2013

Elkhart River and Christiana Creek Dams

Appendix A- Hydrology and Hydraulics

Chicago & Detroit Districts
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APPENDIX A – HYDROLOGY AND HYDRAULICS

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INTRODUCTION

The St. Joseph River Watershed, located in the southwest portion of the lower peninsula of Michigan and northwestern portion of Indiana, is the third largest river basin in Michigan. It spans the Michigan-Indiana border and empties into Lake Michigan at St. Joseph, Michigan. Like many major watersheds in the Great Lakes basin, the St. Joseph River watershed is fragmented by dams. From large, hydro-power producing structures on the main-stem to smaller run-of-river dams on tributaries, natural hydrologic and hydraulic functions have been compromised for nearly a century. A cluster of these dams is present in downtown Elkhart, IN: a hydropower facility on the St. Joseph River and a small, low-head dam on each of 2 tributaries, the Elkhart River and Christiana Creek. Native fish and macroinvertebrate communities have been displaced from historical migration routes on these tributaries for many decades. Water quality and sediment transport mechanisms have also been impacted by the presence of these structures.

The City of Elkhart, Indiana has requested that the Chicago District initiate a study under Section 506, Fisheries and Ecosystem Restoration. This study evaluates the feasibility and environmental effects of dam removal, fish passage, and riparian restoration on the lower sections of Christiana Creek and the Elkhart River.

PURPOSE

The purpose of the hydrologic and hydraulic analysis is to investigate how the proposed low-head dam removal projects would impact river hydraulics and sediment transport in Christiana Creek and Elkhart River. The hydraulic modeling of proposed conditions informs the selection of the recommended plan.

WATERSHED DESCRIPTION

The study area is part of the St. Joseph River system and is located in north central Indiana in the City of Elkhart. The St. Joseph River extends 210 miles through portions of southern Michigan and northern Indiana and has over 1,641 miles of significant tributary streams. The mouth of the St. Joseph River flows into Lake Michigan about 65 miles downstream from Elkhart.

The proposed project on Christiana Creek is located northeast of East Crawford and Cassopolis Street, at High Dive Park. The dam is 50 ft long, 3 ft high, and about 900 ft upstream of the confluence of Christiana Creek and the St. Joseph River. The proposed project on the Elkhart River is located northeast of Elkhart Avenue and Waterfall Drive. The dam is 147 ft long, 10 ft high, and about 3,350 ft upstream of the confluence of the Elkhart River and the St. Joseph River. More detailed site descriptions are contained in the Christiana Creek Dam and Elkhart River Dam sections of this report.

CHRISTIANA CREEK DAM

Site Description

The dam in Christiana Creek is located in High Dive Park, just upstream of the confluence with the St. Joseph River. The drainage area is about 118 mi^2. The dam consists of sheetpile and concrete, as shown in Figure 1 below. Just upstream of the structure, sheetpile retaining walls make up both banks. A meandering low flow channel, pools, and sand bars were observed in the project reach. A large pond that takes up most of High Dive Park is located northeast of Christiana Creek. The pond is connected to the stream both upstream and downstream of the dam.

Figure 1. Christiana Creek Dam.

Hydrology

Low flows were estimated based on data from other gages in Indiana, in watersheds tributary to Lake Michigan (Fowler and Wilson 1996). Values of average discharge and flows that are exceeded 20%, 50%, and 80% of the time were plotted versus drainage area. Best-fit lines were created in Excel, and were used to estimate the low flows for Christiana Creek, as shown in Plate 1. High flows were taken from IDNR's coordinated discharge table for ungaged streams in Elkhart County, shown in Plate 2. Table 1 below list the discharges used in this analysis.

Table 1. Christiana Creek Flows.

Low-Flow Description	Discharge (cfs)	High Flow Description	Discharge (cfs)
80% exceeded	45	10-year	672
50% exceeded	83	50-year	864
Average flow	115	100-year	960
20% exceeded	160	500-year	1,152

Hydraulics

A hydraulic model was developed in steady-state HEC-RAS. The FIS model was obtained from the IDNR's website, and it was an HEC-2 model imported to HEC-RAS. The river stationing was changed to represent feet upstream of the mouth. The vertical datum was converted from NGVD29 to NAVD88 by subtracting 0.4 ft. Survey data from 2011 were used to generate nine new cross sections in GeoRAS, which were added to the FIS model. The dam was modeled as an inline structure.

Sediment Transport

Sediment sampling was conducted in June 2011 (FutureNet 2011). One sample was taken just upstream of the dam to determine the grain-size distribution. The bed consists of about 77% sand and 23% gravel, with less than 1% silts and clays. The d_{50} of the sediment sample was 0.044 in, which is coarse sand. The grain-size distribution is shown in Figure 2 below.

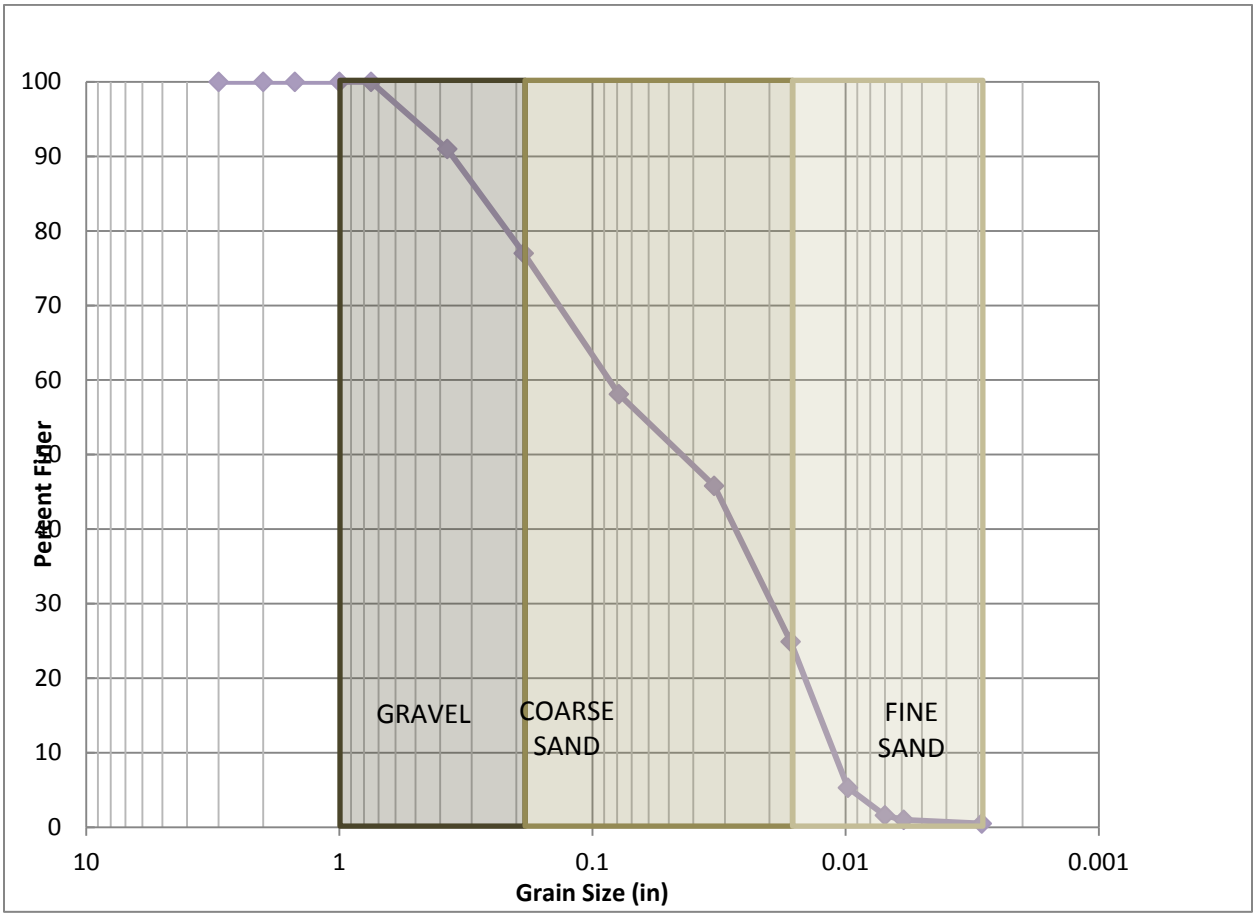

Figure 2. Christiana Creek Sediment Grain Size Distribution.

Sediment transport modeling was not conducted because of the small size of the structure. The structure does not control water surface elevation during flood flows, and it is assumed that it does not have a significant impact on sediment transport in the reach. Therefore the pre- and

post-removal sediment transport conditions in this reach of Christiana Creek will not be significantly different.

Dam Removal Evaluation

One dam removal alternative was modeled: full removal of the structure. This was conducted in HEC-RAS by deleting the inline structure that represented the dam. In the low flow runs, upstream stages are 1-4 inches lower for about 580 ft upstream, and the profiles converge between the railroad bridge and Cassopolis St. The HEC-RAS model showed no change to stages during flood flow runs. The HEC-RAS results are summarized in Attachment 1.

Discussion

While removing the dam in Christiana Creek will have no impact on flood stages, the project will cause slightly lower stages during lower-flow conditions. This could impact the pond at High Dive Park, which receives water from Christiana Creek through a gate that is about 270 ft upstream of the dam. If necessary, the gate could be adjusted to allow more inflow from Christiana Creek, or a riffle could be constructed in the reach downstream of the gate to induce backwater in the creek during lower flow conditions.

ELKHART RIVER DAM

Site Description

The proposed project on the Elkhart River is located northeast of Elkhart Avenue and Waterfall Drive, in downtown Elkhart. The dam is 147 ft long, 10 ft high, and about 3,350 ft upstream of the confluence of the Elkhart River and the St. Joseph River. The dam appears to be constructed of stone and concrete (TesTech 2011). The drainage area is about 700 mi^2. Figure 3 is a photograph of the dam, looking upstream.

Hydrology

Low flows were estimated based on data from a gage upstream of the project area, at Goshen (USGS ID 04100500). The drainage area at the Goshen gage is 594 mi^2. The gage records and discharge statistics were obtained through StreamStats (USGS 2011). An adjustment based on drainage area was applied: the flows at the gage were multiplied by a factor equal to 1.1768, the drainage area at the dam divided by the drainage area at Goshen. High flows were taken from IDNR's coordinated discharge table for the Elkhart River, shown in Plate 3. Table 2 below list the discharges used in this analysis.

Figure 3. Elkhart River Dam.

Table 2. Elkhart River Flows.

Low Flow Description	Discharge (cfs)	High Flow Description	Discharge (cfs)
7Q10	96.3	10-year	5,650
80% exceeded	237	25-year	6,600
50% exceeded	458	50-year	7,350
Average flow	635	100-year	8,100
20% exceeded	940	500-year	9,350

Hydraulics

Hydraulic Model Development

A hydraulic model was developed in steady-state HEC-RAS. The FIS model was obtained from the IDNR's website, and it was an HEC-2 model imported to HEC-RAS. The FIS model of Elkhart River extended from the confluence with the St. Joseph River to over 37 miles upstream. Elkhart Dam is located less than a mile from the mouth of the Elkhart River; for this analysis the FIS model was truncated about two miles upstream of the mouth. The river stationing was changed to represent feet upstream of the mouth. The vertical datum was converted from NGVD29 to NAVD88 by subtracting 0.4 ft.

Survey data from 2011 were used to generate new cross sections in GeoRAS, which were added to the FIS model. Channel survey data were available between the dam and the downstream-most access bridge to American Park, and the remainder of the cross sections used channel data from the FIS model. Manning's "n" values were taken from the FIS model and verified

using aerial photography. The dam was modeled as an inline structure with a crest elevation of 727.24 ft.

Hydraulic Modeling Scenarios

Three scenarios were run to investigate the hydraulic impacts of dam removal, one representing the existing conditions and two representing proposed conditions. The Existing Conditions scenario represents the current conditions with the dam in place. Both Proposed Conditions scenarios assume that the dam is completely removed.

The Proposed Short-Term Conditions scenario represents the time soon after dam removal. In this scenario, the inline structure was deleted but the rest of the HEC-RAS geometry remained the same as the Existing Conditions.

The Proposed Long-Term Conditions represents the time long after dam removal, when the streambed has eroded. In this scenario, the inline structure was deleted and cross sections were edited between the dam and Prairie St. The channel bed slope was observed both upstream and downstream of the dam, and a best-fit line was sketched in between. The cross sections upstream of the dam and downstream of Prairie were adjusted to create a smooth slope. The channel beds were lowered using the graphical cross section editor in HEC-RAS. The assumptions inherent in the Long-Term Conditions geometry are discussed in the Sediment Transport Section below.

Sediment Transport

Sediment sampling was conducted in June 2011 (FutureNet 2011). Eight samples were taken upstream of Elkhart Dam, and the grain-size distribution of these samples was determined. Just upstream of the dam, the bed consists of about 90% sand and 6% gravel, with less than 4% silts and clays. The d_{50} of the sediment sample was 0.025 in, which is coarse sand. The remainder of the samples show the same general characteristics of being mostly sand, less than 5% silts and clays, and d_{50} in the coarse sand range. The grain-size distributions are shown in Figure 4 below.

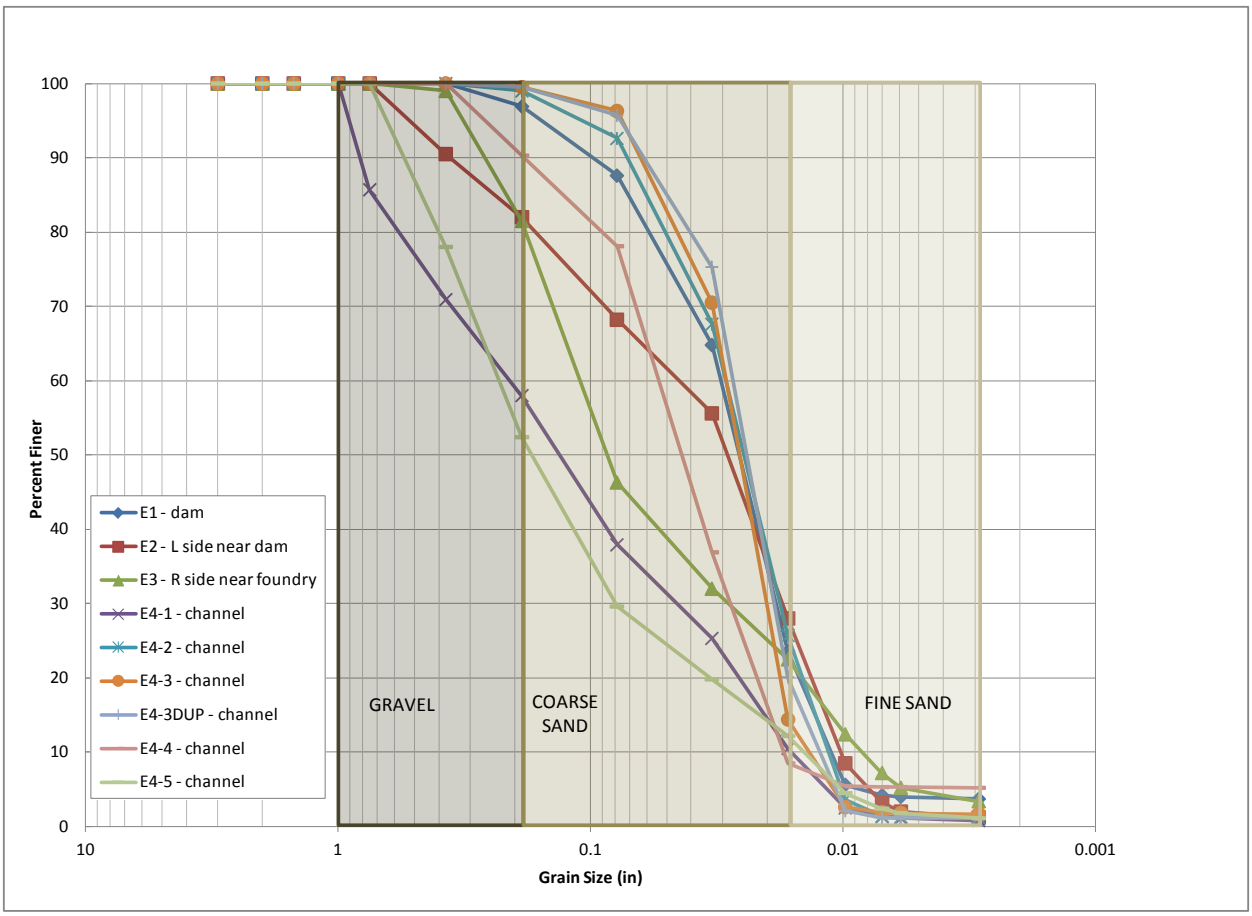

Figure 4. Elkhart River Sediment Grain Size Distributions.

To estimate the channel bed geometry that would develop a long time (many years) after dam removal, various assumptions were made. As discussed in an earlier section, a best-fit line was sketched in the reach between the dam and Prairie St. The engineer noted that the channel slope in the Elkhart River was about 0.0015. The cross sections upstream of the dam were adjusted by lowering the thalweg in order to create a slope of about 0.0015. The Proposed Long-Term thalweg is shown in Figure 5. It was assumed that the material behind the dam is erodible over a long time period; the sediment sampling data shows refusal at sediment depths of about 2-2.5 ft, but the reason for refusal was not identified. It was assumed that deposition would occur in a reach about 550 ft downstream of the dam, between the dam and Elkhart Ave, but that the remainder of the downstream reach would remain unchanged from the Existing Conditions. The edited cross sections represent an eroded volume of about 8,500 yd^3 of material; computations are shown in Plate 4.

Sediment transport modeling was initiated because of the size of the structure and the urban location: the post-removal channel must be stable. A sediment-transport model was developed in HEC-RAS. The sediment data was generated using the sampling data that was taken upstream of the dam. Quasi-steady flow data was generated using data from the Goshen gage. Gage records at the St. Joseph River provided the downstream boundary condition. Initial runs of the model computed severe erosion downstream of the dam after dam removal. This was unexpected because dam removal would allow more sediment to go downstream and channel

instability normally moves upstream. The sediment transport model is not complete at the time of this writing.

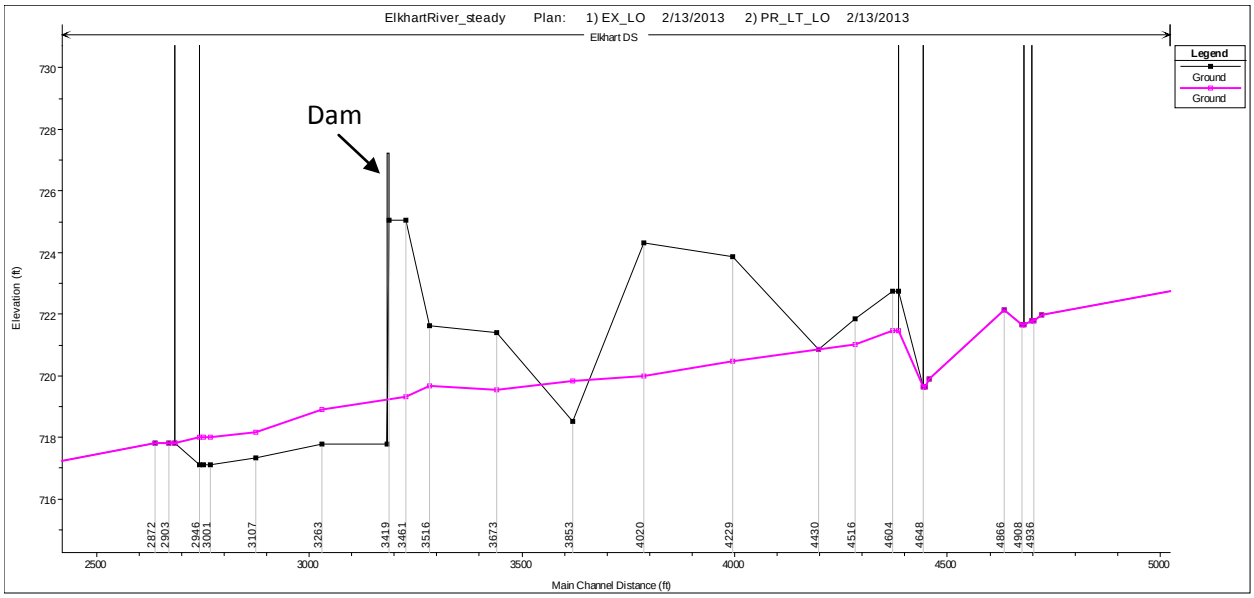

Figure 5. Elkhart River Thalweg, Existing and Proposed Long-Term Conditions.

Dam Removal Evaluation

The HEC-RAS model results are summarized in Attachment 2. The following paragraphs describe the impacts of dam removal on the hydraulics of the Elkhart River.

Impact to Water Surface Elevation

The Proposed Short-Term Conditions modeling showed that the water surface elevation would decrease by 2-4 ft immediately upstream of the dam. The Proposed Short-Term Conditions water surface profile approached convergence with the Existing Conditions model at the upstream end of the modeling, being less than 0.3 ft lower than Existing Conditions in the 100-year event.

The Proposed Long-Term Conditions modeling showed a much greater change in stage just upstream of the dam site, which makes sense because this scenario assumes that the sediment deposited behind the dam has eroded away. The lowest flow, 7Q10, showed a drop of over 7 ft in stage while the 100-year flow is 2.6 ft lower than the Existing Conditions. The Proposed Long-Term Conditions profiles also approach convergence with the Existing Conditions similar but not identical to the Proposed Short-Term Conditions.

Impact to Velocity

The cross sections with the most significant changes in velocity between the Existing and Proposed Conditions are generally located where there is a constriction in cross-sectional area.

The greatest changes in velocity are located at River Stations 3461 and 4020. RS 3461 is the first cross section upstream of the dam. The changes in velocity at the first two bridges upstream of the bridge, Prairie St (RS 4648) and the railroad (RS 4923) are not very large compared to the changes at other locations.

Discussion

When the dam is removed, the sediment deposited upstream will erode. Sediment samples show that the sediment consists of sand and gravel, with very little silt and clay. The low percentage of very fine sediment suggests that turbidity will not be a significant issue. After removal, the stream should be monitored for at least 1200 ft upstream of the dam, from the site of the dam to the Prairie St. Bridge. If the stream appears to be eroding at Prairie St. and further upstream, then a grade-control structure such as a riffle should be installed to prevent head-cutting. Erosion pins could be installed in the monitoring reach to track the pace of erosion.

The HEC-RAS model predicts significant increases in velocity at River Station 6531, which is one of the bridges at American Park. This is the upstream extent of the new channel survey, and the HEC-RAS geometry shows a sharp change in bed elevation at this structure. Observations or channel survey should be conducted at this location to either confirm or reject this assumption because if the channel does not actually have such abrupt changes in geometry, then the model is not reflecting accurate conditions at this location. If the model is adequately describing the conditions at the structure, then this site should also be monitored post removal to assess the need for armoring.

Future Work

Future work should include collection of more stream channel survey data, especially in the meander around American Park. This data would decrease the uncertainty in the hydraulic modeling. The hydraulic model could include more FIS cross sections upstream of American Park to show where the Existing and Proposed Conditions water-surface profiles finally converge. Other data that could be collected are sediment samples downstream of the dam. This could be used to improve the unfinished sediment transport model.

SUMMARY

Hydrologic, hydraulic, and sediment transport analyses were conducted to evaluate dam removal projects on Christiana Creek and the Elkhart River. Removing the structure on Christiana Creek will have minimal impact to flood flows, and any impact to the pond at High Dive Park could be remedied by adjusting a gate or installing a small riffle. Removing the structure on the Elkhart River will lower stages by 2-7 ft, and the effects on stage will be noticeable for at least one mile upstream. Erosion will occur just upstream of the structure, and channel constrictions will experience the greatest increase in flow velocity. The erosion should be monitored to ensure that channel instability does not occur and migrate upstream to Prairie St. and beyond.

REFERENCES

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TesTech. 2011. Geotechnical Investigation Concrete Coring and Testing, Elkhart River Dams Section 506 Feasibility Study, prepared for US Army Corps of Engineers Chicago District, Dayton, OH.

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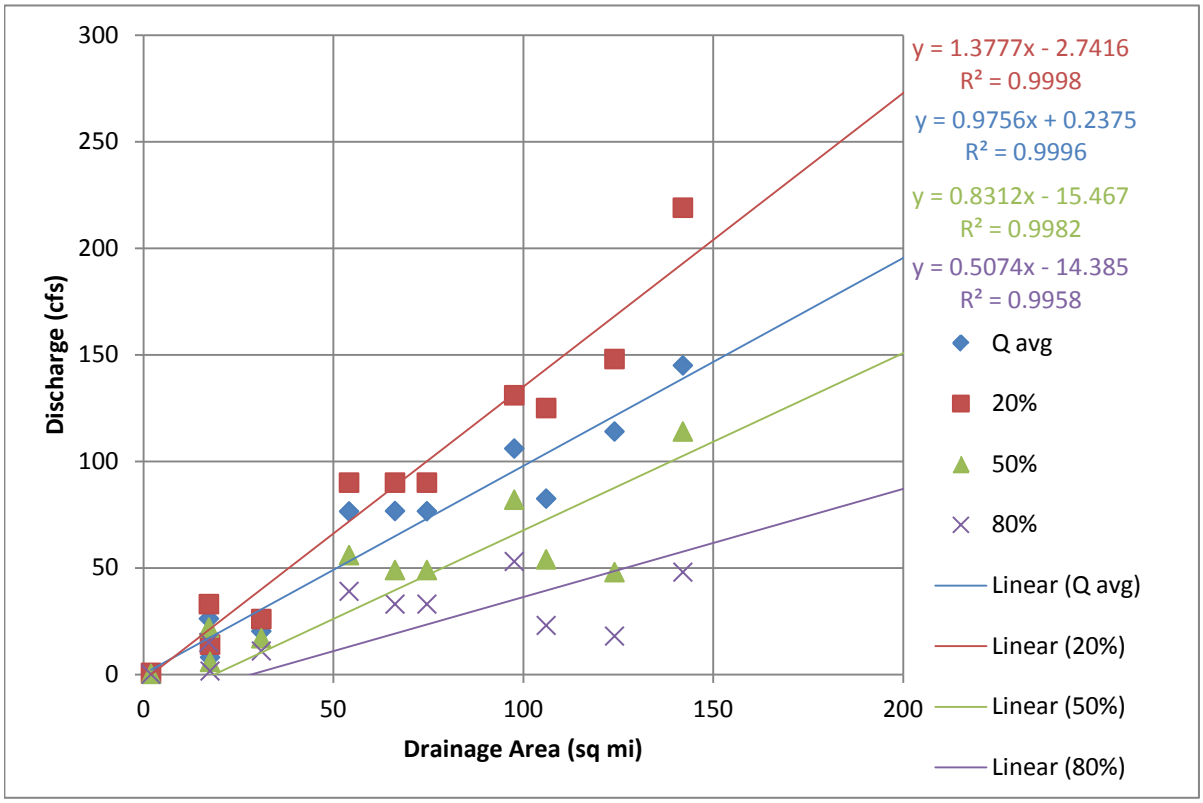
PLATES

Plate 1

Estimate of Low Flows in Christiana Creek

Stream	DA (mi^2)	Q avg (cfs)	Flow Duration Statistics (cfs) 20%	50%	80%
Deep R @ Lake George	124	114	148	48	18
Little Cal @ Porter	66.2	76.7	90	49	33
Salt Cr @ McCool	74.6	76.6	90	49	33
Trail Cr @ Mich City	54.1	76.5	90	56	39
Galena R @ LaPorte	17.2	26.2	33	22	15
Lime Lk Outlet @ Panama	17.5	8.06	14	5.9	1.6
Pigeon Cr @ Angola	106	82.5	125	54	23
Pretty Lk Inlet @ Stroh	1.96	0.48	0.73	0.28	0.1
Pigeon R @ Scott	361	374	521	301	178
Little Elkhart R @ Middlebury	97.6	106	131	82	53
Pine Cr @ Elkhart	31	20.3	26	17	11
N Br Elkhart @ Cosperville	142	145	219	114	48
Elkhart @ Goshen	594	538	801	389	202
St. Joe @ Elkhart	3370	3293	4640	2800	1710
Christiana @ Elkhart	118	115	160	83	45



Source: Fowler, K. K. and J. T. Wilson. 1996. Low-Flow Characteristics of Indiana Streams, Water-Resources Investigations Report WRI 96-4128, US Geological Survey, with Indiana Department of Natural Resources Division of Water, Indianapolis, IN.

Plate 2

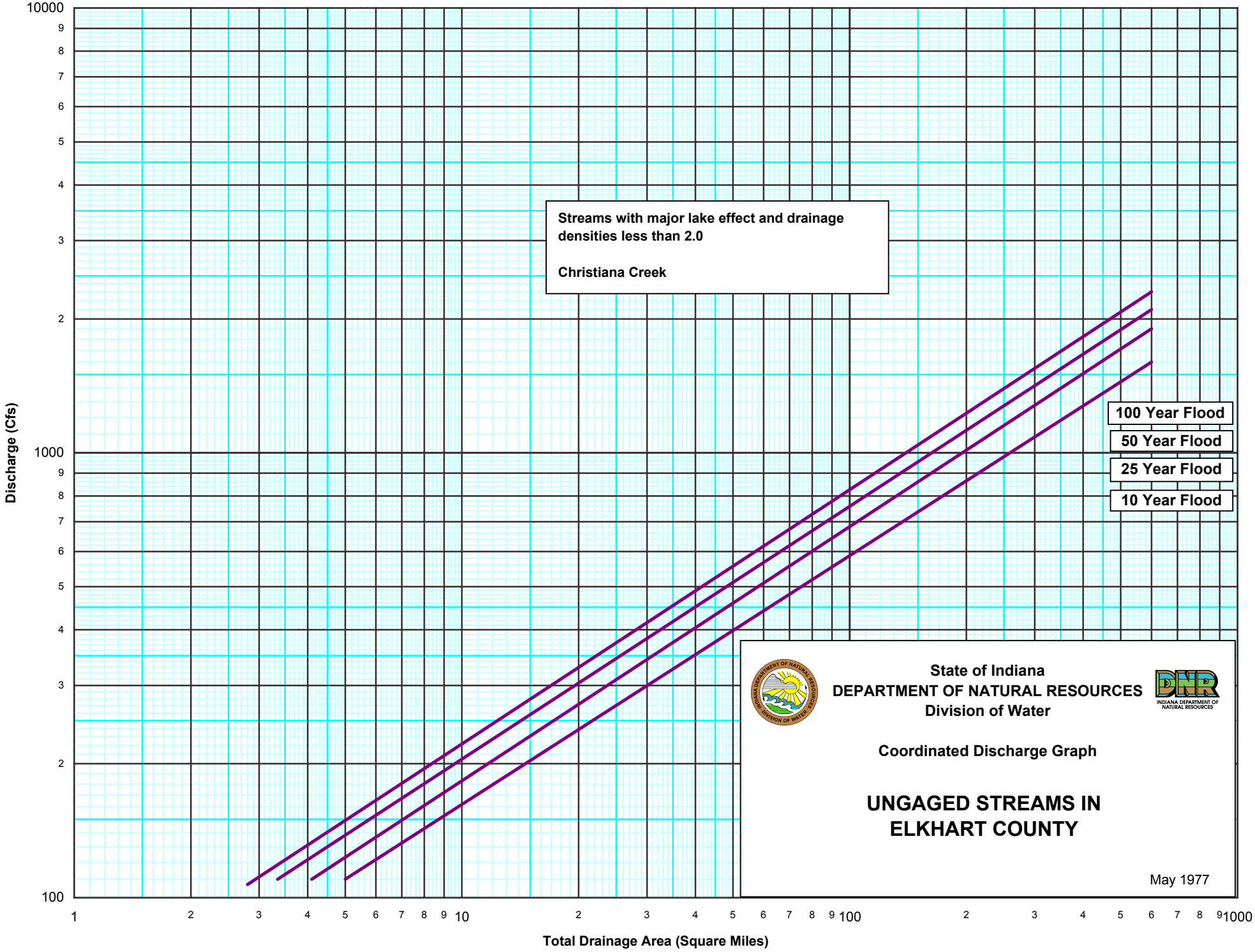

Streams with major lake effect and drainage densities less than 2.0
Christiana Creek
100 Year Flood
50 Year Flood
25 Year Flood
10 Year Flood
Discharge (Cfs)
Total Drainage Area (Square Miles)
10000
1000
100
1
10
100
1000
State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Coordinated Discharge Graph
UNGAGED STREAMS IN
ELKHART COUNTY
May 1977

Plate 3

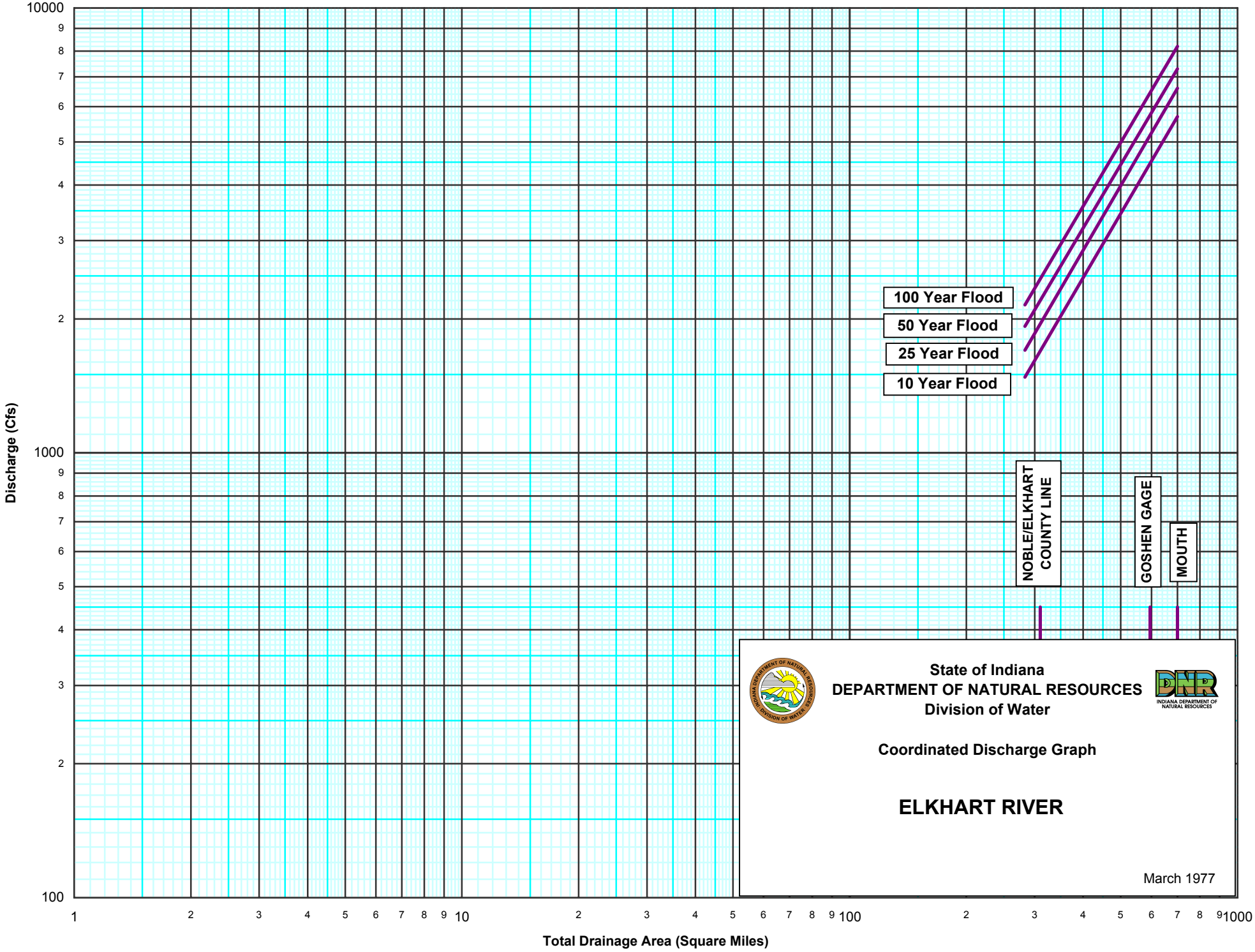

10000
9
8
7
6
5
4
3
2
1000
9
8
7
6
5
4
3
2
100
Discharge (Cfs)
1
2
3
4
5
6
7
8
9
10
2
3
4
5
6
7
8
9
100
2
3
4
5
6
7
8
9
1000
Total Drainage Area (Square Miles)
100 Year Flood
50 Year Flood
25 Year Flood
10 Year Flood
NOBLE/ELKHART COUNTY LINE
GOSHEN GAGE
MOUTH
State of Indiana
DEPARTMENT OF NATURAL RESOURCES
Division of Water
Coordinated Discharge Graph
ELKHART RIVER
March 1977

Plate 4

Estimate of Elkhart River Erosion after Dam Removal

RS	ΔA (ft^2)	Distance (ft)	ΔVolume (ft^3)
2903	0	0	
2984	-36.72	81.59	-1497.99
3001	-36.3	16.91	-617.38
3107	-34.51	106.37	-3766.03
3263	-83.75	155.93	-9220.14
3461	439.3	197.67	35140.78
3516	278.3	55.17	19795.00
3673	102.76	156.8	29875.10
3853	151.53	180.53	22953.49
4020	338.2	166.11	40674.53
4229	248.8	208.95	61326.83
4430	0	201.3	25041.72
4516	19.63	85.74	841.54
4604	71.01	88.17	3995.86
4682	0	78.34	2781.46

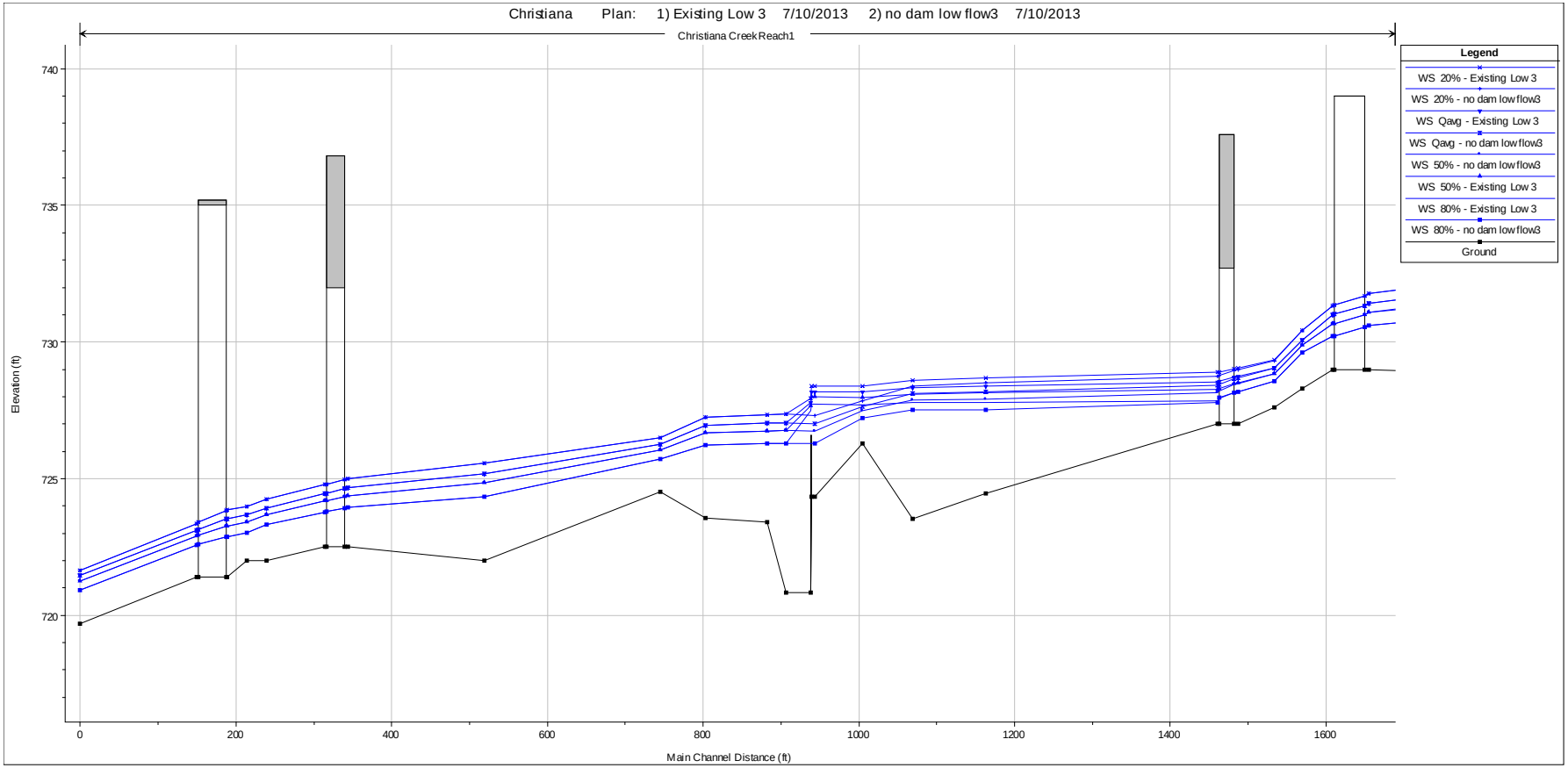
SUM: 227,325 ft^3

8,419 yd^3

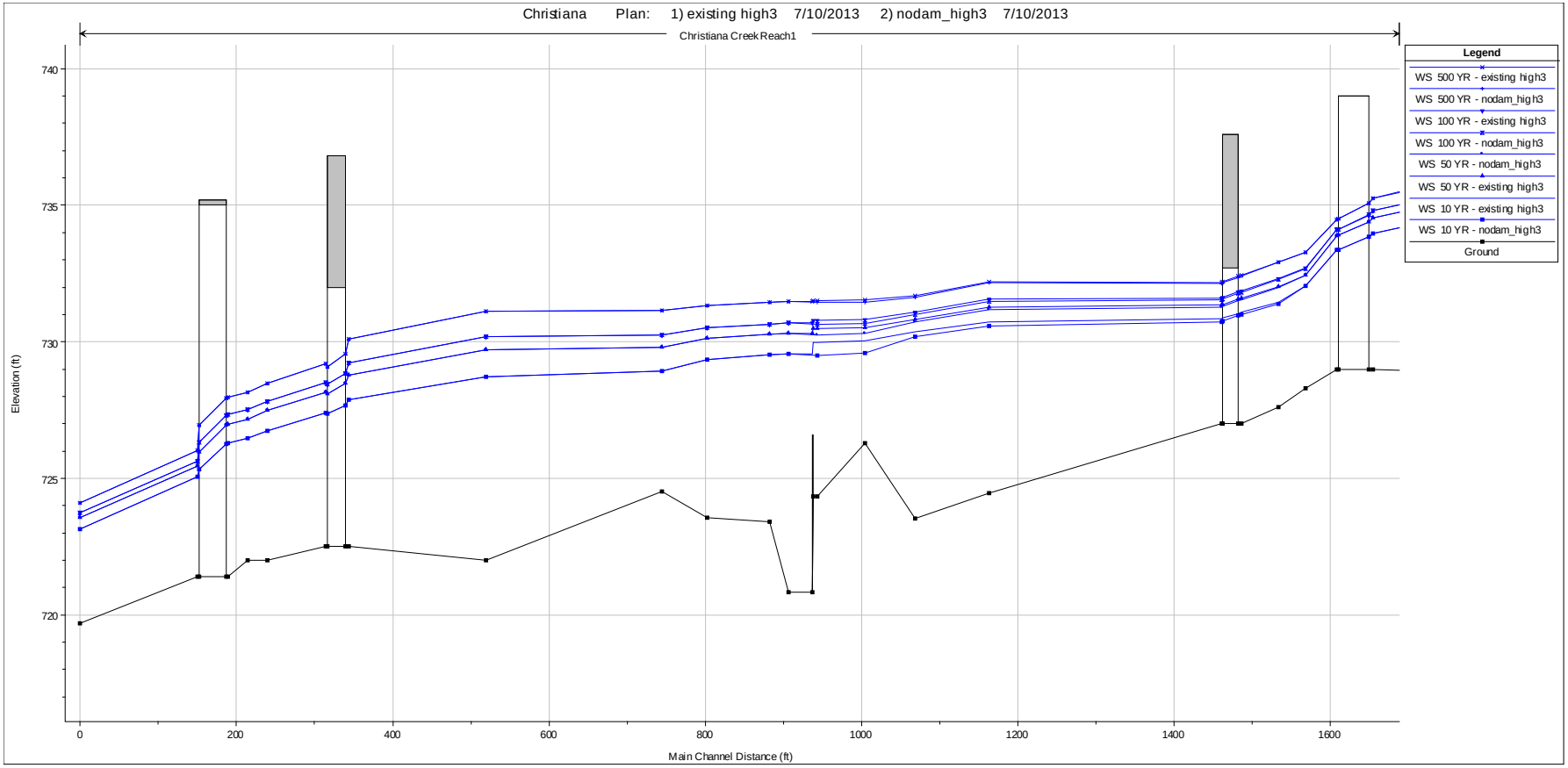
Notes: (+) is erosion, (-) is deposition.

Areas were computed using measuring tool in HEC-RAS.

ATTACHMENT 1 – HEC-RAS RESULTS: CHRISTIANA CREEK



Christiana Creek, Low Flow Results.



Christiana Creek, High Flow Results.

