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RESILIENT NEW YORK FLOOD MITIGATION INITIATIVE

EIGHTEENMILE CREEK, NEW YORK

Prepared for:

Project Team:

IN NOVEMBER 2018, NEW YORK STATE GOVERNOR ANDREW CUOMO COMMITTED FUNDING TO UNDERTAKE ADVANCED MODELING TECHNIQUES AND FIELD ASSESSMENTS OF 48 FLOOD-PRONE STREAMS TO IDENTIFY PRIORITY PROJECTS AND ACTIONS TO REDUCE COMMUNITY FLOOD AND ICE JAM RISKS, WHILE IMPROVING HABITAT. THE OVERALL GOAL OF THE PROGRAM IS TO MAKE NEW YORK STATE MORE RESILIENT TO FUTURE FLOODING.

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LIST OF ABBREVIATIONS

1-D	one-dimensional
2-D	two-dimensional
ACE	annual chance flood event
BFE	base flood elevation
BRIC	Building Resilient Infrastructure and Communities
CDBG	Community Development Block Grants
CFA	Consolidated Funding Applications
CFR	Code of Federal Regulations
cfs	cubic feet per second
CMIP	Coupled Model Intercomparison Project
CRISSP	Comprehensive River Ice Simulation System Project
CRRA	Community Risk and Resiliency Act
CRREL	Cold Regions Research and Engineering Laboratory
CRS	Community Rating System
CSC	Climate Smart Communities
DEM	Digital Elevation Model
EWP	Emergency Watershed Protection
FDD	freezing degree-day
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FMA	Flood Mitigation Assistance
ft	feet
GIS	Geographic Information Systems
GLS	Generalized Least-Squares
GSE	Gomez and Sullivan Engineers, D.P.C.
H&H	Hydrologic and Hydraulic
HEC	Hydrologic Engineering Center
HEC-RAS	Hydrologic Engineering Center's River Analysis System
Highland Planning	Highland Planning, LLC
HMGP	Hazard Mitigation Grant Program
IPaC	Information for Planning and Consultation
LiDAR	Light Detection and Ranging
LOMR	Letter of Map Revision
LP3	Log-Pearson III
mi^2	square miles
NAVD88	North American Vertical Datum of 1988
NCEI	National Centers for Environmental Information
NFIP	National Flood Insurance Program
NGVD29	National Geodetic Vertical Datum of 1929
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NYSDEC	New York State Department of Environmental Conservation
NYSDHSES	New York State Division of Homeland Security and Emergency Services
NYSDOT	New York State Department of Transportation

NYSERDA	New York State Energy Research and Development Authority
NYSGOSR	New York State Governors Office of Storm Recovery
NYSOEM	New York State Office of Emergency Management
NYSOGS	New York State Office of General Services
NYSOPRHP	New York State Office of Parks, Recreation, and Historic Places
OBG	O'Brien and Gere, Part of Ramboll
PDM	Pre-Disaster Mitigation
RCP	Representative Concentration Pathways
RAMBOLL	OBG, Part of Ramboll
R_c	Circularity Ratio
R_E	Elongation Ratio
R_F	Form Factor
RF	Radio Frequency
RL	Repetitive Loss
ROM	Rough Order of Magnitude
SFHA	Special Flood Hazard Area
SRL	Severe Repetitive Loss
USACE	United States Army Corps of Engineers
USDHS	United States Department of Homeland Security
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WQIP	Water Quality Improvement Project
WWTP	waste water treatment plant

Introduction

Historical Initiatives

Flood mitigation has historically been an initiative in Western New York and in the Eighteenmile Creek watershed. Flood hazards were first mapped by the Federal Emergency Management Agency (FEMA) along Eighteenmile Creek within the City of Lockport during the early 1980's (FEMA, 1980), and the 1990's within the Town of Lockport (FEMA, 2002).

More recent hydraulic studies of Eighteenmile Creek have been related to contaminated sediments. Through the Great Lakes Legacy Act, a site characterization project was completed between 2008 and 2011, which included evaluating the potential for historic contamination to have been transported to wetlands or historic creek channels during past flooding events (NCSWCD, 2011). The United States Environmental Protection Agency (USEPA) has been evaluating contamination within Eighteenmile Creek as part of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, which allows for the identification and remediation of "Superfund Sites". The USEPA has identified the following four operable units (USEPA, 2020):

- Operable Unit 1: This unit involves the acquisition of contaminated residential properties in the Eighteenmile Creek Corridor and the demolition of the former Flintkote Building. Remediation has been completed for this unit.
- Operable Unit 2: This unit involves the remediation of contaminated sediment for approximately 4,000 feet of Eighteenmile Creek from just north of the Erie Canal to Harwood Road. A Record of Decision was issued for this unit in January 2017, which documents the selection of a remedy for the Eighteenmile Creek Corridor. Remedial design for this area is currently underway with an anticipated design completion in the second quarter (April -June) of 2021, and remedial actions are anticipated to start in the third quarter (July-September) of 2021 (USEPA, 2020). The major components of the selected remedy for the creek channel are planned to include the following (USEPA, 2017)[1,2]:
    - Removal of the dilapidated and unpermitted Clinton and William Street dams to facilitate the removal of contaminated sediment;
    - Construction of gravel access roads, up to 20 feet in width, along the creek corridor to be utilized in the remediation of the Creek sediment. The access roads will remain in place and be re-graded following sediment remediation and form part of a bank stabilization cover system and allow for appropriate bank restoration;
    - Bank-to-bank removal of all contaminated sediment exceeding the sediment remedial action level (RAL), estimated to be 14,500 cubic yards, in the Creek Channel followed by backfilling to pre-dredging grade;

[1] Note that this report only lists those components deemed to have the potential to alter the hydraulic performance of Eighteenmile Creek after the completion of remedial actions.

[2] Assuming the work within the floodplain/floodway for this Operable Unit is being conducted by the USEPA, no local floodplain permit is required. However, the work must be done in accordance with Executive Order 11988: Floodplain Management, which may require submission of a Letter of Map Amendment (LOMA) or Flood Rate Insurance Map (FIRM) panel revision to the FEMA, due to the anticipated changes within the floodplain/floodway.

  - Backfilling of excavated areas with clean fill. The creek bank will be restored through the placement of stone, topsoil, biodegradable erosion control fabric, and live plantings; the composition and thickness of these individual materials will be evaluated during the design;
  - Performance of a floodplain and hydraulic study to determine the types and locations of rock riffle grade control structures that will be constructed in the creek to control flow, reduce the potential for erosion and scour of the banks, and reduce the potential for downstream flooding;
  - Mitigation, if necessary, of potential impacts from the Canal to the Creek during maintenance activities at the Canal.
- Operable Unit 3: This unit involves the remediation of contaminated sediment in Eighteenmile Creek from the City of Lockport to its discharge at Lake Ontario. A Record of Decision has not been provided for this unit[3].
- Operable Unit 4: This unit involves the remediation of contaminated residential sediment east of the Eighteenmile Creek Corridor. This unit does not appear to include any portion of the FEMA mapped flood zones. A Record of Decision was issued for this unit in September 2018. remedial design is underway.

Other flood mitigation activities within the creek are also ongoing. The City of Lockport created a task force to clean the inlet of the Eighteenmile Creek Culvert during major storms (FEMA, 2017). It is currently the responsibility of City of Lockport's Department of Highways and Parks to maintain the debris control structure at this inlet (Elmer, James, 2020).

Some flood mitigation activities on the basin-wide scale are also being pursued. The Town of Lockport building permit systems regulate new development within the floodplain (FEMA, 2017). The Natural Resources Conservation Service (NRCS) Wetland Reservoir Program has created 22 acres of wetland in the watershed since 2003, and the NRCS Wildlife Habitat Incentive Program has been used to restore 30 acres of grassland since 2001 (Ecology and Environment, Inc., 2007). The Western New York Land Conservancy (WNYLC) is working with the City of Lockport to restore native grasses to city-owned lands on the Niagara Escarpment, and is also looking to establish conservation easements with nearby landowners. The WNYLC is also looking to restore wetland habitat within the Eighteenmile Creek floodplains (Ecology and Environment, Inc., 2007).

Floodplain Development

General recommendations for high risk floodplain development follow four basic strategies:

1. Remove the flood prone facilities from the floodplain
2. Adapt the facilities to be flood resilient under repetitive inundation scenarios
3. Develop nature-based mitigation measures (e.g., floodplain benches, constructed wetlands, etc.) to lower flood stages in effected areas

[3] Assuming the work within the floodplain/floodway for this Operable Unit is being conducted by the USEPA, no local floodplain permit is required. However, the work must be done in accordance with Executive Order 11988: Floodplain Management, which may require a hydraulic study and submission of a LOMA or FIRM panel revision to the FEMA, due to potential changes within the floodplain/floodway.

4. Up-size bridges and culverts to be more resilient to ice jams, high flow events, and projected future flood flows due to climate change in effected areas

In order to effectively mitigate flooding along substantial lengths of a watercourse corridor, floodplain management should restrict the encroachment on natural floodplain areas. Floodplains act to convey floodwaters downstream, mitigate damaging velocities, and provide areas for sediment to accumulate safely. The reduction in floodplain width of one reach of a stream, often leads to the increase in flooding upstream or downstream. During a flood event, a finite amount of water with an unchanging volume must be conveyed and, as certain conveyance areas are encroached upon, floodwaters will often expand into other sensitive areas.

A critical evaluation of existing floodplain law and policies should be undertaken to evaluate the effectiveness of current practices and requirements within this watershed. Local floodplain regulations should be consistent with the National Flood Insurance Program (NFIP) and Federal Emergency Management Agency (FEMA) regulations since the Town and City of Lockport are participating communities in the NFIP and should involve a floodplain coordinator and a site plan review process for all proposed developments. This review should be in accordance with local regulations and the NFIP requirements, which require the community to determine if any future proposed development could adversely impact the floodplain or floodway resulting in higher flood stages and sequentially greater economic losses to the community.

Resilient NY Initiative

In November of 2018, New York State Governor Andrew Cuomo announced the Resilient NY program in response to devastating flooding in communities across the State in the preceding years. A total of 48 high-priority flood prone watersheds across New York State are being addressed through the Resilient NY program. Flood mitigation studies were commissioned using advanced modeling techniques and field assessments to identify priority projects in these 48 flood-prone watersheds, develop state-of-the-art studies to reduce flooding and ice jams, and improve ecological habitats in the watersheds (NYSGPO, 2018). The Eighteenmile Creek watershed was chosen as a study site for this initiative.

The New York State Department of Environmental Conservation (NYSDEC) is responsible for implementing the Resilient NY program with contractual assistance from the New York State Office of General Services (NYSOGS). High-priority watersheds were selected based on several factors, such as frequency and severity of flooding and ice jams, extent of previous flood damage, and susceptibility to future flooding and ice-jam formations (NYSGPO, 2018).

The Resilient NY flood studies will identify the causes of flooding within each watershed and develop effective and ecologically sustainable flood and ice-jam hazard mitigation projects. Potential flood mitigation measures will be evaluated using hydrologic and hydraulic (H&H) modeling to quantitatively determine flood mitigation strategies that would result in the greatest flood reduction benefits. In addition, the flood mitigation studies incorporate the latest climate change forecasts and assess open water and ice-jam hazards where future flood risks have been identified.

This report is not intended to address detailed design considerations for individual flood mitigation alternatives. The mitigation alternatives discussed are conceptual projects that have been initially developed and evaluated to determine their flood mitigation benefits. A more in-depth engineering design study would still be required for any mitigation alternative chosen to further define the engineering

project details. However, the information contained within this study can inform such in-depth engineering design studies and be used in the application for state and federal funding and/or grant programs.

The goals of the Resilient NY Program are to:

1. Perform comprehensive flood and ice jam studies to identify known and potential flood risks in flood-prone watersheds
2. Incorporate climate change predictions into future flood models
3. Develop and evaluate flood hazard mitigation alternatives for each flood-prone stream area, with a focus on ice-jam hazards

The overarching purpose of the initiative is to evaluate a suite of flood and ice-jam mitigation projects that local municipalities can undertake to make their community more resilient to future floods. The projects should be affordable, attainable through grant funding programs, able to be implemented either individually or in combination in phases over the course of several years, achieve measurable improvement at the completion of each phase, and fit with the community way of life. The information developed under this initiative is intended to provide the community with a basis for assessing and selecting flood mitigation strategies to pursue; no recommendations are made as to which strategies the community should pursue.

The flood mitigation and resiliency study for Eighteenmile Creek began in September of 2019 and a final flood study report was issued in January of 2021.

Data Collection

Initial Data Collection

Hydrological and meteorological data were obtained from readily available state and federal government databases, including ortho-imagery, flood zone maps, streamflow, precipitation, and flooding and ice jam reports. Historical flood reports, newspaper articles, social media posts, community engagement meeting notes, and geographic information system (GIS) mapping were used to identify stakeholder concerns, produce watershed maps, and identify current high-risk areas. New York State Community Risk and Resiliency Act (NYSDEC, 2018) draft guidelines, New York State Department of Transportation (NYSDOT) bridge and culvert standards, and United States Geologic Service (USGS) *FutureFlow Explorer* v1.5 (USGS, 2016) and *StreamStats* v4.4.0 (USGS, 2020a) software were used to develop current and future potential discharges and bankfull widths and depths at various points along the stream channel. H&H modeling was performed previously, as part of the 2002 FEMA Flood Insurance Study (FIS) for the Town of Lockport and the 1980 FEMA FIS for the City of Lockport.

Updated H&H modeling was performed in this study using the United States Army Corps of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS) v5.0.7 (USACE, 2019) software to compute water stage at current and potential future levels for high risk areas and to evaluate the effectiveness of potential flood mitigation strategies. These studies and data were obtained and used, all or in part, as part of this effort. Appendix A is a summary listing of data and reports collected for this study.

Public Outreach

An initial project kickoff meeting was held on September 19, 2019, with representatives of the NYSDEC, NYSOGS, OBG, Part of Ramboll (Ramboll), Gomez & Sullivan Engineers, D.P.C. (GSE), Highland Planning, USACE, the Counties of Erie, Genesee, and Niagara; the Towns of Amherst, Batavia, Clarence, Newstead, and Royalton; the Village of Alexander; and Buffalo Niagara Waterkeeper (Appendix B). At the project kickoff meeting, project specifics including background, purpose, funding, roles, and timelines were discussed. Discussions included a variety of topics, including:

- Firsthand accounts of past flooding events
- Identification of specific areas that flooded in each community, and the extent and severity of flood damage
- Information on post-flood mitigation efforts, such as temporary floodwalls

This outreach effort assisted in the identification of current high-risk areas to focus on during the future flood risk assessments. During this meeting it was requested that the Eighteenmile Creek study be extended upstream of the Erie Canal crossing to include areas in the vicinity of Davison Road. Various comments were received regarding flooding to the east on Davison Road within the Niagara County Golf Course. It was suggested that the flooding to the west of Davison Road is caused by limited hydraulic capacity not only in the channel (i.e. channel choked by fence and debris), but also where the creek goes underground for approximately 4,000 feet as it crosses the Erie Canal. Meeting participants mentioned the presence of a Superfund site located north of the Erie Canal crossing, for which a Record of Decision was issued. They noted that the remedial design is underway, which includes the removal of some dams as part of the Superfund site cleanup. Due to the presence of a Superfund site, participants noted that hazardous sediments may be an issue as flood mitigation alternatives are considered. In the downstream areas of the reach it was noted that log jams and other debris issues are encountered. Debris issues were

specifically noted where the creek parallels Plank Road, which is a potential cause for the past flooding near the Lockport wastewater treatment plant (WWTP). Finally, a comment was received about the many potentially undersized foot bridges and private drives which cross Eighteenmile Creek. Further communication with the City of Lockport identified sedimentation and debris issues in Eighteenmile Creek between Davison Road and Remick Parkway (Elmer, James, 2020).

Field Assessment

Following the initial data gathering and agency meetings, field staff from GSE undertook field data collection efforts with special attention given to high risk areas in the Town and City of Lockport, as identified in the initial data collection process. Initial field assessments of Eighteenmile Creek were conducted in September 2019, with additional data collected in September 2020. Information collected during field investigations included the following:

- Rapid "windshield" river corridor inspection
- Photo documentation of inspected areas
- Measurement and rapid hydraulic assessment of bridges, culverts, and dams
- Geomorphic classification and assessment, including measurement of bankfull channel widths and depths at key cross sections
- Field identification of potential flood storage areas
- Wolman pebble counts
- Characterization of key stream bank failures, head cuts, bed erosion, aggradation areas, and other unstable stream channel features
- Preliminary identification of potential flood hazard mitigation alternatives, including those requiring further analysis

Included in Appendix C is a copy of the Stream Channel Classification Form, Field Observation Form for the inspection of bridges and culverts, and Wolman Pebble Count Form. Appendix D is a photo log of select locations within the river corridor. The collected field data was categorized, summarized, indexed, and geographically located within a GIS database. This GIS database will be made available to the NYSDEC and NYSOGS upon completion of the project.

All references to “right bank” and “left bank” in this report refer to "river right" and "river left," meaning the orientation assumes that the reader is standing in the river looking downstream.

Watershed Characteristics

Study Area

The Eighteenmile Creek watershed lies entirely within Niagara County, NY, and includes portions of Towns of Cambria, Lockport, Royalton, Wilson, Newfane, and Hartland, as well as part of the City of Lockport. The creek has a total drainage area of 82.5 square miles, where it drains into Lake Ontario. The main branch of Eighteenmile Creek originates southeast of the City of Lockport, in the vicinity of Keck and Chestnut Ridge Roads. It travels west approximately 2.7 miles where it is diverted underground, in the vicinity of Remick Parkway in the City of Lockport. Eighteenmile Creek then heads underground in a northwest direction approximately 0.7 miles while it descends approximately 130 feet, traveling under the Erie Canal, to a point near Clinton Street where it resurfaces. It continues northwest for approximately 1.3 miles, descending another 130 feet, before continuing north another 13.7 miles where it drains into Lake Ontario at Olcott Harbor (Ecology and Environment, Inc., 2004). Figure 1 depicts the location of the Eighteenmile Creek watershed.

Within the watershed, the Town and City of Lockport were chosen as the target study area due to the history of flooding in and along the creek and the amount of development along the creek. Figure 2 depicts the stationing of the creek for the watershed and identifies the study area. The portion of Eighteenmile Creek specifically included in this study extends from Davison Road, at the eastern limits of the City of Lockport, to State Route 104 at the northern limits of the Town of Lockport. While comments during public outreach included requests to extend the study area east of Davison Road, specifically through the Niagara County Golf Course within the Town of Lockport, the existing hydraulic models only extend approximately 300 feet east of Davison Road (FEMA, 2017), therefore mitigation alternatives which would only affect flooding upstream (to the east) of Davison Road were not evaluated. The Eighteenmile Creek drainage area at Davison Road and State Route 104 are approximately 2.2 square miles and 21.9 square miles, respectively, according to the FIS for Niagara County. Figure 3 depicts the stationing along Eighteenmile Creek within the Town and City of Lockport, as well as the locations where field data was collected for this study.

Figure 1. Eighteenmile Creek Watershed, Niagara County, NY

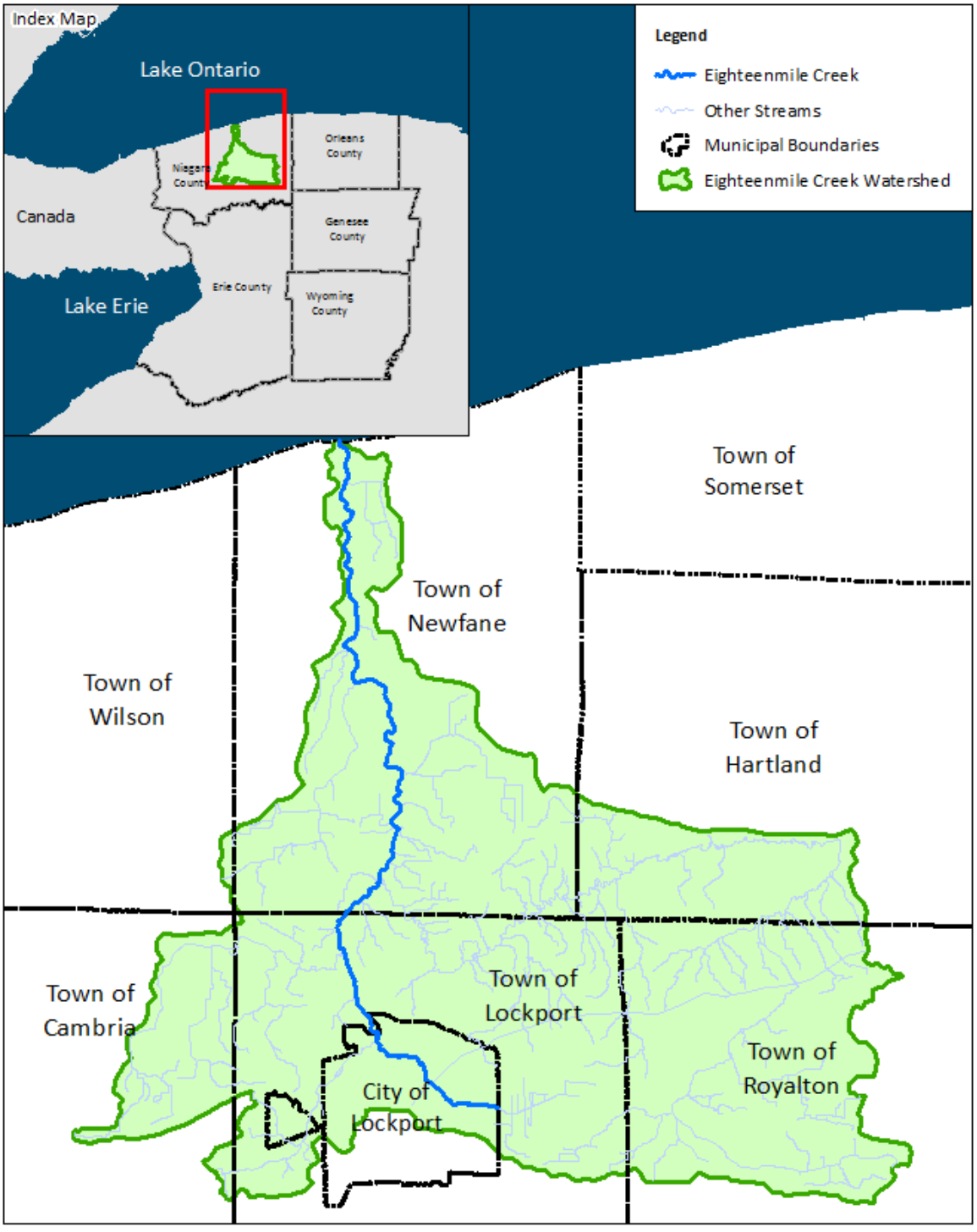


Figure 2. Eighteenmile Creek Stationing, Niagara County, NY

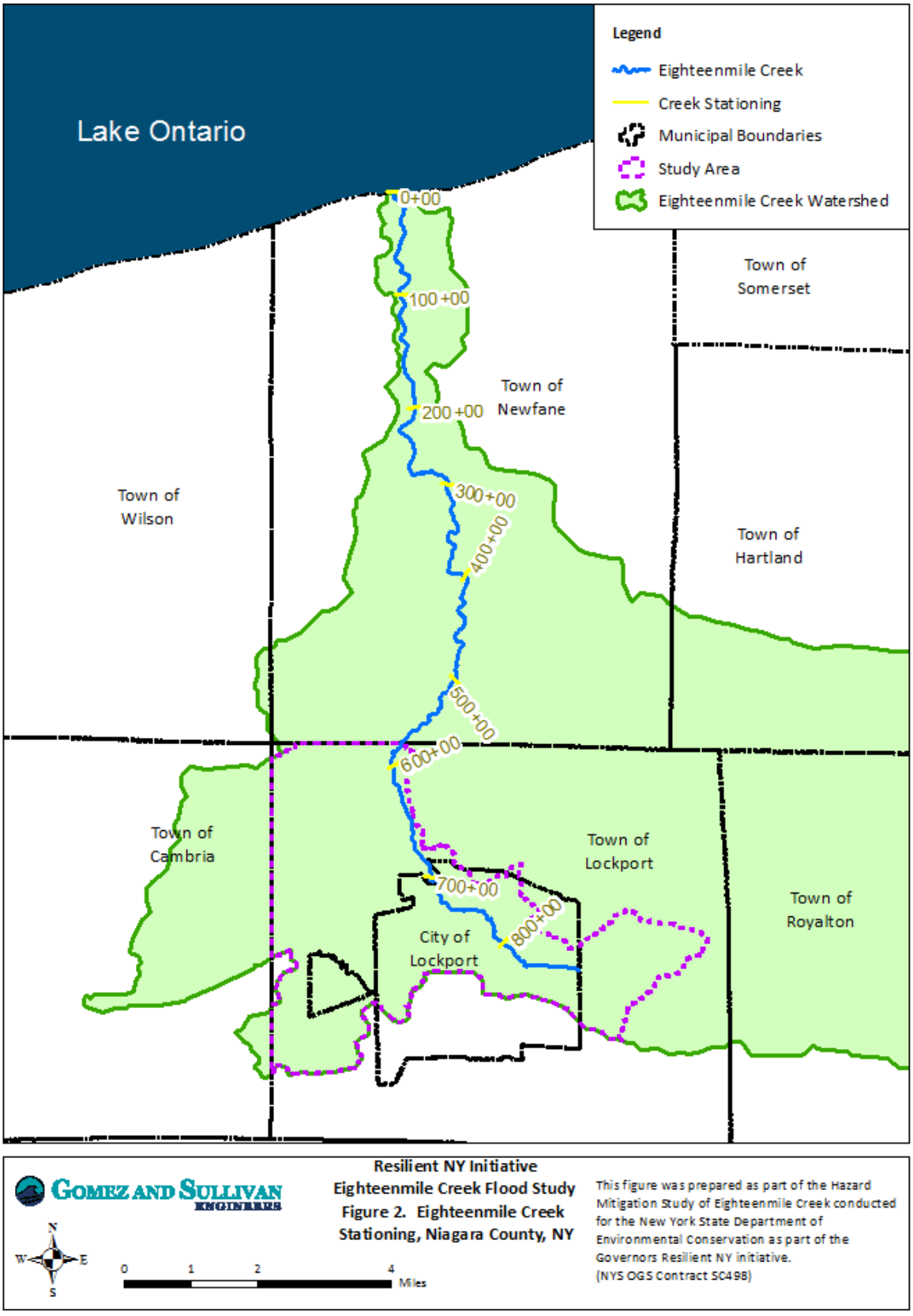
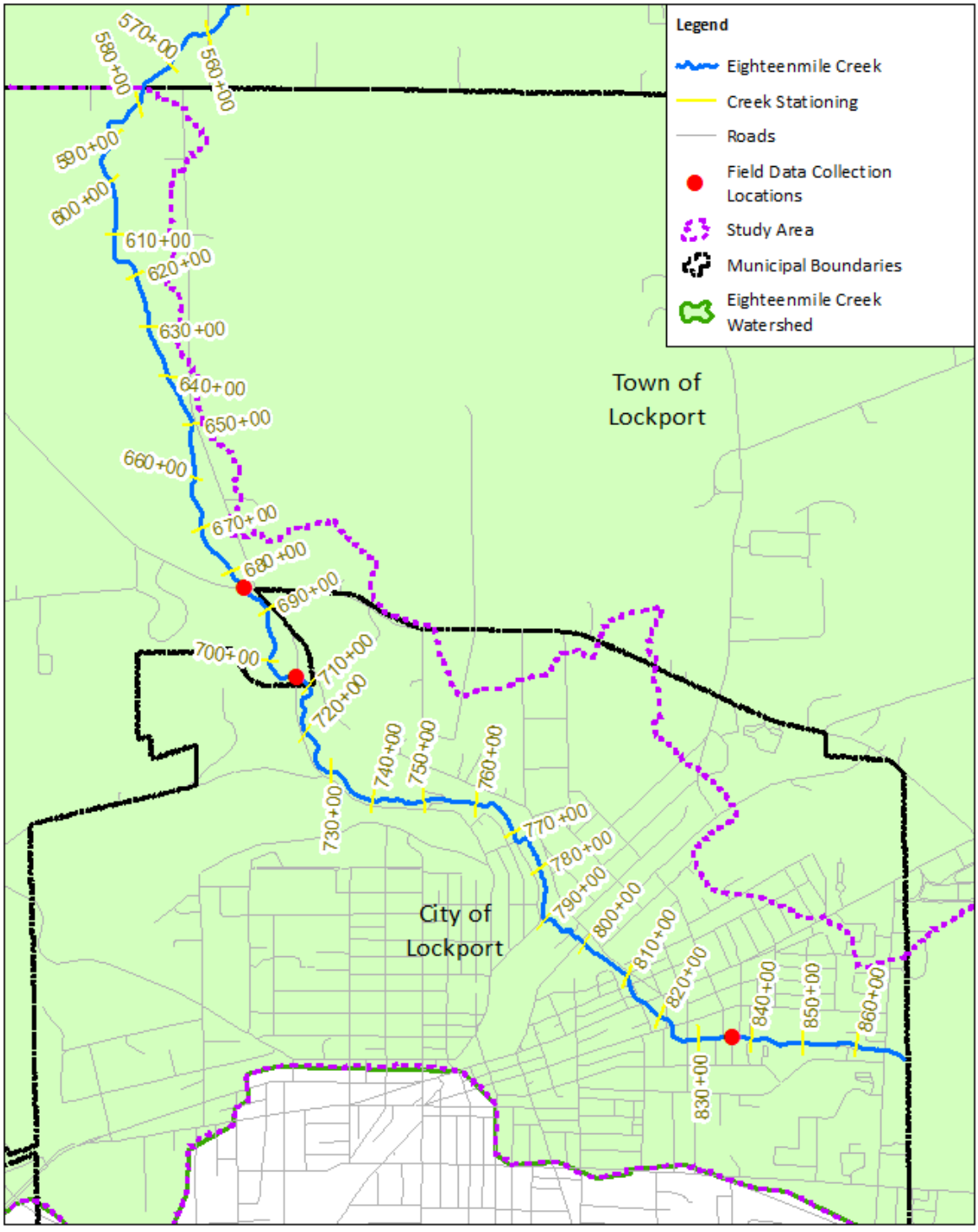


Figure 3. Eighteenmile Creek Study Area Stationing, Niagara County, NY



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Resilient NY Initiative
Eighteenmile Creek Flood Study
Figure 3. Eighteenmile Creek Study Area Stationing, Niagara County, NY

This figure was prepared as part of the Hazard Mitigation Study of Eighteenmile Creek conducted for the New York State Department of Environmental Conservation as part of the Governors Resilient NY initiative. (NYS OGS Contract SC498)

Environmental Conditions

The NYSDEC lists Eighteenmile Creek as a Class D stream within the study area (NYSDEC, 2020a). An overview of the environmental and cultural resources within the Eighteenmile Creek study area was compiled using the following online tools:

- Environmental Resource Mapper: The Environmental Resource Mapper is a tool used to identify mapped federal and state wetlands, state designated significant natural communities, and plants and animals identified as endangered or threatened by the NYSDEC (NYSDEC, 2020a) (https://gisservices.dec.ny.gov/gis/erm/)
- National Wetlands Inventory (NWI): The NWI is a digital map database available on the Environmental Resource Mapper that provides information on the "status, extent, characteristics and functions of wetlands, riparian, and deep-water habitats" (NYSDEC, 2020a)
- Information for Planning and Consultation (IPaC): The IPaC database provides information about endangered/threatened species and migratory birds regulated by the United States Fish and Wildlife Service (USFWS, 2020) (https://ecos.fws.gov/ipac/)
- National Register of Historic Places: The National Register of Historic Places lists historic places worthy of preservation, as authorized by the National Historic Preservation Act of 1966 (NPS, 2014) (https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466)

Wetlands

The State-Regulated Freshwater Wetlands database shows the approximate location of wetlands regulated by New York State. The check zone is a 100-foot buffer zone around the wetland in which the actual wetland may occur. There are 576 acres of state-regulated wetland within the study area, mostly outside of the City of Lockport (NYSDEC, 2013).

