22	Frctn Loss (ft)		
BR Open Vel (ft/s)	3.96	C & E Loss (ft)		
BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3990 Profile: 1%

E.G. US. (ft)	590.76	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	590.35	E.G. Elev (ft)	590.76	590.72
Q Total (cfs)	12400.00	W.S. Elev (ft)	590.35	590.40
Q Bridge (cfs)	3016.66	Crit W.S. (ft)	582.33	582.19
Q Weir (cfs)	9383.34	Max Chl Dpth (ft)	20.71	20.21
Weir Sta Lft (ft)	570.63	Vel Total (ft/s)	2.93	2.91
Weir Sta Rgt (ft)	1571.50	Flow Area (sq ft)	4232.06	4268.20
Weir Submerg	0.97	Froude # Chl	0.17	0.17
Weir Max Depth (ft)	8.22	Specif Force (cu ft)	19259.28	20110.69
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	3.99	4.34
Min El Prs (ft)	582.85	W.P. Total (ft)	1246.09	1167.35
Delta EG (ft)	0.04	Conv. Total (cfs)		
Delta WS (ft)	-0.04	Top Width (ft)	1150.15	1069.46
BR Open Area (sq ft)	785.22	Frctn Loss (ft)		
BR Open Vel (ft/s)	3.84	C & E Loss (ft)		
BR Sluice Coef		Shear Total (lb/sq ft)		
BR Sel Method	Press/Weir	Power Total (lb/ft s)		

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3990 Profile: 0.2%

E.G. US. (ft)	592.32	Element	Inside BR US	Inside BR DS
W.S. US. (ft)	591.98	E.G. Elev (ft)	592.25	592.22
Q Total (cfs)	14980.00	W.S. Elev (ft)	592.07	592.02
Q Bridge (cfs)	4587.61	Crit W.S. (ft)	582.96	583.00
Q Weir (cfs)		Max Chl Dpth (ft)	22.42	21.83
Weir Sta Lft (ft)		Vel Total (ft/s)	2.47	2.54
Weir Sta Rgt (ft)		Flow Area (sq ft)	6066.46	5892.38
Weir Submerg		Froude # Chl	0.13	0.14
Weir Max Depth (ft)		Specif Force (cu ft)	28022.57	28342.88
Min El Weir Flow (ft)	586.81	Hydr Depth (ft)	5.63	5.83
Min El Prs (ft)	582.85	W.P. Total (ft)	1265.83	1195.80
Delta EG (ft)	0.13	Conv. Total (cfs)	295848.4	292373.8
Delta WS (ft)	0.09	Top Width (ft)	1235.92	1120.45
BR Open Area (sq ft)	785.22	Frctn Loss (ft)	0.03	0.00
BR Open Vel (ft/s)	5.84	C & E Loss (ft)	0.00	0.02
BR Sluice Coef		Shear Total (lb/sq ft)	0.77	0.81
BR Sel Method	Energy only	Power Total (lb/ft s)	1.89	2.05

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	585.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.16	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.67	Flow Area (sq ft)		353.21	2.28
E.G. Slope (ft/ft)	0.002792	Area (sq ft)		353.21	2.28
Q Total (cfs)	2524.00	Flow (cfs)		2523.68	0.32
Top Width (ft)	80.32	Top Width (ft)		56.45	23.87
Vel Total (ft/s)	7.10	Avg. Vel. (ft/s)		7.14	0.14
Max Chl Dpth (ft)	7.40	Hydr. Depth (ft)		6.26	0.10
Conv. Total (cfs)	47769.3	Conv. (cfs)		47763.3	6.0
Length Wtd. (ft)	1190.99	Wetted Per. (ft)		62.14	24.11
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.99	0.02
Alpha	1.01	Stream Power (lb/ft s)		7.08	0.00
Frctn Loss (ft)	2.04	Cum Volume (acre-ft)		28.18	0.48
C & E Loss (ft)	0.12	Cum SA (acres)		4.37	1.89

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.18	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.97	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.20	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)		472.69	300.36
E.G. Slope (ft/ft)	0.002771	Area (sq ft)		472.69	300.36
Q Total (cfs)	4024.00	Flow (cfs)		3833.09	190.91
Top Width (ft)	390.84	Top Width (ft)		61.11	329.73
Vel Total (ft/s)	5.21	Avg. Vel. (ft/s)		8.11	0.64
Max Chl Dpth (ft)	9.44	Hydr. Depth (ft)		7.74	0.91
Conv. Total (cfs)	76447.1	Conv. (cfs)		72820.2	3626.9
Length Wtd. (ft)	1190.14	Wetted Per. (ft)		68.38	333.07
Min Ch El (ft)	577.76	Shear (lb/sq ft)		1.20	0.16
Alpha	2.31	Stream Power (lb/ft s)		9.70	0.10
Frctn Loss (ft)	1.77	Cum Volume (acre-ft)		39.93	27.46
C & E Loss (ft)	0.19	Cum SA (acres)		4.94	24.21

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.56	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.54	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	136.33	629.45	1613.54
E.G. Slope (ft/ft)	0.002990	Area (sq ft)	136.33	629.45	1613.54
Q Total (cfs)	7740.00	Flow (cfs)	82.32	5847.75	1809.94
Top Width (ft)	1021.83	Top Width (ft)	186.48	70.80	764.55
Vel Total (ft/s)	3.25	Avg. Vel. (ft/s)	0.60	9.29	1.12
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	0.73	8.89	2.11
Conv. Total (cfs)	141557.7	Conv. (cfs)	1505.5	106950.1	33102.1
Length Wtd. (ft)	1187.82	Wetted Per. (ft)	186.68	78.62	777.61
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.49	0.39
Alpha	6.19	Stream Power (lb/ft s)	0.08	13.88	0.43
Frctn Loss (ft)	1.30	Cum Volume (acre-ft)	4.57	58.65	159.12
C & E Loss (ft)	0.25	Cum SA (acres)	4.96	5.80	59.54

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.14	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	479.09	743.03	2896.77
E.G. Slope (ft/ft)	0.002229	Area (sq ft)	479.09	743.03	2896.77
Q Total (cfs)	11040.00	Flow (cfs)	471.49	6657.49	3911.01
Top Width (ft)	1097.97	Top Width (ft)	219.00	70.80	808.17
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)	0.98	8.96	1.35
Max Chl Dpth (ft)	13.38	Hydr. Depth (ft)	2.19	10.49	3.58
Conv. Total (cfs)	233838.4	Conv. (cfs)	9986.7	141012.5	82839.2
Length Wtd. (ft)	1186.79	Wetted Per. (ft)	219.34	78.62	827.78
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.32	0.49
Alpha	6.83	Stream Power (lb/ft s)	0.30	11.78	0.66
Frctn Loss (ft)	1.02	Cum Volume (acre-ft)	16.86	71.00	281.39
C & E Loss (ft)	0.19	Cum SA (acres)	6.68	5.98	63.12

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.66	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.84	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	633.04	792.17	3459.18
E.G. Slope (ft/ft)	0.001917	Area (sq ft)	633.04	792.17	3459.18
Q Total (cfs)	12400.00	Flow (cfs)	687.09	6869.42	4843.49
Top Width (ft)	1116.10	Top Width (ft)	233.20	70.80	812.10
Vel Total (ft/s)	2.54	Avg. Vel. (ft/s)	1.09	8.67	1.40
Max Chl Dpth (ft)	14.08	Hydr. Depth (ft)	2.71	11.19	4.26
Conv. Total (cfs)	283216.2	Conv. (cfs)	15693.2	156897.7	110625.3
Length Wtd. (ft)	1186.48	Wetted Per. (ft)	233.61	78.62	834.56
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.32	1.21	0.50
Alpha	6.59	Stream Power (lb/ft s)	0.35	10.46	0.69
Frctn Loss (ft)	0.90	Cum Volume (acre-ft)	23.21	75.86	331.59
C & E Loss (ft)	0.16	Cum SA (acres)	9.29	6.05	64.04

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.70	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.52	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.18	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	989.71	887.41	4555.23
E.G. Slope (ft/ft)	0.001462	Area (sq ft)	989.71	887.41	4555.23
Q Total (cfs)	14980.00	Flow (cfs)	1099.83	7249.66	6630.52
Top Width (ft)	1206.03	Top Width (ft)	317.89	70.80	817.34
Vel Total (ft/s)	2.33	Avg. Vel. (ft/s)	1.11	8.17	1.46
Max Chl Dpth (ft)	15.42	Hydr. Depth (ft)	3.11	12.53	5.57
Conv. Total (cfs)	391731.1	Conv. (cfs)	28760.7	189580.5	173389.8
Length Wtd. (ft)	1186.04	Wetted Per. (ft)	318.52	78.62	845.34
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.28	1.03	0.49
Alpha	6.14	Stream Power (lb/ft s)	0.32	8.42	0.72
Frctn Loss (ft)	0.71	Cum Volume (acre-ft)	40.03	84.86	427.21
C & E Loss (ft)	0.13	Cum SA (acres)	12.92	6.12	66.12

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	583.79	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.39	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		494.44	19.38
E.G. Slope (ft/ft)	0.001158	Area (sq ft)		494.44	19.38
Q Total (cfs)	2524.00	Flow (cfs)		2520.54	3.46
Top Width (ft)	149.71	Top Width (ft)		69.58	80.14
Vel Total (ft/s)	4.91	Avg. Vel. (ft/s)		5.10	0.18
Max Chl Dpth (ft)	8.75	Hydr. Depth (ft)		7.11	0.24
Conv. Total (cfs)	74156.6	Conv. (cfs)		74055.0	101.6
Length Wtd. (ft)	789.29	Wetted Per. (ft)		74.62	80.16
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.48	0.02
Alpha	1.08	Stream Power (lb/ft s)		2.44	0.00
Frctn Loss (ft)	1.98	Cum Volume (acre-ft)		16.59	0.18
C & E Loss (ft)	0.15	Cum SA (acres)		2.65	0.48

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	586.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.87	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		678.50	1183.27
E.G. Slope (ft/ft)	0.000929	Area (sq ft)		678.50	1183.27
Q Total (cfs)	4024.00	Flow (cfs)		3460.48	563.52
Top Width (ft)	1030.22	Top Width (ft)		80.57	949.65
Vel Total (ft/s)	2.16	Avg. Vel. (ft/s)		5.10	0.48
Max Chl Dpth (ft)	11.23	Hydr. Depth (ft)		8.42	1.25
Conv. Total (cfs)	132001.5	Conv. (cfs)		113516.1	18485.3
Length Wtd. (ft)	767.50	Wetted Per. (ft)		86.73	950.05
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.45	0.07
Alpha	4.80	Stream Power (lb/ft s)		2.31	0.03
Frctn Loss (ft)	1.35	Cum Volume (acre-ft)		24.20	7.33
C & E Loss (ft)	0.12	Cum SA (acres)		3.00	6.85

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.83	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		942.00	5212.99
E.G. Slope (ft/ft)	0.000559	Area (sq ft)		942.00	5212.99
Q Total (cfs)	7740.00	Flow (cfs)		4194.30	3545.70
Top Width (ft)	1717.04	Top Width (ft)		93.86	1623.18
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)		4.45	0.68
Max Chl Dpth (ft)	14.19	Hydr. Depth (ft)		10.04	3.21
Conv. Total (cfs)	327222.8	Conv. (cfs)		177322.0	149900.9
Length Wtd. (ft)	687.25	Wetted Per. (ft)		100.90	1629.84
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.33	0.11
Alpha	6.93	Stream Power (lb/ft s)		1.45	0.08
Frctn Loss (ft)	0.73	Cum Volume (acre-ft)	2.71	37.16	66.52
C & E Loss (ft)	0.10	Cum SA (acres)	2.41	3.55	27.15

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.56	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1106.63	8083.13
E.G. Slope (ft/ft)	0.000453	Area (sq ft)		1106.63	8083.13
Q Total (cfs)	11040.00	Flow (cfs)		4825.82	6214.18
Top Width (ft)	1779.87	Top Width (ft)		96.80	1683.07
Vel Total (ft/s)	1.20	Avg. Vel. (ft/s)		4.36	0.77
Max Chl Dpth (ft)	15.92	Hydr. Depth (ft)		11.43	4.80
Conv. Total (cfs)	518952.4	Conv. (cfs)		226845.4	292107.0
Length Wtd. (ft)	633.36	Wetted Per. (ft)		104.30	1693.30
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.30	0.13
Alpha	5.99	Stream Power (lb/ft s)		1.31	0.10
Frctn Loss (ft)	0.46	Cum Volume (acre-ft)	10.31	45.71	132.45
C & E Loss (ft)	0.03	Cum SA (acres)	3.69	3.69	29.32

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.32	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1180.42	9361.33
E.G. Slope (ft/ft)	0.000401	Area (sq ft)		1180.42	9361.33
Q Total (cfs)	12400.00	Flow (cfs)		5014.90	7385.10
Top Width (ft)	1790.62	Top Width (ft)		98.05	1692.58
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		4.25	0.79
Max Chl Dpth (ft)	16.68	Hydr. Depth (ft)		12.04	5.53
Conv. Total (cfs)	618864.4	Conv. (cfs)		250285.6	368578.8
Length Wtd. (ft)	621.63	Wetted Per. (ft)		105.76	1704.35
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.28	0.14
Alpha	5.54	Stream Power (lb/ft s)		1.19	0.11
Frctn Loss (ft)	0.39	Cum Volume (acre-ft)	14.55	48.90	157.68
C & E Loss (ft)	0.03	Cum SA (acres)	6.10	3.74	30.06

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.76	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.08	1323.56	11834.79
E.G. Slope (ft/ft)	0.000326	Area (sq ft)	0.08	1323.56	11834.79
Q Total (cfs)	14980.00	Flow (cfs)	0.00	5391.78	9588.21
Top Width (ft)	1830.21	Top Width (ft)	0.52	99.90	1729.80
Vel Total (ft/s)	1.14	Avg. Vel. (ft/s)	0.06	4.07	0.81
Max Chl Dpth (ft)	18.12	Hydr. Depth (ft)	0.16	13.25	6.84
Conv. Total (cfs)	830202.0	Conv. (cfs)	0.3	298816.3	531385.5
Length Wtd. (ft)	607.65	Wetted Per. (ft)	0.61	107.93	1744.52
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.25	0.14
Alpha	4.93	Stream Power (lb/ft s)	0.00	1.02	0.11
Frctn Loss (ft)	0.30	Cum Volume (acre-ft)	26.50	54.63	204.88
C & E Loss (ft)	0.02	Cum SA (acres)	8.56	3.78	31.57

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	581.66	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.91	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.76	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		227.96	
E.G. Slope (ft/ft)	0.008977	Area (sq ft)		227.96	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	46.64	Top Width (ft)		46.64	
Vel Total (ft/s)	11.07	Avg. Vel. (ft/s)		11.07	
Max Chl Dpth (ft)	6.22	Hydr. Depth (ft)		4.89	
Conv. Total (cfs)	26640.0	Conv. (cfs)		26640.0	
Length Wtd. (ft)	295.10	Wetted Per. (ft)		49.92	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.56	
Alpha	1.00	Stream Power (lb/ft s)		28.34	
Frctn Loss (ft)	0.56	Cum Volume (acre-ft)		10.04	0.08
C & E Loss (ft)	0.48	Cum SA (acres)		1.59	0.04

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	584.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.53	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.21	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		404.79	14.67
E.G. Slope (ft/ft)	0.004563	Area (sq ft)		404.79	14.67
Q Total (cfs)	4024.00	Flow (cfs)		4019.66	4.34
Top Width (ft)	131.75	Top Width (ft)		57.29	74.46
Vel Total (ft/s)	9.59	Avg. Vel. (ft/s)		9.93	0.30
Max Chl Dpth (ft)	9.67	Hydr. Depth (ft)		7.07	0.20
Conv. Total (cfs)	59571.7	Conv. (cfs)		59507.4	64.3
Length Wtd. (ft)	295.42	Wetted Per. (ft)		62.82	74.51
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.84	0.06
Alpha	1.07	Stream Power (lb/ft s)		18.23	0.02
Frctn Loss (ft)	0.42	Cum Volume (acre-ft)		14.38	0.76
C & E Loss (ft)	0.35	Cum SA (acres)		1.75	1.24

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.17	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.04	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		653.49	1544.03
E.G. Slope (ft/ft)	0.002796	Area (sq ft)		653.49	1544.03
Q Total (cfs)	7740.00	Flow (cfs)		6209.37	1530.63
Top Width (ft)	1001.65	Top Width (ft)		68.23	933.42
Vel Total (ft/s)	3.52	Avg. Vel. (ft/s)		9.50	0.99
Max Chl Dpth (ft)	13.50	Hydr. Depth (ft)		9.58	1.65
Conv. Total (cfs)	146387.8	Conv. (cfs)		117438.8	28949.0
Length Wtd. (ft)	307.66	Wetted Per. (ft)		75.04	942.12
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.52	0.29
Alpha	5.85	Stream Power (lb/ft s)		14.44	0.28
Frctn Loss (ft)	0.44	Cum Volume (acre-ft)	2.71	22.70	29.47
C & E Loss (ft)	0.18	Cum SA (acres)	2.41	2.08	13.13

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.72	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	1.88	845.73	4067.15
E.G. Slope (ft/ft)	0.001351	Area (sq ft)	1.88	845.73	4067.15
Q Total (cfs)	11040.00	Flow (cfs)	0.20	6196.93	4842.87
Top Width (ft)	1043.32	Top Width (ft)	19.46	75.90	947.96
Vel Total (ft/s)	2.25	Avg. Vel. (ft/s)	0.11	7.33	1.19
Max Chl Dpth (ft)	16.18	Hydr. Depth (ft)	0.10	11.14	4.29
Conv. Total (cfs)	300376.2	Conv. (cfs)	5.5	168605.9	131764.8
Length Wtd. (ft)	321.25	Wetted Per. (ft)	19.47	83.11	973.05
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.86	0.35
Alpha	6.10	Stream Power (lb/ft s)	0.00	6.29	0.42
Frctn Loss (ft)	0.29	Cum Volume (acre-ft)	10.29	28.02	65.83
C & E Loss (ft)	0.01	Cum SA (acres)	3.49	2.12	14.90

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.61	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	61.68	913.13	4911.64
E.G. Slope (ft/ft)	0.001120	Area (sq ft)	77.59	913.13	4911.64
Q Total (cfs)	12400.00	Flow (cfs)	17.95	6411.42	5970.63
Top Width (ft)	1221.42	Top Width (ft)	190.57	75.90	954.95
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)	0.29	7.02	1.22
Max Chl Dpth (ft)	17.07	Hydr. Depth (ft)	0.44	12.03	5.14
Conv. Total (cfs)	370551.5	Conv. (cfs)	536.5	191593.6	178421.4
Length Wtd. (ft)	323.45	Wetted Per. (ft)	139.95	83.11	985.43
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.77	0.35
Alpha	5.90	Stream Power (lb/ft s)	0.01	5.39	0.42
Frctn Loss (ft)	0.26	Cum Volume (acre-ft)	13.79	29.93	79.42
C & E Loss (ft)	0.00	Cum SA (acres)	4.24	2.17	15.55

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.54	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.33	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.21	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	320.22	1034.39	6480.44
E.G. Slope (ft/ft)	0.000850	Area (sq ft)	552.11	1034.39	6480.44
Q Total (cfs)	14980.00	Flow (cfs)	180.99	6876.72	7922.30
Top Width (ft)	1439.52	Top Width (ft)	360.16	75.90	1003.46
Vel Total (ft/s)	1.91	Avg. Vel. (ft/s)	0.57	6.65	1.22
Max Chl Dpth (ft)	18.67	Hydr. Depth (ft)	1.96	13.63	6.46
Conv. Total (cfs)	513762.4	Conv. (cfs)	6207.2	235847.7	271707.5
Length Wtd. (ft)	324.47	Wetted Per. (ft)	163.49	83.11	1043.56
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.66	0.33
Alpha	5.77	Stream Power (lb/ft s)	0.06	4.39	0.40
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	21.09	33.26	104.45
C & E Loss (ft)	0.00	Cum SA (acres)	5.03	2.19	16.58

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	580.62	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.31	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	575.10	Flow Area (sq ft)		569.72	
E.G. Slope (ft/ft)	0.000800	Area (sq ft)		569.72	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	74.60	Top Width (ft)		74.60	
Vel Total (ft/s)	4.43	Avg. Vel. (ft/s)		4.43	
Max Chl Dpth (ft)	10.67	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	89245.2	Conv. (cfs)		89245.2	
Length Wtd. (ft)	6.00	Wetted Per. (ft)		80.38	
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.57	
Frctn Loss (ft)	0.00	Cum Volume (acre-ft)		7.34	0.08
C & E Loss (ft)	0.00	Cum SA (acres)		1.18	0.04

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	583.97	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.61	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	576.62	Flow Area (sq ft)		828.74	80.11
E.G. Slope (ft/ft)	0.000686	Area (sq ft)		828.74	80.11
Q Total (cfs)	4024.00	Flow (cfs)		3998.75	25.25
Top Width (ft)	166.23	Top Width (ft)		82.73	83.50
Vel Total (ft/s)	4.43	Avg. Vel. (ft/s)		4.83	0.32
Max Chl Dpth (ft)	13.97	Hydr. Depth (ft)		10.02	0.96
Conv. Total (cfs)	153631.7	Conv. (cfs)		152667.6	964.1
Length Wtd. (ft)	6.00	Wetted Per. (ft)		91.69	83.61
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.39	0.04
Alpha	1.18	Stream Power (lb/ft s)		1.87	0.01
Frctn Loss (ft)		Cum Volume (acre-ft)		10.20	0.35
C & E Loss (ft)		Cum SA (acres)		1.28	0.54

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.02	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	579.48	Flow Area (sq ft)	58.49	1131.26	1296.97
E.G. Slope (ft/ft)	0.000869	Area (sq ft)	58.49	1131.26	1296.97
Q Total (cfs)	7740.00	Flow (cfs)	13.27	6984.35	742.38
Top Width (ft)	889.49	Top Width (ft)	119.28	93.01	677.20
Vel Total (ft/s)	3.11	Avg. Vel. (ft/s)	0.23	6.17	0.57
Max Chl Dpth (ft)	17.38	Hydr. Depth (ft)	0.49	12.16	1.92
Conv. Total (cfs)	262632.8	Conv. (cfs)	450.3	236992.1	25190.4
Length Wtd. (ft)	6.00	Wetted Per. (ft)	119.30	103.20	679.91
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.03	0.59	0.10
Alpha	3.55	Stream Power (lb/ft s)	0.01	3.67	0.06
Frctn Loss (ft)		Cum Volume (acre-ft)	2.64	16.66	17.02
C & E Loss (ft)		Cum SA (acres)	2.28	1.53	6.07