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	1730.5			Bridge									
Reach1	1709	80%	exist_low611	45	729	730.21	729.8	730.27	0.005197	2.01	22.39	27.54	0.39
Reach1	1709	80%	no dam_low611	45	729	730.21	729.8	730.27	0.005197	2.01	22.39	27.54	0.39
Reach1	1709	50%	exist_low611	83	729	730.67	730.04	730.75	0.004388	2.33	35.6	30.54	0.38
Reach1	1709	50%	no dam_low611	83	729	730.67	730.04	730.75	0.004379	2.33	35.63	30.54	0.38
Reach1	1709	Qavg	exist_low611	115	729	731.01	730.2	731.1	0.003948	2.47	46.57	33.69	0.37
Reach1	1709	Qavg	no dam_low611	115	729	731.01	730.2	731.1	0.003945	2.47	46.58	33.69	0.37
Reach1	1709	20%	exist_low611	160	729	731.34	730.42	731.46	0.004093	2.75	58.25	36.75	0.38
Reach1	1709	20%	no dam_low611	160	729	731.34	730.42	731.46	0.004092	2.75	58.25	36.75	0.38
Reach1	1621.5	80%	exist_low611	45	728.3	729.61	729.49	729.84	0.022718	3.84	11.71	15.85	0.79
Reach1	1621.5	80%	no dam_low611	45	728.3	729.61	729.49	729.84	0.022718	3.84	11.71	15.85	0.79
Reach1	1621.5	50%	exist_low611	83	728.3	729.89	729.82	730.3	0.028235	5.08	16.32	16.88	0.91
Reach1	1621.5	50%	no dam_low611	83	728.3	729.89	729.82	730.3	0.028494	5.1	16.27	16.87	0.92
Reach1	1621.5	Qavg	exist_low611	115	728.3	730.08	730.08	730.62	0.032995	5.91	19.45	17.97	1
Reach1	1621.5	Qavg	no dam_low611	115	728.3	730.08	730.08	730.62	0.032995	5.91	19.45	17.97	1
Reach1	1621.5	20%	exist_low611	160	728.3	730.42	730.42	730.97	0.032444	5.93	26.97	25.12	1.01
Reach1	1621.5	20%	no dam_low611	160	728.3	730.42	730.42	730.97	0.032444	5.93	26.97	25.12	1.01
Reach1	1534	80%	exist_low611	45	727.6	728.56	728.56	728.81	0.039059	4	11.26	23.38	1.02
Reach1	1534	80%	no dam_low611	45	727.6	728.56	728.56	728.81	0.039059	4	11.26	23.38	1.02
Reach1	1534	50%	exist_low611	83	727.6	728.83	728.83	729.15	0.03554	4.5	18.46	29.94	1.01
Reach1	1534	50%	no dam_low611	83	727.6	728.84	728.83	729.15	0.034945	4.47	18.57	30.03	1
Reach1	1534	Qavg	exist_low611	115	727.6	729.05	729	729.37	0.028487	4.51	25.5	34.18	0.92
Reach1	1534	Qavg	no dam_low611	115	727.6	729.04	729	729.36	0.029048	4.54	25.32	34.16	0.93
Reach1	1534	20%	exist_low611	160	727.6	729.34	729.18	729.65	0.022139	4.52	35.41	35.2	0.79
Reach1	1534	20%	no dam_low611	160	727.6	729.31	729.18	729.64	0.023879	4.64	34.45	35.11	0.83
Reach1	1484	80%	exist_low611	45	727	728.18	727.78	728.23	0.004222	1.71	26.35	36	0.35
Reach1	1484	80%	no dam_low611	45	727	728.18	727.78	728.23	0.004198	1.7	26.39	36	0.35
Reach1	1484	50%	exist_low611	83	727	728.5	727.99	728.57	0.004457	2.2	37.68	36	0.38
Reach1	1484	50%	no dam_low611	83	727	728.47	727.99	728.55	0.00484	2.26	36.74	36	0.39
Reach1	1484	Qavg	exist_low611	115	727	728.74	728.13	728.83	0.004358	2.48	46.37	36	0.39
Reach1	1484	Qavg	no dam_low611	115	727	728.69	728.13	728.79	0.004942	2.58	44.61	36	0.41
Reach1	1484	20%	exist_low611	160	727	729.06	728.3	729.18	0.004111	2.76	57.91	36	0.38

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	1484	20%	no dam_low611	160	727	728.98	728.3	729.11	0.004856	2.91	55	36	0.41
Reach1	1472.5			Bridge									
Reach1	1461	80%	exist_low611	45	727	727.86	727.78	728	0.022817	2.96	15.22	32.64	0.76
Reach1	1461	80%	no dam_low611	45	727	727.78	727.78	727.98	0.040352	3.56	12.64	31.52	0.99
Reach1	1461	50%	exist_low611	83	727	728.28	727.99	728.4	0.009611	2.79	29.78	36	0.54
Reach1	1461	50%	no dam_low611	83	727	728.15	727.99	728.32	0.016874	3.31	25.09	36	0.7
Reach1	1461	Qavg	exist_low611	115	727	728.55	728.13	728.68	0.007261	2.9	39.63	36	0.49
Reach1	1461	Qavg	no dam_low611	115	727	728.43	728.13	728.6	0.010511	3.25	35.38	36	0.58
Reach1	1461	20%	exist_low611	160	727	728.9	728.3	729.04	0.005759	3.07	52.17	36	0.45
Reach1	1461	20%	no dam_low611	160	727	728.76	728.3	728.94	0.00797	3.39	47.19	36	0.52
Reach1	1176.198	80%	exist_low611	45	724.47	727.79	726.39	727.8	0.000129	0.44	101.61	77.77	0.07
Reach1	1176.198	80%	no dam_low611	45	724.47	727.53	726.39	727.53	0.00024	0.55	81.97	72.21	0.09
Reach1	1176.198	50%	exist_low611	83	724.47	728.13	726.56	728.14	0.000221	0.64	129.52	85.05	0.09
Reach1	1176.198	50%	no dam_low611	83	724.47	727.92	726.56	727.93	0.000337	0.74	111.58	80.45	0.11
Reach1	1176.198	Qavg	exist_low611	115	724.47	728.38	726.68	728.39	0.000274	0.76	151.12	90.28	0.1
Reach1	1176.198	Qavg	no dam_low611	115	724.47	728.18	726.68	728.19	0.000388	0.86	133.58	86.06	0.12
Reach1	1176.198	20%	exist_low611	160	724.47	728.68	726.81	728.69	0.000384	0.89	179.88	109.65	0.12
Reach1	1176.198	20%	no dam_low611	160	724.47	728.5	726.81	728.51	0.000443	0.99	161.63	93.14	0.13
Reach1	1081.757	80%	exist_low611	45	723.54	727.78	724.78	727.78	0.000112	0.64	70.41	26.76	0.07
Reach1	1081.757	80%	no dam_low611	45	723.54	727.51	724.78	727.52	0.00015	0.71	63.4	25.61	0.08
Reach1	1081.757	50%	exist_low611	83	723.54	728.1	725.14	728.12	0.000275	1.05	79.28	28.16	0.11
Reach1	1081.757	50%	no dam_low611	83	723.54	727.87	725.14	727.89	0.000345	1.14	73.01	27.18	0.12
Reach1	1081.757	Qavg	exist_low611	115	723.54	728.33	725.4	728.36	0.000426	1.34	85.83	29.14	0.14
Reach1	1081.757	Qavg	no dam_low611	115	723.54	728.12	725.4	728.15	0.00052	1.44	79.77	28.23	0.15
Reach1	1081.757	20%	exist_low611	160	723.54	728.59	725.7	728.64	0.000649	1.71	93.7	30.29	0.17
Reach1	1081.757	20%	no dam_low611	160	723.54	728.4	725.7	728.45	0.00077	1.82	87.99	29.46	0.19
Reach1	1017.976	80%	exist_low611	45	726.28	727.71	727.22	727.76	0.004007	1.74	25.9	34.01	0.35
Reach1	1017.976	80%	no dam_low611	45	726.28	727.22	727.22	727.46	0.039129	3.9	11.53	24.88	1.01
Reach1	1017.976	50%	exist_low611	83	726.28	727.98	727.48	728.06	0.005629	2.33	35.67	38.99	0.43
Reach1	1017.976	50%	no dam_low611	83	726.28	727.48	727.48	727.79	0.034326	4.46	18.61	29.76	0.99
Reach1	1017.976	Qavg	exist_low611	115	726.28	728.17	727.64	728.28	0.006259	2.64	43.53	275.01	0.46

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	1017.976	Qavg	no dam_low611	115	726.28	727.64	727.64	728.01	0.033635	4.86	23.67	32.77	1.01
Reach1	1017.976	20%	exist_low611	160	726.28	728.39	727.85	728.53	0.006784	3	53.39	279.79	0.49
Reach1	1017.976	20%	no dam_low611	160	726.28	727.85	727.85	728.27	0.031844	5.22	30.63	36.51	1.01
Reach1	956.6514	80%	exist_low611	45	724.33	727.72	725.38	727.73	0.000111	0.53	85.51	44.87	0.07
Reach1	956.6514	80%	no dam_low611	45	724.33	726.28	725.38	726.31	0.001651	1.38	32.69	31.1	0.24
Reach1	956.6514	50%	exist_low611	83	724.33	727.98	725.67	728	0.000268	0.85	97.85	48.75	0.11
Reach1	956.6514	50%	no dam_low611	83	724.33	726.74	725.67	726.78	0.00181	1.74	47.65	34.01	0.26
Reach1	956.6514	Qavg	exist_low611	115	724.33	728.17	725.89	728.19	0.00041	1.07	107.19	377.14	0.13
Reach1	956.6514	Qavg	no dam_low611	115	724.33	727.02	725.89	727.08	0.002001	2	57.43	35.78	0.28
Reach1	956.6514	20%	exist_low611	160	724.33	728.38	726.15	728.41	0.000596	1.35	118.33	393.02	0.16
Reach1	956.6514	20%	no dam_low611	160	724.33	727.32	726.15	727.41	0.002384	2.33	68.82	39.01	0.31
Reach1	951			Inl Struct									
Reach1	919.5323	80%	exist_low611	45	720.84	726.29	721.7	726.29	0.000014	0.24	186.15	67.42	0.03
Reach1	919.5323	80%	no dam_low611	45	720.84	726.29	721.7	726.29	0.000014	0.24	186.15	67.42	0.03
Reach1	919.5323	50%	exist_low611	83	720.84	726.75	721.99	726.76	0.00003	0.38	218.02	69.35	0.04
Reach1	919.5323	50%	no dam_low611	83	720.84	726.75	721.99	726.76	0.00003	0.38	218.02	69.35	0.04
Reach1	919.5323	Qavg	exist_low611	115	720.84	727.04	722.19	727.04	0.000044	0.48	237.97	70.53	0.05
Reach1	919.5323	Qavg	no dam_low611	115	720.84	727.04	722.19	727.04	0.000044	0.48	237.97	70.53	0.05
Reach1	919.5323	20%	exist_low611	160	720.84	727.35	722.44	727.36	0.000065	0.61	260.37	71.83	0.06
Reach1	919.5323	20%	no dam_low611	160	720.84	727.35	722.44	727.36	0.000065	0.61	260.37	71.83	0.06
Reach1	895.5401	80%	exist_low611	45	723.4	726.29	724.26	726.29	0.000101	0.45	100.81	63.73	0.06
Reach1	895.5401	80%	no dam_low611	45	723.4	726.29	724.26	726.29	0.000101	0.45	100.81	63.73	0.06
Reach1	895.5401	50%	exist_low611	83	723.4	726.75	724.49	726.75	0.000154	0.63	131.17	67.34	0.08
Reach1	895.5401	50%	no dam_low611	83	723.4	726.75	724.49	726.75	0.000154	0.63	131.17	67.34	0.08
Reach1	895.5401	Qavg	exist_low611	115	723.4	727.03	724.64	727.04	0.000195	0.76	150.52	69.55	0.09
Reach1	895.5401	Qavg	no dam_low611	115	723.4	727.03	724.64	727.04	0.000195	0.76	150.52	69.55	0.09
Reach1	895.5401	20%	exist_low611	160	723.4	727.34	724.89	727.36	0.000251	0.93	172.54	71.97	0.11
Reach1	895.5401	20%	no dam_low611	160	723.4	727.34	724.89	727.36	0.000251	0.93	172.54	71.97	0.11
Reach1	815.7324	80%	exist_low611	45	723.56	726.24	724.98	726.27	0.001385	1.22	37.01	36.98	0.21
Reach1	815.7324	80%	no dam_low611	45	723.56	726.24	724.98	726.27	0.001385	1.22	37.01	36.98	0.21
Reach1	815.7324	50%	exist_low611	83	723.56	726.69	725.38	726.72	0.001711	1.48	56.21	49.22	0.24

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	815.7324	50%	no dam_low611	83	723.56	726.69	725.38	726.72	0.001711	1.48	56.21	49.22	0.24
Reach1	815.7324	Qavg	exist_low611	115	723.56	726.96	725.64	727	0.001814	1.63	70.56	55.67	0.26
Reach1	815.7324	Qavg	no dam_low611	115	723.56	726.96	725.64	727	0.001814	1.63	70.56	55.67	0.26
Reach1	815.7324	20%	exist_low611	160	723.56	727.26	726	727.31	0.001813	1.83	87.42	57.89	0.26
Reach1	815.7324	20%	no dam_low611	160	723.56	727.26	726	727.31	0.001813	1.83	87.42	57.89	0.26
Reach1	757.8825	80%	exist_low611	45	724.53	725.72	725.72	726.01	0.035854	4.38	10.26	17.31	1
Reach1	757.8825	80%	no dam_low611	45	724.53	725.72	725.72	726.01	0.035854	4.38	10.26	17.31	1
Reach1	757.8825	50%	exist_low611	83	724.53	726.05	726.05	726.43	0.032197	4.91	16.91	22.22	0.99
Reach1	757.8825	50%	no dam_low611	83	724.53	726.05	726.05	726.43	0.032197	4.91	16.91	22.22	0.99
Reach1	757.8825	Qavg	exist_low611	115	724.53	726.26	726.26	726.69	0.031025	5.25	21.9	25.28	0.99
Reach1	757.8825	Qavg	no dam_low611	115	724.53	726.26	726.26	726.69	0.031025	5.25	21.9	25.28	0.99
Reach1	757.8825	20%	exist_low611	160	724.53	726.51	726.51	727	0.02934	5.59	28.65	28.92	0.99
Reach1	757.8825	20%	no dam_low611	160	724.53	726.51	726.51	727	0.02934	5.59	28.65	28.92	0.99
Reach1	531.9468	80%	exist_low611	45	722.01	724.35	723.28	724.38	0.001284	1.25	35.88	32.35	0.21
Reach1	531.9468	80%	no dam_low611	45	722.01	724.35	723.28	724.38	0.001284	1.25	35.88	32.35	0.21
Reach1	531.9468	50%	exist_low611	83	722.01	724.85	723.68	724.88	0.001432	1.56	53.07	37.23	0.23
Reach1	531.9468	50%	no dam_low611	83	722.01	724.85	723.68	724.88	0.001432	1.56	53.07	37.23	0.23
Reach1	531.9468	Qavg	exist_low611	115	722.01	725.18	723.9	725.23	0.001492	1.74	65.95	40.51	0.24
Reach1	531.9468	Qavg	no dam_low611	115	722.01	725.18	723.9	725.23	0.001492	1.74	65.95	40.51	0.24
Reach1	531.9468	20%	exist_low611	160	722.01	725.58	724.11	725.64	0.001519	1.93	83.07	44.49	0.25
Reach1	531.9468	20%	no dam_low611	160	722.01	725.58	724.11	725.64	0.001519	1.93	83.07	44.49	0.25
Reach1	341	80%	exist_low611	45	722.5	723.95	723.36	724.01	0.003592	1.93	23.28	22.96	0.34
Reach1	341	80%	no dam_low611	45	722.5	723.95	723.36	724.01	0.003592	1.93	23.28	22.96	0.34
Reach1	341	50%	exist_low611	83	722.5	724.37	723.66	724.47	0.004087	2.5	33.17	24	0.38
Reach1	341	50%	no dam_low611	83	722.5	724.37	723.66	724.47	0.004087	2.5	33.17	24	0.38
Reach1	341	Qavg	exist_low611	115	722.5	724.66	723.85	724.79	0.004339	2.88	39.97	24	0.39
Reach1	341	Qavg	no dam_low611	115	722.5	724.66	723.85	724.79	0.004339	2.88	39.97	24	0.39
Reach1	341	20%	exist_low611	160	722.5	725	724.1	725.17	0.004626	3.31	48.3	24	0.41
Reach1	341	20%	no dam_low611	160	722.5	725	724.1	725.17	0.004626	3.31	48.3	24	0.41
Reach1	327.5			Bridge									
Reach1	314	80%	exist_low611	45	722.5	723.78	723.36	723.87	0.006207	2.32	19.41	22.1	0.44

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	314	80%	no dam_low611	45	722.5	723.78	723.36	723.87	0.006207	2.32	19.41	22.1	0.44
Reach1	314	50%	exist_low611	83	722.5	724.18	723.66	724.31	0.006586	2.92	28.45	23.63	0.47
Reach1	314	50%	no dam_low611	83	722.5	724.18	723.66	724.31	0.006586	2.92	28.45	23.63	0.47
Reach1	314	Qavg	exist_low611	115	722.5	724.45	723.85	724.62	0.006652	3.29	34.93	24	0.48
Reach1	314	Qavg	no dam_low611	115	722.5	724.45	723.85	724.62	0.006652	3.29	34.93	24	0.48
Reach1	314	20%	exist_low611	160	722.5	724.78	724.1	725	0.006719	3.73	42.89	24	0.49
Reach1	314	20%	no dam_low611	160	722.5	724.78	724.1	725	0.006719	3.73	42.89	24	0.49
Reach1	272.333	80%	exist_low611	45	722	723.31		723.39	0.006194	2.27	19.78	23.31	0.44
Reach1	272.333	80%	no dam_low611	45	722	723.31		723.39	0.006194	2.27	19.78	23.31	0.44
Reach1	272.333	50%	exist_low611	83	722	723.67		723.8	0.006838	2.95	28.1	23.67	0.48
Reach1	272.333	50%	no dam_low611	83	722	723.67		723.8	0.006838	2.95	28.1	23.67	0.48
Reach1	272.333	Qavg	exist_low611	115	722	723.93		724.1	0.007015	3.36	34.22	23.93	0.5
Reach1	272.333	Qavg	no dam_low611	115	722	723.93		724.1	0.007015	3.36	34.22	23.93	0.5
Reach1	272.333	20%	exist_low611	160	722	724.25		724.47	0.007128	3.82	41.93	24	0.51
Reach1	272.333	20%	no dam_low611	160	722	724.25		724.47	0.007128	3.82	41.93	24	0.51
Reach1	230.666	80%	exist_low611	45	722	723.01		723.15	0.01547	2.95	15.27	24	0.65
Reach1	230.666	80%	no dam_low611	45	722	723.01		723.15	0.01547	2.95	15.27	24	0.65
Reach1	230.666	50%	exist_low611	83	722	723.4		723.58	0.011229	3.38	24.56	24	0.59
Reach1	230.666	50%	no dam_low611	83	722	723.4		723.58	0.011229	3.38	24.56	24	0.59
Reach1	230.666	Qavg	exist_low611	115	722	723.67		723.88	0.010204	3.71	30.98	24	0.58
Reach1	230.666	Qavg	no dam_low611	115	722	723.67		723.88	0.010204	3.71	30.98	24	0.58
Reach1	230.666	20%	exist_low611	160	722	723.99		724.26	0.009638	4.12	38.79	24	0.57
Reach1	230.666	20%	no dam_low611	160	722	723.99		724.26	0.009639	4.12	38.79	24	0.57
Reach1	189	80%	exist_low611	45	721.4	722.88	722.34	722.94	0.003747	1.83	24.57	24	0.32
Reach1	189	80%	no dam_low611	45	721.4	722.88	722.34	722.94	0.003747	1.83	24.57	24	0.32
Reach1	189	50%	exist_low611	83	721.4	723.27	722.58	723.36	0.004566	2.45	33.82	24	0.36
Reach1	189	50%	no dam_low611	83	721.4	723.27	722.58	723.36	0.004566	2.45	33.82	24	0.36
Reach1	189	Qavg	exist_low611	115	721.4	723.54	722.76	723.66	0.005061	2.86	40.19	24	0.39
Reach1	189	Qavg	no dam_low611	115	721.4	723.54	722.76	723.66	0.005061	2.86	40.19	24	0.39
Reach1	189	20%	exist_low611	160	721.4	723.86	722.97	724.03	0.005633	3.34	47.89	24	0.42
Reach1	189	20%	no dam_low611	160	721.4	723.86	722.97	724.03	0.005632	3.34	47.89	24	0.42
Reach1	169.5			Bridge									

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	150	80%	exist_low611	45	721.4	722.57	722.34	722.68	0.010962	2.64	17.03	24	0.55
Reach1	150	80%	no dam_low611	45	721.4	722.57	722.34	722.68	0.010962	2.64	17.03	24	0.55
Reach1	150	50%	exist_low611	83	721.4	722.89	722.58	723.07	0.011035	3.35	24.78	24	0.58
Reach1	150	50%	no dam_low611	83	721.4	722.89	722.58	723.07	0.011035	3.35	24.78	24	0.58
Reach1	150	Qavg	exist_low611	115	721.4	723.11	722.76	723.34	0.011577	3.85	29.9	24	0.61
Reach1	150	Qavg	no dam_low611	115	721.4	723.11	722.76	723.34	0.011577	3.85	29.9	24	0.61
Reach1	150	20%	exist_low611	160	721.4	723.35	722.97	723.66	0.012549	4.46	35.85	24	0.64
Reach1	150	20%	no dam_low611	160	721.4	723.35	722.97	723.66	0.012538	4.46	35.86	24	0.64
Reach1	0	80%	exist_low611	45	719.7	720.94	720.68	721.03	0.01102	2.51	17.95	29.06	0.56
Reach1	0	80%	no dam_low611	45	719.7	720.94	720.68	721.03	0.01102	2.51	17.95	29.06	0.56
Reach1	0	50%	exist_low611	83	719.7	721.25	720.95	721.39	0.011006	2.92	28.42	36.57	0.58
Reach1	0	50%	no dam_low611	83	719.7	721.25	720.95	721.39	0.011006	2.92	28.42	36.57	0.58
Reach1	0	Qavg	exist_low611	115	719.7	721.45	721.12	721.61	0.011007	3.2	35.89	40.28	0.6
Reach1	0	Qavg	no dam_low611	115	719.7	721.45	721.12	721.61	0.011007	3.2	35.89	40.28	0.6
Reach1	0	20%	exist_low611	160	719.7	721.65	721.32	721.85	0.011001	3.62	44.19	41.47	0.62
Reach1	0	20%	no dam_low611	160	719.7	721.65	721.32	721.85	0.011001	3.62	44.19	41.47	0.62

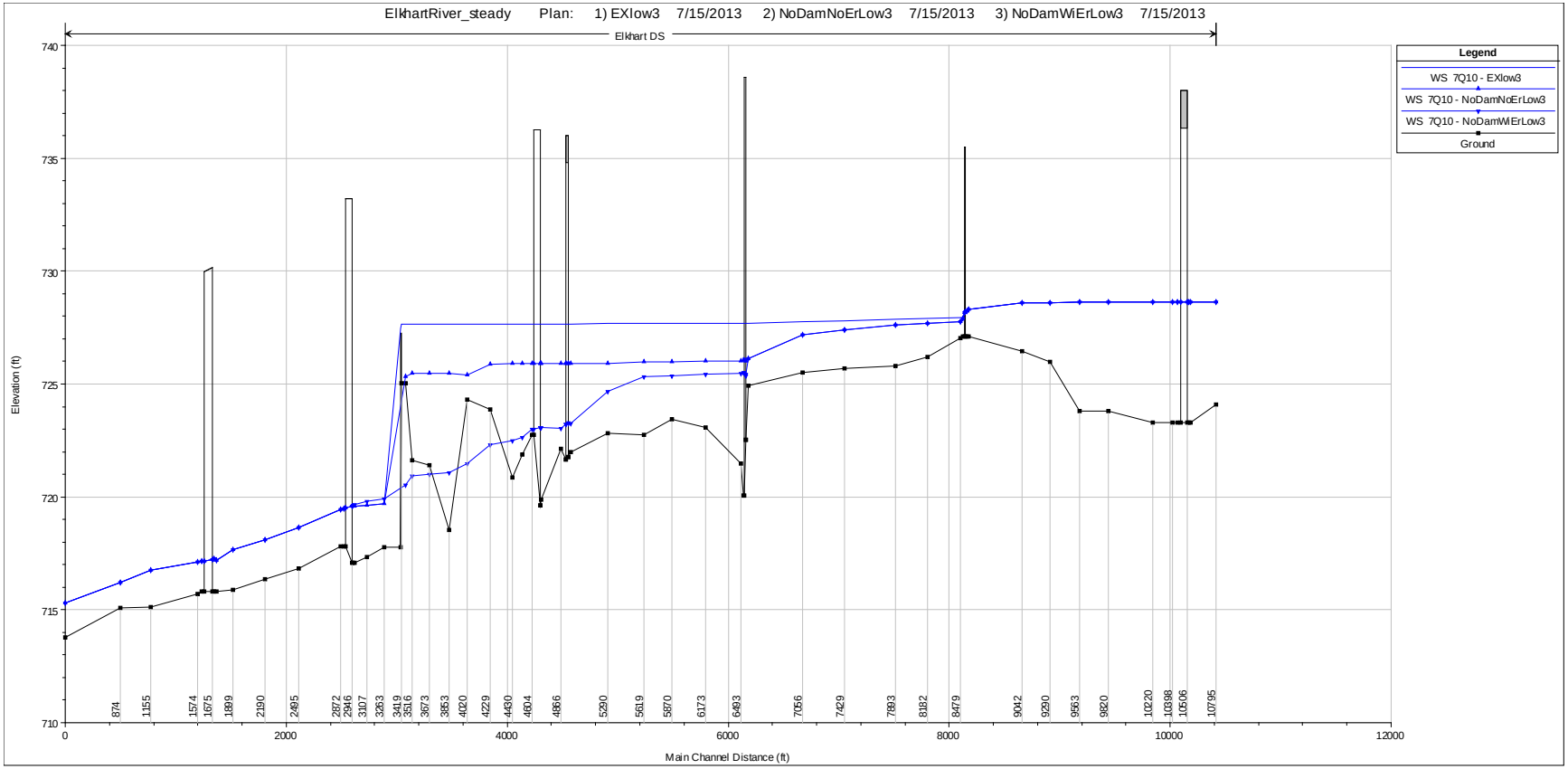
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	1730.5		Bridge									
Reach1	1709	10 YR	672	729	733.36	731.97	733.7	0.005059	4.72	142.44	44	0.46
Reach1	1709	50 YR	864	729	733.89	732.34	734.31	0.005191	5.21	165.73	44	0.47
Reach1	1709	100 YR	960	729	734.1	732.55	734.57	0.005389	5.48	175.16	44	0.48
Reach1	1709	500 YR	1152	729	734.47	732.89	735.04	0.005871	6.01	191.54	44	0.51
Reach1	1621.5	10 YR	672	728.3	732.03	732.03	733.1	0.025097	8.29	81.05	38.08	1
Reach1	1621.5	50 YR	864	728.3	732.44	732.44	733.67	0.024792	8.91	96.93	40.08	1.01
Reach1	1621.5	100 YR	960	728.3	732.69	732.64	733.94	0.023717	8.96	107.17	41.4	0.98
Reach1	1621.5	500 YR	1152	728.3	733.28	733.02	734.45	0.020008	8.7	132.37	44.48	0.89
Reach1	1534	10 YR	672	727.6	731.45		731.96	0.017191	5.7	117.99	42.8	0.6
Reach1	1534	50 YR	864	727.6	732.03		732.59	0.017601	6.04	143.14	44.86	0.6
Reach1	1534	100 YR	960	727.6	732.31		732.9	0.017593	6.16	155.94	45.87	0.59
Reach1	1534	500 YR	1152	727.6	732.93		733.53	0.01664	6.23	185.02	48.1	0.56
Reach1	1484	10 YR	672	727	731.08	729.67	731.49	0.005498	5.14	130.63	36	0.48
Reach1	1484	50 YR	864	727	731.6	730.05	732.12	0.005987	5.78	149.5	36	0.5
Reach1	1484	100 YR	960	727	731.86	730.26	732.43	0.006118	6.04	158.98	36	0.51
Reach1	1484	500 YR	1152	727	732.43	730.62	733.07	0.006081	6.42	179.49	36	0.51
Reach1	1472.5		Bridge									
Reach1	1461	10 YR	672	727	730.85	729.67	731.32	0.006725	5.49	122.45	36	0.52
Reach1	1461	50 YR	864	727	731.34	730.05	731.93	0.0073	6.16	140.2	36	0.55
Reach1	1461	100 YR	960	727	731.6	730.26	732.24	0.007406	6.43	149.4	36	0.56
Reach1	1461	500 YR	1152	727	732.18	730.62	732.89	0.007155	6.77	170.16	36	0.55
Reach1	1176.198	10 YR	672	724.47	730.73	727.81	730.76	0.000451	1.57	433.23	232.89	0.15
Reach1	1176.198	50 YR	864	724.47	731.27	728.07	731.32	0.000452	1.74	507.21	238.71	0.15
Reach1	1176.198	100 YR	960	724.47	731.55	728.19	731.6	0.000441	1.79	546.42	240.69	0.15

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	1176.198	500 YR	1152	724.47	732.2	728.43	732.25	0.000394	1.86	635.29	245.25	0.15
Reach1	1081.757	10 YR	672	723.54	730.37	727.85	730.66	0.002489	4.3	164.39	225.01	0.36
Reach1	1081.757	50 YR	864	723.54	730.83	728.41	731.2	0.002901	4.95	185.83	227.64	0.39
Reach1	1081.757	100 YR	960	723.54	731.08	728.66	731.48	0.002984	5.19	197.9	229.1	0.4
Reach1	1081.757	500 YR	1152	723.54	731.69	729.12	732.13	0.002857	5.47	227.43	232.64	0.4
Reach1	1017.976	10 YR	672	726.28	730.03	729.14	730.4	0.006895	4.88	138.09	515.28	0.55
Reach1	1017.976	50 YR	864	726.28	730.52	729.48	730.93	0.006042	5.16	171.87	528.3	0.53
Reach1	1017.976	100 YR	960	726.28	730.83	729.64	731.23	0.005259	5.15	193.15	537.07	0.5
Reach1	1017.976	500 YR	1152	726.28	731.53	729.94	731.9	0.003786	4.98	242.57	558.52	0.44
Reach1	956.6514	10 YR	672	724.33	729.98	727.72	730.13	0.00195	3.15	213.05	514.81	0.31
Reach1	956.6514	50 YR	864	724.33	730.48	728.14	730.66	0.002051	3.5	249.72	591	0.32
Reach1	956.6514	100 YR	960	724.33	730.79	728.32	730.99	0.00191	3.56	274.3	595.65	0.32
Reach1	956.6514	500 YR	1152	724.33	731.51	728.62	731.71	0.001552	3.59	333.84	606.22	0.29
Reach1	951		Inl Struct									
Reach1	919.5323	10 YR	672	720.84	729.55	724.35	729.59	0.000267	1.56	429.58	455.97	0.12
Reach1	919.5323	50 YR	864	720.84	730.3	724.78	730.35	0.000292	1.75	496.82	585.84	0.13
Reach1	919.5323	100 YR	960	720.84	730.68	724.97	730.74	0.000288	1.81	534.3	588.44	0.13
Reach1	919.5323	500 YR	1152	720.84	731.49	725.31	731.54	0.000271	1.91	613.14	594.1	0.13
Reach1	895.5401	10 YR	672	723.4	729.51	726.21	729.57	0.000566	1.94	347.12	462.04	0.17
Reach1	895.5401	50 YR	864	723.4	730.26	726.5	730.33	0.000524	2.09	416.83	579.21	0.17
Reach1	895.5401	100 YR	960	723.4	730.65	726.63	730.72	0.000494	2.14	455.32	581.48	0.17
Reach1	895.5401	500 YR	1152	723.4	731.46	726.91	731.53	0.000429	2.2	536.21	586.15	0.16
Reach1	815.7324	10 YR	672	723.56	729.36	727.37	729.49	0.00173	2.93	231.7	323.59	0.29
Reach1	815.7324	50 YR	864	723.56	730.12	727.68	730.26	0.001385	3.02	292.47	422.11	0.27
Reach1	815.7324	100 YR	960	723.56	730.51	727.82	730.65	0.001225	3.03	326.24	430.75	0.26

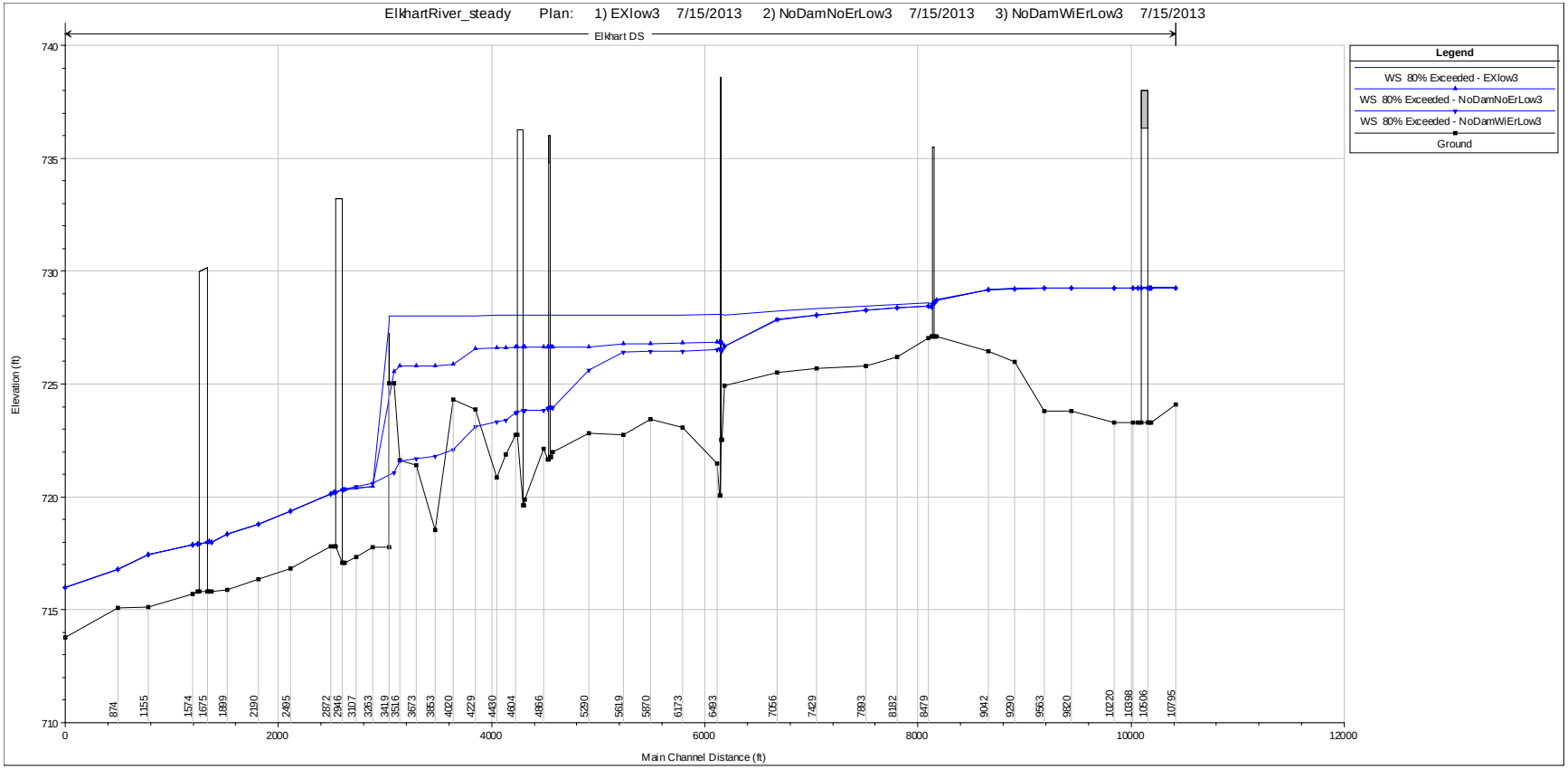
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	815.7324	500 YR	1152	723.56	731.34	728.13	731.47	0.000962	3.01	397.35	444.12	0.23
Reach1	757.8825	10 YR	672	724.53	728.92	728.07	729.29	0.00734	4.87	138.09	198.75	0.57
Reach1	757.8825	50 YR	864	724.53	729.81	728.42	730.11	0.00458	4.41	195.9	280.12	0.46
Reach1	757.8825	100 YR	960	724.53	730.25	728.58	730.53	0.003547	4.21	229.14	329.01	0.42
Reach1	757.8825	500 YR	1152	724.53	731.15	728.88	731.38	0.002199	3.91	300.11	335.48	0.34
Reach1	531.9468	10 YR	672	722.01	728.72		728.8	0.000784	2.41	335.78	146.1	0.2
Reach1	531.9468	50 YR	864	722.01	729.7		729.77	0.00056	2.33	487.23	164.73	0.18
Reach1	531.9468	100 YR	960	722.01	730.17		730.24	0.000483	2.3	567.92	173.74	0.17
Reach1	531.9468	500 YR	1152	722.01	731.11		731.17	0.000372	2.23	739.76	196.34	0.15
Reach1	341	10 YR	672	722.5	727.88	725.9	728.39	0.005498	5.73	117.2	24	0.46
Reach1	341	50 YR	864	722.5	728.78	726.42	729.38	0.005528	6.21	139.03	24	0.46
Reach1	341	100 YR	960	722.5	729.23	726.67	729.87	0.005519	6.41	149.69	24	0.45
Reach1	341	500 YR	1152	722.5	730.1	727.15	730.81	0.005476	6.75	170.64	24	0.45
Reach1	327.5		Bridge									
Reach1	314	10 YR	672	722.5	727.39	725.9	728.02	0.007475	6.36	105.61	24	0.53
Reach1	314	50 YR	864	722.5	728.15	726.42	728.91	0.007724	6.97	123.9	24	0.54
Reach1	314	100 YR	960	722.5	728.52	726.67	729.33	0.007834	7.24	132.56	24	0.54
Reach1	314	500 YR	1152	722.5	729.2	727.15	730.13	0.008052	7.73	149.01	24	0.55
Reach1	272.333	10 YR	672	722	726.75		727.42	0.00806	6.59	102.01	24	0.56
Reach1	272.333	50 YR	864	722	727.48		728.29	0.008326	7.23	119.48	24	0.57
Reach1	272.333	100 YR	960	722	727.83		728.7	0.008422	7.51	127.85	24	0.57
Reach1	272.333	500 YR	1152	722	728.48		729.48	0.008636	8.02	143.63	24	0.58
Reach1	230.666	10 YR	672	722	726.46		727.19	0.009677	6.86	97.93	24	0.6
Reach1	230.666	50 YR	864	722	727.17		728.04	0.009903	7.51	115.05	24	0.6
Reach1	230.666	100 YR	960	722	727.51		728.45	0.009965	7.78	123.32	24	0.61

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach1	230.666	500 YR	1152	722	728.16		729.23	0.010157	8.3	138.82	24	0.61
Reach1	189	10 YR	672	721.4	726.28	724.77	726.9	0.00866	6.33	106.11	24	0.53
Reach1	189	50 YR	864	721.4	726.98	725.3	727.75	0.009258	7.03	122.96	24	0.55
Reach1	189	100 YR	960	721.4	727.33	725.53	728.16	0.009465	7.32	131.15	24	0.55
Reach1	189	500 YR	1152	721.4	727.96	726.02	728.92	0.009893	7.87	146.46	24	0.56
Reach1	169.5		Bridge									
Reach1	150	10 YR	672	721.4	725.05	724.77	726.25	0.020767	8.79	76.43	24	0.87
Reach1	150	50 YR	864	721.4	725.46	725.3	727.01	0.023753	10.01	86.27	24	0.93
Reach1	150	100 YR	960	721.4	725.63	725.53	727.38	0.025307	10.6	90.58	24	0.96
Reach1	150	500 YR	1152	721.4	726.01	726.01	728.09	0.027366	11.56	99.65	24	1
Reach1	0	10 YR	672	719.7	723.15	722.61	723.72	0.011002	6.06	112.92	50.27	0.7
Reach1	0	50 YR	864	719.7	723.56	722.98	724.23	0.011013	6.6	133.91	52.67	0.71
Reach1	0	100 YR	960	719.7	723.75	723.14	724.47	0.011009	6.84	143.96	53.78	0.72
Reach1	0	500 YR	1152	719.7	724.1	723.48	724.91	0.011005	7.26	163.29	55.85	0.73

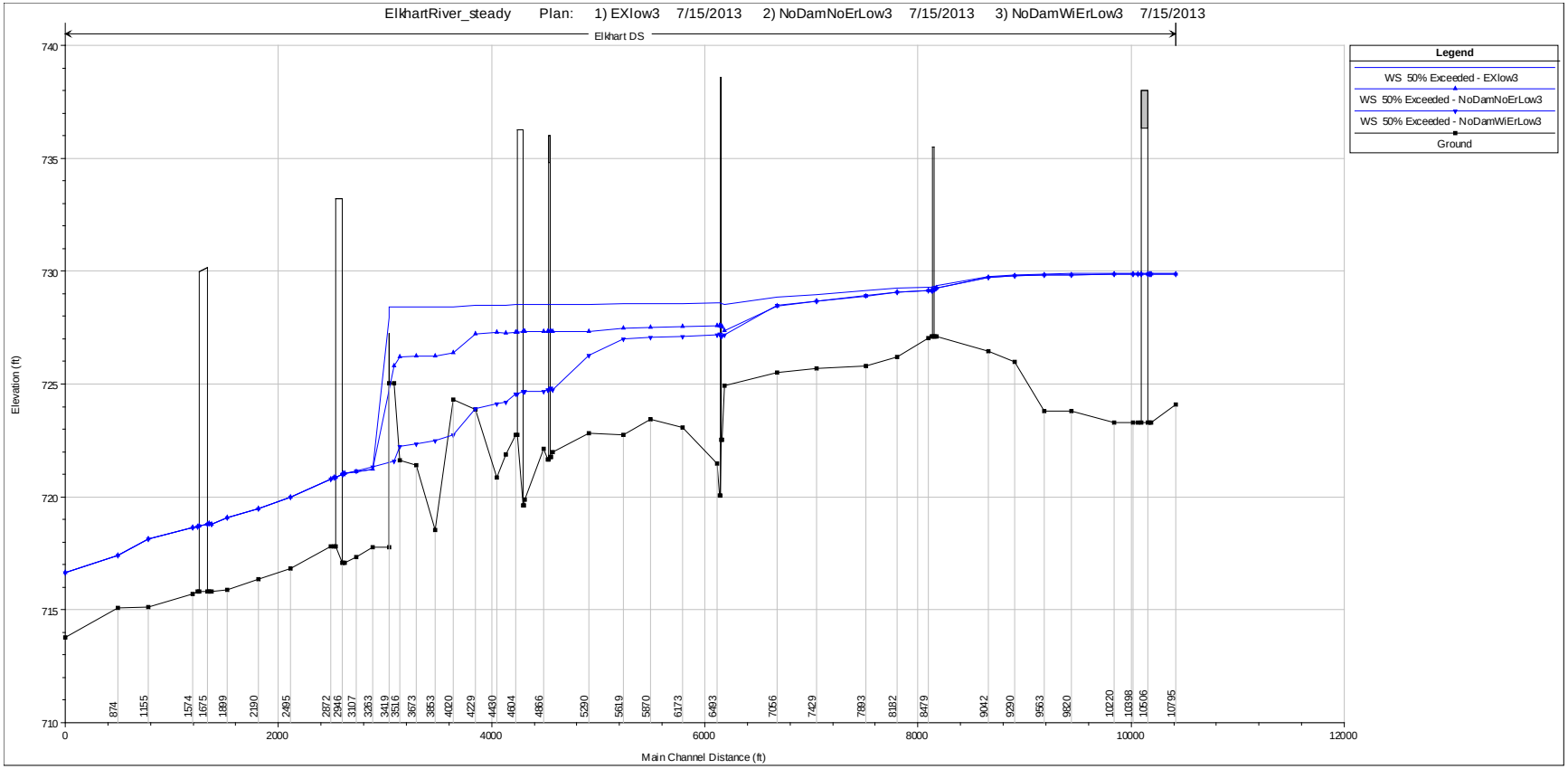
ATTACHMENT 2 – HEC-RAS RESULTS: ELKHART RIVER



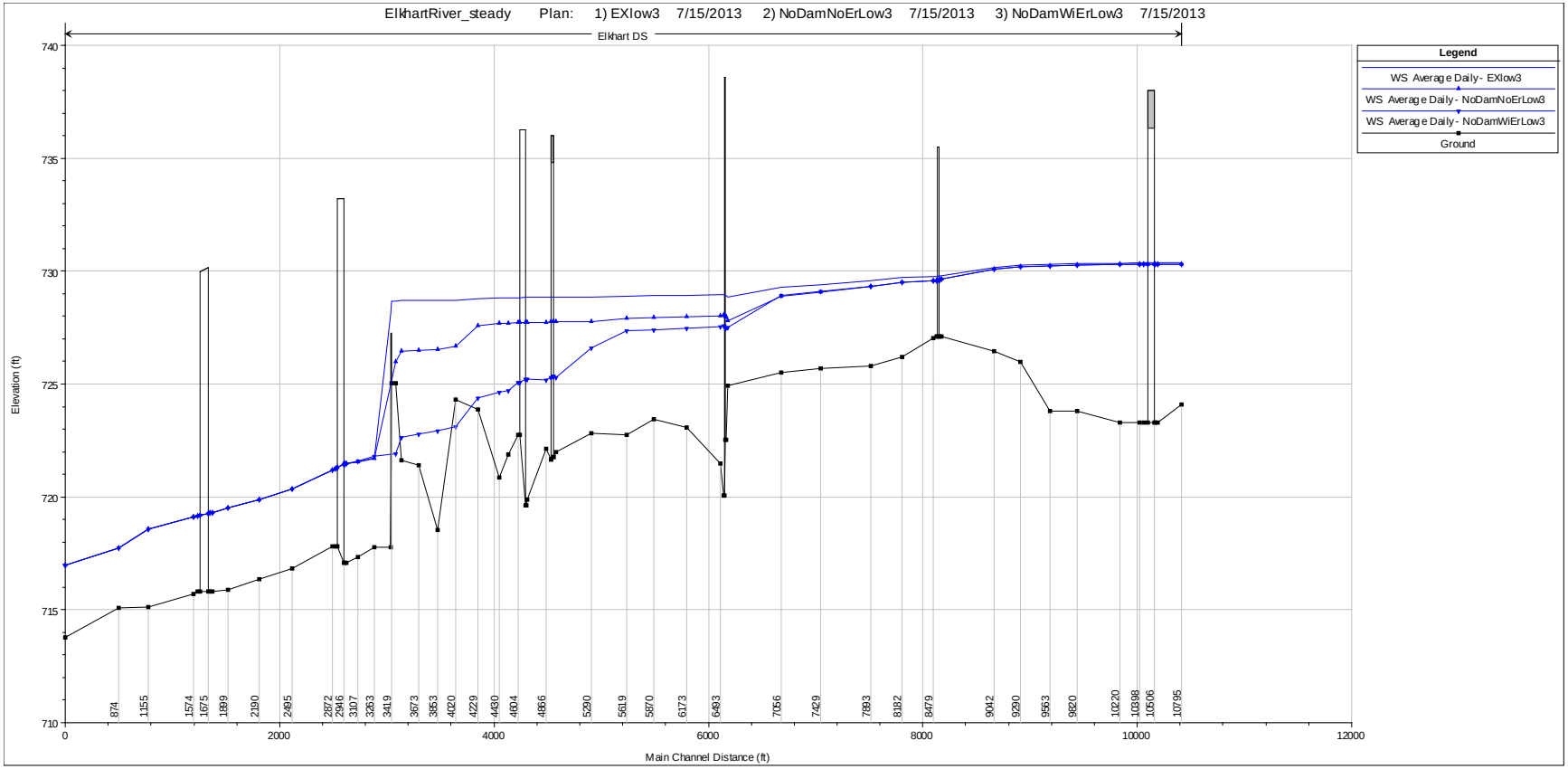
Elkhart River, 7Q10 Results.



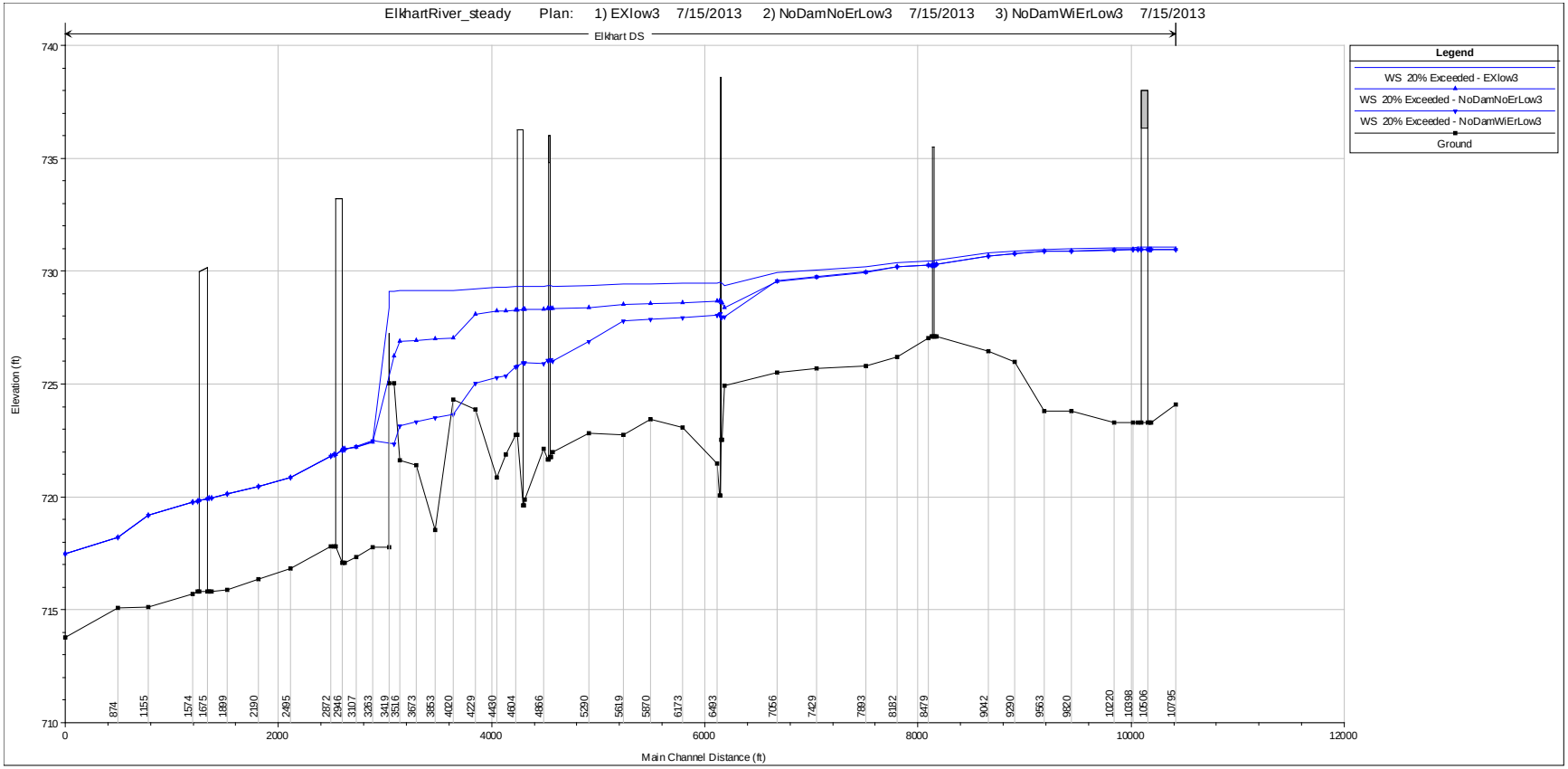
Elkhart River, 80% Exceedance Flow Results.



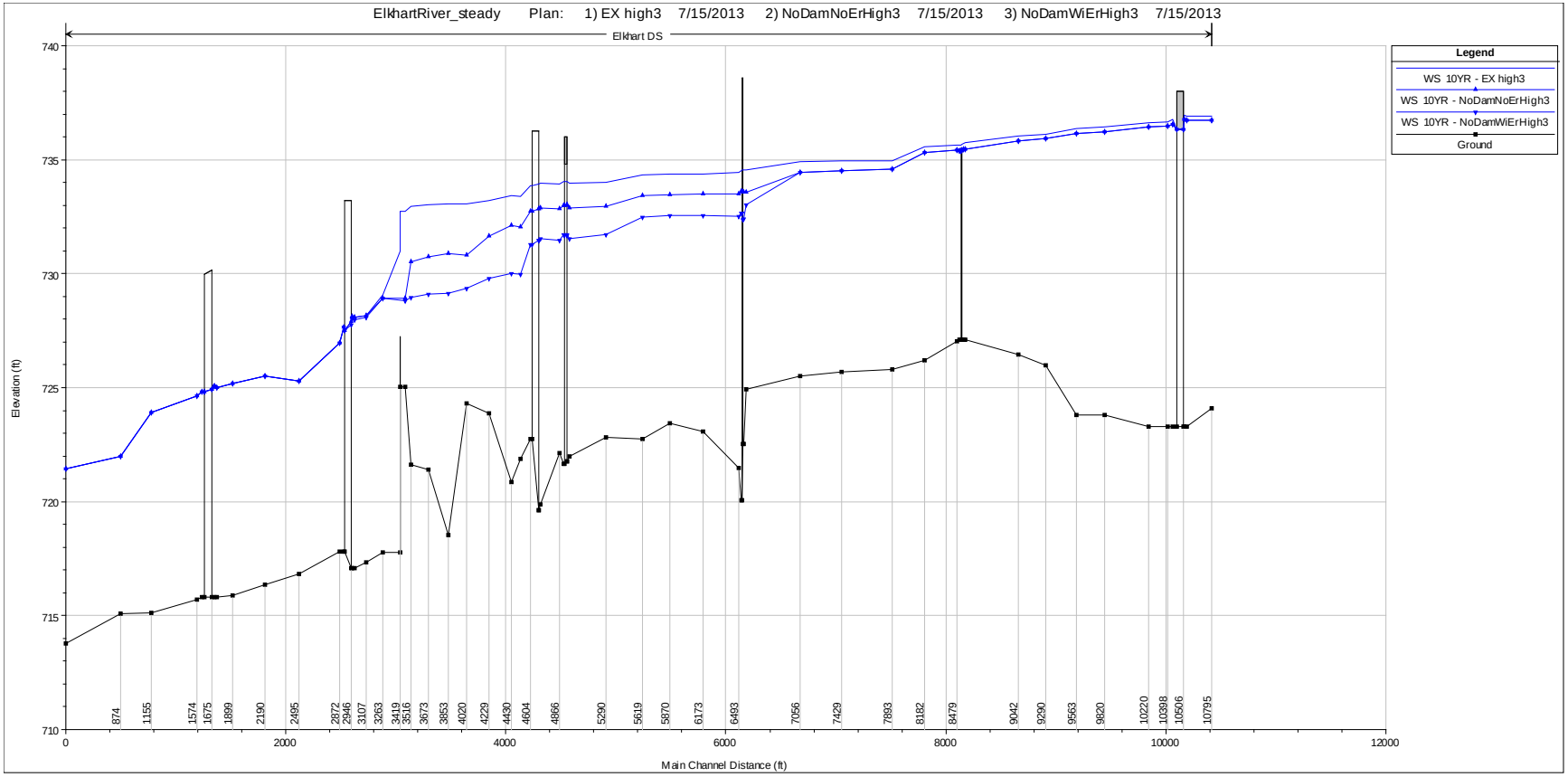
Elkhart River, 50% Exceedance Flow Results.