The NWI was reviewed to identify national wetlands and surface waters (Figure 4). The Eighteenmile Creek study area includes 29 wetlands classified as freshwater emergent wetlands, freshwater forested/shrub wetlands, freshwater pond, or riverine (NYSDEC, 2020a).

Sensitive Natural Resources

No areas designated as significant natural communities by the NYSDEC were mapped in the Eighteenmile Creek study area, as mapped by the Environmental Resource Mapper (NYSDEC, 2020a).

Endangered or Threatened Species

The Environmental Resource Mapper shows that rare plants and animals have been documented in the vicinity of the study area (Figure 5). Additionally, freshwater mussels have been documented within the study area in Eighteenmile Creek as well as the Erie Canal, which is hydraulically connected to Eighteenmile Creek. The NYSDEC Regional Office should be contacted to determine the potential presence of the species identified (NYSDEC, 2020a).

The USFWS Information for Planning and Consultation (IPaC) does not list any rare, threatened, or endangered species within the study area.

No critical habitat has been designated for any species within the study area (USFWS, 2020).

The migratory bird species listed in Table 1 are birds of conservation concern (BCC) species that may pass over or nest within the project area. Of these species, the Bald Eagle, Bobolink, Long-eared Owl and Wood Thrush are all expected to be present during their breeding seasons. The Lesser Yellow Legs have only

been documented in the vicinity of the study area in April, outside of the breeding season. Snowy Owl are only expected to be present during winter months.

Table 1. UFWS IPaC Listed Migratory Bird Species

Common Name	Scientific Name	Level of Concern	Breeding Season
Bald Eagle	*Haliaeetus leucocephalus*	Bird of Conservation Concern	Dec 1 to Aug 31
Bobolink	*Dolichonyx oryzivorus*	Bird of Conservation Concern	May 20 to Jul 31
Lesser Yellow Legs	*Tringa avipes*	Bird of Conservation Concern	Breeds elsewhere
Long-eared Owl	*Asio otus*	Bird of Conservation Concern	Mar 1 to Jul 15
Snowy Owl	*Bubo scandiacus*	Bird of Conservation Concern	Breeds elsewhere
Wood Thrush	*Hylocichla mustelina*	Bird of Conservation Concern	May 10 to Aug 31

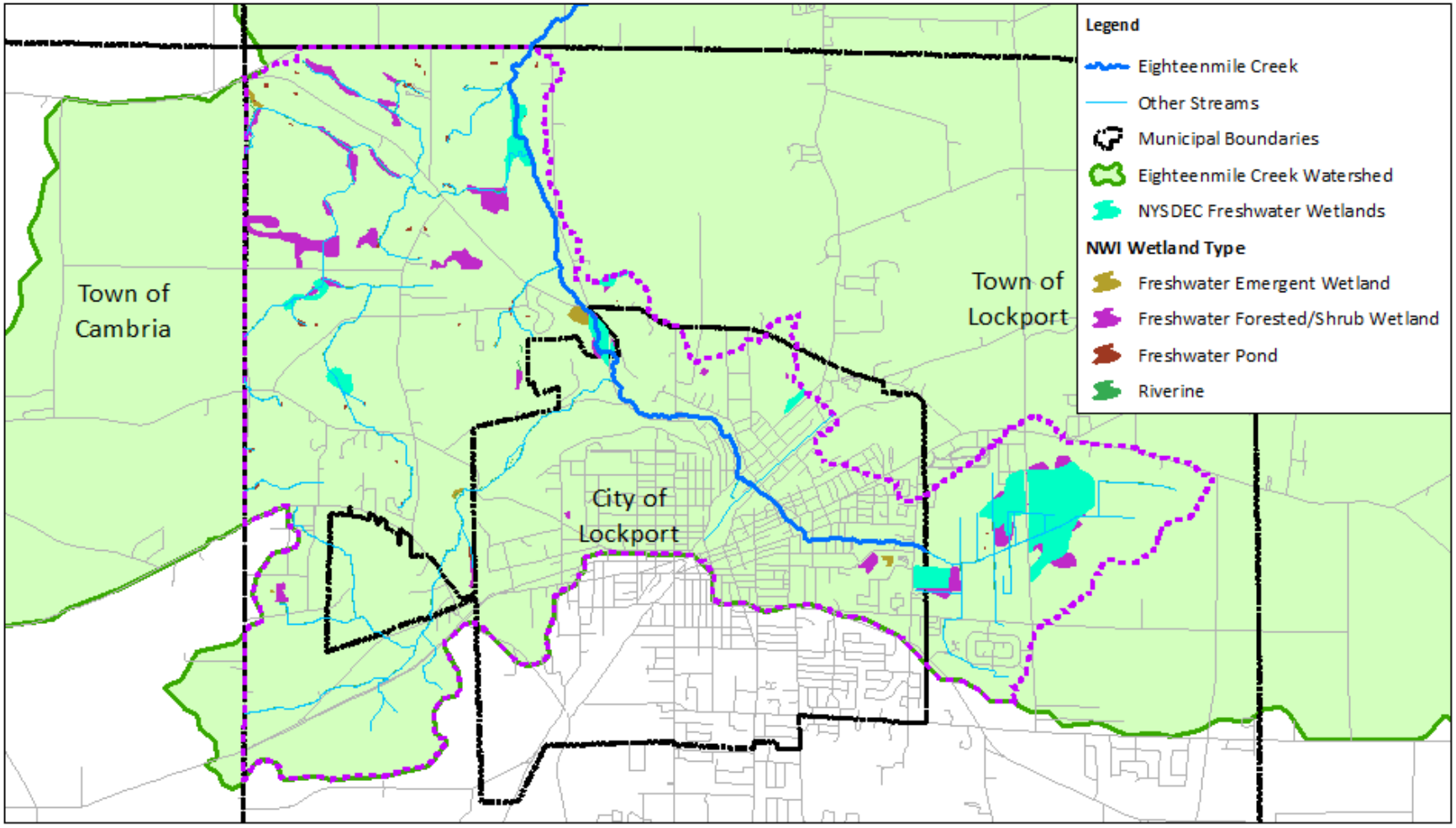
Source: (USFWS, 2020)

Cultural Resources

According to the National Register of Historic Places, the Lockport Industrial District and the Lowertown Historical District are both registered districts within the study area. Three registered historic places are located within these registered districts. Additionally, there are 11 historic places located outside of these historic districts within the study area (Figure 6).

Consultation with New York State Office of Parks, Recreation, and Historic Places (NYSOPRHP) should be performed to identify the potential presence of archeological resources and the subsequent need to perform a cultural resources investigation (NPS, 2014).

Figure 4. Eighteenmile Creek Study Area Wetlands and Hydrography, Niagara County, NY



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Resilient NY Initiative
Eighteenmile Creek Flood Study
Figure 4. Eighteenmile Creek Study Area Wetlands and Hydrography, Niagara County, NY

This figure was prepared as part of the Hazard Mitigation Study of Eighteenmile Creek conducted for the New York State Department of Environmental Conservation as part of the Governors Resilient NY Initiative. (NYS OGS Contract SC498)

Figure 5. Significant Natural Communities and Rare Plants or Animals, Eighteenmile Creek Study Area, Niagara County, NY

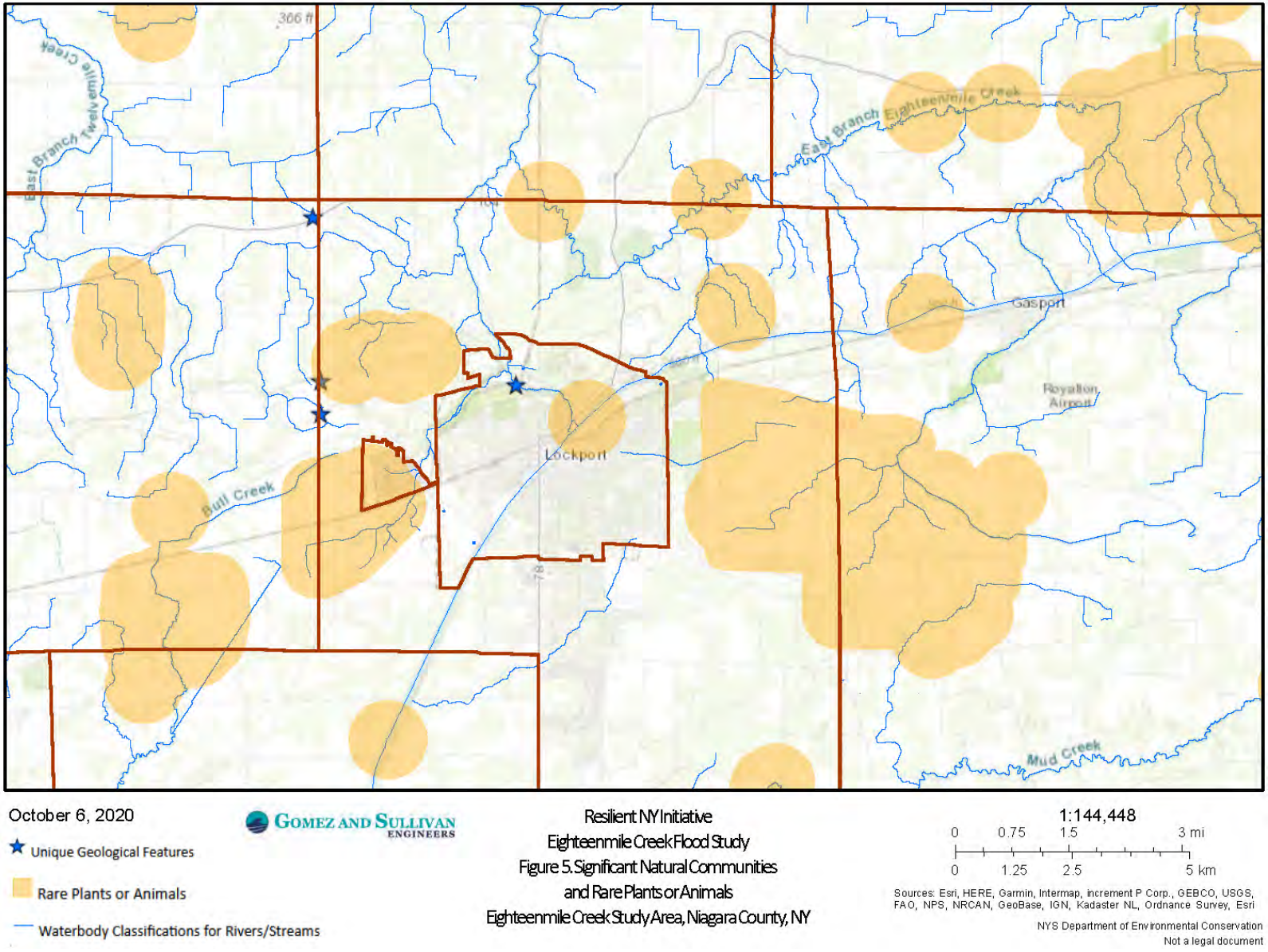
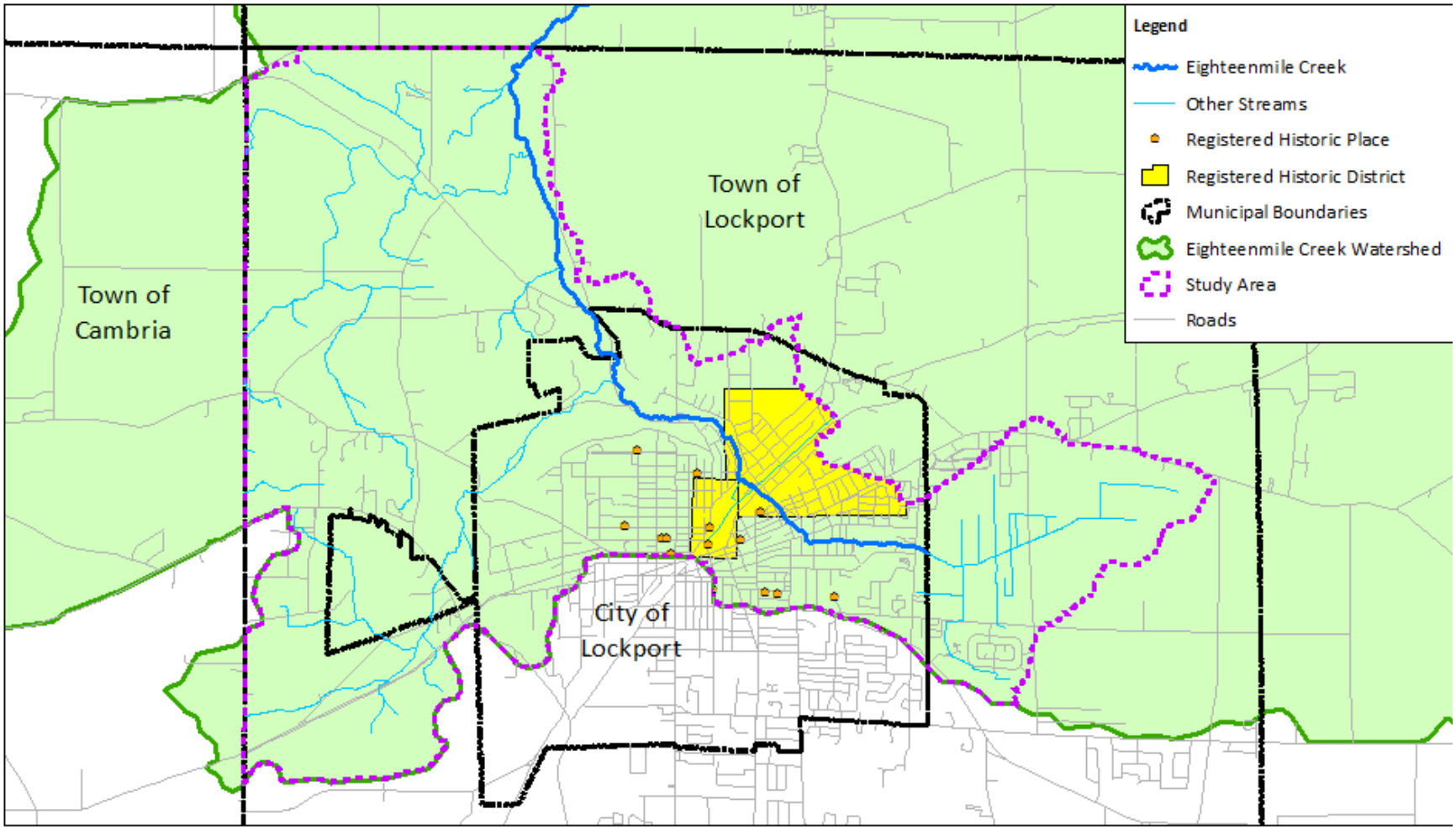


Figure 6. National Register of Historic Places, Eighteenmile Creek Study Area, Niagara County, NY



Floodplain Location

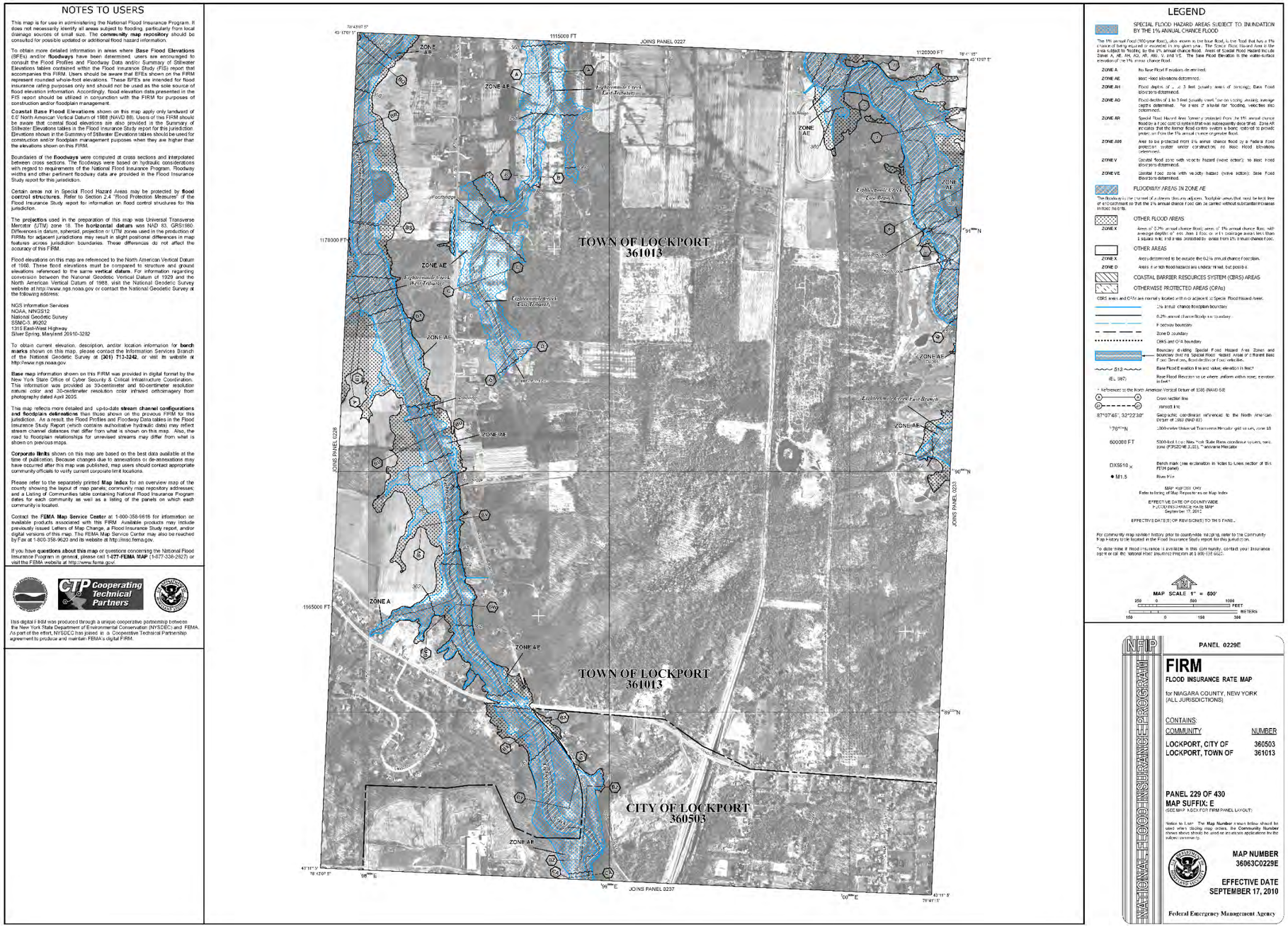
The FEMA Flood Map Service Center (MSC) (https://msc.fema.gov/portal/home) is a database that contains FEMA Flood Insurance Rate Maps (FIRMs) for areas that have had FEMA flood insurance studies completed throughout the United States. For the Town and City of Lockport, the current effective FEMA FIS was completed on November 3, 2017, it should be noted that this revision of the FIS did not include a revision to the FIRM panels which cover Eighteenmile Creek; the effective date of those FIRM panels is September 17, 2010. According to the FIS, the hydrologic and hydraulic analyses completed included re-delineation of the original FEMA H&H study and an updated new detailed study from the original H&H study. The FEMA FIS included Eighteenmile Creek as a re-delineation study (FEMA, 2017).

Redelineation is the method of updating effective flood hazard boundaries to match current topographic data based on the computed water surface elevations from FEMA effective models. The results of a redelineation update are more accurate floodplain boundaries when compared to current ground conditions. Redelineation of floodplain boundaries can be applied to both riverine and coastal studies. No new engineering analyses are performed as part of the redelineation methodology; however, redelineation can be paired with new engineering studies as part of a larger update. For riverine studies, effective flood profiles and data tables from the Flood Insurance Study (FIS) report, Base Flood Elevations (BFEs) from the Flood Insurance Rate Maps (FIRMs), and supporting hydrologic and hydraulic analyses are used in conjunction with the updated topographic data to formulate new floodplain boundaries. The coastal redelineation method also typically involves no new analyses. This method combines effective information from the FIRM and FIS Report and the supporting analyses with new, more detailed, or more up to-date topographic data to redelineate coastal high hazard areas (FEMA, 2015a).

The FIRM for Eighteenmile Creek indicates Special Flood Hazard Areas (SFHAs), which are land areas covered by floodwaters during the 1% annual chance flood event (ACE), along the banks of the creek, for almost the entire length of the creek (FEMA, 2010). Eighteenmile Creek is a Regulatory Floodway, which is defined as the watercourse channel and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than 1-foot over the 1% annual chance flood hazard water surface elevation, referred to as the Base Flood Elevation (BFE). In the regulatory floodway, communities must regulate encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway and demonstrate through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not increase flood levels within the community during the occurrence of the base flood. Development in the portions of the floodplain beyond the floodway, referred to as the floodway fringe, is allowed as long as it does not increase the BFE more than 1.0 foot (FEMA, 2000).

For watercourses where FEMA has provided BFEs, but no floodway has been designated, or where FEMA has not provided BFEs, the community must review floodplain development on a case-by-case basis to ensure that increases in water surface elevations do not occur or identify the need to adopt a floodway if adequate information is available. The flood zones indicated in the Eighteenmile Creek study area are Zone AE, where mandatory flood insurance purchase requirements apply. AE Zones are areas that have a 1% annual chance of flooding where BFEs are provided by FEMA. Figure 7 is a FIRM that includes a portion of Eighteenmile Creek in the Town and City of Lockport, NY (FEMA, 2010).

Figure 7. FEMA FIRM, Eighteenmile Creek, Town and City of Lockport, Niagara County, NY



NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0 North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18. The **horizontal datum** was NAD 83, GRS1980. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the New York State Office of Cyber Security & Critical Infrastructure Coordination. This information was provided as 30-centimeter and 60-centimeter resolution natural color and 30-centimeter resolution color infrared orthoimagery from photography dated April 2005.

This map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/.

CTP Cooperating Technical Partners

This digital FIRM was produced through a unique cooperative partnership between the New York State Department of Environmental Conservation (NYSDEC) and FEMA. As part of the effort, NYSDEC has joined in a Cooperative Technical Partnership agreement to produce and maintain FEMA's digital FIRM.

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A — No Base Flood Elevations determined.
ZONE AE — Base Flood Elevations determined.
ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513 — Base Flood Elevation line and value; elevation in feet*
(EL. 987) — Base Flood Elevation to be where uniform within zone; elevation in feet*
* Referenced to the North American Vertical Datum of 1988 (NAVD 88)
A — A — Cross section line
27 — 27 — Transect line
87°07'45", 32°22'30" — Geographic coordinate referenced to the North American Datum of 1983 (NAD 83)
1000-meter Universal Transverse Mercator grid values, zone 18
600000 FT — 5000-foot ticks: New York State Plane coordinate system, west zone (FIPSZONE 2301), transverse Mercator
DX510 × — Bench mark (see explanation in notes to users section of this FIRM panel)
M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 17, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 600'
250 0 500 1000 FEET
150 0 150 300 METERS

PANEL 0229E

FIRM
FLOOD INSURANCE RATE MAP
for NIAGARA COUNTY, NEW YORK (ALL JURISDICTIONS)

CONTAINS:

COMMUNITY	NUMBER
LOCKPORT, CITY OF	360503
LOCKPORT, TOWN OF	361013

PANEL 229 OF 430
MAP SUFFIX: E
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

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

MAP NUMBER
36063C0229E

EFFECTIVE DATE
SEPTEMBER 17, 2010

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

Study Area Land Use

The National Land Cover Database (MRLC, 2019) shows that, Deciduous Forest makes up 24% of the study area. All developed land cover types total 32% of the study area and all agriculture cover types total 32% of the study area. Further details of the distribution of land cover within the watershed are shown in Table 2. The Deciduous Forest land use cover type is located mostly outside of the City of Lockport, in the western and northern portions of the study area. Developed land use cover types are dominant in the southern and eastern portions of the study area, including the City of Lockport. Agriculture is present throughout the study area outside of the city.

Table 2. Land Use Cover Types in the Eighteenmile Creek Study Area

Land Use Cover Type	Acres	Percentage
Deciduous Forest	2,371	23.96%
Pasture/Hay	1,678	16.96%
Cultivated Crops	1,506	15.22%
Developed, Open Space	1,236	12.49%
Developed, Low Intensity	1,134	11.46%
Woody Wetlands	618	6.25%
Developed, Medium Intensity	471	4.76%
Developed High Intensity	323	3.26%
Mixed Forest	236	2.39%
Barren Land (Rock/Sand/Clay)	194	1.96%
Grassland/Herbaceous	60	0.61%
Open Water	28	0.28%
Shrub/Scrub	27	0.27%
Emergent Herbaceous Wetlands	11	0.11%
Evergreen Forest	2	0.02%
Total	9,895	**100%**

Source: (MRLC, 2019)

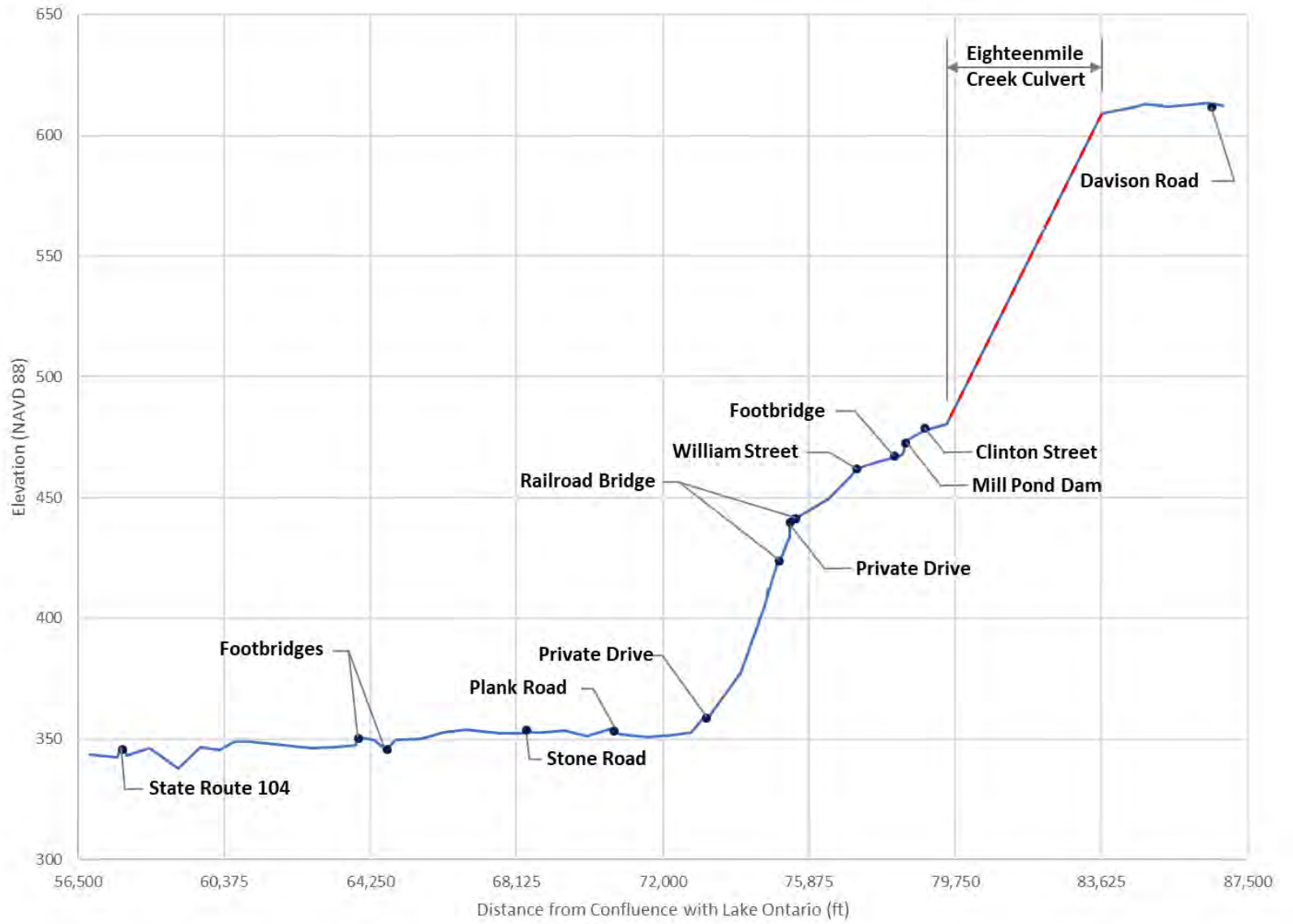
Geomorphology

Eighteenmile Creek resides in the Erie-Ontario Lowland physiographic province, whose watershed can be described as two relatively flat plains at different elevations separated by the Niagara Escarpment. The headwaters of Eighteenmile creek begin in the Huron Plain with elevations as high as 655 feet above mean sea level. The watershed drops between 100 and 175 feet as it traverses through the Niagara Escarpment along the northern portion of the City of Lockport. The watershed then enters the Ontario Plain whose elevations generally range from 400 feet above mean sea level at the toe of the escarpment to 245 feet above mean sea level at the shores of Lake Ontario (Ecology and Environment, Inc., 2007). The surficial geology consists mostly of glacial till and lacustrine silts and clays, generally less than 50 feet thick, formed about 10,000 to 15,000 years ago during the Pleistocene. However, the surficial geology at the toe of the Niagara Escarpment, approximately between the wastewater treatment plant and the Stone Road crossing, is noted to be bedrock from the Queenston Formation, which generally consists of red non-marine or continental shale, siltstone and sandstone (Ecology and Environment, Inc., 2004).

Eighteenmile Creek is located within a well-incised, steeply sloped channel for most of its length (Ecology and Environment, Inc., 2004). Figure 8 is a profile of stream bed elevation and channel distance within the study area based on the hydraulic model used for this study. The figure includes the location of all stream crossings included within the hydraulic model. The average slope upstream of the Eighteenmile Creek Culvert is approximately seven feet per mile, the slope through the Eighteenmile Creek Culvert and down the Niagara Escarpment is approximately 124 feet per mile, and the slope from the toe of the escarpment (approximately 2,000 feet upstream to Plank Road) to State Route 104 is approximately three feet per mile.

There are numerous locations where sediment depositional aggradation is occurring within the channel of Eighteenmile Creek. Aggradation is a natural fluvial process where sediment and other materials are deposited in a stream channel when the supply of sediment is greater than the amount of material that the system is able to transport. Over time, aggradation can lead to the development of sand and sediment bars within the stream channel. These sand and sediment bars may restrict flow by reducing the in-channel flow area and may act as catchpoints for ice pieces during ice breakup events, potentially increasing open water flood risks and ice jam formations (Mugade UR, Sapkale JB, 2015). Significant aggradation within the study area is found at the toe of the Niagara Escarpment, as the channel substrate is completely embedded and dominated by silts, sands, and organic matter (Ecology and Environment, Inc., 2007). The abrupt change in channel slope causes high velocity waters, traveling down the escarpment, to slow and deposit the larger sediment and debris in the area of the WWTP located just upstream of Plank Road.

Figure 8. Eighteenmile Creek Study Area Profile of Stream Bed Elevation and Channel Distance



Hydrology

Eighteenmile Creek is approximately 18.7 miles long and its watershed covers approximately 86.9 square miles (55,600 acres). The creek generally flows north, and empties into Lake Ontario (Figure 1). The Eighteenmile Creek watershed includes two named tributaries, which are Gulf Creek and East Branch of Eighteenmile Creek. Gulf Creek is approximately 4.8 miles long with a drainage area of 4.6 square miles, while East Branch of Eighteenmile Creek is approximately 25.2 miles long with a drainage area of 43.0 square miles. Together, these two tributaries account for approximately 58% of the total Eighteenmile Creek drainage area.

Table 3 is a summary of the basin characteristic formulas and calculated values for the Eighteenmile Creek watershed, where A is the drainage area of the basin in square miles (mi^2), B_L is the basin length in miles, and B_P is the basin perimeter in miles (USGS, 1978). The basin length used for these computations is the longest flow length and extends up the East Brach of Eighteenmile Creek.