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	589.89	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.44	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.46	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	581.57	Flow Area (sq ft)	520.89	1358.02	2994.32
E.G. Slope (ft/ft)	0.000664	Area (sq ft)	526.06	1358.02	2994.32
Q Total (cfs)	11040.00	Flow (cfs)	286.64	8279.67	2473.69
Top Width (ft)	1056.65	Top Width (ft)	249.94	93.01	713.70
Vel Total (ft/s)	2.27	Avg. Vel. (ft/s)	0.55	6.10	0.83
Max Chl Dpth (ft)	19.82	Hydr. Depth (ft)	2.27	14.60	4.20
Conv. Total (cfs)	428478.2	Conv. (cfs)	11124.8	321345.8	96007.6
Length Wtd. (ft)	6.00	Wetted Per. (ft)	229.96	103.20	721.47
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.09	0.55	0.17
Alpha	5.46	Stream Power (lb/ft s)	0.05	3.32	0.14
Frctn Loss (ft)		Cum Volume (acre-ft)	9.71	20.56	34.88
C & E Loss (ft)		Cum SA (acres)	3.20	1.55	7.61

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.35	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	582.35	Flow Area (sq ft)	742.39	1441.54	3637.17
E.G. Slope (ft/ft)	0.000602	Area (sq ft)	786.30	1441.54	3637.17
Q Total (cfs)	12400.00	Flow (cfs)	459.34	8706.49	3234.17
Top Width (ft)	1155.06	Top Width (ft)	343.67	93.01	718.38
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	0.62	6.04	0.89
Max Chl Dpth (ft)	20.71	Hydr. Depth (ft)	2.91	15.50	5.06
Conv. Total (cfs)	505533.3	Conv. (cfs)	18726.8	354953.2	131853.3
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	728.03
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.11	0.52	0.19
Alpha	5.69	Stream Power (lb/ft s)	0.07	3.17	0.17
Frctn Loss (ft)		Cum Volume (acre-ft)	12.84	21.95	41.95
C & E Loss (ft)		Cum SA (acres)	3.65	1.60	8.21

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.32	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.98	Reach Len. (ft)	6.00	6.00	6.00
Crit W.S. (ft)	584.19	Flow Area (sq ft)	1156.01	1592.25	4809.63
E.G. Slope (ft/ft)	0.000507	Area (sq ft)	1408.18	1592.25	4809.63
Q Total (cfs)	14980.00	Flow (cfs)	882.02	9432.13	4665.86
Top Width (ft)	1233.39	Top Width (ft)	411.38	93.01	729.00
Vel Total (ft/s)	1.98	Avg. Vel. (ft/s)	0.76	5.92	0.97
Max Chl Dpth (ft)	22.33	Hydr. Depth (ft)	4.53	17.12	6.60
Conv. Total (cfs)	665349.2	Conv. (cfs)	39175.5	418935.8	207237.9
Length Wtd. (ft)	6.00	Wetted Per. (ft)	255.33	103.20	742.01
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.14	0.49	0.21
Alpha	5.71	Stream Power (lb/ft s)	0.11	2.89	0.20
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	18.93	24.37	54.98
C & E Loss (ft)	0.06	Cum SA (acres)	4.18	1.62	8.99

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.60	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.30	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.67	Flow Area (sq ft)		582.54	
E.G. Slope (ft/ft)	0.000827	Area (sq ft)		582.54	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	81.27	Top Width (ft)		81.27	
Vel Total (ft/s)	4.33	Avg. Vel. (ft/s)		4.33	
Max Chl Dpth (ft)	10.12	Hydr. Depth (ft)		7.17	
Conv. Total (cfs)	87756.6	Conv. (cfs)		87756.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		87.15	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.35	
Alpha	1.00	Stream Power (lb/ft s)		1.50	
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		7.05	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.14	0.04

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.70	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	577.01	Flow Area (sq ft)		785.33	41.44
E.G. Slope (ft/ft)	0.000877	Area (sq ft)		785.33	41.44
Q Total (cfs)	4024.00	Flow (cfs)		4015.05	8.95
Top Width (ft)	183.16	Top Width (ft)		88.47	94.69
Vel Total (ft/s)	4.87	Avg. Vel. (ft/s)		5.11	0.22
Max Chl Dpth (ft)	12.51	Hydr. Depth (ft)		8.88	0.44
Conv. Total (cfs)	135845.6	Conv. (cfs)		135543.6	302.0
Length Wtd. (ft)	126.22	Wetted Per. (ft)		95.81	94.80
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.45	0.02
Alpha	1.10	Stream Power (lb/ft s)		2.30	0.01
Frctn Loss (ft)	0.16	Cum Volume (acre-ft)		9.80	0.34
C & E Loss (ft)	0.10	Cum SA (acres)		1.25	0.53

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.06	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.64	Flow Area (sq ft)	55.60	1197.93	1779.79
E.G. Slope (ft/ft)	0.000663	Area (sq ft)	79.98	1197.93	1779.79
Q Total (cfs)	7740.00	Flow (cfs)	10.95	6559.58	1169.46
Top Width (ft)	878.09	Top Width (ft)	151.28	97.77	629.04
Vel Total (ft/s)	2.55	Avg. Vel. (ft/s)	0.20	5.48	0.66
Max Chl Dpth (ft)	16.88	Hydr. Depth (ft)	0.42	12.25	2.83
Conv. Total (cfs)	300520.7	Conv. (cfs)	425.3	254688.8	45406.6
Length Wtd. (ft)	134.79	Wetted Per. (ft)	131.01	106.89	630.02
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.46	0.12
Alpha	3.91	Stream Power (lb/ft s)	0.00	2.54	0.08
Frctn Loss (ft)	0.13	Cum Volume (acre-ft)	2.63	16.20	16.49
C & E Loss (ft)	0.07	Cum SA (acres)	2.24	1.52	5.80

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.54	Flow Area (sq ft)	558.45	1437.35	3373.49
E.G. Slope (ft/ft)	0.000524	Area (sq ft)	639.77	1437.35	3373.49
Q Total (cfs)	11040.00	Flow (cfs)	303.61	7896.79	2839.60
Top Width (ft)	989.21	Top Width (ft)	233.77	97.77	657.67
Vel Total (ft/s)	2.06	Avg. Vel. (ft/s)	0.54	5.49	0.84
Max Chl Dpth (ft)	19.32	Hydr. Depth (ft)	2.66	14.70	5.13
Conv. Total (cfs)	482407.9	Conv. (cfs)	13266.7	345060.9	124080.2
Length Wtd. (ft)	137.38	Wetted Per. (ft)	210.15	106.89	658.97
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.09	0.44	0.17
Alpha	5.15	Stream Power (lb/ft s)	0.05	2.42	0.14
Frctn Loss (ft)	0.10	Cum Volume (acre-ft)	9.50	20.07	33.61
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.54	7.26

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	582.43	Flow Area (sq ft)	744.43	1523.94	3959.43
E.G. Slope (ft/ft)	0.000486	Area (sq ft)	866.26	1523.94	3959.43
Q Total (cfs)	12400.00	Flow (cfs)	472.05	8382.81	3545.14
Top Width (ft)	1069.46	Top Width (ft)	296.65	97.77	675.04
Vel Total (ft/s)	1.99	Avg. Vel. (ft/s)	0.63	5.50	0.90
Max Chl Dpth (ft)	20.21	Hydr. Depth (ft)	3.55	15.59	5.87
Conv. Total (cfs)	562692.5	Conv. (cfs)	21420.9	380398.7	160872.9
Length Wtd. (ft)	137.55	Wetted Per. (ft)	210.15	106.89	676.41
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.11	0.43	0.18
Alpha	5.22	Stream Power (lb/ft s)	0.07	2.38	0.16
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	12.52	21.43	40.36
C & E Loss (ft)	0.04	Cum SA (acres)	3.48	1.55	7.86

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.31	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.88	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	585.01	Flow Area (sq ft)	1056.59	1669.28	4990.37
E.G. Slope (ft/ft)	0.000446	Area (sq ft)	1322.20	1669.28	4990.37
Q Total (cfs)	14980.00	Flow (cfs)	810.99	9351.54	4817.47
Top Width (ft)	1117.25	Top Width (ft)	317.28	97.77	702.20
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.77	5.60	0.97
Max Chl Dpth (ft)	21.70	Hydr. Depth (ft)	5.03	17.07	7.11
Conv. Total (cfs)	709252.4	Conv. (cfs)	38397.7	442763.8	228090.8
Length Wtd. (ft)	137.47	Wetted Per. (ft)	210.15	106.89	703.71
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.14	0.43	0.20
Alpha	5.29	Stream Power (lb/ft s)	0.11	2.44	0.19
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	18.32	23.77	52.79
C & E Loss (ft)	0.04	Cum SA (acres)	3.99	1.57	8.62

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.37	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

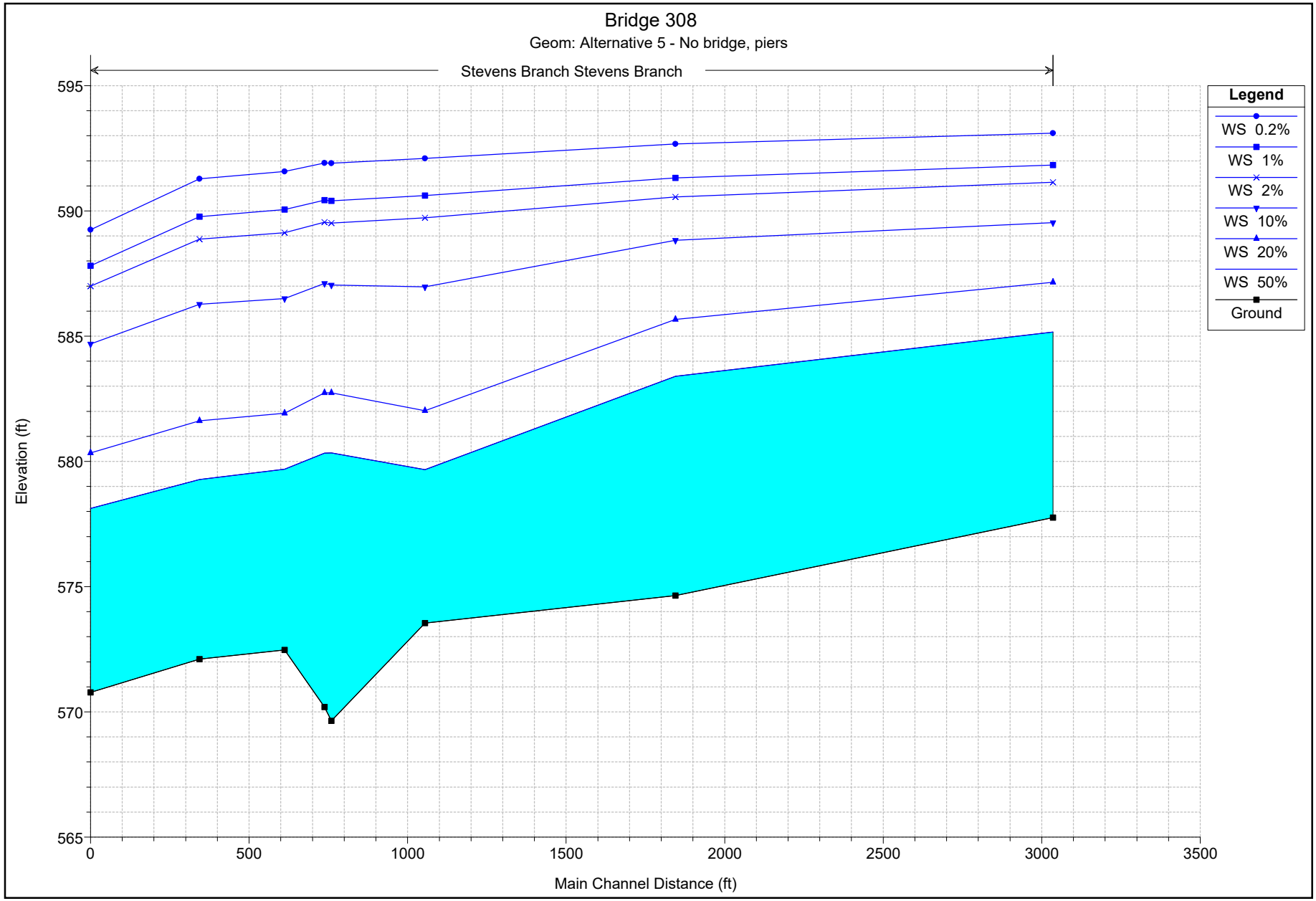
Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 1501 Profile: 1%

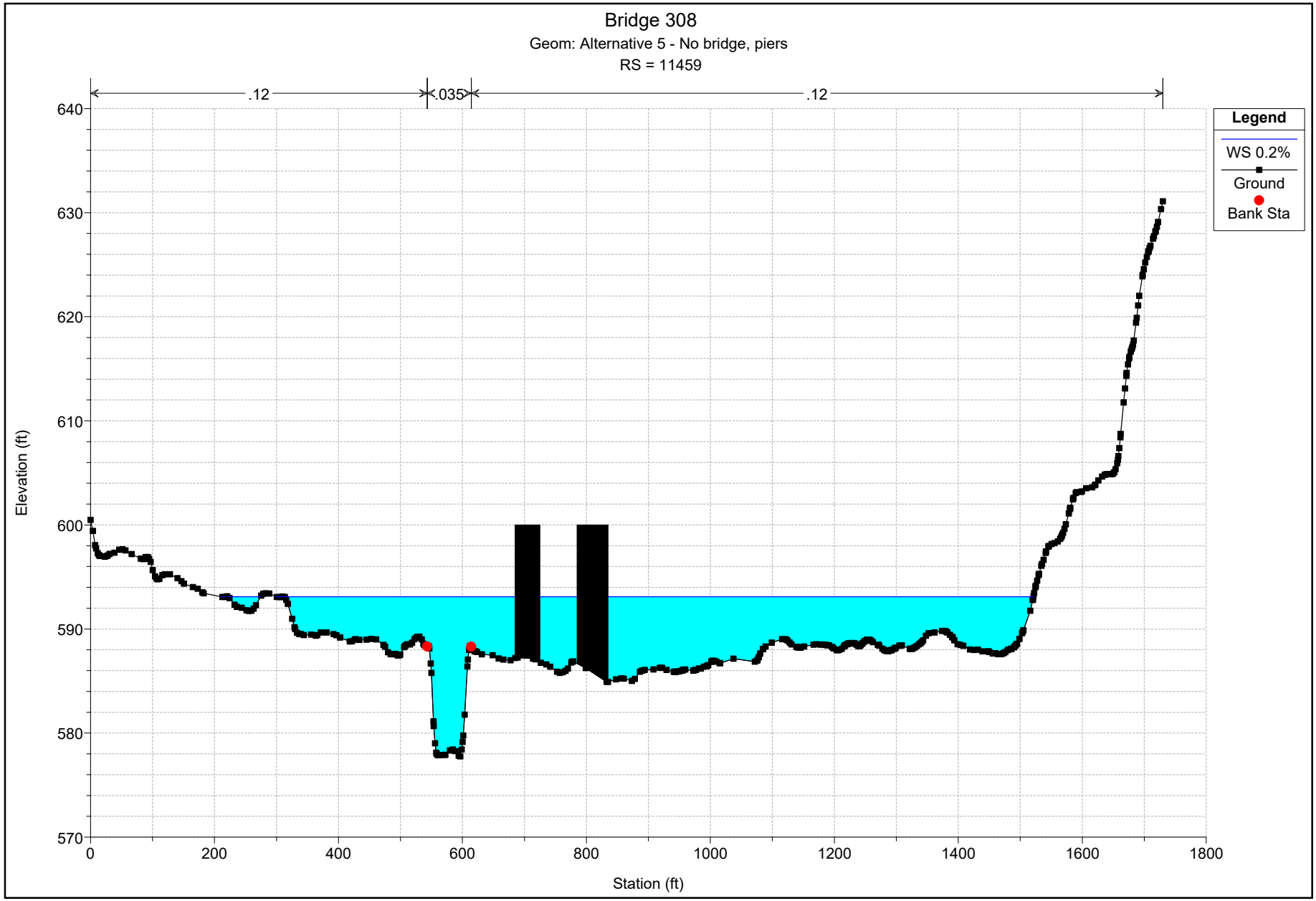
E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

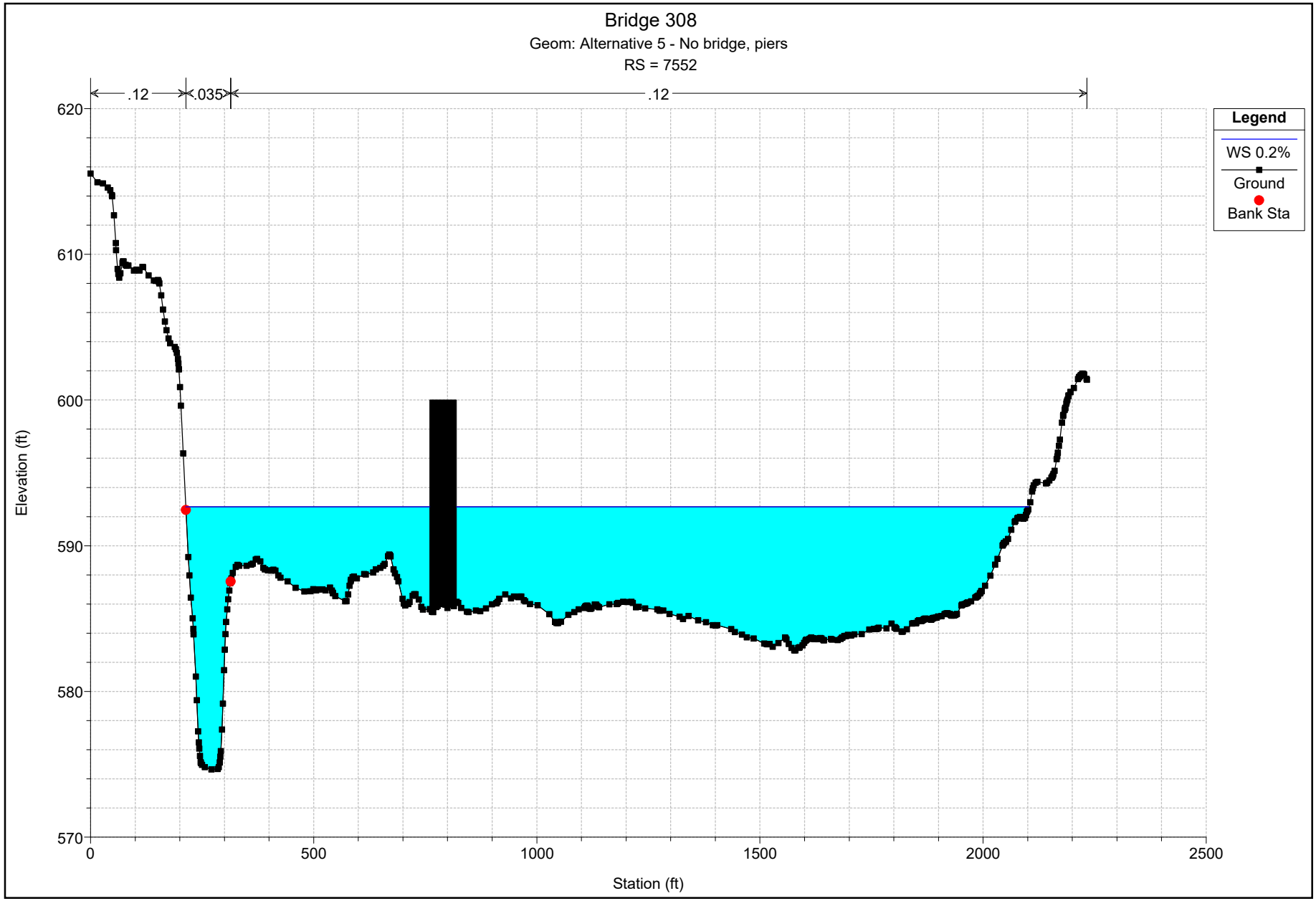
Plan: Alt 4 New 1 Span Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

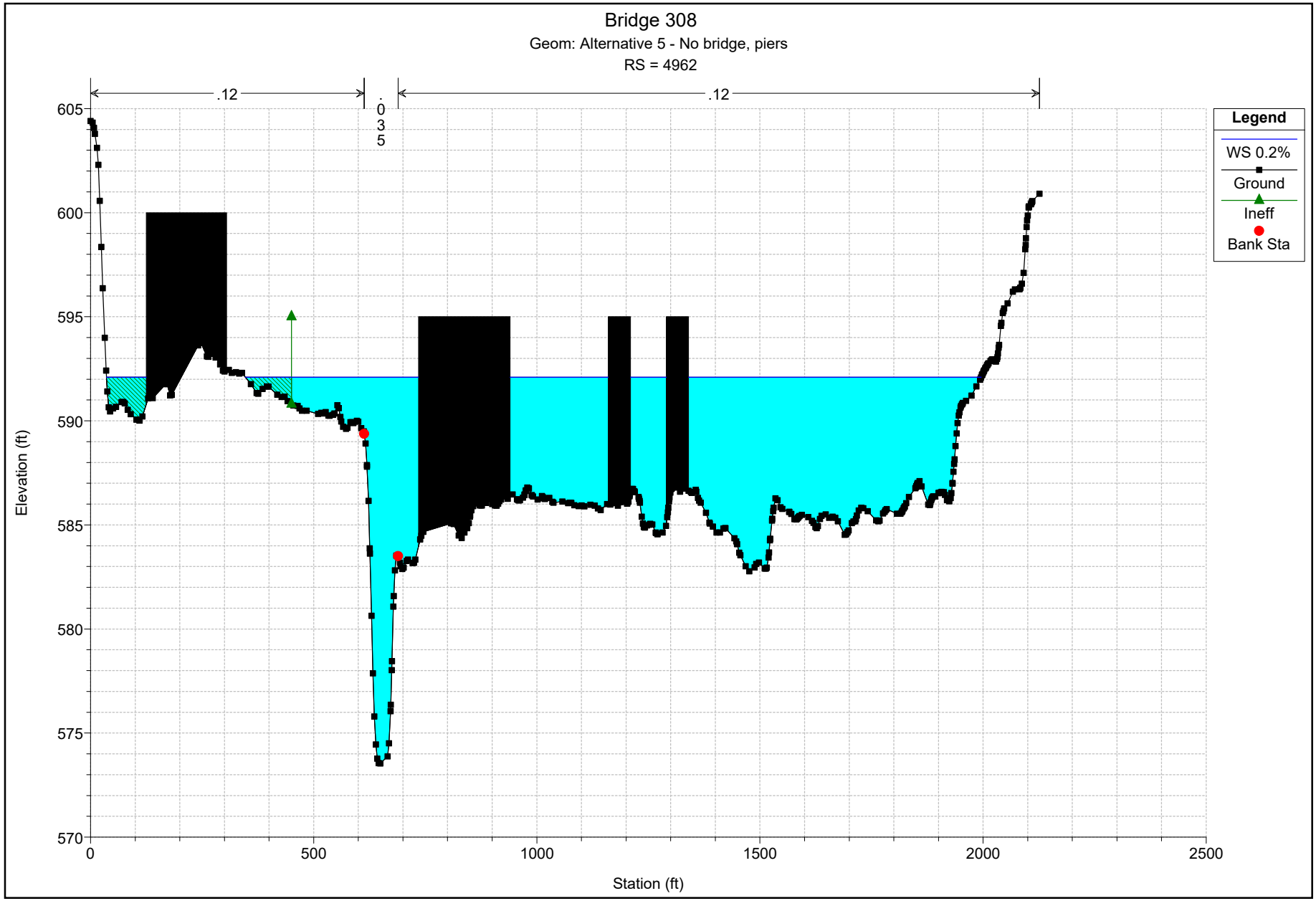
E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