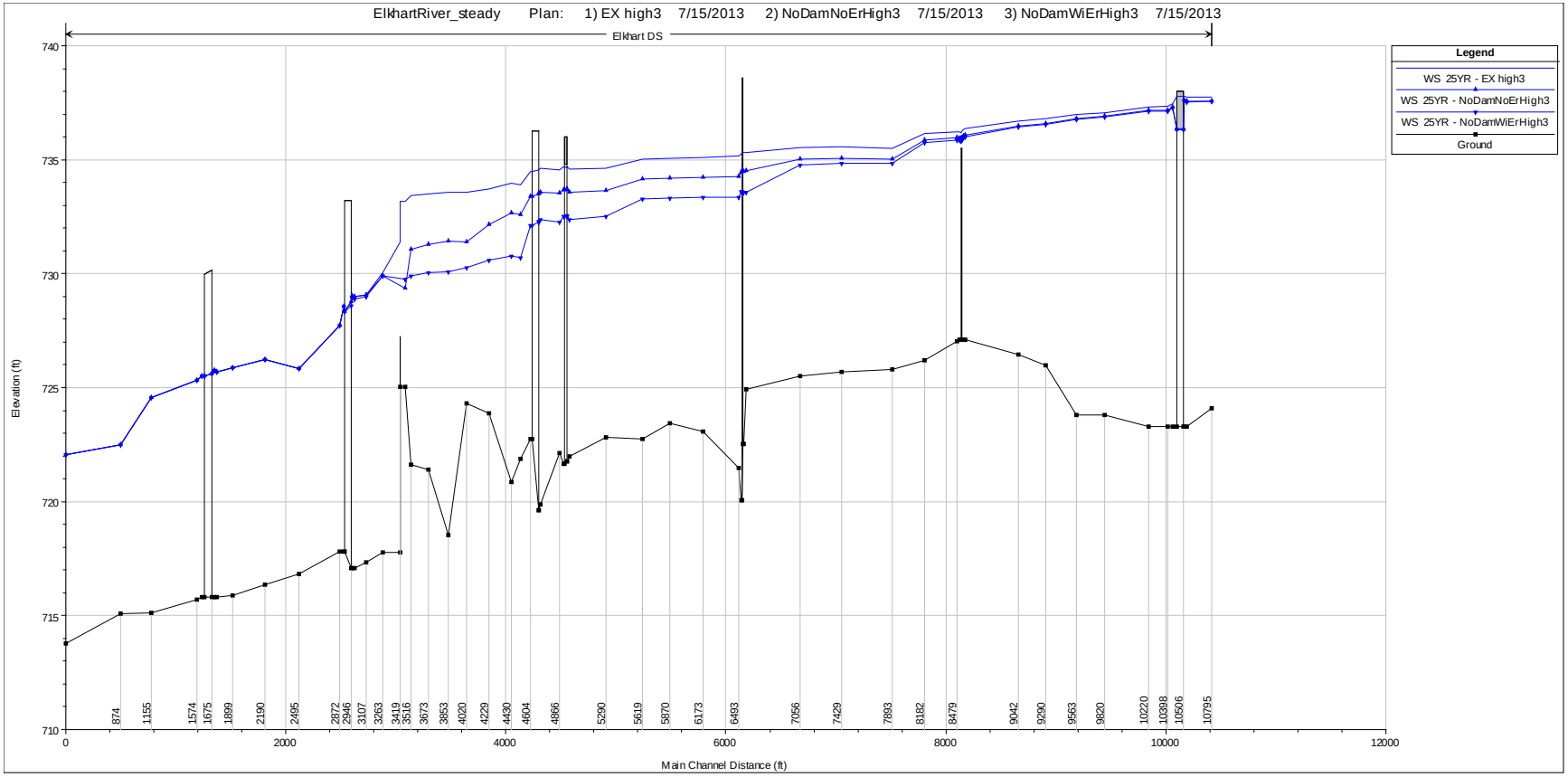
Elkhart River, Average Daily Flow Results.



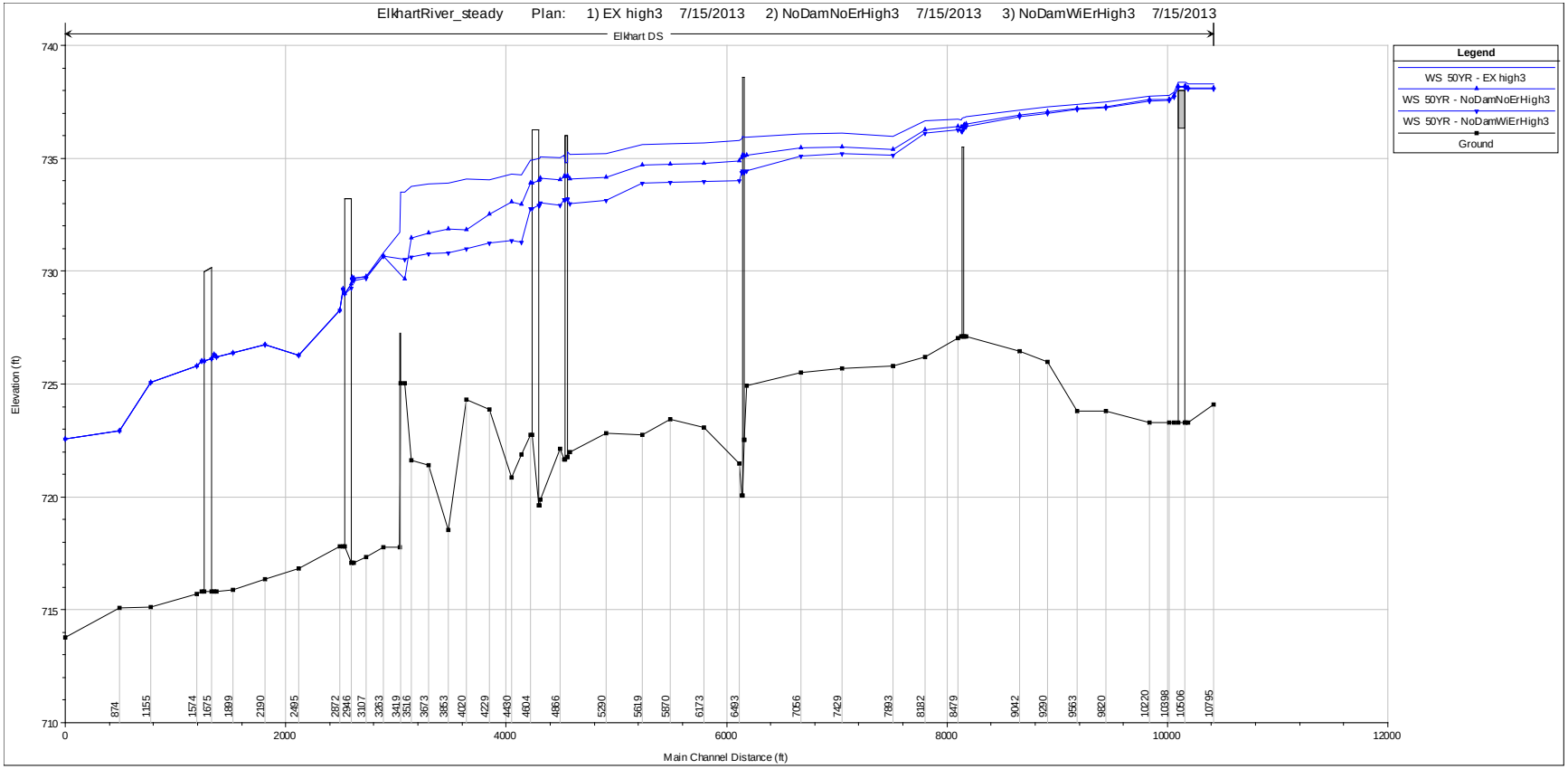
Elkhart River, 20% Exceedance Flow Results.



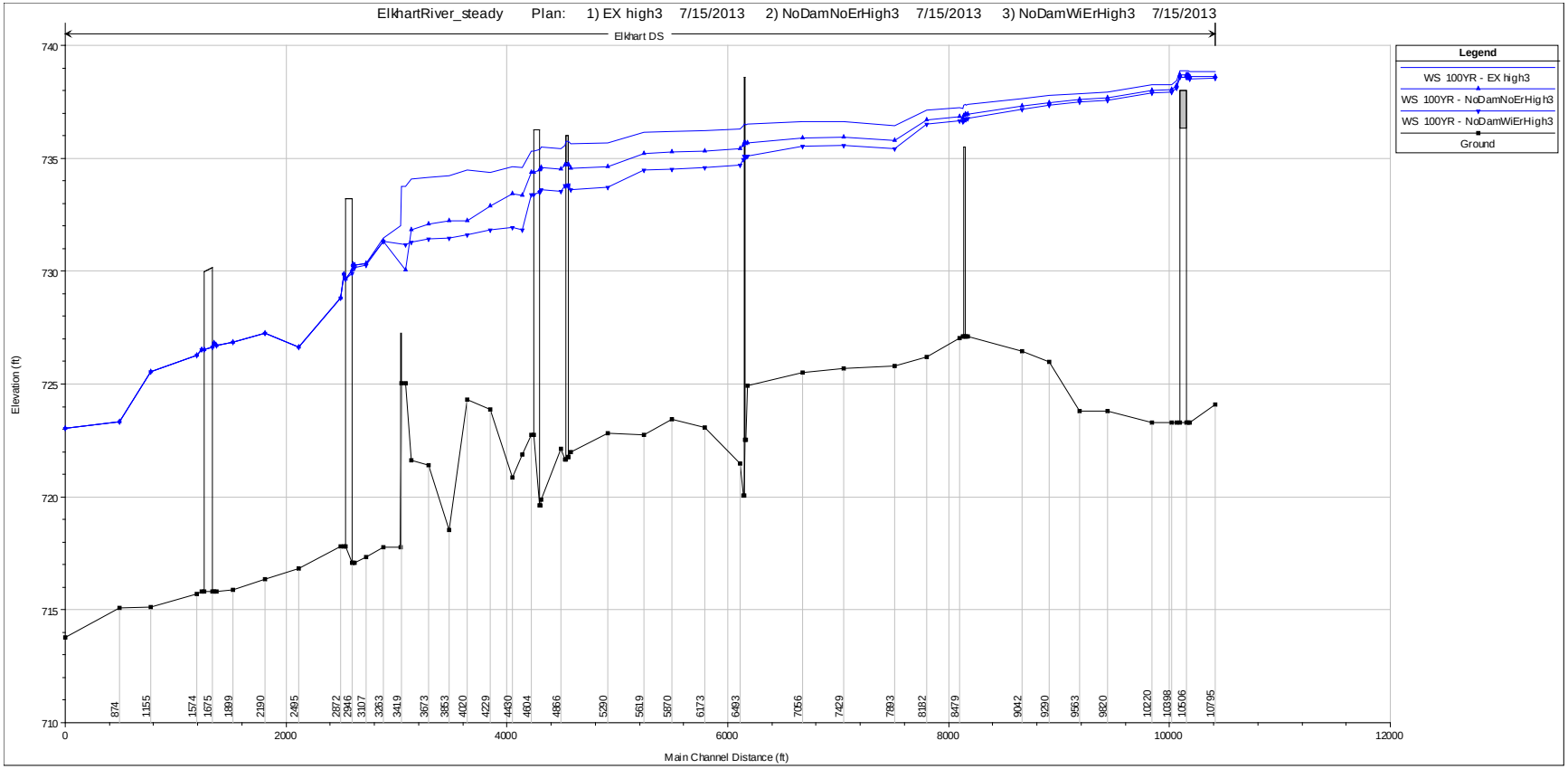
Elkhart River, 10-year Event Results.



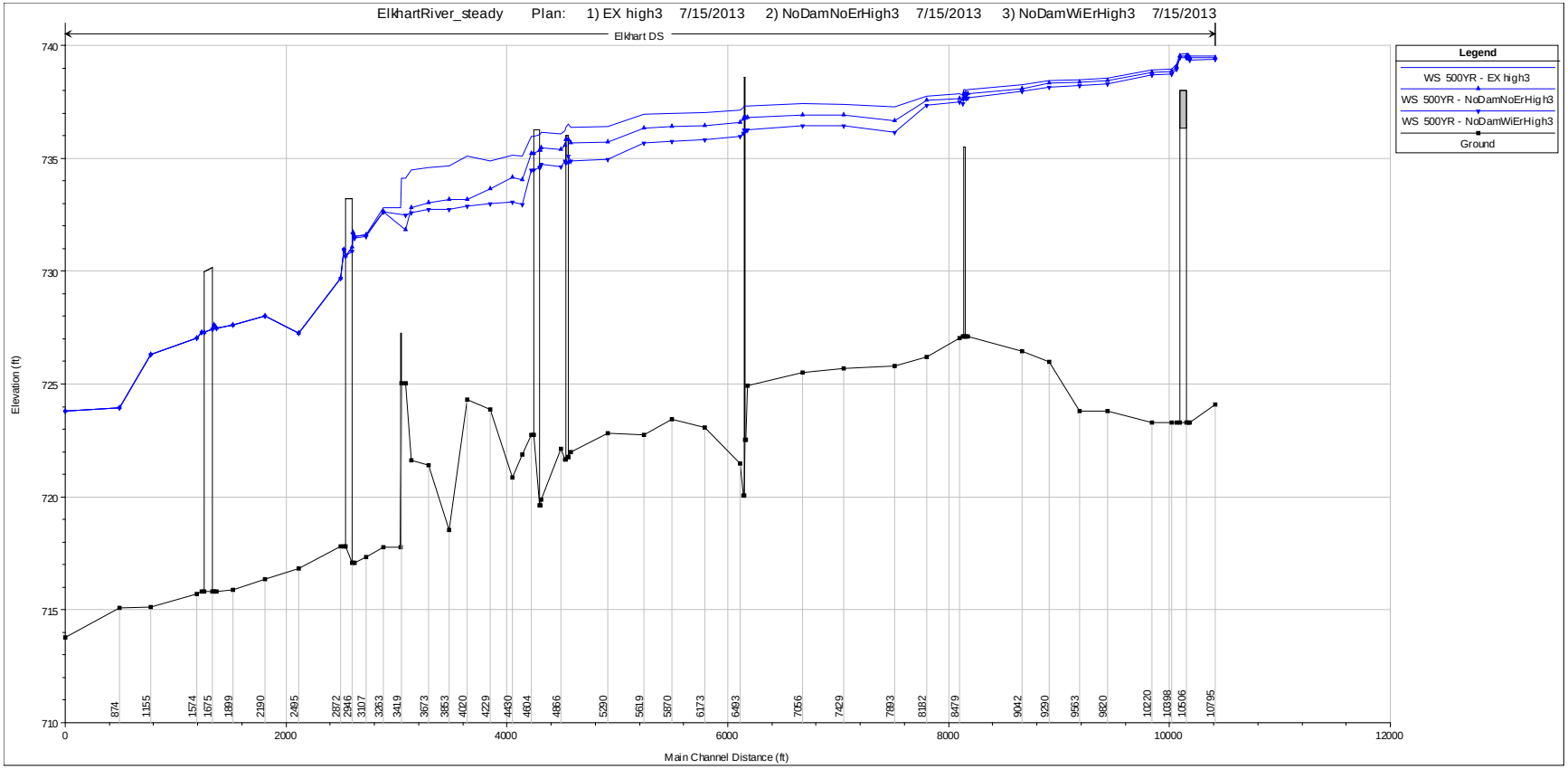
Elkhart River, 25-year Event Results.



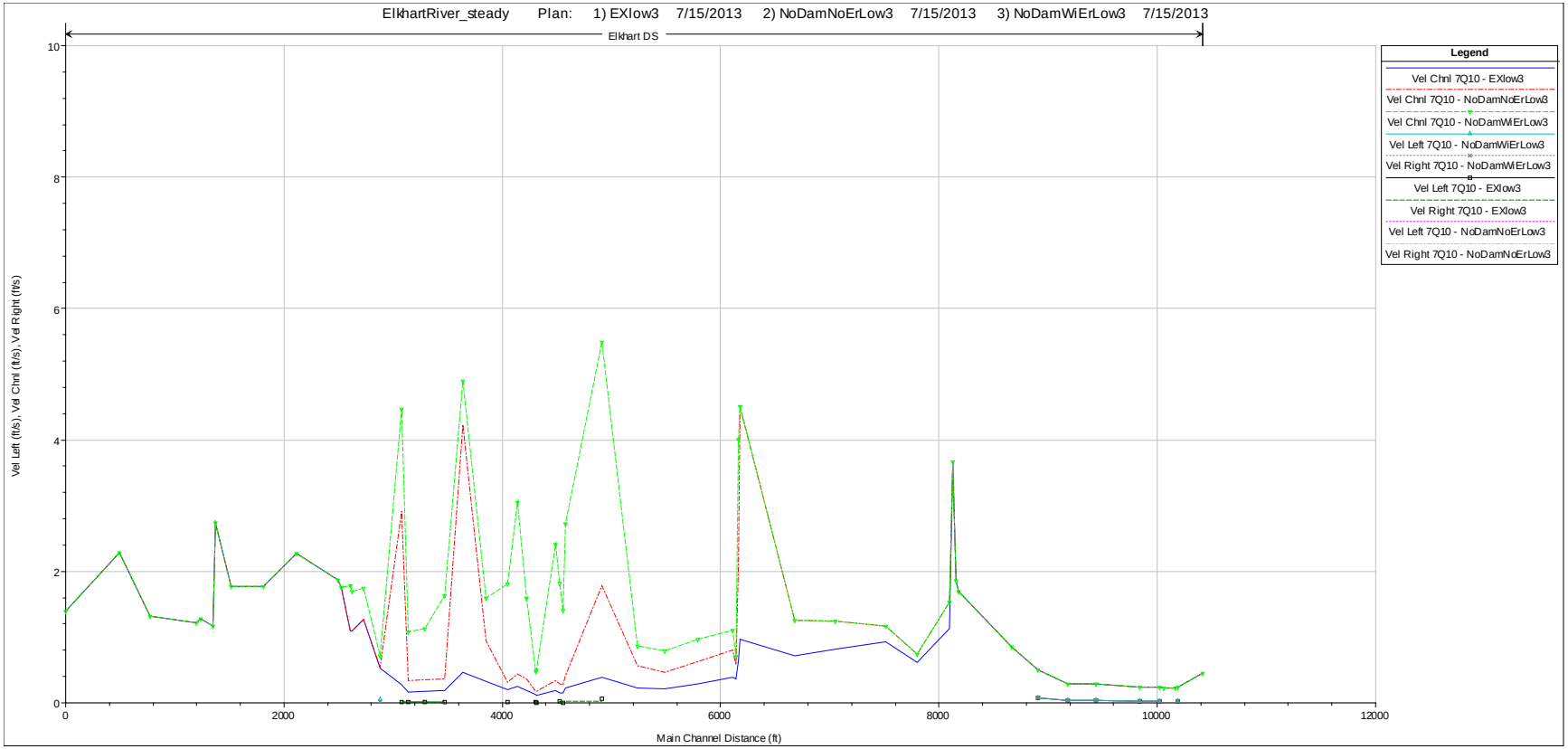
Elkhart River, 50-year Event Results.



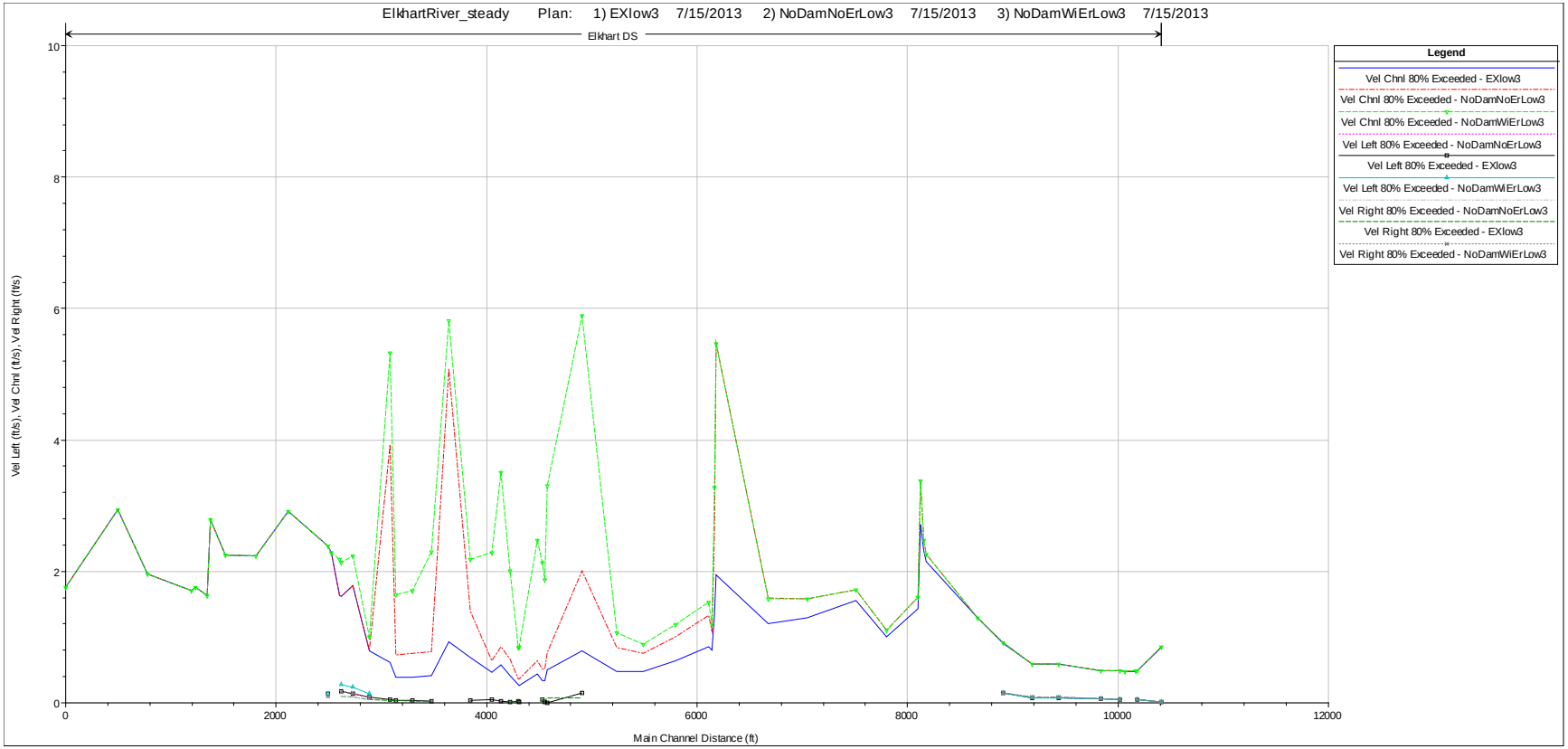
Elkhart River, 100-year Event Results.



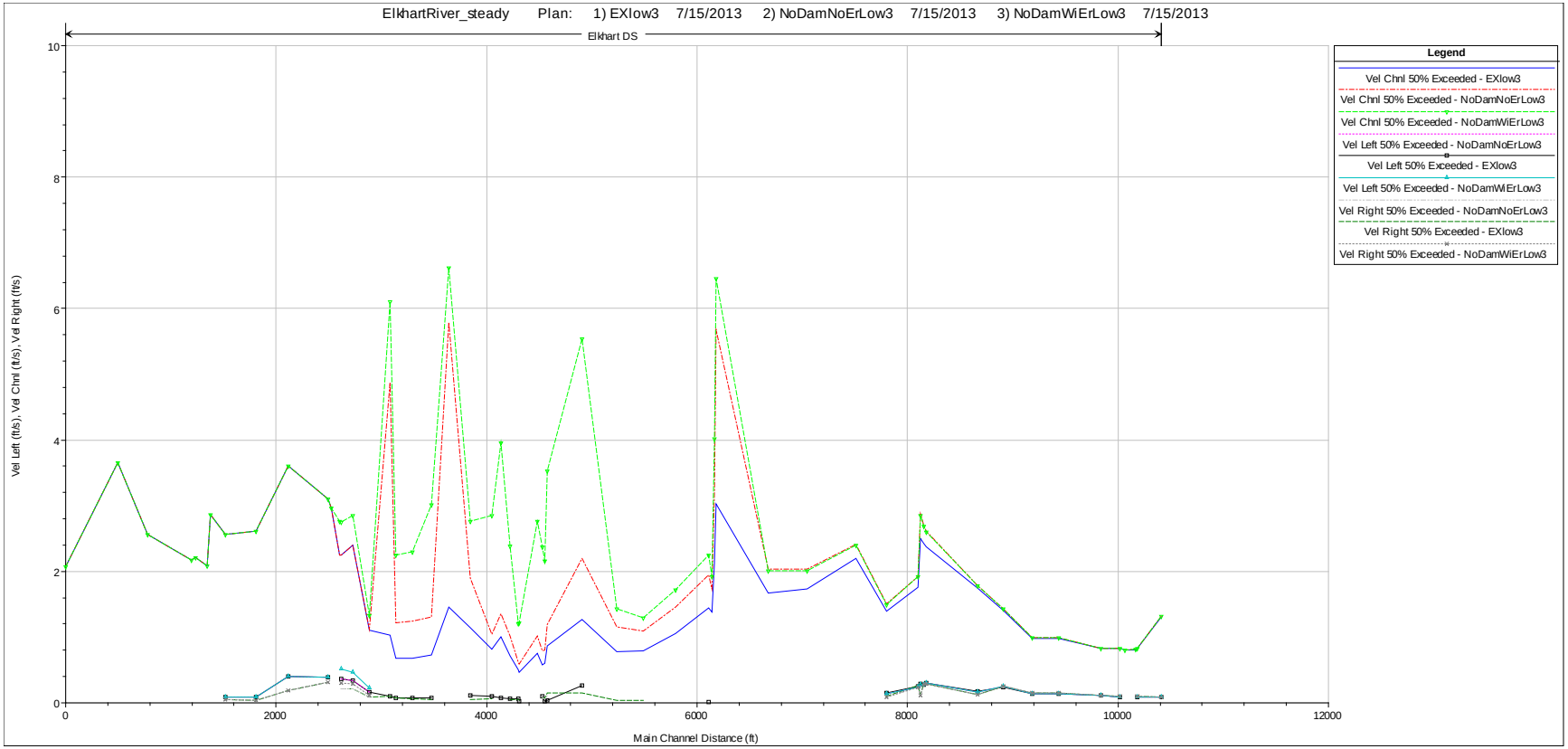
Elkhart River, 500-year Event Results.



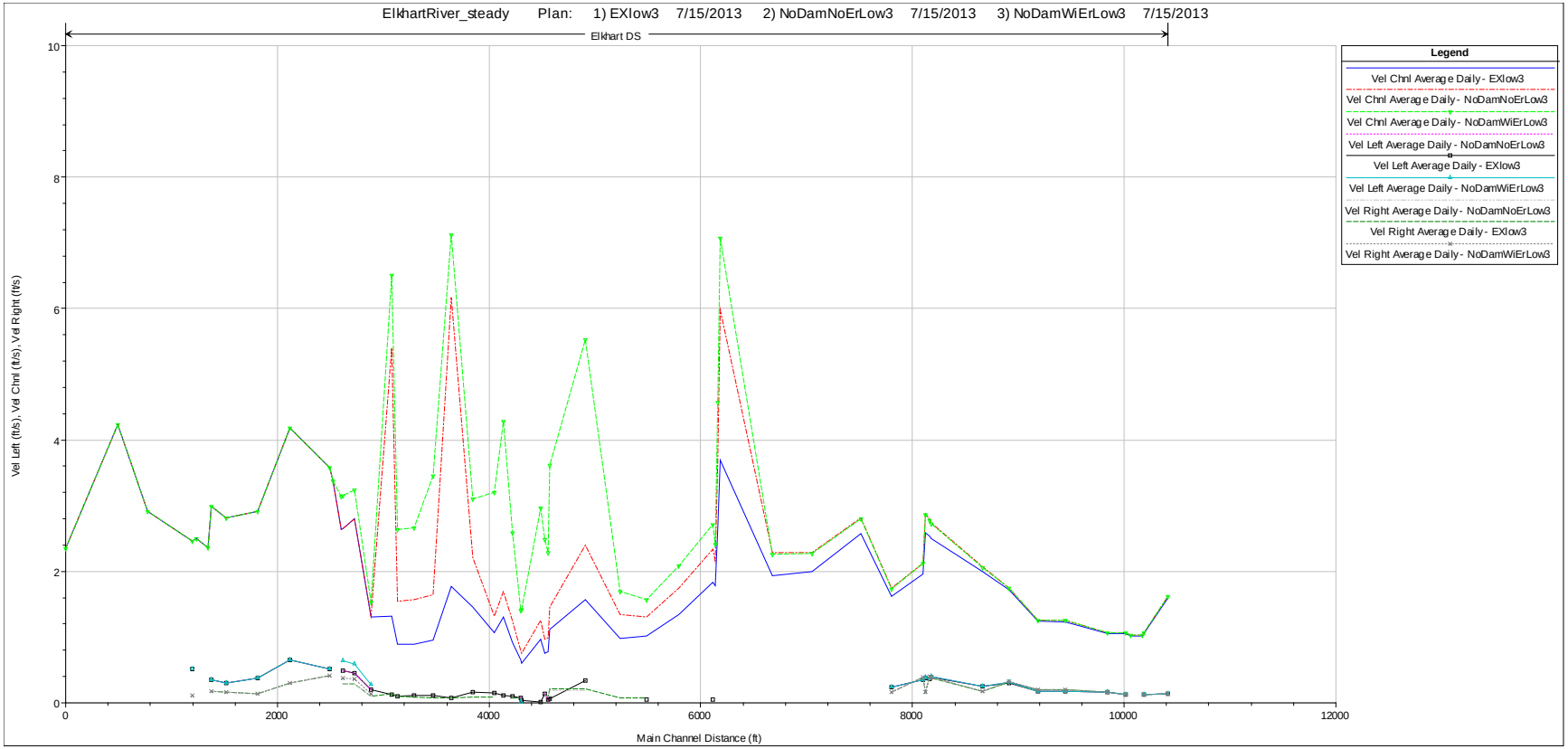
Elkhart River Velocities, 7Q10 Flow.



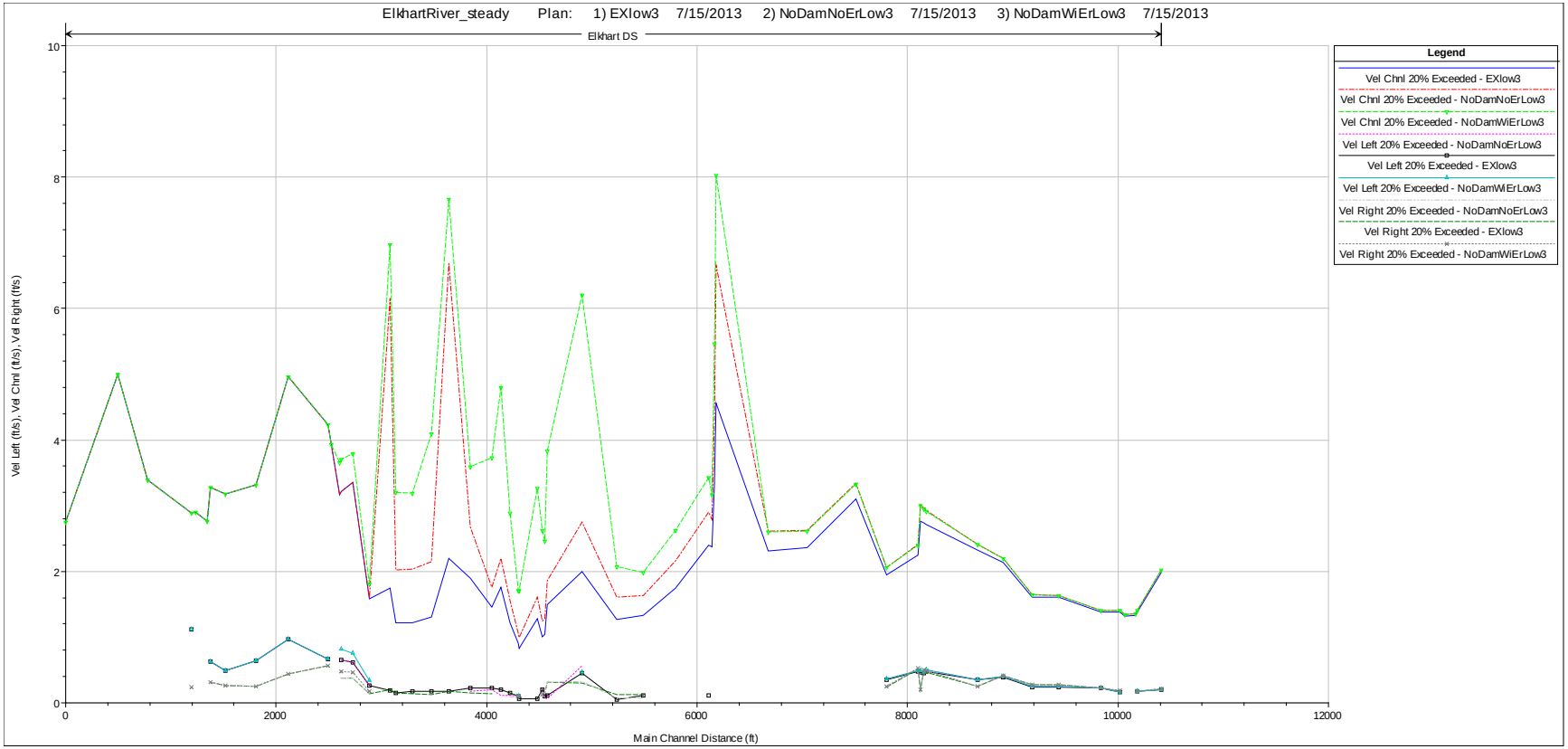
Elkhart River Velocities, 80% Exceedance Flow.



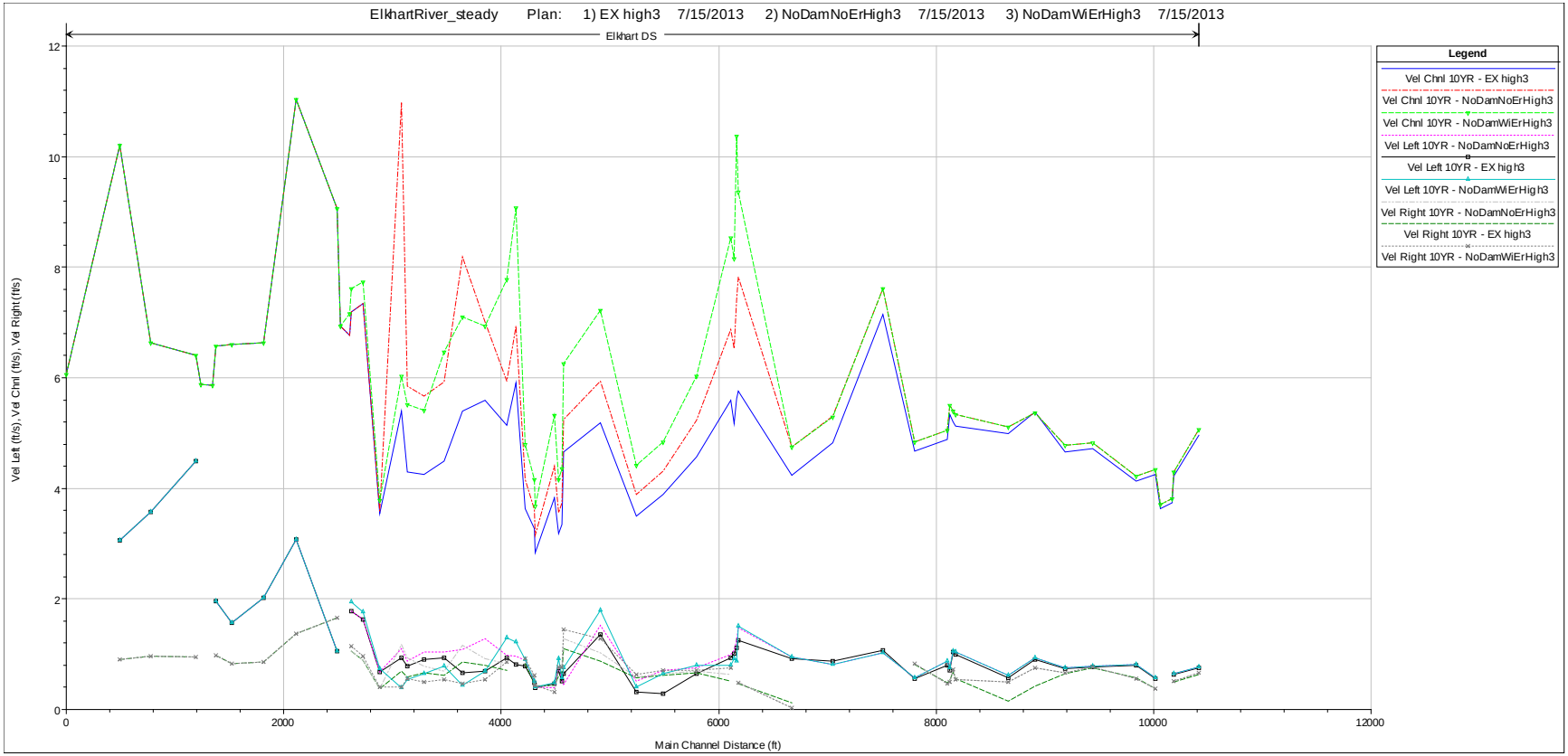
Elkhart River Velocities, 50% Exceedance Flow.



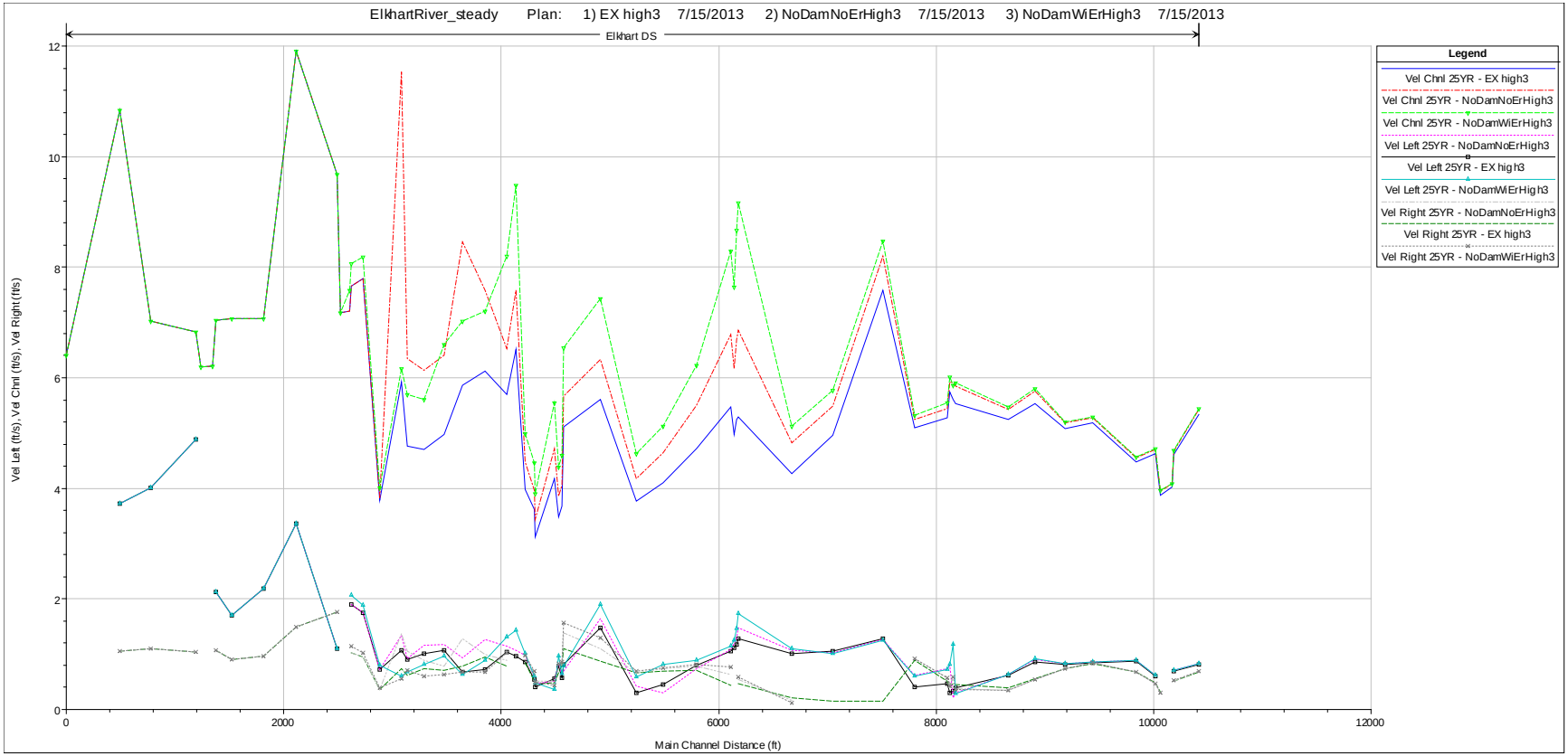
Elkhart River Velocities, Average Daily Flow.



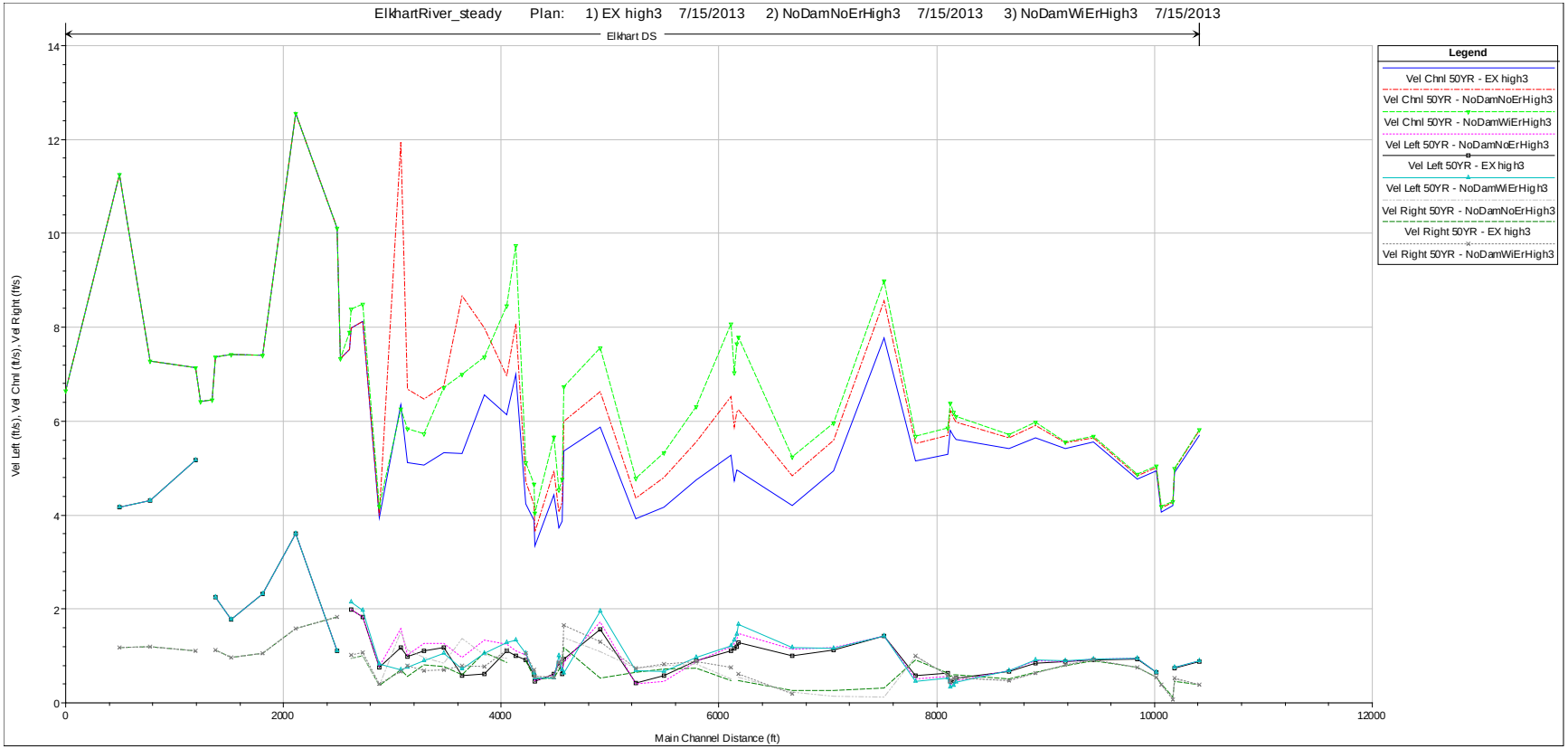
Elkhart River Velocities, 20% Exceedance Flow.



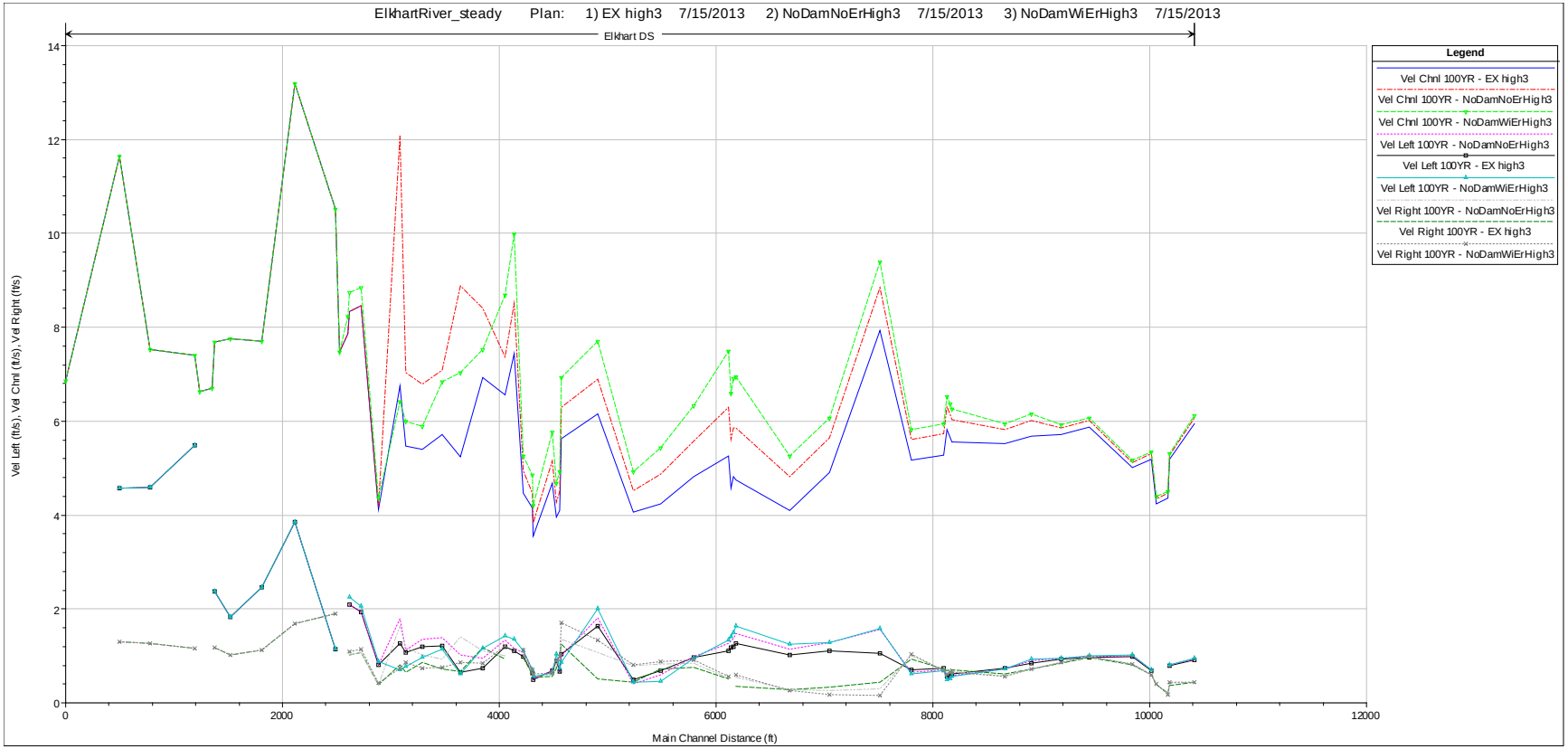
Elkhart River Velocities, 10-year Event.