Table 3. Eighteenmile Creek Basin Characteristics Factors

Factor	Formula	Value
Form Factor (R_F)	A/B_L^2	0.06
Circularity Ratio (R_C)	$4\pi A/B_P^2$	0.18
Elongation Ratio (R_E)	$2(A/\pi)^{0.5}/B_L$	0.28

Form Factor (R_F) describes the shape of the basin (e.g., circular or elongated) and the intensity of peak discharges over a given duration of time. Circularity Ratio (R_C) gives an indication of topography where the higher the circularity ratio, the lower the relief and less disturbance to drainage systems by structures within the channel. Elongation Ratio (R_E) gives an indication of ground slope where values less than 0.7 correlate to steeper ground slopes and elongated basin shapes. Based on the basin characteristic factors, Eighteenmile Creek basin should be categorized as a more elongated basin being more susceptible to erosion, and for which peak discharges would be expected to be lower than less elongated basins; subsequently high flow events would be expected to occur with a longer duration (Parveen, Kumar, & Singh, 2012). The drainage system within the basin would be expected to have appreciable structural controls and have high relief topography (Waikar & Nilawar, 2014).

There are two active USGS stream gaging stations on Eighteenmile Creek (Table 4), both of which are located downstream of the study area. These gages were installed relatively recently, and have not been utilized in previous studies for the development of peak streamflow estimates along Eighteenmile Creek, due to the small sample size of annual peak flow data. Additionally, the significant difference in drainage area between the gage locations and the study area make the gage records inappropriate for use in evaluating flows within the study area.

Table 4. Summary of USGS Gaging Stations

Station ID	Station Name	Peak Streamflow Data	Real-time Flow Data
04219767	Eighteenmile Creek at Newfane, NY	2004-2018	N/A
04219768	Eighteenmile Creek at Burt, NY	2012-2019	Since 8/11/2011

Source: (USGS, 2020b)

An effective FEMA Flood Insurance Study (FIS) for Niagara County was issued on November 3, 2017, which included a redelineation study for Eighteenmile Creek and included drainage area and discharge information for the portions of Eighteenmile Creek included in this study. Table 5 summarizes the FEMA FIS drainage area and peak discharges, in cubic feet per second (cfs), for Eighteenmile Creek within the study area (FEMA, 2017). The HEC-2 hydraulic models utilized for the effective FEMA FIS included two peak discharge locations between the upstream and downstream City of Lockport corporate limits which were not reported in the FIS; these locations and flows have been included in Table 5 for completeness.

Table 5. Eighteenmile Creek FEMA FIS Peak Discharges

Flooding Source and Location	Drainage Area (mi^2)	River Station (ft)	Peak Discharge (cfs)			
			10%	2%	1%	0.2%
At downstream corporate limits, Town of Lockport	21.9	568+19	1,850	2,650	3,100	4,000
Downstream of confluence with West Tributary	21.3	626+71	1,821	2,608	3,049	3,937
Just upstream of confluence with small tributary	10.6	667+82	1,228	1,741	2,009	2,632
At downstream corporate limits, City of Lockport	10.0	706+32	1,200	1,700	1,960	2,570
Upstream of confluence with Gulf Creek	4.7	722+31	700	1,030	1,140	1,580
At Eighteenmile Creek Culvert Outlet	3.3	795+31	620	900	990	1,370
At upstream corporate limits, City of Lockport	2.2	868+57	330	490	545	770

Source: (FEMA, 2017)

According to the effective FEMA FIS, peak discharge calculations varied between these locations. The peak discharge estimates at the corporate limits for the Town and City of Lockport were based on peak discharge-frequency relationships, using the standard log-Pearson Type III method, for nine gaging stations on Cattaraugus Creek, Eighteenmile Creek, Smoke Creek, Buffalo Creek, Little Buffalo Creek, Cayuga Creek, Cazenovia Creek, and Scajaquada Creek. Next, a set of regional flood-frequency curves were established by correlating peak discharge and drainage area information using the peak discharge-frequency relationships for these nine gages. The regional curves were extended to cover watersheds with drainage areas less than 15 square miles. The extended regional flood-frequency curves were then used to establish the discharge-frequency relationship for the ungagged stream locations at the corporate limits for the Town and City of Lockport. The peak discharge calculations for the other two locations, near the confluence of streams, were computed using drainage area disposition with the discharges computed at the corporate boundaries. Documentation of the methodology for the peak discharge estimates between the upstream and downstream City of Lockport corporate limits was not available.

General limitations of the FEMA FIS methodology are the age of the effective FIS H&H analysis and the age of the methodology. The H&H analysis for Eighteenmile Creek was completed in 1979 for the City of

Lockport and 1999 for the Town of Lockport using the regional flood-frequency and drainage area disposition methodologies.

During this study, detailed information regarding the development of the extended regional flood-frequency curves discussed in the FIS methodology was not found. The available methodological description suggests that the regional relationships were based solely on drainage area. Further, the length of record of the nine stations ranges from 11 to 35 years. A general limitation of the FEMA FIS methodology is that the use of a single variable and the limited length of record could negatively influence the statistical analysis during development of the peak discharge computations. In the current state of the practice, regional flood-frequency analyses of a handful of gages using only a drainage area relationship have generally been replaced by multi-variate regression analyses of all adequate stream gage records within a hydrologic region. The drainage area disposition methodology has generally been superseded by the use of drainage area transfer using regional analyses of appropriate area weighting exponents, based on regional regression analyses, for estimation of flood peaks at locations near stream gage sites.

StreamStats v4.4.0 software (https://streamstats.usgs.gov/ss/) is a map-based web application that provides an assortment of analytical tools that are useful for water-resources planning and management, and engineering purposes. Developed by the USGS, the primary purpose of *StreamStats* is to provide estimates of streamflow statistics for user selected ungaged sites on streams and for USGS stream gages, which are locations where streamflow data are collected [(USGS, 2017); USGS 2017b)].

Methods for computing a peak discharge estimate for a selected recurrence interval at a specific site depend on whether the site is gaged or ungaged, and whether the drainage area lies within a single hydrologic region or crosses into an adjacent hydrologic region or State. Hydrologic regions refer to areas in which streamflow-gaging stations indicate a similarity of peak-discharge response that differs from the peak-discharge response in adjacent regions. These similarities and differences are defined by the regression residuals, which are the differences between the peak discharges calculated from station records and the values computed through the regression equation. There are currently six hydrologic regions in New York State [(USGS, 1991); (USGS, 2006)].

For ungaged sites, *StreamStats* relies on regional regression equations that were developed by statistically relating the streamflow statistics to the basin characteristics for a group of stream gages within a region. Estimates of streamflow statistics for an ungaged site can then be obtained by measuring its basin characteristics and inserting them into the regression equations (USGS, 2017). For example, the equation for estimating the 100-year flood for ungaged sites within Eighteenmile Creek's hydrologic region in New York is:

$$Q_{100} = 46.0 * (A)^{0.823} * (ST+0.5)^{-0.177} * (RUNF)^{0.505} * (EL12+1)^{0.166} * (SR)^{0.318}$$

Where,

A is the drainage area in square miles;

ST is the basin storage in percent;

RUNF is the mean annual runoff in inches;

EL12 is the area of the drainage basin at or greater than 1,200 feet above sea level in percent; and

SR is the slope ratio (USGS, 2006).

StreamStats delineates the drainage basin boundary for a selected site by use of an evenly spaced grid of land-surface elevations, known as a Digital Elevation Model (DEM), and a digital representation of the stream network. Using this data, the application calculates multiple basin characteristics, including drainage area, basin storage, mean annual runoff, percent of basin at or greater than 1,200 feet above sea level, and the slope ratio. By using these characteristics in the calculation, the peak discharge values have increased accuracy and decreased standard errors by approximately 20% for a 1% annual chance interval (100-year recurrence) discharge when compared to the drainage-area only regression equation (USGS, 2017).

However, when one or more of the basin characteristics for an ungaged site are outside the given ranges, then the estimates are extrapolated. *StreamStats* provides warnings when extrapolation occurs. Although *StreamStats* does provide estimates of streamflow statistics in these circumstances, no error indicators are provided with them, as the errors associated with these estimates are unknown and may be very large (USGS, 2017).

In addition, estimates of streamflow statistics that are obtained from regression equations are based on the assumption of natural flow conditions at the ungaged site unless the reports that document the equations state otherwise. If human activities such as dam regulation and water withdrawals substantially affect the timing, magnitude, or duration of flows at a selected site, the regression-equation estimates provided by *StreamStats* should be adjusted by the user to account for those activities (USGS, 2017).

StreamStats was used to calculate the current peak discharges for Eighteenmile Creek and compared with the effective FIS peak discharges. Table 6 is the summary output of peak discharges calculated by the USGS *StreamStats* software for Eighteenmile Creek at the same locations as the FEMA FIS peak discharges. The regional regression equations utilized by the *Stream Stats* application in the area of Eighteenmile Creek includes a measure of basin slope which is computed based on the length of topographic contours which cross the basin and the drainage area of the basin. Due to the small drainage area of Eighteenmile Creek at the City of Lockport upstream corporate limits and the contour interval of the dataset used by the *Stream Stats* application to compute the basin slope parameter, the calculated parameter was zero at this location. Therefore, the basin slope was re-calculated using a topographic contour dataset with a ten-foot contour interval in GIS software, and the discharges at the City of Lockport upstream corporate limits were recomputed using the computed slope. Although more detailed LiDAR elevation data is available for the basin, the *Stream Stats* software utilizes a 20-foot contour interval. Therefore, the ten-foot contour interval was used in order to maintain as much consistency with the software, as possible.

Table 6. USGS *StreamStats* Peak Discharge for Eighteenmile Creek at the FEMA FIS Locations

Flooding Source and Location	Drainage Area (mi^2)	River Station (ft)	Peak Discharge (cfs)			
			10%	2%	1%	0.2%
At downstream corporate limits, Town of Lockport	21.9	568+19	917	1,230	1,360	1,670
Downstream of confluence with West Tributary	21.3	626+71	904	1,220	1,350	1,660
Just upstream of confluence with small tributary	10.6	667+82	515	694	767	939
At downstream corporate limits, City of Lockport	10.0	706+32	499	675	747	916
Upstream of confluence with Gulf Creek	4.7	722+31	279	383	426	526
At Eighteenmile Creek Culvert Outlet	3.3	795+31	178	239	264	320
At upstream corporate limits, City of Lockport	2.2	868+57	79	101	109	127

Source: (USGS, 2020a)

Using the standard error calculations from the regression equation analysis in *StreamStats*, an acceptable range at the 95% confidence interval for peak discharge values at the 10%, 2%, 1%, and 0.2% annual chance flood hazards was determined. Standard error gives an indication of how accurate the calculated peak discharges are when compared to the actual peak discharges since approximately two-thirds (68.3%) of the calculated peak discharges would be within one standard error of the actual peak discharge, 95.4% would be within two standard errors, and almost all (99.7%) would be within three standard errors (McDonald, 2014). Table 7 is a summary table of the USGS *StreamStats* standard errors at each percent annual chance flood hazard for Region 6 in New York State.

Table 7. USGS *StreamStats* Standard Errors for Full Regression Equations

Parameter	Annual Chance of Exceedance (%)			
	10%	2%	1%	0.2%
Standard Error of Peak Discharge (%)	32.9	35.8	37.2	41.4

Source: (USGS, 2006)

The Erie Canal and Eighteenmile Creek are hydraulically connected near where the creek travels under the canal. Previous studies have measured as much as 200 cfs being discharged from the Erie Canal to the Eighteenmile Creek. While peak discharge estimates from *Streamstats* would not account for flows from the Erie Canal, FEMA FIS peak discharges are greater than *StreamStats* peak discharges, even considering substantial flow from the Erie Canal. As a result, the FEMA FIS peak discharge values were used in the hydraulic model simulations for this study to maintain consistency between the modeling outputs and the FEMA models.

In addition to peak discharges, the *StreamStats* software also calculates bankfull statistics by using stream survey data and discharge records from 281 cross-sections at 82 streamflow-gaging stations in a linear

regression analysis to relate drainage area to bankfull discharge and bankfull-channel width, depth, and cross-sectional area for streams across New York State. These equations are intended to serve as a guide for streams in areas of the same hydrologic region, which contain similar hydrologic, climatic, and physiographic conditions (USGS, 2009).

Bankfull discharge is defined as the flow that reaches the transition between the channel and its flood plain. Bankfull discharge is considered to be the most effective flow for moving sediment, forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphological characteristics of channels (USGS, 2009). The bankfull width and depth of Eighteenmile Creek is important in understanding the distribution of available energy within the stream channel and the ability of various discharges occurring within the channel to erode, deposit, and move sediment (Rosgen & Silvey, 1996). Table 8 lists the estimated drainage area, bankfull discharge, width, and depth at select locations along Eighteenmile Creek as derived from the USGS *StreamStats* program.

Table 8. USGS *StreamStats* Estimated Drainage Area, Bankfull Discharge, Width, and Depth

Flooding Source and Location	Drainage Area (mi^2)	River Station (ft)	Bankfull Depth (ft)	Bankfull Width (ft)	Bankfull Streamflow (cfs)
At downstream corporate limits, Town of Lockport	21.9	568+19	2.21	61.6	645
Downstream of confluence with West Tributary	21.3	626+71	2.19	60.9	631
Just upstream of confluence with small tributary	10.6	667+82	1.85	45.4	350
At downstream corporate limits, City of Lockport	10.0	706+32	1.82	44.3	334
Upstream of confluence with Gulf Creek	4.7	722+31	1.52	32.4	178
At Eighteenmile Creek Culvert Outlet	3.3	795+31	1.39	28.0	132
At upstream corporate limits, City of Lockport	2.2	868+57	1.27	23.7	95

Source: (USGS, 2020a)

Infrastructure

The NYSDEC database lists one dam on Eighteenmile Creek within the study area (Table 9). A second dam is shown on the effective FIS profile, but is labeled as "Broken Dam" and not modeled as a dam in the effective FIS study (FEMA, 2017). Additionally, the Clinton and William Street dams are not shown on the effective FIS flood profile, and are designated for removal as part of the USEPA remedial action whose design is currently underway.

Table 9. Inventory of Dams along Eighteenmile Creek

Municipality	Dam Name	River Station (ft)	Hazard Code	Purpose
City of Lockport	Mill Pond Dam	784+35	A	Other

Source: (NYSDEC, 2020b)

Table 10 summarizes pertinent information about the one NYSDOT owned bridge crossing Eighteenmile Creek within the study area. In addition to the NYSDOT infrastructure, Eighteenmile Creek is crossed by twelve structures within the study area, which are owned and maintained by Niagara County, local municipalities, and private owners as summarized in Table 11. Hydraulic capacity is the measure of the amount of water that can pass through a structure or watercourse. Hydraulic design is an essential function of structures in watersheds. Exceeding the capacity can result in damages or flooding to surrounding areas and infrastructure (USDOT, 2012). In assessing hydraulic capacity of the culverts and bridges along Eighteenmile Creek, the FEMA FIS profile of Eighteenmile Creek was used to determine the lowest annual chance flood elevation to flow under a culvert/the low chord of a bridge, without causing an appreciable backwater condition upstream (Table 10, Table 11). Figure 9 depicts the location of the infrastructure crossing Eighteenmile Creek within the study area.

Table 10. NYSDOT Bridges/Culverts Crossing Eighteenmile Creek

Roadway Carried (NY/US Route)	NYSDOT BIN/CIN	River Station (ft)	Bridge Length (ft)	Surface Width[1] (ft)	Hydraulic Capacity (% Annual Chance)
Ridge Road (State Route 104)	1036380	576+79.5	76	30	10

Notes:

1. Surface Width is measured parallel to creek flow and refers to the curb-to-curb width, which is the minimum distance between the curbs or the bridge railings (if there are no curbs), to the nearest 30 mm or tenth of a foot (NYSDOT, 2006).

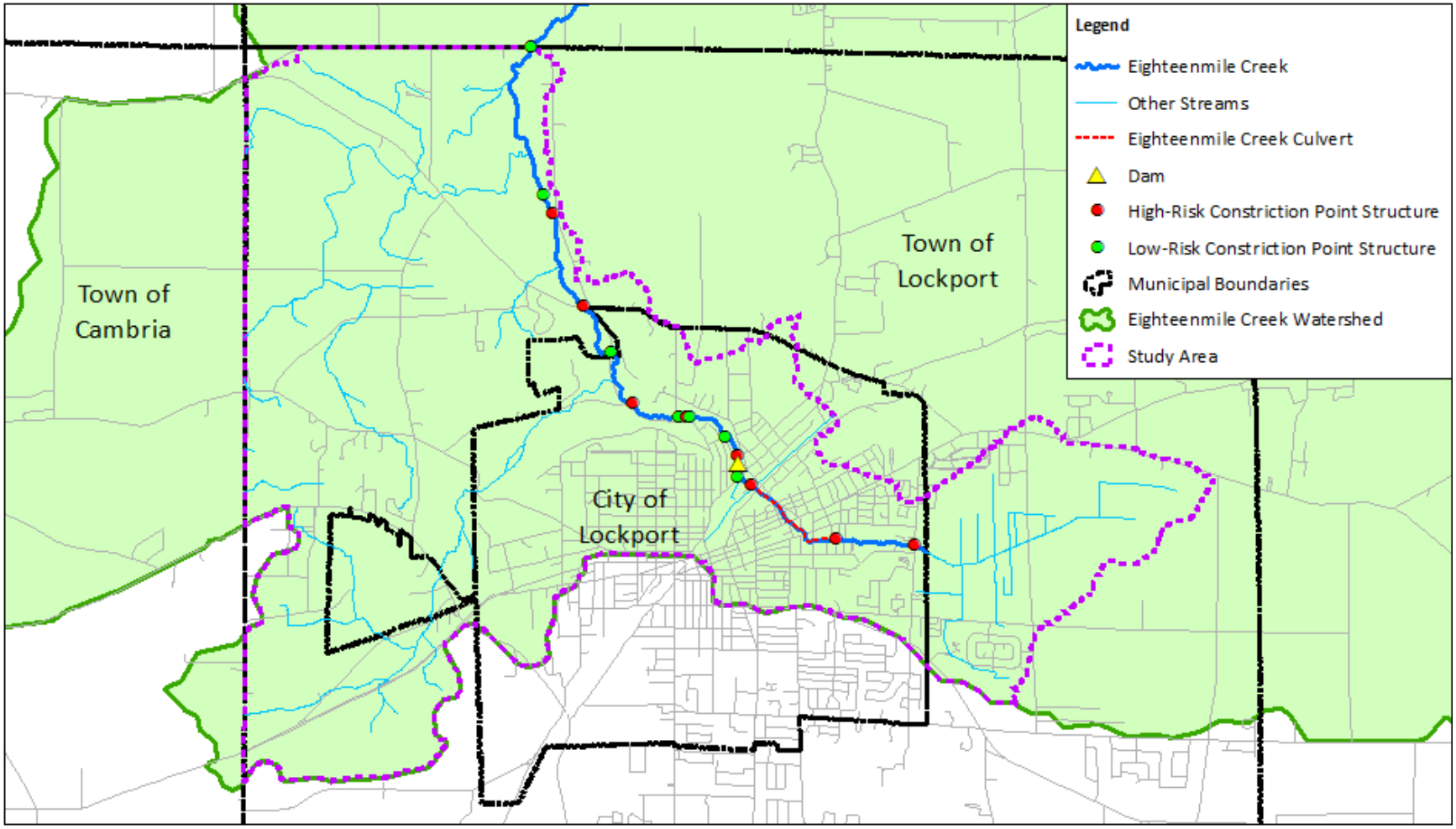
Source: (NYSDOT, 2019a); (FEMA, 2017)

Table 11. Non-NYSDOT Bridges/Culverts Crossing Eighteenmile Creek

Roadway Carried	BIN/CIN	River Station (ft)	Owner	Bridge Length (ft)	Surface Width (ft)	Hydraulic Capacity (% Annual Chance)
Footbridge (Culvert)	N/A	639+46	Private	60	12.5	1
Footbridge (Culvert)	N/A	646+95.5	Private	34	10.5	10
Stone Road	3329580	684+02	Niagara County	70	40	>10
Plank Road	3362320	707+13	Niagara County	61	30.3	>10
Private Drive	N/A	731+66	Private	30	20	>10
Railroad Bridge	N/A	750+93.5	Private	160	10	<0.2
Private Drive	N/A	753+94.5	Private	15	20	>10
Railroad Bridge	N/A	755+24.5	Private	240	15	<0.2
William Street	N/A	771+53.5	City of Lockport	39	20	<0.2
Footbridge	N/A	781+42.5	Private	30	15	>10
Clinton Street	N/A	789+64	City of Lockport	46	30	<0.2
Eighteenmile Creek Culvert	N/A	815+88.5	City of Lockport	6	4,115	>10
Davison Road	N/A	865+48	City of Lockport	12	40	>10

Source: (NYSDOT, 2019a); (FEMA, 2017)

Figure 9. Eighteenmile Creek Study Area Infrastructure, Niagara County, NY



GOMEZ AND SULLIVAN ENGINEERS

Resilient NY Initiative
Eighteenmile Creek Flood Study
Figure 9. Eighteenmile Creek Infrastructure, Niagara County, NY

This figure was prepared as part of the Hazard Mitigation Study of Eighteenmile Creek conducted for the New York State Department of Environmental Conservation as part of the Governors Resilient NY initiative. (NYS OGS Contract SC498)

In New York State, hydraulic and hydrologic regulations for bridges were developed by the NYSDOT. The NYSDOT guidelines require a factor of safety for bridges that cross waterways, known as freeboard. Freeboard is the additional capacity, usually expressed as a distance in feet, in a waterway above the calculated capacity required for a specified flood level, usually the base flood elevation. Freeboard compensates for the many unknown factors that could contribute to flood heights being greater than calculated, such as wave action, minor silt and debris deposits, the hydrological effect of urbanization of the watershed, etc. However, freeboard is not intended to compensate for higher floods expected under future climatic conditions, such as those due to sea-level rise or more extreme precipitation events (NYSDEC, 2018).

The term "bridge" shall apply to any structure whether single or multiple span construction with a clear span in excess of 20 feet when measurement is made horizontally along the center line of roadway from face to face of abutments or sidewalls immediately below the copings or fillets; or, if there are no copings or fillets, at 6 inches below the bridge seats or immediately under the top slab, in the case of frame structures. In the case of arches, the span shall be measured from spring line to spring line. All measurements shall include the widths of intervening piers or division walls, as well as the width of copings or fillets (NYSDOT, 2020).

According to the NYSDOT bridge manual (2019) for Region 5, which includes Niagara, Erie, Chautauqua, and Cattaraugus Counties, new and replacement bridges are required to meet certain standards, which include (NYSDOT, 2019b):

- The structure will not raise the water surface elevations anywhere when compared to the existing conditions for both the 2 and 1% ACE (50- and 100-year flood) flows.
- The proposed low chord shall not be lower than the existing low chord.
- A minimum of 2'-0" of freeboard for the projected 2% ACE (50-year flood) is required for the proposed structure. The freeboard shall be measured at the lowest point of the superstructure between the two edges of the bottom angle for all structures.
- The current 1% ACE (100-year flood), based on peak streamflow from the USGS *StreamStats* plus a 10% increase in flow, shall pass below the proposed low chord without touching it.
- The maximum skew of the pier to the flow shall not exceed 10 degrees.

In addition, current peak flows shall be increased to account for future projected peak flows based on the USGS *StreamStats* tool where current 2% ACE peak flows shall be increased by 10% in Region 5. For critical bridges, the minimum hydraulic design criteria is 3-feet of freeboard over the 2% annual chance flood elevation. A critical bridge is considered to be vital infrastructure that the incapacity or destruction of such would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters [(NYSDOT, 2019b); (USDHS, 2010)].

In an effort to improve flood resiliency of infrastructure in light of future climate change, New York State passed the Community Risk and Resiliency Act (CRRA) in 2014. In accordance with the guidelines of the CRRA, the NYSDEC released the *New York State Flood Risk Management Guidance for Implementation of the Community Risk and Resiliency Act* (2018) *draft* report. In the report, the NYSDEC outlined infrastructure guidelines, most notably that the new freeboard recommendation for normal bridges is 2-feet of freeboard over the elevation of a flood with a 1% chance of being equaled or exceeded in a given year (i.e. base flood elevation) and 3-feet for a critical structure (NYSDEC, 2018). When compared to current guidelines, the new CRRA climate change recommended freeboard is based on the 1% ACE water surface elevation, while the previous guidelines were based on the 2% ACE. This is a higher standard for

freeboard. Table 12 displays the 2% and 1% annual chance flood levels and their calculated difference at FEMA FIS infrastructure locations using the FIS profile for Eighteenmile Creek.

In New York State, hydraulic and hydrologic regulations for culverts were developed by the NYSDOT. The NYSDOT guidelines require culverts to be designed based upon an assessment of the likely damage to the highway and adjacent landowners from a given flow and the costs of the drainage facility. The design flood frequency for drainage structures and channels is typically the 2% (50-year) annual chance flood hazard for Interstates and other Freeways, Principal Arterials, and Minor Arterials, Collectors, Local Roads, and Streets. If the proposed highway is in an established regulatory floodway or floodplain then the 1% (100 year) annual chance flood hazard requirement must be checked (NYSDOT, 2018).

The term "culvert" is defined as any structure, whether of single- or multiple-span construction, with an interior width of 20 ft. or less when the measurement is made horizontally along the center line of the roadway from face-to-face of abutments or sidewalls (NYSDOT, 2020).

In assessing the hydraulic capacity of culverts, NYSDOT highway drainage standards require the determination of a design discharge (e.g. 50-year flood) through the use of flood frequencies. The design flood frequency is the recurrence interval that is expected to be accommodated without exceeding the design criteria for the culvert. There are four recommended methodologies: the Rational Method, the Modified Soil Cover Complex Method, historical data, and the regression equations. Each method should be assessed and the most appropriate method for the specific site should be used to calculate the design flood frequency and discharge (NYSDOT, 2018).

In addition, current NYSDOT standards require peak flows to be increased to account for future projected peak flows based on the USGS *StreamStats* tool where current 2% peak flows shall be increased by 10% in Region 5. According to the draft CRRA guidelines, for culverts the minimum hydraulic design criteria is 2-feet of freeboard over the 2% annual chance flood elevation. For critical culverts, the CRRA guidelines recommend 3-feet of freeboard over the 1% annual chance flood elevation. A critical culvert is considered to be vital infrastructure that the incapacity or destruction of such would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters [(NYSDEC, 2018); (NYSDOT, 2018); (USDHS, 2010)].

In an effort to improve flood resiliency of infrastructure in light of future climate change, New York State passed the Community Risk and Resiliency Act (CRRA) in 2014. In accordance with the guidelines of the CRRA, the NYSDEC released the *New York State Flood Risk Management Guidance for Implementation of the Community Risk and Resiliency Act* (2018) *draft* report. In the report, the NYSDEC outlined infrastructure guidelines, most notably the recommendation that culverts be able to fully pass the design flood without increasing headwater and that they provide at least 2-feet of roadway freeboard above the projected 1% (100-year) annual chance flood hazard. An additional 1-foot of roadway freeboard should be considered for culverts on critical roadways (NYSDEC, 2018). When compared to current guidelines, the new CRRA climate change recommendation of freeboard for culverts encourages building more flood resilient infrastructure. Table 12 displays the 2% and 1% annual chance flood levels and their calculated difference at FEMA FIS infrastructure locations using the FIS profile for Eighteenmile Creek.

Table 12. FEMA FIS Profile 2 and 1% Annual Chance Flood Hazard Levels with Differences at Infrastructure Locations

Bridge Crossing	River Station (ft)	2% Water Surface Elevation (ft NAVD88)	1% Water Surface Elevation (ft NAVD88)	Difference in Water Surface Elevations (ft NAVD88)
Ridge Road (State Route 104)	576+79.5	356.6	357.9	1.3
Footbridge (Culvert)	639+46	357.9	358.9	1.0
Footbridge (Culvert)	646+95.5	359.9	360.7	0.8
Stone Road	684+02	363.5	364.2	0.7
Plank Road	707+13	363.9	364.6	0.7
Private Drive	731+66	369.0	369.3	0.3
Railroad Bridge	750+93.5	431.8	432.0	0.2
Private Drive	753+94.5	451.4	451.7	0.3
Railroad Bridge	755+24.5	451.7	452.0	0.3
William Street	771+53.5	465.0	465.2	0.2
Footbridge	781+42.5	474.2	474.4	0.2
Clinton Street	789+64	484.7	484.8	0.1
Eighteenmile Creek Culvert	815+88.5	616.5	616.7	0.2
Davison Road	865+48	620.9	621.0	0.1

Source: (FEMA, 2017)

In assessing hydraulic capacity of the bridges/culverts located in the identified high-risk areas along Eighteenmile Creek, the FEMA FIS profile was used to determine the lowest annual chance flood elevation to flow under a culvert/the low chord of a bridge, without causing a significant backwater condition upstream (Table 10, Table 11). According to the FEMA FIS profiles, four structures within the identified high-risk areas do not meet the NYSDOT guidelines for 2-feet of freeboard for bridges/ accommodating flow without exceeding the culverts drainage capability: Stone Road, Plank Road, Eighteenmile Creek Culvert, and Davison Road. In addition, these structures do not meet the new draft CRRA climate change infrastructure guidelines as described above. Their low chord/top of culvert elevations are below the 10% ACE and they do not provide the recommended hydraulic capacity (FEMA, 2017). Even though these structures may have hydraulic capacity restraints, the NYSDOT has to balance both physical constraints along with cost versus benefit of replacing existing bridges to meet the new draft CRRA guidelines.

Further review of the FEMA FIS profiles indicates that the hydraulic capacity of Stone Road, Plank Road, and Davison Road may be influenced by high tailwater conditions due to limited channel capacity downstream of these structures. Alternatively, the hydraulic capacity of the Eighteenmile Creek Culvert is not influenced by downstream tailwater conditions.

In addition to comparing the annual chance flood elevations and low chords for bridges/culverts that cross Eighteenmile Creek, the structure width and bankfull width were compared for each of these structures. The USGS *StreamStats* tool was used to calculate the bankfull widths and discharge for each structure along Eighteenmile Creek. Table 13 indicates that in Niagara County, NY, there are six structures within the study area that cross Eighteenmile Creek that have bridge openings that are smaller than the bankfull

widths: two footbridges, two private drives, Eighteenmile Creek Culvert, and Davison Road. In addition, there is one bridge with an opening that is very close (within 5 feet) of bankfull width: Stone Road. The bridge with an opening within 5 feet of bankfull is an area of concern since it was also identified as not meeting the NYSDOT guidelines for 2-feet of freeboard for bridges. Of the bridges listed in Table 13, three are within the identified high risk areas: Stone Road, Eighteenmile Creek Culvert and Davison Road.

The structures with bankfull widths that are wider than or close to the structures width indicate that water velocities have to slow and contract in order to pass through the structures, which can cause sediment depositional aggradation and the accumulation of sediment and debris. Aggradation can lead to the development of sediment and sand bars, which can cause upstream water surfaces to rise, increasing the potential for overtopping banks or backwater flooding. Since the bankfull discharge required for water surface elevations to reach the bankfull width is low (e.g. >20% ACE), the likelihood of relatively low flow events causing backwater and potential flooding upstream of these structures is fairly high. Therefore, structures with widths less than or within five feet of the bankfull width are considered high-risk constriction point structures, as depicted in Figure 9.