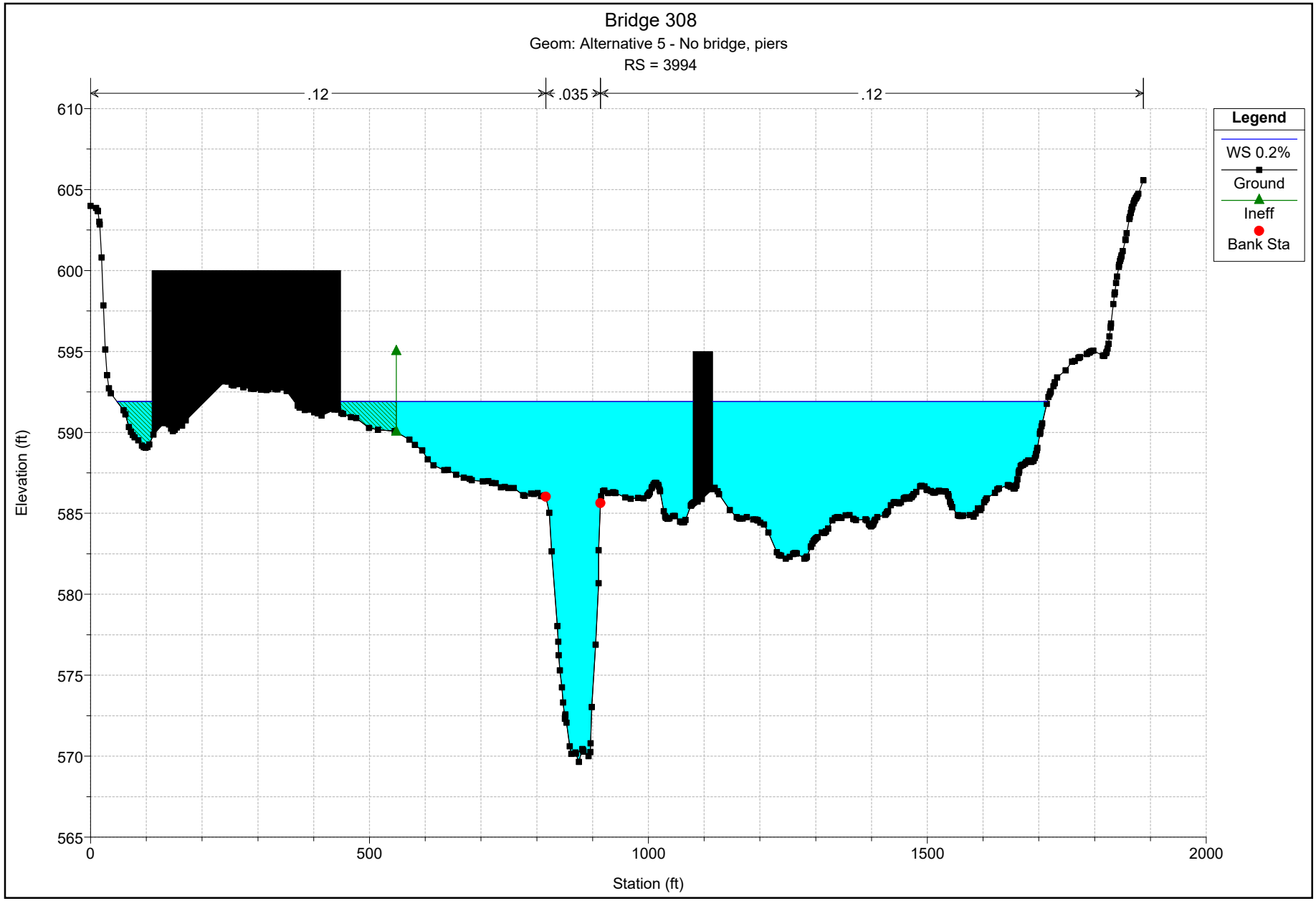
HEC-RAS Results for Alternative 5

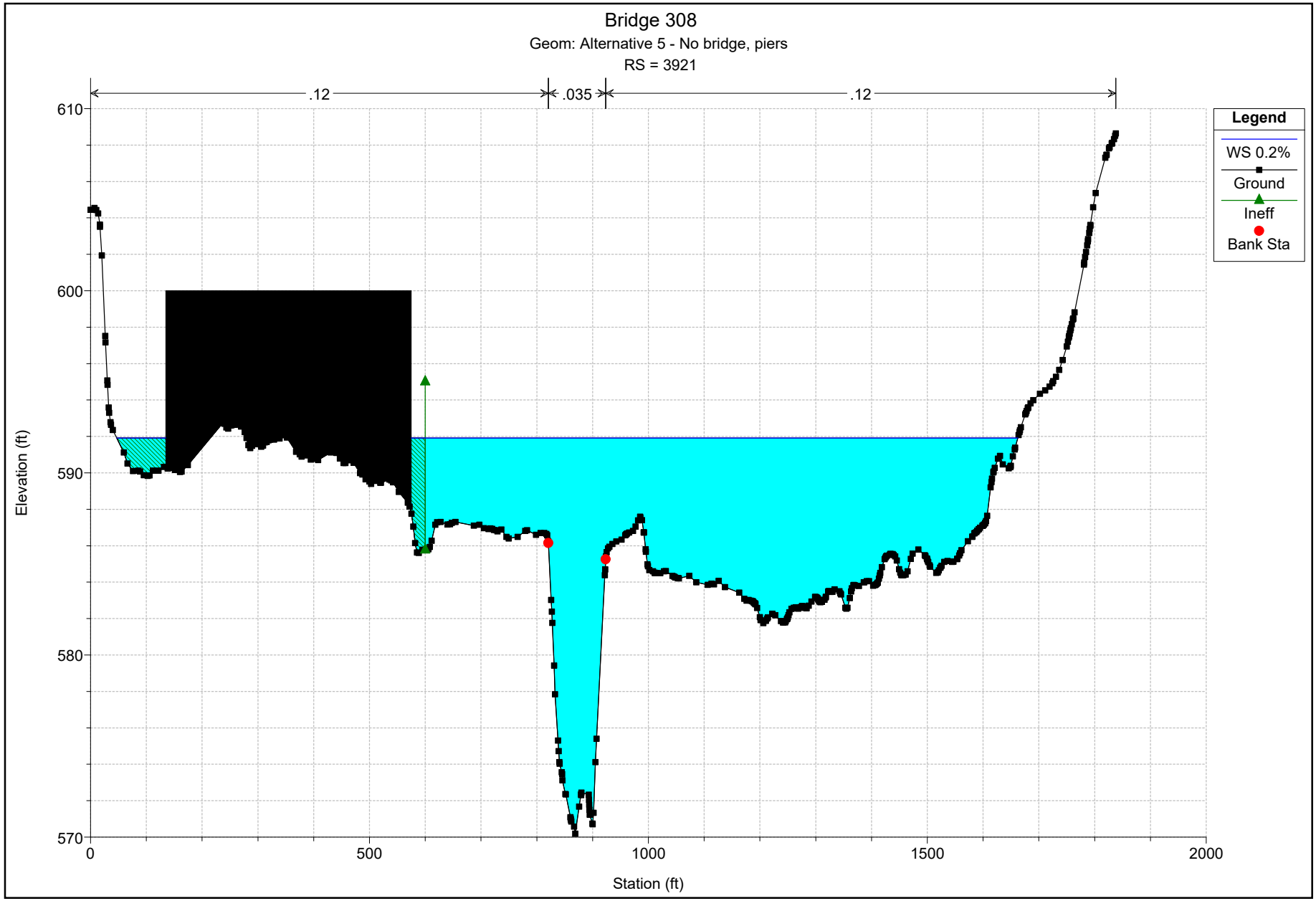

Bridge 308
Geom: Alternative 5 - No bridge, piers
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

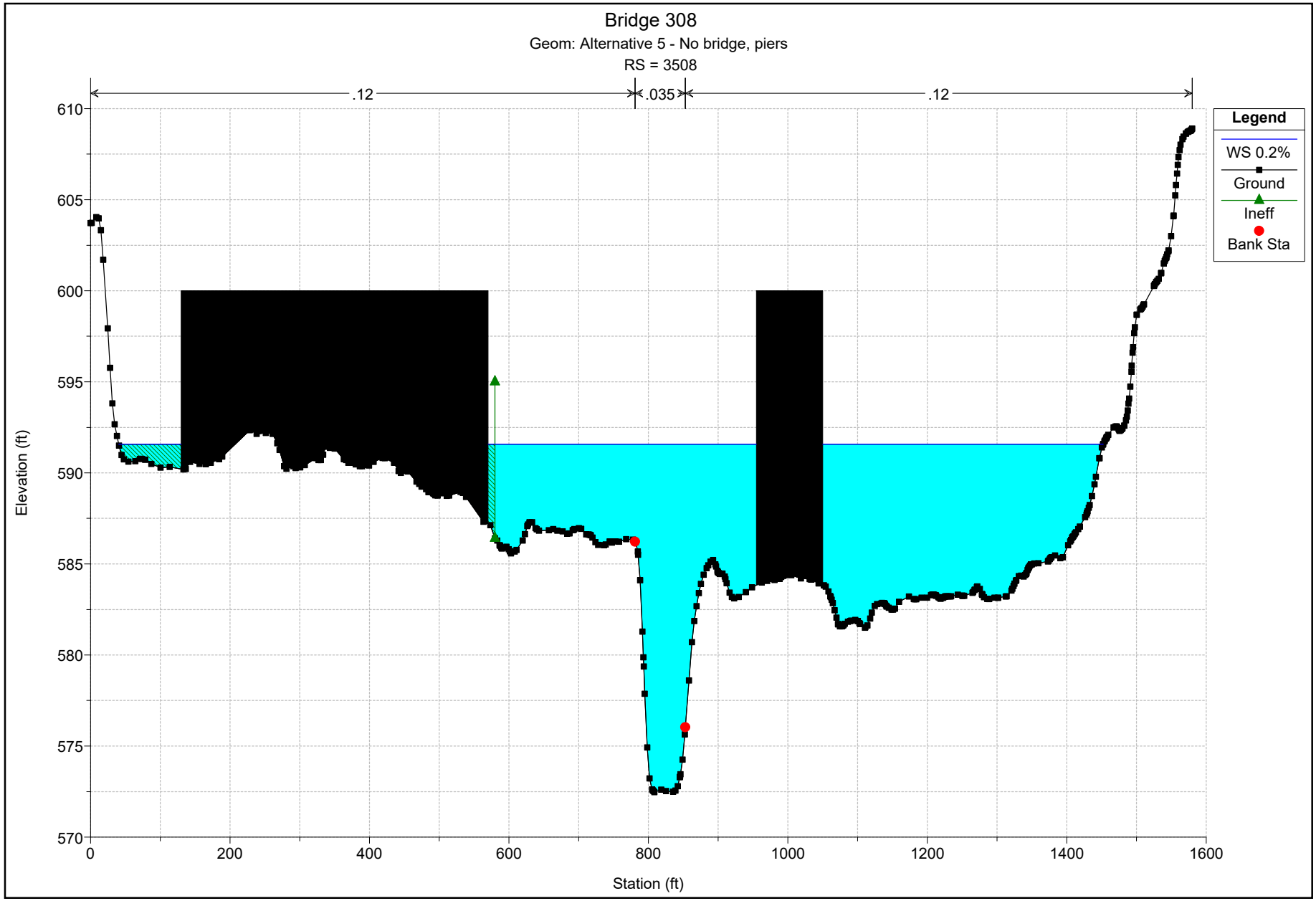

Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 11459
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

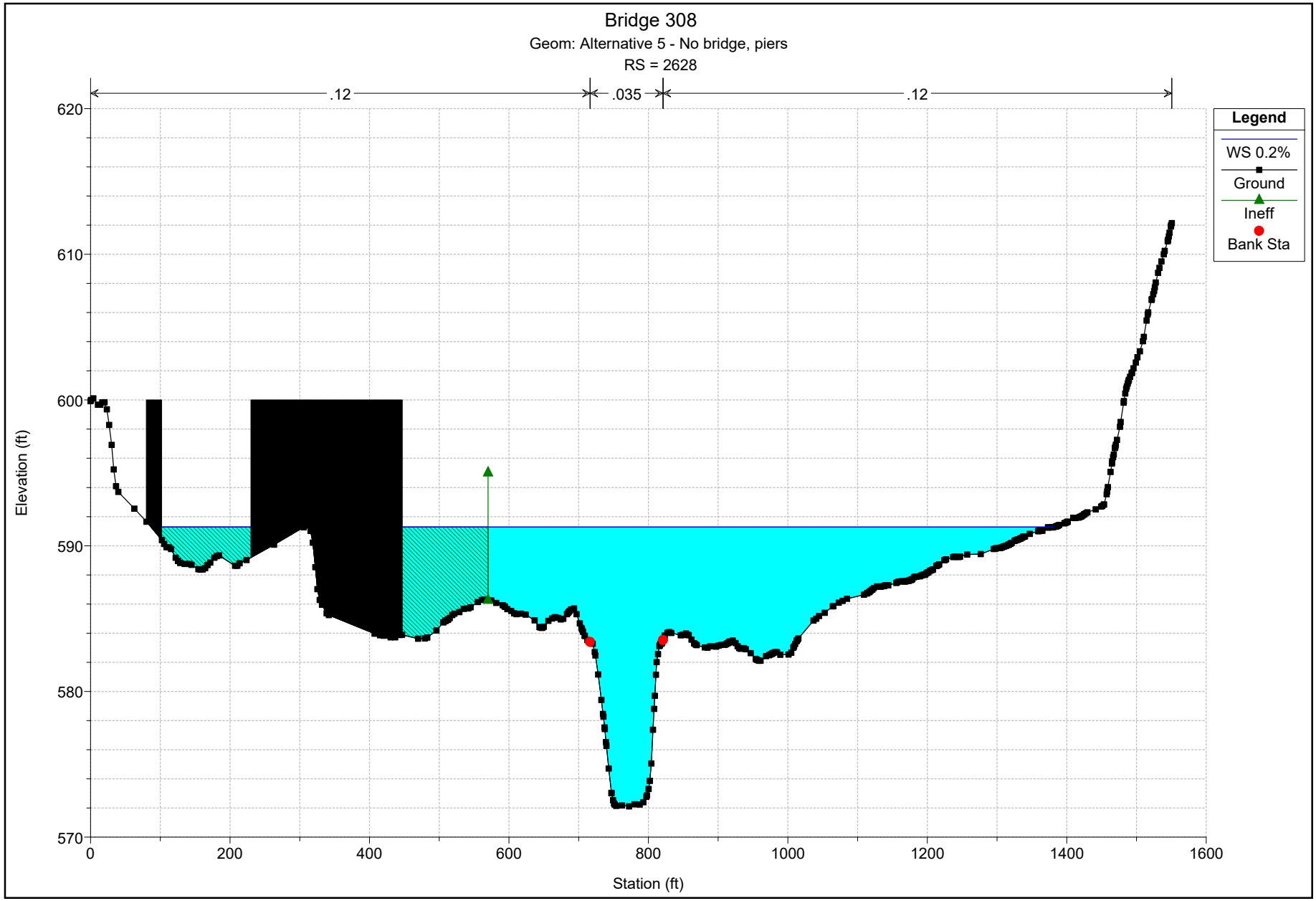

Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 7552
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
620
610
600
590
580
570
Elevation (ft)
0
500
1000
1500
2000
2500
Station (ft)

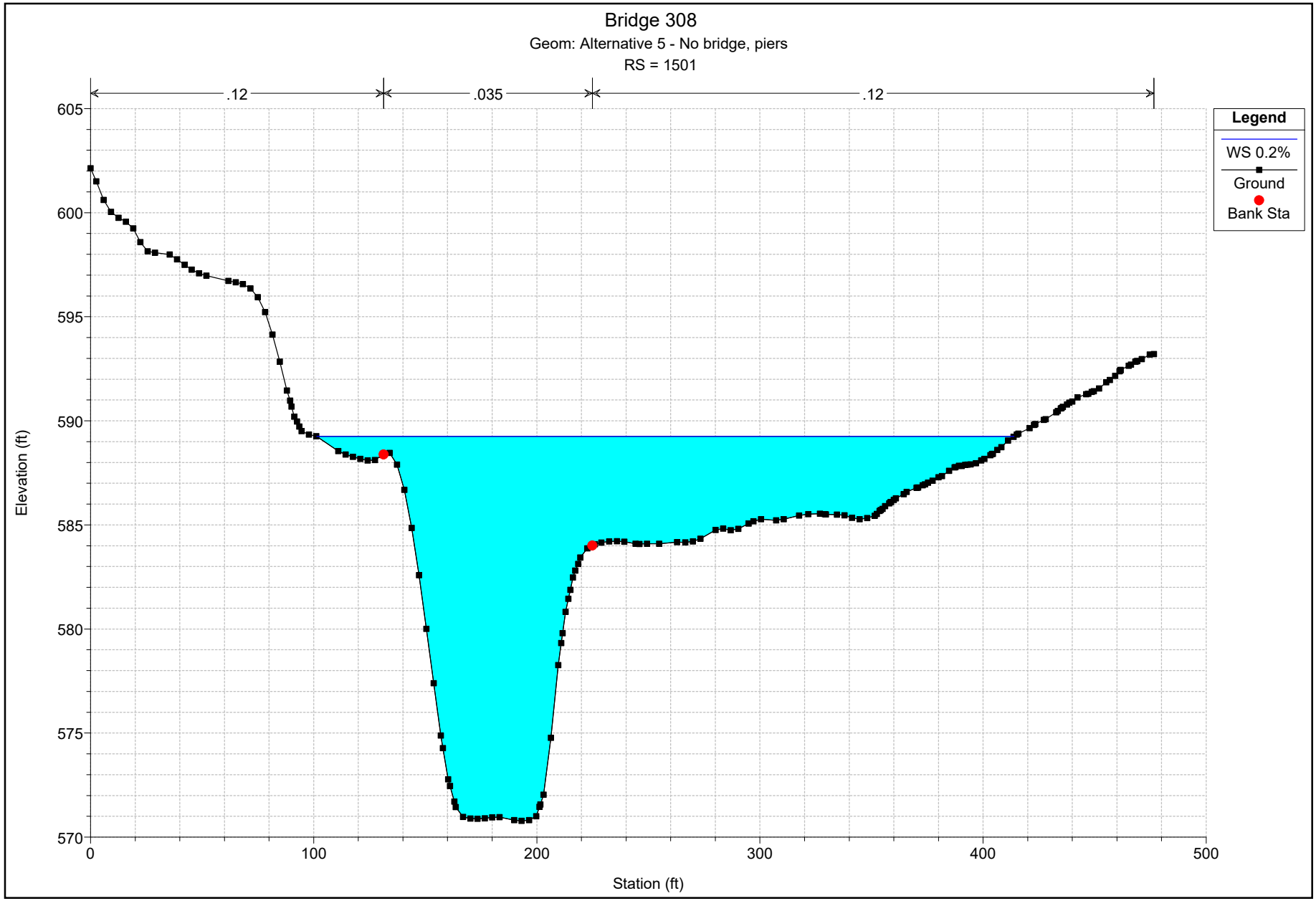

Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 4962
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)


Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 3994
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 3921
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
610
600
590
580
570
Elevation (ft)
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 3508
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 2628
.12
.035
.12
Legend
WS 0.2%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)


Bridge 308
Geom: Alternative 5 - No bridge, piers
RS = 1501
.12
.035
.12
Legend
WS 0.2%
Ground
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500
Station (ft)

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	585.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.16	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.67	Flow Area (sq ft)		353.44	2.37
E.G. Slope (ft/ft)	0.002787	Area (sq ft)		353.44	2.37
Q Total (cfs)	2524.00	Flow (cfs)		2523.67	0.33
Top Width (ft)	80.84	Top Width (ft)		56.46	24.38
Vel Total (ft/s)	7.09	Avg. Vel. (ft/s)		7.14	0.14
Max Chl Dpth (ft)	7.40	Hydr. Depth (ft)		6.26	0.10
Conv. Total (cfs)	47814.1	Conv. (cfs)		47807.7	6.3
Length Wtd. (ft)	1190.99	Wetted Per. (ft)		62.15	24.63
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.99	0.02
Alpha	1.01	Stream Power (lb/ft s)		7.06	0.00
Frctn Loss (ft)	2.03	Cum Volume (acre-ft)		28.31	0.50
C & E Loss (ft)	0.12	Cum SA (acres)		4.39	1.93

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.00	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.16	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)		469.88	285.27
E.G. Slope (ft/ft)	0.002834	Area (sq ft)		469.88	285.27
Q Total (cfs)	4024.00	Flow (cfs)		3845.71	178.29
Top Width (ft)	386.36	Top Width (ft)		60.94	325.41
Vel Total (ft/s)	5.33	Avg. Vel. (ft/s)		8.18	0.62
Max Chl Dpth (ft)	9.40	Hydr. Depth (ft)		7.71	0.88
Conv. Total (cfs)	75582.7	Conv. (cfs)		72233.8	3348.8
Length Wtd. (ft)	1190.24	Wetted Per. (ft)		68.19	328.61
Min Ch El (ft)	577.76	Shear (lb/sq ft)		1.22	0.15
Alpha	2.26	Stream Power (lb/ft s)		9.98	0.10
Frctn Loss (ft)	1.91	Cum Volume (acre-ft)		38.69	23.47
C & E Loss (ft)	0.18	Cum SA (acres)		4.88	21.36