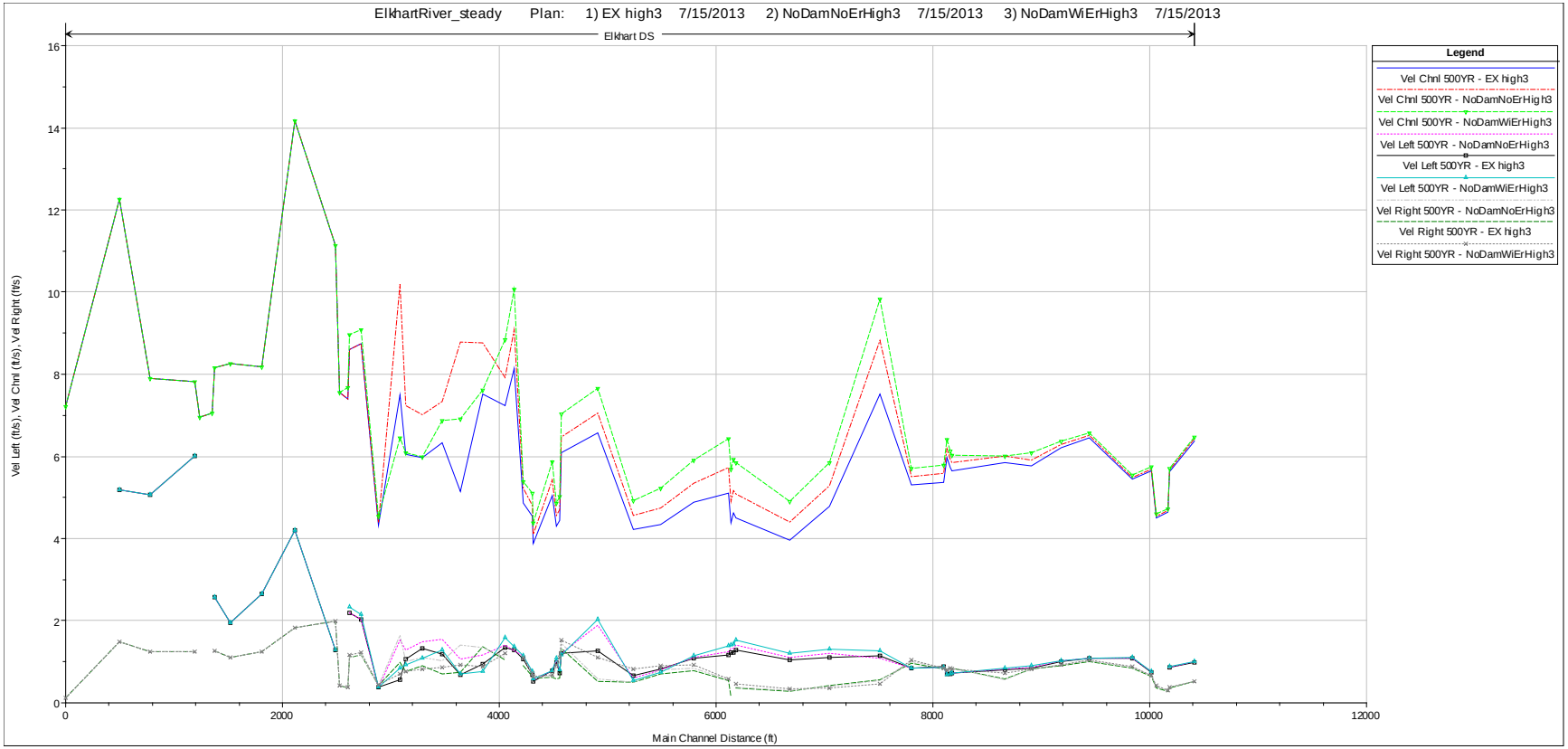
Elkhart River Velocities, 25-year Event.



Elkhart River Velocities, 50-year Event.



Elkhart River Velocities, 100-year Event.



Elkhart River Velocities, 500-year Event.

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	10795	7Q10	EXLOW5222013	96.3	724.1	728.62		728.63	0.000028	0.45	214.75	94.93	0.05
DS	10795	7Q10	NDNEROL5222013	96.3	724.1	728.62		728.63	0.000028	0.45	214.75	94.93	0.05
DS	10795	7Q10	NDWEROL5222013	96.3	724.1	728.62		728.63	0.000028	0.45	214.75	94.93	0.05
DS	10795	80% Exceeded	EXLOW5222013	237	724.1	729.27		729.28	0.000081	0.85	280.42	107.6	0.09
DS	10795	80% Exceeded	NDNEROL5222013	237	724.1	729.26		729.27	0.000082	0.85	279.46	107.53	0.09
DS	10795	80% Exceeded	NDWEROL5222013	237	724.1	729.26		729.27	0.000082	0.85	279.45	107.53	0.09
DS	10795	50% Exceeded	EXLOW5222013	458	724.1	729.92		729.95	0.000145	1.31	352.19	113.17	0.13
DS	10795	50% Exceeded	NDNEROL5222013	458	724.1	729.88		729.91	0.000151	1.32	347.66	112.83	0.13
DS	10795	50% Exceeded	NDWEROL5222013	458	724.1	729.88		729.91	0.00015	1.32	347.85	112.84	0.13
DS	10795	Average Daily	EXLOW5222013	635	724.1	730.37		730.41	0.00018	1.59	404.11	117.04	0.15
DS	10795	Average Daily	NDNEROL5222013	635	724.1	730.31		730.35	0.000191	1.62	396.56	116.48	0.15
DS	10795	Average Daily	NDWEROL5222013	635	724.1	730.31		730.35	0.000191	1.62	396.89	116.51	0.15
DS	10795	20% Exceeded	EXLOW5222013	940	724.1	731.06		731.12	0.000223	1.98	486.86	122.95	0.17
DS	10795	20% Exceeded	NDNEROL5222013	940	724.1	730.97		731.03	0.00024	2.03	475.58	122.16	0.17
DS	10795	20% Exceeded	NDWEROL5222013	940	724.1	730.97		731.04	0.000239	2.03	476.01	122.19	0.17
DS	10567	7Q10	EXLOW5222013	96.3	723.3	728.62		728.63	0.000004	0.23	416.58	113.81	0.02
DS	10567	7Q10	NDNEROL5222013	96.3	723.3	728.62		728.63	0.000004	0.23	416.58	113.81	0.02
DS	10567	7Q10	NDWEROL5222013	96.3	723.3	728.62		728.63	0.000004	0.23	416.58	113.81	0.02
DS	10567	80% Exceeded	EXLOW5222013	237	723.3	729.27		729.27	0.000013	0.49	490.92	116.64	0.04
DS	10567	80% Exceeded	NDNEROL5222013	237	723.3	729.26		729.26	0.000014	0.49	489.88	116.6	0.04
DS	10567	80% Exceeded	NDWEROL5222013	237	723.3	729.26		729.26	0.000014	0.49	489.87	116.6	0.04
DS	10567	50% Exceeded	EXLOW5222013	458	723.3	729.92		729.93	0.000032	0.83	567.53	119.49	0.06
DS	10567	50% Exceeded	NDNEROL5222013	458	723.3	729.88		729.89	0.000033	0.83	562.74	119.31	0.07
DS	10567	50% Exceeded	NDWEROL5222013	458	723.3	729.88		729.89	0.000033	0.83	562.93	119.32	0.07
DS	10567	Average Daily	EXLOW5222013	635	723.3	730.37		730.39	0.000046	1.05	621.79	121.47	0.08
DS	10567	Average Daily	NDNEROL5222013	635	723.3	730.3		730.32	0.000048	1.06	613.92	121.18	0.08
DS	10567	Average Daily	NDWEROL5222013	635	723.3	730.31		730.32	0.000048	1.06	614.27	121.19	0.08
DS	10567	20% Exceeded	EXLOW5222013	940	723.3	731.06		731.09	0.000068	1.38	706.5	124.49	0.1
DS	10567	20% Exceeded	NDNEROL5222013	940	723.3	730.97		731	0.000072	1.4	695.03	124.08	0.1
DS	10567	20% Exceeded	NDWEROL5222013	940	723.3	730.97		731	0.000072	1.4	695.46	124.1	0.1
DS	10549	7Q10	EXLOW5222013	96.3	723.3	728.62	724.31	728.63	0.000004	0.23	416.35	113.48	0.02
DS	10549	7Q10	NDNEROL5222013	96.3	723.3	728.62	724.31	728.63	0.000004	0.23	416.35	113.48	0.02
DS	10549	7Q10	NDWEROL5222013	96.3	723.3	728.62	724.31	728.63	0.000004	0.23	416.35	113.48	0.02
DS	10549	80% Exceeded	EXLOW5222013	237	723.3	729.27	724.75	729.27	0.000014	0.48	490.41	116.15	0.04
DS	10549	80% Exceeded	NDNEROL5222013	237	723.3	729.26	724.75	729.26	0.000014	0.48	489.37	116.11	0.04

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	10549	80% Exceeded	NDWEROL5222013	237	723.3	729.26	724.75	729.26	0.000014	0.48	489.36	116.11	0.04
DS	10549	50% Exceeded	EXLOW5222013	458	723.3	729.92	725.19	729.93	0.000034	0.81	566.63	118.83	0.07
DS	10549	50% Exceeded	NDNEROL5222013	458	723.3	729.88	725.19	729.89	0.000035	0.82	561.87	118.67	0.07
DS	10549	50% Exceeded	NDWEROL5222013	458	723.3	729.88	725.19	729.89	0.000035	0.81	562.06	118.67	0.07
DS	10549	Average Daily	EXLOW5222013	635	723.3	730.37	725.47	730.38	0.000049	1.02	620.58	120.7	0.08
DS	10549	Average Daily	NDNEROL5222013	635	723.3	730.3	725.47	730.32	0.000051	1.04	612.75	120.43	0.08
DS	10549	Average Daily	NDWEROL5222013	635	723.3	730.31	725.47	730.32	0.000051	1.04	613.1	120.44	0.08
DS	10549	20% Exceeded	EXLOW5222013	940	723.3	731.06	725.88	731.09	0.000073	1.33	704.74	123.55	0.1
DS	10549	20% Exceeded	NDNEROL5222013	940	723.3	730.97	725.88	730.99	0.000077	1.36	693.35	123.16	0.1
DS	10549	20% Exceeded	NDWEROL5222013	940	723.3	730.97	725.88	731	0.000076	1.35	693.77	123.18	0.1
DS	10506			Bridge									
DS	10442	7Q10	EXLOW5222013	96.3	723.3	728.62	724.31	728.62	0.000004	0.23	417.49	115.29	0.02
DS	10442	7Q10	NDNEROL5222013	96.3	723.3	728.62	724.31	728.62	0.000004	0.23	417.49	115.29	0.02
DS	10442	7Q10	NDWEROL5222013	96.3	723.3	728.62	724.31	728.62	0.000004	0.23	417.49	115.29	0.02
DS	10442	80% Exceeded	EXLOW5222013	237	723.3	729.27	724.76	729.27	0.000014	0.48	492.85	118.84	0.04
DS	10442	80% Exceeded	NDNEROL5222013	237	723.3	729.26	724.76	729.26	0.000014	0.48	491.77	118.79	0.04
DS	10442	80% Exceeded	NDWEROL5222013	237	723.3	729.26	724.76	729.26	0.000014	0.48	491.77	118.79	0.04
DS	10442	50% Exceeded	EXLOW5222013	458	723.3	729.91	725.2	729.92	0.000034	0.8	570.76	122.39	0.07
DS	10442	50% Exceeded	NDNEROL5222013	458	723.3	729.87	725.2	729.88	0.000035	0.81	565.85	122.17	0.07
DS	10442	50% Exceeded	NDWEROL5222013	458	723.3	729.87	725.2	729.89	0.000035	0.81	566.05	122.18	0.07
DS	10442	Average Daily	EXLOW5222013	635	723.3	730.36	725.47	730.38	0.00005	1.01	626.18	124.86	0.08
DS	10442	Average Daily	NDNEROL5222013	635	723.3	730.3	725.47	730.31	0.000052	1.03	618.05	124.5	0.08
DS	10442	Average Daily	NDWEROL5222013	635	723.3	730.3	725.47	730.32	0.000052	1.03	618.42	124.52	0.08
DS	10442	20% Exceeded	EXLOW5222013	940	723.3	731.05	725.88	731.07	0.000074	1.32	713.11	128.64	0.1
DS	10442	20% Exceeded	NDNEROL5222013	940	723.3	730.95	725.88	730.98	0.000077	1.34	701.19	128.13	0.1
DS	10442	20% Exceeded	NDWEROL5222013	940	723.3	730.96	725.88	730.99	0.000077	1.34	701.62	128.15	0.1
DS	10398	7Q10	EXLOW5222013	96.3	723.3	728.62	724.31	728.62	0.000004	0.23	416.97	114.53	0.02
DS	10398	7Q10	NDNEROL5222013	96.3	723.3	728.62	724.31	728.62	0.000004	0.23	416.97	114.53	0.02
DS	10398	7Q10	NDWEROL5222013	96.3	723.3	728.62	724.31	728.62	0.000004	0.23	416.97	114.53	0.02
DS	10398	80% Exceeded	EXLOW5222013	237	723.3	729.27	724.75	729.27	0.000013	0.49	491.64	117.7	0.04
DS	10398	80% Exceeded	NDNEROL5222013	237	723.3	729.26	724.75	729.26	0.000014	0.49	490.58	117.66	0.04
DS	10398	80% Exceeded	NDWEROL5222013	237	723.3	729.26	724.75	729.26	0.000014	0.49	490.57	117.66	0.04
DS	10398	50% Exceeded	EXLOW5222013	458	723.3	729.91	725.2	729.92	0.000032	0.83	568.54	120.88	0.06
DS	10398	50% Exceeded	NDNEROL5222013	458	723.3	729.87	725.2	729.88	0.000033	0.83	563.68	120.69	0.07

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	10398	50% Exceeded	NDWEROL5222013	458	723.3	729.87	725.2	729.88	0.000033	0.83	563.87	120.69	0.07
DS	10398	Average Daily	EXLOW5222013	635	723.3	730.36	725.47	730.38	0.000046	1.05	623.04	123.09	0.08
DS	10398	Average Daily	NDNEROL5222013	635	723.3	730.29	725.47	730.31	0.000048	1.07	615.02	122.77	0.08
DS	10398	Average Daily	NDWEROL5222013	635	723.3	730.3	725.47	730.31	0.000048	1.07	615.37	122.78	0.08
DS	10398	20% Exceeded	EXLOW5222013	940	723.3	731.04	725.88	731.07	0.000069	1.39	708.25	126.46	0.1
DS	10398	20% Exceeded	NDNEROL5222013	940	723.3	730.95	725.88	730.98	0.000072	1.41	696.51	126	0.1
DS	10398	20% Exceeded	NDWEROL5222013	940	723.3	730.95	725.88	730.98	0.000072	1.41	696.93	126.02	0.1
DS	10220	7Q10	EXLOW5222013	96.3	723.3	728.62		728.62	0.000003	0.23	416.87	114.49	0.02
DS	10220	7Q10	NDNEROL5222013	96.3	723.3	728.62		728.62	0.000003	0.23	416.87	114.49	0.02
DS	10220	7Q10	NDWEROL5222013	96.3	723.3	728.62		728.62	0.000003	0.23	416.87	114.49	0.02
DS	10220	80% Exceeded	EXLOW5222013	237	723.3	729.26		729.27	0.000012	0.49	491.32	117.64	0.04
DS	10220	80% Exceeded	NDNEROL5222013	237	723.3	729.26		729.26	0.000012	0.49	490.26	117.59	0.04
DS	10220	80% Exceeded	NDWEROL5222013	237	723.3	729.26		729.26	0.000012	0.49	490.25	117.59	0.04
DS	10220	50% Exceeded	EXLOW5222013	458	723.3	729.91		729.92	0.000028	0.83	567.8	120.78	0.06
DS	10220	50% Exceeded	NDNEROL5222013	458	723.3	729.87		729.88	0.000029	0.83	562.93	120.59	0.07
DS	10220	50% Exceeded	NDWEROL5222013	458	723.3	729.87		729.88	0.000029	0.83	563.12	120.59	0.07
DS	10220	Average Daily	EXLOW5222013	635	723.3	730.35		730.37	0.00004	1.05	621.96	122.96	0.08
DS	10220	Average Daily	NDNEROL5222013	635	723.3	730.28		730.3	0.000042	1.07	613.91	122.64	0.08
DS	10220	Average Daily	NDWEROL5222013	635	723.3	730.29		730.31	0.000042	1.07	614.26	122.66	0.08
DS	10220	20% Exceeded	EXLOW5222013	940	723.3	731.03		731.06	0.00006	1.39	706.61	126.3	0.1
DS	10220	20% Exceeded	NDNEROL5222013	940	723.3	730.94		730.97	0.000063	1.41	694.82	125.84	0.1
DS	10220	20% Exceeded	NDWEROL5222013	940	723.3	730.94		730.97	0.000063	1.41	695.24	125.85	0.1
DS	9820	7Q10	EXLOW5222013	96.3	723.8	728.62		728.62	0.000007	0.29	334.06	110.6	0.03
DS	9820	7Q10	NDNEROL5222013	96.3	723.8	728.62		728.62	0.000007	0.29	334.06	110.6	0.03
DS	9820	7Q10	NDWEROL5222013	96.3	723.8	728.62		728.62	0.000007	0.29	334.06	110.6	0.03
DS	9820	80% Exceeded	EXLOW5222013	237	723.8	729.26		729.26	0.000021	0.59	405.02	112.66	0.05
DS	9820	80% Exceeded	NDNEROL5222013	237	723.8	729.25		729.25	0.000022	0.6	403.99	112.63	0.05
DS	9820	80% Exceeded	NDWEROL5222013	237	723.8	729.25		729.25	0.000022	0.6	403.98	112.63	0.05
DS	9820	50% Exceeded	EXLOW5222013	458	723.8	729.89		729.9	0.000048	0.98	476.69	114.7	0.08
DS	9820	50% Exceeded	NDNEROL5222013	458	723.8	729.85		729.86	0.000049	0.99	472	114.57	0.08
DS	9820	50% Exceeded	NDWEROL5222013	458	723.8	729.85		729.86	0.000049	0.99	472.19	114.57	0.08
DS	9820	Average Daily	EXLOW5222013	635	723.8	730.32		730.35	0.000067	1.24	527	116.11	0.1
DS	9820	Average Daily	NDNEROL5222013	635	723.8	730.26		730.28	0.00007	1.25	519.26	115.89	0.1
DS	9820	Average Daily	NDWEROL5222013	635	723.8	730.26		730.28	0.00007	1.25	519.59	115.9	0.1
DS	9820	20% Exceeded	EXLOW5222013	940	723.8	730.99		731.03	0.000095	1.61	605.04	118.27	0.12

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	9820	20% Exceeded	NDNEROL5222013	940	723.8	730.89		730.93	0.000101	1.63	593.72	117.96	0.12
DS	9820	20% Exceeded	NDWEROL5222013	940	723.8	730.9		730.94	0.0001	1.63	594.13	117.97	0.12
DS	9563	7Q10	EXLOW5222013	96.3	723.8	728.62		728.62	0.000007	0.29	333.83	110.54	0.03
DS	9563	7Q10	NDNEROL5222013	96.3	723.8	728.62		728.62	0.000007	0.29	333.83	110.54	0.03
DS	9563	7Q10	NDWEROL5222013	96.3	723.8	728.62		728.62	0.000007	0.29	333.83	110.54	0.03
DS	9563	80% Exceeded	EXLOW5222013	237	723.8	729.25		729.26	0.000022	0.59	404.31	112.56	0.05
DS	9563	80% Exceeded	NDNEROL5222013	237	723.8	729.24		729.25	0.000022	0.6	403.28	112.54	0.05
DS	9563	80% Exceeded	NDWEROL5222013	237	723.8	729.24		729.25	0.000022	0.6	403.28	112.53	0.05
DS	9563	50% Exceeded	EXLOW5222013	458	723.8	729.87		729.89	0.000048	0.98	475.14	114.56	0.08
DS	9563	50% Exceeded	NDNEROL5222013	458	723.8	729.83		729.85	0.00005	0.99	470.41	114.43	0.08
DS	9563	50% Exceeded	NDWEROL5222013	458	723.8	729.83		729.85	0.00005	0.99	470.6	114.43	0.08
DS	9563	Average Daily	EXLOW5222013	635	723.8	730.31		730.33	0.000068	1.24	524.79	115.94	0.1
DS	9563	Average Daily	NDNEROL5222013	635	723.8	730.24		730.26	0.000071	1.26	516.97	115.72	0.1
DS	9563	Average Daily	NDWEROL5222013	635	723.8	730.24		730.27	0.000071	1.26	517.3	115.73	0.1
DS	9563	20% Exceeded	EXLOW5222013	940	723.8	730.96		731	0.000096	1.61	601.82	118.05	0.12
DS	9563	20% Exceeded	NDNEROL5222013	940	723.8	730.87		730.91	0.000102	1.64	590.34	117.74	0.12
DS	9563	20% Exceeded	NDWEROL5222013	940	723.8	730.87		730.91	0.000102	1.64	590.76	117.75	0.12
DS	9290	7Q10	EXLOW5222013	96.3	725.97	728.61		728.62	0.000039	0.5	195.77	110.06	0.06
DS	9290	7Q10	NDNEROL5222013	96.3	725.97	728.61		728.62	0.000039	0.5	195.77	110.06	0.06
DS	9290	7Q10	NDWEROL5222013	96.3	725.97	728.61		728.62	0.000039	0.5	195.78	110.06	0.06
DS	9290	80% Exceeded	EXLOW5222013	237	725.97	729.23		729.24	0.000089	0.91	264.73	112.55	0.1
DS	9290	80% Exceeded	NDNEROL5222013	237	725.97	729.22		729.24	0.00009	0.91	263.69	112.51	0.1
DS	9290	80% Exceeded	NDWEROL5222013	237	725.97	729.22		729.24	0.00009	0.91	263.68	112.51	0.1
DS	9290	50% Exceeded	EXLOW5222013	458	725.97	729.84		729.87	0.000159	1.41	333.36	114.97	0.14
DS	9290	50% Exceeded	NDNEROL5222013	458	725.97	729.79		729.82	0.000167	1.43	328.45	114.8	0.15
DS	9290	50% Exceeded	NDWEROL5222013	458	725.97	729.79		729.83	0.000167	1.43	328.64	114.8	0.15
DS	9290	Average Daily	EXLOW5222013	635	725.97	730.25		730.3	0.000199	1.72	381.62	116.64	0.16
DS	9290	Average Daily	NDNEROL5222013	635	725.97	730.18		730.23	0.000214	1.75	373.4	116.36	0.17
DS	9290	Average Daily	NDWEROL5222013	635	725.97	730.18		730.23	0.000213	1.75	373.74	116.37	0.17
DS	9290	20% Exceeded	EXLOW5222013	940	725.97	730.89		730.96	0.000248	2.14	456.89	119.2	0.19
DS	9290	20% Exceeded	NDNEROL5222013	940	725.97	730.79		730.86	0.00027	2.2	444.68	118.79	0.19
DS	9290	20% Exceeded	NDWEROL5222013	940	725.97	730.79		730.87	0.000269	2.19	445.12	118.81	0.19
DS	9042	7Q10	EXLOW5222013	96.3	726.45	728.58		728.6	0.000238	0.85	112.66	105.56	0.15
DS	9042	7Q10	NDNEROL5222013	96.3	726.45	728.58		728.6	0.000238	0.85	112.66	105.56	0.15

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	9042	7Q10	NDWEROL5222013	96.3	726.45	728.58		728.6	0.000238	0.85	112.67	105.56	0.15
DS	9042	80% Exceeded	EXLOW5222013	237	726.45	729.18		729.2	0.00039	1.29	183.92	134.87	0.19
DS	9042	80% Exceeded	NDNEROL5222013	237	726.45	729.17		729.19	0.000398	1.3	182.54	134.37	0.2
DS	9042	80% Exceeded	NDWEROL5222013	237	726.45	729.17		729.19	0.000398	1.3	182.54	134.37	0.2
DS	9042	50% Exceeded	EXLOW5222013	458	726.45	729.75		729.8	0.00045	1.74	263.01	137.98	0.22
DS	9042	50% Exceeded	NDNEROL5222013	458	726.45	729.71		729.76	0.00049	1.79	256.33	137.81	0.23
DS	9042	50% Exceeded	NDWEROL5222013	458	726.45	729.71		729.76	0.000489	1.79	256.6	137.82	0.23
DS	9042	Average Daily	EXLOW5222013	635	726.45	730.16		730.22	0.000457	2	319.51	139.44	0.23
DS	9042	Average Daily	NDNEROL5222013	635	726.45	730.08		730.15	0.000513	2.07	308.38	139.15	0.24
DS	9042	Average Daily	NDWEROL5222013	635	726.45	730.09		730.15	0.000511	2.06	308.85	139.16	0.24
DS	9042	20% Exceeded	EXLOW5222013	940	726.45	730.79		730.88	0.00045	2.32	408.45	141.7	0.24
DS	9042	20% Exceeded	NDNEROL5222013	940	726.45	730.68		730.77	0.000513	2.42	392.16	141.29	0.25
DS	9042	20% Exceeded	NDWEROL5222013	940	726.45	730.68		730.77	0.000511	2.41	392.75	141.3	0.25
DS	8557	7Q10	EXLOW5222013	96.3	727.1	728.29		728.34	0.002042	1.7	56.75	95.29	0.39
DS	8557	7Q10	NDNEROL5222013	96.3	727.1	728.29		728.34	0.00204	1.7	56.77	95.3	0.39
DS	8557	7Q10	NDWEROL5222013	96.3	727.1	728.29		728.34	0.002039	1.7	56.77	95.31	0.39
DS	8557	80% Exceeded	EXLOW5222013	237	727.1	728.76		728.83	0.002113	2.15	110.08	132.71	0.42
DS	8557	80% Exceeded	NDNEROL5222013	237	727.1	728.72		728.8	0.002422	2.27	104.58	129.35	0.44
DS	8557	80% Exceeded	NDWEROL5222013	237	727.1	728.72		728.8	0.002422	2.27	104.59	129.36	0.44
DS	8557	50% Exceeded	EXLOW5222013	458	727.1	729.37		729.46	0.001253	2.37	194.28	140.67	0.35
DS	8557	50% Exceeded	NDNEROL5222013	458	727.1	729.24		729.35	0.001719	2.61	176.35	139.62	0.4
DS	8557	50% Exceeded	NDWEROL5222013	458	727.1	729.25		729.35	0.001693	2.6	177.16	139.66	0.4
DS	8557	Average Daily	EXLOW5222013	635	727.1	729.81		729.91	0.000971	2.5	257.39	144.3	0.32
DS	8557	Average Daily	NDNEROL5222013	635	727.1	729.65		729.77	0.001318	2.74	234.04	142.97	0.37
DS	8557	Average Daily	NDWEROL5222013	635	727.1	729.66		729.77	0.001298	2.73	235.13	143.03	0.37
DS	8557	20% Exceeded	EXLOW5222013	940	727.1	730.48		730.6	0.000756	2.71	356.3	149.82	0.3
DS	8557	20% Exceeded	NDNEROL5222013	940	727.1	730.3		730.43	0.000974	2.93	328.78	148.3	0.34
DS	8557	20% Exceeded	NDWEROL5222013	940	727.1	730.31		730.44	0.000965	2.92	329.84	148.36	0.33
DS	8537	7Q10	EXLOW5222013	96.3	727.1	728.24	727.91	728.29	0.002625	1.86	51.64	90.9	0.44
DS	8537	7Q10	NDNEROL5222013	96.3	727.1	728.24	727.91	728.29	0.002622	1.86	51.67	90.92	0.44
DS	8537	7Q10	NDWEROL5222013	96.3	727.1	728.24	727.91	728.29	0.00262	1.86	51.68	90.93	0.44
DS	8537	80% Exceeded	EXLOW5222013	237	727.1	728.7	728.27	728.79	0.002537	2.31	102.79	128.24	0.45
DS	8537	80% Exceeded	NDNEROL5222013	237	727.1	728.65	728.27	728.74	0.003049	2.47	95.93	123.89	0.49
DS	8537	80% Exceeded	NDWEROL5222013	237	727.1	728.65	728.27	728.74	0.003049	2.47	95.94	123.9	0.49
DS	8537	50% Exceeded	EXLOW5222013	458	727.1	729.34	728.62	729.43	0.001343	2.42	189.81	138.95	0.36

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	8537	50% Exceeded	NDNEROL5222013	458	727.1	729.2	728.62	729.31	0.001924	2.7	170.17	138.18	0.43
DS	8537	50% Exceeded	NDWEROL5222013	458	727.1	729.2	728.62	729.32	0.00189	2.68	171.07	138.21	0.42
DS	8537	Average Daily	EXLOW5222013	635	727.1	729.79	728.83	729.89	0.001012	2.53	252.9	141.41	0.33
DS	8537	Average Daily	NDNEROL5222013	635	727.1	729.62	728.83	729.74	0.001403	2.8	228.7	140.47	0.38
DS	8537	Average Daily	NDWEROL5222013	635	727.1	729.63	728.83	729.75	0.001381	2.78	229.85	140.52	0.38
DS	8537	20% Exceeded	EXLOW5222013	940	727.1	730.47	729.09	730.58	0.000776	2.74	349.93	145.12	0.3
DS	8537	20% Exceeded	NDNEROL5222013	940	727.1	730.28	729.09	730.41	0.00101	2.96	322.46	144.08	0.34
DS	8537	20% Exceeded	NDWEROL5222013	940	727.1	730.28	729.09	730.42	0.000999	2.95	323.52	144.12	0.34
DS	8522			Bridge									
DS	8506	7Q10	EXLOW5222013	96.3	727.1	727.91	727.91	728.12	0.012695	3.67	26.27	64.83	1.01
DS	8506	7Q10	NDNEROL5222013	96.3	727.1	727.91	727.91	728.12	0.012695	3.67	26.27	64.83	1.01
DS	8506	7Q10	NDWEROL5222013	96.3	727.1	727.91	727.91	728.12	0.012695	3.67	26.27	64.83	1.01
DS	8506	80% Exceeded	EXLOW5222013	237	727.1	728.58	728.27	728.69	0.00313	2.72	87.26	118.16	0.56
DS	8506	80% Exceeded	NDNEROL5222013	237	727.1	728.42	728.27	728.6	0.005589	3.38	70.21	105.99	0.73
DS	8506	80% Exceeded	NDWEROL5222013	237	727.1	728.43	728.27	728.6	0.005578	3.37	70.26	106.02	0.73
DS	8506	50% Exceeded	EXLOW5222013	458	727.1	729.29	728.62	729.39	0.001199	2.51	183.11	137.47	0.38
DS	8506	50% Exceeded	NDNEROL5222013	458	727.1	729.12	728.62	729.25	0.001887	2.87	159.66	136.96	0.47
DS	8506	50% Exceeded	NDWEROL5222013	458	727.1	729.13	728.62	729.26	0.001844	2.85	160.79	136.99	0.46
DS	8506	Average Daily	EXLOW5222013	635	727.1	729.76	728.83	729.86	0.000858	2.58	247.07	138.86	0.34
DS	8506	Average Daily	NDNEROL5222013	635	727.1	729.57	728.83	729.7	0.001236	2.88	221.14	138.3	0.4
DS	8506	Average Daily	NDWEROL5222013	635	727.1	729.58	728.83	729.71	0.001213	2.87	222.42	138.32	0.4
DS	8506	20% Exceeded	EXLOW5222013	940	727.1	730.44	729.09	730.56	0.000643	2.77	342.91	140.9	0.31
DS	8506	20% Exceeded	NDNEROL5222013	940	727.1	730.24	729.09	730.38	0.000848	3.01	315.01	140.31	0.35
DS	8506	20% Exceeded	NDWEROL5222013	940	727.1	730.25	729.09	730.39	0.000838	3	316.09	140.33	0.35
DS	8479	7Q10	EXLOW5222013	96.3	727.03	727.95		727.97	0.000536	1.13	85.48	115.29	0.23
DS	8479	7Q10	NDNEROL5222013	96.3	727.03	727.75		727.79	0.001407	1.53	62.85	110.29	0.36
DS	8479	7Q10	NDWEROL5222013	96.3	727.03	727.75		727.79	0.001403	1.53	62.91	110.3	0.36
DS	8479	80% Exceeded	EXLOW5222013	237	727.03	728.59		728.63	0.000433	1.44	164.84	131.34	0.23
DS	8479	80% Exceeded	NDNEROL5222013	237	727.03	728.46		728.5	0.000612	1.61	146.98	127.91	0.27
DS	8479	80% Exceeded	NDWEROL5222013	237	727.03	728.46		728.5	0.000611	1.61	147.04	127.92	0.26
DS	8479	50% Exceeded	EXLOW5222013	458	727.03	729.3		729.35	0.000363	1.76	263.98	143.67	0.22
DS	8479	50% Exceeded	NDNEROL5222013	458	727.03	729.13		729.19	0.000492	1.93	239.99	142.9	0.26
DS	8479	50% Exceeded	NDWEROL5222013	458	727.03	729.14		729.2	0.000484	1.92	241.13	142.94	0.25
DS	8479	Average Daily	EXLOW5222013	635	727.03	729.76		729.82	0.00034	1.96	330.94	145.79	0.22

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	8479	Average Daily	NDNEROL5222013	635	727.03	729.58		729.65	0.000445	2.13	304.1	144.94	0.25
DS	8479	Average Daily	NDWEROL5222013	635	727.03	729.59		729.66	0.000439	2.12	305.42	144.99	0.25
DS	8479	20% Exceeded	EXLOW5222013	940	727.03	730.45		730.53	0.00032	2.25	431.95	148.93	0.23
DS	8479	20% Exceeded	NDNEROL5222013	940	727.03	730.25		730.34	0.000399	2.41	402.78	148.03	0.25
DS	8479	20% Exceeded	NDWEROL5222013	940	727.03	730.26		730.35	0.000395	2.4	403.92	148.07	0.25
DS	8182	7Q10	EXLOW5222013	96.3	726.2	727.91		727.92	0.000072	0.61	157.15	117.66	0.09
DS	8182	7Q10	NDNEROL5222013	96.3	726.2	727.68		727.69	0.000128	0.74	130.13	112.79	0.12
DS	8182	7Q10	NDWEROL5222013	96.3	726.2	727.68		727.69	0.000128	0.74	130.2	112.81	0.12
DS	8182	80% Exceeded	EXLOW5222013	237	726.2	728.54		728.56	0.000132	1.01	234.9	130.67	0.13
DS	8182	80% Exceeded	NDNEROL5222013	237	726.2	728.38		728.4	0.000172	1.1	214.7	127.42	0.15
DS	8182	80% Exceeded	NDWEROL5222013	237	726.2	728.38		728.4	0.000172	1.1	214.77	127.43	0.15
DS	8182	50% Exceeded	EXLOW5222013	458	726.2	729.24		729.27	0.000166	1.39	329.74	136.35	0.16
DS	8182	50% Exceeded	NDNEROL5222013	458	726.2	729.06		729.09	0.000216	1.51	304.33	135.54	0.18
DS	8182	50% Exceeded	NDWEROL5222013	458	726.2	729.07		729.1	0.000213	1.5	305.57	135.58	0.18
DS	8182	Average Daily	EXLOW5222013	635	726.2	729.71		729.75	0.000179	1.62	393.19	138.34	0.17
DS	8182	Average Daily	NDNEROL5222013	635	726.2	729.5		729.55	0.000228	1.74	365.31	137.47	0.19
DS	8182	Average Daily	NDWEROL5222013	635	726.2	729.51		729.56	0.000225	1.74	366.69	137.52	0.19
DS	8182	20% Exceeded	EXLOW5222013	940	726.2	730.39		730.45	0.000194	1.94	488.92	141.3	0.18
DS	8182	20% Exceeded	NDNEROL5222013	940	726.2	730.18		730.25	0.000237	2.06	459.22	140.39	0.2
DS	8182	20% Exceeded	NDWEROL5222013	940	726.2	730.19		730.25	0.000235	2.06	460.39	140.42	0.2
DS	7893	7Q10	EXLOW5222013	96.3	725.81	727.87		727.89	0.000176	0.92	104.27	81.79	0.14
DS	7893	7Q10	NDNEROL5222013	96.3	725.81	727.61		727.63	0.000378	1.17	82.42	80.94	0.2
DS	7893	7Q10	NDWEROL5222013	96.3	725.81	727.61		727.63	0.000378	1.17	82.48	80.94	0.2
DS	7893	80% Exceeded	EXLOW5222013	237	725.81	728.46		728.5	0.000309	1.55	152.73	83.65	0.2
DS	7893	80% Exceeded	NDNEROL5222013	237	725.81	728.28		728.32	0.000433	1.72	137.57	83.07	0.24
DS	7893	80% Exceeded	NDWEROL5222013	237	725.81	728.28		728.33	0.000432	1.72	137.63	83.07	0.24
DS	7893	50% Exceeded	EXLOW5222013	458	725.81	729.12		729.2	0.000422	2.19	208.88	85.75	0.25
DS	7893	50% Exceeded	NDNEROL5222013	458	725.81	728.9		728.99	0.000572	2.41	189.94	85.04	0.28
DS	7893	50% Exceeded	NDWEROL5222013	458	725.81	728.91		729	0.000563	2.4	190.9	85.08	0.28
DS	7893	Average Daily	EXLOW5222013	635	725.81	729.56		729.66	0.000479	2.58	246.51	87.13	0.27
DS	7893	Average Daily	NDNEROL5222013	635	725.81	729.32		729.44	0.000634	2.81	225.66	86.37	0.31
DS	7893	Average Daily	NDWEROL5222013	635	725.81	729.33		729.45	0.000625	2.8	226.72	86.4	0.3
DS	7893	20% Exceeded	EXLOW5222013	940	725.81	730.2		730.35	0.000545	3.1	303.39	89.17	0.3
DS	7893	20% Exceeded	NDNEROL5222013	940	725.81	729.95		730.13	0.000693	3.34	281.13	88.38	0.33
DS	7893	20% Exceeded	NDWEROL5222013	940	725.81	729.96		730.14	0.000686	3.33	282.02	88.41	0.33

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	7429	7Q10	EXLOW5222013	96.3	725.7	727.8		727.81	0.000176	0.81	118.37	112.98	0.14
DS	7429	7Q10	NDNEROL5222013	96.3	725.7	727.4		727.42	0.000546	1.24	77.47	91.4	0.24
DS	7429	7Q10	NDWEROL5222013	96.3	725.7	727.4		727.42	0.000543	1.24	77.6	91.48	0.24
DS	7429	80% Exceeded	EXLOW5222013	237	725.7	728.33		728.36	0.000281	1.29	183.72	124.27	0.19
DS	7429	80% Exceeded	NDNEROL5222013	237	725.7	728.06		728.1	0.00055	1.58	149.95	124.05	0.25
DS	7429	80% Exceeded	NDWEROL5222013	237	725.7	728.06		728.1	0.000548	1.58	150.12	124.05	0.25
DS	7429	50% Exceeded	EXLOW5222013	458	725.7	728.97		729.02	0.00032	1.74	263.59	124.79	0.21
DS	7429	50% Exceeded	NDNEROL5222013	458	725.7	728.66		728.73	0.00054	2.04	224.87	124.54	0.27
DS	7429	50% Exceeded	NDWEROL5222013	458	725.7	728.68		728.74	0.000522	2.02	227.2	124.55	0.26
DS	7429	Average Daily	EXLOW5222013	635	725.7	729.4		729.46	0.000335	2	317.3	125.14	0.22
DS	7429	Average Daily	NDNEROL5222013	635	725.7	729.08		729.16	0.000522	2.29	277.16	124.88	0.27
DS	7429	Average Daily	NDWEROL5222013	635	725.7	729.1		729.18	0.000508	2.27	279.34	124.89	0.27
DS	7429	20% Exceeded	EXLOW5222013	940	725.7	730.05		730.13	0.000349	2.36	398.23	125.67	0.23
DS	7429	20% Exceeded	NDNEROL5222013	940	725.7	729.73		729.84	0.000492	2.62	358.48	125.41	0.27
DS	7429	20% Exceeded	NDWEROL5222013	940	725.7	729.74		729.85	0.000485	2.61	360.17	125.42	0.27
DS	7056	7Q10	EXLOW5222013	96.3	725.5	727.74		727.75	0.000123	0.71	135.6	120.92	0.12
DS	7056	7Q10	NDNEROL5222013	96.3	725.5	727.19		727.21	0.000561	1.26	76.67	90.93	0.24
DS	7056	7Q10	NDWEROL5222013	96.3	725.5	727.19		727.21	0.000555	1.25	76.97	91.1	0.24
DS	7056	80% Exceeded	EXLOW5222013	237	725.5	728.24		728.26	0.000222	1.2	197.27	124.16	0.17
DS	7056	80% Exceeded	NDNEROL5222013	237	725.5	727.85		727.89	0.000564	1.59	148.81	124.02	0.26
DS	7056	80% Exceeded	NDWEROL5222013	237	725.5	727.85		727.89	0.00056	1.59	149.14	124.02	0.26
DS	7056	50% Exceeded	EXLOW5222013	458	725.5	728.86		728.91	0.000279	1.67	274.72	124.38	0.2
DS	7056	50% Exceeded	NDNEROL5222013	458	725.5	728.46		728.52	0.000542	2.04	224.49	124.24	0.27
DS	7056	50% Exceeded	NDWEROL5222013	458	725.5	728.49		728.55	0.000516	2.01	227.89	124.25	0.26
DS	7056	Average Daily	EXLOW5222013	635	725.5	729.29		729.34	0.000302	1.94	327.31	124.53	0.21
DS	7056	Average Daily	NDNEROL5222013	635	725.5	728.89		728.97	0.000518	2.29	277.65	124.39	0.27
DS	7056	Average Daily	NDWEROL5222013	635	725.5	728.91		728.99	0.000501	2.26	280.57	124.4	0.27
DS	7056	20% Exceeded	EXLOW5222013	940	725.5	729.92		730.01	0.000325	2.31	406.87	124.76	0.23
DS	7056	20% Exceeded	NDNEROL5222013	940	725.5	729.55		729.66	0.000484	2.61	360.1	124.63	0.27
DS	7056	20% Exceeded	NDWEROL5222013	940	725.5	729.57		729.67	0.000475	2.6	362.18	124.64	0.27
DS	6561	7Q10	EXLOW5222013	96.3	724.91	727.67		727.69	0.000135	0.97	99.03	58.65	0.13
DS	6561	7Q10	NDNEROL5222013	96.3	724.91	726.14	726.14	726.45	0.01106	4.5	21.38	34.88	1.01
DS	6561	7Q10	NDWEROL5222013	96.3	724.91	726.14	726.14	726.45	0.011071	4.51	21.38	34.87	1.01
DS	6561	80% Exceeded	EXLOW5222013	237	724.91	728.05		728.11	0.000428	1.95	121.6	60.19	0.24

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	6561	80% Exceeded	NDNEROL5222013	237	724.91	726.66	726.66	727.12	0.009835	5.47	43.32	48.29	1.02
DS	6561	80% Exceeded	NDWEROL5222013	237	724.91	726.66	726.66	727.12	0.009817	5.47	43.34	48.3	1.02
DS	6561	50% Exceeded	EXLOW5222013	458	724.91	728.54		728.68	0.000811	3.03	151.2	62.15	0.34
DS	6561	50% Exceeded	NDNEROL5222013	458	724.91	727.35		727.86	0.00585	5.68	80.65	57.36	0.84
DS	6561	50% Exceeded	NDWEROL5222013	458	724.91	727.18	727.18	727.83	0.008748	6.45	70.96	56.39	1.01
DS	6561	Average Daily	EXLOW5222013	635	724.91	728.86		729.08	0.001065	3.7	171.79	64.19	0.4
DS	6561	Average Daily	NDNEROL5222013	635	724.91	727.79		728.35	0.0047	5.98	106.21	59.14	0.79
DS	6561	Average Daily	NDWEROL5222013	635	724.91	727.51	727.51	728.29	0.007983	7.07	89.83	58.01	1
DS	6561	20% Exceeded	EXLOW5222013	940	724.91	729.37		729.69	0.001454	4.56	206.33	71.12	0.47
DS	6561	20% Exceeded	NDNEROL5222013	940	724.91	728.37		729.06	0.00423	6.66	141.12	61.49	0.77
DS	6561	20% Exceeded	NDWEROL5222013	940	724.91	727.98	727.98	728.98	0.007581	8.03	117.09	59.88	1.01
DS	6542	7Q10	EXLOW5222013	96.3	722.52	727.68	724.92	727.68	0.000042	0.64	150.95	69.27	0.08
DS	6542	7Q10	NDNEROL5222013	96.3	722.52	726.01	724.92	726.08	0.001382	2.1	45.79	47.99	0.38
DS	6542	7Q10	NDWEROL5222013	96.3	722.52	725.44	724.92	725.69	0.005322	4.01	24.04	26	0.73
DS	6542	80% Exceeded	EXLOW5222013	237	722.52	728.07	725.96	728.1	0.000152	1.33	178.49	70.86	0.15
DS	6542	80% Exceeded	NDNEROL5222013	237	722.52	726.82	725.96	726.92	0.001186	2.55	93.07	65.62	0.38
DS	6542	80% Exceeded	NDWEROL5222013	237	722.52	726.49	725.96	726.66	0.002537	3.28	72.3	61.75	0.53
DS	6542	50% Exceeded	EXLOW5222013	458	722.52	728.58	726.52	728.65	0.000321	2.13	215.12	73.61	0.22
DS	6542	50% Exceeded	NDNEROL5222013	458	722.52	727.55	726.52	727.71	0.001156	3.22	142.14	68.73	0.39
DS	6542	50% Exceeded	NDWEROL5222013	458	722.52	727.13	726.52	727.38	0.002329	4.02	113.87	66.95	0.54
DS	6542	Average Daily	EXLOW5222013	635	722.52	728.92	726.82	729.03	0.00044	2.63	241	75.71	0.26
DS	6542	Average Daily	NDNEROL5222013	635	722.52	728	726.82	728.2	0.001195	3.67	173.25	70.56	0.41
DS	6542	Average Daily	NDWEROL5222013	635	722.52	727.5	726.82	727.82	0.0024	4.58	138.7	68.51	0.57
DS	6542	20% Exceeded	EXLOW5222013	940	722.52	729.45	727.26	729.63	0.000612	3.33	282.45	79.89	0.31
DS	6542	20% Exceeded	NDNEROL5222013	940	722.52	728.61	727.26	728.9	0.001307	4.32	217.59	73.8	0.44
DS	6542	20% Exceeded	NDWEROL5222013	940	722.52	727.98	727.26	728.44	0.002673	5.46	172.13	70.5	0.62
DS	6531			Bridge									
DS	6520	7Q10	EXLOW5222013	96.3	720.06	727.68	721.96	727.68	0.000006	0.36	268.84	65.49	0.03
DS	6520	7Q10	NDNEROL5222013	96.3	720.06	726.04	721.96	726.04	0.000023	0.57	168.04	57.42	0.06
DS	6520	7Q10	NDWEROL5222013	96.3	720.06	725.5	721.96	725.51	0.000042	0.7	137.85	54.78	0.08
DS	6520	80% Exceeded	EXLOW5222013	237	720.06	728.08	722.78	728.09	0.000027	0.8	295.33	67.44	0.07
DS	6520	80% Exceeded	NDNEROL5222013	237	720.06	726.85	722.78	726.87	0.000066	1.1	216.36	61.42	0.1
DS	6520	80% Exceeded	NDWEROL5222013	237	720.06	726.55	722.78	726.57	0.000086	1.2	197.91	59.92	0.12
DS	6520	50% Exceeded	EXLOW5222013	458	720.06	728.59	723.58	728.62	0.000072	1.38	330.84	69.99	0.11