Table 13. Hydraulic Capacity of Potential Constriction Point Structures Crossing Eighteenmile Creek

Roadway Carried	Structure Type	River Station (ft)	Structure Width (ft)	Bankfull Width (ft)	Bankfull Discharge (cfs)	ACE Equivalent[1]
Footbridge (Culvert)	Culvert	646+95.5	34	46.0	359	> 20%
Stone Road	Bridge	684+02	46.5	44.3	334	> 20%
Private Drive	Bridge	731+66	30	32.4	178	> 20%
Private Drive	Bridge	753+94.5	15	32.4	178	> 20%
Footbridge	Bridge	781+42.5	30	32.4	178	> 20%
Eighteenmile Creek Culvert	Culvert	815+88.5	6	23.7	95	> 4%
Davison Road	Bridge	865+48	12	23.7	95	> 4%

Notes:
1. ACE Equivalent describes the equivalent ACE for the given bankfull discharge as calculated by the USGS *StreamStats* application. The 20% ACE is equal to a 5-year recurrence interval, while the 4% ACE is equal to a 25-year recurrence interval.

Source: (NYSDOT, 2019a); (USGS, 2020a); (FEMA, 2017)

Climate Change Implications

Future Projected Stream Flow in Eighteenmile Creek

In New York State, climate change is expected to exacerbate flooding due to projected increases of 1-8% in total annual precipitation coupled with increases in the frequency, intensity, and duration of extreme precipitation events (events with more than 1, 2, or 4 inches of rainfall) (NYSERDA, 2011). In response to these projected changes in climate, New York State passed the Community Risk and Resiliency Act (CRRA) in 2014. In accordance with the guidelines of the CRRA, the NYSDEC released the New York State Flood Risk Management Guidance for Implementation of the Community Risk and Resiliency Act (2018) draft report. In the report, two methods for estimating projected future discharges were discussed: an end of design life multiplier and the USGS *FutureFlow Explorer* map-based web application (NYSDEC, 2018).

USGS *FutureFlow Explorer* v1.5 (https://ny.water.usgs.gov/maps/floodfreq-climate/) is discussed as a potential tool to project peak flows under various climate scenarios into the future. *FutureFlow* Explorer was developed by the USGS in partnership with the NYSDOT. This application is an extension for the USGS *StreamStats* map-based web application and projects future stream flows in New York State. The USGS team examined 33 global climate models and selected five that best predicted past precipitation trends in the region. The results were then downscaled to apply to all six hydrologic regions of New York State. Three time periods can be examined: 2024-2049, 2050-2074 and 2075-2099, as well as two Intergovernmental Panel on Climate Change (IPCC) greenhouse gas emission scenarios: RCP 4.5 and RCP 8.5. RCP 4.5 is considered a midrange-emissions scenario, and RCP 8.5 is a high-emissions scenario [(Taylor, Stouffer, & Meehi, 2011); (NYSDEC, 2018)].

In general, climate models are better at forecasting temperature than precipitation and contain some level of uncertainty with their calculations and results. The USGS recommends using *FutureFlow* projections as qualitative guidance to see likely trends within any watershed and as an exploratory tool to inform selection of appropriate design flow. Current future flood projection models will not provide accurate results for basins that extend across more than one hydrologic region in New York (NYSDEC, 2018).

Based on the current future flood projection models, flood magnitudes are expected to increase in nearly all cases in New York State, but the magnitudes vary among regions. While the *FutureFlow* application is still being upgraded, it can be used with appropriate caution. Climate model forecasts are expected to improve and as they do, the existing regression approach will be tested and refined further (NYSDEC, 2018).

The NYSDEC recommends that future peak flow conditions should be adjusted by multiplying relevant peak flow parameters by a factor specific to the expected service life of the structure and geographic location of the project. For Western New York, the recommended design-flow multiplier is 10% increased flow for an end of design life of 2025-2100 (NYSDEC, 2018). Table 14 provides a summary of the projected future peak stream flows using the FEMA FIS peak discharges and 10% CRRA design multiplier.

Table 14. Eighteenmile Creek Projected Peak Discharges

Flooding Source and Location	Drainage Area (mi^2)	River Station (ft)	Peak Discharge (cfs)			
			10%	2%	1%	0.2%
At downstream corporate limits, Town of Lockport	21.9	568+19	2,035	2,915	3,410	4,400
Downstream of confluence with West Tributary	21.3	626+71	2,003	2,869	3,354	4,331
Just upstream of confluence with small tributary	10.6	667+82	1,351	1,915	2,210	2,895
At downstream corporate limits, City of Lockport	10.0	706+32	1,320	1,870	2,156	2,827
Upstream of confluence with Gulf Creek	4.7	722+31	770	1,133	1,254	1,738
At Eighteenmile Creek Culvert Outlet	3.3	795+31	682	990	1,089	1,507
At upstream corporate limits, City of Lockport	2.2	868+57	363	539	600	847

Source: (NYSDEC, 2018)

Appendix E contains the HEC-RAS simulation summary sheets for the current and projected future flow simulations. The HEC-RAS model simulation results for the future condition model parameters using the future projected discharge values are similar to the base-condition model output with the only difference being future projected water surface elevations are up to 1.4-feet higher at specific locations, generally upstream of bridges due to backwater, as a result of the increased discharges.

Table 15 provides a comparison of HEC-RAS base condition modeled water surface elevations at the FIS discharge locations, using the effective FEMA FIS flows, and future condition, using the 10% CRRA design multiplier flows.

Table 15. HEC-RAS Current and Projected Future Flow Water Surface Elevation Comparison

Flooding Source and Location	Drainage Area (mi^2)	River Station (ft)	Water Surface Elevation Change (ft)[1]			
			10%	2%	1%	0.2%
At downstream corporate limits, Town of Lockport	21.9	568+19	+0.37	+0.41	+0.90	+1.20
Downstream of confluence with West Tributary	21.3	626+71	+0.27	+0.39	+0.65	+0.48
Just upstream of confluence with small tributary	10.6	667+82	+0.28	+0.31	+0.34	+0.30
At downstream corporate limits, City of Lockport	10.0	706+32	+0.32	+1.26	+0.13	+0.65
Upstream of confluence with Gulf Creek	4.7	722+31	+0.27	+1.16	+0.15	+0.63
At Eighteenmile Creek Culvert Outlet	3.3	795+31	+0.16	+0.19	+0.20	+0.25
At upstream corporate limits, City of Lockport	2.2	868+57	+0.12	+0.11	+0.11	+0.12

Notes:
1. Positive changes in water surface elevation indicate the future conditions water surface elevation is higher than the base condition.

Source: : (FEMA, 2017); (NYSDEC, 2018); (USACE, 2019)

Flooding Characteristics

Flooding History

Low-lying areas within the City of Lockport are subject to flooding with the most severe flooding caused by heavy rains in conjunction with snowmelt and ice jams in the early spring (FEMA, 2017). Flooding of properties has been noted along Water Street, but there is no indication this flooding reached the residential structures. Severe flooding occurs about 100 feet into yards approximately once every two years, with lesser flooding potentially occurring several times a year. Some of this flooding is due to debris or ice blocking William Street structures (NYSDEC, 2006). This stream crossing is no longer open to vehicular traffic, but is commonly used by pedestrians.

FEMA FIRMs are available for Eighteenmile Creek depicting the extent of the expected floodplain. Figure 10 and Figure 11 display the floodway and 1% and 0.2% ACE boundaries for Eighteenmile Creek as determined by FEMA for the Town and City of Lockport (FEMA, 2010).

Figure 10. Eighteenmile Creek, FEMA Flood Zones, Town of Lockport, Niagara County, NY

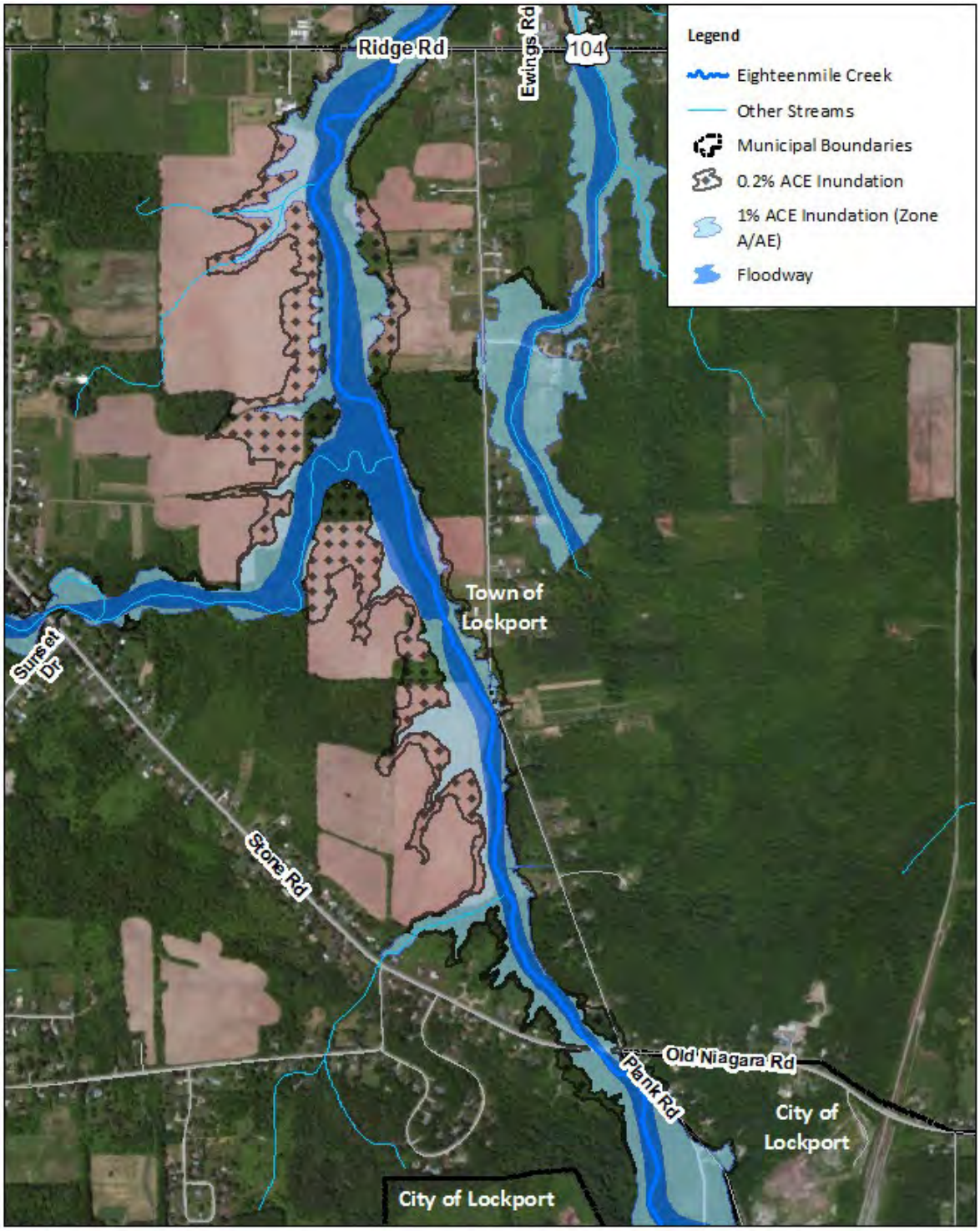
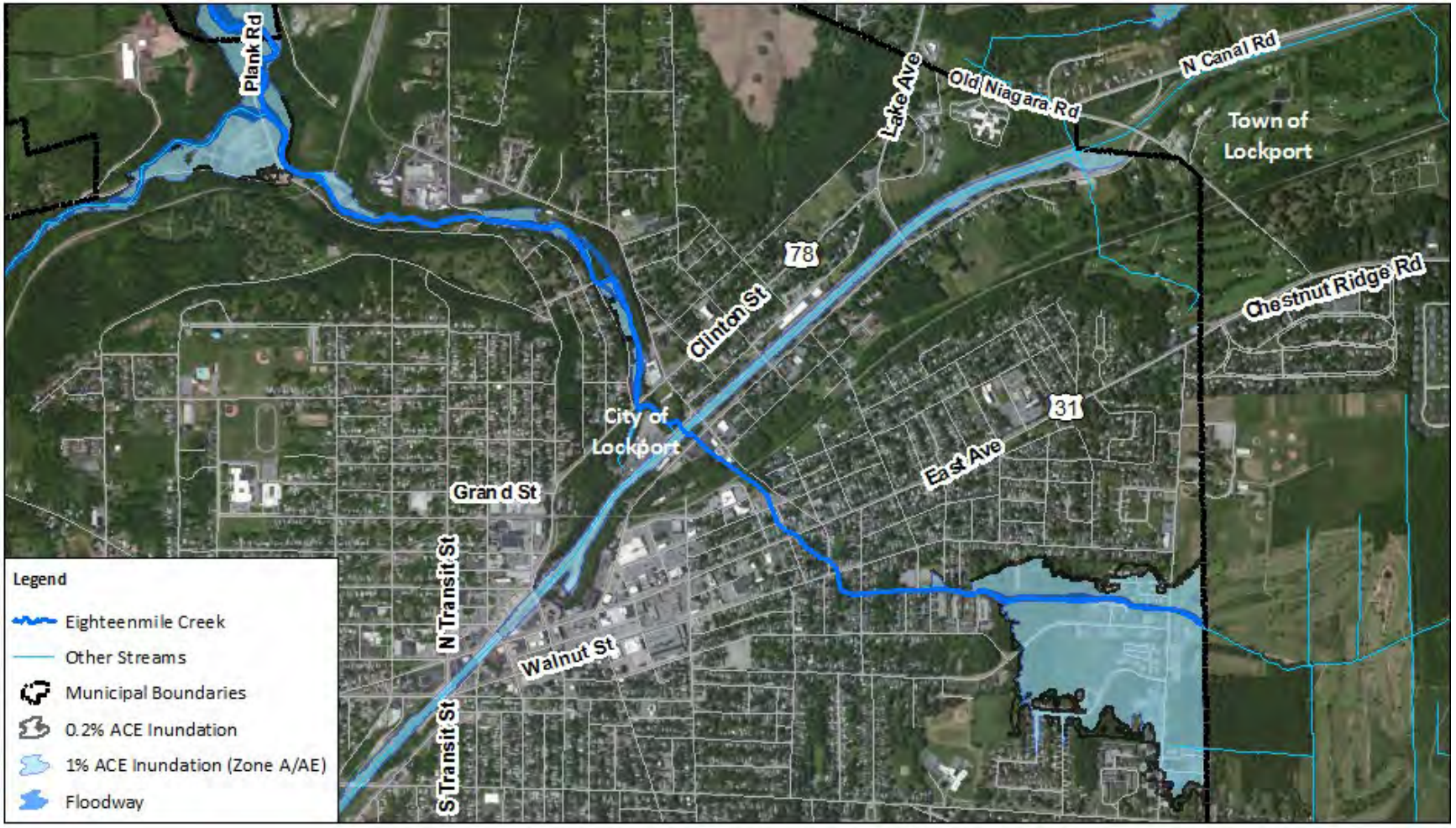


Figure 11. Eighteenmile Creek, FEMA Flood Zones, City of Lockport, Niagara County, NY



Flood Risk Assessment

Flood Mitigation Analysis

For this study of Eighteenmile Creek, standard hydrologic and hydraulic study methods were used to determine and evaluate flood hazard data. Flood events of a magnitude which are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10%, 2%, 1%, and 0.2% chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. The analyses reported herein reflect flooding potentials based on conditions existing in the county at the time of the effective FIS (FEMA, 2017).

Hydraulic analysis of Eighteenmile Creek was conducted using the HEC-RAS v5.0.7 program (USACE, 2019). The HEC-RAS computer program was written by the USACE Hydrologic Engineering Center (HEC), and is considered to be the industry standard for riverine flood analysis. The model is used to compute water surface profiles for one- and two-Dimensional (2-D), steady-state, or time-varied (unsteady) flow. In one-dimensional (1-D) solutions, the water surface profiles are computed from one cross section to the next by solving the one-dimensional St. Venant equations with an iterative procedure (i.e. standard step backwater method). Energy losses are evaluated by friction (Manning's Equation) and the contraction / expansion of flow through the channel. The momentum equation is used in situations where the water surface profile is rapidly varied, such as hydraulic jumps, mixed-flow regime calculations, hydraulics of dams and bridges, and evaluating profiles at a river confluence (USACE, 2016a).

Hydraulic and Hydrologic modeling of Eighteenmile Creek was completed by FEMA in 1979 for the City of Lockport and 1999 for the Town of Lockport. Due to the age and format of the FIS study, an updated 1-D HEC-RAS model was developed using the following data and software:

- Niagara County, NY bare earth LiDAR DEM data (FEMA, 2008)
- New York State Digital Ortho-imagery Program imagery for Niagara County (NYSOITS, 2017)
- National Land Cover Database (NLCD) data (MRLC, 2019)
- USGS *StreamStats* peak discharge data (USGS, 2020a)
- RAS Mapper extension in HEC-RAS software
- ESRI ArcMap 10.7 with the HEC-GeoRAS extension GIS software (ESRI, 2019)

The hydraulic model was developed for Eighteenmile Creek beginning approximately 850 feet downstream of Ridge Road/State Route 104 (river station 568+19) and extending upstream to approximately 300 feet upstream of Davison Road (river station 868+57).

Methodology of HEC-RAS Model Development

Hydraulic modeling of Eighteenmile Creek in the Town of Lockport was completed in 1999 using HEC-2 computer software. The Town of Lockport analysis extended from just downstream of State Route 104 to just upstream of Plank Road for a total model length of approximately 2.7 miles (FEMA, 2002). Hydraulic modeling of Eighteenmile Creek in the City of Lockport was completed in 1979 using HEC-2 computer software. The City of Lockport analysis extended from just downstream of Plank Road to just upstream of Davison Road for a total model length of approximately 3.1 miles (FEMA, 1980). These HEC-2 models were

converted to the most recent version of HEC-RAS (Version 5.0.7). Next, the two hydraulic models were combined and updated using the LiDAR DEM data, orthoimagery, land cover data, and the RAS Mapper extension in the HEC-RAS software. These changes resulted in a base condition hydraulic model developed from the effective FEMA hydraulic model using the following methodology:

- HEC-2 models were imported, and elevations were converted from NGVD29 to NAVD88 (NAVD88 = NGVD29 - 0.5 feet)
- Georeferenced stream centerline and cross sections using geographic information systems (GIS)
- Revised reach lengths between cross sections using GIS
- Adjusted cross-section geometry, for areas outside of the stream channel throughout the model using the LiDAR DEM
- Updated Manning n-values to better reflect channel, bank, and floodplain roughness, based on field observations and ortho-imagery
- Updated structure geometry and channel elevations based on as-built drawings and field measurements for critical structures within high risk areas
- Revised rating curve for Eighteenmile Creek Culvert
- Adjusted ineffective flow areas to account for floodplain expansion and contraction at structures and due to terrain
- Revised expansion and contraction coefficients to correspond with hydraulic conditions near structures
- Adjusted downstream boundary condition to use a rating curve based on the water surface elevations in the effective FEMA FIS profile
- Adjusted left and right bank stations based on the adjusted cross section geometry and bankfull discharge
- Performed a 1-D steady flow simulation using the effective FEMA FIS peak discharges

The base condition model water surface elevation results were then compared to the FEMA FIS water surface profiles and the effective FEMA FIS streambed elevation profiles to validate the model. A review of the Eighteenmile Creek Culvert rating curve for the effective FEMA FIS suggested that it overestimated the hydraulic capacity of the culvert. As part of this study a new rating curve was developed for the structure based on the combined flow through the culvert and overland flow through the Town of Lockport. After the base condition model was verified, it was then used to develop alternative condition models to simulate potential flood mitigation strategies. Generic renderings of various potential flood mitigation strategies are provided in Appendix F. The simulation results of the alternative conditions were evaluated based on their reduction in water surface elevations. As the potential flood mitigation strategies are, at this point, preliminary, inundation mapping was not developed from the computed water surface profiles for each potential mitigation alternative. Inundation shown on figures within this report reflects that of the effective FEMA FIS for the Town and City of Lockport. The effectiveness of each potential mitigation strategy was evaluated based on reduction in water surface elevations. In addition to reduced water surface elevations at the inundated structures, some structures may be removed from the inundation area for a given annual chance exceedance (ACE) event by implementing the mitigation strategies.

The flood mitigation strategies that were modeled were:

Town of Lockport:

- Modify Stone Road Bridge

- Create flood bench downstream of Stone Road Bridge
- Modify Stone Road Bridge and Create flood bench downstream of Stone Road Bridge

City of Lockport:

- Create flood bench upstream of Eighteenmile Creek Culvert
- Dredging upstream of Eighteenmile Creek Culvert

Stationing references for the flood mitigation measures are based on the base condition hydraulic model for Eighteenmile Creek, which differs from the FEMA FIS stationing values.

Cost Estimate Analysis

Rough order of magnitude (ROM) cost estimates were prepared for each mitigation alternative. In order to reflect current construction market conditions, a semi-analogous cost estimating procedure was used by considering costs of a recently completed, similar scope construction project performed in Upstate New York. Phase I of the Sauquoit Creek Channel and Floodplain Restoration Project in Whitestown, NY contained many elements similar to those found in the potential mitigation alternatives.

Where recent construction cost data was not readily available, RSMeans CostWorks 2019 was used to determine accurate and timely information (Gordian, Inc., 2019). Costs were adjusted for inflation and verified against current market conditions and trends.

For mitigation alternatives where increases in bridge sizes were evaluated, bridge size increases were initially analyzed based on 2-feet freeboard over the base flood elevation for a 1% ACE. Once these optimal sizes were determined, further analysis was completed including site constraints and constructability. Due to these additional constraints, for some mitigation measures the size necessary to meet the freeboard requirement was not feasible. Cost estimates were only performed for projects determined to be constructible and practical.

For mitigation alternatives where increases in culvert sizes were evaluated, culvert size increases were initially analyzed based on the NYSDOT highway drainage standards of successfully passing the 2% annual chance flood hazard. If the NYSDOT standard was achieved, then the CRRA recommended guideline of 2-feet of freeboard (3-feet for a critical structure) was analyzed. Once these optimal sizes were determined, further analysis was completed including site constraints and constructability. Due to these additional constraints, for some mitigation measures the size necessary to meet the freeboard requirement was not feasible. Cost estimates were only performed for projects determined to be constructible and practical.

Infrastructure and hydrologic modifications will require permits and applications to the New York State and / or FEMA, including construction and environmental permits from the State and accreditation, Letter of Map Revision (LOMR), etc. applications to FEMA. Application and permit costs were not incorporated in the ROM costs estimates.

Ice Jam Formation

An ice jam typically occurs in the late winter and/or early spring in ice-covered streams when ice accumulates at man-made (e.g. bridge piers, dams) or natural narrower or shallower sections or meanders of a river slowing down or blocking the incoming ice by bridging the ice across the width of the river.

As the air temperature drops, the water temperature reaches freezing temperatures and starts to form frazil ice crystals in the water column. These ice crystals travel in the water column (suspended ice) with the river currents, growing in concentration, and losing heat while traveling. They float on the surface (surface ice), and as the crystals grow in size, they form surface frazil ice. As the air temperature continues to drop, temperature losses from the water and frazil ice create more surface ice, and thicken the existing surface frazil ice, increasing the surface ice concentrations on the river as it approaches colder winter temperatures. The presence of surface and suspended frazil ice increases resistance to the flow, thus increasing the water levels of rivers in the wintertime. Increasing concentrations of surface and suspended frazil ice increase the potential for ice jam formation, which can inhibit the flow of water in the channel, affecting both upstream and downstream water levels.

An existing ice jam can break-up and travel downstream along with larger ice particles with the higher flows of a flash flood and accumulate at a constricted downstream location creating another break-up ice jam, or damage downstream riverbanks or downstream infrastructures severely. Ice-jam flooding presents a complex problem for scientists and engineers since the resulting flood stage can be significantly higher than the flood stage caused from streamflow alone. In other words, a relatively minor discharge of streamflow can result in a major flooding event during an ice jam (USACE, 1966).

Ice-Jam Flooding Mitigation Alternatives

There are several widely accepted and practiced standards for ice-jam controls to mitigate the ice-jam related flooding. These are referred to as ice-jam mitigation strategies, and each strategy is very much site dependent. A strategy that works for a certain reach of a river may not work for another reach in the same river due to river morphology and hydrodynamics. Therefore, each of these strategies need to be analyzed with numerical modeling and simulations to check if they work for a considered area or reach of a river before pursuing or implementing with the previous observational experience alone. The standard strategies that are widely accepted and practiced in cold-region engineering, such as in Western New York, are listed below with greater detail provided in Appendix G:

- Ice booms
- Ice breaking using explosives
- Ice breaking using ice-breaker ferries and cutters
- Installing inflatable dams (Obermeyer Spillways)
- Mixing heated effluent into the cold water
- Removal of bridge piers, heated bridge piers, or heated riverbank dikes
- Ice retention structures
- Ice forecasting systems and ice management

Gomez and Sullivan suggests performing a freeze-up or a break-up ice model simulation study prior to implementing any of the above discussed strategies. The basic data needs and steps involved in an ice simulation analysis are also outlined in Appendix G.

Ice-Jam Prone Areas

According to the USACE Cold Regions Research and Engineering Laboratory (CRREL) ice jam database, there have been no recorded ice jam events on Eighteenmile Creek (USACE, 2020). However, there have been some reports of flooding due to ice blocking the William Street structures (NYSDEC, 2006). Since this is the only area where ice blockage was noted during background research and it is currently undergoing

remedial design by the USEPA, additional hydraulic and hydrologic modeling using ice simulation models and ice jam specific mitigation measures was not performed for this study.

High Risk Areas

Based on the FEMA FIS, historical flood reports, and stakeholder input from engagement meetings, two areas along Eighteenmile Creek were identified as high-risk flood areas in the Town and City of Lockport.

High Risk Area #1: Stone Road (Station 655+86 to 730+74)

High Risk Area #1 extends from approximately 2,800 feet downstream of Stone Road (BIN: 3329580) to approximately 4,700 feet upstream of Plank Road (BIN: 3362320). The area includes portions of the Town and City of Lockport, as well as the WWTP. Both the Stone Road and Plank Road bridges are owned and maintained by Niagara County. Residences do not appear to be within the floodplain for this risk area, however, the effective FIS and FIRMs indicate extensive flooding of the WWTP and overtopping of Plank Road. No repetitive loss or severe repetitive loss properties are located within this risk area. Figure 12 depicts the extent of flooding within the risk area, while Figure 13 shows the water surface profiles within the risk area.

During the public outreach log jams and other debris issues were specifically noted upstream of Stone Road where the creek parallels Plank Road. The area surrounding Plank Road is described as containing an undisturbed, late-successional to mature deciduous/floodplain forest throughout most of the riparian zone, with a meandering u-shaped channel whose substrate is completely embedded and dominated by silts, sands, and organic matter (Ecology and Environment, Inc., 2007). The presence of silts, sands, and organic matter tend to signal the presence of slower moving water. The channel slope in this area is approximately three feet per mile, as opposed to 124 feet per mile for the reach immediately upstream of the wastewater treatment plant. This change in channel slope is likely contributing to the deposition of debris. The steeper section of the creek will tend to flow with a higher velocity and can thus carry larger debris. Once the water reaches this risk area, it slows down and can no longer transport the debris. Gulf Creek discharges to Eighteenmile Creek just north of the WWTP. The portion of Gulf Creek running through the Rollins T. Grant Wilderness Park, located just west of the WWTP, has a substrate composition primarily of boulder, cobble, and gravels, with lower occurrence of sand, silt, and organic matter (Ecology and Environment, Inc., 2007). The slope of the reach through the wilderness park is approximately 106 feet per mile. This further demonstrates how the channel slope influences the substrate composition. The steeper reach along Gulf Creek generally has larger substrate (boulders, cobbles, gravel), which cannot be as easily moved by high velocity water, as opposed to the flatter slope along Eighteenmile Creek which is primarily silts, sands, and organic matter, which could only settle out under the conditions of slow moving water.

Figure 12. High Risk Area #1: Stone Road (Station 655+86 to 730+74)

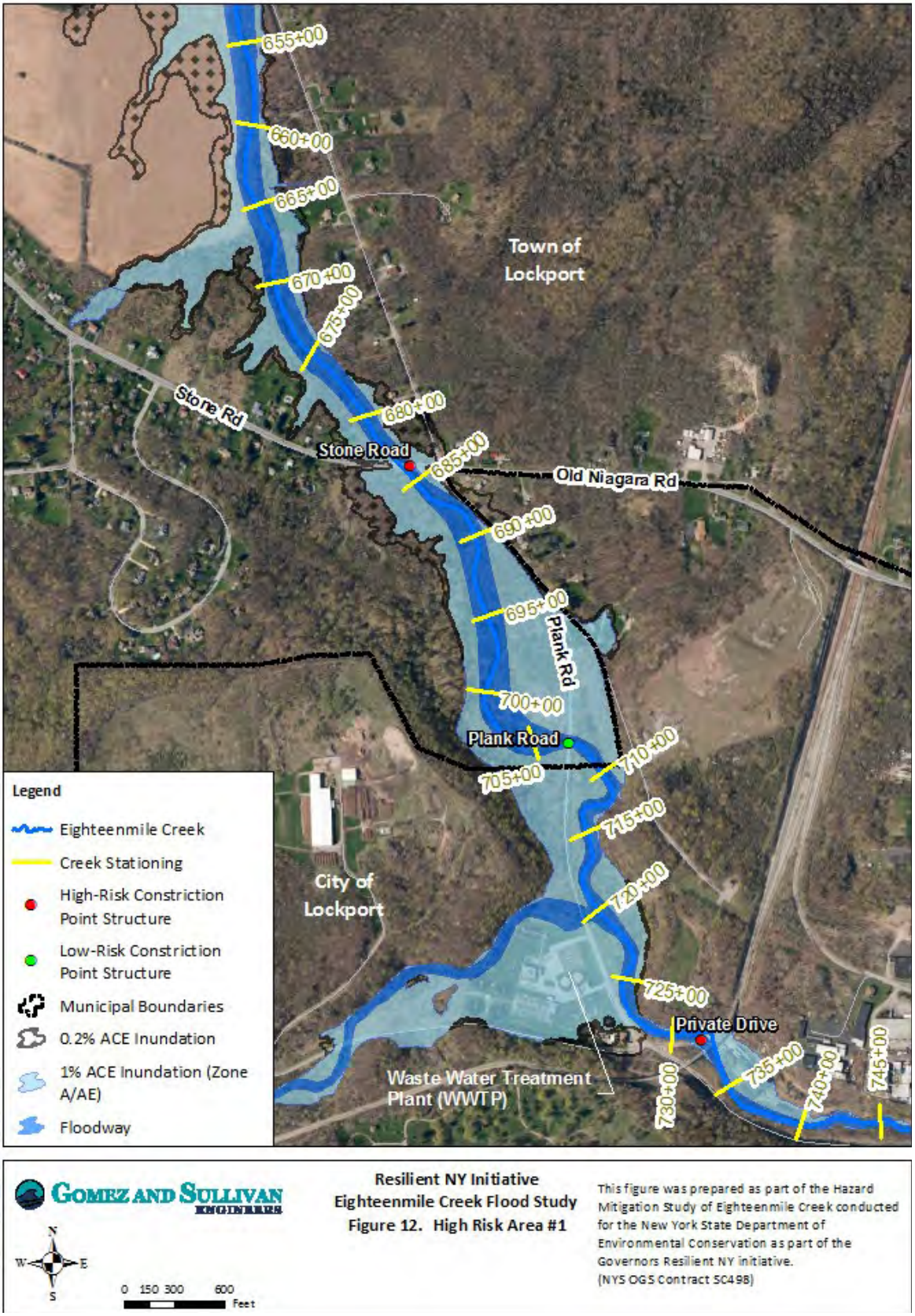
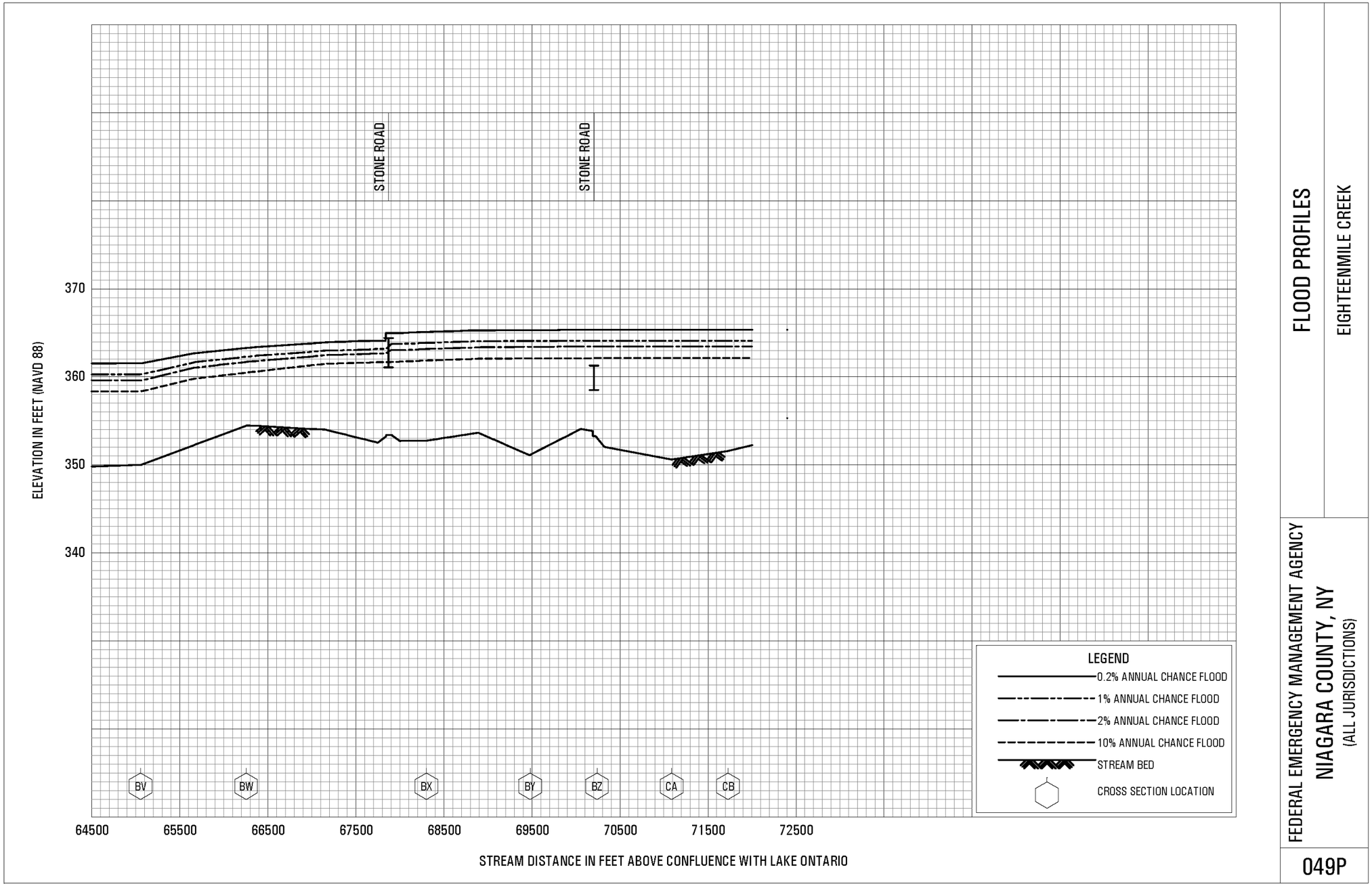


Figure 13. FEMA FIS Profile for Eighteenmile Creek in the Vicinity of High Risk Area #1



High Risk Area #2: Davison Road (Station 836+46 to 865+48)

High Risk Area #2 lies entirely within the City of Lockport and extends from the Eighteenmile Creek Culvert Inlet to Davison Road. The City of Lockport owns and maintains both the Eighteenmile Creek Culvert and the Davison Road Bridge. The effective FEMA FIRM suggests that over 100 residences, as well as various commercial properties are inundated in this risk area during the 1% ACE. However, no repetitive loss or severe repetitive loss properties are located within this risk area. Figure 14 depicts the extent of flooding within the risk area, while Figure 15 shows the water surface profiles within the risk area.