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.54	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	136.11	629.36	1612.65
E.G. Slope (ft/ft)	0.002992	Area (sq ft)	136.11	629.36	1612.65
Q Total (cfs)	7740.00	Flow (cfs)	82.19	5848.73	1809.09
Top Width (ft)	1021.63	Top Width (ft)	186.33	70.80	764.50
Vel Total (ft/s)	3.25	Avg. Vel. (ft/s)	0.60	9.29	1.12
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	0.73	8.89	2.11
Conv. Total (cfs)	141503.1	Conv. (cfs)	1502.6	106926.8	33073.8
Length Wtd. (ft)	1187.82	Wetted Per. (ft)	186.53	78.62	777.55
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.50	0.39
Alpha	6.19	Stream Power (lb/ft s)	0.08	13.90	0.43
Frctn Loss (ft)	1.30	Cum Volume (acre-ft)	4.63	59.05	160.05
C & E Loss (ft)	0.25	Cum SA (acres)	5.06	5.86	60.14

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.14	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	478.99	743.00	2896.43
E.G. Slope (ft/ft)	0.002230	Area (sq ft)	478.99	743.00	2896.43
Q Total (cfs)	11040.00	Flow (cfs)	471.40	6657.86	3910.74
Top Width (ft)	1097.96	Top Width (ft)	219.00	70.80	808.16
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)	0.98	8.96	1.35
Max Chl Dpth (ft)	13.38	Hydr. Depth (ft)	2.19	10.49	3.58
Conv. Total (cfs)	233809.6	Conv. (cfs)	9983.5	141002.9	82823.2
Length Wtd. (ft)	1186.79	Wetted Per. (ft)	219.34	78.62	827.78
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.32	0.49
Alpha	6.83	Stream Power (lb/ft s)	0.30	11.79	0.66
Frctn Loss (ft)	1.02	Cum Volume (acre-ft)	17.23	71.64	284.72
C & E Loss (ft)	0.19	Cum SA (acres)	6.82	6.04	63.72

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.66	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.84	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	633.00	792.16	3459.03
E.G. Slope (ft/ft)	0.001917	Area (sq ft)	633.00	792.16	3459.03
Q Total (cfs)	12400.00	Flow (cfs)	687.05	6869.57	4843.38
Top Width (ft)	1116.09	Top Width (ft)	233.19	70.80	812.10
Vel Total (ft/s)	2.54	Avg. Vel. (ft/s)	1.09	8.67	1.40
Max Chl Dpth (ft)	14.08	Hydr. Depth (ft)	2.71	11.19	4.26
Conv. Total (cfs)	283202.5	Conv. (cfs)	15691.6	156893.4	110617.5
Length Wtd. (ft)	1186.48	Wetted Per. (ft)	233.60	78.62	834.56
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.32	1.21	0.50
Alpha	6.59	Stream Power (lb/ft s)	0.35	10.46	0.69
Frctn Loss (ft)	0.90	Cum Volume (acre-ft)	23.71	76.53	335.45
C & E Loss (ft)	0.16	Cum SA (acres)	9.44	6.08	64.66

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.11	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	966.98	882.25	4495.68
E.G. Slope (ft/ft)	0.001503	Area (sq ft)	966.98	882.25	4495.68
Q Total (cfs)	14980.00	Flow (cfs)	1120.48	7279.52	6580.00
Top Width (ft)	1192.05	Top Width (ft)	304.17	70.80	817.08
Vel Total (ft/s)	2.36	Avg. Vel. (ft/s)	1.16	8.25	1.46
Max Chl Dpth (ft)	15.35	Hydr. Depth (ft)	3.18	12.46	5.50
Conv. Total (cfs)	386351.0	Conv. (cfs)	28898.3	187747.0	169705.7
Length Wtd. (ft)	1186.07	Wetted Per. (ft)	304.79	78.62	844.78
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.05	0.50
Alpha	6.12	Stream Power (lb/ft s)	0.35	8.69	0.73
Frctn Loss (ft)	0.74	Cum Volume (acre-ft)	39.93	85.14	426.66
C & E Loss (ft)	0.13	Cum SA (acres)	12.84	6.14	66.70

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	583.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.40	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		495.26	20.34
E.G. Slope (ft/ft)	0.001153	Area (sq ft)		495.26	20.34
Q Total (cfs)	2524.00	Flow (cfs)		2520.33	3.67
Top Width (ft)	151.46	Top Width (ft)		69.61	81.85
Vel Total (ft/s)	4.90	Avg. Vel. (ft/s)		5.09	0.18
Max Chl Dpth (ft)	8.76	Hydr. Depth (ft)		7.11	0.25
Conv. Total (cfs)	74340.5	Conv. (cfs)		74232.4	108.1
Length Wtd. (ft)	789.27	Wetted Per. (ft)		74.66	81.88
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.48	0.02
Alpha	1.08	Stream Power (lb/ft s)		2.43	0.00
Frctn Loss (ft)	2.00	Cum Volume (acre-ft)		16.71	0.19
C & E Loss (ft)	0.16	Cum SA (acres)		2.67	0.49

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	586.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.67	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		662.61	1003.88
E.G. Slope (ft/ft)	0.001033	Area (sq ft)		662.61	1003.88
Q Total (cfs)	4024.00	Flow (cfs)		3541.08	482.92
Top Width (ft)	922.64	Top Width (ft)		79.36	843.27
Vel Total (ft/s)	2.41	Avg. Vel. (ft/s)		5.34	0.48
Max Chl Dpth (ft)	11.03	Hydr. Depth (ft)		8.35	1.19
Conv. Total (cfs)	125229.9	Conv. (cfs)		110200.9	15029.0
Length Wtd. (ft)	770.79	Wetted Per. (ft)		85.46	843.44
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.50	0.08
Alpha	4.32	Stream Power (lb/ft s)		2.67	0.04
Frctn Loss (ft)	1.68	Cum Volume (acre-ft)		23.21	5.98
C & E Loss (ft)	0.18	Cum SA (acres)		2.96	5.51

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.83	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		941.76	5208.93
E.G. Slope (ft/ft)	0.000560	Area (sq ft)		941.76	5208.93
Q Total (cfs)	7740.00	Flow (cfs)		4195.81	3544.19
Top Width (ft)	1716.85	Top Width (ft)		93.86	1622.99
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)		4.46	0.68
Max Chl Dpth (ft)	14.19	Hydr. Depth (ft)		10.03	3.21
Conv. Total (cfs)	326981.3	Conv. (cfs)		177254.6	149726.7
Length Wtd. (ft)	688.68	Wetted Per. (ft)		100.89	1629.64
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.33	0.11
Alpha	6.93	Stream Power (lb/ft s)		1.45	0.08
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	2.77	37.57	67.51
C & E Loss (ft)	0.10	Cum SA (acres)	2.51	3.61	27.75

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.56	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1106.57	8082.10
E.G. Slope (ft/ft)	0.000453	Area (sq ft)		1106.57	8082.10
Q Total (cfs)	11040.00	Flow (cfs)		4826.15	6213.85
Top Width (ft)	1779.86	Top Width (ft)		96.80	1683.06
Vel Total (ft/s)	1.20	Avg. Vel. (ft/s)		4.36	0.77
Max Chl Dpth (ft)	15.92	Hydr. Depth (ft)		11.43	4.80
Conv. Total (cfs)	518875.3	Conv. (cfs)		226826.9	292048.4
Length Wtd. (ft)	633.37	Wetted Per. (ft)		104.30	1693.29
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.30	0.13
Alpha	5.99	Stream Power (lb/ft s)		1.31	0.10
Frctn Loss (ft)	0.46	Cum Volume (acre-ft)	10.68	46.35	135.80
C & E Loss (ft)	0.03	Cum SA (acres)	3.83	3.75	29.92

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.32	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1180.39	9360.91
E.G. Slope (ft/ft)	0.000402	Area (sq ft)		1180.39	9360.91
Q Total (cfs)	12400.00	Flow (cfs)		5015.02	7384.99
Top Width (ft)	1790.62	Top Width (ft)		98.05	1692.57
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		4.25	0.79
Max Chl Dpth (ft)	16.68	Hydr. Depth (ft)		12.04	5.53
Conv. Total (cfs)	618830.9	Conv. (cfs)		250277.9	368553.0
Length Wtd. (ft)	621.63	Wetted Per. (ft)		105.76	1704.35
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.28	0.14
Alpha	5.54	Stream Power (lb/ft s)		1.19	0.11
Frctn Loss (ft)	0.39	Cum Volume (acre-ft)	15.05	49.57	161.55
C & E Loss (ft)	0.03	Cum SA (acres)	6.25	3.77	30.68

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.67	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.04	1314.54	11678.58
E.G. Slope (ft/ft)	0.000337	Area (sq ft)	0.04	1314.54	11678.58
Q Total (cfs)	14980.00	Flow (cfs)	0.00	5426.33	9553.67
Top Width (ft)	1829.20	Top Width (ft)	0.37	99.90	1728.93
Vel Total (ft/s)	1.15	Avg. Vel. (ft/s)	0.05	4.13	0.82
Max Chl Dpth (ft)	18.03	Hydr. Depth (ft)	0.11	13.16	6.75
Conv. Total (cfs)	815563.9	Conv. (cfs)	0.1	295428.4	520135.4
Length Wtd. (ft)	608.43	Wetted Per. (ft)	0.43	107.93	1743.47
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.26	0.14
Alpha	4.96	Stream Power (lb/ft s)	0.00	1.06	0.12
Frctn Loss (ft)	0.31	Cum Volume (acre-ft)	26.71	55.11	207.25
C & E Loss (ft)	0.02	Cum SA (acres)	8.67	3.81	32.16

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	581.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.98	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.67	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		223.74	
E.G. Slope (ft/ft)	0.009481	Area (sq ft)		223.74	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	46.42	Top Width (ft)		46.42	
Vel Total (ft/s)	11.28	Avg. Vel. (ft/s)		11.28	
Max Chl Dpth (ft)	6.13	Hydr. Depth (ft)		4.82	
Conv. Total (cfs)	25921.8	Conv. (cfs)		25921.8	
Length Wtd. (ft)	295.10	Wetted Per. (ft)		49.63	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.67	
Alpha	1.00	Stream Power (lb/ft s)		30.10	
Frctn Loss (ft)	0.52	Cum Volume (acre-ft)		10.20	0.08
C & E Loss (ft)	0.51	Cum SA (acres)		1.61	0.04

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	584.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.18	Wt. n-Val.		0.035	
W.S. Elev (ft)	582.02	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		339.90	
E.G. Slope (ft/ft)	0.007264	Area (sq ft)		339.90	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	52.59	Top Width (ft)		52.59	
Vel Total (ft/s)	11.84	Avg. Vel. (ft/s)		11.84	
Max Chl Dpth (ft)	8.48	Hydr. Depth (ft)		6.46	
Conv. Total (cfs)	47214.5	Conv. (cfs)		47214.5	
Length Wtd. (ft)	295.14	Wetted Per. (ft)		57.43	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.68	
Alpha	1.00	Stream Power (lb/ft s)		31.77	
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		14.13	0.47
C & E Loss (ft)	0.53	Cum SA (acres)		1.77	0.89

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.19	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.97	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		648.15	1471.11
E.G. Slope (ft/ft)	0.002929	Area (sq ft)		648.15	1471.11
Q Total (cfs)	7740.00	Flow (cfs)		6278.94	1461.06
Top Width (ft)	997.57	Top Width (ft)		68.07	929.49
Vel Total (ft/s)	3.65	Avg. Vel. (ft/s)		9.69	0.99
Max Chl Dpth (ft)	13.43	Hydr. Depth (ft)		9.52	1.58
Conv. Total (cfs)	143019.1	Conv. (cfs)		116021.7	26997.4
Length Wtd. (ft)	307.31	Wetted Per. (ft)		74.86	937.71
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.58	0.29
Alpha	5.72	Stream Power (lb/ft s)		15.34	0.28
Frctn Loss (ft)	0.41	Cum Volume (acre-ft)	2.77	23.16	30.89
C & E Loss (ft)	0.21	Cum SA (acres)	2.51	2.14	13.76

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.72	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	1.86	845.66	4066.29
E.G. Slope (ft/ft)	0.001351	Area (sq ft)	1.86	845.66	4066.29
Q Total (cfs)	11040.00	Flow (cfs)	0.20	6197.49	4842.31
Top Width (ft)	1043.25	Top Width (ft)	19.40	75.90	947.96
Vel Total (ft/s)	2.25	Avg. Vel. (ft/s)	0.11	7.33	1.19
Max Chl Dpth (ft)	16.18	Hydr. Depth (ft)	0.10	11.14	4.29
Conv. Total (cfs)	300307.5	Conv. (cfs)	5.5	168582.8	131719.3
Length Wtd. (ft)	321.26	Wetted Per. (ft)	19.41	83.11	973.04
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.86	0.35
Alpha	6.10	Stream Power (lb/ft s)	0.00	6.29	0.42
Frctn Loss (ft)	0.27	Cum Volume (acre-ft)	10.66	28.66	69.19
C & E Loss (ft)	0.03	Cum SA (acres)	3.64	2.19	15.50

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.61	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	61.62	913.10	4911.23
E.G. Slope (ft/ft)	0.001120	Area (sq ft)	77.51	913.10	4911.23
Q Total (cfs)	12400.00	Flow (cfs)	17.93	6411.65	5970.41
Top Width (ft)	1221.33	Top Width (ft)	190.48	75.90	954.94
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)	0.29	7.02	1.22
Max Chl Dpth (ft)	17.07	Hydr. Depth (ft)	0.44	12.03	5.14
Conv. Total (cfs)	370516.0	Conv. (cfs)	535.9	191582.3	178397.8
Length Wtd. (ft)	323.43	Wetted Per. (ft)	139.92	83.11	985.42
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.77	0.35
Alpha	5.90	Stream Power (lb/ft s)	0.01	5.39	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	14.29	30.60	83.29
C & E Loss (ft)	0.01	Cum SA (acres)	4.38	2.19	16.16

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.09	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	301.54	1025.72	6365.83
E.G. Slope (ft/ft)	0.000889	Area (sq ft)	511.19	1025.72	6365.83
Q Total (cfs)	14980.00	Flow (cfs)	167.43	6934.06	7878.51
Top Width (ft)	1432.98	Top Width (ft)	355.64	75.90	1001.44
Vel Total (ft/s)	1.95	Avg. Vel. (ft/s)	0.56	6.76	1.24
Max Chl Dpth (ft)	18.55	Hydr. Depth (ft)	1.85	13.51	6.36
Conv. Total (cfs)	502410.8	Conv. (cfs)	5615.6	232559.7	264235.6
Length Wtd. (ft)	324.42	Wetted Per. (ft)	163.49	83.11	1040.85
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.68	0.34
Alpha	5.79	Stream Power (lb/ft s)	0.06	4.63	0.42
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	21.70	33.90	108.31
C & E Loss (ft)	0.01	Cum SA (acres)	5.19	2.22	17.19

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	580.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.27	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	574.96	Flow Area (sq ft)		600.80	
E.G. Slope (ft/ft)	0.000711	Area (sq ft)		600.80	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	78.52	Top Width (ft)		78.52	
Vel Total (ft/s)	4.20	Avg. Vel. (ft/s)		4.20	
Max Chl Dpth (ft)	10.70	Hydr. Depth (ft)		7.65	
Conv. Total (cfs)	94625.7	Conv. (cfs)		94625.7	
Length Wtd. (ft)	22.30	Wetted Per. (ft)		84.08	
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		1.33	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		7.40	0.08
C & E Loss (ft)	0.00	Cum SA (acres)		1.19	0.04

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	583.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.74	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	576.43	Flow Area (sq ft)		796.51	21.13
E.G. Slope (ft/ft)	0.000800	Area (sq ft)		796.51	21.13
Q Total (cfs)	4024.00	Flow (cfs)		4020.33	3.67
Top Width (ft)	144.77	Top Width (ft)		84.34	60.43
Vel Total (ft/s)	4.92	Avg. Vel. (ft/s)		5.05	0.17
Max Chl Dpth (ft)	13.09	Hydr. Depth (ft)		9.44	0.35
Conv. Total (cfs)	142234.6	Conv. (cfs)		142104.8	129.8
Length Wtd. (ft)	22.34	Wetted Per. (ft)		92.46	60.47
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.43	0.02
Alpha	1.05	Stream Power (lb/ft s)		2.17	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		10.28	0.38
C & E Loss (ft)	0.01	Cum SA (acres)		1.30	0.62

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.05	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	579.25	Flow Area (sq ft)	64.96	1192.11	1382.88
E.G. Slope (ft/ft)	0.000769	Area (sq ft)	64.96	1192.11	1382.88
Q Total (cfs)	7740.00	Flow (cfs)	13.90	6974.57	751.53
Top Width (ft)	942.04	Top Width (ft)	132.05	97.80	712.20
Vel Total (ft/s)	2.93	Avg. Vel. (ft/s)	0.21	5.85	0.54
Max Chl Dpth (ft)	17.40	Hydr. Depth (ft)	0.49	12.19	1.94
Conv. Total (cfs)	279037.7	Conv. (cfs)	501.2	251442.8	27093.7
Length Wtd. (ft)	24.97	Wetted Per. (ft)	132.07	107.65	714.93
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.02	0.53	0.09
Alpha	3.59	Stream Power (lb/ft s)	0.01	3.11	0.05
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.69	16.93	18.38
C & E Loss (ft)	0.05	Cum SA (acres)	2.37	1.58	6.56

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	589.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	581.27	Flow Area (sq ft)	560.86	1433.21	3189.15
E.G. Slope (ft/ft)	0.000583	Area (sq ft)	567.48	1433.21	3189.15
Q Total (cfs)	11040.00	Flow (cfs)	292.67	8256.20	2491.13
Top Width (ft)	1114.71	Top Width (ft)	266.19	97.80	750.71
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	0.52	5.76	0.78
Max Chl Dpth (ft)	19.87	Hydr. Depth (ft)	2.30	14.65	4.25
Conv. Total (cfs)	457038.2	Conv. (cfs)	12115.9	341793.5	103128.8
Length Wtd. (ft)	27.81	Wetted Per. (ft)	243.40	107.65	758.55
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.08	0.48	0.15
Alpha	5.50	Stream Power (lb/ft s)	0.04	2.79	0.12
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	10.04	20.94	37.39
C & E Loss (ft)	0.03	Cum SA (acres)	3.32	1.60	8.05

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	581.98	Flow Area (sq ft)	793.48	1520.41	3860.64
E.G. Slope (ft/ft)	0.000531	Area (sq ft)	844.17	1520.41	3860.64
Q Total (cfs)	12400.00	Flow (cfs)	466.20	8688.91	3244.89
Top Width (ft)	1217.03	Top Width (ft)	363.59	97.80	755.64
Vel Total (ft/s)	2.01	Avg. Vel. (ft/s)	0.59	5.71	0.84
Max Chl Dpth (ft)	20.76	Hydr. Depth (ft)	2.96	15.55	5.11
Conv. Total (cfs)	538237.1	Conv. (cfs)	20235.8	377152.9	140848.4
Length Wtd. (ft)	28.65	Wetted Per. (ft)	268.46	107.65	765.34
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.10	0.47	0.17
Alpha	5.72	Stream Power (lb/ft s)	0.06	2.67	0.14
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	13.28	22.35	44.85
C & E Loss (ft)	0.03	Cum SA (acres)	3.77	1.61	8.67

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.90	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	583.66	Flow Area (sq ft)	1195.94	1667.06	5001.30
E.G. Slope (ft/ft)	0.000466	Area (sq ft)	1449.19	1667.06	5001.30
Q Total (cfs)	14980.00	Flow (cfs)	865.45	9491.56	4622.99
Top Width (ft)	1294.73	Top Width (ft)	430.96	97.80	765.97
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.72	5.69	0.92
Max Chl Dpth (ft)	22.26	Hydr. Depth (ft)	4.46	17.05	6.53
Conv. Total (cfs)	693970.0	Conv. (cfs)	40093.3	439710.2	214166.5
Length Wtd. (ft)	29.78	Wetted Per. (ft)	268.46	107.65	778.78
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.13	0.45	0.19
Alpha	5.74	Stream Power (lb/ft s)	0.09	2.56	0.17
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	19.54	24.78	58.49
C & E Loss (ft)	0.02	Cum SA (acres)	4.32	1.63	9.45

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.33	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.54	Flow Area (sq ft)		614.58	
E.G. Slope (ft/ft)	0.000735	Area (sq ft)		614.58	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	85.53	Top Width (ft)		85.53	
Vel Total (ft/s)	4.11	Avg. Vel. (ft/s)		4.11	
Max Chl Dpth (ft)	10.14	Hydr. Depth (ft)		7.19	
Conv. Total (cfs)	93101.6	Conv. (cfs)		93101.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		91.18	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.31	
Alpha	1.00	Stream Power (lb/ft s)		1.27	
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)		7.09	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.15	0.04

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.74	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	576.84	Flow Area (sq ft)		829.35	47.48
E.G. Slope (ft/ft)	0.000776	Area (sq ft)		829.35	47.48
Q Total (cfs)	4024.00	Flow (cfs)		4013.94	10.06
Top Width (ft)	194.90	Top Width (ft)		93.16	101.75
Vel Total (ft/s)	4.59	Avg. Vel. (ft/s)		4.84	0.21
Max Chl Dpth (ft)	12.55	Hydr. Depth (ft)		8.90	0.47
Conv. Total (cfs)	144416.7	Conv. (cfs)		144055.7	361.1
Length Wtd. (ft)	126.23	Wetted Per. (ft)		100.22	101.86
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.40	0.02
Alpha	1.11	Stream Power (lb/ft s)		1.94	0.00
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)		9.86	0.35
C & E Loss (ft)	0.11	Cum SA (acres)		1.26	0.54

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.10	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.40	Flow Area (sq ft)	64.21	1263.84	1898.85
E.G. Slope (ft/ft)	0.000585	Area (sq ft)	90.73	1263.84	1898.85
Q Total (cfs)	7740.00	Flow (cfs)	12.34	6548.10	1179.56
Top Width (ft)	929.96	Top Width (ft)	162.99	102.80	664.17
Vel Total (ft/s)	2.40	Avg. Vel. (ft/s)	0.19	5.18	0.62
Max Chl Dpth (ft)	16.92	Hydr. Depth (ft)	0.45	12.29	2.86
Conv. Total (cfs)	319930.3	Conv. (cfs)	510.0	270663.4	48756.9
Length Wtd. (ft)	134.81	Wetted Per. (ft)	141.48	111.55	665.11
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.41	0.10
Alpha	3.96	Stream Power (lb/ft s)	0.00	2.14	0.06
Frctn Loss (ft)	0.12	Cum Volume (acre-ft)	2.63	16.30	16.74
C & E Loss (ft)	0.08	Cum SA (acres)	2.24	1.53	5.88