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	6520	50% Exceeded	NDNEROL5222013	458	720.06	727.6	723.58	727.64	0.000139	1.74	263.45	65.08	0.15
DS	6520	50% Exceeded	NDWEROL5222013	458	720.06	727.21	723.58	727.27	0.000186	1.92	238.65	63.18	0.17
DS	6520	Average Daily	EXLOW5222013	635	720.06	728.95	724.06	729	0.000113	1.78	355.97	72.2	0.14
DS	6520	Average Daily	NDNEROL5222013	635	720.06	728.05	724.06	728.12	0.000195	2.16	293.64	67.32	0.18
DS	6520	Average Daily	NDWEROL5222013	635	720.06	727.59	724.06	727.68	0.000268	2.41	263.28	65.07	0.21
DS	6520	20% Exceeded	EXLOW5222013	940	720.06	729.49	724.78	729.58	0.000191	2.37	396.55	77.82	0.19
DS	6520	20% Exceeded	NDNEROL5222013	940	720.06	728.68	724.78	728.8	0.000288	2.79	336.88	70.41	0.22
DS	6520	20% Exceeded	NDWEROL5222013	940	720.06	728.1	724.78	728.26	0.000414	3.16	297.18	67.58	0.27
DS	6493	7Q10	EXLOW5222013	96.3	721.49	727.68		727.68	0.00001	0.4	243.56	79.55	0.04
DS	6493	7Q10	NDNEROL5222013	96.3	721.49	726.03		726.04	0.000085	0.8	119.66	65.72	0.11
DS	6493	7Q10	NDWEROL5222013	96.3	721.49	725.48		725.5	0.000181	1.1	87.27	52.72	0.15
DS	6493	80% Exceeded	EXLOW5222013	237	721.49	728.07		728.09	0.000043	0.86	275.42	81.2	0.08
DS	6493	80% Exceeded	NDNEROL5222013	237	721.49	726.84		726.86	0.000165	1.33	178.16	76.05	0.15
DS	6493	80% Exceeded	NDWEROL5222013	237	721.49	726.52		726.56	0.000256	1.53	154.66	74.27	0.19
DS	6493	50% Exceeded	EXLOW5222013	458	721.49	728.59		728.62	0.000102	1.44	317.68	82.9	0.13
DS	6493	50% Exceeded	NDNEROL5222013	458	721.49	727.58		727.63	0.000259	1.95	235.45	79.12	0.2
DS	6493	50% Exceeded	NDWEROL5222013	458	721.49	727.17		727.25	0.000404	2.24	204.08	77.45	0.24
DS	6493	Average Daily	EXLOW5222013	635	721.49	728.94		728.99	0.000146	1.83	347.01	83.16	0.16
DS	6493	Average Daily	NDNEROL5222013	635	721.49	728.03		728.11	0.000319	2.34	271.8	81.02	0.22
DS	6493	Average Daily	NDWEROL5222013	635	721.49	727.55		727.67	0.000509	2.72	233.61	79.03	0.28
DS	6493	20% Exceeded	EXLOW5222013	940	721.49	729.48		729.57	0.000214	2.4	391.97	83.55	0.19
DS	6493	20% Exceeded	NDNEROL5222013	940	721.49	728.66		728.79	0.000404	2.91	323.44	82.95	0.26
DS	6493	20% Exceeded	NDWEROL5222013	940	721.49	728.05		728.24	0.000683	3.43	273.81	81.12	0.33
DS	6173	7Q10	EXLOW5222013	96.3	723.07	727.68		727.68	0.000006	0.29	329.39	111.08	0.03
DS	6173	7Q10	NDNEROL5222013	96.3	723.07	726.01		726.02	0.000061	0.63	153.24	97.15	0.09
DS	6173	7Q10	NDWEROL5222013	96.3	723.07	725.42		725.44	0.000222	0.97	99.15	85.87	0.16
DS	6173	80% Exceeded	EXLOW5222013	237	723.07	728.07		728.07	0.000024	0.63	373.34	113.3	0.06
DS	6173	80% Exceeded	NDNEROL5222013	237	723.07	726.8		726.82	0.000101	1.01	234.72	106.14	0.12
DS	6173	80% Exceeded	NDWEROL5222013	237	723.07	726.47		726.49	0.000169	1.19	199.54	103.79	0.15
DS	6173	50% Exceeded	EXLOW5222013	458	723.07	728.57		728.59	0.000056	1.06	431.5	116.17	0.1
DS	6173	50% Exceeded	NDNEROL5222013	458	723.07	727.53		727.56	0.000152	1.46	313.34	110.26	0.15
DS	6173	50% Exceeded	NDWEROL5222013	458	723.07	727.1		727.14	0.000255	1.72	265.89	107.79	0.19
DS	6173	Average Daily	EXLOW5222013	635	723.07	728.92		728.95	0.000082	1.34	472.4	118.33	0.12
DS	6173	Average Daily	NDNEROL5222013	635	723.07	727.98		728.03	0.000185	1.75	363.35	112.8	0.17
DS	6173	Average Daily	NDWEROL5222013	635	723.07	727.46		727.53	0.000318	2.08	305.35	109.85	0.22

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	6173	20% Exceeded	EXLOW5222013	940	723.07	729.46		729.51	0.000123	1.75	536.89	122.5	0.15
DS	6173	20% Exceeded	NDNEROL5222013	940	723.07	728.6		728.67	0.000232	2.16	434.72	116.33	0.2
DS	6173	20% Exceeded	NDWEROL5222013	940	723.07	727.94		728.04	0.000421	2.62	358.74	112.57	0.26
DS	5870	7Q10	EXLOW5222013	96.3	723.44	727.67		727.68	0.000003	0.22	443.17	145.75	0.02
DS	5870	7Q10	NDNEROL5222013	96.3	723.44	726		726	0.000036	0.47	205.43	137.17	0.07
DS	5870	7Q10	NDWEROL5222013	96.3	723.44	725.36		725.37	0.000189	0.79	121.21	126.02	0.14
DS	5870	80% Exceeded	EXLOW5222013	237	723.44	728.06		728.07	0.000013	0.47	500.24	147.4	0.05
DS	5870	80% Exceeded	NDNEROL5222013	237	723.44	726.79		726.8	0.000055	0.75	315.44	141.69	0.09
DS	5870	80% Exceeded	NDWEROL5222013	237	723.44	726.44		726.45	0.000095	0.89	266.4	139.69	0.11
DS	5870	50% Exceeded	EXLOW5222013	458	723.44	728.57		728.58	0.00003	0.8	574.87	149.02	0.07
DS	5870	50% Exceeded	NDNEROL5222013	458	723.44	727.51		727.53	0.000083	1.09	418.86	145.03	0.11
DS	5870	50% Exceeded	NDWEROL5222013	458	723.44	727.05		727.08	0.000144	1.3	353.33	143.1	0.15
DS	5870	Average Daily	EXLOW5222013	635	723.44	728.91		728.93	0.000043	1.01	626.7	149.97	0.09
DS	5870	Average Daily	NDNEROL5222013	635	723.44	727.95		727.98	0.000101	1.31	483.91	146.93	0.13
DS	5870	Average Daily	NDWEROL5222013	635	723.44	727.41		727.45	0.000179	1.57	404.38	144.61	0.17
DS	5870	20% Exceeded	EXLOW5222013	940	723.44	729.45		729.47	0.000064	1.33	706.92	151.44	0.11
DS	5870	20% Exceeded	NDNEROL5222013	940	723.44	728.57		728.61	0.000126	1.63	575.75	149.04	0.15
DS	5870	20% Exceeded	NDWEROL5222013	940	723.44	727.88		727.94	0.000238	1.99	472.56	146.6	0.2
DS	5619	7Q10	EXLOW5222013	96.3	722.75	727.67		727.67	0.000004	0.22	431.22	171.34	0.02
DS	5619	7Q10	NDNEROL5222013	96.3	722.75	725.99		725.99	0.000047	0.56	172.22	106.7	0.08
DS	5619	7Q10	NDWEROL5222013	96.3	722.75	725.32		725.33	0.000139	0.87	111.04	80.48	0.13
DS	5619	80% Exceeded	EXLOW5222013	237	722.75	728.06		728.06	0.000016	0.48	498.13	174.71	0.05
DS	5619	80% Exceeded	NDNEROL5222013	237	722.75	726.77		726.78	0.000096	0.84	280.77	160.13	0.11
DS	5619	80% Exceeded	NDWEROL5222013	237	722.75	726.4		726.42	0.000202	1.06	222.66	156.43	0.16
DS	5619	50% Exceeded	EXLOW5222013	458	722.75	728.56		728.57	0.000035	0.78	586.1	177.15	0.08
DS	5619	50% Exceeded	NDNEROL5222013	458	722.75	727.48		727.5	0.00012	1.15	398.3	168.99	0.13
DS	5619	50% Exceeded	NDWEROL5222013	458	722.75	727		727.03	0.000241	1.44	318.54	163.03	0.18
DS	5619	Average Daily	EXLOW5222013	635	722.75	728.9		728.92	0.000049	0.98	647.12	177.94	0.09
DS	5619	Average Daily	NDNEROL5222013	635	722.75	727.92		727.95	0.000134	1.34	474.16	173.51	0.14
DS	5619	Average Daily	NDWEROL5222013	635	722.75	727.35		727.39	0.000277	1.69	375.6	167.32	0.2
DS	5619	20% Exceeded	EXLOW5222013	940	722.75	729.43		729.46	0.000068	1.27	741.45	179.16	0.11
DS	5619	20% Exceeded	NDNEROL5222013	940	722.75	728.54		728.58	0.000152	1.61	582.52	177.1	0.16
DS	5619	20% Exceeded	NDWEROL5222013	940	722.75	727.8		727.87	0.00034	2.08	452.67	172.43	0.23
DS	5290	7Q10	EXLOW5222013	96.3	722.82	727.67	724.67	727.67	0.000018	0.38	251.59	131.86	0.05

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	5290	7Q10	NDNEROL5222013	96.3	722.82	725.89	724.67	725.94	0.001161	1.79	53.87	64.06	0.34
DS	5290	7Q10	NDWEROL5222013	96.3	722.82	724.67	724.67	725.14	0.009525	5.49	17.54	18.55	0.99
DS	5290	80% Exceeded	EXLOW5222013	237	722.82	728.04	725.62	728.05	0.000059	0.79	301.25	133.05	0.09
DS	5290	80% Exceeded	NDNEROL5222013	237	722.82	726.63	725.62	726.7	0.001183	2.01	117.99	120.1	0.36
DS	5290	80% Exceeded	NDWEROL5222013	237	722.82	725.62	725.62	726.16	0.009333	5.89	40.23	37.94	1.01
DS	5290	50% Exceeded	EXLOW5222013	458	722.82	728.52	726.27	728.55	0.000117	1.26	365.31	134.57	0.13
DS	5290	50% Exceeded	NDNEROL5222013	458	722.82	727.34	726.27	727.41	0.000742	2.2	208.27	130.81	0.31
DS	5290	50% Exceeded	NDWEROL5222013	458	722.82	726.27	726.27	726.75	0.009353	5.54	82.61	86.25	1
DS	5290	Average Daily	EXLOW5222013	635	722.82	728.85	726.61	728.89	0.000155	1.57	409.64	135.62	0.16
DS	5290	Average Daily	NDNEROL5222013	635	722.82	727.77	726.61	727.86	0.000643	2.4	265.08	132.18	0.3
DS	5290	Average Daily	NDWEROL5222013	635	722.82	726.61	726.61	727.08	0.009216	5.53	114.79	119.18	0.99
DS	5290	20% Exceeded	EXLOW5222013	940	722.82	729.36	726.9	729.42	0.000205	1.99	478.36	137.21	0.18
DS	5290	20% Exceeded	NDNEROL5222013	940	722.82	728.37	726.9	728.48	0.000598	2.75	344.28	134.07	0.3
DS	5290	20% Exceeded	NDWEROL5222013	940	722.82	726.9	726.9	727.5	0.00869	6.2	151.63	127.16	1
DS	4956	7Q10	EXLOW5222013	96.3	721.97	727.67	722.89	727.67	0.000002	0.23	451.16	148.48	0.02
DS	4956	7Q10	NDNEROL5222013	96.3	721.97	725.91	722.89	725.91	0.000015	0.41	235.39	99.47	0.05
DS	4956	7Q10	NDWEROL5222013	96.3	721.97	723.24	722.89	723.36	0.002769	2.73	35.26	43.09	0.53
DS	4956	80% Exceeded	EXLOW5222013	237	721.97	728.04	723.43	728.05	0.000011	0.5	507.5	153.68	0.04
DS	4956	80% Exceeded	NDNEROL5222013	237	721.97	726.63	723.43	726.64	0.00004	0.77	309.75	106.76	0.08
DS	4956	80% Exceeded	NDWEROL5222013	237	721.97	723.94	723.43	724.11	0.002521	3.31	71.61	61.11	0.54
DS	4956	50% Exceeded	EXLOW5222013	458	721.97	728.52	723.97	728.53	0.000028	0.87	580.85	155.59	0.07
DS	4956	50% Exceeded	NDNEROL5222013	458	721.97	727.32	723.97	727.34	0.000075	1.19	400.24	143.38	0.11
DS	4956	50% Exceeded	NDWEROL5222013	458	721.97	724.76	723.97	724.95	0.001853	3.53	129.57	79.47	0.49
DS	4956	Average Daily	EXLOW5222013	635	721.97	728.84	724.3	728.86	0.000042	1.12	631.58	156.89	0.09
DS	4956	Average Daily	NDNEROL5222013	635	721.97	727.74	724.3	727.78	0.000099	1.46	462.31	149.97	0.13
DS	4956	Average Daily	NDWEROL5222013	635	721.97	725.28	724.3	725.49	0.001577	3.62	175.21	91.68	0.46
DS	4956	20% Exceeded	EXLOW5222013	940	721.97	729.34	724.75	729.37	0.000067	1.5	710.29	158.88	0.11
DS	4956	20% Exceeded	NDNEROL5222013	940	721.97	728.33	724.75	728.38	0.000136	1.86	551.87	154.84	0.16
DS	4956	20% Exceeded	NDWEROL5222013	940	721.97	726.01	724.75	726.24	0.001269	3.83	245.64	100.51	0.43
DS	4936	7Q10	EXLOW5222013	96.3	721.78	727.67	722.57	727.67	0.000001	0.15	627.99	165.26	0.01
DS	4936	7Q10	NDNEROL5222013	96.3	721.78	725.91	722.57	725.91	0.000006	0.27	354.93	145.86	0.03
DS	4936	7Q10	NDWEROL5222013	96.3	721.78	723.28	722.57	723.31	0.000596	1.41	68.4	71.46	0.25
DS	4936	80% Exceeded	EXLOW5222013	237	721.78	728.04	722.97	728.04	0.000005	0.34	690.2	167.76	0.03
DS	4936	80% Exceeded	NDNEROL5222013	237	721.78	726.63	722.97	726.64	0.000017	0.51	463.23	153.62	0.05
DS	4936	80% Exceeded	NDWEROL5222013	237	721.78	723.99	722.97	724.05	0.000643	1.87	126.8	91.63	0.28

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4936	50% Exceeded	EXLOW5222013	458	721.78	728.52	723.42	728.53	0.000013	0.6	771.41	174.3	0.05
DS	4936	50% Exceeded	NDNEROL5222013	458	721.78	727.33	723.42	727.34	0.000034	0.8	571.87	161.19	0.07
DS	4936	50% Exceeded	NDWEROL5222013	458	721.78	724.82	723.42	724.89	0.000583	2.16	212.32	114.93	0.28
DS	4936	Average Daily	EXLOW5222013	635	721.78	728.85	723.7	728.86	0.00002	0.78	828.74	176.19	0.06
DS	4936	Average Daily	NDNEROL5222013	635	721.78	727.75	723.7	727.77	0.000045	0.99	642.13	165.83	0.09
DS	4936	Average Daily	NDWEROL5222013	635	721.78	725.35	723.7	725.43	0.00054	2.29	277.34	129.73	0.28
DS	4936	20% Exceeded	EXLOW5222013	940	721.78	729.35	724.11	729.37	0.000032	1.04	918.12	179.11	0.08
DS	4936	20% Exceeded	NDNEROL5222013	940	721.78	728.35	724.11	728.37	0.000062	1.28	741.48	169.8	0.11
DS	4936	20% Exceeded	NDWEROL5222013	940	721.78	726.09	724.11	726.18	0.000488	2.47	381.3	147.79	0.27
DS	4923			Bridge									
DS	4908	7Q10	EXLOW5222013	96.3	721.65	727.67	722.58	727.67	0.000002	0.15	648.89	185.51	0.01
DS	4908	7Q10	NDNEROL5222013	96.3	721.65	725.91	722.58	725.91	0.000011	0.28	339.42	148.1	0.03
DS	4908	7Q10	NDWEROL5222013	96.3	721.65	723.2	722.58	723.26	0.002054	1.83	52.75	71.82	0.38
DS	4908	80% Exceeded	EXLOW5222013	237	721.65	728.04	723.08	728.04	0.000007	0.34	718.7	188.38	0.03
DS	4908	80% Exceeded	NDNEROL5222013	237	721.65	726.63	723.08	726.64	0.00003	0.52	460.29	178.74	0.06
DS	4908	80% Exceeded	NDWEROL5222013	237	721.65	723.93	723.08	724	0.001388	2.14	110.89	88.78	0.34
DS	4908	50% Exceeded	EXLOW5222013	458	721.65	728.52	723.57	728.52	0.000018	0.58	809.27	191.61	0.05
DS	4908	50% Exceeded	NDNEROL5222013	458	721.65	727.32	723.57	727.33	0.000051	0.79	585.38	183.1	0.08
DS	4908	50% Exceeded	NDWEROL5222013	458	721.65	724.76	723.57	724.85	0.001063	2.37	193.14	108.34	0.31
DS	4908	Average Daily	EXLOW5222013	635	721.65	728.85	723.82	728.85	0.000028	0.75	871.97	192.21	0.06
DS	4908	Average Daily	NDNEROL5222013	635	721.65	727.75	723.82	727.77	0.000066	0.97	664.25	186.15	0.09
DS	4908	Average Daily	NDWEROL5222013	635	721.65	725.3	723.82	725.39	0.000987	2.49	255	125.66	0.31
DS	4908	20% Exceeded	EXLOW5222013	940	721.65	729.35	724.22	729.36	0.000044	1	968.77	193.14	0.08
DS	4908	20% Exceeded	NDNEROL5222013	940	721.65	728.34	724.22	728.37	0.000089	1.24	775.59	190.68	0.1
DS	4908	20% Exceeded	NDWEROL5222013	940	721.65	726.04	724.22	726.15	0.000882	2.62	358.93	152.09	0.3
DS	4866	7Q10	EXLOW5222013	96.3	722.13	727.67	722.8	727.67	0.000003	0.19	495.4	131.28	0.02
DS	4866	7Q10	NDNEROL5222013	96.3	722.13	725.91	722.8	725.91	0.000012	0.34	286.38	106.32	0.04
DS	4866	7Q10	NDWEROL5222013	96.3	722.13	723.03	722.8	723.12	0.004476	2.42	39.82	63.79	0.54
DS	4866	80% Exceeded	EXLOW5222013	237	722.13	728.04	723.17	728.04	0.000012	0.43	545.21	136.56	0.04
DS	4866	80% Exceeded	NDNEROL5222013	237	722.13	726.63	723.17	726.63	0.000037	0.65	366.52	116.52	0.06
DS	4866	80% Exceeded	NDWEROL5222013	237	722.13	723.83	723.17	723.92	0.001846	2.47	96	76.65	0.39
DS	4866	50% Exceeded	EXLOW5222013	458	722.13	728.51	723.59	728.52	0.000033	0.75	611.32	143.26	0.06
DS	4866	50% Exceeded	NDNEROL5222013	458	722.13	727.31	723.59	727.33	0.000078	1.02	449.65	126.24	0.1
DS	4866	50% Exceeded	NDWEROL5222013	458	722.13	724.67	723.59	724.79	0.001363	2.77	165.62	88.75	0.36

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4866	Average Daily	EXLOW5222013	635	722.13	728.84	723.87	728.85	0.000052	0.96	658.37	147.85	0.08
DS	4866	Average Daily	NDNEROL5222013	635	722.13	727.74	723.87	727.76	0.000109	1.26	504.16	132.22	0.11
DS	4866	Average Daily	NDWEROL5222013	635	722.13	725.2	723.87	725.33	0.001237	2.96	214.31	96.22	0.35
DS	4866	20% Exceeded	EXLOW5222013	940	722.13	729.33	724.27	729.36	0.000082	1.28	733.45	154.89	0.1
DS	4866	20% Exceeded	NDNEROL5222013	940	722.13	728.32	724.27	728.36	0.00016	1.61	583.4	140.47	0.14
DS	4866	20% Exceeded	NDWEROL5222013	940	722.13	725.92	724.27	726.09	0.001165	3.27	287.6	106.48	0.35
DS	4690	7Q10	EXLOW5222013	96.3	719.89	727.67	720.7	727.67	0.000001	0.12	838.94	181.59	0.01
DS	4690	7Q10	NDNEROL5222013	96.3	719.89	725.91	720.7	725.91	0.000002	0.18	545.57	143.55	0.02
DS	4690	7Q10	NDWEROL5222013	96.3	719.89	723.07	720.7	723.07	0.000043	0.5	191.16	99.3	0.06
DS	4690	80% Exceeded	EXLOW5222013	237	719.89	728.04	721.11	728.04	0.000003	0.26	907.13	185.01	0.02
DS	4690	80% Exceeded	NDNEROL5222013	237	719.89	726.63	721.11	726.63	0.000009	0.36	656.47	168.48	0.03
DS	4690	80% Exceeded	NDWEROL5222013	237	719.89	723.84	721.11	723.86	0.000095	0.86	275.67	115.11	0.1
DS	4690	50% Exceeded	EXLOW5222013	458	719.89	728.51	721.62	728.52	0.000009	0.46	995.77	189.58	0.03
DS	4690	50% Exceeded	NDNEROL5222013	458	719.89	727.31	721.62	727.32	0.00002	0.59	775.24	177.78	0.05
DS	4690	50% Exceeded	NDWEROL5222013	458	719.89	724.68	721.62	724.7	0.000142	1.21	377.16	127.4	0.12
DS	4690	Average Daily	EXLOW5222013	635	719.89	728.84	721.93	728.84	0.000014	0.61	1057.71	192.72	0.04
DS	4690	Average Daily	NDNEROL5222013	635	719.89	727.74	721.93	727.75	0.000028	0.75	851.46	182.19	0.06
DS	4690	Average Daily	NDWEROL5222013	635	719.89	725.21	721.93	725.24	0.000173	1.42	446.85	137.95	0.14
DS	4690	20% Exceeded	EXLOW5222013	940	719.89	729.34	722.39	729.35	0.000024	0.83	1157.96	207.51	0.06
DS	4690	20% Exceeded	NDNEROL5222013	940	719.89	728.32	722.39	728.34	0.000042	0.99	959.34	187.72	0.07
DS	4690	20% Exceeded	NDWEROL5222013	940	719.89	725.93	722.39	725.98	0.000202	1.71	549.18	143.8	0.15
DS	4682	7Q10	EXLOW5222013	96.3	719.64	727.67	720.47	727.67	0.000001	0.12	843.82	191.36	0.01
DS	4682	7Q10	NDNEROL5222013	96.3	719.64	725.91	720.47	725.91	0.000002	0.18	551.13	145.14	0.02
DS	4682	7Q10	NDWEROL5222013	96.3	719.64	723.06	720.47	723.07	0.000036	0.48	200.09	95.88	0.06
DS	4682	80% Exceeded	EXLOW5222013	237	719.64	728.04	720.93	728.04	0.000003	0.28	915.23	192.57	0.02
DS	4682	80% Exceeded	NDNEROL5222013	237	719.64	726.63	720.93	726.63	0.000007	0.37	656.81	148.66	0.03
DS	4682	80% Exceeded	NDWEROL5222013	237	719.64	723.84	720.93	723.85	0.000085	0.84	281.48	112.22	0.09
DS	4682	50% Exceeded	EXLOW5222013	458	719.64	728.51	721.45	728.52	0.000008	0.5	1006.66	194.12	0.03
DS	4682	50% Exceeded	NDNEROL5222013	458	719.64	727.31	721.45	727.32	0.000016	0.62	776.17	190.19	0.05
DS	4682	50% Exceeded	NDWEROL5222013	458	719.64	724.68	721.45	724.7	0.000137	1.2	381.7	127.37	0.12
DS	4682	Average Daily	EXLOW5222013	635	719.64	728.84	721.77	728.84	0.000013	0.66	1069.65	195.58	0.04
DS	4682	Average Daily	NDNEROL5222013	635	719.64	727.74	721.77	727.75	0.000024	0.79	856.78	191.58	0.06
DS	4682	Average Daily	NDWEROL5222013	635	719.64	725.21	721.77	725.24	0.000165	1.41	451.1	136.8	0.14
DS	4682	20% Exceeded	EXLOW5222013	940	719.64	729.33	722.23	729.35	0.000023	0.9	1167.46	198.16	0.06
DS	4682	20% Exceeded	NDNEROL5222013	940	719.64	728.32	722.23	728.34	0.000039	1.06	968.84	193.48	0.07

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4682	20% Exceeded	NDWEROL5222013	940	719.64	725.93	722.23	725.98	0.000188	1.7	554.59	145.26	0.15
DS	4648			Bridge									
DS	4604	7Q10	EXLOW5222013	96.3	722.74	727.67	723.51	727.67	0.000003	0.19	504.96	155.61	0.02
DS	4604	7Q10	NDNEROL5222013	96.3	722.74	725.91	723.51	725.91	0.000017	0.36	268.49	117.39	0.04
DS	4604	7Q10	NDWEROL5222013	96.3	721.47	722.99	722.4	723.03	0.001297	1.59	60.44	71.51	0.31
DS	4604	80% Exceeded	EXLOW5222013	237	722.74	728.04	723.81	728.04	0.000013	0.42	564.66	171.64	0.04
DS	4604	80% Exceeded	NDNEROL5222013	237	722.74	726.62	723.81	726.63	0.000045	0.67	354.87	124.67	0.07
DS	4604	80% Exceeded	NDWEROL5222013	237	721.47	723.74	722.82	723.81	0.001024	2.01	117.95	82.44	0.3
DS	4604	50% Exceeded	EXLOW5222013	458	722.74	728.51	724.17	728.51	0.000033	0.72	648.07	185.01	0.06
DS	4604	50% Exceeded	NDNEROL5222013	458	722.74	727.3	724.17	727.31	0.000098	1.02	448.37	148.83	0.1
DS	4604	50% Exceeded	NDWEROL5222013	458	721.47	724.56	723.23	724.64	0.00097	2.39	191.62	99.06	0.3
DS	4604	Average Daily	EXLOW5222013	635	722.74	728.83	724.41	728.84	0.000049	0.92	708.88	195.57	0.08
DS	4604	Average Daily	NDNEROL5222013	635	722.74	727.71	724.41	727.74	0.00013	1.24	511.76	156.4	0.12
DS	4604	Average Daily	NDWEROL5222013	635	721.47	725.07	723.52	725.17	0.00093	2.59	245.16	108.84	0.3
DS	4604	20% Exceeded	EXLOW5222013	940	722.74	729.32	724.77	729.34	0.000075	1.22	808.05	206.89	0.1
DS	4604	20% Exceeded	NDNEROL5222013	940	722.74	728.28	724.77	728.32	0.000169	1.56	607.55	178.33	0.14
DS	4604	20% Exceeded	NDWEROL5222013	940	721.47	725.78	723.92	725.91	0.000868	2.89	325.14	116.1	0.3
DS	4516	7Q10	EXLOW5222013	96.3	721.86	727.67	722.89	727.67	0.000005	0.26	373.96	100.16	0.02
DS	4516	7Q10	NDNEROL5222013	96.3	721.86	725.9	722.89	725.91	0.000021	0.44	219.12	81.15	0.05
DS	4516	7Q10	NDWEROL5222013	96.3	721.03	722.65	722.34	722.8	0.004869	3.06	31.49	37.69	0.59
DS	4516	80% Exceeded	EXLOW5222013	237	721.86	728.03	723.37	728.04	0.00002	0.58	410.26	105.3	0.05
DS	4516	80% Exceeded	NDNEROL5222013	237	721.86	726.61	723.37	726.62	0.000063	0.85	277.5	86.81	0.08
DS	4516	80% Exceeded	NDWEROL5222013	237	721.03	723.42	722.93	723.61	0.003894	3.51	67.5	55.54	0.56
DS	4516	50% Exceeded	EXLOW5222013	458	721.86	728.49	723.85	728.51	0.000054	1.01	458.03	111.28	0.08
DS	4516	50% Exceeded	NDNEROL5222013	458	721.86	727.27	723.85	727.3	0.000137	1.36	336.29	94.82	0.13
DS	4516	50% Exceeded	NDWEROL5222013	458	721.03	724.22	723.5	724.46	0.002948	3.96	115.65	64.29	0.52
DS	4516	Average Daily	EXLOW5222013	635	721.86	728.8	724.16	728.83	0.000083	1.31	491.65	114.28	0.1
DS	4516	Average Daily	NDNEROL5222013	635	721.86	727.67	724.16	727.72	0.000196	1.7	374.31	100.2	0.15
DS	4516	Average Daily	NDWEROL5222013	635	721.03	724.7	723.83	724.99	0.002744	4.29	148.11	69.19	0.52
DS	4516	20% Exceeded	EXLOW5222013	940	721.86	729.27	724.62	729.32	0.000135	1.76	543.7	116.95	0.13
DS	4516	20% Exceeded	NDNEROL5222013	940	721.86	728.22	724.62	728.29	0.000279	2.2	428.94	107.68	0.19
DS	4516	20% Exceeded	NDWEROL5222013	940	721.03	725.36	724.3	725.72	0.002689	4.8	195.65	75.79	0.53
DS	4430	7Q10	EXLOW5222013	96.3	720.86	727.67	721.89	727.67	0.000002	0.2	483.56	113.5	0.02

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4430	7Q10	NDNEROL5222013	96.3	720.86	725.9	721.89	725.91	0.000008	0.32	303.99	90.25	0.03
DS	4430	7Q10	NDWEROL5222013	96.3	720.86	722.51	721.89	722.56	0.001473	1.81	53.2	57.14	0.33
DS	4430	80% Exceeded	EXLOW5222013	237	720.86	728.03	722.37	728.04	0.00001	0.46	525.46	115.22	0.04
DS	4430	80% Exceeded	NDNEROL5222013	237	720.86	726.61	722.37	726.62	0.000029	0.64	370.88	99.39	0.06
DS	4430	80% Exceeded	NDWEROL5222013	237	720.86	723.33	722.37	723.41	0.001162	2.29	103.65	65.43	0.32
DS	4430	50% Exceeded	EXLOW5222013	458	720.86	728.49	722.85	728.5	0.000028	0.81	578.93	117.47	0.06
DS	4430	50% Exceeded	NDNEROL5222013	458	720.86	727.27	722.85	727.29	0.000065	1.05	439.51	108.39	0.09
DS	4430	50% Exceeded	NDWEROL5222013	458	720.86	724.15	722.85	724.27	0.001188	2.86	160.42	73.65	0.34
DS	4430	Average Daily	EXLOW5222013	635	720.86	728.8	723.16	728.82	0.000045	1.06	615.7	119.12	0.08
DS	4430	Average Daily	NDNEROL5222013	635	720.86	727.67	723.16	727.7	0.000093	1.32	484.09	113.52	0.11
DS	4430	Average Daily	NDWEROL5222013	635	720.86	724.64	723.16	724.8	0.001237	3.21	197.96	78.61	0.36
DS	4430	20% Exceeded	EXLOW5222013	940	720.86	729.28	723.62	729.31	0.000075	1.45	672.55	121.62	0.1
DS	4430	20% Exceeded	NDNEROL5222013	940	720.86	728.22	723.62	728.27	0.00014	1.75	546.85	116.09	0.13
DS	4430	20% Exceeded	NDWEROL5222013	940	720.86	725.3	723.62	725.52	0.001317	3.73	251.78	83.22	0.38
DS	4229	7Q10	EXLOW5222013	96.3	723.87	727.67	724.89	727.67	0.000013	0.32	297.89	123.09	0.04
DS	4229	7Q10	NDNEROL5222013	96.3	723.87	725.89	724.89	725.9	0.000288	0.95	101.84	85.05	0.15
DS	4229	7Q10	NDWEROL5222013	96.3	720.48	722.29	721.43	722.33	0.000852	1.6	60.24	51.61	0.26
DS	4229	80% Exceeded	EXLOW5222013	237	723.87	728.03	725.23	728.03	0.000051	0.69	342.8	126.54	0.07
DS	4229	80% Exceeded	NDNEROL5222013	237	723.87	726.57	725.23	726.6	0.000458	1.4	169.58	111.55	0.2
DS	4229	80% Exceeded	NDWEROL5222013	237	720.48	723.12	721.94	723.19	0.001003	2.18	108.51	65.76	0.3
DS	4229	50% Exceeded	EXLOW5222013	458	723.87	728.47	725.64	728.49	0.000117	1.15	400.05	129.24	0.11
DS	4229	50% Exceeded	NDNEROL5222013	458	723.87	727.2	725.64	727.25	0.000564	1.89	241.77	117.68	0.23
DS	4229	50% Exceeded	NDWEROL5222013	458	720.48	723.92	722.49	724.04	0.001138	2.77	165.39	77.11	0.33
DS	4229	Average Daily	EXLOW5222013	635	723.87	728.77	725.89	728.8	0.000166	1.45	439.01	130.6	0.14
DS	4229	Average Daily	NDNEROL5222013	635	723.87	727.58	725.89	727.66	0.00064	2.21	287.36	122.03	0.25
DS	4229	Average Daily	NDWEROL5222013	635	720.48	724.4	722.85	724.55	0.001219	3.11	204.4	84.42	0.35
DS	4229	20% Exceeded	EXLOW5222013	940	723.87	729.23	726.34	729.28	0.00024	1.9	498.81	133.16	0.17
DS	4229	20% Exceeded	NDNEROL5222013	940	723.87	728.09	726.34	728.2	0.000748	2.68	351.49	127.19	0.28
DS	4229	20% Exceeded	NDWEROL5222013	940	720.48	725.05	723.34	725.25	0.001321	3.59	261.74	92.31	0.38
DS	4020	7Q10	EXLOW5222013	96.3	724.3	727.66	725.41	727.66	0.000043	0.46	209.52	124.76	0.06
DS	4020	7Q10	NDNEROL5222013	96.3	724.3	725.41	725.41	725.69	0.016177	4.24	22.71	41.08	1
DS	4020	7Q10	NDWEROL5222013	96.3	720	721.46	721.46	721.84	0.014951	4.9	19.66	26.86	1.01
DS	4020	80% Exceeded	EXLOW5222013	237	724.3	728	725.89	728.01	0.000156	0.93	254.39	137.47	0.12
DS	4020	80% Exceeded	NDNEROL5222013	237	724.3	725.89	725.89	726.29	0.014348	5.08	46.68	58.89	1
DS	4020	80% Exceeded	NDWEROL5222013	237	720	722.11	722.11	722.63	0.012961	5.82	40.75	38.68	1

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4020	50% Exceeded	EXLOW5222013	458	724.3	728.42	726.36	728.45	0.000329	1.45	315.24	153.03	0.18
DS	4020	50% Exceeded	NDNEROL5222013	458	724.3	726.36	726.36	726.88	0.013104	5.79	79.16	76.68	1
DS	4020	50% Exceeded	NDWEROL5222013	458	720	722.75	722.75	723.43	0.01179	6.62	69.21	50.4	1
DS	4020	Average Daily	EXLOW5222013	635	724.3	728.7	726.65	728.75	0.00042	1.77	359.21	156.67	0.21
DS	4020	Average Daily	NDNEROL5222013	635	724.3	726.65	726.65	727.25	0.012504	6.17	102.94	87.45	1
DS	4020	Average Daily	NDWEROL5222013	635	720	723.12	723.12	723.9	0.011512	7.12	89.22	57.23	1
DS	4020	20% Exceeded	EXLOW5222013	940	724.3	729.13	727.05	729.21	0.000519	2.2	427.05	158.09	0.23
DS	4020	20% Exceeded	NDNEROL5222013	940	724.3	727.05	727.05	727.75	0.011927	6.68	140.61	102.2	1
DS	4020	20% Exceeded	NDWEROL5222013	940	720	723.66	723.66	724.57	0.010781	7.66	122.72	67.12	1
DS	3853	7Q10	EXLOW5222013	96.3	718.53	727.66	720.74	727.66	0.000002	0.18	525.84	136.99	0.02
DS	3853	7Q10	NDNEROL5222013	96.3	718.53	725.46	720.74	725.47	0.000013	0.36	267.4	93.71	0.04
DS	3853	7Q10	NDWEROL5222013	96.3	719.84	721.09	720.42	721.13	0.001044	1.64	58.88	56.7	0.28
DS	3853	80% Exceeded	EXLOW5222013	237	718.53	728	721.89	728.01	0.00001	0.42	574.49	145.57	0.03
DS	3853	80% Exceeded	NDNEROL5222013	237	718.53	725.82	721.89	725.83	0.000063	0.78	303.57	106.72	0.08
DS	3853	80% Exceeded	NDWEROL5222013	237	719.84	721.8	720.85	721.89	0.001203	2.3	102.9	65.85	0.32
DS	3853	50% Exceeded	EXLOW5222013	458	718.53	728.43	722.51	728.43	0.000027	0.73	637.23	150.52	0.06
DS	3853	50% Exceeded	NDNEROL5222013	458	718.53	726.25	722.51	726.28	0.000157	1.3	351.2	113.5	0.13
DS	3853	50% Exceeded	NDWEROL5222013	458	719.84	722.51	721.34	722.65	0.001418	3.01	151.98	73.38	0.37
DS	3853	Average Daily	EXLOW5222013	635	718.53	728.71	722.89	728.72	0.000043	0.96	680.19	152.5	0.07
DS	3853	Average Daily	NDNEROL5222013	635	718.53	726.54	722.89	726.58	0.000234	1.65	385.15	118.04	0.16
DS	3853	Average Daily	NDWEROL5222013	635	719.84	722.93	721.65	723.11	0.001574	3.46	183.51	77.84	0.4
DS	3853	20% Exceeded	EXLOW5222013	940	718.53	729.14	723.45	729.17	0.000072	1.31	746.71	155.21	0.1
DS	3853	20% Exceeded	NDNEROL5222013	940	718.53	726.98	723.45	727.05	0.000354	2.14	438.3	123.23	0.2
DS	3853	20% Exceeded	NDWEROL5222013	940	719.84	723.5	722.11	723.76	0.00181	4.09	229.56	83.93	0.44
DS	3673	7Q10	EXLOW5222013	96.3	721.39	727.66	722.48	727.66	0.000002	0.17	567.99	147.8	0.01
DS	3673	7Q10	NDNEROL5222013	96.3	721.39	725.46	722.48	725.46	0.000019	0.36	269.41	127.57	0.04
DS	3673	7Q10	NDWEROL5222013	96.3	719.56	720.99	720.06	721.01	0.000416	1.13	85.32	72.08	0.18
DS	3673	80% Exceeded	EXLOW5222013	237	721.39	728	723.01	728.01	0.000008	0.39	619.51	152.23	0.03
DS	3673	80% Exceeded	NDNEROL5222013	237	721.39	725.81	723.01	725.81	0.000073	0.76	313.53	129.6	0.09
DS	3673	80% Exceeded	NDWEROL5222013	237	719.56	721.68	720.44	721.73	0.0006	1.71	138.94	83.07	0.23
DS	3673	50% Exceeded	EXLOW5222013	458	721.39	728.42	723.59	728.43	0.000023	0.68	684.4	156.61	0.05
DS	3673	50% Exceeded	NDNEROL5222013	458	721.39	726.22	723.59	726.25	0.000163	1.24	368.07	132.05	0.13
DS	3673	50% Exceeded	NDWEROL5222013	458	719.56	722.36	720.87	722.45	0.00079	2.3	199.08	93.37	0.28
DS	3673	Average Daily	EXLOW5222013	635	721.39	728.7	724.09	728.72	0.000037	0.9	728.68	158.19	0.07
DS	3673	Average Daily	NDNEROL5222013	635	721.39	726.5	724.09	726.54	0.000233	1.57	405.52	134.26	0.16

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	3673	Average Daily	NDWEROL5222013	635	719.56	722.77	721.17	722.88	0.000901	2.67	237.94	98.44	0.3
DS	3673	20% Exceeded	EXLOW5222013	940	721.39	729.13	724.5	729.16	0.000062	1.22	796.99	160.59	0.09
DS	3673	20% Exceeded	NDNEROL5222013	940	721.39	726.93	724.5	726.99	0.000337	2.03	462.97	138.32	0.19
DS	3673	20% Exceeded	NDWEROL5222013	940	719.56	723.32	721.58	723.48	0.001064	3.2	294.16	105.04	0.34
DS	3516	7Q10	EXLOW5222013	96.3	721.61	727.66	722.8	727.66	0.000002	0.17	573.82	141.93	0.01
DS	3516	7Q10	NDNEROL5222013	96.3	721.61	725.46	722.8	725.46	0.000017	0.34	281.28	125.61	0.04
DS	3516	7Q10	NDWEROL5222013	96.3	719.68	720.93	720.11	720.95	0.00042	1.09	88.75	80.12	0.18
DS	3516	80% Exceeded	EXLOW5222013	237	721.61	728	723.43	728	0.000008	0.38	622.97	145.14	0.03
DS	3516	80% Exceeded	NDNEROL5222013	237	721.61	725.79	723.43	725.8	0.000064	0.73	323.78	127.7	0.08
DS	3516	80% Exceeded	NDWEROL5222013	237	719.68	721.59	720.43	721.63	0.000564	1.64	144.52	87.41	0.22
DS	3516	50% Exceeded	EXLOW5222013	458	721.61	728.42	723.84	728.43	0.000022	0.68	684.31	149.05	0.05
DS	3516	50% Exceeded	NDNEROL5222013	458	721.61	726.2	723.84	726.22	0.00015	1.22	375.8	130.22	0.13
DS	3516	50% Exceeded	NDWEROL5222013	458	719.68	722.25	720.82	722.33	0.000739	2.25	203.85	94.12	0.27
DS	3516	Average Daily	EXLOW5222013	635	721.61	728.7	724.04	728.71	0.000036	0.89	726.29	151.67	0.07
DS	3516	Average Daily	NDNEROL5222013	635	721.61	726.47	724.04	726.51	0.000217	1.54	411.28	131.91	0.15
DS	3516	Average Daily	NDWEROL5222013	635	719.68	722.63	721.07	722.74	0.000861	2.64	240.91	98.07	0.3
DS	3516	20% Exceeded	EXLOW5222013	940	721.61	729.12	724.35	729.15	0.000061	1.22	791.54	155.65	0.09
DS	3516	20% Exceeded	NDNEROL5222013	940	721.61	726.87	724.35	726.94	0.000323	2.02	465.27	134.65	0.19
DS	3516	20% Exceeded	NDWEROL5222013	940	719.68	723.15	721.46	723.31	0.00105	3.2	293.56	103.51	0.34
DS	3461	7Q10	EXLOW5222013	96.3	725.05	727.66	725.31	727.66	0.00001	0.28	342.02	136.83	0.03
DS	3461	7Q10	NDNEROL5222013	96.3	725.05	725.31	725.31	725.44	0.020821	2.92	33.01	126.41	1.01
DS	3461	7Q10	NDWEROL5222013	96.3	719.32	720.54	720.54	720.85	0.015907	4.48	21.52	35.4	1.01
DS	3461	80% Exceeded	EXLOW5222013	237	725.05	728	725.53	728	0.000038	0.61	388.57	138	0.06
DS	3461	80% Exceeded	NDNEROL5222013	237	725.05	725.53	725.53	725.77	0.017189	3.94	60.21	127.38	1.01
DS	3461	80% Exceeded	NDWEROL5222013	237	719.32	721.07	721.07	721.51	0.013899	5.33	44.47	50.89	1
DS	3461	50% Exceeded	EXLOW5222013	458	725.05	728.41	725.79	728.42	0.000091	1.03	445.33	139.42	0.1
DS	3461	50% Exceeded	NDNEROL5222013	458	725.05	725.79	725.79	726.16	0.014747	4.87	94	128.58	1
DS	3461	50% Exceeded	NDWEROL5222013	458	719.32	721.59	721.59	722.17	0.012851	6.1	75.06	66.11	1.01
DS	3461	Average Daily	EXLOW5222013	635	725.05	728.68	725.97	728.71	0.000133	1.32	483.5	141.36	0.12
DS	3461	Average Daily	NDNEROL5222013	635	725.05	725.97	725.97	726.43	0.013606	5.4	117.48	129.41	1
DS	3461	Average Daily	NDWEROL5222013	635	719.32	721.91	721.91	722.57	0.012252	6.5	97.64	75.4	1.01
DS	3461	20% Exceeded	EXLOW5222013	940	725.05	729.09	726.24	729.14	0.000202	1.75	542.38	144.61	0.16
DS	3461	20% Exceeded	NDNEROL5222013	940	725.05	726.24	726.24	726.83	0.012582	6.15	152.82	130.64	1
DS	3461	20% Exceeded	NDWEROL5222013	940	719.32	722.36	722.36	723.12	0.011366	6.97	134.78	88.59	1

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	3419			Inl Struct									
DS	3263	7Q10	EXLOW5222013	96.3	717.78	719.68	718.51	719.69	0.000091	0.53	180.56	150	0.09
DS	3263	7Q10	NDNEROL5222013	96.3	717.78	719.68	718.51	719.68	0.000092	0.54	179.97	150	0.09
DS	3263	7Q10	NDWEROL5222013	96.3	718.89	719.93	719.27	719.94	0.000245	0.72	134.43	150.19	0.13
DS	3263	80% Exceeded	EXLOW5222013	237	717.78	720.46	718.82	720.47	0.000105	0.8	297.77	150.84	0.1
DS	3263	80% Exceeded	NDNEROL5222013	237	717.78	720.46	718.82	720.47	0.000106	0.8	296.61	150.83	0.1
DS	3263	80% Exceeded	NDWEROL5222013	237	718.89	720.61	719.46	720.63	0.000226	1	236.8	151.02	0.14
DS	3263	50% Exceeded	EXLOW5222013	458	717.78	721.23	719.14	721.25	0.000131	1.11	414.12	151.78	0.12
DS	3263	50% Exceeded	NDNEROL5222013	458	717.78	721.22	719.14	721.24	0.000134	1.11	412.02	151.77	0.12
DS	3263	50% Exceeded	NDWEROL5222013	458	718.89	721.34	719.7	721.36	0.000239	1.33	346.49	151.91	0.15
DS	3263	Average Daily	EXLOW5222013	635	717.78	721.72	719.3	721.75	0.000147	1.31	488.14	152.38	0.13
DS	3263	Average Daily	NDNEROL5222013	635	717.78	721.7	719.3	721.73	0.00015	1.31	485.28	152.36	0.13
DS	3263	Average Daily	NDWEROL5222013	635	718.89	721.8	719.86	721.84	0.000248	1.53	417.54	152.48	0.16
DS	3263	20% Exceeded	EXLOW5222013	940	717.78	722.44	719.54	722.48	0.000164	1.58	598.29	153.27	0.14
DS	3263	20% Exceeded	NDNEROL5222013	940	717.78	722.41	719.54	722.45	0.000168	1.59	594.16	153.24	0.14
DS	3263	20% Exceeded	NDWEROL5222013	940	718.89	722.5	720.11	722.55	0.000257	1.81	523.97	153.34	0.17
DS	3107	7Q10	EXLOW5222013	96.3	717.32	719.63	718.55	719.65	0.00054	1.26	76.13	65.96	0.21
DS	3107	7Q10	NDNEROL5222013	96.3	717.32	719.63	718.55	719.65	0.00054	1.26	76.13	65.96	0.21
DS	3107	7Q10	NDWEROL5222013	96.3	718.17	719.81	719.23	719.86	0.001627	1.75	55.09	67.23	0.34
DS	3107	80% Exceeded	EXLOW5222013	237	717.32	720.38	719.09	720.43	0.000665	1.79	132.73	80.59	0.24
DS	3107	80% Exceeded	NDNEROL5222013	237	717.32	720.38	719.09	720.43	0.000665	1.79	132.73	80.59	0.24
DS	3107	80% Exceeded	NDWEROL5222013	237	718.17	720.47	719.7	720.55	0.001401	2.24	106.17	80.8	0.34
DS	3107	50% Exceeded	EXLOW5222013	458	717.32	721.1	719.62	721.19	0.000744	2.4	191.49	82.25	0.27
DS	3107	50% Exceeded	NDNEROL5222013	458	717.32	721.1	719.62	721.19	0.000744	2.4	191.49	82.25	0.27
DS	3107	50% Exceeded	NDWEROL5222013	458	718.17	721.15	720.15	721.28	0.001306	2.85	161.91	82.37	0.35
DS	3107	Average Daily	EXLOW5222013	635	717.32	721.55	719.94	721.67	0.000801	2.8	228.77	83.28	0.29
DS	3107	Average Daily	NDNEROL5222013	635	717.32	721.55	719.94	721.67	0.000801	2.8	228.77	83.28	0.29
DS	3107	Average Daily	NDWEROL5222013	635	718.17	721.59	720.4	721.75	0.001306	3.24	197.86	83.36	0.37
DS	3107	20% Exceeded	EXLOW5222013	940	717.32	722.21	720.35	722.39	0.000868	3.35	284.52	84.8	0.32
DS	3107	20% Exceeded	NDNEROL5222013	940	717.32	722.21	720.35	722.39	0.000868	3.35	284.52	84.8	0.32
DS	3107	20% Exceeded	NDWEROL5222013	940	718.17	722.23	720.77	722.45	0.001308	3.79	252.04	84.84	0.38
DS	3001	7Q10	EXLOW5222013	96.3	717.1	719.59	718.33	719.6	0.000364	1.09	88.31	71.03	0.17
DS	3001	7Q10	NDNEROL5222013	96.3	717.1	719.59	718.33	719.6	0.000364	1.09	88.31	71.03	0.17
DS	3001	7Q10	NDWEROL5222013	96.3	718	719.64	719.06	719.69	0.001518	1.69	56.91	69.23	0.33