Three potential causes for flooding in this area were mentioned by participants during the initial project kickoff meeting: debris in the channel, fences encroaching the floodplain, and limited hydraulic capacity of the Eighteenmile Creek Culvert. A Wolman pebble count was performed just upstream of the Eighteenmile Creek Culvert Inlet. While the pebble count was predominantly gravels, a large amount of very fine sand and silt/clay was also present. The high presence of very fine sand and silt/clay suggests the presence of lower flow velocities allowing for sedimentation in this area. While sedimentation of the channel may contribute to flooding, the low velocities may be due to limited hydraulic capacity causing backwater within the area. The limited hydraulic capacity may be the result of floodplain encroachments (e.g. fences, houses, fill) or stream crossings (e.g. Eighteenmile Creek Culvert). Although the hydraulic capacity of the Davison Road bridge has been identified as less than the 10% ACE discharge and the bridge is narrower than the bankfull width of the stream, the bridge capacity does not affect the depth or extent of inundation downstream of Davison Road where significant development is impacted by flooding.

Figure 14. High Risk Area #2: Davison Road (Station 836+46 to 865+48)

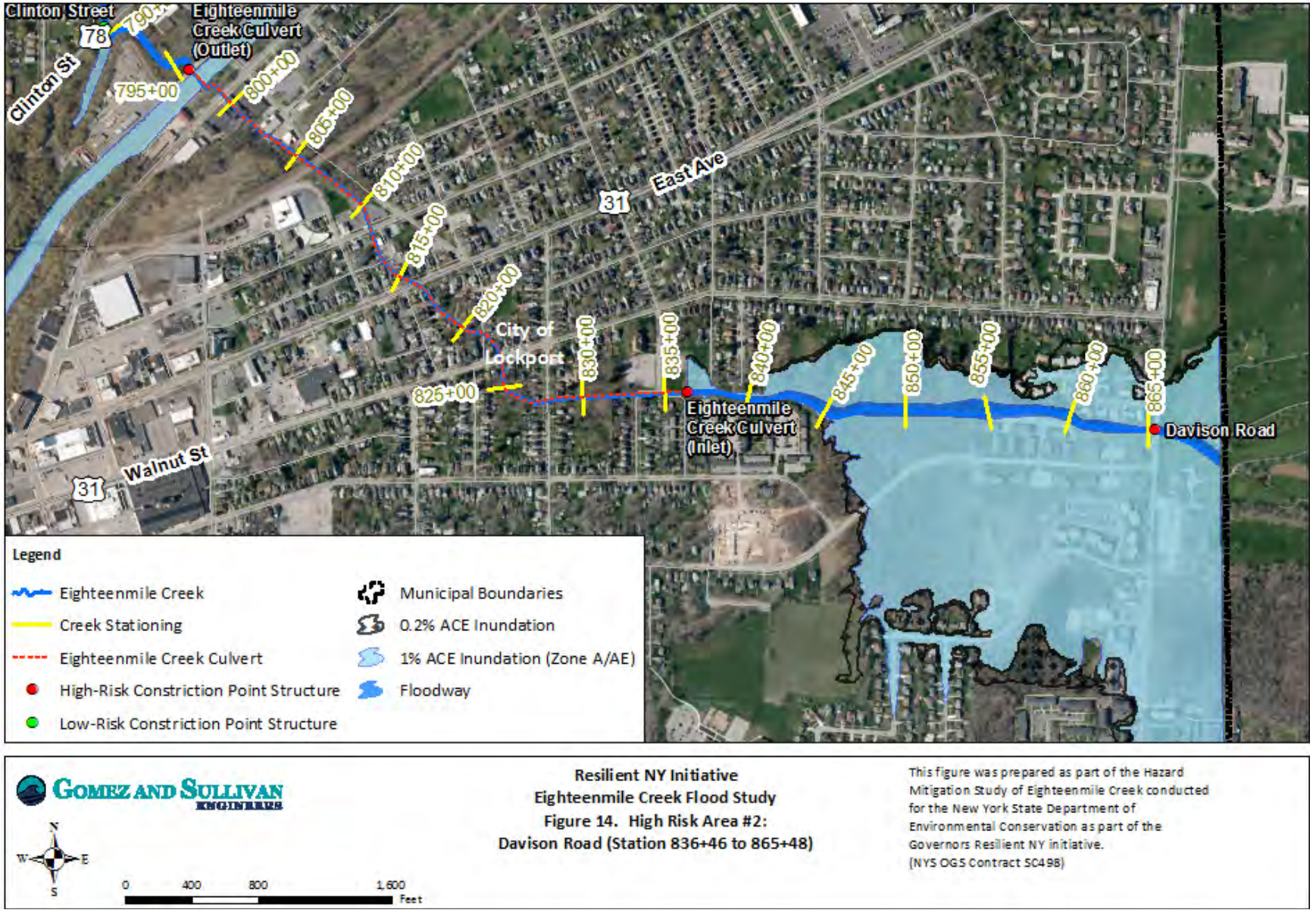
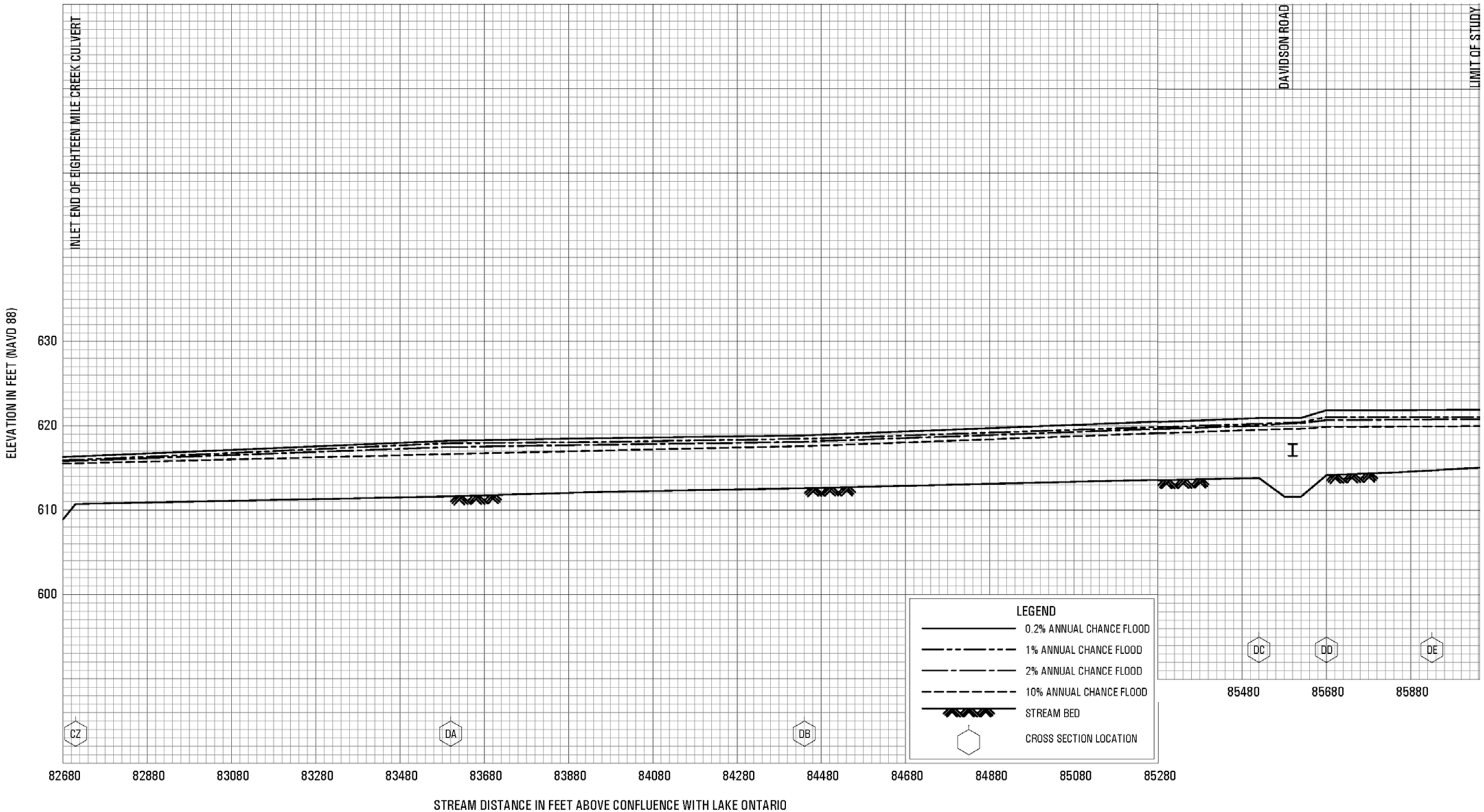


Figure 15. FEMA FIS Profile for Eighteenmile Creek in the Vicinity of High Risk Area #2



Mitigation Alternatives

The following flood mitigation alternatives that have the potential to reduce water surface elevations were evaluated for the identified high-risk areas along Eighteenmile Creek. These alternatives could potentially reduce flood related damages in areas adjacent to the creek. The Town and City of Lockport should evaluate each alternative and consider the potential effects to the community and the level of community buy-in for each before pursuing them further.

High Risk Area #1: Stone Road (Station 655+86 to 730+74)

Alternative #1-1: Modify Stone Road Bridge (Station 684+02)

The water surface profiles for the effective FEMA FIS and base condition model indicate that the bridge at Stone Road causes an increase in water surface elevations upstream of the road for all the modeled discharges. The existing FIS flood profile indicates that the hydraulic capacity of the bridge, without reaching the low chord elevation or causing a significant backwater condition upstream, is less than the 10% annual chance discharge. Additionally, the hydraulic width of the bridge is within five feet of the bankfull width, according to *StreamStats*.

This potential flood mitigation alternative is intended to provide additional flow area through the crossing by widening the bridge. The hydraulic width of the bridge was increased from 46.5 feet to 70 feet for this alternative. Additionally, the low chord was increased to allow for 2 feet of freeboard over the resulting 1% ACE water surface elevation attributed to the projected future discharge, in order to satisfy the CRRA guidelines Figure 16 depicts the conceptual extents of this alternative.

Figure 17 depicts the difference in modeled water surface elevations for existing flood conditions under the base condition and Alternative #1-1 conditions in the vicinity of this alternative. The hydraulic analysis shows that this alternative results in water surface elevation reductions extending upstream from the Stone Road bridge for approximately 4,800 ft to the private drive which is located just upstream of the WWTP. Reductions under current discharges are computed to be as much as 1.2 ft for the 1% ACE discharge, 0.6 ft for the 0.2% ACE discharge, 0.2 ft for the 2% ACE discharge, and 0.1 ft for the 10% ACE discharge. Reductions in the vicinity of the WWTP under current discharges are computed to be approximately 0.9 ft for the 1% ACE discharge, 0.4 ft for the 0.2% ACE discharge, and 0.1 ft for the 2% and 10% ACE discharges. Similar results, relative to the extent and magnitude of water surface elevation reductions, were found under this alternative for the projected future discharges. Reductions under projected future discharges are computed to be as much as 1.3 ft for the 1% ACE discharge, 0.9 ft for the 1% and 0.2% ACE discharges, and 0.2 ft for the 10% ACE discharge. Reductions in the vicinity of the WWTP under projected future discharges are computed to be approximately 0.9 ft for the 2% ACE discharge, 0.7 ft for the 0.2% and 1% ACE discharges, and 0.1 ft for the 10% ACE discharge. Despite these significant water surface elevation reductions, the Plank Road bridge and private drive are still expected to be overtopped for events equaling or exceeding the 10% ACE discharge. The high and low chords for the Plank Road Bridge are significantly below the 10% ACE water surface elevation, and the bridge is at approximately the same elevation as the roadway throughout the floodplain. Therefore, the bridge does not cause appreciable backwater flooding. Modifications to this bridge, such that it would not be overtopped under significant flow events would require the construction of embankments, which are likely to increase flooding upstream of the bridge in the vicinity of the WWTP under significant flow events. The owner of the private drive also owns the only property impacted by backwater from the private drive. Therefore, modifications to the Plank Road Bridge and private drive were not evaluated. In addition to water surface elevation reductions, this alternative has the potential to address concerns related to log

jams and other debris by providing additional flow area and reducing the possibility for floating debris to get caught on the bridge low chord.

The Rough Order Magnitude cost for this alternative is $4.5 million, which does not include land acquisition costs other than survey, appraisal, and engineering coordination. Further, the estimate does not include costs associated with soil contamination testing or remediation, which may apply due to the bridge being located within Operable Unit 3 of the Eighteenmile Creek federal Superfund site.

Figure 16. Location Map for Alternative #1-1

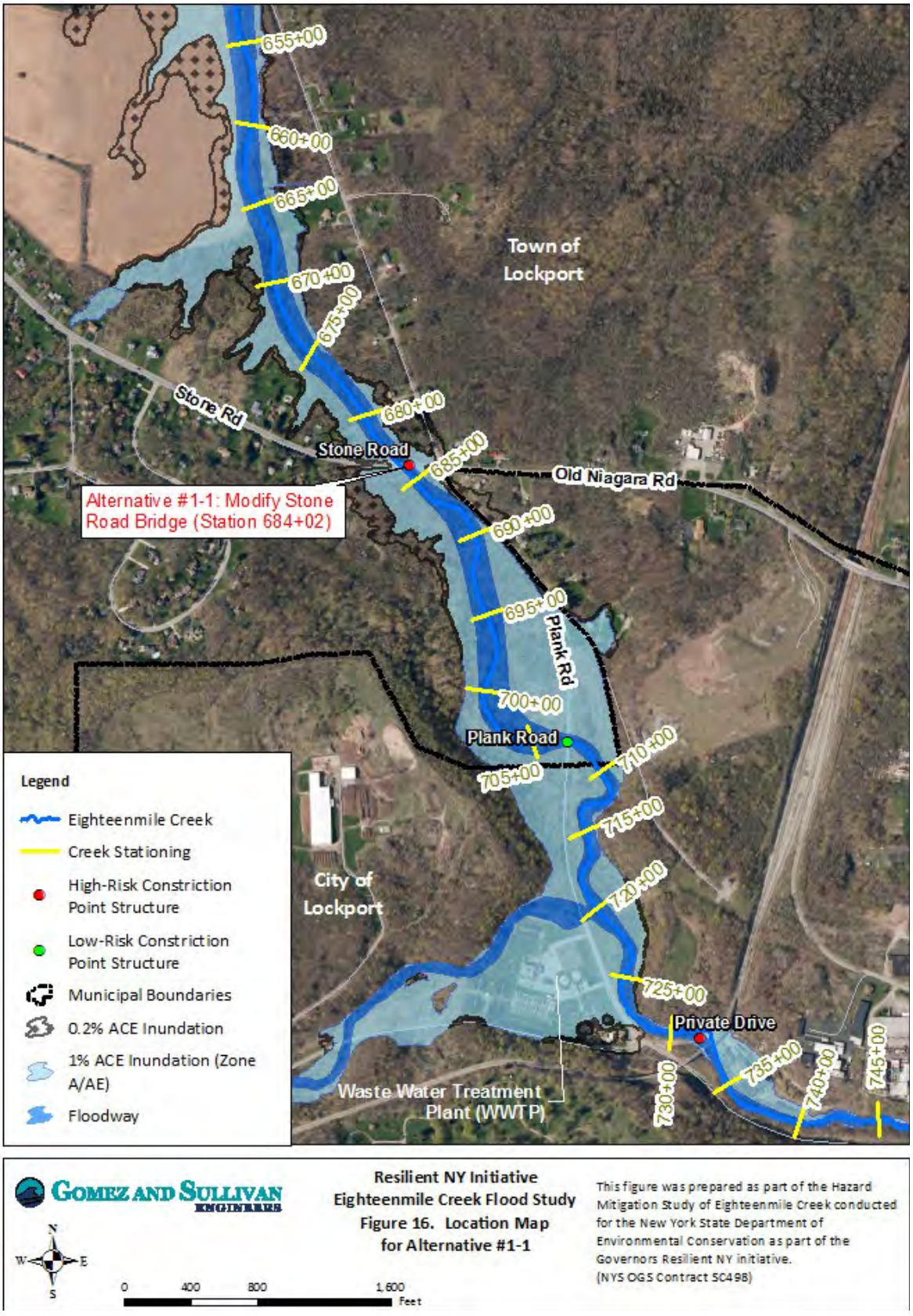
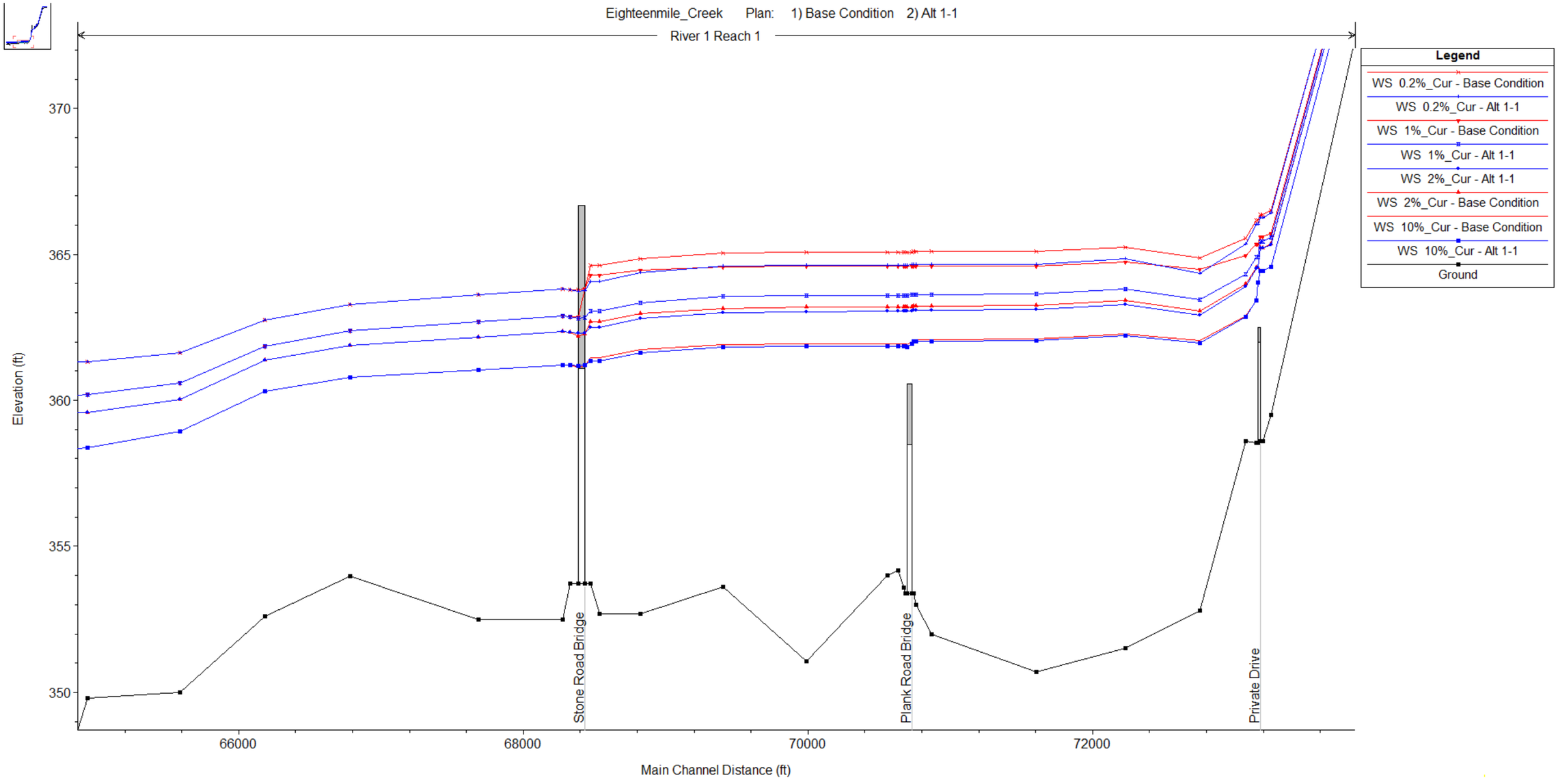


Figure 17. HEC-RAS Model Simulation Output Results for Alternative #1-1



Alternative #1-2: Create Flood Bench Downstream of Stone Road Bridge (Station 654+02 to 671+48)

The water surface profiles for the effective FEMA FIS and base condition model shows that the water surface elevation downstream of the Stone Road Bridge is at approximately the same elevation as the low chord for the 10% ACE discharge, and is above the low chord elevation for lower frequency events. This high downstream water surface elevation may reduce the hydraulic capacity of the bridge and increase water surface elevations upstream of the bridge. The left overbank area downstream of Stone Road is undeveloped land which generally sits at a higher elevation than the bankfull elevation of Eighteenmile Creek, according to the bankfull depth provided by *StreamStats*. Further, some of the stream channel in this area is considered moderately entrenched, according to the entrenchment ratio (USDA, 2007).

This potential flood mitigation alternative is intended to provide additional flow area downstream of the Stone Road bridge through the construction of a 1,750-foot long by 140-foot wide flood bench on the left overbank. The existing topography was lowered by an average of 1.4 ft for this alternative to an elevation between the approximate bankfull and 10% annual chance water surface elevations, resulting in the removal of approximately 12,800 cubic yards of material. Figure 18 depicts the conceptual extents of this alternative.

Figure 19 depicts the difference in modeled water surface elevations for existing flood conditions under the base condition and Alternative #1-2 conditions in the vicinity of this alternative. The hydraulic analysis shows that this alternative results in water surface elevation reductions which extend at least approximately 2,200 ft upstream to the Stone Road bridge for all discharges, and the reductions extend an additional 4,800 feet upstream from the Stone Road bridge to the private drive which is located just upstream of the WWTP for some discharges. The reductions under current discharges are computed to be as much as 0.6 ft for the 2% and 1% ACE discharges and 0.5 ft for the 10% and 0.2% ACE discharges. Reductions in the vicinity of the WWTP under current discharges are computed to be approximately 0.3 ft for the 10% ACE discharge, 0.2 ft for the 2% ACE discharge, and 0.0 ft for the 0.2% and 1% ACE discharges. Similar results, relative to magnitude of water surface elevation reductions, were found under this alternative for the projected future discharges. Reductions under projected future discharges are computed to be as much as 0.6 ft for the 2% and 1% ACE discharges and 0.5 ft for the 10% and 0.2% ACE discharges. Reductions in the vicinity of the WWTP under projected future discharges are computed to be approximately 0.4 ft for the 0.2% ACE discharge, 0.2 ft for the 10% ACE discharge, and 0.0 ft for the 2% and 1% ACE discharges. Water surface elevation reductions extend upstream of Stone Road for the 10% ACE discharges under both current and projected future conditions, the 2% ACE discharge under current conditions, and the 0.2% ACE discharge under projected future conditions. In addition to water surface elevation reductions, this alternative has the potential to address concerns related to log jams and other debris by providing additional flow area and reducing the possibility for floating debris to get caught on the bridge low chord.

The Rough Order Magnitude cost for this alternative is $2.0 million, which does not include land acquisition costs other than survey, appraisal, and engineering coordination. Further the estimate does not include costs associated with soil contamination testing or remediation, which may apply due to the area being located within Operable Unit 3 of the Eighteenmile Creek federal Superfund site.

Figure 18. Location Map for Alternative #1-2

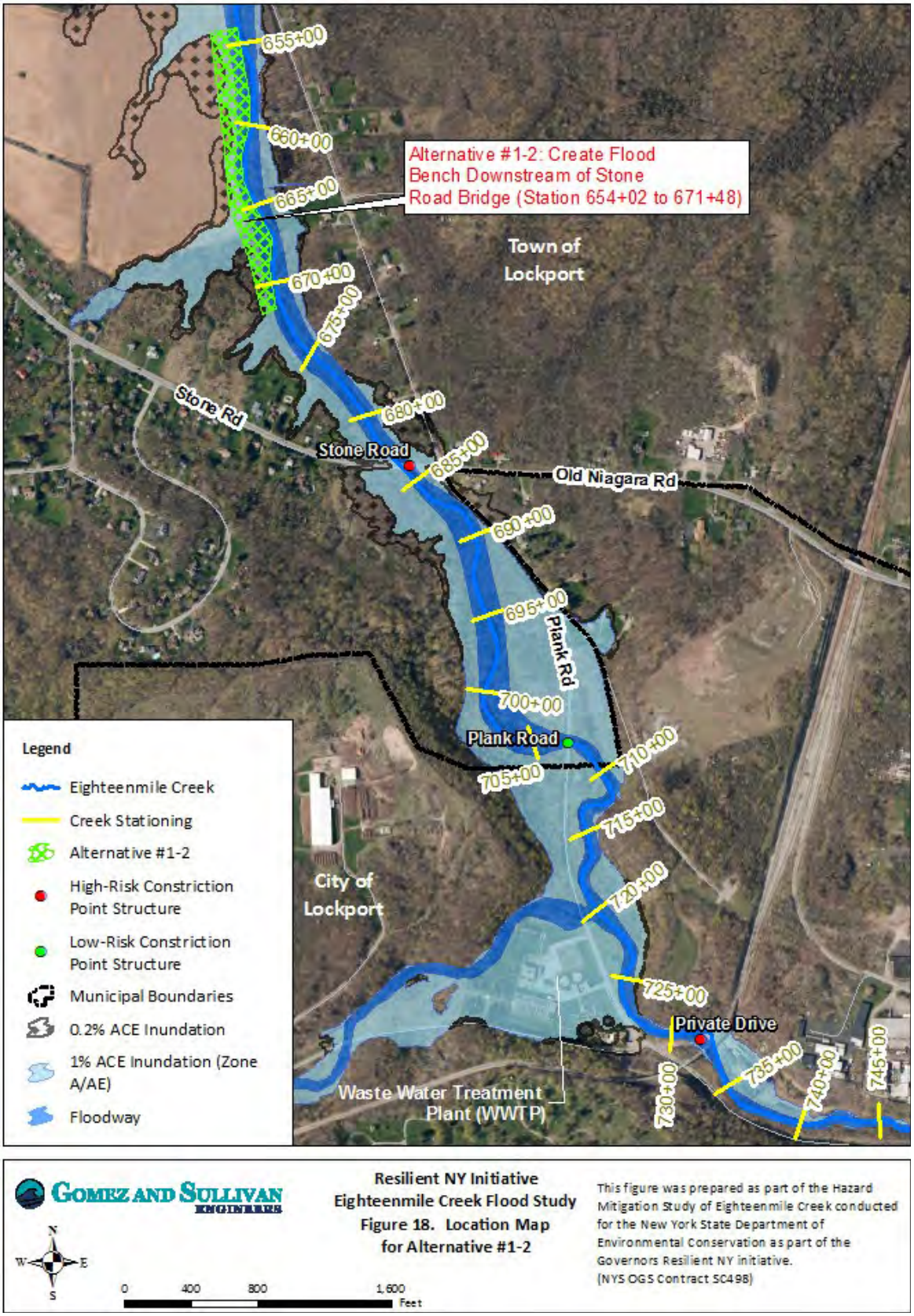
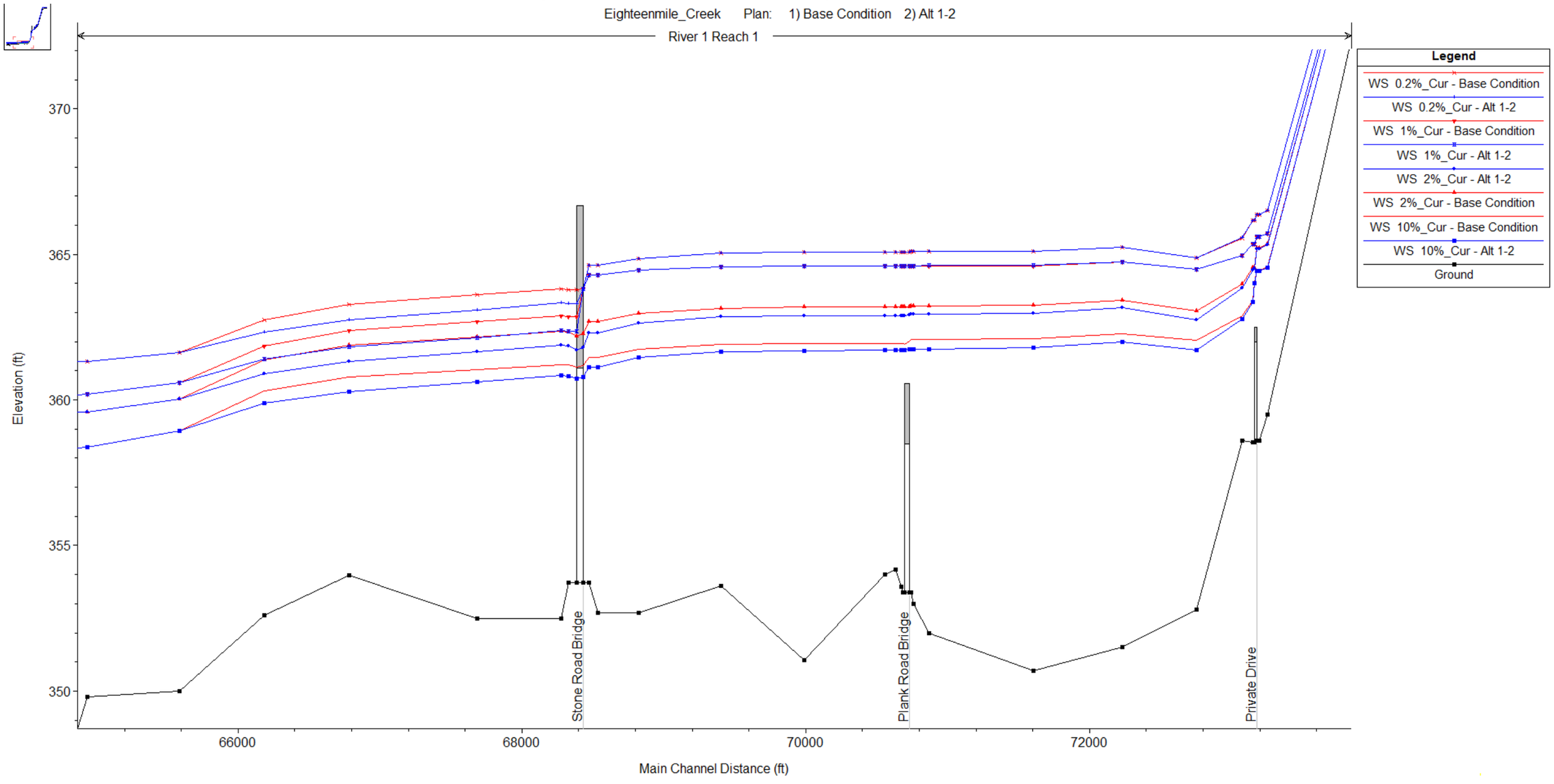


Figure 19. HEC-RAS Model Simulation Output Results for Alternative #1-2



Alternative #1-3: Modify Stone Road Bridge and Create Flood Bench Downstream of Stone Road Bridge (Station 654+02 to 684+02)

This potential flood mitigation alternative is intended to provide additional flow area through the Stone Road bridge as well as increase flow area in the overbank downstream of the Stone Road bridge. This flood mitigation alternative is a combination of the Stone Road bridge modification and flood bench creation downstream of Stone Road, as described above in Alternative #1-1 and Alternative #1-2, respectively. Figure 20 depicts the conceptual extents of this alternative.