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.55	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.24	Flow Area (sq ft)	594.91	1514.91	3571.29
E.G. Slope (ft/ft)	0.000464	Area (sq ft)	681.29	1514.91	3571.29
Q Total (cfs)	11040.00	Flow (cfs)	307.25	7889.34	2843.42
Top Width (ft)	1040.30	Top Width (ft)	245.80	102.80	691.70
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.52	5.21	0.80
Max Chl Dpth (ft)	19.36	Hydr. Depth (ft)	2.69	14.74	5.16
Conv. Total (cfs)	512294.6	Conv. (cfs)	14257.3	366092.8	131944.5
Length Wtd. (ft)	137.37	Wetted Per. (ft)	220.95	111.55	692.94
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.08	0.39	0.15
Alpha	5.18	Stream Power (lb/ft s)	0.04	2.05	0.12
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	9.51	20.19	34.01
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.55	7.33

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.43	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.98	Flow Area (sq ft)	790.00	1605.74	4186.54
E.G. Slope (ft/ft)	0.000431	Area (sq ft)	921.10	1605.74	4186.54
Q Total (cfs)	12400.00	Flow (cfs)	475.13	8379.62	3545.25
Top Width (ft)	1127.49	Top Width (ft)	312.69	102.80	711.99
Vel Total (ft/s)	1.88	Avg. Vel. (ft/s)	0.60	5.22	0.85
Max Chl Dpth (ft)	20.24	Hydr. Depth (ft)	3.58	15.62	5.88
Conv. Total (cfs)	596946.1	Conv. (cfs)	22873.2	403401.5	170671.4
Length Wtd. (ft)	137.54	Wetted Per. (ft)	220.95	111.55	713.30
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.10	0.39	0.16
Alpha	5.25	Stream Power (lb/ft s)	0.06	2.02	0.13
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	12.53	21.55	40.83
C & E Loss (ft)	0.05	Cum SA (acres)	3.49	1.55	7.93

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.92	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	583.66	Flow Area (sq ft)	1117.90	1758.41	5270.36
E.G. Slope (ft/ft)	0.000397	Area (sq ft)	1400.71	1758.41	5270.36
Q Total (cfs)	14980.00	Flow (cfs)	813.00	9352.95	4814.05
Top Width (ft)	1175.53	Top Width (ft)	334.11	102.80	738.62
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.73	5.32	0.91
Max Chl Dpth (ft)	21.73	Hydr. Depth (ft)	5.06	17.11	7.14
Conv. Total (cfs)	751690.9	Conv. (cfs)	40796.2	469327.5	241567.2
Length Wtd. (ft)	137.45	Wetted Per. (ft)	220.95	111.55	740.06
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.13	0.39	0.18
Alpha	5.31	Stream Power (lb/ft s)	0.09	2.08	0.16
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	18.33	23.90	53.36
C & E Loss (ft)	0.04	Cum SA (acres)	4.00	1.58	8.70

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.37	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

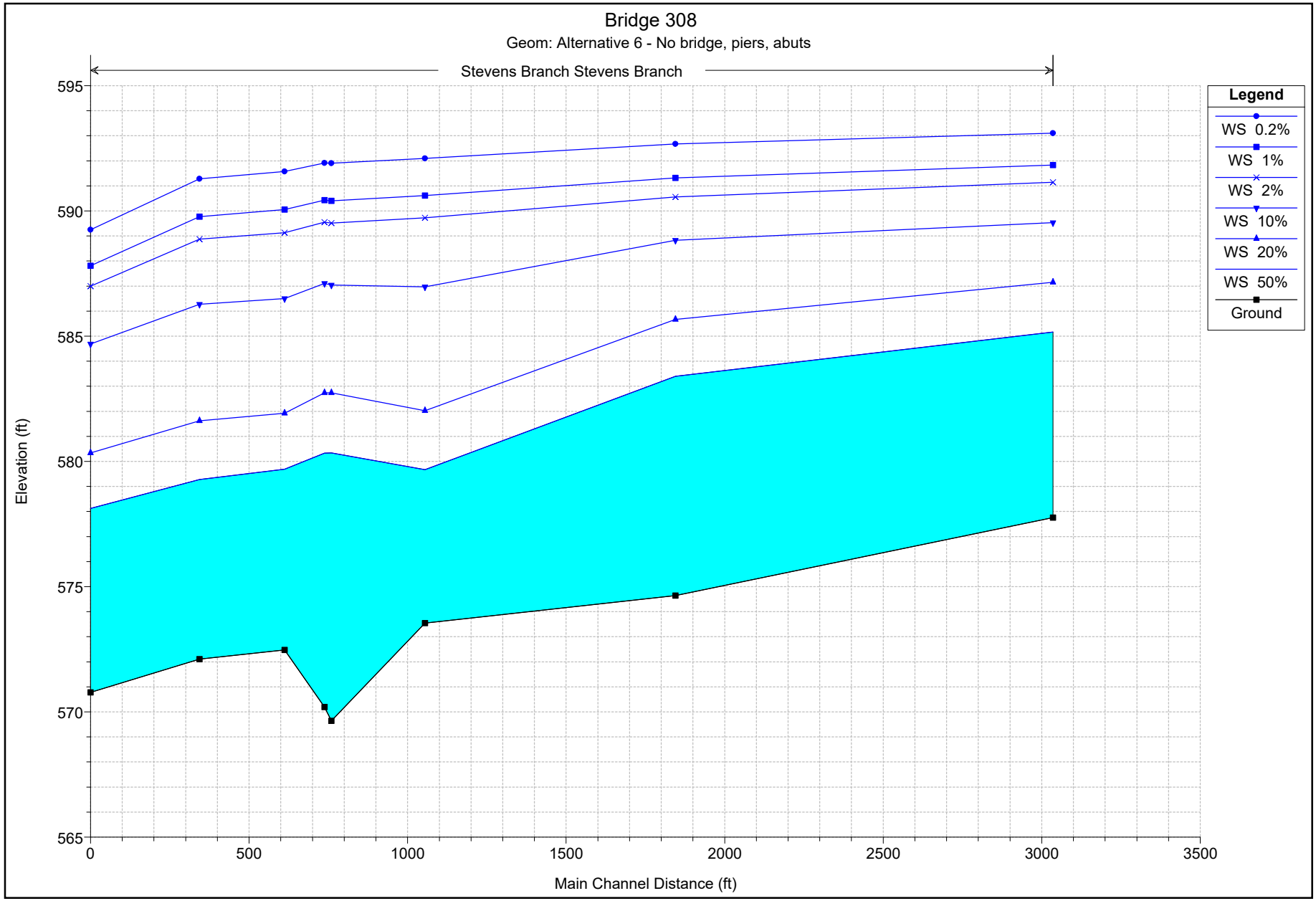
Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 1501 Profile: 1%

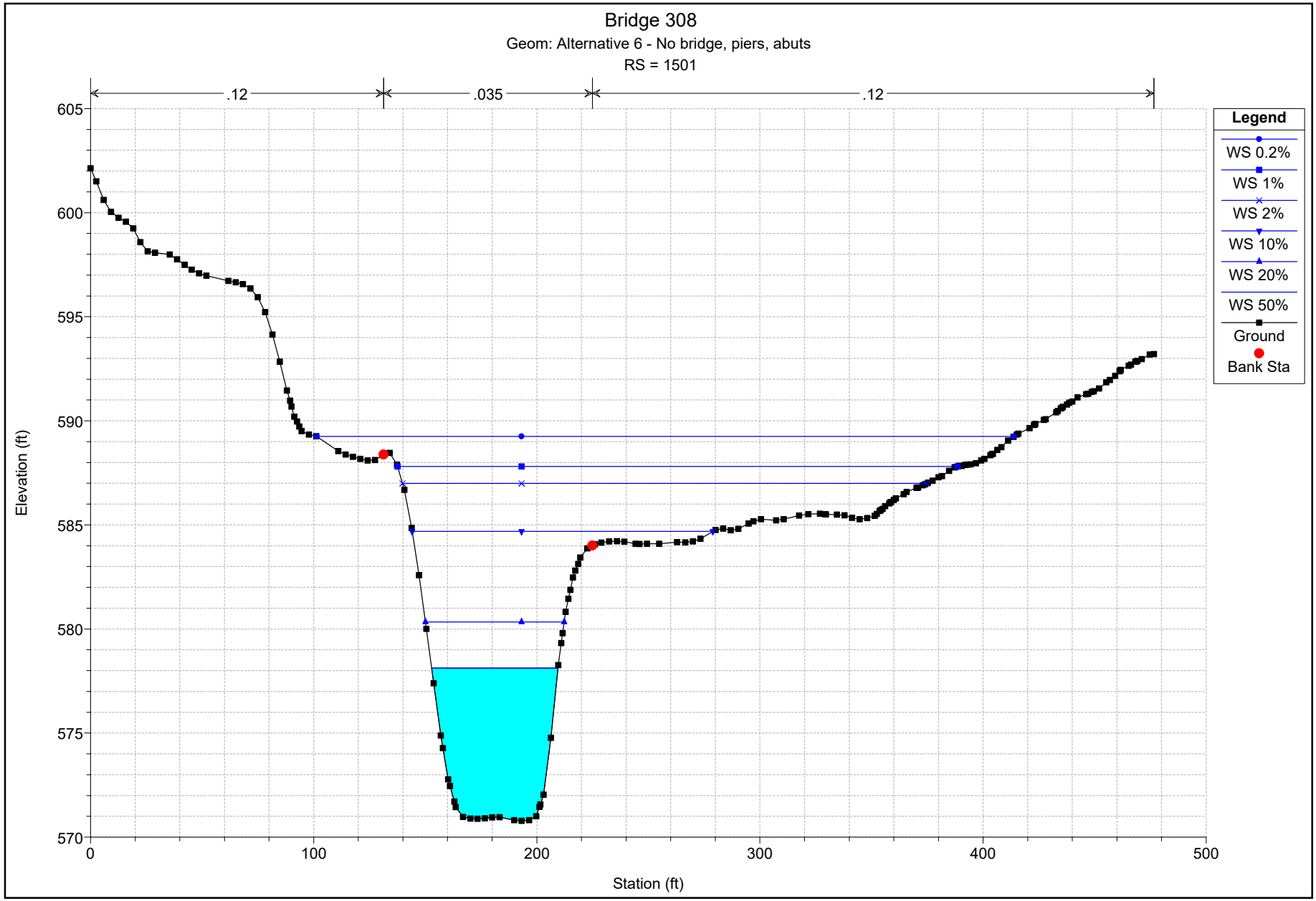
E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

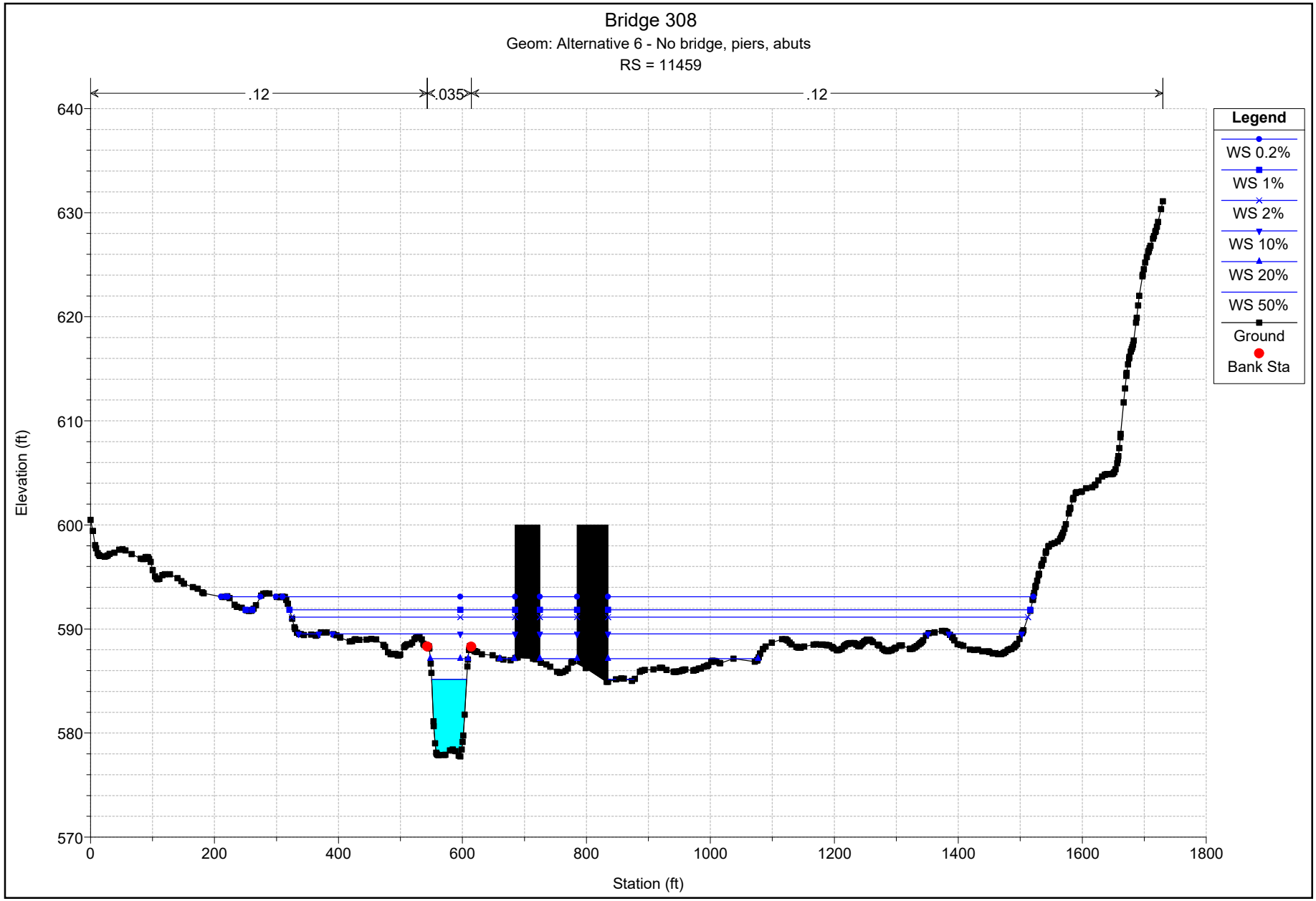
Plan: Alt 5 Remove Brdg & Pier Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

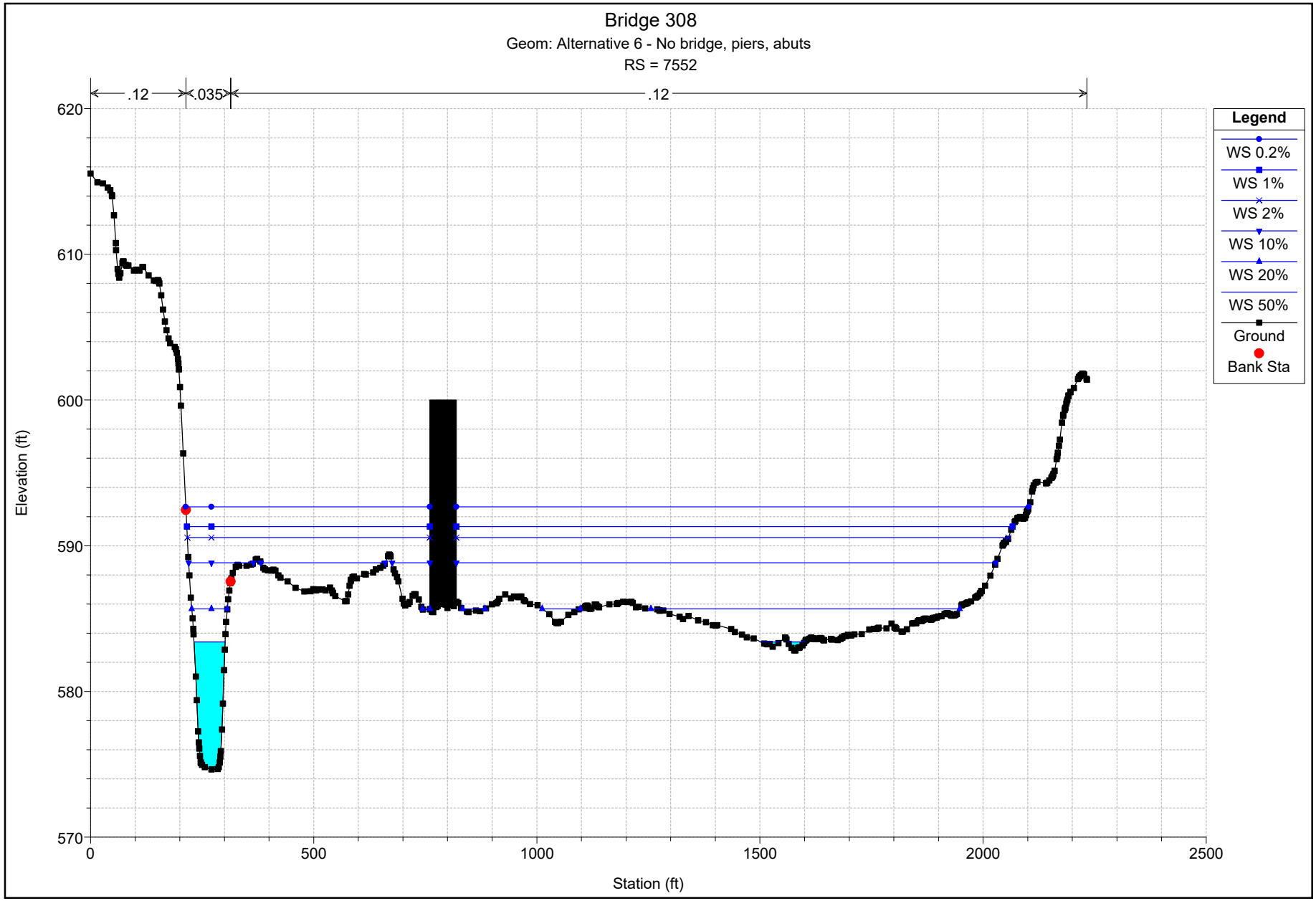
E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

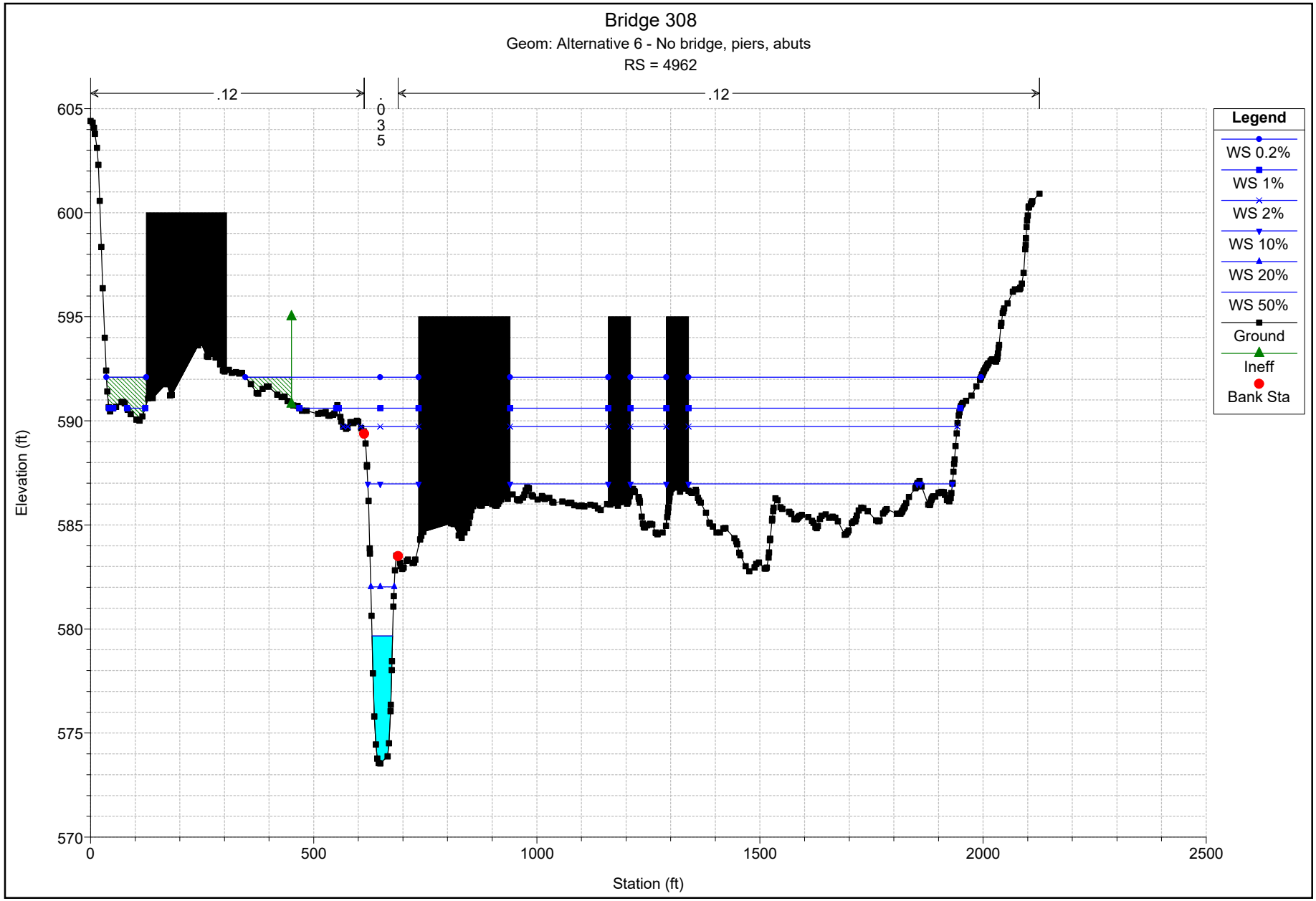
HEC-RAS Results for Alternative 6

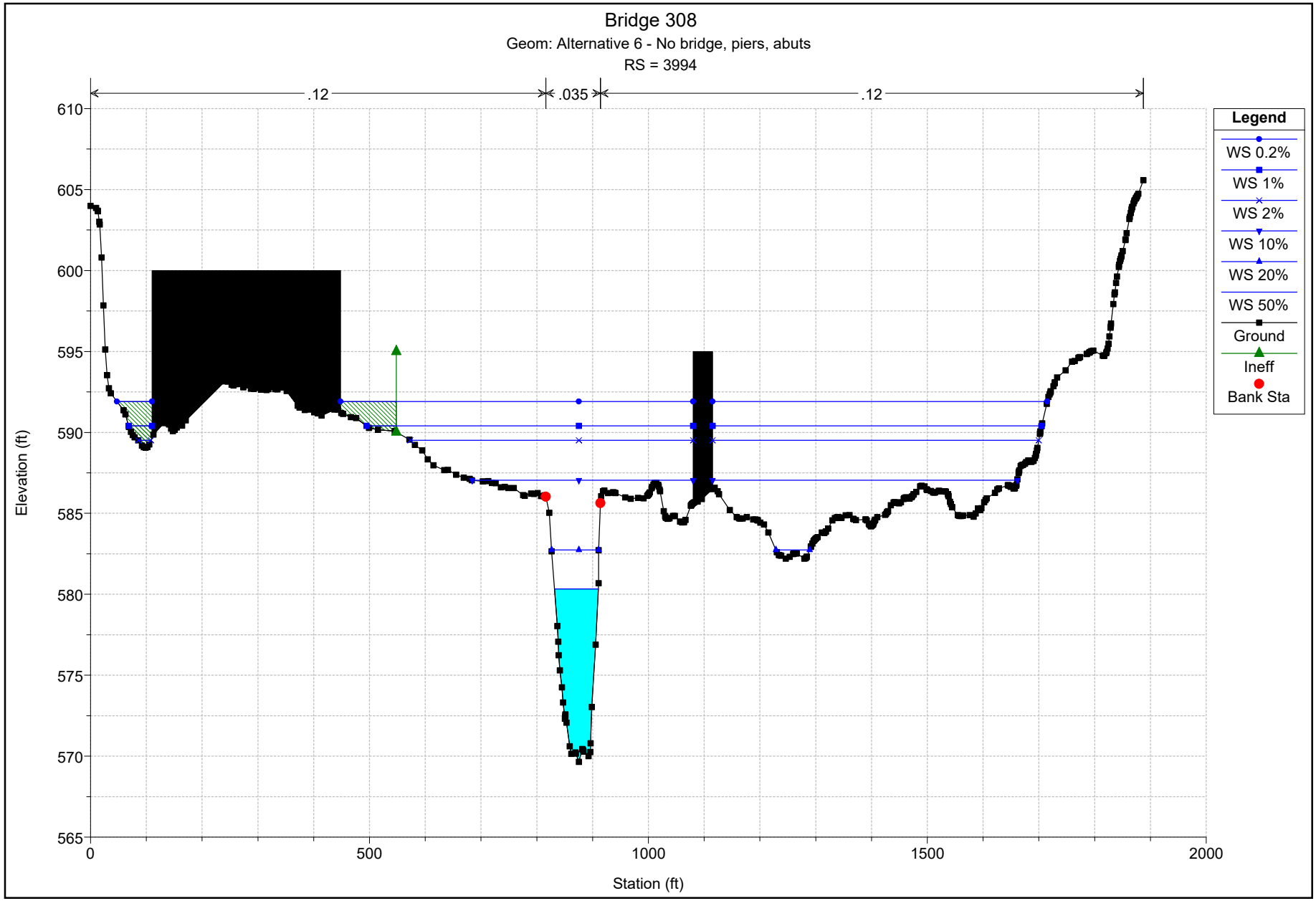

Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
Stevens Branch Stevens Branch
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Elevation (ft)
595
590
585
580
575
570
565
0
500
1000
1500
2000
2500
3000
3500
Main Channel Distance (ft)