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	3001	80% Exceeded	EXLOW5222013	237	717.1	720.32	718.86	720.37	0.000484	1.62	146.19	81.2	0.21
DS	3001	80% Exceeded	NDNEROL5222013	237	717.1	720.32	718.86	720.37	0.000484	1.62	146.19	81.2	0.21
DS	3001	80% Exceeded	NDWEROL5222013	237	718	720.34	719.51	720.41	0.001199	2.13	111.34	81.24	0.32
DS	3001	50% Exceeded	EXLOW5222013	458	717.1	721.04	719.4	721.12	0.000601	2.25	204.75	83.22	0.25
DS	3001	50% Exceeded	NDNEROL5222013	458	717.1	721.04	719.4	721.12	0.000601	2.25	204.75	83.22	0.25
DS	3001	50% Exceeded	NDWEROL5222013	458	718	721.03	719.95	721.15	0.001164	2.75	168.09	83.2	0.34
DS	3001	Average Daily	EXLOW5222013	635	717.1	721.48	719.71	721.59	0.000673	2.66	242.02	84.48	0.27
DS	3001	Average Daily	NDNEROL5222013	635	717.1	721.48	719.71	721.59	0.000673	2.66	242.02	84.48	0.27
DS	3001	Average Daily	NDWEROL5222013	635	718	721.46	720.2	721.62	0.001188	3.15	204.38	84.43	0.35
DS	3001	20% Exceeded	EXLOW5222013	940	717.1	722.14	720.13	722.3	0.000757	3.22	298.1	86.35	0.3
DS	3001	20% Exceeded	NDNEROL5222013	940	717.1	722.14	720.13	722.3	0.000757	3.22	298.1	86.35	0.3
DS	3001	20% Exceeded	NDWEROL5222013	940	718	722.11	720.57	722.32	0.001212	3.71	259.31	86.25	0.37
DS	2984	7Q10	EXLOW5222013	96.3	717.1	719.58	718.33	719.6	0.000369	1.1	87.85	70.85	0.17
DS	2984	7Q10	NDNEROL5222013	96.3	717.1	719.58	718.33	719.6	0.000369	1.1	87.85	70.85	0.17
DS	2984	7Q10	NDWEROL5222013	96.3	718.02	719.61	719.07	719.66	0.00177	1.79	53.86	67.7	0.35
DS	2984	80% Exceeded	EXLOW5222013	237	717.1	720.32	718.86	720.36	0.000501	1.63	145.49	81.18	0.21
DS	2984	80% Exceeded	NDNEROL5222013	237	717.1	720.32	718.86	720.36	0.000501	1.63	145.49	81.18	0.21
DS	2984	80% Exceeded	NDWEROL5222013	237	718.02	720.31	719.52	720.39	0.001328	2.18	108.52	81.17	0.33
DS	2984	50% Exceeded	EXLOW5222013	458	717.1	721.03	719.4	721.1	0.000632	2.25	203.9	83.19	0.25
DS	2984	50% Exceeded	NDNEROL5222013	458	717.1	721.03	719.4	721.1	0.000632	2.25	203.9	83.19	0.25
DS	2984	50% Exceeded	NDWEROL5222013	458	718.02	721.01	719.97	721.13	0.001265	2.77	165.42	83.13	0.35
DS	2984	Average Daily	EXLOW5222013	635	717.1	721.47	719.72	721.58	0.000711	2.63	241.12	84.45	0.27
DS	2984	Average Daily	NDNEROL5222013	635	717.1	721.47	719.72	721.58	0.000711	2.63	241.12	84.45	0.27
DS	2984	Average Daily	NDWEROL5222013	635	718.02	721.44	720.21	721.59	0.001283	3.15	201.8	84.36	0.36
DS	2984	20% Exceeded	EXLOW5222013	940	717.1	722.13	720.11	722.28	0.000804	3.16	297.22	86.31	0.3
DS	2984	20% Exceeded	NDNEROL5222013	940	717.1	722.13	720.11	722.28	0.000804	3.16	297.22	86.31	0.3
DS	2984	20% Exceeded	NDWEROL5222013	940	718.02	722.09	720.59	722.29	0.001302	3.66	256.91	86.19	0.37
DS	2946			Bridge									
DS	2903	7Q10	EXLOW5222013	96.3	717.8	719.48	718.84	719.53	0.001397	1.75	54.89	59.38	0.32
DS	2903	7Q10	NDNEROL5222013	96.3	717.8	719.48	718.84	719.53	0.001397	1.75	54.89	59.38	0.32
DS	2903	7Q10	NDWEROL5222013	96.3	717.8	719.48	718.84	719.53	0.001397	1.75	54.89	59.38	0.32
DS	2903	80% Exceeded	EXLOW5222013	237	717.8	720.19	719.32	720.27	0.001383	2.29	103.69	74.7	0.34
DS	2903	80% Exceeded	NDNEROL5222013	237	717.8	720.19	719.32	720.27	0.001383	2.29	103.69	74.7	0.34
DS	2903	80% Exceeded	NDWEROL5222013	237	717.8	720.19	719.32	720.27	0.001383	2.29	103.69	74.7	0.34

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	2903	50% Exceeded	EXLOW5222013	458	717.8	720.86	719.82	720.99	0.001472	2.96	154.74	78.74	0.37
DS	2903	50% Exceeded	NDNEROL5222013	458	717.8	720.86	719.82	720.99	0.001472	2.96	154.74	78.74	0.37
DS	2903	50% Exceeded	NDWEROL5222013	458	717.8	720.86	719.82	720.99	0.001472	2.96	154.74	78.74	0.37
DS	2903	Average Daily	EXLOW5222013	635	717.8	721.27	720.11	721.45	0.001556	3.38	187.73	81.25	0.39
DS	2903	Average Daily	NDNEROL5222013	635	717.8	721.27	720.11	721.45	0.001556	3.38	187.73	81.25	0.39
DS	2903	Average Daily	NDWEROL5222013	635	717.8	721.27	720.11	721.45	0.001556	3.38	187.73	81.25	0.39
DS	2903	20% Exceeded	EXLOW5222013	940	717.8	721.89	720.51	722.13	0.001629	3.93	239.01	84.79	0.41
DS	2903	20% Exceeded	NDNEROL5222013	940	717.8	721.89	720.51	722.13	0.001629	3.93	239.01	84.79	0.41
DS	2903	20% Exceeded	NDWEROL5222013	940	717.8	721.89	720.51	722.13	0.001629	3.93	239.01	84.79	0.41
DS	2872	7Q10	EXLOW5222013	96.3	717.8	719.43	718.84	719.48	0.00165	1.87	51.61	57.68	0.35
DS	2872	7Q10	NDNEROL5222013	96.3	717.8	719.43	718.84	719.48	0.00165	1.87	51.61	57.68	0.35
DS	2872	7Q10	NDWEROL5222013	96.3	717.8	719.43	718.84	719.48	0.00165	1.87	51.61	57.68	0.35
DS	2872	80% Exceeded	EXLOW5222013	237	717.8	720.14	719.33	720.23	0.00155	2.38	99.43	74.19	0.36
DS	2872	80% Exceeded	NDNEROL5222013	237	717.8	720.14	719.33	720.23	0.00155	2.38	99.43	74.19	0.36
DS	2872	80% Exceeded	NDWEROL5222013	237	717.8	720.14	719.33	720.23	0.00155	2.38	99.43	74.19	0.36
DS	2872	50% Exceeded	EXLOW5222013	458	717.8	720.8	719.82	720.94	0.001545	3.1	149.56	78.28	0.38
DS	2872	50% Exceeded	NDNEROL5222013	458	717.8	720.8	719.82	720.94	0.001545	3.1	149.56	78.28	0.38
DS	2872	50% Exceeded	NDWEROL5222013	458	717.8	720.8	719.82	720.94	0.001545	3.1	149.56	78.28	0.38
DS	2872	Average Daily	EXLOW5222013	635	717.8	721.2	720.1	721.39	0.001617	3.58	181.4	80.78	0.41
DS	2872	Average Daily	NDNEROL5222013	635	717.8	721.2	720.1	721.39	0.001617	3.58	181.4	80.78	0.41
DS	2872	Average Daily	NDWEROL5222013	635	717.8	721.2	720.1	721.39	0.001617	3.58	181.4	80.78	0.41
DS	2872	20% Exceeded	EXLOW5222013	940	717.8	721.79	720.51	722.07	0.001693	4.24	230.32	84.22	0.43
DS	2872	20% Exceeded	NDNEROL5222013	940	717.8	721.79	720.51	722.07	0.001693	4.24	230.32	84.22	0.43
DS	2872	20% Exceeded	NDWEROL5222013	940	717.8	721.79	720.51	722.07	0.001693	4.24	230.32	84.22	0.43
DS	2495	7Q10	EXLOW5222013	96.3	716.84	718.66	718.12	718.74	0.002402	2.27	42.39	46.68	0.42
DS	2495	7Q10	NDNEROL5222013	96.3	716.84	718.66	718.12	718.74	0.002402	2.27	42.39	46.68	0.42
DS	2495	7Q10	NDWEROL5222013	96.3	716.84	718.66	718.12	718.74	0.002402	2.27	42.39	46.68	0.42
DS	2495	80% Exceeded	EXLOW5222013	237	716.84	719.36	718.69	719.49	0.00255	2.91	81.45	64.7	0.46
DS	2495	80% Exceeded	NDNEROL5222013	237	716.84	719.36	718.69	719.49	0.00255	2.91	81.45	64.7	0.46
DS	2495	80% Exceeded	NDWEROL5222013	237	716.84	719.36	718.69	719.49	0.00255	2.91	81.45	64.7	0.46
DS	2495	50% Exceeded	EXLOW5222013	458	716.84	720.01	719.23	720.21	0.002483	3.61	127.1	72.44	0.48
DS	2495	50% Exceeded	NDNEROL5222013	458	716.84	720.01	719.23	720.21	0.002483	3.61	127.1	72.44	0.48
DS	2495	50% Exceeded	NDWEROL5222013	458	716.84	720.01	719.23	720.21	0.002483	3.61	127.1	72.44	0.48
DS	2495	Average Daily	EXLOW5222013	635	716.84	720.35	719.58	720.62	0.002633	4.18	152.27	73.18	0.51
DS	2495	Average Daily	NDNEROL5222013	635	716.84	720.35	719.58	720.62	0.002633	4.18	152.27	73.18	0.51

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	2495	Average Daily	NDWEROL5222013	635	716.84	720.35	719.58	720.62	0.002633	4.18	152.27	73.18	0.51
DS	2495	20% Exceeded	EXLOW5222013	940	716.84	720.88	719.99	721.26	0.002757	4.96	190.92	74.31	0.54
DS	2495	20% Exceeded	NDNEROL5222013	940	716.84	720.88	719.99	721.26	0.002757	4.96	190.92	74.31	0.54
DS	2495	20% Exceeded	NDWEROL5222013	940	716.84	720.88	719.99	721.26	0.002757	4.96	190.92	74.31	0.54
DS	2190	7Q10	EXLOW5222013	96.3	716.35	718.1	717.48	718.15	0.001534	1.77	54.32	62.09	0.33
DS	2190	7Q10	NDNEROL5222013	96.3	716.35	718.1	717.48	718.15	0.001534	1.77	54.32	62.09	0.33
DS	2190	7Q10	NDWEROL5222013	96.3	716.35	718.1	717.48	718.15	0.001534	1.77	54.32	62.09	0.33
DS	2190	80% Exceeded	EXLOW5222013	237	716.35	718.8	717.97	718.87	0.001553	2.23	106.24	86.83	0.36
DS	2190	80% Exceeded	NDNEROL5222013	237	716.35	718.8	717.97	718.87	0.001553	2.23	106.24	86.83	0.36
DS	2190	80% Exceeded	NDWEROL5222013	237	716.35	718.8	717.97	718.87	0.001553	2.23	106.24	86.83	0.36
DS	2190	50% Exceeded	EXLOW5222013	458	716.35	719.49	718.46	719.6	0.001503	2.62	175.12	110.12	0.37
DS	2190	50% Exceeded	NDNEROL5222013	458	716.35	719.49	718.46	719.6	0.001503	2.62	175.12	110.12	0.37
DS	2190	50% Exceeded	NDWEROL5222013	458	716.35	719.49	718.46	719.6	0.001503	2.62	175.12	110.12	0.37
DS	2190	Average Daily	EXLOW5222013	635	716.35	719.88	718.75	720.01	0.001399	2.92	217.92	111.26	0.37
DS	2190	Average Daily	NDNEROL5222013	635	716.35	719.88	718.75	720.01	0.001399	2.92	217.92	111.26	0.37
DS	2190	Average Daily	NDWEROL5222013	635	716.35	719.88	718.75	720.01	0.001399	2.92	217.92	111.26	0.37
DS	2190	20% Exceeded	EXLOW5222013	940	716.35	720.47	719.16	720.64	0.00128	3.32	284.26	112.99	0.37
DS	2190	20% Exceeded	NDNEROL5222013	940	716.35	720.47	719.16	720.64	0.00128	3.32	284.26	112.99	0.37
DS	2190	20% Exceeded	NDWEROL5222013	940	716.35	720.47	719.16	720.64	0.00128	3.32	284.26	112.99	0.37
DS	1899	7Q10	EXLOW5222013	96.3	715.9	717.65	717.02	717.7	0.001526	1.77	54.43	62.15	0.33
DS	1899	7Q10	NDNEROL5222013	96.3	715.9	717.65	717.02	717.7	0.001526	1.77	54.43	62.15	0.33
DS	1899	7Q10	NDWEROL5222013	96.3	715.9	717.65	717.02	717.7	0.001526	1.77	54.43	62.15	0.33
DS	1899	80% Exceeded	EXLOW5222013	237	715.9	718.34	717.52	718.42	0.00158	2.24	105.57	86.56	0.36
DS	1899	80% Exceeded	NDNEROL5222013	237	715.9	718.34	717.52	718.42	0.00158	2.24	105.57	86.56	0.36
DS	1899	80% Exceeded	NDWEROL5222013	237	715.9	718.34	717.52	718.42	0.00158	2.24	105.57	86.56	0.36
DS	1899	50% Exceeded	EXLOW5222013	458	715.9	719.07	718.01	719.18	0.00141	2.57	178.51	110.13	0.35
DS	1899	50% Exceeded	NDNEROL5222013	458	715.9	719.07	718.01	719.18	0.00141	2.57	178.51	110.13	0.35
DS	1899	50% Exceeded	NDWEROL5222013	458	715.9	719.07	718.01	719.18	0.00141	2.57	178.51	110.13	0.35
DS	1899	Average Daily	EXLOW5222013	635	715.9	719.5	718.3	719.62	0.001241	2.81	225.85	110.87	0.35
DS	1899	Average Daily	NDNEROL5222013	635	715.9	719.5	718.3	719.62	0.001241	2.81	225.85	110.87	0.35
DS	1899	Average Daily	NDWEROL5222013	635	715.9	719.5	718.3	719.62	0.001241	2.81	225.85	110.87	0.35
DS	1899	20% Exceeded	EXLOW5222013	940	715.9	720.13	718.71	720.29	0.001111	3.18	296.22	111.96	0.34
DS	1899	20% Exceeded	NDNEROL5222013	940	715.9	720.13	718.71	720.29	0.001111	3.18	296.22	111.96	0.34
DS	1899	20% Exceeded	NDWEROL5222013	940	715.9	720.13	718.71	720.29	0.001111	3.18	296.22	111.96	0.34

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	1752	7Q10	EXLOW5222013	96.3	715.8	717.21	716.92	717.32	0.004902	2.74	35.14	49.94	0.58
DS	1752	7Q10	NDNEROL5222013	96.3	715.8	717.21	716.92	717.32	0.004902	2.74	35.14	49.94	0.58
DS	1752	7Q10	NDWEROL5222013	96.3	715.8	717.21	716.92	717.32	0.004902	2.74	35.14	49.94	0.58
DS	1752	80% Exceeded	EXLOW5222013	237	715.8	717.99	717.42	718.11	0.002808	2.79	85.09	77.71	0.47
DS	1752	80% Exceeded	NDNEROL5222013	237	715.8	717.99	717.42	718.11	0.002808	2.79	85.09	77.71	0.47
DS	1752	80% Exceeded	NDWEROL5222013	237	715.8	717.99	717.42	718.11	0.002808	2.79	85.09	77.71	0.47
DS	1752	50% Exceeded	EXLOW5222013	458	715.8	718.8	717.91	718.93	0.001943	2.86	160.12	106.6	0.41
DS	1752	50% Exceeded	NDNEROL5222013	458	715.8	718.8	717.91	718.93	0.001943	2.86	160.12	106.6	0.41
DS	1752	50% Exceeded	NDWEROL5222013	458	715.8	718.8	717.91	718.93	0.001943	2.86	160.12	106.6	0.41
DS	1752	Average Daily	EXLOW5222013	635	715.8	719.28	718.2	719.42	0.001511	2.99	212.98	111.44	0.38
DS	1752	Average Daily	NDNEROL5222013	635	715.8	719.28	718.2	719.42	0.001511	2.99	212.98	111.44	0.38
DS	1752	Average Daily	NDWEROL5222013	635	715.8	719.28	718.2	719.42	0.001511	2.99	212.98	111.44	0.38
DS	1752	20% Exceeded	EXLOW5222013	940	715.8	719.95	718.61	720.12	0.001231	3.28	288.12	113.93	0.36
DS	1752	20% Exceeded	NDNEROL5222013	940	715.8	719.95	718.61	720.12	0.001231	3.28	288.12	113.93	0.36
DS	1752	20% Exceeded	NDWEROL5222013	940	715.8	719.95	718.61	720.12	0.001231	3.28	288.12	113.93	0.36
DS	1728	7Q10	EXLOW5222013	96.3	715.8	717.25	716.4	717.27	0.00048	1.17	82.57	74	0.19
DS	1728	7Q10	NDNEROL5222013	96.3	715.8	717.25	716.4	717.27	0.00048	1.17	82.57	74	0.19
DS	1728	7Q10	NDWEROL5222013	96.3	715.8	717.25	716.4	717.27	0.00048	1.17	82.57	74	0.19
DS	1728	80% Exceeded	EXLOW5222013	237	715.8	718.02	716.76	718.06	0.000557	1.64	144.76	87.08	0.22
DS	1728	80% Exceeded	NDNEROL5222013	237	715.8	718.02	716.76	718.06	0.000557	1.64	144.76	87.08	0.22
DS	1728	80% Exceeded	NDWEROL5222013	237	715.8	718.02	716.76	718.06	0.000557	1.64	144.76	87.08	0.22
DS	1728	50% Exceeded	EXLOW5222013	458	715.8	718.82	717.18	718.89	0.000625	2.08	220.06	100.67	0.25
DS	1728	50% Exceeded	NDNEROL5222013	458	715.8	718.82	717.18	718.89	0.000625	2.08	220.06	100.67	0.25
DS	1728	50% Exceeded	NDWEROL5222013	458	715.8	718.82	717.18	718.89	0.000625	2.08	220.06	100.67	0.25
DS	1728	Average Daily	EXLOW5222013	635	715.8	719.3	717.47	719.38	0.000645	2.36	268.95	104.12	0.26
DS	1728	Average Daily	NDNEROL5222013	635	715.8	719.3	717.47	719.38	0.000645	2.36	268.95	104.12	0.26
DS	1728	Average Daily	NDWEROL5222013	635	715.8	719.3	717.47	719.38	0.000645	2.36	268.95	104.12	0.26
DS	1728	20% Exceeded	EXLOW5222013	940	715.8	719.96	717.88	720.08	0.000684	2.77	339.39	107.67	0.27
DS	1728	20% Exceeded	NDNEROL5222013	940	715.8	719.96	717.88	720.08	0.000684	2.77	339.39	107.67	0.27
DS	1728	20% Exceeded	NDWEROL5222013	940	715.8	719.96	717.88	720.08	0.000684	2.77	339.39	107.67	0.27
DS	1675			Bridge									
DS	1617	7Q10	EXLOW5222013	96.3	715.8	717.15	716.4	717.18	0.000858	1.28	75.42	72.35	0.22
DS	1617	7Q10	NDNEROL5222013	96.3	715.8	717.15	716.4	717.18	0.000858	1.28	75.42	72.35	0.22
DS	1617	7Q10	NDWEROL5222013	96.3	715.8	717.15	716.4	717.18	0.000858	1.28	75.42	72.35	0.22

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	1617	80% Exceeded	EXLOW5222013	237	715.8	717.9	716.77	717.95	0.000931	1.76	134.87	85.14	0.25
DS	1617	80% Exceeded	NDNEROL5222013	237	715.8	717.9	716.77	717.95	0.000931	1.76	134.87	85.14	0.25
DS	1617	80% Exceeded	NDWEROL5222013	237	715.8	717.9	716.77	717.95	0.000931	1.76	134.87	85.14	0.25
DS	1617	50% Exceeded	EXLOW5222013	458	715.8	718.69	717.19	718.77	0.001014	2.21	206.89	98.43	0.27
DS	1617	50% Exceeded	NDNEROL5222013	458	715.8	718.69	717.19	718.77	0.001014	2.21	206.89	98.43	0.27
DS	1617	50% Exceeded	NDWEROL5222013	458	715.8	718.69	717.19	718.77	0.001014	2.21	206.89	98.43	0.27
DS	1617	Average Daily	EXLOW5222013	635	715.8	719.16	717.47	719.25	0.001052	2.5	254.51	103.92	0.28
DS	1617	Average Daily	NDNEROL5222013	635	715.8	719.16	717.47	719.25	0.001052	2.5	254.51	103.92	0.28
DS	1617	Average Daily	NDWEROL5222013	635	715.8	719.16	717.47	719.25	0.001052	2.5	254.51	103.92	0.28
DS	1617	20% Exceeded	EXLOW5222013	940	715.8	719.81	717.88	719.94	0.001097	2.9	324.06	108.8	0.3
DS	1617	20% Exceeded	NDNEROL5222013	940	715.8	719.81	717.88	719.94	0.001097	2.9	324.06	108.8	0.3
DS	1617	20% Exceeded	NDWEROL5222013	940	715.8	719.81	717.88	719.94	0.001097	2.9	324.06	108.8	0.3
DS	1574	7Q10	EXLOW5222013	96.3	715.72	717.12	716.31	717.14	0.000753	1.22	78.77	73.13	0.21
DS	1574	7Q10	NDNEROL5222013	96.3	715.72	717.12	716.31	717.14	0.000753	1.22	78.77	73.13	0.21
DS	1574	7Q10	NDWEROL5222013	96.3	715.72	717.12	716.31	717.14	0.000753	1.22	78.77	73.13	0.21
DS	1574	80% Exceeded	EXLOW5222013	237	715.72	717.87	716.68	717.91	0.000862	1.71	138.48	85.85	0.24
DS	1574	80% Exceeded	NDNEROL5222013	237	715.72	717.87	716.68	717.91	0.000862	1.71	138.48	85.85	0.24
DS	1574	80% Exceeded	NDWEROL5222013	237	715.72	717.87	716.68	717.91	0.000862	1.71	138.48	85.85	0.24
DS	1574	50% Exceeded	EXLOW5222013	458	715.72	718.65	717.1	718.72	0.000963	2.17	210.68	99.08	0.26
DS	1574	50% Exceeded	NDNEROL5222013	458	715.72	718.65	717.1	718.72	0.000963	2.17	210.68	99.08	0.26
DS	1574	50% Exceeded	NDWEROL5222013	458	715.72	718.65	717.1	718.72	0.000963	2.17	210.68	99.08	0.26
DS	1574	Average Daily	EXLOW5222013	635	715.72	719.11	717.38	719.21	0.000978	2.46	258.32	103.76	0.27
DS	1574	Average Daily	NDNEROL5222013	635	715.72	719.11	717.38	719.21	0.000978	2.46	258.32	103.76	0.27
DS	1574	Average Daily	NDWEROL5222013	635	715.72	719.11	717.38	719.21	0.000978	2.46	258.32	103.76	0.27
DS	1574	20% Exceeded	EXLOW5222013	940	715.72	719.77	717.79	719.9	0.000993	2.89	327.24	107.66	0.29
DS	1574	20% Exceeded	NDNEROL5222013	940	715.72	719.77	717.79	719.9	0.000993	2.89	327.24	107.66	0.29
DS	1574	20% Exceeded	NDWEROL5222013	940	715.72	719.77	717.79	719.9	0.000993	2.89	327.24	107.66	0.29
DS	1155	7Q10	EXLOW5222013	96.3	715.13	716.77	716.02	716.8	0.000888	1.32	72.98	68.31	0.22
DS	1155	7Q10	NDNEROL5222013	96.3	715.13	716.77	716.02	716.8	0.000888	1.32	72.98	68.31	0.22
DS	1155	7Q10	NDWEROL5222013	96.3	715.13	716.77	716.02	716.8	0.000888	1.32	72.98	68.31	0.22
DS	1155	80% Exceeded	EXLOW5222013	237	715.13	717.43	716.39	717.49	0.001173	1.96	121.16	77.36	0.28
DS	1155	80% Exceeded	NDNEROL5222013	237	715.13	717.43	716.39	717.49	0.001173	1.96	121.16	77.36	0.28
DS	1155	80% Exceeded	NDWEROL5222013	237	715.13	717.43	716.39	717.49	0.001173	1.96	121.16	77.36	0.28
DS	1155	50% Exceeded	EXLOW5222013	458	715.13	718.13	716.82	718.24	0.001398	2.56	178.92	86.97	0.31
DS	1155	50% Exceeded	NDNEROL5222013	458	715.13	718.13	716.82	718.24	0.001398	2.56	178.92	86.97	0.31

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	1155	50% Exceeded	NDWEROL5222013	458	715.13	718.13	716.82	718.24	0.001398	2.56	178.92	86.97	0.31
DS	1155	Average Daily	EXLOW5222013	635	715.13	718.57	717.1	718.7	0.001525	2.92	217.77	92.88	0.34
DS	1155	Average Daily	NDNEROL5222013	635	715.13	718.57	717.1	718.7	0.001525	2.92	217.77	92.88	0.34
DS	1155	Average Daily	NDWEROL5222013	635	715.13	718.57	717.1	718.7	0.001525	2.92	217.77	92.88	0.34
DS	1155	20% Exceeded	EXLOW5222013	940	715.13	719.18	717.53	719.36	0.001675	3.39	277.41	101.29	0.36
DS	1155	20% Exceeded	NDNEROL5222013	940	715.13	719.18	717.53	719.36	0.001675	3.39	277.41	101.29	0.36
DS	1155	20% Exceeded	NDWEROL5222013	940	715.13	719.18	717.53	719.36	0.001675	3.39	277.41	101.29	0.36
DS	874	7Q10	EXLOW5222013	96.3	715.1	716.22	715.96	716.3	0.005116	2.29	42.14	64.36	0.5
DS	874	7Q10	NDNEROL5222013	96.3	715.1	716.22	715.96	716.3	0.005116	2.29	42.14	64.36	0.5
DS	874	7Q10	NDWEROL5222013	96.3	715.1	716.22	715.96	716.3	0.005116	2.29	42.14	64.36	0.5
DS	874	80% Exceeded	EXLOW5222013	237	715.1	716.8	716.32	716.93	0.003953	2.94	80.75	69.53	0.48
DS	874	80% Exceeded	NDNEROL5222013	237	715.1	716.8	716.32	716.93	0.003953	2.94	80.75	69.53	0.48
DS	874	80% Exceeded	NDWEROL5222013	237	715.1	716.8	716.32	716.93	0.003953	2.94	80.75	69.53	0.48
DS	874	50% Exceeded	EXLOW5222013	458	715.1	717.41	716.74	717.62	0.003812	3.66	125.16	75.04	0.5
DS	874	50% Exceeded	NDNEROL5222013	458	715.1	717.41	716.74	717.62	0.003812	3.66	125.16	75.04	0.5
DS	874	50% Exceeded	NDWEROL5222013	458	715.1	717.41	716.74	717.62	0.003812	3.66	125.16	75.04	0.5
DS	874	Average Daily	EXLOW5222013	635	715.1	717.74	717.02	718.02	0.004215	4.23	150.13	77.96	0.54
DS	874	Average Daily	NDNEROL5222013	635	715.1	717.74	717.02	718.02	0.004215	4.23	150.13	77.96	0.54
DS	874	Average Daily	NDWEROL5222013	635	715.1	717.74	717.02	718.02	0.004215	4.23	150.13	77.96	0.54
DS	874	20% Exceeded	EXLOW5222013	940	715.1	718.21	717.45	718.6	0.004693	5	188.08	82.21	0.58
DS	874	20% Exceeded	NDNEROL5222013	940	715.1	718.21	717.45	718.6	0.004693	5	188.08	82.21	0.58
DS	874	20% Exceeded	NDWEROL5222013	940	715.1	718.21	717.45	718.6	0.004693	5	188.08	82.21	0.58
DS	380	7Q10	EXLOW5222013	96.3	713.77	715.31	714.66	715.34	0.001	1.4	69.01	81.99	0.27
DS	380	7Q10	NDNEROL5222013	96.3	713.77	715.31	714.66	715.34	0.001	1.4	69.01	81.99	0.27
DS	380	7Q10	NDWEROL5222013	96.3	713.77	715.31	714.66	715.34	0.001	1.4	69.01	81.99	0.27
DS	380	80% Exceeded	EXLOW5222013	237	713.77	715.98	715.05	716.03	0.001001	1.76	134.5	112.61	0.28
DS	380	80% Exceeded	NDNEROL5222013	237	713.77	715.98	715.05	716.03	0.001001	1.76	134.5	112.61	0.28
DS	380	80% Exceeded	NDWEROL5222013	237	713.77	715.98	715.05	716.03	0.001001	1.76	134.5	112.61	0.28
DS	380	50% Exceeded	EXLOW5222013	458	713.77	716.65	715.48	716.71	0.001	2.07	221.14	145.16	0.3
DS	380	50% Exceeded	NDNEROL5222013	458	713.77	716.65	715.48	716.71	0.001	2.07	221.14	145.16	0.3
DS	380	50% Exceeded	NDWEROL5222013	458	713.77	716.65	715.48	716.71	0.001	2.07	221.14	145.16	0.3
DS	380	Average Daily	EXLOW5222013	635	713.77	716.98	715.74	717.06	0.001001	2.35	269.65	145.66	0.31
DS	380	Average Daily	NDNEROL5222013	635	713.77	716.98	715.74	717.06	0.001001	2.35	269.65	145.66	0.31
DS	380	Average Daily	NDWEROL5222013	635	713.77	716.98	715.74	717.06	0.001001	2.35	269.65	145.66	0.31
DS	380	20% Exceeded	EXLOW5222013	940	713.77	717.48	716.08	717.59	0.001	2.75	342.4	146.4	0.32

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	380	20% Exceeded	NDNEROL5222013	940	713.77	717.48	716.08	717.59	0.001	2.75	342.4	146.4	0.32
DS	380	20% Exceeded	NDWEROL5222013	940	713.77	717.48	716.08	717.59	0.001	2.75	342.4	146.4	0.32

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	10795	10YR	EX5222013	5650	724.1	736.93		737.3	0.000452	4.97	1376.92	193.58	0.27
DS	10795	10YR	NDNEROH5222013	5650	724.1	736.73		737.12	0.000484	5.07	1338.91	189.31	0.28
DS	10795	10YR	NDWEROH5222013	5650	724.1	736.73		737.12	0.000484	5.07	1339.01	189.32	0.28
DS	10795	25YR	EX5222013	6600	724.1	737.74		738.17	0.000473	5.34	1541.18	211.07	0.28
DS	10795	25YR	NDNEROH5222013	6600	724.1	737.58		738.02	0.000498	5.43	1507.97	207.65	0.29
DS	10795	25YR	NDWEROH5222013	6600	724.1	737.55		737.99	0.000503	5.44	1501.54	206.99	0.29
DS	10795	50YR	EX5222013	7350	724.1	738.29		738.78	0.000505	5.7	1705.78	392.92	0.29
DS	10795	50YR	NDNEROH5222013	7350	724.1	738.12		738.63	0.000533	5.8	1640.4	370.86	0.3
DS	10795	50YR	NDWEROH5222013	7350	724.1	738.08		738.59	0.000541	5.83	1624.42	358.11	0.3
DS	10795	100YR	EX5222013	8100	724.1	738.83		739.35	0.000517	5.94	1933.42	456.56	0.3
DS	10795	100YR	NDNEROH5222013	8100	724.1	738.61		739.16	0.000553	6.08	1838.25	431.1	0.31
DS	10795	100YR	NDWEROH5222013	8100	724.1	738.53		739.09	0.000568	6.13	1803.39	421.39	0.31
DS	10795	500YR	EX5222013	9350	724.1	739.54		740.14	0.00055	6.37	2290.13	541.45	0.31
DS	10795	500YR	NDNEROH5222013	9350	724.1	739.46		740.06	0.000565	6.43	2245.4	531.55	0.32
DS	10795	500YR	NDWEROH5222013	9350	724.1	739.38		739.99	0.000579	6.48	2202.36	521.84	0.32
DS	10567	10YR	EX5222013	5650	723.3	736.92		737.19	0.000263	4.22	1530.43	169.85	0.21
DS	10567	10YR	NDNEROH5222013	5650	723.3	736.72		737	0.000278	4.3	1497.05	165.98	0.22
DS	10567	10YR	NDWEROH5222013	5650	723.3	736.72		737	0.000278	4.3	1497.14	165.99	0.22
DS	10567	25YR	EX5222013	6600	723.3	737.73		738.05	0.000287	4.61	1674.5	185.89	0.23
DS	10567	25YR	NDNEROH5222013	6600	723.3	737.57		737.9	0.0003	4.67	1645.22	182.75	0.23
DS	10567	25YR	NDWEROH5222013	6600	723.3	737.54		737.87	0.000303	4.68	1639.56	182.13	0.23
DS	10567	50YR	EX5222013	7350	723.3	738.29		738.66	0.000308	4.91	1819.48	351.73	0.24
DS	10567	50YR	NDNEROH5222013	7350	723.3	738.12		738.5	0.000321	4.97	1762.8	318.89	0.24
DS	10567	50YR	NDWEROH5222013	7350	723.3	738.08		738.46	0.000325	4.99	1748.99	311.01	0.24
DS	10567	100YR	EX5222013	8100	723.3	738.82		739.23	0.000326	5.18	2036.74	471.74	0.24
DS	10567	100YR	NDNEROH5222013	8100	723.3	738.61		739.03	0.000344	5.27	1942.37	420.03	0.25
DS	10567	100YR	NDWEROH5222013	8100	723.3	738.53		738.95	0.000351	5.3	1909.06	403.04	0.25
DS	10567	500YR	EX5222013	9350	723.3	739.53		740	0.000361	5.63	2431.9	643.03	0.26
DS	10567	500YR	NDNEROH5222013	9350	723.3	739.45		739.93	0.000369	5.67	2379.08	623.61	0.26
DS	10567	500YR	NDWEROH5222013	9350	723.3	739.36		739.85	0.000377	5.71	2328.96	603.81	0.26
DS	10549	10YR	EX5222013	5650	723.3	736.95	729.23	737.17	0.000283	3.73	1514.06	155	0.21

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	10549	10YR	NDNEROH5222013	5650	723.3	736.76	729.23	736.98	0.000299	3.81	1483.42	153.42	0.22
DS	10549	10YR	NDWEROH5222013	5650	723.3	736.76	729.23	736.98	0.000299	3.81	1483.52	153.42	0.22
DS	10549	25YR	EX5222013	6600	723.3	737.78	729.71	738.03	0.000301	4.02	1642.3	172.95	0.22
DS	10549	25YR	NDNEROH5222013	6600	723.3	737.62	729.71	737.88	0.000315	4.08	1617.39	169.33	0.22
DS	10549	25YR	NDWEROH5222013	6600	723.3	737.59	729.71	737.85	0.000318	4.09	1612.54	168.62	0.22
DS	10549	50YR	EX5222013	7350	723.3	738.35	730.05	738.61	0.00036	4.2	1795.52	341.3	0.24
DS	10549	50YR	NDNEROH5222013	7350	723.3	738.18	730.05	738.45	0.000379	4.27	1740.35	311.74	0.24
DS	10549	50YR	NDWEROH5222013	7350	723.3	738.14	730.05	738.41	0.000384	4.29	1726.89	304.21	0.24
DS	10549	100YR	EX5222013	8100	723.3	738.89	730.43	739.18	0.00038	4.36	2006.25	439.55	0.24
DS	10549	100YR	NDNEROH5222013	8100	723.3	738.68	730.43	738.98	0.000401	4.46	1917.77	401.25	0.25
DS	10549	100YR	NDWEROH5222013	8100	723.3	738.6	730.43	738.9	0.000411	4.5	1886.08	386.92	0.25
DS	10549	500YR	EX5222013	9350	723.3	739.62	730.98	739.94	0.000402	4.64	2383.37	667.53	0.25
DS	10549	500YR	NDNEROH5222013	9350	723.3	739.54	730.98	739.87	0.000413	4.68	2330.5	626.08	0.26
DS	10549	500YR	NDWEROH5222013	9350	723.3	739.46	730.98	739.79	0.000425	4.73	2282.76	569.12	0.26
DS	10506			Bridge									
DS	10442	10YR	EX5222013	5650	723.3	736.75	729.25	736.96	0.000308	3.63	1556.25	343.36	0.22
DS	10442	10YR	NDNEROH5222013	5650	723.3	736.57	729.25	736.78	0.000324	3.71	1522.7	331.52	0.22
DS	10442	10YR	NDWEROH5222013	5650	723.3	736.57	729.25	736.78	0.000324	3.71	1522.81	331.56	0.22
DS	10442	25YR	EX5222013	6600	723.3	737.46	729.73	737.69	0.000334	3.87	1911.56	364.06	0.23
DS	10442	25YR	NDNEROH5222013	6600	723.3	737.31	729.73	737.55	0.000352	3.94	1856.99	361.7	0.23
DS	10442	25YR	NDWEROH5222013	6600	723.3	737.28	729.73	737.52	0.000356	3.96	1846.38	361.24	0.23
DS	10442	50YR	EX5222013	7350	723.3	737.93	730.09	738.19	0.000351	4.07	2085.98	371.48	0.23
DS	10442	50YR	NDNEROH5222013	7350	723.3	737.77	730.09	738.03	0.000372	4.15	2024.54	368.9	0.24
DS	10442	50YR	NDWEROH5222013	7350	723.3	737.72	730.09	737.99	0.000378	4.18	2006.93	368.15	0.24
DS	10442	100YR	EX5222013	8100	723.3	738.44	730.43	738.71	0.000361	4.24	2329.11	557.85	0.24
DS	10442	100YR	NDNEROH5222013	8100	723.3	738.21	730.43	738.5	0.00039	4.35	2208.39	497.63	0.25
DS	10442	100YR	NDWEROH5222013	8100	723.3	738.12	730.43	738.41	0.000402	4.4	2163.61	473.35	0.25
DS	10442	500YR	EX5222013	9350	723.3	739.15	730.98	739.46	0.000376	4.51	2799.01	766.37	0.25
DS	10442	500YR	NDNEROH5222013	9350	723.3	739.06	730.98	739.37	0.000386	4.55	2725.26	739.03	0.25
DS	10442	500YR	NDWEROH5222013	9350	723.3	738.94	730.98	739.26	0.000402	4.61	2645.11	691.19	0.25

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	10398	10YR	EX5222013	5650	723.3	736.66	729.22	736.93	0.000275	4.26	1777.46	345.42	0.22
DS	10398	10YR	NDNEROH5222013	5650	723.3	736.46	729.22	736.74	0.000293	4.34	1710.66	341.87	0.22
DS	10398	10YR	NDWEROH5222013	5650	723.3	736.46	729.22	736.74	0.000293	4.34	1710.84	341.88	0.22
DS	10398	25YR	EX5222013	6600	723.3	737.33	729.67	737.65	0.000303	4.64	2015.16	357.74	0.23
DS	10398	25YR	NDNEROH5222013	6600	723.3	737.18	729.67	737.51	0.000318	4.71	1960.37	354.94	0.24
DS	10398	25YR	NDWEROH5222013	6600	723.3	737.15	729.67	737.48	0.000321	4.72	1949.72	354.39	0.24
DS	10398	50YR	EX5222013	7350	723.3	737.78	730.06	738.14	0.000327	4.93	2178.95	366	0.24
DS	10398	50YR	NDNEROH5222013	7350	723.3	737.61	730.06	737.98	0.000345	5.02	2116.89	362.89	0.25
DS	10398	50YR	NDWEROH5222013	7350	723.3	737.56	730.06	737.94	0.00035	5.04	2099.06	362	0.25
DS	10398	100YR	EX5222013	8100	723.3	738.27	730.42	738.66	0.000346	5.19	2359.26	458.11	0.25
DS	10398	100YR	NDNEROH5222013	8100	723.3	738.03	730.42	738.44	0.000369	5.31	2270.97	405.87	0.26
DS	10398	100YR	NDWEROH5222013	8100	723.3	737.94	730.42	738.36	0.00038	5.35	2235.82	368.82	0.26
DS	10398	500YR	EX5222013	9350	723.3	738.94	730.96	739.4	0.000382	5.64	2632.57	646.2	0.26
DS	10398	500YR	NDNEROH5222013	9350	723.3	738.84	730.96	739.3	0.000393	5.7	2587.69	607.54	0.27
DS	10398	500YR	NDWEROH5222013	9350	723.3	738.72	730.96	739.2	0.000406	5.75	2539.76	565.58	0.27
DS	10220	10YR	EX5222013	5650	723.3	736.63		736.88	0.000226	4.13	1906.37	329.04	0.21
DS	10220	10YR	NDNEROH5222013	5650	723.3	736.43		736.69	0.000241	4.22	1841.64	326.63	0.22
DS	10220	10YR	NDWEROH5222013	5650	723.3	736.43		736.69	0.000241	4.22	1841.84	326.64	0.22
DS	10220	25YR	EX5222013	6600	723.3	737.31		737.59	0.000247	4.48	2131.91	337.37	0.22
DS	10220	25YR	NDNEROH5222013	6600	723.3	737.15		737.45	0.00026	4.55	2079.43	335.45	0.23
DS	10220	25YR	NDWEROH5222013	6600	723.3	737.12		737.42	0.000262	4.57	2069.2	335.07	0.23
DS	10220	50YR	EX5222013	7350	723.3	737.76		738.08	0.000266	4.76	2286.14	342.94	0.23
DS	10220	50YR	NDNEROH5222013	7350	723.3	737.59		737.92	0.000281	4.84	2227.09	340.82	0.24
DS	10220	50YR	NDWEROH5222013	7350	723.3	737.54		737.87	0.000285	4.87	2210.09	340.2	0.24
DS	10220	100YR	EX5222013	8100	723.3	738.24		738.59	0.000281	5.01	2454.85	361.72	0.24
DS	10220	100YR	NDNEROH5222013	8100	723.3	738.01		738.37	0.0003	5.11	2371.55	346.34	0.25
DS	10220	100YR	NDWEROH5222013	8100	723.3	737.91		738.28	0.000308	5.16	2338.22	344.8	0.25
DS	10220	500YR	EX5222013	9350	723.3	738.92		739.33	0.000311	5.44	2712.63	402.57	0.26
DS	10220	500YR	NDNEROH5222013	9350	723.3	738.81		739.23	0.00032	5.5	2669.74	396.07	0.26
DS	10220	500YR	NDWEROH5222013	9350	723.3	738.69		739.12	0.00033	5.55	2623.9	389	0.26
DS	9820	10YR	EX5222013	5650	723.8	736.42		736.76	0.000328	4.72	1397.52	180.41	0.25

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	9820	10YR	NDNEROH5222013	5650	723.8	736.22		736.57	0.00035	4.82	1360.41	177.37	0.26
DS	9820	10YR	NDWEROH5222013	5650	723.8	736.22		736.57	0.00035	4.82	1360.52	177.38	0.26
DS	9820	25YR	EX5222013	6600	723.8	737.06		737.46	0.000367	5.19	1515.11	189.73	0.27
DS	9820	25YR	NDNEROH5222013	6600	723.8	736.9		737.31	0.000386	5.27	1484	187.31	0.28
DS	9820	25YR	NDWEROH5222013	6600	723.8	736.86		737.28	0.000389	5.29	1477.96	186.84	0.28
DS	9820	50YR	EX5222013	7350	723.8	737.48		737.94	0.000401	5.56	1595.49	195.85	0.28
DS	9820	50YR	NDNEROH5222013	7350	723.8	737.29		737.77	0.000424	5.65	1559.71	193.15	0.29
DS	9820	50YR	NDWEROH5222013	7350	723.8	737.24		737.72	0.000431	5.68	1549.43	192.37	0.29
DS	9820	100YR	EX5222013	8100	723.8	737.93		738.44	0.000427	5.88	1685.63	202.49	0.29
DS	9820	100YR	NDNEROH5222013	8100	723.8	737.67		738.21	0.00046	6.01	1634.43	198.74	0.3
DS	9820	100YR	NDWEROH5222013	8100	723.8	737.57		738.12	0.000474	6.07	1613.83	197.22	0.31
DS	9820	500YR	EX5222013	9350	723.8	738.54		739.16	0.000482	6.45	1815.42	222.77	0.31
DS	9820	500YR	NDNEROH5222013	9350	723.8	738.43		739.05	0.000497	6.51	1789.81	218.63	0.32
DS	9820	500YR	NDWEROH5222013	9350	723.8	738.3		738.94	0.000514	6.58	1762.45	214.13	0.32
DS	9563	10YR	EX5222013	5650	723.8	736.35		736.67	0.000322	4.66	1585.42	273.76	0.25
DS	9563	10YR	NDNEROH5222013	5650	723.8	736.14		736.47	0.000347	4.77	1527.53	265.11	0.26
DS	9563	10YR	NDWEROH5222013	5650	723.8	736.14		736.47	0.000347	4.77	1527.69	265.14	0.26
DS	9563	25YR	EX5222013	6600	723.8	736.99		737.36	0.000356	5.09	1766.97	299.28	0.26
DS	9563	25YR	NDNEROH5222013	6600	723.8	736.81		737.21	0.000376	5.18	1716.27	292.36	0.27
DS	9563	25YR	NDWEROH5222013	6600	723.8	736.78		737.18	0.00038	5.2	1706.48	291.01	0.27
DS	9563	50YR	EX5222013	7350	723.8	737.4		737.83	0.000386	5.42	1894.73	316.03	0.28
DS	9563	50YR	NDNEROH5222013	7350	723.8	737.21		737.65	0.00041	5.53	1834.94	308.3	0.28
DS	9563	50YR	NDWEROH5222013	7350	723.8	737.15		737.6	0.000417	5.57	1817.82	306.05	0.29
DS	9563	100YR	EX5222013	8100	723.8	737.86		738.32	0.000406	5.71	2043.01	337.84	0.29
DS	9563	100YR	NDNEROH5222013	8100	723.8	737.59		738.09	0.000441	5.86	1954.99	324.32	0.3
DS	9563	100YR	NDWEROH5222013	8100	723.8	737.48		737.99	0.000456	5.93	1920.05	319.24	0.3
DS	9563	500YR	EX5222013	9350	723.8	738.47		739.02	0.000449	6.2	2266.58	375.93	0.3
DS	9563	500YR	NDNEROH5222013	9350	723.8	738.35		738.91	0.000467	6.28	2220.66	372.24	0.31
DS	9563	500YR	NDWEROH5222013	9350	723.8	738.22		738.79	0.000487	6.37	2170.98	368.19	0.31
DS	9290	10YR	EX5222013	5650	725.97	736.12		736.55	0.000524	5.39	1671.01	824.27	0.31
DS	9290	10YR	NDNEROH5222013	5650	725.97	735.94		736.35	0.000534	5.36	1546.77	365.84	0.31

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	9290	10YR	NDWEROH5222013	5650	725.97	735.94		736.35	0.000533	5.36	1546.99	365.89	0.31
DS	9290	25YR	EX5222013	6600	725.97	736.82		737.24	0.000504	5.54	2280.88	928.06	0.31
DS	9290	25YR	NDNEROH5222013	6600	725.97	736.6		737.07	0.000562	5.76	2085.85	900.46	0.32
DS	9290	25YR	NDWEROH5222013	6600	725.97	736.56		737.04	0.000574	5.81	2047.88	894.98	0.33
DS	9290	50YR	EX5222013	7350	725.97	737.28		737.7	0.000494	5.65	2724.21	987.95	0.31
DS	9290	50YR	NDNEROH5222013	7350	725.97	737.04		737.52	0.000556	5.91	2496.04	957.59	0.32
DS	9290	50YR	NDWEROH5222013	7350	725.97	736.97		737.46	0.000576	5.99	2428.97	948.49	0.33
DS	9290	100YR	EX5222013	8100	725.97	737.77		738.18	0.000469	5.68	3227.17	1051.77	0.3
DS	9290	100YR	NDNEROH5222013	8100	725.97	737.47		737.94	0.000545	6.01	2912.96	1012.37	0.32
DS	9290	100YR	NDWEROH5222013	8100	725.97	737.34		737.84	0.000581	6.16	2784.88	995.86	0.33
DS	9290	500YR	EX5222013	9350	725.97	738.45		738.85	0.000446	5.76	3962.75	1103.66	0.3
DS	9290	500YR	NDNEROH5222013	9350	725.97	738.31		738.74	0.000478	5.92	3811.45	1098.85	0.31
DS	9290	500YR	NDWEROH5222013	9350	725.97	738.16		738.62	0.000516	6.09	3644.18	1093.51	0.32
DS	9042	10YR	EX5222013	5650	726.45	736.03		736.4	0.000534	4.98	1331.31	624.15	0.31
DS	9042	10YR	NDNEROH5222013	5650	726.45	735.81		736.21	0.000582	5.11	1263.06	267.35	0.32
DS	9042	10YR	NDWEROH5222013	5650	726.45	735.81		736.21	0.000581	5.11	1263.23	267.38	0.32
DS	9042	25YR	EX5222013	6600	726.45	736.7		737.11	0.000532	5.24	1778.96	706.71	0.31
DS	9042	25YR	NDNEROH5222013	6600	726.45	736.48		736.92	0.00059	5.43	1626.56	679.73	0.33
DS	9042	25YR	NDWEROH5222013	6600	726.45	736.43		736.88	0.000602	5.47	1596.93	674.36	0.33
DS	9042	50YR	EX5222013	7350	726.45	737.15		737.57	0.000533	5.42	2108.11	761.72	0.31
DS	9042	50YR	NDNEROH5222013	7350	726.45	736.9		737.37	0.000598	5.64	1926.34	731.85	0.33
DS	9042	50YR	NDWEROH5222013	7350	726.45	736.83		737.31	0.000619	5.71	1872.62	722.79	0.34
DS	9042	100YR	EX5222013	8100	726.45	737.63		738.06	0.000515	5.51	2487.09	807.98	0.31
DS	9042	100YR	NDNEROH5222013	8100	726.45	737.31		737.8	0.0006	5.82	2232.69	779.88	0.33
DS	9042	100YR	NDWEROH5222013	8100	726.45	737.17		737.69	0.000639	5.95	2128.15	764.95	0.34
DS	9042	500YR	EX5222013	9350	726.45	738.24		738.71	0.000534	5.85	3076.03	1174.25	0.32
DS	9042	500YR	NDNEROH5222013	9350	726.45	738.09		738.59	0.000577	6.02	2895.76	1159.84	0.33
DS	9042	500YR	NDWEROH5222013	9350	726.45	737.97		738.47	0.000585	6.01	2770.84	838.09	0.33
DS	8557	10YR	EX5222013	5650	727.1	735.74		736.13	0.000606	5.13	1341	302.55	0.32
DS	8557	10YR	NDNEROH5222013	5650	727.1	735.47		735.9	0.000685	5.33	1263.92	283.12	0.34
DS	8557	10YR	NDWEROH5222013	5650	727.1	735.47		735.9	0.000685	5.33	1264.13	283.17	0.34