Figure 21 depicts the difference in modeled water surface elevations for existing flood conditions under the base condition and Alternative #1-3 conditions in the vicinity of this alternative. This scenario provides water surface elevation reductions for approximately 7,000 ft along Eighteenmile Creek consistent with the combined extents of Alternative #1-1 and Alternative #1-2. Alternative #1-3 produces the same water surface elevation reductions downstream of Stone Road, as Alternative #1-2. However, under Alternative #1-3, the water surface elevation reductions upstream of Stone Road benefit from the combination of flood bench creation and Stone Road bridge modification. Reductions upstream of the bridge under current discharges are computed to be as much as 1.7 ft for the 1% ACE discharge, 1.0 ft for the 0.2% ACE discharge, 0.6 ft for the 2% ACE discharge and 0.5 ft for the 10% ACE discharge. Reductions in the vicinity of the WWTP under current discharges are computed to be approximately 1.2 ft for the 1% ACE discharge, 0.7 ft for the 0.2% ACE discharge, and 0.4 ft for the 2% and 10% ACE discharges. Similar results, relative to the extent and magnitude of water surface elevation reductions, were found under this alternative for the projected future discharges. Reductions upstream of the bridge under projected future discharges are computed to be as much as 1.7 ft for the 2% ACE discharge, 1.4 ft for the 1% ACE discharge, 1.3 ft for the 0.2% ACE discharge, and 0.5 ft for the 10% ACE discharge. Reductions in the vicinity of the WWTP under projected future discharges are computed to be approximately 1.2 ft for the 2% ACE discharge, 1.0 ft for the 1% and 0.2% ACE discharges, and 0.4 ft for the 10% ACE discharge. Despite these significant water surface elevation reductions, the Plank Road bridge and private drive are still expected to be overtopped for events equaling or exceeding the 10% ACE discharge. The high and low chords for the Plank Road Bridge are significantly below the 10% ACE water surface elevation, and the bridge is at approximately the same elevation as the roadway throughout the floodplain. Therefore, the bridge does not cause appreciable backwater flooding. Modifications to this bridge, such that it would not be overtopped under significant flow events would require the construction of embankments, which are likely to increase flooding upstream of the bridge in the vicinity of the WWTP under significant flow events. The owner of the private drive also owns the only property impacted by backwater from the private drive. Therefore, modifications to the Plank Road Bridge and private drive were not evaluated. In addition to water surface elevation reductions, this alternative has the potential to address concerns related to log jams and other debris by providing additional flow area and reducing the possibility for floating debris to get caught on the bridge low chord.

The Rough Order Magnitude cost for this alternative is $6.5 million, which does not include land acquisition costs other than survey, appraisal, and engineering coordination. Further the estimate does not include costs associated with soil contamination testing or remediation, which may apply due to the area being located within Operable Unit 3 of the Eighteenmile Creek federal Superfund site.

Figure 20. Location Map for Alternative #1-3

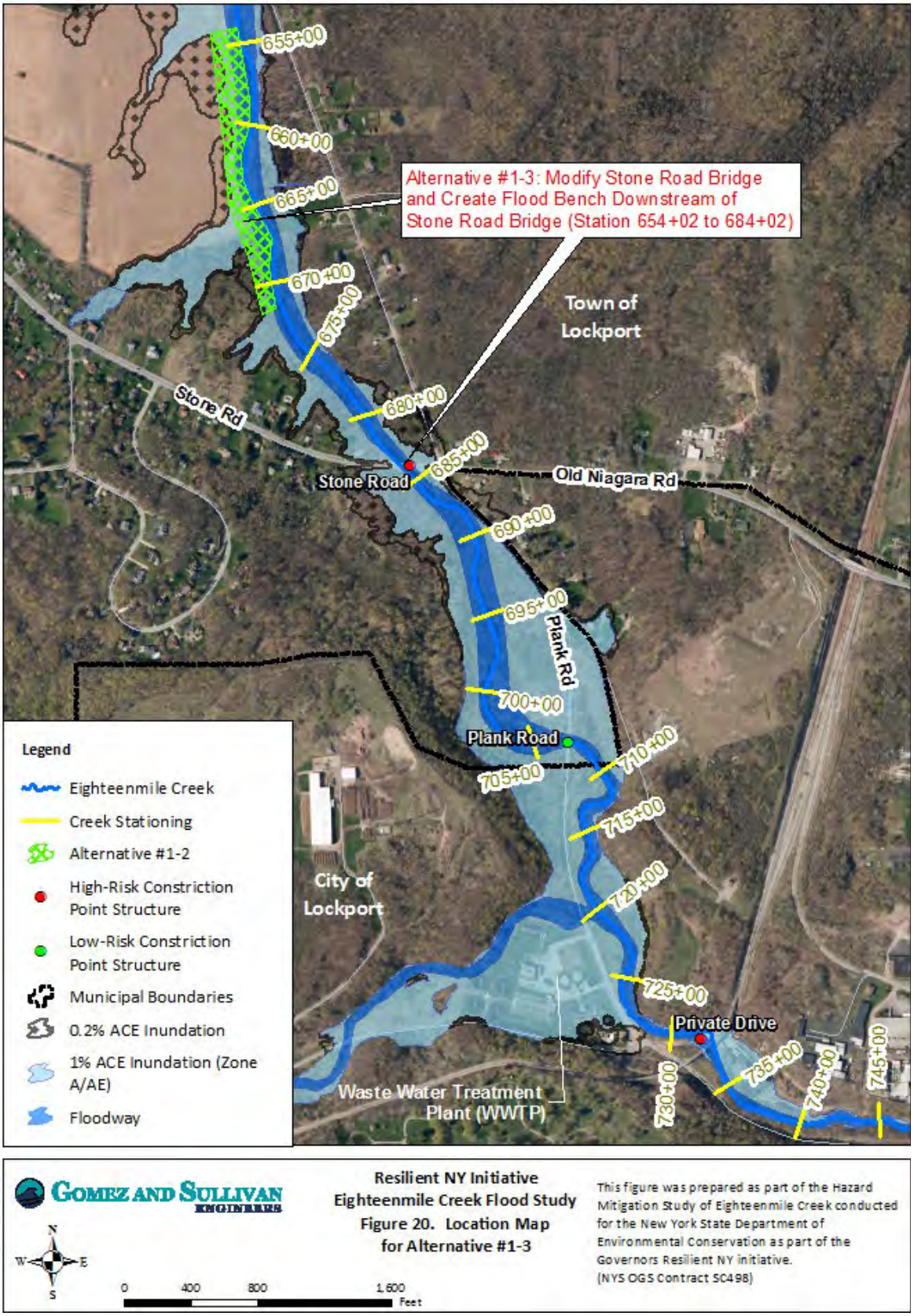
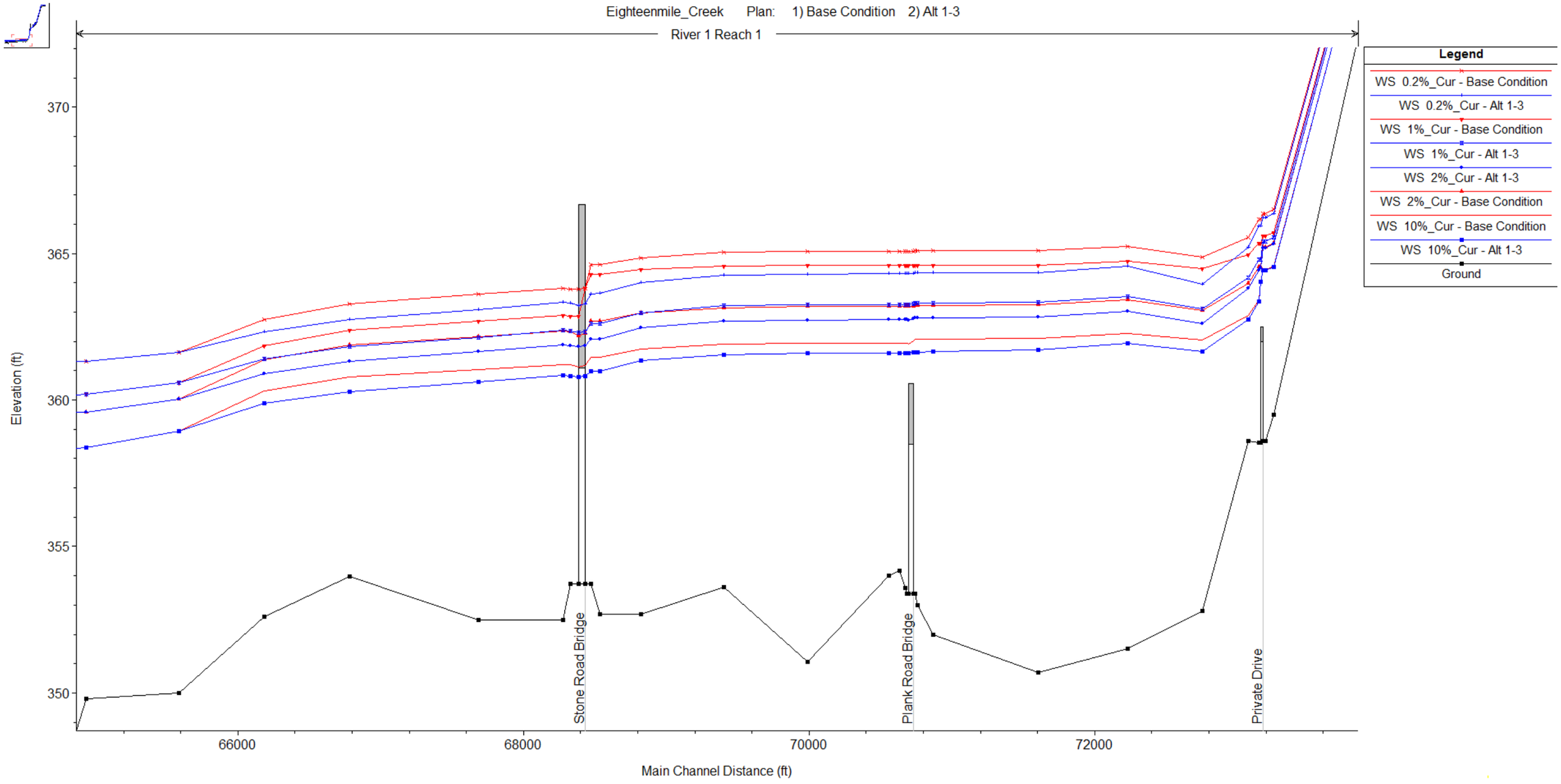


Figure 21. HEC-RAS Model Simulation Output Results for Alternative #1-3



High Risk Area #2: Davison Road (Station 836+46 to 865+48)

Alternative #2-1: Create Flood Bench Upstream of Eighteenmile Creek Culvert (Station 845+75 to 854+02)

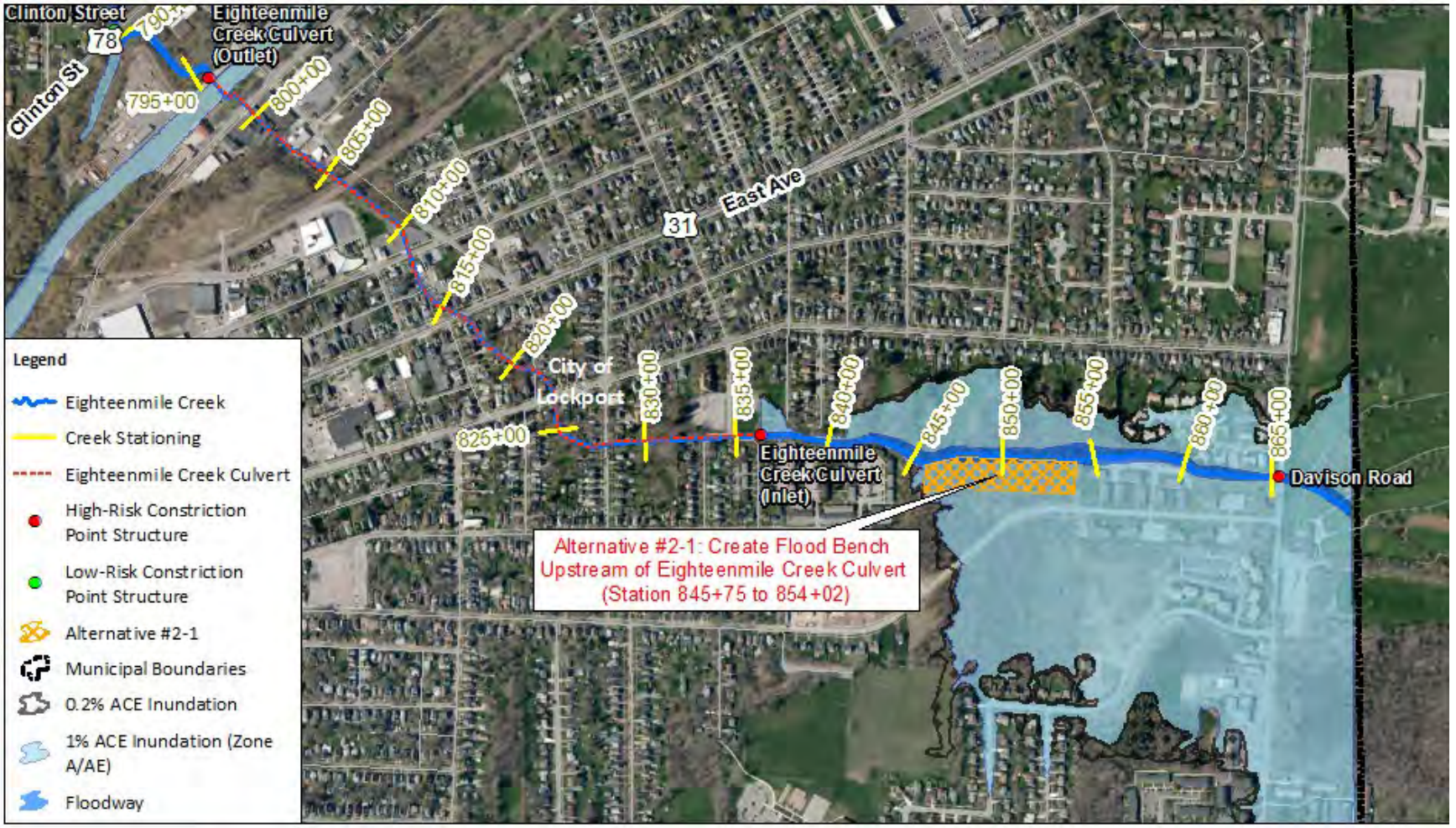
The inundation extents for the effective FEMA FIRM indicates extensive residential and street flooding in the Davison Road area. Participants during the initial kickoff meeting suggested that floodplain encroachments (e.g. fences) could be contributing to flooding in this area. An area of undeveloped land which generally sits at a higher elevation than the bankfull elevation of Eighteenmile Creek, according to the bankfull depth provided by *StreamStats*, was identified along the left overbank area upstream of the Eighteenmile Creek Culvert. Further, some of the stream is this area is considered moderately entrenched, according to the entrenchment ratio (USDA, 2007).

This potential flood mitigation alternative is intended to provide additional flow area upstream of the Eighteenmile Creek Culvert through the construction of an approximately 830-foot long by 165-foot wide flood bench on the left overbank. The existing topography was lowered by an average of 1.2 ft for this alternative to an elevation between the approximate bankfull and 10% annual chance water surface elevations, resulting in the removal of approximately 5,900 cubic yards of material. Figure 22 depicts the conceptual extents of this alternative.

As shown in Figure 23, the modeling results indicate that this alternative does not have an appreciable impact, as water surface elevation reductions are computed to be equal to or less than 0.05 ft for all current and projected future discharges.

The Rough Order Magnitude cost for this alternative is $1.1 million, which does not include land acquisition costs other than survey, appraisal, and engineering coordination.

Figure 22. Location Map for Alternative #2-1



GOMEZ AND SULLIVAN ENGINEERS

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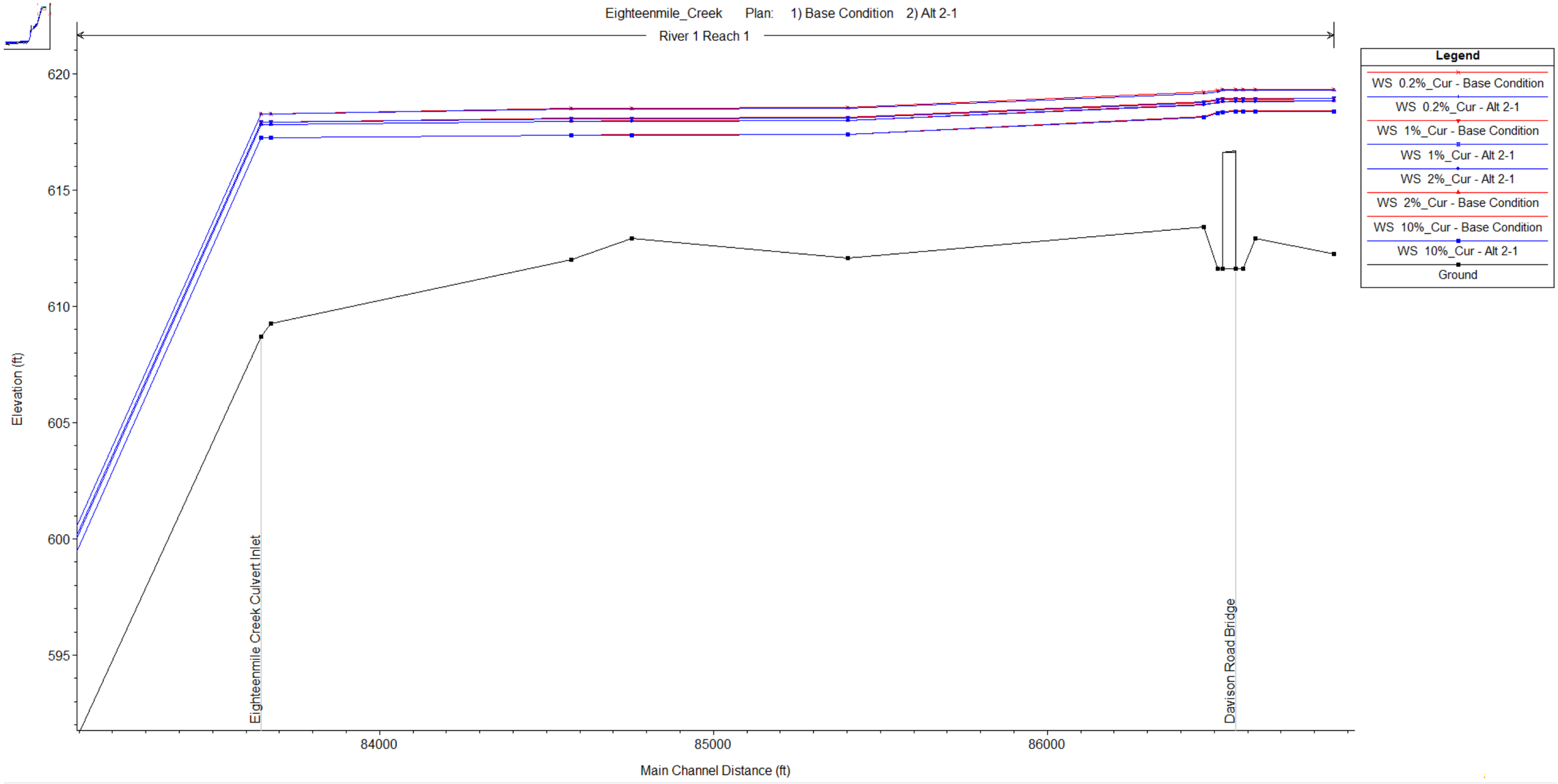
Resilient NY Initiative
Eighteenmile Creek Flood Study
Figure 22. Location Map for Alternative #2-1

This figure was prepared as part of the Hazard Mitigation Study of Eighteenmile Creek conducted for the New York State Department of Environmental Conservation as part of the Governors Resilient NY initiative. (NYS OGS Contract SC498)

Figure 23. HEC-RAS Model Simulation Output Results for Alternative #2-1



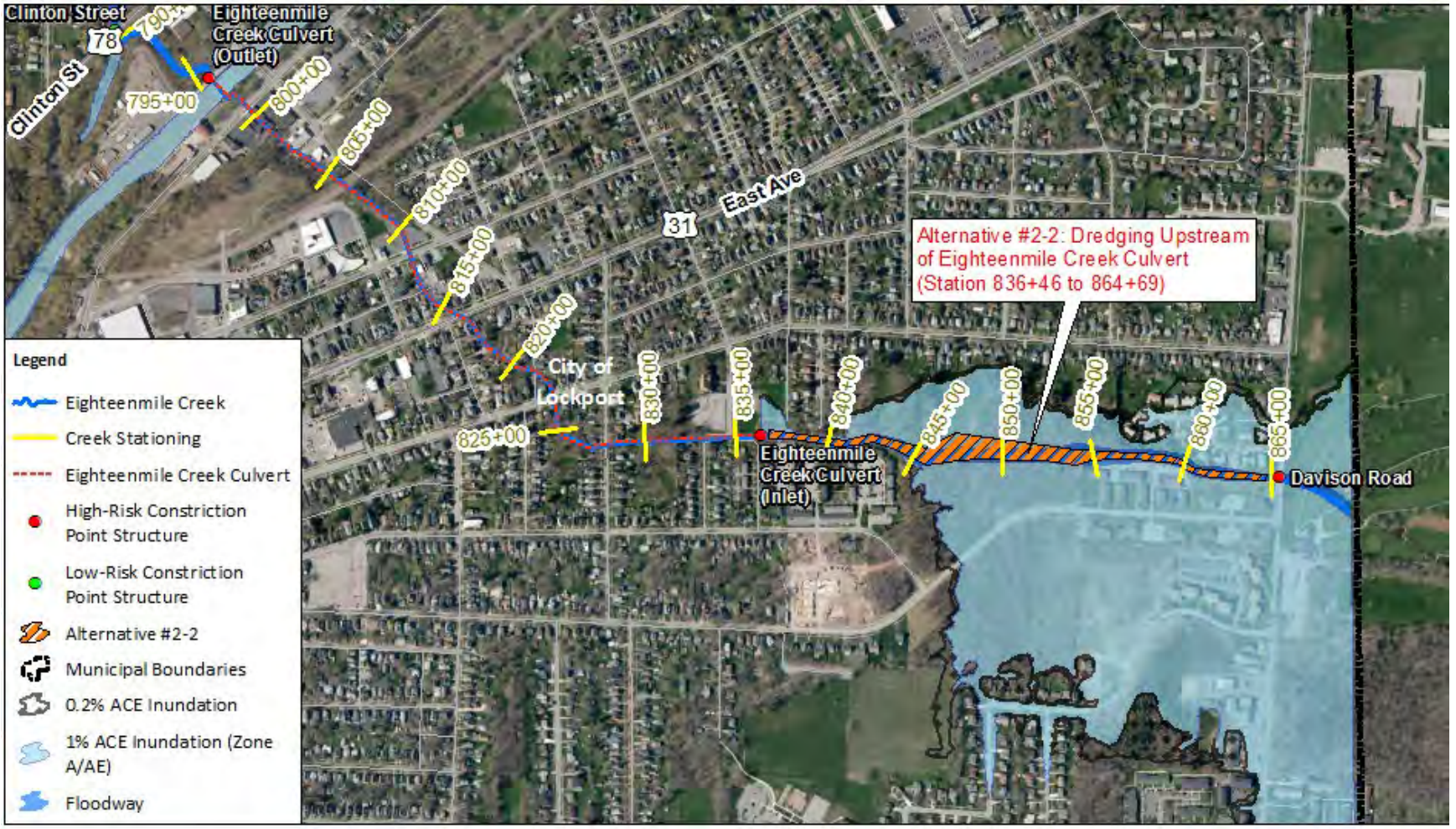
Alternative #2-2: Dredging Upstream of Eighteenmile Creek Culvert (Station 836+46 to 864+69)

The inundation extents for the effective FEMA FIRM indicate extensive residential and street flooding in the Davison Road area. Participants during the initial kickoff meeting suggested that debris and sedimentation could be contributing to flooding in this area. Field observations confirmed the presence of very fine sand and silt/clay suggesting sedimentation, as well as larger debris. The City of Lockport has expressed interest in improving the hydraulics within this area through dredging sediment and removing debris (Elmer, James, 2020).

This potential flood mitigation alternative is intended to provide additional flow area within the channel through removal of one foot of streambed for the entire channel width from Davison Road to the Eighteenmile Creek Culvert Inlet, resulting in the removal of approximately 7,140 cubic yards of material. Figure 24 depicts the conceptual extents of this alternative. As shown in Figure 25, the modeling results indicate that this alternative does not have an appreciable impact, as water surface elevation reductions are computed to be equal to or less than 0.05 ft for all current and projected future discharges.

The Rough Order Magnitude cost for this alternative is $1.6 million per occurrence, which does not include land acquisition costs other than survey, appraisal, and engineering coordination. It should be noted that removal of sediment from the channel does not eliminate the sources of sediment and the effects may be short-lived due to future sedimentation within the channel.

Figure 24. Location Map for Alternative #2-2



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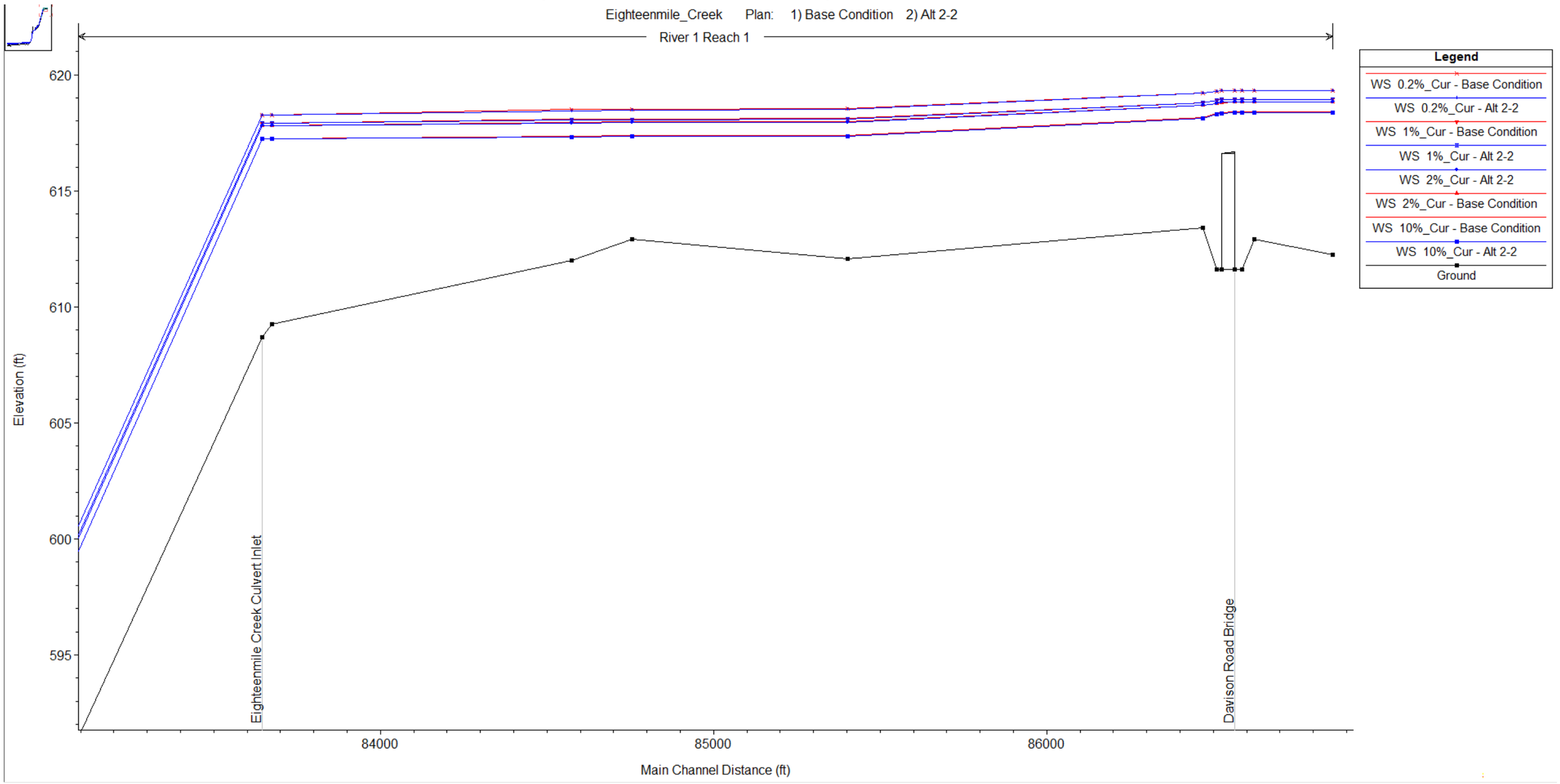
Resilient NY Initiative
Eighteenmile Creek Flood Study
Figure 24. Location Map for Alternative #2-2

This figure was prepared as part of the Hazard Mitigation Study of Eighteenmile Creek conducted for the New York State Department of Environmental Conservation as part of the Governors Resilient NY initiative. (NYS OGS Contract SC498)

Figure 25. HEC-RAS Model Simulation Output Results for Alternative #2-2



Alternative #2-3: Modify Eighteenmile Creek Culvert (Station 795+31 to 836+46)

The inundation extents for the effective FEMA FIRM indicates extensive residential and street flooding in the Davison Road area. The results of Alternative #2-1 and Alternative #2-2 indicate that floodplain encroachments (e.g. fences) and debris/sedimentation are not significant contributors to flooding in this area. Participants during the initial kickoff meeting also suggested that limited hydraulic capacity within the Eighteenmile Creek Culvert could be contributing to flooding in this area. Development of a new Eighteenmile Creek Culvert rating curve for this study suggests a hydraulic capacity of less than 300 cfs before the culvert is overtopped, which is less than the current 10% ACE discharge of 330 cfs.