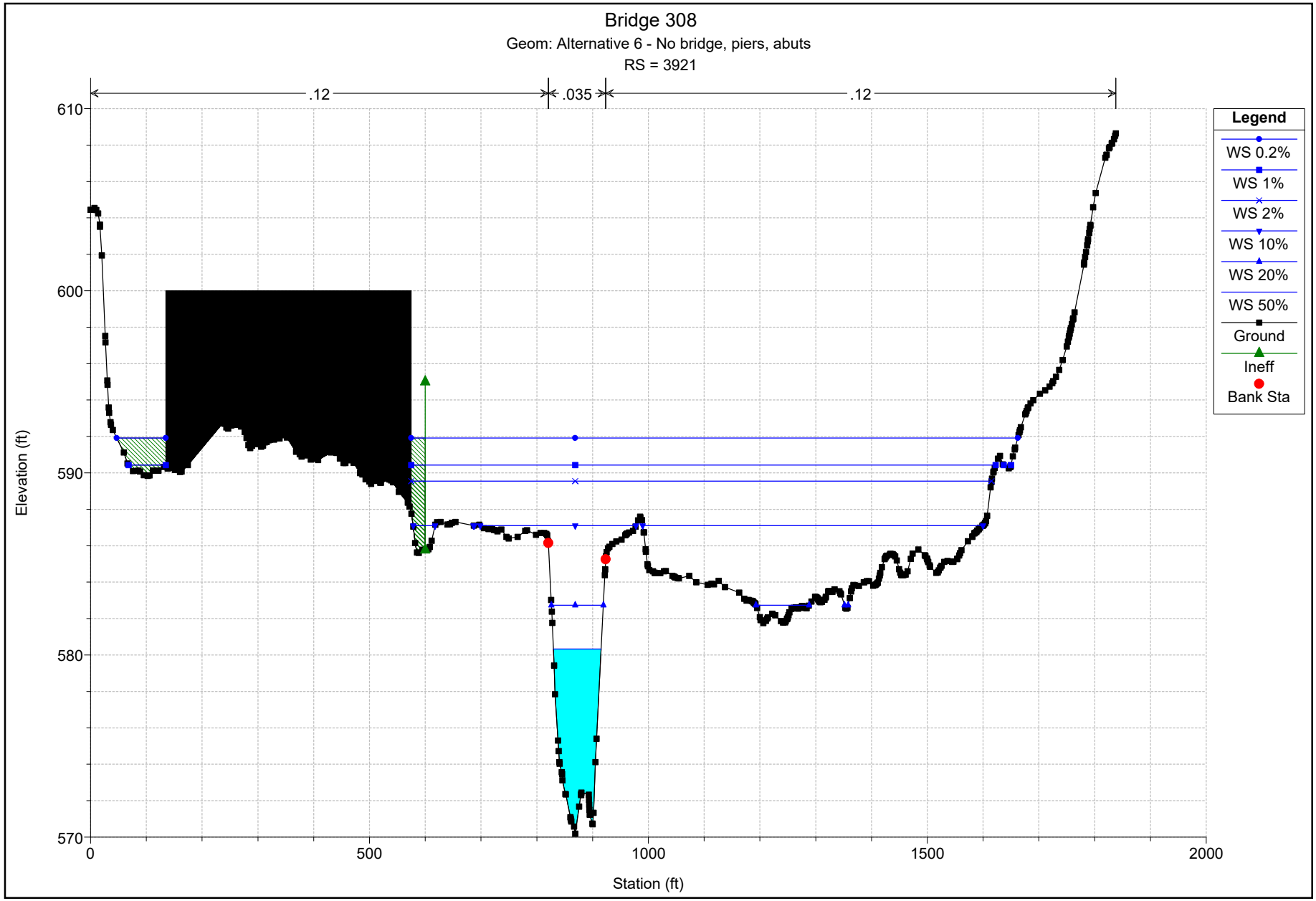

Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 1501
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
Station (ft)
605
600
595
590
585
580
575
570
0
100
200
300
400
500

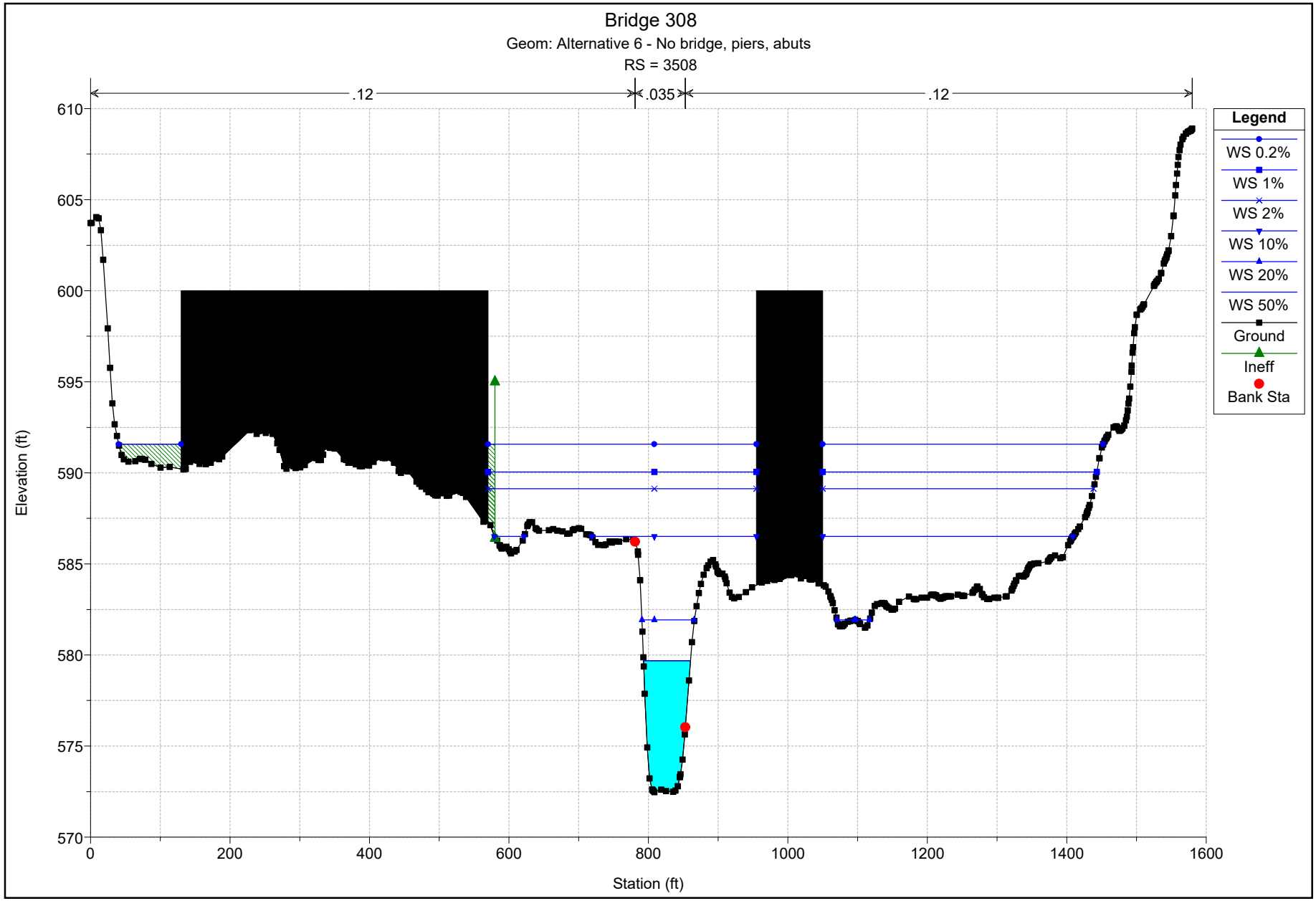

Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 11459
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
640
630
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
1800
Station (ft)

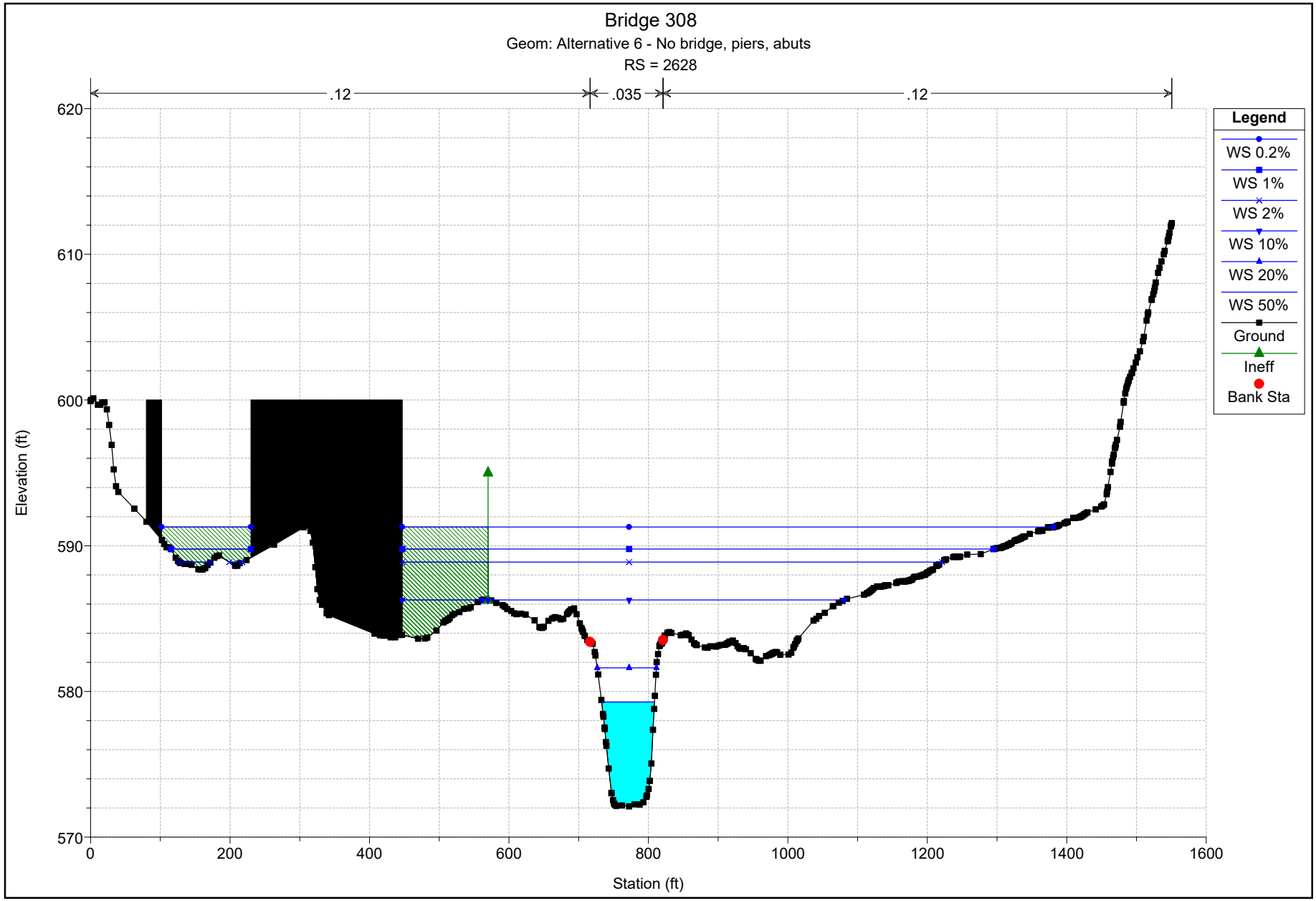

Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 7552
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
500
1000
1500
2000
2500
Station (ft)


Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 4962
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
605
600
595
590
585
580
575
570
0
500
1000
1500
2000
2500
Station (ft)


Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 3994
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
610
605
600
595
590
585
580
575
570
565
0
500
1000
1500
2000
Station (ft)


Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 3921
.12
.035
.12
610
600
590
580
570
Elevation (ft)
0
500
1000
1500
2000
Station (ft)
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta


Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 3508
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
Station (ft)
610
605
600
595
590
585
580
575
570
0
200
400
600
800
1000
1200
1400
1600


Bridge 308
Geom: Alternative 6 - No bridge, piers, abuts
RS = 2628
.12
.035
.12
Legend
WS 0.2%
WS 1%
WS 2%
WS 10%
WS 20%
WS 50%
Ground
Ineff
Bank Sta
Elevation (ft)
620
610
600
590
580
570
0
200
400
600
800
1000
1200
1400
1600
Station (ft)

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 11459 Profile: 50%

E.G. Elev (ft)	585.95	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.79	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.16	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	582.67	Flow Area (sq ft)		353.44	2.37
E.G. Slope (ft/ft)	0.002787	Area (sq ft)		353.44	2.37
Q Total (cfs)	2524.00	Flow (cfs)		2523.67	0.33
Top Width (ft)	80.84	Top Width (ft)		56.46	24.38
Vel Total (ft/s)	7.09	Avg. Vel. (ft/s)		7.14	0.14
Max Chl Dpth (ft)	7.40	Hydr. Depth (ft)		6.26	0.10
Conv. Total (cfs)	47814.1	Conv. (cfs)		47807.7	6.3
Length Wtd. (ft)	1190.99	Wetted Per. (ft)		62.15	24.63
Min Ch El (ft)	577.76	Shear (lb/sq ft)		0.99	0.02
Alpha	1.01	Stream Power (lb/ft s)		7.06	0.00
Frctn Loss (ft)	2.03	Cum Volume (acre-ft)		28.31	0.50
C & E Loss (ft)	0.12	Cum SA (acres)		4.39	1.93

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 11459 Profile: 20%

E.G. Elev (ft)	588.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.00	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.16	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	584.22	Flow Area (sq ft)		469.88	285.27
E.G. Slope (ft/ft)	0.002834	Area (sq ft)		469.88	285.27
Q Total (cfs)	4024.00	Flow (cfs)		3845.71	178.29
Top Width (ft)	386.36	Top Width (ft)		60.94	325.41
Vel Total (ft/s)	5.33	Avg. Vel. (ft/s)		8.18	0.62
Max Chl Dpth (ft)	9.40	Hydr. Depth (ft)		7.71	0.88
Conv. Total (cfs)	75582.7	Conv. (cfs)		72233.8	3348.8
Length Wtd. (ft)	1190.24	Wetted Per. (ft)		68.19	328.61
Min Ch El (ft)	577.76	Shear (lb/sq ft)		1.22	0.15
Alpha	2.26	Stream Power (lb/ft s)		9.98	0.10
Frctn Loss (ft)	1.91	Cum Volume (acre-ft)		38.69	23.47
C & E Loss (ft)	0.18	Cum SA (acres)		4.88	21.36

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 11459 Profile: 10%

E.G. Elev (ft)	590.55	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.54	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	588.47	Flow Area (sq ft)	136.11	629.36	1612.65
E.G. Slope (ft/ft)	0.002992	Area (sq ft)	136.11	629.36	1612.65
Q Total (cfs)	7740.00	Flow (cfs)	82.19	5848.73	1809.09
Top Width (ft)	1021.63	Top Width (ft)	186.33	70.80	764.50
Vel Total (ft/s)	3.25	Avg. Vel. (ft/s)	0.60	9.29	1.12
Max Chl Dpth (ft)	11.78	Hydr. Depth (ft)	0.73	8.89	2.11
Conv. Total (cfs)	141503.1	Conv. (cfs)	1502.6	106926.8	33073.8
Length Wtd. (ft)	1187.82	Wetted Per. (ft)	186.53	78.62	777.55
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.14	1.50	0.39
Alpha	6.19	Stream Power (lb/ft s)	0.08	13.90	0.43
Frctn Loss (ft)	1.30	Cum Volume (acre-ft)	4.63	59.05	160.05
C & E Loss (ft)	0.25	Cum SA (acres)	5.06	5.86	60.14

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 11459 Profile: 2%

E.G. Elev (ft)	591.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.76	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.14	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	589.98	Flow Area (sq ft)	478.99	743.00	2896.43
E.G. Slope (ft/ft)	0.002230	Area (sq ft)	478.99	743.00	2896.43
Q Total (cfs)	11040.00	Flow (cfs)	471.40	6657.86	3910.74
Top Width (ft)	1097.96	Top Width (ft)	219.00	70.80	808.16
Vel Total (ft/s)	2.68	Avg. Vel. (ft/s)	0.98	8.96	1.35
Max Chl Dpth (ft)	13.38	Hydr. Depth (ft)	2.19	10.49	3.58
Conv. Total (cfs)	233809.6	Conv. (cfs)	9983.5	141002.9	82823.2
Length Wtd. (ft)	1186.79	Wetted Per. (ft)	219.34	78.62	827.78
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.32	0.49
Alpha	6.83	Stream Power (lb/ft s)	0.30	11.79	0.66
Frctn Loss (ft)	1.02	Cum Volume (acre-ft)	17.23	71.64	284.72
C & E Loss (ft)	0.19	Cum SA (acres)	6.82	6.04	63.72

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 11459 Profile: 1%

E.G. Elev (ft)	592.50	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.66	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.84	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.36	Flow Area (sq ft)	633.00	792.16	3459.03
E.G. Slope (ft/ft)	0.001917	Area (sq ft)	633.00	792.16	3459.03
Q Total (cfs)	12400.00	Flow (cfs)	687.05	6869.57	4843.38
Top Width (ft)	1116.09	Top Width (ft)	233.19	70.80	812.10
Vel Total (ft/s)	2.54	Avg. Vel. (ft/s)	1.09	8.67	1.40
Max Chl Dpth (ft)	14.08	Hydr. Depth (ft)	2.71	11.19	4.26
Conv. Total (cfs)	283202.5	Conv. (cfs)	15691.6	156893.4	110617.5
Length Wtd. (ft)	1186.48	Wetted Per. (ft)	233.60	78.62	834.56
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.32	1.21	0.50
Alpha	6.59	Stream Power (lb/ft s)	0.35	10.46	0.69
Frctn Loss (ft)	0.90	Cum Volume (acre-ft)	23.71	76.53	335.45
C & E Loss (ft)	0.16	Cum SA (acres)	9.44	6.08	64.66

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 11459 Profile: 0.2%

E.G. Elev (ft)	593.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.53	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	593.11	Reach Len. (ft)	1191.60	1191.00	1181.80
Crit W.S. (ft)	590.85	Flow Area (sq ft)	966.98	882.25	4495.68
E.G. Slope (ft/ft)	0.001503	Area (sq ft)	966.98	882.25	4495.68
Q Total (cfs)	14980.00	Flow (cfs)	1120.48	7279.52	6580.00
Top Width (ft)	1192.05	Top Width (ft)	304.17	70.80	817.08
Vel Total (ft/s)	2.36	Avg. Vel. (ft/s)	1.16	8.25	1.46
Max Chl Dpth (ft)	15.35	Hydr. Depth (ft)	3.18	12.46	5.50
Conv. Total (cfs)	386351.0	Conv. (cfs)	28898.3	187747.0	169705.7
Length Wtd. (ft)	1186.07	Wetted Per. (ft)	304.79	78.62	844.78
Min Ch El (ft)	577.76	Shear (lb/sq ft)	0.30	1.05	0.50
Alpha	6.12	Stream Power (lb/ft s)	0.35	8.69	0.73
Frctn Loss (ft)	0.74	Cum Volume (acre-ft)	39.93	85.14	426.66
C & E Loss (ft)	0.13	Cum SA (acres)	12.84	6.14	66.70