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	8557	25YR	EX5222013	6600	727.1	736.36		736.82	0.000636	5.54	1772.68	951.41	0.34
DS	8557	25YR	NDNEROH5222013	6600	727.1	736.07		736.59	0.000745	5.85	1499.7	923.82	0.36
DS	8557	25YR	NDWEROH5222013	6600	727.1	736.01		736.55	0.000769	5.92	1445.57	918.25	0.37
DS	8557	50YR	EX5222013	7350	727.1	736.84		737.29	0.000605	5.6	2239.77	990.02	0.33
DS	8557	50YR	NDNEROH5222013	7350	727.1	736.52		737.05	0.000724	5.98	1923.61	966.13	0.36
DS	8557	50YR	NDWEROH5222013	7350	727.1	736.42		736.97	0.000766	6.1	1823.68	956.48	0.37
DS	8557	100YR	EX5222013	8100	727.1	737.37		737.79	0.000552	5.56	2770.03	1026.44	0.32
DS	8557	100YR	NDNEROH5222013	8100	727.1	736.96		737.48	0.000689	6.03	2357.05	998.19	0.35
DS	8557	100YR	NDWEROH5222013	8100	727.1	736.77		737.34	0.000764	6.26	2171.83	985.25	0.37
DS	8557	500YR	EX5222013	9350	727.1	738.02		738.44	0.000523	5.66	3458.34	1091.9	0.31
DS	8557	500YR	NDNEROH5222013	9350	727.1	737.85		738.29	0.000572	5.85	3267.85	1072.09	0.33
DS	8557	500YR	NDWEROH5222013	9350	727.1	737.68		738.17	0.000622	6.03	3096.93	1052.6	0.34
DS	8537	10YR	EX5222013	5650	727.1	735.71	731.72	736.12	0.000627	5.21	1240.87	319.37	0.33
DS	8537	10YR	NDNEROH5222013	5650	727.1	735.44	731.72	735.88	0.000708	5.4	1181.9	250	0.35
DS	8537	10YR	NDWEROH5222013	5650	727.1	735.44	731.72	735.89	0.000708	5.4	1182.06	250.19	0.35
DS	8537	25YR	EX5222013	6600	727.1	736.34	732.14	736.81	0.000654	5.6	1673.14	939.87	0.34
DS	8537	25YR	NDNEROH5222013	6600	727.1	736.04	732.14	736.58	0.000763	5.91	1403.32	911.76	0.37
DS	8537	25YR	NDWEROH5222013	6600	727.1	735.97	732.14	736.49	0.000758	5.86	1354.16	376.36	0.36
DS	8537	50YR	EX5222013	7350	727.1	736.81	732.44	737.28	0.000626	5.69	2133.57	985.99	0.34
DS	8537	50YR	NDNEROH5222013	7350	727.1	736.49	732.44	737.03	0.000748	6.06	1816.05	954.43	0.37
DS	8537	50YR	NDWEROH5222013	7350	727.1	736.38	732.44	736.95	0.000792	6.18	1716.1	944.27	0.38
DS	8537	100YR	EX5222013	8100	727.1	737.34	732.74	737.78	0.000571	5.64	2663.8	1024.34	0.32
DS	8537	100YR	NDNEROH5222013	8100	727.1	736.92	732.74	737.46	0.000716	6.13	2242.66	993.81	0.36
DS	8537	100YR	NDWEROH5222013	8100	727.1	736.73	732.74	737.32	0.000794	6.37	2054.74	978.25	0.38
DS	8537	500YR	EX5222013	9350	727.1	738	733.21	738.43	0.000538	5.73	3350.61	1069.21	0.32
DS	8537	500YR	NDNEROH5222013	9350	727.1	737.82	733.21	738.28	0.000591	5.93	3158.56	1056.86	0.33
DS	8537	500YR	NDWEROH5222013	9350	727.1	737.65	733.21	738.15	0.000645	6.13	2982.9	1045.43	0.35
DS	8522			Bridge									
DS	8506	10YR	EX5222013	5650	727.1	735.63	731.72	736.06	0.000531	5.33	1169.4	345.28	0.34
DS	8506	10YR	NDNEROH5222013	5650	727.1	735.4	731.72	735.86	0.000591	5.51	1120.05	308.72	0.36

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	8506	10YR	NDWEROH5222013	5650	727.1	735.4	731.72	735.86	0.00059	5.51	1120.21	308.84	0.36
DS	8506	25YR	EX5222013	6600	727.1	736.21	732.12	736.71	0.000559	5.74	1558.27	934	0.35
DS	8506	25YR	NDNEROH5222013	6600	727.1	735.95	732.12	736.48	0.000623	5.93	1343.21	409.13	0.37
DS	8506	25YR	NDWEROH5222013	6600	727.1	735.84	732.12	736.39	0.000653	6.02	1301.47	388.37	0.38
DS	8506	50YR	EX5222013	7350	727.1	736.71	732.44	737.21	0.000528	5.81	2040.83	983.81	0.35
DS	8506	50YR	NDNEROH5222013	7350	727.1	736.36	732.44	736.94	0.000641	6.22	1696.96	948.58	0.38
DS	8506	50YR	NDWEROH5222013	7350	727.1	736.21	732.44	736.83	0.000692	6.39	1559.7	934.15	0.39
DS	8506	100YR	EX5222013	8100	727.1	737.19	732.73	737.67	0.000495	5.82	2522.09	1030.04	0.34
DS	8506	100YR	NDNEROH5222013	8100	727.1	736.78	732.73	737.36	0.000618	6.31	2110.25	990.77	0.37
DS	8506	100YR	NDWEROH5222013	8100	727.1	736.61	732.73	737.23	0.00068	6.53	1935.95	973.2	0.39
DS	8506	500YR	EX5222013	9350	727.1	737.8	733.22	738.27	0.000477	5.96	3163.15	1073.67	0.33
DS	8506	500YR	NDNEROH5222013	9350	727.1	737.6	733.22	738.12	0.000529	6.19	2955.35	1060.19	0.35
DS	8506	500YR	NDWEROH5222013	9350	727.1	737.42	733.22	737.99	0.000582	6.42	2766.16	1047.76	0.37
DS	8479	10YR	EX5222013	5650	727.03	735.66		736.01	0.000403	4.88	1467.11	466.73	0.3
DS	8479	10YR	NDNEROH5222013	5650	727.03	735.42		735.81	0.000449	5.06	1365.12	404.54	0.31
DS	8479	10YR	NDWEROH5222013	5650	727.03	735.42		735.81	0.000449	5.06	1365.44	404.8	0.31
DS	8479	25YR	EX5222013	6600	727.03	736.24		736.65	0.000429	5.27	1861.8	946.07	0.31
DS	8479	25YR	NDNEROH5222013	6600	727.03	735.98		736.42	0.000477	5.45	1625.94	511.68	0.33
DS	8479	25YR	NDWEROH5222013	6600	727.03	735.87		736.33	0.000501	5.54	1573.21	498.18	0.33
DS	8479	50YR	EX5222013	7350	727.03	736.75		737.14	0.000401	5.29	2356.15	998.01	0.3
DS	8479	50YR	NDNEROH5222013	7350	727.03	736.4		736.87	0.000488	5.69	2010.13	961.28	0.33
DS	8479	50YR	NDWEROH5222013	7350	727.03	736.25		736.76	0.000529	5.86	1871.5	946.99	0.35
DS	8479	100YR	EX5222013	8100	727.03	737.23		737.6	0.000373	5.28	2847.92	1047.99	0.3
DS	8479	100YR	NDNEROH5222013	8100	727.03	736.83		737.29	0.000466	5.74	2434.92	1006.18	0.33
DS	8479	100YR	NDWEROH5222013	8100	727.03	736.65		737.16	0.000514	5.95	2260.09	987.95	0.34
DS	8479	500YR	EX5222013	9350	727.03	737.84		738.21	0.000356	5.37	3507.66	1098.33	0.29
DS	8479	500YR	NDNEROH5222013	9350	727.03	737.65		738.05	0.000395	5.58	3298.52	1084.83	0.31
DS	8479	500YR	NDWEROH5222013	9350	727.03	737.48		737.91	0.000435	5.79	3108.52	1070.69	0.32
DS	8182	10YR	EX5222013	5650	726.2	735.56		735.9	0.000343	4.68	1433.53	387.37	0.28
DS	8182	10YR	NDNEROH5222013	5650	726.2	735.32		735.68	0.00038	4.83	1349.34	325.38	0.29
DS	8182	10YR	NDWEROH5222013	5650	726.2	735.32		735.68	0.00038	4.83	1349.62	325.53	0.29

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	8182	25YR	EX5222013	6600	726.2	736.14		736.53	0.000373	5.09	1747.14	892.45	0.29
DS	8182	25YR	NDNEROH5222013	6600	726.2	735.87		736.28	0.000411	5.24	1563.66	449.21	0.31
DS	8182	25YR	NDWEROH5222013	6600	726.2	735.76		736.19	0.000431	5.32	1515.3	433.56	0.31
DS	8182	50YR	EX5222013	7350	726.2	736.65		737.03	0.000356	5.15	2214.26	936.29	0.29
DS	8182	50YR	NDNEROH5222013	7350	726.2	736.28		736.73	0.000432	5.53	1869.02	904.09	0.32
DS	8182	50YR	NDWEROH5222013	7350	726.2	736.12		736.61	0.000467	5.69	1730	890.8	0.33
DS	8182	100YR	EX5222013	8100	726.2	737.14		737.5	0.000336	5.17	2679.34	978	0.28
DS	8182	100YR	NDNEROH5222013	8100	726.2	736.71		737.16	0.00042	5.62	2268.41	941.24	0.31
DS	8182	100YR	NDWEROH5222013	8100	726.2	736.52		737.01	0.000463	5.82	2092.19	925.04	0.33
DS	8182	500YR	EX5222013	9350	726.2	737.75		738.12	0.000327	5.3	3296.15	1030.71	0.28
DS	8182	500YR	NDNEROH5222013	9350	726.2	737.55		737.95	0.000362	5.51	3091.53	1013.53	0.3
DS	8182	500YR	NDWEROH5222013	9350	726.2	737.36		737.8	0.000399	5.71	2902.82	997.42	0.31
DS	7893	10YR	EX5222013	5650	725.81	734.94		735.7	0.001021	7.14	990.71	294.51	0.46
DS	7893	10YR	NDNEROH5222013	5650	725.81	734.57		735.45	0.001232	7.62	886.23	271.44	0.5
DS	7893	10YR	NDWEROH5222013	5650	725.81	734.57		735.45	0.001231	7.62	886.57	271.51	0.5
DS	7893	25YR	EX5222013	6600	725.81	735.49		736.32	0.001057	7.58	1161.27	328.69	0.47
DS	7893	25YR	NDNEROH5222013	6600	725.81	735.04		736.03	0.001326	8.19	1020.43	300.75	0.52
DS	7893	25YR	NDWEROH5222013	6600	725.81	734.85		735.92	0.001461	8.48	963.29	288.63	0.55
DS	7893	50YR	EX5222013	7350	725.81	735.98	732.88	736.83	0.001027	7.77	1329.45	359.2	0.47
DS	7893	50YR	NDNEROH5222013	7350	725.81	735.4		736.47	0.001369	8.57	1133.61	323.4	0.53
DS	7893	50YR	NDWEROH5222013	7350	725.81	735.12		736.32	0.001576	8.99	1045.91	306	0.57
DS	7893	100YR	EX5222013	8100	725.81	736.44	733.46	737.31	0.000999	7.94	1754.66	1006.44	0.47
DS	7893	100YR	NDNEROH5222013	8100	725.81	735.79	733.46	736.9	0.001371	8.84	1261.62	347.22	0.54
DS	7893	100YR	NDWEROH5222013	8100	725.81	735.44	733.46	736.72	0.001635	9.39	1144.44	325.48	0.58
DS	7893	500YR	EX5222013	9350	725.81	737.26		737.96	0.000796	7.51	2653.03	1132.43	0.42
DS	7893	500YR	NDNEROH5222013	9350	725.81	736.67	733.93	737.73	0.001193	8.82	1994.29	1087.64	0.51
DS	7893	500YR	NDWEROH5222013	9350	725.81	736.13	733.93	737.52	0.001604	9.83	1459.93	926.35	0.59
DS	7429	10YR	EX5222013	5650	725.7	734.96		735.28	0.000465	4.83	1725.21	563.91	0.31
DS	7429	10YR	NDNEROH5222013	5650	725.7	734.53		734.94	0.000599	5.3	1486.57	560.26	0.35
DS	7429	10YR	NDWEROH5222013	5650	725.7	734.53		734.94	0.000598	5.3	1487.43	560.27	0.35
DS	7429	25YR	EX5222013	6600	725.7	735.57		735.9	0.000444	4.95	2072.83	569.72	0.3

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	7429	25YR	NDNEROH5222013	6600	725.7	735.08		735.49	0.000591	5.49	1794.42	564.97	0.35
DS	7429	25YR	NDWEROH5222013	6600	725.7	734.85		735.32	0.000674	5.77	1666.92	563.02	0.37
DS	7429	50YR	EX5222013	7350	725.7	736.11		736.42	0.000408	4.95	2425.63	988.24	0.29
DS	7429	50YR	NDNEROH5222013	7350	725.7	735.5		735.92	0.000572	5.59	2035.29	569.11	0.34
DS	7429	50YR	NDWEROH5222013	7350	725.7	735.19		735.68	0.000687	5.97	1857.48	566.02	0.38
DS	7429	100YR	EX5222013	8100	725.7	736.62		736.91	0.00037	4.9	2947.87	1069.27	0.28
DS	7429	100YR	NDNEROH5222013	8100	725.7	735.94		736.36	0.000542	5.64	2287.05	572.61	0.34
DS	7429	100YR	NDWEROH5222013	8100	725.7	735.57		736.06	0.000668	6.07	2074.19	569.74	0.37
DS	7429	500YR	EX5222013	9350	725.7	737.4		737.66	0.000317	4.79	3833.12	1191.97	0.27
DS	7429	500YR	NDNEROH5222013	9350	725.7	736.93		737.26	0.000414	5.29	3285.97	1124.08	0.3
DS	7429	500YR	NDWEROH5222013	9350	725.7	736.46		736.88	0.000541	5.85	2779.06	1041.76	0.34
DS	7056	10YR	EX5222013	5650	725.5	734.9		735.12	0.000344	4.24	2355.89	800.77	0.26
DS	7056	10YR	NDNEROH5222013	5650	725.5	734.43		734.72	0.000469	4.75	1993.03	760.05	0.3
DS	7056	10YR	NDWEROH5222013	5650	725.5	734.43		734.73	0.000469	4.75	1994.33	760.18	0.3
DS	7056	25YR	EX5222013	6600	725.5	735.53		735.74	0.000315	4.26	2889.29	907.61	0.26
DS	7056	25YR	NDNEROH5222013	6600	725.5	735.01		735.29	0.000438	4.82	2444.27	820.99	0.3
DS	7056	25YR	NDWEROH5222013	6600	725.5	734.76		735.09	0.000515	5.12	2243.57	782.21	0.32
DS	7056	50YR	EX5222013	7350	725.5	736.09		736.29	0.000281	4.2	3488.04	1174.07	0.24
DS	7056	50YR	NDNEROH5222013	7350	725.5	735.45		735.73	0.00041	4.83	2819.02	852.9	0.29
DS	7056	50YR	NDWEROH5222013	7350	725.5	735.11		735.44	0.000509	5.24	2529.62	831.64	0.32
DS	7056	100YR	EX5222013	8100	725.5	736.61		736.79	0.000249	4.1	4118.25	1241.25	0.23
DS	7056	100YR	NDNEROH5222013	8100	725.5	735.91		736.17	0.000382	4.83	3279.78	1148.11	0.28
DS	7056	100YR	NDWEROH5222013	8100	725.5	735.52		735.84	0.00048	5.25	2872.4	889.32	0.31
DS	7056	500YR	EX5222013	9350	725.5	737.4		737.55	0.000211	3.97	5127.59	1312.65	0.22
DS	7056	500YR	NDNEROH5222013	9350	725.5	736.93		737.12	0.000276	4.4	4512.54	1270.53	0.24
DS	7056	500YR	NDWEROH5222013	9350	725.5	736.45		736.7	0.000366	4.91	3913.35	1220.01	0.28
DS	6561	10YR	EX5222013	5650	724.91	734.56		734.92	0.000735	5.76	2086.77	910.63	0.39
DS	6561	10YR	NDNEROH5222013	5650	724.91	733.57		734.34	0.001664	7.83	1331.05	660.38	0.57
DS	6561	10YR	NDWEROH5222013	5650	724.91	733.04	733.04	734.23	0.0027	9.36	999.93	593.69	0.71
DS	6561	25YR	EX5222013	6600	724.91	735.32		735.59	0.00054	5.29	2805.54	965.23	0.34
DS	6561	25YR	NDNEROH5222013	6600	724.91	734.5		735.02	0.001052	6.85	2035.92	906.65	0.46

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	6561	25YR	NDWEROH5222013	6600	724.91	733.56	733.32	734.62	0.002288	9.17	1325.29	658.75	0.66
DS	6561	50YR	EX5222013	7350	724.91	735.95		736.17	0.000425	4.95	3422.42	1003.6	0.3
DS	6561	50YR	NDNEROH5222013	7350	724.91	735.12		735.52	0.00078	6.25	2616.67	951.45	0.4
DS	6561	50YR	NDWEROH5222013	7350	724.91	734.43		735.1	0.001376	7.78	1974.44	869.95	0.53
DS	6561	100YR	EX5222013	8100	724.91	736.5		736.69	0.000359	4.75	4006.39	1075.24	0.28
DS	6561	100YR	NDNEROH5222013	8100	724.91	735.69		736	0.000621	5.85	3160.4	987.57	0.36
DS	6561	100YR	NDWEROH5222013	8100	724.91	735.1		735.58	0.000969	6.95	2588.3	949.37	0.45
DS	6561	500YR	EX5222013	9350	724.91	737.32		737.48	0.000287	4.51	4907.37	1117.89	0.25
DS	6561	500YR	NDNEROH5222013	9350	724.91	736.81		737.02	0.000393	5.08	4339	1091.52	0.3
DS	6561	500YR	NDWEROH5222013	9350	724.91	736.25		736.55	0.000564	5.84	3743.26	1062.22	0.35
DS	6542	10YR	EX5222013	5650	722.52	734.55	731.34	734.91	0.000655	5.62	2135.07	893.63	0.36
DS	6542	10YR	NDNEROH5222013	5650	722.52	733.58	731.34	734.3	0.001298	7.41	1380.14	648.15	0.5
DS	6542	10YR	NDWEROH5222013	5650	722.52	732.39	731.34	734.02	0.003031	10.38	705.52	502.89	0.75
DS	6542	25YR	EX5222013	6600	722.52	735.3	733.07	735.58	0.000515	5.25	2831.21	944.46	0.32
DS	6542	25YR	NDNEROH5222013	6600	722.52	734.48	733.07	735	0.000936	6.69	2080.36	889.01	0.43
DS	6542	25YR	NDWEROH5222013	6600	722.52	733.58	733.07	734.56	0.001771	8.66	1379.98	648.1	0.58
DS	6542	50YR	EX5222013	7350	722.52	735.93	733.42	736.16	0.000415	4.96	3433.04	978.46	0.29
DS	6542	50YR	NDNEROH5222013	7350	722.52	735.1	733.42	735.5	0.00074	6.2	2640.09	933.54	0.39
DS	6542	50YR	NDWEROH5222013	7350	722.52	734.4	733.42	735.08	0.001241	7.65	2002.37	882.38	0.49
DS	6542	100YR	EX5222013	8100	722.52	736.48	733.61	736.68	0.000361	4.81	4002.47	1059.47	0.28
DS	6542	100YR	NDNEROH5222013	8100	722.52	735.65	733.61	735.99	0.000606	5.86	3167.4	963.48	0.35
DS	6542	100YR	NDWEROH5222013	8100	722.52	735.06	733.61	735.56	0.000926	6.91	2602.6	931.38	0.43
DS	6542	500YR	EX5222013	9350	722.52	737.3	733.99	737.47	0.000298	4.62	4889.87	1107.31	0.25
DS	6542	500YR	NDNEROH5222013	9350	722.52	736.78	733.99	737.01	0.000401	5.18	4324.04	1075.79	0.29
DS	6542	500YR	NDWEROH5222013	9350	722.52	736.22	733.99	736.54	0.000568	5.92	3727.9	1046.5	0.35
DS	6531			Bridge									
DS	6520	10YR	EX5222013	5650	720.06	734.53	729.88	734.85	0.000453	5.17	2169.51	857.62	0.31
DS	6520	10YR	NDNEROH5222013	5650	720.06	733.63	729.88	734.2	0.000792	6.53	1471.51	652.86	0.4
DS	6520	10YR	NDWEROH5222013	5650	720.06	732.68	729.88	733.67	0.001382	8.15	933.34	484.05	0.52
DS	6520	25YR	EX5222013	6600	720.06	735.26	730.53	735.52	0.000387	4.97	2815.73	920.97	0.28

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	6520	25YR	NDNEROH5222013	6600	720.06	734.46	730.53	734.92	0.000647	6.16	2109.41	850.3	0.36
DS	6520	25YR	NDWEROH5222013	6600	720.06	733.61	730.53	734.4	0.001089	7.64	1464.35	651.52	0.47
DS	6520	50YR	EX5222013	7350	720.06	735.87	731.01	736.1	0.000326	4.74	3397.87	965.27	0.26
DS	6520	50YR	NDNEROH5222013	7350	720.06	735.03	731.01	735.42	0.000555	5.87	2613.23	904.75	0.34
DS	6520	50YR	NDWEROH5222013	7350	720.06	734.37	731.01	734.98	0.000851	7.03	2032.79	843.26	0.42
DS	6520	100YR	EX5222013	8100	720.06	736.42	732.92	736.62	0.000295	4.57	3949.13	1029.96	0.25
DS	6520	100YR	NDNEROH5222013	8100	720.06	735.58	732.92	735.9	0.000475	5.62	3114.87	943.99	0.32
DS	6520	100YR	NDWEROH5222013	8100	720.06	734.97	732.92	735.45	0.000705	6.59	2550.36	899.16	0.38
DS	6520	500YR	EX5222013	9350	720.06	737.25	733.62	737.41	0.000251	4.38	4822.11	1092.02	0.23
DS	6520	500YR	NDNEROH5222013	9350	720.06	736.71	733.62	736.93	0.000336	4.91	4252.83	1052.65	0.27
DS	6520	500YR	NDWEROH5222013	9350	720.06	736.12	733.62	736.44	0.000461	5.69	3645.23	1007.32	0.31
DS	6493	10YR	EX5222013	5650	721.49	734.43		734.82	0.000446	5.59	2056.38	815.69	0.32
DS	6493	10YR	NDNEROH5222013	5650	721.49	733.5		734.15	0.000772	6.88	1396.62	599.25	0.41
DS	6493	10YR	NDWEROH5222013	5650	721.49	732.5	729.99	733.6	0.001395	8.53	864.21	452.82	0.54
DS	6493	25YR	EX5222013	6600	721.49	735.15		735.49	0.000387	5.47	2662.46	867	0.3
DS	6493	25YR	NDNEROH5222013	6600	721.49	734.28		734.86	0.000672	6.79	1932.1	806.96	0.39
DS	6493	25YR	NDWEROH5222013	6600	721.49	733.36	730.56	734.32	0.001147	8.29	1313.03	580.79	0.5
DS	6493	50YR	EX5222013	7350	721.49	735.78		736.07	0.000334	5.28	3215.24	905.39	0.28
DS	6493	50YR	NDNEROH5222013	7350	721.49	734.87		735.37	0.000572	6.52	2420.96	841.69	0.36
DS	6493	50YR	NDWEROH5222013	7350	721.49	734.02	731	734.88	0.000983	8.07	1729.2	793.87	0.47
DS	6493	100YR	EX5222013	8100	721.49	736.31		736.58	0.000311	5.26	3724.08	997.04	0.27
DS	6493	100YR	NDNEROH5222013	8100	721.49	735.42		735.86	0.000498	6.3	2899.31	884.12	0.34
DS	6493	100YR	NDWEROH5222013	8100	721.49	734.7		735.37	0.000771	7.49	2280.88	832.34	0.42
DS	6493	500YR	EX5222013	9350	721.49	737.14		737.38	0.000267	5.1	4579.87	1052.94	0.26
DS	6493	500YR	NDNEROH5222013	9350	721.49	736.57		736.89	0.00036	5.74	3989.48	1016.67	0.29
DS	6493	500YR	NDWEROH5222013	9350	721.49	735.97		736.39	0.000484	6.43	3392.55	917.11	0.34
DS	6173	10YR	EX5222013	5650	723.07	734.38		734.69	0.000313	4.57	1747.75	590.68	0.27
DS	6173	10YR	NDNEROH5222013	5650	723.07	733.49		733.9	0.000469	5.23	1322.27	372.06	0.32
DS	6173	10YR	NDWEROH5222013	5650	723.07	732.57		733.12	0.000729	6.03	1023.09	274.63	0.39
DS	6173	25YR	EX5222013	6600	723.07	735.08		735.39	0.000304	4.73	2169.07	618.94	0.26
DS	6173	25YR	NDNEROH5222013	6600	723.07	734.22		734.66	0.000464	5.5	1649.11	583.8	0.32

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	6173	25YR	NDWEROH5222013	6600	723.07	733.36		733.94	0.000681	6.23	1273.56	358.08	0.38
DS	6173	50YR	EX5222013	7350	723.07	735.69		735.99	0.000283	4.75	2552.8	643.27	0.26
DS	6173	50YR	NDNEROH5222013	7350	723.07	734.77		735.21	0.000437	5.55	1981.16	606.66	0.32
DS	6173	50YR	NDWEROH5222013	7350	723.07	733.98		734.57	0.000632	6.31	1516.93	423.36	0.37
DS	6173	100YR	EX5222013	8100	723.07	736.21		736.51	0.000273	4.81	2899.33	682.91	0.26
DS	6173	100YR	NDNEROH5222013	8100	723.07	735.31		735.73	0.00041	5.57	2312.93	628.18	0.31
DS	6173	100YR	NDWEROH5222013	8100	723.07	734.58		735.15	0.000582	6.32	1866.55	598.98	0.36
DS	6173	500YR	EX5222013	9350	723.07	737.02		737.31	0.000255	4.88	3461.74	706.97	0.25
DS	6173	500YR	NDNEROH5222013	9350	723.07	736.44		736.8	0.000328	5.35	3054.47	688.45	0.28
DS	6173	500YR	NDWEROH5222013	9350	723.07	735.81		736.27	0.000433	5.92	2631.23	648.11	0.32
DS	5870	10YR	EX5222013	5650	723.44	734.36		734.59	0.00021	3.88	1678.99	651.34	0.22
DS	5870	10YR	NDNEROH5222013	5650	723.44	733.47		733.76	0.000296	4.32	1344.2	167.19	0.26
DS	5870	10YR	NDWEROH5222013	5650	723.44	732.54		732.9	0.000432	4.84	1190.14	164.41	0.3
DS	5870	25YR	EX5222013	6600	723.44	735.05		735.3	0.000215	4.11	2148.64	704.54	0.22
DS	5870	25YR	NDNEROH5222013	6600	723.44	734.18		734.51	0.000308	4.64	1565.11	638.3	0.27
DS	5870	25YR	NDWEROH5222013	6600	723.44	733.32		733.73	0.000427	5.13	1320.25	166.77	0.31
DS	5870	50YR	EX5222013	7350	723.44	735.65		735.9	0.000206	4.17	2584.52	730.59	0.22
DS	5870	50YR	NDNEROH5222013	7350	723.44	734.73		735.08	0.000305	4.79	1927.23	690.09	0.27
DS	5870	50YR	NDWEROH5222013	7350	723.44	733.93		734.37	0.000421	5.33	1432.21	259.55	0.31
DS	5870	100YR	EX5222013	8100	723.44	736.18		736.43	0.0002	4.24	2974.08	748.09	0.22
DS	5870	100YR	NDNEROH5222013	8100	723.44	735.26		735.61	0.000295	4.88	2302.27	714.37	0.26
DS	5870	100YR	NDWEROH5222013	8100	723.44	734.53		734.98	0.000403	5.44	1790.3	665.43	0.31
DS	5870	500YR	EX5222013	9350	723.44	736.99		737.24	0.00019	4.34	3587.56	762.95	0.22
DS	5870	500YR	NDNEROH5222013	9350	723.44	736.4		736.71	0.000243	4.74	3138.62	752.1	0.24
DS	5870	500YR	NDWEROH5222013	9350	723.44	735.76		736.15	0.000319	5.23	2658.8	734.75	0.28
DS	5619	10YR	EX5222013	5650	722.75	734.34		734.53	0.000184	3.49	1691.79	290.98	0.2
DS	5619	10YR	NDNEROH5222013	5650	722.75	733.44		733.67	0.000262	3.89	1486.09	196.39	0.24
DS	5619	10YR	NDWEROH5222013	5650	722.75	732.48		732.78	0.000399	4.41	1300.07	191.65	0.29
DS	5619	25YR	EX5222013	6600	722.75	735.02		735.24	0.000196	3.78	1922.64	462.8	0.21
DS	5619	25YR	NDNEROH5222013	6600	722.75	734.15		734.42	0.00027	4.17	1639.38	274.68	0.25
DS	5619	25YR	NDWEROH5222013	6600	722.75	733.27		733.61	0.000383	4.63	1454.55	195.59	0.29

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	5619	50YR	EX5222013	7350	722.75	735.62		735.85	0.000194	3.91	2220.44	532.48	0.21
DS	5619	50YR	NDNEROH5222013	7350	722.75	734.7		734.99	0.000273	4.36	1801.14	322.34	0.25
DS	5619	50YR	NDWEROH5222013	7350	722.75	733.89		734.25	0.00037	4.79	1576.61	198.65	0.29
DS	5619	100YR	EX5222013	8100	722.75	736.13		736.38	0.000196	4.06	2522.69	630.95	0.22
DS	5619	100YR	NDNEROH5222013	8100	722.75	735.22		735.53	0.000273	4.52	2017.76	484.59	0.25
DS	5619	100YR	NDWEROH5222013	8100	722.75	734.49		734.86	0.000358	4.92	1735.56	303.92	0.29
DS	5619	500YR	EX5222013	9350	722.75	736.93		737.19	0.000193	4.23	3036.33	653.18	0.22
DS	5619	500YR	NDNEROH5222013	9350	722.75	736.34		736.65	0.000241	4.56	2652.13	636.66	0.24
DS	5619	500YR	NDWEROH5222013	9350	722.75	735.69		736.06	0.000305	4.93	2262.06	551.58	0.27
DS	5290	10YR	EX5222013	5650	722.82	734	729.63	734.41	0.000461	5.18	1153.79	155.86	0.32
DS	5290	10YR	NDNEROH5222013	5650	722.82	732.96	729.63	733.5	0.000726	5.94	994.89	150.11	0.39
DS	5290	10YR	NDWEROH5222013	5650	722.82	731.7	729.63	732.51	0.001383	7.22	809.64	144.76	0.52
DS	5290	25YR	EX5222013	6600	722.82	734.63	730.05	735.11	0.000491	5.61	1253.96	162.48	0.33
DS	5290	25YR	NDNEROH5222013	6600	722.82	733.64	730.05	734.25	0.000733	6.34	1096.95	153.28	0.4
DS	5290	25YR	NDWEROH5222013	6600	722.82	732.5	730.05	733.35	0.001237	7.43	926.18	147.94	0.5
DS	5290	50YR	EX5222013	7350	722.82	735.2	730.37	735.72	0.000496	5.88	1360.06	211.09	0.34
DS	5290	50YR	NDNEROH5222013	7350	722.82	734.14	730.37	734.81	0.000738	6.63	1175.16	157.28	0.4
DS	5290	50YR	NDWEROH5222013	7350	722.82	733.12	730.37	734	0.001141	7.56	1018.91	150.86	0.49
DS	5290	100YR	EX5222013	8100	722.82	735.67	730.68	736.25	0.000508	6.15	1473.28	263.98	0.34
DS	5290	100YR	NDNEROH5222013	8100	722.82	734.63	730.68	735.35	0.000741	6.89	1252.82	162.4	0.41
DS	5290	100YR	NDWEROH5222013	8100	722.82	733.71	730.68	734.62	0.00107	7.71	1108.22	153.63	0.48
DS	5290	500YR	EX5222013	9350	722.82	736.4	731.19	737.06	0.00053	6.58	1736.94	540.8	0.36
DS	5290	500YR	NDNEROH5222013	9350	722.82	735.72	731.19	736.48	0.000666	7.06	1485.49	268.72	0.39
DS	5290	500YR	NDWEROH5222013	9350	722.82	734.96	731.19	735.85	0.000872	7.67	1310.39	199.22	0.44
DS	4956	10YR	EX5222013	5650	721.97	733.96	728.27	734.27	0.000285	4.65	1531.72	215.45	0.26
DS	4956	10YR	NDNEROH5222013	5650	721.97	732.89	728.27	733.29	0.000421	5.25	1318.47	193.11	0.31
DS	4956	10YR	NDWEROH5222013	5650	721.97	731.54	728.27	732.12	0.000744	6.26	1073.88	174.67	0.4
DS	4956	25YR	EX5222013	6600	721.97	734.58	728.71	734.96	0.000318	5.11	1670.98	226.75	0.28
DS	4956	25YR	NDNEROH5222013	6600	721.97	733.56	728.71	734.02	0.000446	5.66	1450.32	198.22	0.32
DS	4956	25YR	NDWEROH5222013	6600	721.97	732.36	728.71	732.98	0.000711	6.55	1219.12	181.45	0.4
DS	4956	50YR	EX5222013	7350	721.97	735.15	729.04	735.56	0.000326	5.36	1801.11	229.59	0.28

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4956	50YR	NDNEROH5222013	7350	721.97	734.06	729.04	734.58	0.000466	5.99	1554.5	219.86	0.33
DS	4956	50YR	NDWEROH5222013	7350	721.97	732.99	729.04	733.65	0.000683	6.74	1339.3	193.99	0.39
DS	4956	100YR	EX5222013	8100	721.97	735.63	729.37	736.08	0.00034	5.63	1912.08	233.62	0.29
DS	4956	100YR	NDNEROH5222013	8100	721.97	734.54	729.37	735.11	0.000485	6.3	1662.41	226.56	0.34
DS	4956	100YR	NDWEROH5222013	8100	721.97	733.59	729.37	734.28	0.000664	6.93	1456.79	198.59	0.39
DS	4956	500YR	EX5222013	9350	721.97	736.36	729.89	736.88	0.000366	6.08	2085.94	537.67	0.3
DS	4956	500YR	NDNEROH5222013	9350	721.97	735.66	729.89	736.26	0.000449	6.48	1919.42	234.19	0.33
DS	4956	500YR	NDWEROH5222013	9350	721.97	734.86	729.89	735.57	0.00058	7.03	1734.91	228.15	0.37
DS	4936	10YR	EX5222013	5650	721.78	734.05	727.12	734.22	0.000144	3.35	1814.5	198.46	0.18
DS	4936	10YR	NDNEROH5222013	5650	721.78	733.01	727.12	733.23	0.000207	3.74	1609.13	195.91	0.22
DS	4936	10YR	NDWEROH5222013	5650	721.78	731.73	727.12	732.02	0.000343	4.36	1360.11	192.03	0.27
DS	4936	25YR	EX5222013	6600	721.78	734.7	727.52	734.9	0.000159	3.67	1942.43	200.04	0.2
DS	4936	25YR	NDNEROH5222013	6600	721.78	733.7	727.52	733.95	0.000221	4.05	1745.19	197.6	0.23
DS	4936	25YR	NDWEROH5222013	6600	721.78	732.56	727.52	732.88	0.000334	4.6	1520.93	194.77	0.27
DS	4936	50YR	EX5222013	7350	721.78	735.27	727.81	735.5	0.000166	3.88	2057.64	201.5	0.2
DS	4936	50YR	NDNEROH5222013	7350	721.78	734.22	727.81	734.5	0.00023	4.28	1848.05	198.88	0.23
DS	4936	50YR	NDWEROH5222013	7350	721.78	733.2	727.81	733.55	0.000326	4.76	1646.78	196.38	0.27
DS	4936	100YR	EX5222013	8100	721.78	735.76	728.07	736.02	0.000175	4.09	2155.7	202.84	0.21
DS	4936	100YR	NDNEROH5222013	8100	721.78	734.72	728.07	735.03	0.000238	4.5	1947.37	200.1	0.24
DS	4936	100YR	NDWEROH5222013	8100	721.78	733.81	728.07	734.18	0.000321	4.92	1766.28	197.86	0.27
DS	4936	500YR	EX5222013	9350	721.78	736.51	728.5	736.8	0.00019	4.44	2398.72	483.48	0.22
DS	4936	500YR	NDNEROH5222013	9350	721.78	735.84	728.5	736.16	0.000228	4.7	2172.91	203.08	0.24
DS	4936	500YR	NDWEROH5222013	9350	721.78	735.08	728.5	735.47	0.000284	5.02	2019.1	200.98	0.26
DS	4923			Bridge									
DS	4908	10YR	EX5222013	5650	721.65	734.04	727.21	734.2	0.000191	3.18	1897.27	203.49	0.18
DS	4908	10YR	NDNEROH5222013	5650	721.65	733	727.21	733.19	0.000276	3.56	1685.94	200.58	0.21
DS	4908	10YR	NDWEROH5222013	5650	721.65	731.7	727.21	731.97	0.000465	4.16	1428.81	197.4	0.26
DS	4908	25YR	EX5222013	6600	721.65	734.68	727.54	734.87	0.000211	3.49	2027.85	205.69	0.19
DS	4908	25YR	NDNEROH5222013	6600	721.65	733.69	727.54	733.91	0.000294	3.85	1825.04	202.48	0.22
DS	4908	25YR	NDWEROH5222013	6600	721.65	732.53	727.54	732.83	0.00045	4.38	1593.6	199.35	0.26

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4908	50YR	EX5222013	7350	721.65	735.13	727.82	735.34	0.000228	3.73	2120.15	207.21	0.2
DS	4908	50YR	NDNEROH5222013	7350	721.65	734.21	727.82	734.46	0.000306	4.07	1930.34	204.06	0.22
DS	4908	50YR	NDWEROH5222013	7350	721.65	733.18	727.82	733.49	0.000437	4.53	1722.5	201.08	0.26
DS	4908	100YR	EX5222013	8100	721.65	735.56	728.06	735.8	0.000244	3.95	2210.51	208.69	0.2
DS	4908	100YR	NDNEROH5222013	8100	721.65	734.7	728.06	734.98	0.000317	4.28	2031.11	205.74	0.23
DS	4908	100YR	NDWEROH5222013	8100	721.65	733.79	728.06	734.12	0.000428	4.68	1844.95	202.75	0.26
DS	4908	500YR	EX5222013	9350	721.65	736.23	728.48	736.51	0.000268	4.3	2421.6	546.62	0.22
DS	4908	500YR	NDNEROH5222013	9350	721.65	735.56	728.48	735.87	0.000325	4.56	2209.24	208.67	0.24
DS	4908	500YR	NDWEROH5222013	9350	721.65	734.86	728.48	735.22	0.000401	4.86	2065.44	206.31	0.26
DS	4866	10YR	EX5222013	5650	722.13	733.94	727.77	734.17	0.000307	3.84	1705.09	265.85	0.22
DS	4866	10YR	NDNEROH5222013	5650	722.13	732.85	727.77	733.14	0.000475	4.39	1417.21	259.76	0.27
DS	4866	10YR	NDWEROH5222013	5650	722.13	731.45	727.77	731.89	0.000894	5.33	1091.45	187.73	0.36
DS	4866	25YR	EX5222013	6600	722.13	734.57	728.23	734.83	0.000333	4.17	1873.19	270.79	0.23
DS	4866	25YR	NDNEROH5222013	6600	722.13	733.53	728.23	733.86	0.000492	4.71	1594.72	263.53	0.28
DS	4866	25YR	NDWEROH5222013	6600	722.13	732.27	728.23	732.75	0.000833	5.55	1269.27	256.61	0.35
DS	4866	50YR	EX5222013	7350	722.13	735.01	728.6	735.3	0.000355	4.43	1992.6	274.39	0.24
DS	4866	50YR	NDNEROH5222013	7350	722.13	734.04	728.6	734.41	0.000501	4.94	1730.12	266.45	0.28
DS	4866	50YR	NDWEROH5222013	7350	722.13	732.92	728.6	733.42	0.000779	5.66	1437.05	260.18	0.35
DS	4866	100YR	EX5222013	8100	722.13	735.43	728.92	735.76	0.000374	4.67	2110.41	278.06	0.25
DS	4866	100YR	NDNEROH5222013	8100	722.13	734.52	728.92	734.92	0.00051	5.15	1860.39	270.4	0.29
DS	4866	100YR	NDWEROH5222013	8100	722.13	733.54	728.92	734.04	0.000738	5.78	1597.32	263.59	0.34
DS	4866	500YR	EX5222013	9350	722.13	736.09	729.4	736.47	0.000404	5.05	2294.83	604.47	0.26
DS	4866	500YR	NDNEROH5222013	9350	722.13	735.38	729.4	735.82	0.000507	5.42	2095.08	277.56	0.29
DS	4866	500YR	NDWEROH5222013	9350	722.13	734.63	729.4	735.15	0.000653	5.87	1890.81	271.32	0.33
DS	4690	10YR	EX5222013	5650	719.89	733.98	725.73	734.1	0.000134	2.83	2263.36	257.1	0.15
DS	4690	10YR	NDNEROH5222013	5650	719.89	732.9	725.73	733.05	0.00019	3.15	1988.49	251.23	0.18
DS	4690	10YR	NDWEROH5222013	5650	719.89	731.53	725.73	731.73	0.000317	3.68	1649.34	239.88	0.22
DS	4690	25YR	EX5222013	6600	719.89	734.61	726.17	734.76	0.000151	3.12	2430.99	270.43	0.16
DS	4690	25YR	NDNEROH5222013	6600	719.89	733.58	726.17	733.76	0.000207	3.43	2162.01	254.94	0.19
DS	4690	25YR	NDWEROH5222013	6600	719.89	732.36	726.17	732.59	0.000315	3.91	1853.52	248.98	0.22
DS	4690	50YR	EX5222013	7350	719.89	735.06	726.63	735.22	0.000164	3.34	2551.69	274.77	0.17

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4690	50YR	NDNEROH5222013	7350	719.89	734.1	726.63	734.3	0.000218	3.64	2294.45	261.4	0.19
DS	4690	50YR	NDWEROH5222013	7350	719.89	733.01	726.63	733.26	0.00031	4.05	2016.69	251.81	0.22
DS	4690	100YR	EX5222013	8100	719.89	735.49	726.91	735.68	0.000177	3.54	2671.11	279.27	0.18
DS	4690	100YR	NDNEROH5222013	8100	719.89	734.59	726.91	734.81	0.000229	3.83	2424.65	270.21	0.2
DS	4690	100YR	NDWEROH5222013	8100	719.89	733.63	726.91	733.89	0.000307	4.2	2172.44	255.13	0.23
DS	4690	500YR	EX5222013	9350	719.89	736.15	727.35	736.38	0.000197	3.87	2859.17	628.03	0.19
DS	4690	500YR	NDNEROH5222013	9350	719.89	735.45	727.35	735.71	0.000238	4.1	2661.2	278.9	0.2
DS	4690	500YR	NDWEROH5222013	9350	719.89	734.72	727.35	735.01	0.000293	4.37	2460.69	271.5	0.22
DS	4682	10YR	EX5222013	5650	719.64	733.94	725.69	734.1	0.00016	3.27	2144.66	232.27	0.17
DS	4682	10YR	NDNEROH5222013	5650	719.64	732.85	725.69	733.04	0.000221	3.61	1898.66	220.03	0.19
DS	4682	10YR	NDWEROH5222013	5650	719.64	731.47	725.69	731.73	0.000352	4.16	1603.26	210.37	0.24
DS	4682	25YR	EX5222013	6600	719.64	734.56	726.08	734.75	0.000183	3.62	2291.44	240.61	0.18
DS	4682	25YR	NDNEROH5222013	6600	719.64	733.52	726.08	733.76	0.000246	3.96	2049.06	227.63	0.21
DS	4682	25YR	NDWEROH5222013	6600	719.64	732.29	726.08	732.58	0.000361	4.46	1776.7	212.75	0.24
DS	4682	50YR	EX5222013	7350	719.64	734.99	726.41	735.22	0.000202	3.89	2396.7	244.47	0.19
DS	4682	50YR	NDNEROH5222013	7350	719.64	734.03	726.41	734.29	0.000263	4.22	2165.46	233.34	0.21
DS	4682	50YR	NDWEROH5222013	7350	719.64	732.93	726.41	733.25	0.000365	4.66	1915.52	220.91	0.25
DS	4682	100YR	EX5222013	8100	719.64	735.41	726.67	735.67	0.00022	4.15	2500.42	247.16	0.2
DS	4682	100YR	NDNEROH5222013	8100	719.64	734.51	726.67	734.8	0.00028	4.47	2278.76	239.81	0.22
DS	4682	100YR	NDWEROH5222013	8100	719.64	733.53	726.67	733.88	0.00037	4.86	2050.69	227.71	0.25
DS	4682	500YR	EX5222013	9350	719.64	736.06	727.23	736.37	0.000248	4.55	2678.88	529.87	0.21
DS	4682	500YR	NDNEROH5222013	9350	719.64	735.35	727.23	735.69	0.000297	4.81	2485.1	246.84	0.23
DS	4682	500YR	NDWEROH5222013	9350	719.64	734.61	727.23	735	0.000362	5.11	2304.06	241.23	0.25
DS	4648			Bridge									
DS	4604	10YR	EX5222013	5650	722.74	733.86	727.9	734.06	0.000275	3.63	1781.17	224.84	0.21
DS	4604	10YR	NDNEROH5222013	5650	722.74	732.73	727.9	732.99	0.000428	4.16	1529.56	219.02	0.26
DS	4604	10YR	NDWEROH5222013	5650	721.47	731.3	727.36	731.64	0.000671	4.79	1293.89	211.11	0.31
DS	4604	25YR	EX5222013	6600	722.74	734.48	728.29	734.71	0.000302	3.98	1923.74	234.63	0.22
DS	4604	25YR	NDNEROH5222013	6600	722.74	733.39	728.29	733.69	0.000447	4.48	1676.83	222.17	0.26
DS	4604	25YR	NDWEROH5222013	6600	721.47	732.13	727.8	732.5	0.000631	4.99	1470.07	216.06	0.31

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4604	50YR	EX5222013	7350	722.74	734.9	728.58	735.17	0.000324	4.24	2024.68	237.84	0.23
DS	4604	50YR	NDNEROH5222013	7350	722.74	733.9	728.58	734.23	0.000459	4.71	1789.2	225.12	0.27
DS	4604	50YR	NDWEROH5222013	7350	721.47	732.78	728.1	733.17	0.000599	5.12	1612.28	219.27	0.31
DS	4604	100YR	EX5222013	8100	722.74	735.32	728.85	735.62	0.000343	4.48	2124.58	240.78	0.24
DS	4604	100YR	NDNEROH5222013	8100	722.74	734.37	728.85	734.74	0.000471	4.93	1899.75	234.24	0.28
DS	4604	100YR	NDWEROH5222013	8100	721.47	733.39	728.38	733.81	0.000576	5.25	1747.59	222.15	0.3
DS	4604	500YR	EX5222013	9350	722.74	735.96	729.32	736.31	0.000374	4.85	2334.2	548.94	0.25
DS	4604	500YR	NDNEROH5222013	9350	722.74	735.22	729.32	735.63	0.000472	5.22	2100.77	240.13	0.28
DS	4604	500YR	NDWEROH5222013	9350	721.47	734.5	728.85	734.93	0.000524	5.4	1999.58	234.7	0.29
DS	4516	10YR	EX5222013	5650	721.86	733.39	728.57	733.92	0.000711	5.91	1089.01	618.34	0.34
DS	4516	10YR	NDNEROH5222013	5650	721.86	732.04	728.57	732.78	0.001202	6.94	881.5	150.8	0.43
DS	4516	10YR	NDWEROH5222013	5650	721.03	729.98	728.36	731.26	0.002915	9.08	642.11	121.34	0.64
DS	4516	25YR	EX5222013	6600	721.86	733.91	729.09	734.55	0.000804	6.51	1179.06	770.99	0.36
DS	4516	25YR	NDNEROH5222013	6600	721.86	732.58	729.09	733.46	0.001321	7.59	958.15	179.74	0.45
DS	4516	25YR	NDWEROH5222013	6600	721.03	730.71	728.9	732.1	0.002747	9.48	727.12	125.92	0.63
DS	4516	50YR	EX5222013	7350	721.86	734.25	729.46	734.98	0.000889	7	1241.73	1113.13	0.38
DS	4516	50YR	NDNEROH5222013	7350	721.86	732.97	729.46	733.96	0.00141	8.07	1018.67	481.77	0.47
DS	4516	50YR	NDWEROH5222013	7350	721.03	731.3	729.3	732.75	0.002604	9.74	799.1	136.78	0.62
DS	4516	100YR	EX5222013	8100	721.86	734.58	729.85	735.41	0.000962	7.43	1305.68	1283.83	0.4
DS	4516	100YR	NDNEROH5222013	8100	721.86	733.34	729.85	734.44	0.001489	8.52	1080.72	604.25	0.49
DS	4516	100YR	NDWEROH5222013	8100	721.03	731.85	729.68	733.38	0.002495	9.98	872.21	147.24	0.62
DS	4516	500YR	EX5222013	9350	721.86	735.08	730.47	736.07	0.001087	8.14	1402.12	1520.8	0.43
DS	4516	500YR	NDNEROH5222013	9350	721.86	734.05	730.47	735.3	0.001541	9.1	1204.89	1012.08	0.5
DS	4516	500YR	NDWEROH5222013	9350	721.03	732.96	730.26	734.51	0.002142	10.07	1036.18	479.75	0.58
DS	4430	10YR	EX5222013	5650	720.86	733.43	727.52	733.83	0.00048	5.14	1248.67	742.87	0.28
DS	4430	10YR	NDNEROH5222013	5650	720.86	732.1	727.52	732.64	0.00077	5.95	1049.26	462.74	0.35
DS	4430	10YR	NDWEROH5222013	5650	720.86	730.02	727.52	730.96	0.001859	7.78	765.05	125.54	0.52
DS	4430	25YR	EX5222013	6600	720.86	733.96	728.07	734.45	0.000553	5.7	1331.45	848.58	0.3
DS	4430	25YR	NDNEROH5222013	6600	720.86	732.65	728.07	733.3	0.000859	6.53	1129.8	590.46	0.37
DS	4430	25YR	NDWEROH5222013	6600	720.86	730.77	728.07	731.8	0.001805	8.2	860.86	132.87	0.52
DS	4430	50YR	EX5222013	7350	720.86	734.3	728.46	734.87	0.000617	6.15	1387.73	1457.25	0.32