This potential flood mitigation alternative is intended to provide additional flow area for the underground portion of Eighteenmile Creek through the replacement of the Eighteenmile Creek Culvert. This culvert not only carries Eighteenmile Creek but acts as the primary stormwater conduit collecting additional water via multiple dropshaft type structures located throughout the City of Lockport during its 4,000-foot long journey through the City of Lockport. As such, the City of Lockport is the primary owner of the Eighteenmile Creek Culvert[4]. Water surface elevation reductions downstream of the culvert will not impact the water surface elevations upstream of the culvert due to the culvert's length, grade change of approximately 130 feet, and inlet control characteristics. A modification to the structure entrance could improve the hydraulics thus lowering water surface elevations upstream of the culvert during flood events. However, a more detailed hydrologic and hydraulic analysis is required to analyze the extents of the culvert which would need to be replaced to provide flood reduction benefits in the Davison Road area, as the benefit of inlet control modifications may be limited by culvert conditions further downstream such as additional stormwater inflows and changing structure geometry. Additionally, the culvert passes under roads, residences, businesses, and the Erie Canal, on its journey through the City of Lockport. This alternative was considered infeasible due to the complexity of the stormwater system, logistics of replacing the culvert, and anticipated costs. As such, further modeling and cost estimates were not performed for this alternative.

[4] The New York State Canal Corps has recently made improvements to a separate culvert located immediately downstream of the Eighteenmile Creek Culvert, which conveys water under the Erie Canal.

Basin-wide Mitigation Alternatives

Non-structural measures attempt to avoid flood damages by modifying or removing properties currently located within flood-prone areas. These measures do not affect the frequency or level of flooding within the floodplain; rather, they affect floodplain activities. In considering the range of non-structural measures, the community needs to assess the type of flooding which occurs (depth of water, velocity, duration) prior to determining which measure best suits its needs (USACE, 2016b).

Alternative #3-1: Early Warning Flood Detection System

Early warning flood detection systems can be implemented, which can provide communities with more advanced warning of potential flood conditions. Early forecast and warning involve the identification of imminent flooding, implementation of a plan to warn the public, and assistance in evacuating persons and some personal property. A typical low-cost early warning flood detection system consists of commercially available off-the-shelf-components. The major components of an early warning flood detection system are a sensor connected to a data acquisition device with built-in power supply or backup, some type of notification or warning equipment, and a means of communication.

The system can be powered from an alternating current source via landline or by batteries that are recharged by solar panels. The notification process can incorporate standard telephone or cellular telephone. Transfer of data from the system can be achieved using standard or cellular telephone, radio frequency (RF) telemetry, wireless internet, or satellite transceivers. Emergency management notification techniques can be implemented through the use of radio, siren, individual notification, or a reverse 911 system. More elaborate means include remote sensors that detect water levels and automatically warn residents. These measures normally serve to reduce flood hazards to life, and damage to portable personal property (USACE, 2016b).

The Rough Order Magnitude cost for this strategy is approximately $120,000, not including annual maintenance and operational costs.

Alternative #3-2: Debris Maintenance around Bridges/Culverts

Debris, such as trees, branches and stumps, are an important feature of natural and healthy stream systems. In a healthy stream network, woody debris helps to stabilize the stream and its banks, reduce sediment erosion, and slow storm-induced high streamflow events. Fallen trees and brush also form the basis for the entire aquatic ecosystem by providing food, shelter, and other benefits to fish and wildlife. In the headwaters of many streams, woody debris influences flooding events by increasing channel roughness, dissipating energy, and slowing floodwaters, which can potentially reduce flood damages in the downstream reaches. Any woody debris that does not pose a hazard to infrastructure or property should be left in place and undisturbed, thereby saving time and money for more critical work at other locations (NYSDEC, 2013).

However, in some instances, significant sediment and debris can impact flows by blocking bridge and culvert openings and accumulating along the stream path at meanders, contraction / expansion points, etc., which can divert stream flow and cause backwater and bank erosion. When debris poses a risk to infrastructure, such as bridges or homes, it should be removed. Provided fallen trees, limbs, debris and trash can be pulled, cabled or otherwise removed from a stream or stream bank without significant

disruption of the stream bed and banks, a permit from the NYSDEC is not required. Woody debris and trash can be removed from a stream without the need for a permit under the following guidelines:

- Fallen trees and debris may be pulled from the stream by vehicles and motorized equipment operating from the top of the streambanks using winches, chains and or cables.
- Hand-held tools, such as chainsaws, axes, handsaws, etc., may be used to cut up the debris into manageable sized pieces.
- Downed trees that are still attached to the banks should be cut off near the stump. Do not grub (pull out) tree stumps from the bank; stumps hold the bank from eroding.
- All trees, brush, and trash that is removed from the channel should not be left on the floodplain. Trash should be properly disposed of at a waste management facility. Trees and brush can be utilized as firewood. To prevent the spread of invasive species, such as Emerald Ash Borer, firewood cannot be moved more than 50 miles from its point of origin.
- Equipment may not be operated in the water, and any increase in stream turbidity from the removal must be avoided (NYSDEC 2013).

Any work that will disturb the bed or banks of a protected stream (gravel removal, stream restoration, bank stabilization, installation, repair, replacements of culverts or bridges, objects embedded in the stream that require digging out, etc.) will require an Article 15 permit from the NYSDEC. Projects that will require disturbance of the stream bed or banks, such as excavating sand and gravel, digging embedded debris from the streambed or the use of motorized, vehicular equipment, such as a tractor, backhoe, bulldozer, log skidder, four-wheel drive truck, etc. (any heavy equipment), in the stream channel, or anywhere below the top of banks, will require either a Protection of Waters or Excavation or Fill in Navigable Waters Permit (NYSDEC, 2013).

In addition, sediment control basins along Eighteenmile Creek could be established to reduce watercourse and gully erosion, trap sediment, reduce and manage runoff near and downstream of the basin, and to improve downstream water quality. A sediment control basin is an earth embankment, or a combination ridge and channel, generally constructed across the slope and minor watercourses to form a sediment trap and water detention basin. The basin should be configured to enhance sediment deposition by using flow deflectors, inlet and outlet selection, or by adjusting the length to width ratio of the creek channel. Additional hydrologic and hydraulic studies should be performed to identify the optimal locations for the sediment control basins. Operation and maintenance costs to maintain the embankment, design capacity, vegetative cover, and outlet of the basin should be considered (NRCS, 2002).

Consultation with the NYSDEC can help determine if, when and how sediment and debris should be managed and whether a permit will be required.

The Rough Order Magnitude cost for this strategy is up to $20,000, not including annual maintenance and operational costs.

Alternative #3-3: Flood Buyout Programs

Buyouts allow state and municipal agencies the ability to purchase developed properties within areas vulnerable to flooding from willing owners. Buyouts are effective management tools in response to natural disasters to reduce or eliminate future losses of vulnerable or repetitive loss properties. Buyout programs include the acquisition of private property, demolition of existing structures, and conversion of land into public space or natural buffers. The land is maintained in an undeveloped state for public use in

perpetuity. Buyout programs not only assist individual homeowners, but are also intended to improve the resiliency of the entire community in the following ways (Siders, 2013):

- Reduce exposure by limiting the people and infrastructure located in vulnerable areas
- Reduce future disaster response costs and flood insurance payments
- Restore natural buffers such as wetlands in order to reduce future flooding levels
- Reduce or eliminate the need to maintain and repair flood control structures
- Reduce or eliminate the need for public expenditures on emergency response, garbage collection and other municipal services in the area
- Provide open space for the community

Resilience achieved through buyouts can have real economic consequences in addition to improved social resilience. According to FEMA, voluntary buyouts cost $1 for every $2 saved in future insurance claims, an estimate which does not include money saved on flood recovery and response actions, such as local flood fighting, evacuation, and rescue, and recovery expenses that will not be incurred in the future. In order to achieve these goals, buyouts need to acquire a continuous swath of land, rather than individual homes in isolated areas, or only some of the homes within flood-prone areas (Siders, 2013).

Buyout programs can be funded through a combination of federal, state or local funds, and are generally made available following a nationally recognized disaster. FEMA administers programs to help with buyouts under the Stafford Disaster Act, and the Department of Housing and Urban Development (HUD) administers another program through Community Development Block Grants (CDBG) [(FEMA, 2020), (NYSGOSR, 2019)]. These funding sources can reduce the economic burden on the local community. However, these funds also come with guidelines and regulations that may constrain policy makers' options on whether to pursue a buyout strategy and how to shape their programs. FEMA funds may be used to cover 75% of the expenses, but the remaining 25% must come from another non-federal source. In most cases, the buyout must be a cost-effective measure that will substantially reduce the risk of future flooding damage (Siders, 2013).

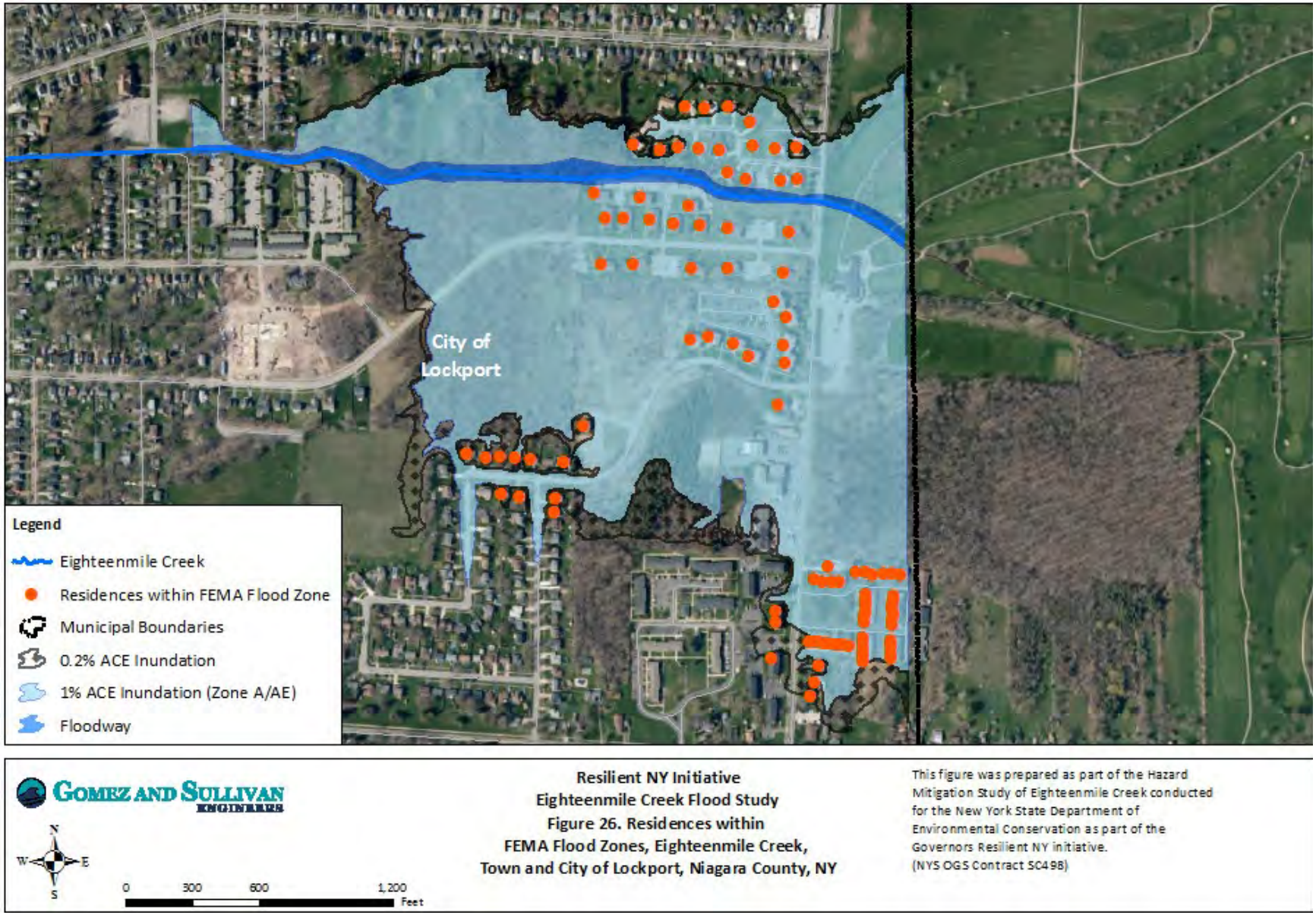
For homes in the special flood hazard area (SFHA), FEMA has developed precalculated benefits for property acquisition and structure elevation of buildings. Based on a national analysis that derived the average benefits for acquisition and elevation projects, FEMA has determined that acquisition projects that cost $276,000 or less, or elevation projects that costs $175,000 or less, and which are located in the 1% ACE (i.e. 100 year recurrence interval) floodplain are considered cost-effective and do not require a separate benefit-cost analysis. For projects that contain multiple structures, the average cost of all structures in the project must meet the stated criteria. If the cost to acquire or elevate a structure exceeds the amount of benefits listed above, then a traditional FEMA approved benefits-cost analysis must be completed (FEMA, 2015b).

In the Town and City of Lockport, there are well over 100 residences within the FEMA 1% and 0.2% annual chance flood hazard zones. All of these residences are located in the City of Lockport in the vicinity of Davison Road (Figure 26). However, none of these structures are listed as FEMA Repetitive Loss (RL) or Severe Repetitive Loss (SRL) properties located within the Town or City of Lockport.

Due to the variable nature of buyout programs, no ROM cost estimate was produced for this study. It is recommended that any buyout program begin with a cost-benefit analysis for each property. After a substantial benefit has been established, a buyout strategy study should be developed that focuses on properties closest to Eighteenmile Creek in the highest-risk flood areas and progresses outwards from

there to maximize flood damage reductions. In addition, structures located adjacent to flood prone infrastructure (i.e. bridges, culverts, etc.) should also be considered high-risk and prioritized in any buyout program strategy. A potential negative consequence of buyout programs is the permanent removal of properties from the floodplain, and resulting tax revenue, which would have long-term implications for local governments, and should be considered prior to implementing a buyout program.

Figure 26. Residences within FEMA Flood Zones, Eighteenmile Creek Study Area, Town and City of Lockport, Niagara County, NY



Alternative #3-4: Floodproofing

Floodproofing is defined as any combination of structural or nonstructural adjustments, changes, or actions that reduce or eliminate flood damage to a building, contents, and attendant utilities and equipment (FEMA, 2000). Floodproofing can prevent damage to existing buildings and can be used to meet compliance requirements for new construction of residential and non-residential buildings.

The most effective flood mitigation methods are relocation (i.e. moving a home to higher ground outside of a high-risk flood area) and elevation (i.e. raising the entire structure above BFE). The relationship between the BFE and a structure's elevation determines the flood insurance premium. Buildings that are situated at or above the level of the BFE have lower flood risk than buildings below BFE and tend to have lower insurance premiums than buildings situated below the BFE (FEMA, 2015c).

In some communities, where non-structural flood mitigation alternatives are not feasible, structural alternatives such as flood proofing may be a viable alternative. The NFIP has specific rules related to flood proofing for residential and non-residential structures. These can be found in the Code of Federal Regulations (CFR) 44 CFR 60.3 (FEMA, 2000).

For existing residential structures, structures should be raised above the BFE or above the freeboard required by local regulations. Floodproofing is allowed for non-residential structures, with design guidelines outlined in FEMA P-936 – Floodproofing Non-Residential Structures [(FEMA, 2000); (FEMA, 2013)]. The local floodplain administrator should carefully review local ordinances, the CFR and available design guidelines before issuing a permit for structural flood proofing. Floodproofing strategies include:

Interior Modification/Retrofit Measures

Interior modification and retrofitting involve making changes to an existing building to protect it from flood damage. When the mitigation is properly completed in accordance with NFIP floodplain management requirements, interior modification / retrofit measures could achieve somewhat similar results as elevating a home above the BFE. Keep in mind, in areas where expected base flood depths are high, the flood protection techniques below may not provide protection on their own to the BFE or, where applicable, the locally required freeboard elevation (FEMA, 2015c).

Examples include:

- *Basement Infill*: This measure involves filling a basement located below the BFE to grade (ground level)
- *Abandon Lowest Floor*: This measure involves abandoning the lowest floor of a two or more story slab-on-grade residential building
- *Elevate Lowest Interior Floor*: This measure involves elevating the lowest interior floor within a residential building with high ceilings

Dry floodproofing

A combination of measures that results in a structure, including the attendant utilities and equipment, being watertight with all elements substantially impermeable to the entrance of floodwater and with structural components having the capacity to resist flood loads (FEMA, 2015c).

Although NFIP regulations require non-residential buildings to be watertight and protected only to the BFE for floodplain management purposes (to meet NFIP regulations), protection to a higher level is

necessary for dry floodproofing measures to be considered for NFIP flood insurance rating purposes. Because of the additional risk associated with dry floodproofed buildings, to receive an insurance rating based on 1% annual chance (100-year) flood protection, a building must be dry floodproofed to an elevation at least 1-foot above the BFE (FEMA, 2013).

In New York State, only non-residential buildings are allowed to be dry floodproofed and the building must be dry floodproofed to an elevation of at least 2 feet above the BFE. New York State has higher freeboard standards than federal regulations at 44 CFR Part 60.3. Care must be taken to check the New York State Building Code for more stringent guidelines.

Examples include:

- *Passive Dry Floodproofing System*: This measure involves installing a passive (works automatically without human assistance) dry floodproofing system around a home to protect the building from flood damage.
- *Elevation*: This measure involves raising an entire residential or non-residential building structure above the BFE or above the freeboard required by local regulations.

Wet floodproofing

The use of flood-damage-resistant materials and construction techniques to minimize flood damage to areas below the flood protection level of a structure, which is intentionally allowed to flood (FEMA, 2015c).

Examples include:

- *Flood Openings*: This measure involves installing openings in foundation and enclosure walls located below the BFE that allow automatic entry and exit of floodwaters to prevent collapse from the pressures of standing water.
- *Elevate Building Utilities*: This measure involves elevating all building utility systems and associated equipment (e.g., furnaces, septic tanks, and electric and gas meters) to protect utilities from damage or loss of function from flooding.
- *Floodproof Building Utilities*: This measure involves floodproofing all building utility systems and associated equipment to protect it from damage or loss of function from flooding.
- *Flood Damage-Resistant Materials*: This measure involves the use of flood damage-resistant materials such as non-paper-faced gypsum board and terrazzo tile flooring for building materials and furnishings located below the BFE to reduce structural and nonstructural damage and post-flood event cleanup.

Barrier Measures

Barriers, such as floodwalls and levees, can be built around single or multiple residential and non-residential buildings to contain or control floodwaters (FEMA, 2015c). Although floodwalls or levees can be used to keep floodwaters away from buildings, implementing these measures will not affect a building's flood insurance rating unless the flood control structure is accredited in accordance with NFIP requirements (44 CFR §65.10) and provides protection from at least the 1% annual chance (100-year) flood. Furthermore, floodwalls or levees as a retrofit measure will not bring the building into compliance with NFIP requirements for Substantial Improvement/Damage (FEMA, 2013). Barrier measures require ongoing maintenance (i.e. mowing, etc.) which should be factored into any cost analysis. In addition, barrier measures tend to create a false sense of security for the property owners and residents that are

protected by them. If a barrier structure is not properly constructed or maintained and fails, catastrophic damages to surrounding areas can occur.

- *Floodwall with Gates and Floodwall without Gates*: These two measures involve installing a reinforced concrete floodwall, which works automatically without human assistance, constructed to a maximum of four feet above grade (ground level). The floodwall with gates is built with passive flood gates that are designed to open or close automatically due to the hydrostatic pressure caused by the floodwater. The floodwall without gates is built using vehicle ramps or pedestrian stairs to avoid the need for passive flood gates.
- *Levee with Gates and Levee without Gates*: These two measures involve installing an earthen levee around a home, which works automatically without human assistance, with a clay or concrete core constructed to a maximum of six feet above grade (ground level). The levee with gates is built with passive flood gates that are designed to open or close automatically due to hydrostatic pressure caused by the floodwater. The levee without gates is built using vehicle access ramps to avoid the need for passive flood gates.

Modifying a residential or non-residential building to protect it from flood damage requires extreme care, will require permits, and may also require complex engineered designs. Therefore, the following process is recommended to ensure proper and timely completion of any floodproofing project (FEMA, 2015c):

- Consult a registered design professional (i.e. architect or engineer) who is qualified to deal with the specifics of a flood mitigation project
- Check your community's floodplain management ordinances
- Contact your insurance agent to find out how your flood insurance premium may be affected
- Check what financial assistance might be available
- Hire a qualified contractor
- Contact the local building department to learn about development and permit requirements and to obtain a building permit
- Determine whether the mitigation project will trigger a Substantial Improvement declaration
- See the project through to completion
- Obtain an elevation certificate and an engineering certificate (if necessary)

No cost estimates were prepared for this alternative due to the variable and case-by-case nature of the flood mitigation strategy. Local municipal leaders should contact residential and non-residential building owners that are currently at a high flood risk to inform them about floodproofing measures, the recommended process to complete a floodproofing project, and the associated costs and benefits.

Alternative #3-5: Area Preservation / Floodplain Ordinances

This alternative proposes that municipalities within the Eighteenmile Creek watershed consider watershed and floodplain management practices such as preservation and/or conservation of areas along with land use ordinances that could minimize future development of sensitive areas such as wetlands, forests, riparian areas, and other open spaces. It could also include areas in the floodplain that are currently free from development and are providing floodplain storage.

A watershed approach to planning and management is an important part of water protection and restoration efforts. New York State's watersheds are the basis for management, monitoring, and assessment activities. The New York State Open Space Conservation Plan, NYSDEC's Smart Growth

initiative and the Climate Smart Communities Program address land use within a watershed (NYSDEC, Date Unknown).

Natural floodplains provide flood risk reduction benefits by slowing runoff and storing flood water. They also provide other benefits of considerable economic, social, and environmental value that should be considered in local land-use decisions. Floodplains frequently contain wetlands and other important ecological areas which directly affect the quality of the local environment. Floodplain management is the operation of a community program of preventive and corrective measures to reduce the risk of current and future flooding, resulting in a more resilient community. These measures take a variety of forms, are carried out by multiple stakeholders with a vested interest in responsible floodplain management and generally include requirements for zoning, subdivision or building, building codes and special-purpose floodplain ordinances. While FEMA has minimum floodplain management standards for communities participating in the NFIP, best practices demonstrate that the adoption of higher standards will lead to safer, stronger, and more resilient communities (FEMA, 2006).

For floodplain ordinances, the NYSDEC has a sample of regulatory requirements for floodplain management that a community can adopt within their local flood damage prevention ordinance. If a community is interested in updating their local law to include regulatory language promoting floodplain management, it is recommended that they reach out to the NYSDEC through floodplain@dec.ny.gov or (518) 402-8185 for more information.

In addition, the Community Rating System (CRS) program through FEMA is a voluntary incentive program that recognizes and encourages community floodplain management activities that exceed the minimum NFIP requirements. Participating communities are able to get discounted rates on the flood insurance premiums for residents in the community. Adopting these enhanced requirements and preserving open space for floodplain storage earns points in the CRS program, which can lead to discounted flood insurance premiums.

Further hydrology and hydraulic model scenarios could be performed to illustrate how future watershed and floodplain management techniques could benefit the communities within the Eighteenmile Creek watershed**.**

Next Steps

Before selecting a flood mitigation strategy, securing funding or commencing an engineering design phase, Gomez and Sullivan recommends that additional modeling simulations and wetland investigations be performed.

Additional Data Modeling

Additional data collection and modeling would be necessary to more precisely model water surface elevations and the extent of potential flooding in overbank areas and the floodplain. 2-D unsteady flow modeling using the HEC-RAS program, would incorporate additional spatial information in model simulations producing more robust results with a higher degree of confidence than the currently modeled 1-D steady flow simulations.

State/Federal Wetlands Investigation

Any flood mitigation strategy that proposes using wetlands in any capacity, needs to be evaluated based on federal and state wetland criteria before that mitigation strategy can be pursued for consideration.

Example Funding Sources

There are numerous potential funding programs and grants for flood mitigation projects that may be used to offset municipal financing, including:

- New York State Division of Homeland Security and Emergency Services (NYSDHSES)
- Regional Economic Development Councils/Consolidated Funding Applications (CFA)
- Natural Resources Conservation Services (NRCS) Emergency Watershed Protection (EWP) Program
- FEMA Hazard Mitigation Grant Program (HMGP)

New York State Division of Homeland Security and Emergency Services (NYSDHSES)

The New York State Office of Emergency Management (NYSOEM), which is a part of the NYSDHSES, in conjunction with the United States Department of Homeland Security (USDHS) and FEMA, offers several funding opportunities through federal grant programs. Two primary programs are available through FEMA's Hazard Mitigation Grant Program (HMGP): Public Assistance, which includes post-disaster recovery grants enabled by Presidential declaration to reimburse for the emergency protective measures and the repair of eligible public facilities and infrastructure; and Hazard Mitigation, which includes pre-disaster project grants to eligible government sub-applicants to avoid or reduce the loss of life and property in future events. The NYSOEM would be the primary point of contact for all aspects of these programs.

Regional Economic Development Councils/Consolidated Funding Applications (CFA)

The CFA is a single application for state economic development resources from numerous state agencies. The ninth round of the CFA was offered in 2019.

Water Quality Improvement Project (WQIP) Program

The WQIP Program, administered through the NYSDEC, is a statewide reimbursement grant program to address documented water quality impairments. Eligible parties include local governments and not-for-profit corporations. Funding is available for construction/implementation projects; projects exclusively

for planning are not eligible. Match for WQIP is a percentage of the award amount, not the total project cost. Deadlines are in accordance with the CFA application cycle.

Climate Smart Communities (CSC) Grant Program

The CSC Grant Program is a 50/50 matching grant program for municipalities under the New York State Environmental Protection Fund, offered through the CFA by the New York State Office of Climate Change. The purpose of the program is to fund climate change adaptation and mitigation projects and includes support for projects that are part of a strategy to become a Certified Climate Smart Community. The eligible project types that may be relevant include the following:

- The construction of natural resiliency measures, conservation or restoration of riparian areas and tidal marsh migration areas
- Nature-based solutions such as wetland protections to address physical climate risk due to water level rise, and/or storm surges and/or flooding
- Relocation or retrofit of facilities to address physical climate risk due to water level rise, and/or storm surges and/or flooding
- Flood risk reduction
- Climate change adaptation planning and supporting studies

Eligible projects include implementation and certification projects. Deadlines are in accordance with the CFA cycle.

NRCS Emergency Watershed Protection (EWP) Program

Through the EWP Program, the United States Department of Agriculture's (USDA) NRCS can assist communities in addressing watershed impairments that pose imminent threats to lives and property. Most EWP projects involve the protection of threatened infrastructure from continued stream erosion. Projects must have a project sponsor, defined as a legal subdivision of the State, such as a city, county, general improvement district, or conservation district, or an Indian Tribe or Tribal organization. Sponsors are responsible for providing land rights to do repair work, securing the necessary permits, furnishing the local cost share (25%), and performing any necessary operation and maintenance for a ten-year period. Through EWP, the NRCS may pay up to 75% of the construction costs of emergency measures, with up to 90% paid for projects in limited-resource areas. The remaining costs must come from local services. Eligible projects include, but are not limited to, debris-clogged stream channels, undermined and unstable streambanks, and jeopardized water control structures and public infrastructures.

FEMA Hazard Mitigation Grant Program (HMGP)

The HMGP, offered by FEMA and administered by the NYSDHSES, provides funding for creating/updating hazard mitigation plans and implementing hazard mitigation projects. The HMGP program consolidates the application process for FEMA's annual mitigation grant programs not tied to a State's Presidential disaster declaration. Funds are available under the Building Resilient Infrastructure and Communities (BRIC) and Flood Mitigation Assistance (FMA) Programs.

For flood mitigation measures that are being considered for funding through FEMA grant programs, a benefit-to-cost analysis will be required. In order to qualify for FEMA grants and/or funding, the benefit to cost ratio must be greater than one.

Building Resilient Infrastructure and Communities (BRIC) Program

Beginning in 2020, the BRIC grant program, which was created as part of Disaster Recovery Reform Act of 2018 (DRRA), replaced the existing Pre-Disaster Mitigation (PDM) program and is funded by a 6% set-aside from federal post-disaster grant expenditures. BRIC will support states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. BRIC aims to categorically shift the federal focus away from reactive disaster spending and toward research-supported, proactive investment in community resilience. Through BRIC, FEMA will invest in a wide variety of mitigation activities, including community-wide public infrastructure projects. Moreover, FEMA anticipates BRIC will fund projects that demonstrate innovative approaches to partnerships, such as shared funding mechanisms and/or project design.

Flood Mitigation Assistance (FMA) Program

The FMA Program provides resources to reduce or eliminate long-term risk of flood damage to structures insured under the NFIP. The FMA project funding categories include Community Flood Mitigation – Advance Assistance (up to $200,000 total federal share funding) and Community Flood Mitigation Projects (up to $10 million total). Federal funding is available for up to 75% of the eligible activity costs. FEMA may contribute up to 100% federal cost share for severe repetitive loss properties, and up to 90% cost share for repetitive loss properties. Eligible project activities include the following:

- Infrastructure protective measures
- Floodwater storage and diversion
- Utility protective measures
- Stormwater management
- Wetland restoration/creation
- Aquifer storage and recovery
- Localized flood control to protect critical facility
- Floodplain and stream restoration
- Water and sanitary sewer system protective measures

Summary

The Town and City of Lockport have had a history of flooding events along Eighteenmile Creek. Flooding in the Town and City of Lockport primarily occurs during the summer and winter months due to heavy rains by convective systems and snowmelt. In response to persistent flooding, the State of New York in conjunction with the Town and City of Lockport, and Niagara County, are studying and evaluating potential flood mitigation projects for Eighteenmile Creek as part of the Resilient NY Initiative.

This study analyzed the historical and present day causes of flooding in the Eighteenmile Creek watershed. Hydraulic and hydrologic data was used to model potential flood mitigation measures. The model simulation results indicated that there are flood mitigation measures that have the potential to reduce water surface elevations along high-risk areas of Eighteenmile Creek, which could potentially reduce flood related damages in areas adjacent to the creek. Constructing multiple flood mitigation measures would increase the overall flood reduction potential along Eighteenmile Creek by combining the reduction potential of the mitigation measures being constructed.

Based on the flood mitigation analyses performed in this report, the mitigation measures that provided the greatest reductions in water surface elevations were Stone Road bridge modifications and flood bench creation downstream of Stone Road. There would be an overall greater effect in water surface elevations if multiple alternatives were built along Eighteenmile Creek in different phases, rather than a single mitigation project. For example, building multiple flood benches along a single reach would compound the flood mitigation benefits of each bench.