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 7552 Profile: 50%

E.G. Elev (ft)	583.80	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	583.40	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		495.26	20.34
E.G. Slope (ft/ft)	0.001153	Area (sq ft)		495.26	20.34
Q Total (cfs)	2524.00	Flow (cfs)		2520.33	3.67
Top Width (ft)	151.46	Top Width (ft)		69.61	81.85
Vel Total (ft/s)	4.90	Avg. Vel. (ft/s)		5.09	0.18
Max Chl Dpth (ft)	8.76	Hydr. Depth (ft)		7.11	0.25
Conv. Total (cfs)	74340.5	Conv. (cfs)		74232.4	108.1
Length Wtd. (ft)	789.27	Wetted Per. (ft)		74.66	81.88
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.48	0.02
Alpha	1.08	Stream Power (lb/ft s)		2.43	0.00
Frctn Loss (ft)	2.00	Cum Volume (acre-ft)		16.71	0.19
C & E Loss (ft)	0.16	Cum SA (acres)		2.67	0.49

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 7552 Profile: 20%

E.G. Elev (ft)	586.06	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	585.67	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		662.61	1003.88
E.G. Slope (ft/ft)	0.001033	Area (sq ft)		662.61	1003.88
Q Total (cfs)	4024.00	Flow (cfs)		3541.08	482.92
Top Width (ft)	922.64	Top Width (ft)		79.36	843.27
Vel Total (ft/s)	2.41	Avg. Vel. (ft/s)		5.34	0.48
Max Chl Dpth (ft)	11.03	Hydr. Depth (ft)		8.35	1.19
Conv. Total (cfs)	125229.9	Conv. (cfs)		110200.9	15029.0
Length Wtd. (ft)	770.79	Wetted Per. (ft)		85.46	843.44
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.50	0.08
Alpha	4.32	Stream Power (lb/ft s)		2.67	0.04
Frctn Loss (ft)	1.68	Cum Volume (acre-ft)		23.21	5.98
C & E Loss (ft)	0.18	Cum SA (acres)		2.96	5.51

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 7552 Profile: 10%

E.G. Elev (ft)	589.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.17	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	588.83	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		941.76	5208.93
E.G. Slope (ft/ft)	0.000560	Area (sq ft)		941.76	5208.93
Q Total (cfs)	7740.00	Flow (cfs)		4195.81	3544.19
Top Width (ft)	1716.85	Top Width (ft)		93.86	1622.99
Vel Total (ft/s)	1.26	Avg. Vel. (ft/s)		4.46	0.68
Max Chl Dpth (ft)	14.19	Hydr. Depth (ft)		10.03	3.21
Conv. Total (cfs)	326981.3	Conv. (cfs)		177254.6	149726.7
Length Wtd. (ft)	688.68	Wetted Per. (ft)		100.89	1629.64
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.33	0.11
Alpha	6.93	Stream Power (lb/ft s)		1.45	0.08
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)	2.77	37.57	67.51
C & E Loss (ft)	0.10	Cum SA (acres)	2.51	3.61	27.75

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 7552 Profile: 2%

E.G. Elev (ft)	590.69	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.13	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	590.56	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1106.57	8082.10
E.G. Slope (ft/ft)	0.000453	Area (sq ft)		1106.57	8082.10
Q Total (cfs)	11040.00	Flow (cfs)		4826.15	6213.85
Top Width (ft)	1779.86	Top Width (ft)		96.80	1683.06
Vel Total (ft/s)	1.20	Avg. Vel. (ft/s)		4.36	0.77
Max Chl Dpth (ft)	15.92	Hydr. Depth (ft)		11.43	4.80
Conv. Total (cfs)	518875.3	Conv. (cfs)		226826.9	292048.4
Length Wtd. (ft)	633.37	Wetted Per. (ft)		104.30	1693.29
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.30	0.13
Alpha	5.99	Stream Power (lb/ft s)		1.31	0.10
Frctn Loss (ft)	0.46	Cum Volume (acre-ft)	10.68	46.35	135.80
C & E Loss (ft)	0.03	Cum SA (acres)	3.83	3.75	29.92

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 7552 Profile: 1%

E.G. Elev (ft)	591.44	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.12	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	591.32	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)		1180.39	9360.91
E.G. Slope (ft/ft)	0.000402	Area (sq ft)		1180.39	9360.91
Q Total (cfs)	12400.00	Flow (cfs)		5015.02	7384.99
Top Width (ft)	1790.62	Top Width (ft)		98.05	1692.57
Vel Total (ft/s)	1.18	Avg. Vel. (ft/s)		4.25	0.79
Max Chl Dpth (ft)	16.68	Hydr. Depth (ft)		12.04	5.53
Conv. Total (cfs)	618830.9	Conv. (cfs)		250277.9	368553.0
Length Wtd. (ft)	621.63	Wetted Per. (ft)		105.76	1704.35
Min Ch El (ft)	574.64	Shear (lb/sq ft)		0.28	0.14
Alpha	5.54	Stream Power (lb/ft s)		1.19	0.11
Frctn Loss (ft)	0.39	Cum Volume (acre-ft)	15.05	49.57	161.55
C & E Loss (ft)	0.03	Cum SA (acres)	6.25	3.77	30.68

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 7552 Profile: 0.2%

E.G. Elev (ft)	592.77	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.10	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.67	Reach Len. (ft)	852.90	789.50	477.70
Crit W.S. (ft)		Flow Area (sq ft)	0.04	1314.54	11678.58
E.G. Slope (ft/ft)	0.000337	Area (sq ft)	0.04	1314.54	11678.58
Q Total (cfs)	14980.00	Flow (cfs)	0.00	5426.33	9553.67
Top Width (ft)	1829.20	Top Width (ft)	0.37	99.90	1728.93
Vel Total (ft/s)	1.15	Avg. Vel. (ft/s)	0.05	4.13	0.82
Max Chl Dpth (ft)	18.03	Hydr. Depth (ft)	0.11	13.16	6.75
Conv. Total (cfs)	815563.9	Conv. (cfs)	0.1	295428.4	520135.4
Length Wtd. (ft)	608.43	Wetted Per. (ft)	0.43	107.93	1743.47
Min Ch El (ft)	574.64	Shear (lb/sq ft)	0.00	0.26	0.14
Alpha	4.96	Stream Power (lb/ft s)	0.00	1.06	0.12
Frctn Loss (ft)	0.31	Cum Volume (acre-ft)	26.71	55.11	207.25
C & E Loss (ft)	0.02	Cum SA (acres)	8.67	3.81	32.16

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 4962 Profile: 50%

E.G. Elev (ft)	581.64	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.98	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.67	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	579.33	Flow Area (sq ft)		223.74	
E.G. Slope (ft/ft)	0.009481	Area (sq ft)		223.74	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	46.42	Top Width (ft)		46.42	
Vel Total (ft/s)	11.28	Avg. Vel. (ft/s)		11.28	
Max Chl Dpth (ft)	6.13	Hydr. Depth (ft)		4.82	
Conv. Total (cfs)	25921.8	Conv. (cfs)		25921.8	
Length Wtd. (ft)	295.10	Wetted Per. (ft)		49.63	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.67	
Alpha	1.00	Stream Power (lb/ft s)		30.10	
Frctn Loss (ft)	0.52	Cum Volume (acre-ft)		10.20	0.08
C & E Loss (ft)	0.51	Cum SA (acres)		1.61	0.04

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 4962 Profile: 20%

E.G. Elev (ft)	584.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.18	Wt. n-Val.		0.035	
W.S. Elev (ft)	582.02	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	581.10	Flow Area (sq ft)		339.90	
E.G. Slope (ft/ft)	0.007264	Area (sq ft)		339.90	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	52.59	Top Width (ft)		52.59	
Vel Total (ft/s)	11.84	Avg. Vel. (ft/s)		11.84	
Max Chl Dpth (ft)	8.48	Hydr. Depth (ft)		6.46	
Conv. Total (cfs)	47214.5	Conv. (cfs)		47214.5	
Length Wtd. (ft)	295.14	Wetted Per. (ft)		57.43	
Min Ch El (ft)	573.54	Shear (lb/sq ft)		2.68	
Alpha	1.00	Stream Power (lb/ft s)		31.77	
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		14.13	0.47
C & E Loss (ft)	0.53	Cum SA (acres)		1.77	0.89

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 4962 Profile: 10%

E.G. Elev (ft)	588.15	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.19	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.97	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	585.89	Flow Area (sq ft)		648.15	1471.11
E.G. Slope (ft/ft)	0.002929	Area (sq ft)		648.15	1471.11
Q Total (cfs)	7740.00	Flow (cfs)		6278.94	1461.06
Top Width (ft)	997.57	Top Width (ft)		68.07	929.49
Vel Total (ft/s)	3.65	Avg. Vel. (ft/s)		9.69	0.99
Max Chl Dpth (ft)	13.43	Hydr. Depth (ft)		9.52	1.58
Conv. Total (cfs)	143019.1	Conv. (cfs)		116021.7	26997.4
Length Wtd. (ft)	307.31	Wetted Per. (ft)		74.86	937.71
Min Ch El (ft)	573.54	Shear (lb/sq ft)		1.58	0.29
Alpha	5.72	Stream Power (lb/ft s)		15.34	0.28
Frctn Loss (ft)	0.41	Cum Volume (acre-ft)	2.77	23.16	30.89
C & E Loss (ft)	0.21	Cum SA (acres)	2.51	2.14	13.76

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 4962 Profile: 2%

E.G. Elev (ft)	590.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.72	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	587.66	Flow Area (sq ft)	1.86	845.66	4066.29
E.G. Slope (ft/ft)	0.001351	Area (sq ft)	1.86	845.66	4066.29
Q Total (cfs)	11040.00	Flow (cfs)	0.20	6197.49	4842.31
Top Width (ft)	1043.25	Top Width (ft)	19.40	75.90	947.96
Vel Total (ft/s)	2.25	Avg. Vel. (ft/s)	0.11	7.33	1.19
Max Chl Dpth (ft)	16.18	Hydr. Depth (ft)	0.10	11.14	4.29
Conv. Total (cfs)	300307.5	Conv. (cfs)	5.5	168582.8	131719.3
Length Wtd. (ft)	321.26	Wetted Per. (ft)	19.41	83.11	973.04
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.01	0.86	0.35
Alpha	6.10	Stream Power (lb/ft s)	0.00	6.29	0.42
Frctn Loss (ft)	0.27	Cum Volume (acre-ft)	10.66	28.66	69.19
C & E Loss (ft)	0.03	Cum SA (acres)	3.64	2.19	15.50

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 4962 Profile: 1%

E.G. Elev (ft)	591.02	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.61	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.00	Flow Area (sq ft)	61.62	913.10	4911.23
E.G. Slope (ft/ft)	0.001120	Area (sq ft)	77.51	913.10	4911.23
Q Total (cfs)	12400.00	Flow (cfs)	17.93	6411.65	5970.41
Top Width (ft)	1221.33	Top Width (ft)	190.48	75.90	954.94
Vel Total (ft/s)	2.11	Avg. Vel. (ft/s)	0.29	7.02	1.22
Max Chl Dpth (ft)	17.07	Hydr. Depth (ft)	0.44	12.03	5.14
Conv. Total (cfs)	370516.0	Conv. (cfs)	535.9	191582.3	178397.8
Length Wtd. (ft)	323.43	Wetted Per. (ft)	139.92	83.11	985.42
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.03	0.77	0.35
Alpha	5.90	Stream Power (lb/ft s)	0.01	5.39	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	14.29	30.60	83.29
C & E Loss (ft)	0.01	Cum SA (acres)	4.38	2.19	16.16

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 4962 Profile: 0.2%

E.G. Elev (ft)	592.43	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.34	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	592.09	Reach Len. (ft)	96.20	295.10	381.80
Crit W.S. (ft)	588.52	Flow Area (sq ft)	301.54	1025.72	6365.83
E.G. Slope (ft/ft)	0.000889	Area (sq ft)	511.19	1025.72	6365.83
Q Total (cfs)	14980.00	Flow (cfs)	167.43	6934.06	7878.51
Top Width (ft)	1432.98	Top Width (ft)	355.64	75.90	1001.44
Vel Total (ft/s)	1.95	Avg. Vel. (ft/s)	0.56	6.76	1.24
Max Chl Dpth (ft)	18.55	Hydr. Depth (ft)	1.85	13.51	6.36
Conv. Total (cfs)	502410.8	Conv. (cfs)	5615.6	232559.7	264235.6
Length Wtd. (ft)	324.42	Wetted Per. (ft)	163.49	83.11	1040.85
Min Ch El (ft)	573.54	Shear (lb/sq ft)	0.10	0.68	0.34
Alpha	5.79	Stream Power (lb/ft s)	0.06	4.63	0.42
Frctn Loss (ft)	0.20	Cum Volume (acre-ft)	21.70	33.90	108.31
C & E Loss (ft)	0.01	Cum SA (acres)	5.19	2.22	17.19

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3994 Profile: 50%

E.G. Elev (ft)	580.61	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.27	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	574.96	Flow Area (sq ft)		600.80	
E.G. Slope (ft/ft)	0.000711	Area (sq ft)		600.80	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	78.52	Top Width (ft)		78.52	
Vel Total (ft/s)	4.20	Avg. Vel. (ft/s)		4.20	
Max Chl Dpth (ft)	10.70	Hydr. Depth (ft)		7.65	
Conv. Total (cfs)	94625.7	Conv. (cfs)		94625.7	
Length Wtd. (ft)	22.30	Wetted Per. (ft)		84.08	
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.32	
Alpha	1.00	Stream Power (lb/ft s)		1.33	
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		7.40	0.08
C & E Loss (ft)	0.00	Cum SA (acres)		1.19	0.04

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3994 Profile: 20%

E.G. Elev (ft)	583.13	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.40	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.74	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	576.43	Flow Area (sq ft)		796.51	21.13
E.G. Slope (ft/ft)	0.000800	Area (sq ft)		796.51	21.13
Q Total (cfs)	4024.00	Flow (cfs)		4020.33	3.67
Top Width (ft)	144.77	Top Width (ft)		84.34	60.43
Vel Total (ft/s)	4.92	Avg. Vel. (ft/s)		5.05	0.17
Max Chl Dpth (ft)	13.09	Hydr. Depth (ft)		9.44	0.35
Conv. Total (cfs)	142234.6	Conv. (cfs)		142104.8	129.8
Length Wtd. (ft)	22.34	Wetted Per. (ft)		92.46	60.47
Min Ch El (ft)	569.64	Shear (lb/sq ft)		0.43	0.02
Alpha	1.05	Stream Power (lb/ft s)		2.17	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		10.28	0.38
C & E Loss (ft)	0.01	Cum SA (acres)		1.30	0.62

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3994 Profile: 10%

E.G. Elev (ft)	587.53	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.48	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.05	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	579.25	Flow Area (sq ft)	64.96	1192.11	1382.88
E.G. Slope (ft/ft)	0.000769	Area (sq ft)	64.96	1192.11	1382.88
Q Total (cfs)	7740.00	Flow (cfs)	13.90	6974.57	751.53
Top Width (ft)	942.04	Top Width (ft)	132.05	97.80	712.20
Vel Total (ft/s)	2.93	Avg. Vel. (ft/s)	0.21	5.85	0.54
Max Chl Dpth (ft)	17.40	Hydr. Depth (ft)	0.49	12.19	1.94
Conv. Total (cfs)	279037.7	Conv. (cfs)	501.2	251442.8	27093.7
Length Wtd. (ft)	24.97	Wetted Per. (ft)	132.07	107.65	714.93
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.02	0.53	0.09
Alpha	3.59	Stream Power (lb/ft s)	0.01	3.11	0.05
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)	2.69	16.93	18.38
C & E Loss (ft)	0.05	Cum SA (acres)	2.37	1.58	6.56

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3994 Profile: 2%

E.G. Elev (ft)	589.90	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.39	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.51	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	581.27	Flow Area (sq ft)	560.86	1433.21	3189.15
E.G. Slope (ft/ft)	0.000583	Area (sq ft)	567.48	1433.21	3189.15
Q Total (cfs)	11040.00	Flow (cfs)	292.67	8256.20	2491.13
Top Width (ft)	1114.71	Top Width (ft)	266.19	97.80	750.71
Vel Total (ft/s)	2.13	Avg. Vel. (ft/s)	0.52	5.76	0.78
Max Chl Dpth (ft)	19.87	Hydr. Depth (ft)	2.30	14.65	4.25
Conv. Total (cfs)	457038.2	Conv. (cfs)	12115.9	341793.5	103128.8
Length Wtd. (ft)	27.81	Wetted Per. (ft)	243.40	107.65	758.55
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.08	0.48	0.15
Alpha	5.50	Stream Power (lb/ft s)	0.04	2.79	0.12
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	10.04	20.94	37.39
C & E Loss (ft)	0.03	Cum SA (acres)	3.32	1.60	8.05

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3994 Profile: 1%

E.G. Elev (ft)	590.76	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.40	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	581.98	Flow Area (sq ft)	793.48	1520.41	3860.64
E.G. Slope (ft/ft)	0.000531	Area (sq ft)	844.17	1520.41	3860.64
Q Total (cfs)	12400.00	Flow (cfs)	466.20	8688.91	3244.89
Top Width (ft)	1217.03	Top Width (ft)	363.59	97.80	755.64
Vel Total (ft/s)	2.01	Avg. Vel. (ft/s)	0.59	5.71	0.84
Max Chl Dpth (ft)	20.76	Hydr. Depth (ft)	2.96	15.55	5.11
Conv. Total (cfs)	538237.1	Conv. (cfs)	20235.8	377152.9	140848.4
Length Wtd. (ft)	28.65	Wetted Per. (ft)	268.46	107.65	765.34
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.10	0.47	0.17
Alpha	5.72	Stream Power (lb/ft s)	0.06	2.67	0.14
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	13.28	22.35	44.85
C & E Loss (ft)	0.03	Cum SA (acres)	3.77	1.61	8.67

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3994 Profile: 0.2%

E.G. Elev (ft)	592.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.32	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.90	Reach Len. (ft)	36.70	22.30	43.50
Crit W.S. (ft)	583.66	Flow Area (sq ft)	1195.94	1667.06	5001.30
E.G. Slope (ft/ft)	0.000466	Area (sq ft)	1449.19	1667.06	5001.30
Q Total (cfs)	14980.00	Flow (cfs)	865.45	9491.56	4622.99
Top Width (ft)	1294.73	Top Width (ft)	430.96	97.80	765.97
Vel Total (ft/s)	1.90	Avg. Vel. (ft/s)	0.72	5.69	0.92
Max Chl Dpth (ft)	22.26	Hydr. Depth (ft)	4.46	17.05	6.53
Conv. Total (cfs)	693970.0	Conv. (cfs)	40093.3	439710.2	214166.5
Length Wtd. (ft)	29.78	Wetted Per. (ft)	268.46	107.65	778.78
Min Ch El (ft)	569.64	Shear (lb/sq ft)	0.13	0.45	0.19
Alpha	5.74	Stream Power (lb/ft s)	0.09	2.56	0.17
Frctn Loss (ft)	0.01	Cum Volume (acre-ft)	19.54	24.78	58.49
C & E Loss (ft)	0.02	Cum SA (acres)	4.32	1.63	9.45

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3921 Profile: 50%

E.G. Elev (ft)	580.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.26	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.33	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	575.54	Flow Area (sq ft)		614.58	
E.G. Slope (ft/ft)	0.000735	Area (sq ft)		614.58	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	85.53	Top Width (ft)		85.53	
Vel Total (ft/s)	4.11	Avg. Vel. (ft/s)		4.11	
Max Chl Dpth (ft)	10.14	Hydr. Depth (ft)		7.19	
Conv. Total (cfs)	93101.6	Conv. (cfs)		93101.6	
Length Wtd. (ft)	126.02	Wetted Per. (ft)		91.18	
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.31	
Alpha	1.00	Stream Power (lb/ft s)		1.27	
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)		7.09	0.08
C & E Loss (ft)	0.08	Cum SA (acres)		1.15	0.04

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3921 Profile: 20%

E.G. Elev (ft)	583.10	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.36	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	582.74	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	576.84	Flow Area (sq ft)		829.35	47.48
E.G. Slope (ft/ft)	0.000776	Area (sq ft)		829.35	47.48
Q Total (cfs)	4024.00	Flow (cfs)		4013.94	10.06
Top Width (ft)	194.90	Top Width (ft)		93.16	101.75
Vel Total (ft/s)	4.59	Avg. Vel. (ft/s)		4.84	0.21
Max Chl Dpth (ft)	12.55	Hydr. Depth (ft)		8.90	0.47
Conv. Total (cfs)	144416.7	Conv. (cfs)		144055.7	361.1
Length Wtd. (ft)	126.23	Wetted Per. (ft)		100.22	101.86
Min Ch El (ft)	570.19	Shear (lb/sq ft)		0.40	0.02
Alpha	1.11	Stream Power (lb/ft s)		1.94	0.00
Frctn Loss (ft)	0.15	Cum Volume (acre-ft)		9.86	0.35
C & E Loss (ft)	0.11	Cum SA (acres)		1.26	0.54

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3921 Profile: 10%

E.G. Elev (ft)	587.46	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.35	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	587.10	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	579.40	Flow Area (sq ft)	64.21	1263.84	1898.85
E.G. Slope (ft/ft)	0.000585	Area (sq ft)	90.73	1263.84	1898.85
Q Total (cfs)	7740.00	Flow (cfs)	12.34	6548.10	1179.56
Top Width (ft)	929.96	Top Width (ft)	162.99	102.80	664.17
Vel Total (ft/s)	2.40	Avg. Vel. (ft/s)	0.19	5.18	0.62
Max Chl Dpth (ft)	16.92	Hydr. Depth (ft)	0.45	12.29	2.86
Conv. Total (cfs)	319930.3	Conv. (cfs)	510.0	270663.4	48756.9
Length Wtd. (ft)	134.81	Wetted Per. (ft)	141.48	111.55	665.11
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.02	0.41	0.10
Alpha	3.96	Stream Power (lb/ft s)	0.00	2.14	0.06
Frctn Loss (ft)	0.12	Cum Volume (acre-ft)	2.63	16.30	16.74
C & E Loss (ft)	0.08	Cum SA (acres)	2.24	1.53	5.88