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4430	50YR	NDNEROH5222013	7350	720.86	733.05	728.46	733.79	0.000924	6.96	1190.66	673.99	0.39
DS	4430	50YR	NDWEROH5222013	7350	720.86	731.37	728.46	732.47	0.001739	8.45	944.23	141.8	0.51
DS	4430	100YR	EX5222013	8100	720.86	734.64	728.84	735.29	0.000675	6.56	1444.21	1490.5	0.34
DS	4430	100YR	NDNEROH5222013	8100	720.86	733.44	728.84	734.26	0.000985	7.37	1249.65	744.27	0.4
DS	4430	100YR	NDWEROH5222013	8100	720.86	731.94	728.84	733.09	0.001686	8.69	1025.18	193.81	0.51
DS	4430	500YR	EX5222013	9350	720.86	735.15	729.41	735.93	0.000775	7.23	1529.75	1540.35	0.37
DS	4430	500YR	NDNEROH5222013	9350	720.86	734.16	729.41	735.1	0.001044	7.93	1363.97	1443.36	0.42
DS	4430	500YR	NDWEROH5222013	9350	720.86	733.07	729.41	734.25	0.001487	8.84	1193.06	676.8	0.49
DS	4229	10YR	EX5222013	5650	723.87	733.22	729.28	733.7	0.000815	5.59	1095.18	750.3	0.35
DS	4229	10YR	NDNEROH5222013	5650	723.87	731.64	729.28	732.4	0.001728	7.02	837.69	145.19	0.49
DS	4229	10YR	NDWEROH5222013	5650	720.48	729.8	727.18	730.55	0.001656	6.94	823.45	137.65	0.48
DS	4229	25YR	EX5222013	6600	723.87	733.73	729.71	734.3	0.0009	6.12	1191.73	898.49	0.37
DS	4229	25YR	NDNEROH5222013	6600	723.87	732.15	729.71	733.03	0.001821	7.58	912.77	508.92	0.51
DS	4229	25YR	NDWEROH5222013	6600	720.48	730.6	727.7	731.4	0.001529	7.21	934.95	142	0.47
DS	4229	50YR	EX5222013	7350	723.87	734.05	730.06	734.71	0.000985	6.57	1267.06	1474.81	0.39
DS	4229	50YR	NDNEROH5222013	7350	723.87	732.52	730.06	733.51	0.001883	7.99	970.69	571.23	0.52
DS	4229	50YR	NDWEROH5222013	7350	720.48	731.23	728.07	732.07	0.001426	7.36	1026.24	143.55	0.46
DS	4229	100YR	EX5222013	8100	723.87	734.38	730.38	735.11	0.001043	6.93	1356.19	1517.87	0.41
DS	4229	100YR	NDNEROH5222013	8100	723.87	732.87	730.38	733.96	0.001959	8.41	1030.71	674.85	0.54
DS	4229	100YR	NDWEROH5222013	8100	720.48	731.83	728.4	732.7	0.001356	7.53	1112.05	147.52	0.46
DS	4229	500YR	EX5222013	9350	723.87	734.88	730.89	735.73	0.001141	7.51	1491.48	1575.58	0.43
DS	4229	500YR	NDNEROH5222013	9350	723.87	733.63	730.89	734.81	0.001872	8.77	1173.15	841.68	0.54
DS	4229	500YR	NDWEROH5222013	9350	720.48	733.01	728.91	733.9	0.001168	7.62	1302.03	703.66	0.43
DS	4020	10YR	EX5222013	5650	724.3	733.06	729.84	733.51	0.000952	5.4	1091.27	895.05	0.37
DS	4020	10YR	NDNEROH5222013	5650	724.3	730.82	729.84	731.85	0.00378	8.19	697.68	163.66	0.69
DS	4020	10YR	NDWEROH5222013	5650	720	729.35	727.5	730.13	0.002356	7.1	797.19	158.82	0.55
DS	4020	25YR	EX5222013	6600	724.3	733.56	730.22	734.09	0.001016	5.86	1197.44	1076.56	0.39
DS	4020	25YR	NDNEROH5222013	6600	724.3	731.39	730.22	732.5	0.003424	8.46	793.17	169	0.67
DS	4020	25YR	NDWEROH5222013	6600	720	730.27	727.98	731.04	0.001849	7.02	944.6	161.86	0.5
DS	4020	50YR	EX5222013	7350	724.3	734.07	730.52	734.45	0.000763	5.31	2874.45	1506.85	0.34
DS	4020	50YR	NDNEROH5222013	7350	724.3	731.82	730.52	732.98	0.003221	8.66	866.54	173.62	0.66

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	4020	50YR	NDWEROH5222013	7350	720	730.98	728.32	731.74	0.001585	7	1059.32	164.33	0.48
DS	4020	100YR	EX5222013	8100	724.3	734.48	730.78	734.83	0.000693	5.25	3503.49	1570.83	0.33
DS	4020	100YR	NDNEROH5222013	8100	724.3	732.22	730.78	733.44	0.003078	8.88	937.09	797.25	0.65
DS	4020	100YR	NDWEROH5222013	8100	720	731.61	728.63	732.38	0.001422	7.04	1166.27	171.41	0.46
DS	4020	500YR	EX5222013	9350	724.3	735.1	731.21	735.41	0.000607	5.15	4508.3	1663.1	0.31
DS	4020	500YR	NDNEROH5222013	9350	724.3	733.17	731.21	734.36	0.002464	8.79	1112.68	910.13	0.6
DS	4020	500YR	NDWEROH5222013	9350	720	732.88	729.08	733.62	0.001112	6.92	1392.45	872.59	0.42
DS	3853	10YR	EX5222013	5650	718.53	733.06	727.5	733.36	0.000421	4.49	1406.26	1016.08	0.26
DS	3853	10YR	NDNEROH5222013	5650	718.53	730.87	727.5	731.41	0.00104	5.93	1025.34	167.46	0.39
DS	3853	10YR	NDWEROH5222013	5650	719.84	729.16	726.07	729.8	0.001361	6.47	901.41	155.3	0.44
DS	3853	25YR	EX5222013	6600	718.53	733.56	727.94	733.93	0.000481	4.97	1495.15	1089.58	0.28
DS	3853	25YR	NDNEROH5222013	6600	718.53	731.43	727.94	732.06	0.0011	6.41	1120.43	171.43	0.4
DS	3853	25YR	NDWEROH5222013	6600	719.84	730.09	726.59	730.77	0.001194	6.61	1050.07	161.9	0.42
DS	3853	50YR	EX5222013	7350	718.53	733.91	728.29	734.34	0.000528	5.33	1559.08	1118.76	0.29
DS	3853	50YR	NDNEROH5222013	7350	718.53	731.85	728.29	732.54	0.001142	6.76	1192.76	174.34	0.41
DS	3853	50YR	NDWEROH5222013	7350	719.84	730.81	726.98	731.5	0.001094	6.71	1167.48	167.02	0.41
DS	3853	100YR	EX5222013	8100	718.53	734.22	728.6	734.71	0.000581	5.71	1615.6	1475.46	0.31
DS	3853	100YR	NDNEROH5222013	8100	718.53	732.24	728.6	733	0.001181	7.09	1261.65	815.71	0.42
DS	3853	100YR	NDWEROH5222013	8100	719.84	731.45	727.38	732.17	0.001033	6.85	1276	171.56	0.4
DS	3853	500YR	EX5222013	9350	718.53	734.67	729.12	735.28	0.000676	6.33	1704.44	1559.66	0.34
DS	3853	500YR	NDNEROH5222013	9350	718.53	733.17	729.12	733.98	0.001106	7.35	1426.31	1033.12	0.42
DS	3853	500YR	NDWEROH5222013	9350	719.84	732.73	727.9	733.45	0.000872	6.87	1500.24	962.98	0.38
DS	3673	10YR	EX5222013	5650	721.39	733.01	727.31	733.28	0.000374	4.25	1459.69	1052.15	0.24
DS	3673	10YR	NDNEROH5222013	5650	721.39	730.72	727.31	731.21	0.000964	5.67	1059.09	169.41	0.37
DS	3673	10YR	NDWEROH5222013	5650	719.56	729.1	725.09	729.56	0.000818	5.42	1070.67	160.43	0.35
DS	3673	25YR	EX5222013	6600	721.39	733.5	727.73	733.84	0.000429	4.71	1548.54	1089.22	0.26
DS	3673	25YR	NDNEROH5222013	6600	721.39	731.28	727.73	731.85	0.00102	6.13	1154.02	172.49	0.39
DS	3673	25YR	NDWEROH5222013	6600	719.56	730.06	725.54	730.54	0.000748	5.6	1226.12	165.73	0.34
DS	3673	50YR	EX5222013	7350	721.39	733.85	728.04	734.24	0.000473	5.06	1612.63	1115.6	0.28
DS	3673	50YR	NDNEROH5222013	7350	721.39	731.69	728.04	732.33	0.001059	6.47	1226	174.55	0.4
DS	3673	50YR	NDWEROH5222013	7350	719.56	730.78	725.89	731.29	0.000703	5.74	1347.41	169.74	0.33

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	3673	100YR	EX5222013	8100	721.39	734.16	728.36	734.6	0.00052	5.41	1668.92	1367.06	0.29
DS	3673	100YR	NDNEROH5222013	8100	721.39	732.08	728.36	732.78	0.001096	6.79	1294.24	929.52	0.41
DS	3673	100YR	NDWEROH5222013	8100	719.56	731.43	726.21	731.96	0.000679	5.9	1458.5	173.3	0.33
DS	3673	500YR	EX5222013	9350	721.39	734.61	728.84	735.14	0.000601	5.98	1752.55	1670.55	0.32
DS	3673	500YR	NDNEROH5222013	9350	721.39	733.03	728.84	733.77	0.001018	7.02	1462.91	1053.61	0.4
DS	3673	500YR	NDWEROH5222013	9350	719.56	732.72	726.76	733.27	0.000595	5.99	1686.02	1030.33	0.32
DS	3516	10YR	EX5222013	5650	721.61	732.94	727.22	733.22	0.000381	4.3	1469.15	1052.87	0.25
DS	3516	10YR	NDNEROH5222013	5650	721.61	730.53	727.22	731.05	0.001038	5.85	1018.25	166.79	0.39
DS	3516	10YR	NDWEROH5222013	5650	719.68	728.95	724.96	729.43	0.000849	5.52	1042.36	154.07	0.35
DS	3516	25YR	EX5222013	6600	721.61	733.42	727.63	733.77	0.000437	4.76	1575.07	1111.71	0.27
DS	3516	25YR	NDNEROH5222013	6600	721.61	731.06	727.63	731.68	0.001107	6.34	1110.05	175.48	0.4
DS	3516	25YR	NDWEROH5222013	6600	719.68	729.92	725.43	730.42	0.000774	5.71	1194.89	162.04	0.34
DS	3516	50YR	EX5222013	7350	721.61	733.77	727.96	734.16	0.000483	5.12	1653.73	1153.09	0.28
DS	3516	50YR	NDNEROH5222013	7350	721.61	731.47	727.96	732.15	0.001152	6.69	1181.29	178.73	0.42
DS	3516	50YR	NDWEROH5222013	7350	719.68	730.65	725.77	731.17	0.000728	5.84	1315.24	167.72	0.34
DS	3516	100YR	EX5222013	8100	721.61	734.06	728.27	734.51	0.00053	5.47	1723.6	1747.01	0.3
DS	3516	100YR	NDNEROH5222013	8100	721.61	731.84	728.27	732.6	0.001196	7.03	1249.16	181.82	0.43
DS	3516	100YR	NDWEROH5222013	8100	719.68	731.3	726.12	731.85	0.000702	6	1428.36	177.35	0.34
DS	3516	500YR	EX5222013	9350	721.61	734.5	728.76	735.05	0.000616	6.06	1828.67	1820.33	0.32
DS	3516	500YR	NDNEROH5222013	9350	721.61	732.81	728.76	733.6	0.001093	7.23	1441.47	1037.21	0.42
DS	3516	500YR	NDWEROH5222013	9350	719.68	732.61	726.6	733.17	0.000611	6.08	1675.49	1012.6	0.32
DS	3461	10YR	EX5222013	5650	725.05	732.73	728.92	733.18	0.000806	5.4	1128.94	1015.3	0.35
DS	3461	10YR	NDNEROH5222013	5650	725.05	728.92	728.92	730.79	0.008432	10.98	518.61	143.31	0.99
DS	3461	10YR	NDWEROH5222013	5650	719.32	728.8	725.53	729.36	0.001154	6.03	940.42	142.31	0.4
DS	3461	25YR	EX5222013	6600	725.05	733.18	729.34	733.71	0.000901	5.93	1226.37	1078.29	0.37
DS	3461	25YR	NDNEROH5222013	6600	725.05	729.34	729.34	731.41	0.00809	11.53	579.37	146.26	0.99
DS	3461	25YR	NDWEROH5222013	6600	719.32	729.77	725.99	730.36	0.00101	6.16	1082.73	148.07	0.39
DS	3461	50YR	EX5222013	7350	725.05	733.49	729.66	734.1	0.000981	6.35	1297.38	1116.74	0.39
DS	3461	50YR	NDNEROH5222013	7350	725.05	729.66	729.66	731.87	0.007881	11.94	625.42	147.58	0.99
DS	3461	50YR	NDWEROH5222013	7350	719.32	730.51	726.33	731.12	0.000927	6.27	1193.01	151.92	0.38
DS	3461	100YR	EX5222013	8100	725.05	733.76	729.95	734.45	0.001066	6.76	1359.38	1145.75	0.41

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	3461	100YR	NDNEROH5222013	8100	725.05	730.05	729.95	732.31	0.007212	12.08	684.28	149.25	0.96
DS	3461	100YR	NDWEROH5222013	8100	719.32	731.16	726.66	731.8	0.000881	6.41	1294.27	158.29	0.37
DS	3461	500YR	EX5222013	9350	725.05	734.11	730.43	734.97	0.001246	7.5	1452.51	1842.73	0.44
DS	3461	500YR	NDNEROH5222013	9350	725.05	731.82	730.43	733.43	0.003408	10.2	960.58	164.05	0.7
DS	3461	500YR	NDWEROH5222013	9350	719.32	732.48	727.17	733.13	0.000747	6.46	1518.01	964.32	0.35
DS	3419			Inl Struct									
DS	3263	10YR	EX5222013	5650	717.78	729.05	722.02	729.25	0.000223	3.54	1640.35	163.51	0.19
DS	3263	10YR	NDNEROH5222013	5650	717.78	728.92	722.02	729.12	0.000232	3.59	1619.27	163.17	0.2
DS	3263	10YR	NDWEROH5222013	5650	718.89	728.94	722.56	729.16	0.000277	3.78	1538.59	163.21	0.21
DS	3263	25YR	EX5222013	6600	717.78	730.05	722.41	730.27	0.000225	3.78	1806.62	169.25	0.2
DS	3263	25YR	NDNEROH5222013	6600	717.78	729.91	722.41	730.13	0.000234	3.83	1782.15	168.31	0.2
DS	3263	25YR	NDWEROH5222013	6600	718.89	729.92	722.95	730.17	0.000276	4.02	1700.54	168.37	0.21
DS	3263	50YR	EX5222013	7350	717.78	730.81	722.69	731.05	0.000225	3.95	1936.23	174.13	0.2
DS	3263	50YR	NDNEROH5222013	7350	717.78	730.65	722.69	730.9	0.000235	4	1909	173.18	0.2
DS	3263	50YR	NDWEROH5222013	7350	718.89	730.66	723.25	730.93	0.000274	4.18	1826.77	173.22	0.22
DS	3263	100YR	EX5222013	8100	717.78	731.48	722.98	731.74	0.000229	4.12	2054.76	178.16	0.2
DS	3263	100YR	NDNEROH5222013	8100	717.78	731.31	722.98	731.58	0.000239	4.18	2024.54	177.14	0.21
DS	3263	100YR	NDWEROH5222013	8100	718.89	731.31	723.53	731.61	0.000277	4.36	1941.94	177.16	0.22
DS	3263	500YR	EX5222013	9350	717.78	732.8	723.43	733.09	0.00022	4.31	2364.01	1077.63	0.2
DS	3263	500YR	NDNEROH5222013	9350	717.78	732.62	723.43	732.92	0.00023	4.37	2310.2	1037.15	0.2
DS	3263	500YR	NDWEROH5222013	9350	718.89	732.63	723.98	732.95	0.000263	4.55	2229.24	1038.9	0.22
DS	3107	10YR	EX5222013	5650	717.32	728.17	724.1	728.99	0.001102	7.34	840.29	107.66	0.42
DS	3107	10YR	NDNEROH5222013	5650	717.32	728.17	724.1	728.99	0.001102	7.34	840.29	107.66	0.42
DS	3107	10YR	NDWEROH5222013	5650	718.17	728.1	724.5	729.01	0.001315	7.74	798.4	107.15	0.46
DS	3107	25YR	EX5222013	6600	717.32	729.07	724.66	730	0.001101	7.8	940.29	113.95	0.43
DS	3107	25YR	NDNEROH5222013	6600	717.32	729.07	724.66	730	0.001101	7.8	940.29	113.95	0.43
DS	3107	25YR	NDWEROH5222013	6600	718.17	728.99	725.09	730.01	0.001296	8.19	897.17	113.39	0.46
DS	3107	50YR	EX5222013	7350	717.32	729.76	725.12	730.75	0.001097	8.12	1019.76	118.67	0.43
DS	3107	50YR	NDNEROH5222013	7350	717.32	729.76	725.12	730.75	0.001097	8.12	1019.76	118.67	0.43
DS	3107	50YR	NDWEROH5222013	7350	718.17	729.67	725.53	730.77	0.001279	8.5	975.79	118.08	0.46

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	3107	100YR	EX5222013	8100	717.32	730.35	725.55	731.43	0.001113	8.47	1090.95	122.45	0.44
DS	3107	100YR	NDNEROH5222013	8100	717.32	730.35	725.55	731.43	0.001113	8.47	1090.95	122.45	0.44
DS	3107	100YR	NDWEROH5222013	8100	718.17	730.26	725.95	731.44	0.001288	8.85	1046.15	121.92	0.47
DS	3107	500YR	EX5222013	9350	717.32	731.62	726.2	732.77	0.001034	8.75	1251.55	130.19	0.43
DS	3107	500YR	NDNEROH5222013	9350	717.32	731.62	726.2	732.77	0.001034	8.75	1251.55	130.19	0.43
DS	3107	500YR	NDWEROH5222013	9350	718.17	731.55	726.63	732.78	0.001173	9.08	1208.12	129.75	0.45
DS	3001	10YR	EX5222013	5650	717.1	728.08	723.87	728.87	0.001039	7.19	862.35	104.44	0.41
DS	3001	10YR	NDNEROH5222013	5650	717.1	728.08	723.87	728.87	0.001039	7.19	862.35	104.44	0.41
DS	3001	10YR	NDWEROH5222013	5650	718	727.99	724.31	728.86	0.001258	7.61	816.14	103.57	0.45
DS	3001	25YR	EX5222013	6600	717.1	728.99	724.45	729.87	0.001043	7.65	960.86	114.67	0.42
DS	3001	25YR	NDNEROH5222013	6600	717.1	728.99	724.45	729.87	0.001043	7.65	960.86	114.67	0.42
DS	3001	25YR	NDWEROH5222013	6600	718	728.88	724.89	729.87	0.001243	8.06	913.14	113.22	0.45
DS	3001	50YR	EX5222013	7350	717.1	729.67	724.89	730.63	0.001044	7.98	1040.64	119.04	0.42
DS	3001	50YR	NDNEROH5222013	7350	717.1	729.67	724.89	730.63	0.001044	7.98	1040.64	119.04	0.42
DS	3001	50YR	NDWEROH5222013	7350	718	729.56	725.33	730.62	0.001232	8.39	992	118.38	0.45
DS	3001	100YR	EX5222013	8100	717.1	730.26	725.32	731.3	0.001062	8.33	1111.91	122.5	0.43
DS	3001	100YR	NDNEROH5222013	8100	717.1	730.26	725.32	731.3	0.001062	8.33	1111.91	122.5	0.43
DS	3001	100YR	NDWEROH5222013	8100	718	730.15	725.74	731.29	0.001243	8.73	1062.48	121.9	0.46
DS	3001	500YR	EX5222013	9350	717.1	731.54	726	732.65	0.000988	8.61	1273.35	390.6	0.42
DS	3001	500YR	NDNEROH5222013	9350	717.1	731.54	726	732.65	0.000988	8.61	1273.35	390.6	0.42
DS	3001	500YR	NDWEROH5222013	9350	718	731.45	726.41	732.65	0.001131	8.96	1225.78	376.51	0.45
DS	2984	10YR	EX5222013	5650	717.1	728.12	723.83	728.83	0.000997	6.78	833.79	109.46	0.39
DS	2984	10YR	NDNEROH5222013	5650	717.1	728.12	723.83	728.83	0.000997	6.78	833.79	109.46	0.39
DS	2984	10YR	NDWEROH5222013	5650	718.02	728.02	724.23	728.82	0.0012	7.17	788.43	108.92	0.43
DS	2984	25YR	EX5222013	6600	717.1	729.02	724.35	729.83	0.000997	7.21	915.5	114.67	0.4
DS	2984	25YR	NDNEROH5222013	6600	717.1	729.02	724.35	729.83	0.000997	7.21	915.5	114.67	0.4
DS	2984	25YR	NDWEROH5222013	6600	718.02	728.92	724.78	729.82	0.001181	7.59	869.74	114.08	0.43
DS	2984	50YR	EX5222013	7350	717.1	729.71	724.78	730.59	0.000994	7.52	977.23	118.72	0.4
DS	2984	50YR	NDNEROH5222013	7350	717.1	729.71	724.78	730.59	0.000994	7.52	977.23	118.72	0.4
DS	2984	50YR	NDWEROH5222013	7350	718.02	729.61	725.18	730.57	0.001166	7.89	931.21	118.11	0.43
DS	2984	100YR	EX5222013	8100	717.1	730.3	725.17	731.26	0.001012	7.86	1030.36	122.05	0.41

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	2984	100YR	NDNEROH5222013	8100	717.1	730.3	725.17	731.26	0.001012	7.86	1030.36	122.05	0.41
DS	2984	100YR	NDWEROH5222013	8100	718.02	730.19	725.57	731.25	0.001178	8.23	984	121.47	0.44
DS	2984	500YR	EX5222013	9350	717.1	731.71	725.81	732.55	0.00099	7.4	1469.76	439.21	0.4
DS	2984	500YR	NDNEROH5222013	9350	717.1	731.71	725.81	732.55	0.00099	7.4	1469.76	439.21	0.4
DS	2984	500YR	NDWEROH5222013	9350	718.02	731.63	726.22	732.54	0.001117	7.68	1401.52	427.38	0.42
DS	2946			Bridge									
DS	2903	10YR	EX5222013	5650	717.8	727.66	724.31	728.4	0.001531	6.93	815.05	114.39	0.46
DS	2903	10YR	NDNEROH5222013	5650	717.8	727.66	724.31	728.4	0.001531	6.93	815.05	114.39	0.46
DS	2903	10YR	NDWEROH5222013	5650	717.8	727.66	724.31	728.4	0.001531	6.93	815.05	114.39	0.46
DS	2903	25YR	EX5222013	6600	717.8	728.55	724.84	729.35	0.001486	7.18	919.01	119.48	0.46
DS	2903	25YR	NDNEROH5222013	6600	717.8	728.55	724.84	729.35	0.001486	7.18	919.01	119.48	0.46
DS	2903	25YR	NDWEROH5222013	6600	717.8	728.55	724.84	729.35	0.001486	7.18	919.01	119.48	0.46
DS	2903	50YR	EX5222013	7350	717.8	729.22	725.24	730.06	0.00145	7.34	1001.04	123.46	0.45
DS	2903	50YR	NDNEROH5222013	7350	717.8	729.22	725.24	730.06	0.00145	7.34	1001.04	123.46	0.45
DS	2903	50YR	NDWEROH5222013	7350	717.8	729.22	725.24	730.06	0.00145	7.34	1001.04	123.46	0.45
DS	2903	100YR	EX5222013	8100	717.8	729.87	725.6	730.74	0.001411	7.48	1083.08	127.29	0.45
DS	2903	100YR	NDNEROH5222013	8100	717.8	729.87	725.6	730.74	0.001411	7.48	1083.08	127.29	0.45
DS	2903	100YR	NDWEROH5222013	8100	717.8	729.87	725.6	730.74	0.001411	7.48	1083.08	127.29	0.45
DS	2903	500YR	EX5222013	9350	717.8	730.97	726.28	731.85	0.0013	7.55	1430.54	416.35	0.44
DS	2903	500YR	NDNEROH5222013	9350	717.8	730.97	726.28	731.85	0.0013	7.55	1430.54	416.35	0.44
DS	2903	500YR	NDWEROH5222013	9350	717.8	730.97	726.28	731.85	0.0013	7.55	1430.54	416.35	0.44
DS	2872	10YR	EX5222013	5650	717.8	726.97	724.48	728.2	0.002031	9.06	728.18	104.53	0.56
DS	2872	10YR	NDNEROH5222013	5650	717.8	726.97	724.48	728.2	0.002031	9.06	728.18	104.53	0.56
DS	2872	10YR	NDWEROH5222013	5650	717.8	726.97	724.48	728.2	0.002031	9.06	728.18	104.53	0.56
DS	2872	25YR	EX5222013	6600	717.8	727.72	725.06	729.11	0.002062	9.67	807.1	107.94	0.57
DS	2872	25YR	NDNEROH5222013	6600	717.8	727.72	725.06	729.11	0.002062	9.67	807.1	107.94	0.57
DS	2872	25YR	NDWEROH5222013	6600	717.8	727.72	725.06	729.11	0.002062	9.67	807.1	107.94	0.57
DS	2872	50YR	EX5222013	7350	717.8	728.28	725.52	729.8	0.00208	10.12	868.08	110.96	0.58
DS	2872	50YR	NDNEROH5222013	7350	717.8	728.28	725.52	729.8	0.00208	10.12	868.08	110.96	0.58
DS	2872	50YR	NDWEROH5222013	7350	717.8	728.28	725.52	729.8	0.00208	10.12	868.08	110.96	0.58

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	2872	100YR	EX5222013	8100	717.8	728.81	725.94	730.46	0.002093	10.53	928.57	114.3	0.59
DS	2872	100YR	NDNEROH5222013	8100	717.8	728.81	725.94	730.46	0.002093	10.53	928.57	114.3	0.59
DS	2872	100YR	NDWEROH5222013	8100	717.8	728.81	725.94	730.46	0.002093	10.53	928.57	114.3	0.59
DS	2872	500YR	EX5222013	9350	717.8	729.68	726.59	731.51	0.002099	11.14	1029.82	119.68	0.59
DS	2872	500YR	NDNEROH5222013	9350	717.8	729.68	726.59	731.51	0.002099	11.14	1029.82	119.68	0.59
DS	2872	500YR	NDWEROH5222013	9350	717.8	729.68	726.59	731.51	0.002099	11.14	1029.82	119.68	0.59
DS	2495	10YR	EX5222013	5650	716.84	725.28	724.01	727.14	0.003688	11.03	539.14	83.82	0.73
DS	2495	10YR	NDNEROH5222013	5650	716.84	725.28	724.01	727.14	0.003688	11.03	539.14	83.82	0.73
DS	2495	10YR	NDWEROH5222013	5650	716.84	725.28	724.01	727.14	0.003688	11.03	539.14	83.82	0.73
DS	2495	25YR	EX5222013	6600	716.84	725.85	724.65	728.01	0.003872	11.9	587.06	85.05	0.76
DS	2495	25YR	NDNEROH5222013	6600	716.84	725.85	724.65	728.01	0.003872	11.9	587.06	85.05	0.76
DS	2495	25YR	NDWEROH5222013	6600	716.84	725.85	724.65	728.01	0.003872	11.9	587.06	85.05	0.76
DS	2495	50YR	EX5222013	7350	716.84	726.26	725.11	728.67	0.004012	12.55	622.45	85.64	0.78
DS	2495	50YR	NDNEROH5222013	7350	716.84	726.26	725.11	728.67	0.004012	12.55	622.45	85.64	0.78
DS	2495	50YR	NDWEROH5222013	7350	716.84	726.26	725.11	728.67	0.004012	12.55	622.45	85.64	0.78
DS	2495	100YR	EX5222013	8100	716.84	726.64	725.57	729.3	0.004162	13.19	655.22	86.02	0.8
DS	2495	100YR	NDNEROH5222013	8100	716.84	726.64	725.57	729.3	0.004162	13.19	655.22	86.02	0.8
DS	2495	100YR	NDWEROH5222013	8100	716.84	726.64	725.57	729.3	0.004162	13.19	655.22	86.02	0.8
DS	2495	500YR	EX5222013	9350	716.84	727.25	726.31	730.31	0.004386	14.18	707.24	86.63	0.83
DS	2495	500YR	NDNEROH5222013	9350	716.84	727.25	726.31	730.31	0.004386	14.18	707.24	86.63	0.83
DS	2495	500YR	NDWEROH5222013	9350	716.84	727.25	726.31	730.31	0.004386	14.18	707.24	86.63	0.83
DS	2190	10YR	EX5222013	5650	716.35	725.52	722.24	726.19	0.001197	6.63	892.18	127.79	0.42
DS	2190	10YR	NDNEROH5222013	5650	716.35	725.52	722.24	726.19	0.001197	6.63	892.18	127.79	0.42
DS	2190	10YR	NDWEROH5222013	5650	716.35	725.52	722.24	726.19	0.001197	6.63	892.18	127.79	0.42
DS	2190	25YR	EX5222013	6600	716.35	726.22	722.73	726.99	0.001212	7.07	981.61	187.02	0.43
DS	2190	25YR	NDNEROH5222013	6600	716.35	726.22	722.73	726.99	0.001212	7.07	981.61	187.02	0.43
DS	2190	25YR	NDWEROH5222013	6600	716.35	726.22	722.73	726.99	0.001212	7.07	981.61	187.02	0.43
DS	2190	50YR	EX5222013	7350	716.35	726.74	723.09	727.58	0.001223	7.4	1048.86	188.74	0.44
DS	2190	50YR	NDNEROH5222013	7350	716.35	726.74	723.09	727.58	0.001223	7.4	1048.86	188.74	0.44
DS	2190	50YR	NDWEROH5222013	7350	716.35	726.74	723.09	727.58	0.001223	7.4	1048.86	188.74	0.44
DS	2190	100YR	EX5222013	8100	716.35	727.24	723.42	728.14	0.001235	7.71	1112.84	190.35	0.44

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	2190	100YR	NDNEROH5222013	8100	716.35	727.24	723.42	728.14	0.001235	7.71	1112.84	190.35	0.44
DS	2190	100YR	NDWEROH5222013	8100	716.35	727.24	723.42	728.14	0.001235	7.71	1112.84	190.35	0.44
DS	2190	500YR	EX5222013	9350	716.35	728.03	723.98	729.05	0.001246	8.18	1216.85	194.09	0.45
DS	2190	500YR	NDNEROH5222013	9350	716.35	728.03	723.98	729.05	0.001246	8.18	1216.85	194.09	0.45
DS	2190	500YR	NDWEROH5222013	9350	716.35	728.03	723.98	729.05	0.001246	8.18	1216.85	194.09	0.45
DS	1899	10YR	EX5222013	5650	715.9	725.18	721.8	725.85	0.001165	6.6	883.12	120.67	0.42
DS	1899	10YR	NDNEROH5222013	5650	715.9	725.18	721.8	725.85	0.001165	6.6	883.12	120.67	0.42
DS	1899	10YR	NDWEROH5222013	5650	715.9	725.18	721.8	725.85	0.001165	6.6	883.12	120.67	0.42
DS	1899	25YR	EX5222013	6600	715.9	725.86	722.26	726.63	0.001196	7.08	966.06	121.85	0.43
DS	1899	25YR	NDNEROH5222013	6600	715.9	725.86	722.26	726.63	0.001196	7.08	966.06	121.85	0.43
DS	1899	25YR	NDWEROH5222013	6600	715.9	725.86	722.26	726.63	0.001196	7.08	966.06	121.85	0.43
DS	1899	50YR	EX5222013	7350	715.9	726.37	722.62	727.22	0.001217	7.43	1028.32	122.98	0.44
DS	1899	50YR	NDNEROH5222013	7350	715.9	726.37	722.62	727.22	0.001217	7.43	1028.32	122.98	0.44
DS	1899	50YR	NDWEROH5222013	7350	715.9	726.37	722.62	727.22	0.001217	7.43	1028.32	122.98	0.44
DS	1899	100YR	EX5222013	8100	715.9	726.85	722.98	727.78	0.00124	7.76	1087.56	124.14	0.45
DS	1899	100YR	NDNEROH5222013	8100	715.9	726.85	722.98	727.78	0.00124	7.76	1087.56	124.14	0.45
DS	1899	100YR	NDWEROH5222013	8100	715.9	726.85	722.98	727.78	0.00124	7.76	1087.56	124.14	0.45
DS	1899	500YR	EX5222013	9350	715.9	727.63	723.53	728.68	0.001266	8.27	1184.47	126.04	0.46
DS	1899	500YR	NDNEROH5222013	9350	715.9	727.63	723.53	728.68	0.001266	8.27	1184.47	126.04	0.46
DS	1899	500YR	NDWEROH5222013	9350	715.9	727.63	723.53	728.68	0.001266	8.27	1184.47	126.04	0.46
DS	1752	10YR	EX5222013	5650	715.8	725.02	721.7	725.68	0.00117	6.58	913.21	132.89	0.42
DS	1752	10YR	NDNEROH5222013	5650	715.8	725.02	721.7	725.68	0.00117	6.58	913.21	132.89	0.42
DS	1752	10YR	NDWEROH5222013	5650	715.8	725.02	721.7	725.68	0.00117	6.58	913.21	132.89	0.42
DS	1752	25YR	EX5222013	6600	715.8	725.7	722.17	726.45	0.001194	7.04	1005	135.46	0.43
DS	1752	25YR	NDNEROH5222013	6600	715.8	725.7	722.17	726.45	0.001194	7.04	1005	135.46	0.43
DS	1752	25YR	NDWEROH5222013	6600	715.8	725.7	722.17	726.45	0.001194	7.04	1005	135.46	0.43
DS	1752	50YR	EX5222013	7350	715.8	726.21	722.53	727.03	0.00121	7.37	1074.55	137.32	0.44
DS	1752	50YR	NDNEROH5222013	7350	715.8	726.21	722.53	727.03	0.00121	7.37	1074.55	137.32	0.44
DS	1752	50YR	NDWEROH5222013	7350	715.8	726.21	722.53	727.03	0.00121	7.37	1074.55	137.32	0.44
DS	1752	100YR	EX5222013	8100	715.8	726.69	722.85	727.59	0.001227	7.69	1141.08	139.05	0.44
DS	1752	100YR	NDNEROH5222013	8100	715.8	726.69	722.85	727.59	0.001227	7.69	1141.08	139.05	0.44

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	1752	100YR	NDWEROH5222013	8100	715.8	726.69	722.85	727.59	0.001227	7.69	1141.08	139.05	0.44
DS	1752	500YR	EX5222013	9350	715.8	727.47	723.42	728.48	0.001244	8.16	1250.58	141.85	0.45
DS	1752	500YR	NDNEROH5222013	9350	715.8	727.47	723.42	728.48	0.001244	8.16	1250.58	141.85	0.45
DS	1752	500YR	NDWEROH5222013	9350	715.8	727.47	723.42	728.48	0.001244	8.16	1250.58	141.85	0.45
DS	1728	10YR	EX5222013	5650	715.8	725.08	721.27	725.61	0.00107	5.86	964.47	137.41	0.39
DS	1728	10YR	NDNEROH5222013	5650	715.8	725.08	721.27	725.61	0.00107	5.86	964.47	137.41	0.39
DS	1728	10YR	NDWEROH5222013	5650	715.8	725.08	721.27	725.61	0.00107	5.86	964.47	137.41	0.39
DS	1728	25YR	EX5222013	6600	715.8	725.78	721.74	726.38	0.001103	6.21	1062.44	141.62	0.4
DS	1728	25YR	NDNEROH5222013	6600	715.8	725.78	721.74	726.38	0.001103	6.21	1062.44	141.62	0.4
DS	1728	25YR	NDWEROH5222013	6600	715.8	725.78	721.74	726.38	0.001103	6.21	1062.44	141.62	0.4
DS	1728	50YR	EX5222013	7350	715.8	726.31	722.13	726.95	0.001114	6.46	1137.5	143.75	0.4
DS	1728	50YR	NDNEROH5222013	7350	715.8	726.31	722.13	726.95	0.001114	6.46	1137.5	143.75	0.4
DS	1728	50YR	NDWEROH5222013	7350	715.8	726.31	722.13	726.95	0.001114	6.46	1137.5	143.75	0.4
DS	1728	100YR	EX5222013	8100	715.8	726.8	722.5	727.5	0.00112	6.7	1209.3	145.07	0.41
DS	1728	100YR	NDNEROH5222013	8100	715.8	726.8	722.5	727.5	0.00112	6.7	1209.3	145.07	0.41
DS	1728	100YR	NDWEROH5222013	8100	715.8	726.8	722.5	727.5	0.00112	6.7	1209.3	145.07	0.41
DS	1728	500YR	EX5222013	9350	715.8	727.61	723.03	728.38	0.001121	7.05	1327.05	147.21	0.41
DS	1728	500YR	NDNEROH5222013	9350	715.8	727.61	723.03	728.38	0.001121	7.05	1327.05	147.21	0.41
DS	1728	500YR	NDWEROH5222013	9350	715.8	727.61	723.03	728.38	0.001121	7.05	1327.05	147.21	0.41
DS	1675			Bridge									
DS	1617	10YR	EX5222013	5650	715.8	724.81	721.28	725.35	0.001579	5.87	961.75	146.12	0.4
DS	1617	10YR	NDNEROH5222013	5650	715.8	724.81	721.28	725.35	0.001579	5.87	961.75	146.12	0.4
DS	1617	10YR	NDWEROH5222013	5650	715.8	724.81	721.28	725.35	0.001579	5.87	961.75	146.12	0.4
DS	1617	25YR	EX5222013	6600	715.8	725.51	721.75	726.1	0.001611	6.2	1064.49	151.28	0.41
DS	1617	25YR	NDNEROH5222013	6600	715.8	725.51	721.75	726.1	0.001611	6.2	1064.49	151.28	0.41
DS	1617	25YR	NDWEROH5222013	6600	715.8	725.51	721.75	726.1	0.001611	6.2	1064.49	151.28	0.41
DS	1617	50YR	EX5222013	7350	715.8	726.02	722.12	726.67	0.00163	6.42	1144.02	155.44	0.42
DS	1617	50YR	NDNEROH5222013	7350	715.8	726.02	722.12	726.67	0.00163	6.42	1144.02	155.44	0.42
DS	1617	50YR	NDWEROH5222013	7350	715.8	726.02	722.12	726.67	0.00163	6.42	1144.02	155.44	0.42
DS	1617	100YR	EX5222013	8100	715.8	726.52	722.47	727.2	0.001615	6.63	1221.37	156.83	0.42

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	1617	100YR	NDNEROH5222013	8100	715.8	726.52	722.47	727.2	0.001615	6.63	1221.37	156.83	0.42
DS	1617	100YR	NDWEROH5222013	8100	715.8	726.52	722.47	727.2	0.001615	6.63	1221.37	156.83	0.42
DS	1617	500YR	EX5222013	9350	715.8	727.3	723.03	728.05	0.001597	6.95	1345.08	159.04	0.42
DS	1617	500YR	NDNEROH5222013	9350	715.8	727.3	723.03	728.05	0.001597	6.95	1345.08	159.04	0.42
DS	1617	500YR	NDWEROH5222013	9350	715.8	727.3	723.03	728.05	0.001597	6.95	1345.08	159.04	0.42
DS	1574	10YR	EX5222013	5650	715.72	724.65	721.19	725.26	0.001411	6.4	926.1	138.01	0.4
DS	1574	10YR	NDNEROH5222013	5650	715.72	724.65	721.19	725.26	0.001411	6.4	926.1	138.01	0.4
DS	1574	10YR	NDWEROH5222013	5650	715.72	724.65	721.19	725.26	0.001411	6.4	926.1	138.01	0.4
DS	1574	25YR	EX5222013	6600	715.72	725.31	721.7	726.01	0.001447	6.83	1018.88	142.2	0.41
DS	1574	25YR	NDNEROH5222013	6600	715.72	725.31	721.7	726.01	0.001447	6.83	1018.88	142.2	0.41
DS	1574	25YR	NDWEROH5222013	6600	715.72	725.31	721.7	726.01	0.001447	6.83	1018.88	142.2	0.41
DS	1574	50YR	EX5222013	7350	715.72	725.81	722.07	726.56	0.001466	7.13	1090.2	145.35	0.41
DS	1574	50YR	NDNEROH5222013	7350	715.72	725.81	722.07	726.56	0.001466	7.13	1090.2	145.35	0.41
DS	1574	50YR	NDWEROH5222013	7350	715.72	725.81	722.07	726.56	0.001466	7.13	1090.2	145.35	0.41
DS	1574	100YR	EX5222013	8100	715.72	726.28	722.43	727.1	0.001478	7.41	1160.01	147.62	0.42
DS	1574	100YR	NDNEROH5222013	8100	715.72	726.28	722.43	727.1	0.001478	7.41	1160.01	147.62	0.42
DS	1574	100YR	NDWEROH5222013	8100	715.72	726.28	722.43	727.1	0.001478	7.41	1160.01	147.62	0.42
DS	1574	500YR	EX5222013	9350	715.72	727.04	723	727.94	0.001488	7.81	1272.44	150.55	0.43
DS	1574	500YR	NDNEROH5222013	9350	715.72	727.04	723	727.94	0.001488	7.81	1272.44	150.55	0.43
DS	1574	500YR	NDWEROH5222013	9350	715.72	727.04	723	727.94	0.001488	7.81	1272.44	150.55	0.43
DS	1155	10YR	EX5222013	5650	715.13	723.9	721.1	724.58	0.001876	6.64	880.6	146.87	0.45
DS	1155	10YR	NDNEROH5222013	5650	715.13	723.9	721.1	724.58	0.001876	6.64	880.6	146.87	0.45
DS	1155	10YR	NDWEROH5222013	5650	715.13	723.9	721.1	724.58	0.001876	6.64	880.6	146.87	0.45
DS	1155	25YR	EX5222013	6600	715.13	724.57	721.56	725.32	0.001858	7.02	979.2	150.96	0.45
DS	1155	25YR	NDNEROH5222013	6600	715.13	724.57	721.56	725.32	0.001858	7.02	979.2	150.96	0.45
DS	1155	25YR	NDWEROH5222013	6600	715.13	724.57	721.56	725.32	0.001858	7.02	979.2	150.96	0.45
DS	1155	50YR	EX5222013	7350	715.13	725.07	721.92	725.87	0.001839	7.29	1055.55	154.06	0.45
DS	1155	50YR	NDNEROH5222013	7350	715.13	725.07	721.92	725.87	0.001839	7.29	1055.55	154.06	0.45
DS	1155	50YR	NDWEROH5222013	7350	715.13	725.07	721.92	725.87	0.001839	7.29	1055.55	154.06	0.45
DS	1155	100YR	EX5222013	8100	715.13	725.55	722.26	726.41	0.001818	7.53	1130.59	157.04	0.45
DS	1155	100YR	NDNEROH5222013	8100	715.13	725.55	722.26	726.41	0.001818	7.53	1130.59	157.04	0.45

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	1155	100YR	NDWEROH5222013	8100	715.13	725.55	722.26	726.41	0.001818	7.53	1130.59	157.04	0.45
DS	1155	500YR	EX5222013	9350	715.13	726.32	722.78	727.26	0.001782	7.9	1253.88	167.31	0.46
DS	1155	500YR	NDNEROH5222013	9350	715.13	726.32	722.78	727.26	0.001782	7.9	1253.88	167.31	0.46
DS	1155	500YR	NDWEROH5222013	9350	715.13	726.32	722.78	727.26	0.001782	7.9	1253.88	167.31	0.46
DS	874	10YR	EX5222013	5650	715.1	721.98	721.17	723.6	0.006397	10.21	557.2	109.82	0.78
DS	874	10YR	NDNEROH5222013	5650	715.1	721.98	721.17	723.6	0.006397	10.21	557.2	109.82	0.78
DS	874	10YR	NDWEROH5222013	5650	715.1	721.98	721.17	723.6	0.006397	10.21	557.2	109.82	0.78
DS	874	25YR	EX5222013	6600	715.1	722.51	721.67	724.33	0.006352	10.84	616.39	113.24	0.79
DS	874	25YR	NDNEROH5222013	6600	715.1	722.51	721.67	724.33	0.006352	10.84	616.39	113.24	0.79
DS	874	25YR	NDWEROH5222013	6600	715.1	722.51	721.67	724.33	0.006352	10.84	616.39	113.24	0.79
DS	874	50YR	EX5222013	7350	715.1	722.93	722.05	724.89	0.006259	11.26	663.96	115.95	0.79
DS	874	50YR	NDNEROH5222013	7350	715.1	722.93	722.05	724.89	0.006259	11.26	663.96	115.95	0.79
DS	874	50YR	NDWEROH5222013	7350	715.1	722.93	722.05	724.89	0.006259	11.26	663.96	115.95	0.79
DS	874	100YR	EX5222013	8100	715.1	723.33	722.43	725.43	0.006169	11.65	711.02	118.56	0.79
DS	874	100YR	NDNEROH5222013	8100	715.1	723.33	722.43	725.43	0.006169	11.65	711.02	118.56	0.79
DS	874	100YR	NDWEROH5222013	8100	715.1	723.33	722.43	725.43	0.006169	11.65	711.02	118.56	0.79
DS	874	500YR	EX5222013	9350	715.1	723.96	723.01	726.28	0.006057	12.26	787.14	122.68	0.8
DS	874	500YR	NDNEROH5222013	9350	715.1	723.96	723.01	726.28	0.006057	12.26	787.14	122.68	0.8
DS	874	500YR	NDWEROH5222013	9350	715.1	723.96	723.01	726.28	0.006057	12.26	787.14	122.68	0.8
DS	380	10YR	EX5222013	5650	713.77	721.43	718.74	722	0.001397	6.06	932.88	152.33	0.43
DS	380	10YR	NDNEROH5222013	5650	713.77	721.43	718.74	722	0.001397	6.06	932.88	152.33	0.43
DS	380	10YR	NDWEROH5222013	5650	713.77	721.43	718.74	722	0.001397	6.06	932.88	152.33	0.43
DS	380	25YR	EX5222013	6600	713.77	722.06	719.13	722.7	0.001393	6.41	1029.15	153.28	0.44
DS	380	25YR	NDNEROH5222013	6600	713.77	722.06	719.13	722.7	0.001393	6.41	1029.15	153.28	0.44
DS	380	25YR	NDWEROH5222013	6600	713.77	722.06	719.13	722.7	0.001393	6.41	1029.15	153.28	0.44
DS	380	50YR	EX5222013	7350	713.77	722.56	719.43	723.25	0.001373	6.65	1105.97	154.03	0.44
DS	380	50YR	NDNEROH5222013	7350	713.77	722.56	719.43	723.25	0.001373	6.65	1105.97	154.03	0.44
DS	380	50YR	NDWEROH5222013	7350	713.77	722.56	719.43	723.25	0.001373	6.65	1105.97	154.03	0.44
DS	380	100YR	EX5222013	8100	713.77	723.04	719.71	723.77	0.001357	6.86	1180.08	154.75	0.44
DS	380	100YR	NDNEROH5222013	8100	713.77	723.04	719.71	723.77	0.001357	6.86	1180.08	154.75	0.44
DS	380	100YR	NDWEROH5222013	8100	713.77	723.04	719.71	723.77	0.001357	6.86	1180.08	154.75	0.44

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
DS	380	500YR	EX5222013	9350	713.77	723.79	720.18	724.6	0.00134	7.21	1300.62	210.45	0.44
DS	380	500YR	NDNEROH5222013	9350	713.77	723.79	720.18	724.6	0.00134	7.21	1300.62	210.45	0.44
DS	380	500YR	NDWEROH5222013	9350	713.77	723.79	720.18	724.6	0.00134	7.21	1300.62	210.45	0.44