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3921 Profile: 2%

E.G. Elev (ft)	589.85	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.30	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.55	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.24	Flow Area (sq ft)	594.91	1514.91	3571.29
E.G. Slope (ft/ft)	0.000464	Area (sq ft)	681.29	1514.91	3571.29
Q Total (cfs)	11040.00	Flow (cfs)	307.25	7889.34	2843.42
Top Width (ft)	1040.30	Top Width (ft)	245.80	102.80	691.70
Vel Total (ft/s)	1.94	Avg. Vel. (ft/s)	0.52	5.21	0.80
Max Chl Dpth (ft)	19.36	Hydr. Depth (ft)	2.69	14.74	5.16
Conv. Total (cfs)	512294.6	Conv. (cfs)	14257.3	366092.8	131944.5
Length Wtd. (ft)	137.37	Wetted Per. (ft)	220.95	111.55	692.94
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.08	0.39	0.15
Alpha	5.18	Stream Power (lb/ft s)	0.04	2.05	0.12
Frctn Loss (ft)	0.09	Cum Volume (acre-ft)	9.51	20.19	34.01
C & E Loss (ft)	0.05	Cum SA (acres)	3.10	1.55	7.33

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3921 Profile: 1%

E.G. Elev (ft)	590.72	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.29	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.43	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	581.98	Flow Area (sq ft)	790.00	1605.74	4186.54
E.G. Slope (ft/ft)	0.000431	Area (sq ft)	921.10	1605.74	4186.54
Q Total (cfs)	12400.00	Flow (cfs)	475.13	8379.62	3545.25
Top Width (ft)	1127.49	Top Width (ft)	312.69	102.80	711.99
Vel Total (ft/s)	1.88	Avg. Vel. (ft/s)	0.60	5.22	0.85
Max Chl Dpth (ft)	20.24	Hydr. Depth (ft)	3.58	15.62	5.88
Conv. Total (cfs)	596946.1	Conv. (cfs)	22873.2	403401.5	170671.4
Length Wtd. (ft)	137.54	Wetted Per. (ft)	220.95	111.55	713.30
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.10	0.39	0.16
Alpha	5.25	Stream Power (lb/ft s)	0.06	2.02	0.13
Frctn Loss (ft)	0.08	Cum Volume (acre-ft)	12.53	21.55	40.83
C & E Loss (ft)	0.05	Cum SA (acres)	3.49	1.55	7.93

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3921 Profile: 0.2%

E.G. Elev (ft)	592.19	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.28	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.92	Reach Len. (ft)	21.20	125.90	180.00
Crit W.S. (ft)	583.66	Flow Area (sq ft)	1117.90	1758.41	5270.36
E.G. Slope (ft/ft)	0.000397	Area (sq ft)	1400.71	1758.41	5270.36
Q Total (cfs)	14980.00	Flow (cfs)	813.00	9352.95	4814.05
Top Width (ft)	1175.53	Top Width (ft)	334.11	102.80	738.62
Vel Total (ft/s)	1.84	Avg. Vel. (ft/s)	0.73	5.32	0.91
Max Chl Dpth (ft)	21.73	Hydr. Depth (ft)	5.06	17.11	7.14
Conv. Total (cfs)	751690.9	Conv. (cfs)	40796.2	469327.5	241567.2
Length Wtd. (ft)	137.45	Wetted Per. (ft)	220.95	111.55	740.06
Min Ch El (ft)	570.19	Shear (lb/sq ft)	0.13	0.39	0.18
Alpha	5.31	Stream Power (lb/ft s)	0.09	2.08	0.16
Frctn Loss (ft)	0.07	Cum Volume (acre-ft)	18.33	23.90	53.36
C & E Loss (ft)	0.04	Cum SA (acres)	4.00	1.58	8.70

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3508 Profile: 50%

E.G. Elev (ft)	580.36	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.67	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	579.68	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	577.03	Flow Area (sq ft)		380.68	13.46
E.G. Slope (ft/ft)	0.002190	Area (sq ft)		380.68	13.46
Q Total (cfs)	2524.00	Flow (cfs)		2513.13	10.87
Top Width (ft)	67.33	Top Width (ft)		60.01	7.32
Vel Total (ft/s)	6.40	Avg. Vel. (ft/s)		6.60	0.81
Max Chl Dpth (ft)	7.21	Hydr. Depth (ft)		6.34	1.84
Conv. Total (cfs)	53928.9	Conv. (cfs)		53696.6	232.3
Length Wtd. (ft)	268.39	Wetted Per. (ft)		62.86	8.18
Min Ch El (ft)	572.47	Shear (lb/sq ft)		0.83	0.23
Alpha	1.06	Stream Power (lb/ft s)		5.47	0.18
Frctn Loss (ft)	0.53	Cum Volume (acre-ft)		5.65	0.05
C & E Loss (ft)	0.05	Cum SA (acres)		0.94	0.03

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3508 Profile: 20%

E.G. Elev (ft)	582.84	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.91	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	581.92	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	578.50	Flow Area (sq ft)		517.50	44.24
E.G. Slope (ft/ft)	0.002114	Area (sq ft)		517.50	44.24
Q Total (cfs)	4024.00	Flow (cfs)		3985.13	38.87
Top Width (ft)	120.78	Top Width (ft)		62.28	58.50
Vel Total (ft/s)	7.16	Avg. Vel. (ft/s)		7.70	0.88
Max Chl Dpth (ft)	9.45	Hydr. Depth (ft)		8.31	0.76
Conv. Total (cfs)	87511.2	Conv. (cfs)		86666.0	845.3
Length Wtd. (ft)	268.51	Wetted Per. (ft)		66.05	59.87
Min Ch El (ft)	572.47	Shear (lb/sq ft)		1.03	0.10
Alpha	1.14	Stream Power (lb/ft s)		7.96	0.09
Frctn Loss (ft)	0.50	Cum Volume (acre-ft)		7.91	0.16
C & E Loss (ft)	0.09	Cum SA (acres)		1.03	0.21

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3508 Profile: 10%

E.G. Elev (ft)	587.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.75	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.51	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	581.44	Flow Area (sq ft)	41.18	819.43	1440.17
E.G. Slope (ft/ft)	0.001410	Area (sq ft)	41.23	819.43	1440.17
Q Total (cfs)	7740.00	Flow (cfs)	10.99	6312.59	1416.42
Top Width (ft)	637.97	Top Width (ft)	104.95	72.20	460.83
Vel Total (ft/s)	3.36	Avg. Vel. (ft/s)	0.27	7.70	0.98
Max Chl Dpth (ft)	14.04	Hydr. Depth (ft)	0.40	11.35	3.13
Conv. Total (cfs)	206095.5	Conv. (cfs)	292.6	168087.3	37715.6
Length Wtd. (ft)	273.68	Wetted Per. (ft)	104.04	77.15	468.25
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.03	0.94	0.27
Alpha	4.29	Stream Power (lb/ft s)	0.01	7.20	0.27
Frctn Loss (ft)	0.34	Cum Volume (acre-ft)	2.60	13.29	9.84
C & E Loss (ft)	0.04	Cum SA (acres)	2.18	1.28	3.55

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3508 Profile: 2%

E.G. Elev (ft)	589.71	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.13	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	584.94	Flow Area (sq ft)	534.78	1008.89	2697.26
E.G. Slope (ft/ft)	0.000979	Area (sq ft)	557.13	1008.89	2697.26
Q Total (cfs)	11040.00	Flow (cfs)	397.88	7440.40	3201.73
Top Width (ft)	773.49	Top Width (ft)	210.90	72.20	490.39
Vel Total (ft/s)	2.60	Avg. Vel. (ft/s)	0.74	7.37	1.19
Max Chl Dpth (ft)	16.66	Hydr. Depth (ft)	2.66	13.97	5.50
Conv. Total (cfs)	352750.3	Conv. (cfs)	12713.0	237735.7	102301.6
Length Wtd. (ft)	276.50	Wetted Per. (ft)	201.05	77.15	503.20
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.16	0.80	0.33
Alpha	5.47	Stream Power (lb/ft s)	0.12	5.90	0.39
Frctn Loss (ft)	0.25	Cum Volume (acre-ft)	9.21	16.54	21.06
C & E Loss (ft)	0.00	Cum SA (acres)	2.99	1.29	4.89

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3508 Profile: 1%

E.G. Elev (ft)	590.59	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.54	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	590.05	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	585.96	Flow Area (sq ft)	720.01	1075.46	3151.52
E.G. Slope (ft/ft)	0.000885	Area (sq ft)	751.58	1075.46	3151.52
Q Total (cfs)	12400.00	Flow (cfs)	620.90	7867.67	3911.44
Top Width (ft)	778.03	Top Width (ft)	210.90	72.20	494.93
Vel Total (ft/s)	2.51	Avg. Vel. (ft/s)	0.86	7.32	1.24
Max Chl Dpth (ft)	17.58	Hydr. Depth (ft)	3.58	14.90	6.37
Conv. Total (cfs)	416792.0	Conv. (cfs)	20869.7	264450.2	131472.2
Length Wtd. (ft)	277.11	Wetted Per. (ft)	201.05	77.15	509.67
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.20	0.77	0.34
Alpha	5.49	Stream Power (lb/ft s)	0.17	5.63	0.42
Frctn Loss (ft)	0.24	Cum Volume (acre-ft)	12.13	17.68	25.67
C & E Loss (ft)	0.00	Cum SA (acres)	3.36	1.30	5.44

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 3508 Profile: 0.2%

E.G. Elev (ft)	592.08	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.58	Reach Len. (ft)	245.30	268.30	311.80
Crit W.S. (ft)	586.70	Flow Area (sq ft)	1025.89	1185.39	3911.23
E.G. Slope (ft/ft)	0.000787	Area (sq ft)	1165.83	1185.39	3911.23
Q Total (cfs)	14980.00	Flow (cfs)	1055.99	8722.98	5201.03
Top Width (ft)	876.85	Top Width (ft)	300.54	72.20	504.11
Vel Total (ft/s)	2.45	Avg. Vel. (ft/s)	1.03	7.36	1.33
Max Chl Dpth (ft)	19.11	Hydr. Depth (ft)	5.11	16.42	7.76
Conv. Total (cfs)	534113.5	Conv. (cfs)	37651.5	311018.6	185443.4
Length Wtd. (ft)	278.14	Wetted Per. (ft)	201.05	77.15	522.04
Min Ch El (ft)	572.47	Shear (lb/sq ft)	0.25	0.75	0.37
Alpha	5.38	Stream Power (lb/ft s)	0.26	5.55	0.49
Frctn Loss (ft)	0.21	Cum Volume (acre-ft)	17.71	19.65	34.39
C & E Loss (ft)	0.01	Cum SA (acres)	3.84	1.33	6.13

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 2628 Profile: 50%

E.G. Elev (ft)	579.78	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.50	Wt. n-Val.		0.035	
W.S. Elev (ft)	579.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	576.32	Flow Area (sq ft)		445.41	
E.G. Slope (ft/ft)	0.001784	Area (sq ft)		445.41	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	75.70	Top Width (ft)		75.70	
Vel Total (ft/s)	5.67	Avg. Vel. (ft/s)		5.67	
Max Chl Dpth (ft)	7.17	Hydr. Depth (ft)		5.88	
Conv. Total (cfs)	59761.7	Conv. (cfs)		59761.7	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		79.28	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.63	
Alpha	1.00	Stream Power (lb/ft s)		3.55	
Frctn Loss (ft)	0.78	Cum Volume (acre-ft)		3.11	
C & E Loss (ft)	0.03	Cum SA (acres)		0.52	

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 2628 Profile: 20%

E.G. Elev (ft)	582.25	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.63	Wt. n-Val.		0.035	
W.S. Elev (ft)	581.62	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	577.68	Flow Area (sq ft)		633.47	
E.G. Slope (ft/ft)	0.001653	Area (sq ft)		633.47	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	84.88	Top Width (ft)		84.88	
Vel Total (ft/s)	6.35	Avg. Vel. (ft/s)		6.35	
Max Chl Dpth (ft)	9.51	Hydr. Depth (ft)		7.46	
Conv. Total (cfs)	98959.9	Conv. (cfs)		98959.9	
Length Wtd. (ft)	343.40	Wetted Per. (ft)		89.75	
Min Ch El (ft)	572.11	Shear (lb/sq ft)		0.73	
Alpha	1.00	Stream Power (lb/ft s)		4.63	
Frctn Loss (ft)	0.75	Cum Volume (acre-ft)		4.37	
C & E Loss (ft)	0.05	Cum SA (acres)		0.58	

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 2628 Profile: 10%

E.G. Elev (ft)	586.88	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.61	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	586.27	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	580.37	Flow Area (sq ft)	164.12	1094.69	689.44
E.G. Slope (ft/ft)	0.001098	Area (sq ft)	344.46	1094.69	689.44
Q Total (cfs)	7740.00	Flow (cfs)	72.53	7125.51	541.96
Top Width (ft)	625.57	Top Width (ft)	261.19	104.60	259.78
Vel Total (ft/s)	3.97	Avg. Vel. (ft/s)	0.44	6.51	0.79
Max Chl Dpth (ft)	14.16	Hydr. Depth (ft)	1.12	10.47	2.65
Conv. Total (cfs)	233581.5	Conv. (cfs)	2189.0	215037.0	16355.5
Length Wtd. (ft)	340.95	Wetted Per. (ft)	146.80	109.99	259.99
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.08	0.68	0.18
Alpha	2.47	Stream Power (lb/ft s)	0.03	4.44	0.14
Frctn Loss (ft)	0.58	Cum Volume (acre-ft)	1.51	7.39	2.22
C & E Loss (ft)	0.09	Cum SA (acres)	1.15	0.73	0.97

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 2628 Profile: 2%

E.G. Elev (ft)	589.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	588.88	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	582.32	Flow Area (sq ft)	546.05	1367.20	1573.04
E.G. Slope (ft/ft)	0.000861	Area (sq ft)	1060.90	1367.20	1573.04
Q Total (cfs)	11040.00	Flow (cfs)	476.33	9139.98	1423.69
Top Width (ft)	837.72	Top Width (ft)	333.22	104.60	399.91
Vel Total (ft/s)	3.17	Avg. Vel. (ft/s)	0.87	6.69	0.91
Max Chl Dpth (ft)	16.77	Hydr. Depth (ft)	3.72	13.07	3.93
Conv. Total (cfs)	376218.8	Conv. (cfs)	16232.2	311470.4	48516.1
Length Wtd. (ft)	338.45	Wetted Per. (ft)	146.80	109.99	400.17
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.20	0.67	0.21
Alpha	3.70	Stream Power (lb/ft s)	0.17	4.47	0.19
Frctn Loss (ft)	0.49	Cum Volume (acre-ft)	4.65	9.22	5.78
C & E Loss (ft)	0.13	Cum SA (acres)	1.46	0.75	1.70

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 2628 Profile: 1%

E.G. Elev (ft)	590.35	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.58	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.77	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	583.84	Flow Area (sq ft)	676.72	1460.43	1960.05
E.G. Slope (ft/ft)	0.000818	Area (sq ft)	1390.03	1460.43	1960.05
Q Total (cfs)	12400.00	Flow (cfs)	664.01	9946.55	1789.45
Top Width (ft)	962.17	Top Width (ft)	384.06	104.60	473.51
Vel Total (ft/s)	3.03	Avg. Vel. (ft/s)	0.98	6.81	0.91
Max Chl Dpth (ft)	17.66	Hydr. Depth (ft)	4.62	13.96	4.14
Conv. Total (cfs)	433425.3	Conv. (cfs)	23209.5	347668.1	62547.6
Length Wtd. (ft)	337.53	Wetted Per. (ft)	146.80	109.99	473.78
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.24	0.68	0.21
Alpha	4.08	Stream Power (lb/ft s)	0.23	4.62	0.19
Frctn Loss (ft)	0.48	Cum Volume (acre-ft)	6.10	9.87	7.38
C & E Loss (ft)	0.13	Cum SA (acres)	1.68	0.76	1.97

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 2628 Profile: 0.2%

E.G. Elev (ft)	591.86	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.57	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	591.28	Reach Len. (ft)	382.10	343.40	269.80
Crit W.S. (ft)	585.05	Flow Area (sq ft)	898.75	1618.85	2739.83
E.G. Slope (ft/ft)	0.000748	Area (sq ft)	1989.00	1618.85	2739.83
Q Total (cfs)	14980.00	Flow (cfs)	1018.57	11288.78	2672.66
Top Width (ft)	1062.34	Top Width (ft)	397.60	104.60	560.14
Vel Total (ft/s)	2.85	Avg. Vel. (ft/s)	1.13	6.97	0.98
Max Chl Dpth (ft)	19.17	Hydr. Depth (ft)	6.13	15.48	4.89
Conv. Total (cfs)	547737.8	Conv. (cfs)	37243.4	412769.8	97724.6
Length Wtd. (ft)	335.51	Wetted Per. (ft)	146.80	109.99	560.43
Min Ch El (ft)	572.11	Shear (lb/sq ft)	0.29	0.69	0.23
Alpha	4.55	Stream Power (lb/ft s)	0.32	4.79	0.22
Frctn Loss (ft)	0.45	Cum Volume (acre-ft)	8.83	11.01	10.59
C & E Loss (ft)	0.14	Cum SA (acres)	1.88	0.78	2.32

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 1501 Profile: 50%

E.G. Elev (ft)	578.96	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.84	Wt. n-Val.		0.035	
W.S. Elev (ft)	578.12	Reach Len. (ft)			
Crit W.S. (ft)	575.76	Flow Area (sq ft)		343.65	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		343.65	
Q Total (cfs)	2524.00	Flow (cfs)		2524.00	
Top Width (ft)	56.60	Top Width (ft)		56.60	
Vel Total (ft/s)	7.34	Avg. Vel. (ft/s)		7.34	
Max Chl Dpth (ft)	7.34	Hydr. Depth (ft)		6.07	
Conv. Total (cfs)	46079.4	Conv. (cfs)		46079.4	
Length Wtd. (ft)		Wetted Per. (ft)		61.22	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.05	
Alpha	1.00	Stream Power (lb/ft s)		7.72	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 1501 Profile: 20%

E.G. Elev (ft)	581.45	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.11	Wt. n-Val.		0.035	
W.S. Elev (ft)	580.34	Reach Len. (ft)			
Crit W.S. (ft)	577.37	Flow Area (sq ft)		475.20	
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		475.20	
Q Total (cfs)	4024.00	Flow (cfs)		4024.00	
Top Width (ft)	62.21	Top Width (ft)		62.21	
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		8.47	
Max Chl Dpth (ft)	9.56	Hydr. Depth (ft)		7.64	
Conv. Total (cfs)	73466.4	Conv. (cfs)		73466.4	
Length Wtd. (ft)		Wetted Per. (ft)		68.38	
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.30	
Alpha	1.00	Stream Power (lb/ft s)		11.02	
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 1501 Profile: 10%

E.G. Elev (ft)	586.20	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.52	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	584.69	Reach Len. (ft)			
Crit W.S. (ft)	580.55	Flow Area (sq ft)		781.30	26.87
E.G. Slope (ft/ft)	0.003002	Area (sq ft)		781.30	26.87
Q Total (cfs)	7740.00	Flow (cfs)		7728.56	11.44
Top Width (ft)	134.77	Top Width (ft)		80.76	54.01
Vel Total (ft/s)	9.58	Avg. Vel. (ft/s)		9.89	0.43
Max Chl Dpth (ft)	13.91	Hydr. Depth (ft)		9.67	0.50
Conv. Total (cfs)	141273.9	Conv. (cfs)		141065.0	208.9
Length Wtd. (ft)		Wetted Per. (ft)		89.09	54.03
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.64	0.09
Alpha	1.07	Stream Power (lb/ft s)		16.26	0.04
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 1501 Profile: 2%

E.G. Elev (ft)	588.83	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.84	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	586.99	Reach Len. (ft)			
Crit W.S. (ft)	582.87	Flow Area (sq ft)		972.25	293.00
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		972.25	293.00
Q Total (cfs)	11040.00	Flow (cfs)		10729.31	310.69
Top Width (ft)	234.94	Top Width (ft)		85.15	149.79
Vel Total (ft/s)	8.73	Avg. Vel. (ft/s)		11.04	1.06
Max Chl Dpth (ft)	16.21	Hydr. Depth (ft)		11.42	1.96
Conv. Total (cfs)	201552.3	Conv. (cfs)		195880.1	5672.1
Length Wtd. (ft)		Wetted Per. (ft)		94.05	149.89
Min Ch El (ft)	570.78	Shear (lb/sq ft)		1.94	0.37
Alpha	1.55	Stream Power (lb/ft s)		21.37	0.39
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 1501 Profile: 1%

E.G. Elev (ft)	589.74	Element	Left OB	Channel	Right OB
Vel Head (ft)	1.92	Wt. n-Val.		0.035	0.120
W.S. Elev (ft)	587.81	Reach Len. (ft)			
Crit W.S. (ft)	583.95	Flow Area (sq ft)		1043.00	421.69
E.G. Slope (ft/ft)	0.003000	Area (sq ft)		1043.00	421.69
Q Total (cfs)	12400.00	Flow (cfs)		11862.80	537.20
Top Width (ft)	251.04	Top Width (ft)		87.36	163.68
Vel Total (ft/s)	8.47	Avg. Vel. (ft/s)		11.37	1.27
Max Chl Dpth (ft)	17.03	Hydr. Depth (ft)		11.94	2.58
Conv. Total (cfs)	226400.3	Conv. (cfs)		216592.1	9808.2
Length Wtd. (ft)		Wetted Per. (ft)		96.41	163.80
Min Ch El (ft)	570.78	Shear (lb/sq ft)		2.03	0.48
Alpha	1.73	Stream Power (lb/ft s)		23.04	0.61
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

Plan: Alt 6 Remove Brdg, Pier, Abut Stevens Branch Stevens Branch RS: 1501 Profile: 0.2%

E.G. Elev (ft)	591.26	Element	Left OB	Channel	Right OB
Vel Head (ft)	2.02	Wt. n-Val.	0.120	0.035	0.120
W.S. Elev (ft)	589.25	Reach Len. (ft)			
Crit W.S. (ft)	585.90	Flow Area (sq ft)	23.68	1174.44	679.83
E.G. Slope (ft/ft)	0.003006	Area (sq ft)	23.68	1174.44	679.83
Q Total (cfs)	14980.00	Flow (cfs)	13.70	13883.31	1082.99
Top Width (ft)	312.49	Top Width (ft)	30.04	93.50	188.95
Vel Total (ft/s)	7.98	Avg. Vel. (ft/s)	0.58	11.82	1.59
Max Chl Dpth (ft)	18.47	Hydr. Depth (ft)	0.79	12.56	3.60
Conv. Total (cfs)	273227.7	Conv. (cfs)	250.0	253224.5	19753.2
Length Wtd. (ft)		Wetted Per. (ft)	30.08	102.61	189.13
Min Ch El (ft)	570.78	Shear (lb/sq ft)	0.15	2.15	0.67
Alpha	2.04	Stream Power (lb/ft s)	0.09	25.39	1.07
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			