Based on the analysis of the bridge widening simulations, the Stone Road bridge crossings benefited from increased bridge openings. However, the bridge widening measures are the costliest of the discussed flood mitigation measures. The benefits of the measures in their respective reaches should be balanced with the associated costs of each bridge widening measure to determine if it would be feasible to move a bridge widening measure forward. In addition, other complications, such as traffic re-routing, should be taken into account when considering any of the bridge widening measures.

The debris maintenance alternatives around culverts / bridges would maintain the flow channel area in Eighteenmile Creek. As sediment and debris build up at the openings of bridges and culverts, the channel flow area is reduced. This can lead to potential backwater and flooding due to the inability of the creek channel to pass stream flows of the same annual chance event. The Town of Lockport should consult with the NYSDEC regarding their concerns related to downed trees in vicinity of Stone Road bridge. This consultation will help determine if, when and how debris should be managed and whether a permit will be required. Similarly, the City of Lockport should consult with the NYSDEC regarding their interest in dredging near Davison Road.

While significant reductions in water surface elevations are possible near Stone Road, the Plank Road bridge is still expected to be overtopped. An early flood-warning detection system may be of use to determine if and when road closures are necessary for public safety. No feasible alternatives resulted in significant reductions in water surface elevations in the vicinity of Davison Road. Therefore, basin-wide mitigation alternatives such as flood buyout programs, floodproofing, and area preservation / floodplain ordinances may be the most desirable alternatives in this area.

For flood mitigation measures that are being considered for funding through FEMA grant programs, a benefit-to-cost analysis will be required. In order to qualify for FEMA grants and / or funding, the benefit

to cost ratio must be greater than one. Flood buyouts / property acquisitions can qualify for FEMA grant programs with a 75% match of funds. The remaining 25% of funds is the responsibility of state, county, and local governments. The case-by-case nature of buyouts and acquisitions requires widespread property owner participation to maximize flood risk reductions. An unintended consequence of buyout programs is the permanent removal of properties from the floodplain, including tax revenue, which would have long-term implications for local governments and should be considered prior to implementing a buyout program.

Floodproofing is an effective mitigation measure but requires a large financial investment in individual residential and non-residential buildings. Floodproofing can reduce the future risk and flood damage potential but leaves buildings in flood risk areas so that the potential for future flood damages remain. A benefit to floodproofing versus buyouts is that properties remain in the community and the tax base for the local municipality remains intact. Table 16 is a summary of the potential flood mitigation measures, including modeled water surface elevation reductions and estimated ROM costs.

Table 16. Summary of Flood Mitigation Measures

Alternative No.	Description	Change in Water Surface Elevation (ft)		ROM cost ($U.S. dollars)
		Current Flows	Projected Flows	
1-1	Modify Stone Road Bridge	0.1 – 1.2	0.2 – 1.3	$4.5 million
1-2	Create Flood Bench Downstream of Stone Road Bridge	0.5 – 0.6	0.5 – 0.6	$2.0 million
1-3	Modify Stone Road Bridge and Create Flood Bench Downstream of Stone Road Bridge	0.5 – 1.7	0.5 – 1.7	$6.5 million
2-1	Create Flood Bench Upstream of Eighteenmile Creek Culvert	<=0.05	<=0.05	$1.1 million
2-2	Dredging Upstream of Eighteenmile Creek Culvert	<=0.05	<=0.05	$1.6 million (per occurrence)
2-3	Modify Eighteenmile Creek Culvert	Not Modeled		
3-1	Early Flood Warning Detection System	N/A	N/A	$120,000 (not including annual operational costs)
3-2	Debris Maintenance Around Bridges/Culverts	N/A	N/A	$20,000 (not including annual operational costs)
3-3	Flood Buyouts Program	N/A	N/A	Variable (case-by-case)
3-4	Floodproofing	N/A	N/A	Variable (case-by-case)
3-5	Area Preservation/Floodplain Ordinances	N/A	N/A	Variable (case-by-case)

Conclusion

Municipalities affected by flooding along Eighteenmile Creek can use this report to support flood mitigation initiatives within their communities. This report is intended to be a high-level overview of potential flood mitigation strategies, their impacts on water surface elevations, and the associated ROM cost for each mitigation strategy. The research and analysis that went into each potential strategy should be considered preliminary, and additional research, field observations, and modeling are recommended before final mitigation strategies are chosen.

In order to implement the flood mitigation strategies presented in this report, communities should engage in a process that follows the following steps:

1. Obtain stakeholder and public input to assess the feasibility and public support of each mitigation strategy presented in this report.
2. Complete additional data collection and modeling efforts to assess the effectiveness of the potential flood mitigation strategies.
3. Develop a list of final flood mitigation strategies based on the additional data collection and modeling results.
4. Select a final flood mitigation strategy or series of strategies to be completed for Eighteenmile Creek based on feasibility, permitting, effectiveness, and available funding.
5. Develop a preliminary engineering design report and cost estimate for each selected mitigation strategy.
6. Assess funding sources for the selected flood mitigation strategy.

Once funding has been secured and the engineering design has been completed for the final mitigation strategy, construction and / or implementation of the measure should begin.

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Appendix A. Summary of Data and Reports Collected

Year	Type	Document Title	Author	Publisher
1966	Report	Flood Plain Information: Buffalo Creek, New York in the Towns of Elma and West Seneca	Buffalo District	USACE
1978	Report	National Handbook of Recommended Methods for Water-Data Acquisition	Office of Water Data Coordination	USGS
1980	Report	Flood Insurance Study: City of Lockport, New York		FEMA
1991	Report	Regionalization of Flood Discharges for Rural, Unregulated Streams in New York, Excluding Long Island	Richard Lumia	USGS
1995	Article	Numerical Simulation of River Ice Processes	H. T. Shen, D. S. Wang, and L. A. Wasantha,	Journal of Cold Region Engineering
1996	Book	Applied River Morphology, 2nd Edition	D. L. Rosgen and H. L. Silvey	Wildland Hydrology Books
2000	Code	Title 44: Emergency Management and Assistance, Chapter 1		FEMA
2002	Standard	National Conservation Practice Standard No. 638: Water and Sediment Control Basin		NRCS
2002	Report	Engineering Manual 1110-2-1612: Engineering and Design – Ice Engineering		USACE
2002	Report	Flood Insurance Study: Town of Lockport, New York		FEMA
2004	Report	Eighteenmile Creek Comprehensive Watershed Management Plan Concept Document		Ecology and Environment, Inc.

Year	Type	Document Title	Author	Publisher
2005	Software	Comprehensive River Ice Simulation System Project (CRISSP)		CEATI
2006	Report	Floodplain Management Requirements: A Study Guide and Desk Reference for Local Officials		FEMA
2006	Report	Bridge Inventory Manual		NYSDOT
2006	Report	Magnitude and Frequency of Floods in New York	Richard Lumia, Douglas A. Freehafer, and Martyn J. Smith	USGS
2006	Report	Remedial Investigation Report: Eighteenmile Creek Corridor, Lockport, Niagara County, New York – Site Number 932121	Glenn M. May, CPG	NYSDEC
2007	Book	Elevation Data for Floodplain Mapping		NRC
2007	Report	Eighteenmile Creek State of the Basin Report		Ecology and Environment, Inc.
2007	Book	National Engineering Handbook, Part 654: Stream Restoration Design, Technical Supplement 3E: Rosgen Stream Classification Techniques - Supplemental Materials		USDA
2009	Report	Bankfull Discharge and Channel Characteristics of Streams in New York State	Christiane I. Mulvihill, Barry P. Baldigo, Sarah J. Miller, Douglas DeKoskie, and Joel DuBois	USGS
2010	Report	DHS Risk Lexicon		USDHS
2010	Data	Flood Insurance Rate Map: Niagara County, New York (All Jurisdictions)		FEMA

Year	Type	Document Title	Author	Publisher
2011	Report	Responding to Climate Change in New York State: The ClimAID Integrated Assessment for Effective Climate Change Adaptation in New York State, Final Report		NYSERDA
2011	Report	Eighteenmile Creek Remedial Action Plan Stage II - Update, Final Draft		NCSWCD
2011	Article	A Unified Degree-Day Method for River Ice Cover Thickness Simulation	H. T. Shen and P. Yapa	Canadian Journal of Civil Engineering
2011	Article	An Overview of CMIP5 and the Experiment Design	K. E. Taylor, R. J. Stouffer, and G. A. Meehi	Bulletin of the American Meteorological Society
2012	Report	Hydraulic Design of Safe Bridges	L. W. Zevenbergen, L. A. Arneson, J.H. Hunt, and A.C. Miller	USDOT
2012	Article	Geomorphic Characterization of Upper South Koel Basin, Jharkhand: A Remove Sensing and GIS Approach	R. Parveen, U. Kumar, and V. K. Singh	Journal of Water Resource and Protection, 1042-1050
2013	Report	Floodproofing Non-Residential Buildings		FEMA
2013	Report	Removal of Woody Debris and Trash from Rivers and Streams		NYSDEC
2013	Article	Anatomy of a Buyout Program – New York Post-Superstorm Sandy	A. R. Siders	Vermont Law School
2014	Book	Handbook of Biological Statistics, 3rd Edition	J. H. McDonald	Sparky House Publishing
2014	Report	National Register of Historical Places and National Historic Landmarks Program Records for New York State		NPS

Year	Type	Document Title	Author	Publisher
2014	Article	Morphometric Analysis of a Drainage Basin Using Geographical Information System: A Case Study	M. L. Waikar and A. P. Nilawar	International Journal of Multidisciplinary and Current Research
2015	Report	Guidance for Flood Risk Analysis and Mapping: Redelineation Guidance		FEMA
2015	Report	Hazard Mitigation Assistance Program Digest, September 2015		FEMA
2015	Report	Reducing Flood Risk to Residential Buildings That Cannot Be Elevated		FEMA
2015	Article	Influence of Aggradation and Degradation on River Channels: A Review	U. R. Mugade and J. B. Sapkale	International Journal of Engineering and Technical Research
2015	Report	Development of Flood Regressions and Climate Change Scenarios to Explore Estimates of Future Peak Flows	Douglas A. Burns, Martyn J. Smith, and Douglas A. Freehafer	USGS
2016	Report	HEC-RAS: River Analysis System User's Manual, Version 5.0	HEC	USACE
2016	Report	Lexington Greene – Section 2015 of the 1948 Flood Control Act – Flood Risk Management	Buffalo District	USACE
2016	Software	Application of Flood Regressions and Climate Change Scenarios to Explore Estimates of Future Peak Flows, Version 1.5 Web Application		USGS
2017	Data	New York State Digital Ortho-Imagery Program	GIS Program Office	NYSOITS

Year	Type	Document Title	Author	Publisher
2017	Report	Fact Sheet 2017-3046: *StreamStats*, Version 4	Kernell G. Ries III, Jeremy K. Newsom, Martyn J. Smith, John D. Guthrie, Peter A. Steeves, Tiana L Haluska, Katharine R. Kolb, Ryan F. Thompson, Richard D. Santoro, and Hans W. Vraga	USGS
2017	Report	Record of Decision: Operable Unit Two – Eighteenmile Creek Superfund Site Niagara County, New York		USEPA
2017	Report	Flood Insurance Study: Niagara County, New York (All Jurisdictions)		FEMA
2018	Report	DRAFT New York State Flood Risk Management Guidance for Implementation of the Community Risk and Resiliency Act		NYSDEC
2018	Report	Highway Design Manual	Engineering Division, Office of Design	NYSDOT
2018	Article	Governor Cuomo Announces $3 Million for Studies to Reduce Community Flood Risk		NYSGPO
2019	Software	ArcGIS for Desktop 10		ESRI
2019	Data	2016 Land Cover: Conterminous United States	NLCD	MRLC
2019	Software	CropScape Web Application	NASS	USDA
2019	Data	Bridge Point Locations and Select Attributes	Structures Division	NYSDOT
2019	Report	Bridge Manual	Structures Division	NYSDOT
2019	Data	CostsWorks 2019	RS Means Data Online	Gordian, Inc.

Year	Type	Document Title	Author	Publisher
2019	Software	Hydrologic Engineering Center's River Analysis System, Version 5.0.7	HEC	USACE
2019	Report	Policy Manual: NY Rising Buyout and Acquisition Program, Version 7.0		NYSGOSR
2020	Data	Storm Events Database	NCEI	NOAA
2020	Software	Environmental Resource Mapper Web Application		NYSDEC
2020	Data	Inventory of Dams – New York State		NYSDEC
2020	Standard	Standard Specifications (US Customary Units), Volume 1	Engineering Division	NYSDOT
2020	Data	Ice Jam Database	CRREL	USACE
2020	Software	Information for Planning and Consultation Web Application	ECOS	USFWS
2020	Software	*StreamStats*, Version 4.4.0 Web Application		USGS
2020	Software	National Water Information System Web Interface		USGS
2020	Article	Eighteenmile Creek Lockport, NY Cleanup Progress		USEPA
2020	Email	Eighteenmile Creek Communications	James Elmer, Director of Engineering	City of Lockport, New York
2020	Website	Superfund Site: Eighteenmile Creek Lockport, NY		USEPA
2020	Website	Hazard Mitigation Grant Program (HMGP)		FEMA
Unk	Article	Watershed Management		NYSDEC

Appendix B. Agency and Stakeholder Meeting Attendees List

Initial Project Kickoff Meeting: September 19, 2019

Attendees	Affiliation
Thomas Lowe	Alexander, Village of
William Wagner	Alexander, Village of
Tim Lucey	Amherst, Town of
Paul Rubins	Amherst, Town of
Jeff Szatkowski	Amherst, Town of
Jim Zymanek	Amherst, Town of
Tom Lichtenthal	Batavia, Town of
Steve Mountain	Batavia, Town of
Katherine Winkler	Buffalo Niagara Waterkeeper
James Dussing	Clarence, Town of
Paul Englert	Clarence, Town of
Gregory Butcher	Erie County
Mark Gaston	Erie County
Joanna Panawiewicz	Erie County
J.T. Glass	Erie County
Molly Cassatt	Genesee County
Derik Kae	Genesee County
Bradley Mudrzynski	Genesee County
Damian Gomez	Gomez & Sullivan
Erin Redding	Gomez & Sullivan
Charvi Gupta	Highland Planning
Jen Topa	Highland Planning
Susan Hopkins	Highland Planning
Gary Baehr	Newstead, Town of
Norman Allen	Niagara County
Scott Collins	Niagara County
Stephany Antonov	NYSDEC
David Clarke	NYSDEC
Ted Myers	NYSDEC
Kerrie O'keeffe	NYSDEC
Thomas R. Snow Jr.	NYSDEC
Chad Staniszewski	NYSDEC
Ryan Tomko	NYSDEC
Kadir Goz	OBG
James Sparks	Royalton, Town of

Appendix C. Field Data Collection Forms

NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service

Stream Channel Classification (Level II)

Wisconsin Job Sheet 811

Natural Resources Conservation Service (NRCS) **Wisconsin**

Project: _____ Date: _____

County: _____ Stream: _____

Reach No.: _____ Logged By: _____

Horizontal Datum: NAD _____ Projection: ☐Transverse Mercator ☐Lambert Conformal Conical

Coordinate System: ☐_____ County Coordinates ☐WTM ☐State Plane Coordinates ☐UTM

Units: ☐Meters ☐Feet Horizontal Control: N or Lat. _____ E or Long. _____

Elevation: _____ ☐Assumed ☐DOT ☐NAVD (29 / 88) Units: ☐Meters ☐Feet

Fluvial Geomorphology Features (3 Cross Sections) for Stream Classification

				Average
Bankfull Width (W_{bkf}):	_____ ft.	_____ ft.	_____ ft.	0.00 ft.
Width of the stream channel, at bankfull stage elevation, in a riffle section.				
Mean Depth (d_{bkf}):	_____ ft.	_____ ft.	_____ ft.	0.00 ft.
Mean depth of the stream channel cross section, at bankfull stage elevation, in a riffle section. ($d_{bkf}=A_{bkf}/W_{bkf}$)				
Bankfull X-Section Area (A_{bkf}):	_____ sq. ft.	_____ sq. ft.	_____ sq. ft.	0.00 sq. ft.
Area of the stream channel cross section, at bankfull stage elevation, in a riffle section.				
Width / Depth Ratio (W_{bkf}/d_{bkf}):	_____ ft.	_____ ft.	_____ ft.	0.00 ft.
Bankfull width divided by bankfull mean depth, in a riffle section.				
Maximum Depth (d_{mbkf}):	_____ ft.	_____ ft.	_____ ft.	0.00 ft.
Maximum depth of the Bankfull channel cross section, or distance between the bankfull stage and thalweg elevations, in a riffle section.				
Width of Flood-Prone Area (W_{fpa}):	_____ ft.	_____ ft.	_____ ft.	0.00 ft.
Twice maximum depth, or (2 x d_{mbkf}) = the stage/elevation at which flood-prone area width is determined (riffle section).				
Entrenchment Ratio (ER):	_____ ft.	_____ ft.	_____ ft.	0.00 ft.
The ratio of flood-prone area width divided by bankfull channel width. (W_{fpa}/W_{bkf}) (riffle section)				

USDA-NRCS **January 2009** **Wisconsin Job Sheet 811**

Reach Characteristics

Channel Materials (Particle Size Index) D50: _____ mm

The D50 particle size index represents the median diameter of channel materials, as sampled from the channel surface, between the bankfull stage and thalweg elevations.

Water Surface Slope (S): _____ ft./ft.

Channel slope = "rise" over "run" for a reach approximately 20-30 bankfull channel widths in length, with the "riffle to riffle" water surface slope representing the gradient at bankfull stage.

Channel Sinuosity (K): _____.

Sinuosity is an index of channel pattern, determined from a ratio of stream length divided by valley length (SL/VL); or estimated from a ratio of valley slope divided by channel slope (VS/S).

Distance to Up-Stream Structures: _____.

Stream Type: _____ (For reference, note Stream Type Chart and Classification Key)

Dominant Channel Soils at an Eroding Bank Location

Bed Material: _____ Left Bank: _____ Right Bank: _____

Description of Soil Profiles (from base of bank to top):

Left: _____

_____

Right: _____

_____

Riparian Vegetation at an Eroding Bank Location

Left Bank: _____ Right Bank: _____

Percent Total Area (Mass): Left: _____ Right: _____

Percent Total Height with Roots: Left: _____ Right: _____

Other Bank Features at an Eroding Bank Location

Actual Bank Height: _____ Bankfull Height: _____

Bank Slope (Horizontal to Vertical):

	Left:	Right:
☐	0-20° (flat)	0-20° (flat)
☐	21-60° (moderate)	21-60° (moderate)
☐	61-80° (steep)	61-80° (steep)
☐	81-90° (vertical)	81-90° (vertical)
☐	90°+ (undercut)	90°+ (undercut)

Visible Seepage in Bank? ☐Yes ☐No Where? _____

Thalweg Location: ☐Near 1/3 ☐Mid 1/3 ☐Far 1/3

NRCS
U.S. Department of Agriculture
Natural Resources Conservation Service

Pebble Count (Data Collection)

Wisconsin Job Sheet 810

Natural Resources Conservation Service (NRCS) Wisconsin

Project: _____ Date: _____

County: _____ Stream: _____

Reach No.: _____ Logged By: _____

Horizontal Datum: NAD _____ Projection: ☐ Transverse Mercator ☐ Lambert Conformal Conical

Coordinate System: ☐ _____ County Coordinates ☐ WTM ☐ State Plane Coordinates ☐ UTM

Units: ☐ Meters ☐ Feet Horizontal Control: N or Lat. _____ E or Long. _____

Elevation: _____ ☐ Assumed ☐ DOT ☐ NAVD (29 / 88) Units: ☐ Meters ☐ Feet

Inches	Millimeters	Particle	Particle Count			
			1	Total #	2	Total #
<.002	<.062	Silt/Clay				
.002 - .005	.062 - .125	Very Fine Sand				
.005 - .01	.125 - .25	Fine Sand				
.01 - .02	.25 - .50	Medium Sand				
.02 - .04	.50 - 1.0	Coarse Sand				
.04 - .08	1.0 - 2	Very Coarse Sand				
.08 - .16	2 - 4	Very Fine Gravel				
.16 - .22	4 - 5.7	Fine Gravel				
.22 - .31	5.7 - 8	Fine Gravel				
.31 - .44	8 - 11.3	Medium Gravel				
.44 - .63	11.3 - 16	Medium Gravel				
.63 - .89	16 - 22.6	Coarse Gravel				
.89 - 1.26	22.6 - 32	Coarse Gravel				
1.26 - 1.77	32 - 45	Very Coarse Gravel				
1.77 - 2.5	45 - 64	Very Coarse Gravel				
2.5 - 3.5	64 - 90	Small Cobbles				
3.5 - 5.0	90 - 128	Small Cobbles				
5.0 - 7.1	128 - 180	Large Cobbles				
7.1 - 10.1	180 - 256	Large Cobbles				
10.1 - 14.3	256 - 362	Small Boulders				
14.3 - 20	362 - 512	Small Boulders				
20 - 40	512 - 1024	Medium Boulders				
40 - 80	1024 - 2048	Large-Very Large Boulders				
		Bedrock				

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USDA-NRCS **March 2006** **Wisconsin Job Sheet 810**

GOMEZ AND SULLIVAN ENGINEERS

Resilient New York

Date:

Field crew:

Stream:

Road crossing:

Structure data: ☐ Bridge

Height at edge[1]: _____ Width at top of opening: _____

Height at deepest point: _____ Bank slope: Rise: _____ Run: _____

Piers _____ Pier shape: round triangle square

Span between piers: _____ Width of piers: _____

☐ Culvert (see data below)

Length in direction of flow:

Manning value: Top: Bottom:

Deck thickness:

Height of rail:

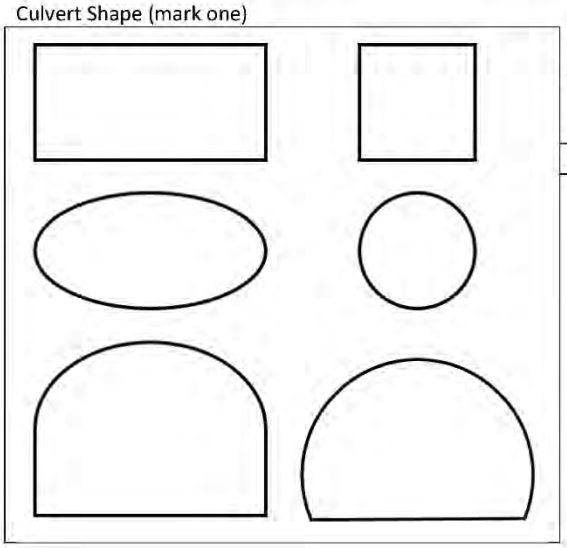
Type of rail:

Structure material:

Bottom substrate:

Description:

Culvert Shape (mark one)



Depth from top of opening to bottom of stream

at edge: _____

at deepest location: _____

Opening width: _____

[1] All measurements should be taken to 0.1 feet

P:\2065 - Resilient NY Initiative\Field Data Collections\Field_Template.docx

Appendix D. Photo Log

List of Additional Field Photos

Photo D-1. *Upstream Face of Stone Road Bridge*

Photo D-2. *Channel Viewed Upstream from Stone Road Bridge*

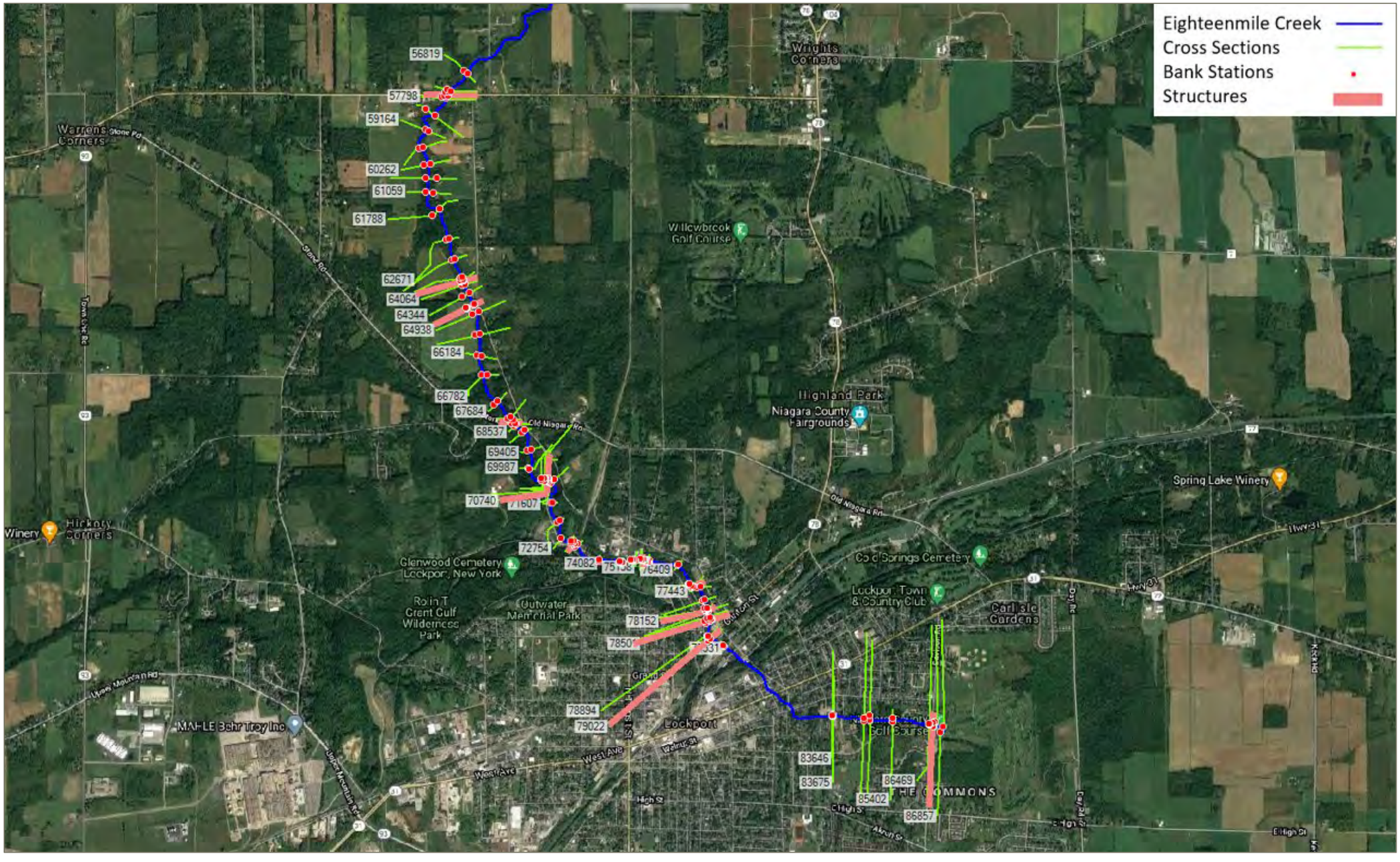
Photo D-3. *Downstream Face of Plank Road Bridge*

Photo D-4. *Low Clearance under Plank Road Bridge*

Photo D-5. *Eighteenmile Creek Culvert Inlet*

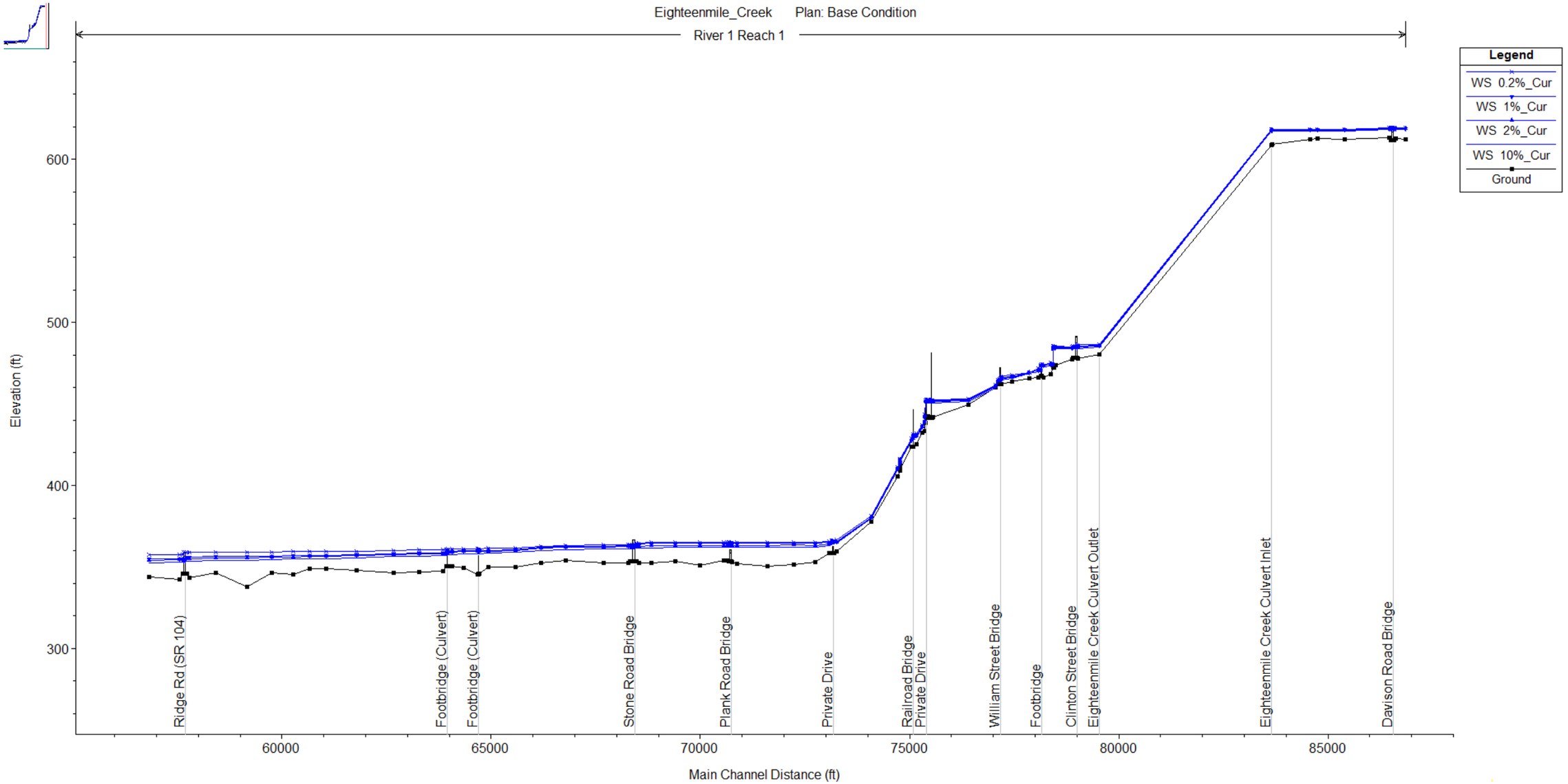
Photo D-6. *Channel Viewed Upstream from Eighteenmile Creek Culvert Inlet*

Appendix E. HEC-RAS Simulation Output



Plan: Base Condition

Flows: Current



Plan: Base Condition

Flows: Current

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach 1	86857	10%_Cur	330	612.24	618.4		618.4	0.000006	0.22	2753.84	1929.82	0.02
Reach 1	86857	2%_Cur	490	612.24	618.83		618.83	0.000007	0.25	3615.59	2070.9	0.02
Reach 1	86857	1%_Cur	545	612.24	618.94		618.94	0.000007	0.26	3848.25	2101.28	0.02
Reach 1	86857	0.2%_Cur	770	612.24	619.33		619.33	0.000009	0.31	4685.4	2188.02	0.03
Reach 1	86624	10%_Cur	620	612.9	618.39		618.39	0.000031	0.52	2365.01	1842.59	0.05
Reach 1	86624	2%_Cur	900	612.9	618.82		618.83	0.00003	0.55	3162.81	1861.52	0.05
Reach 1	86624	1%_Cur	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach 1	86624	0.2%_Cur	1370	612.9	619.32		619.33	0.000033	0.62	4100.25	1879.37	0.05
Reach 1	86586	10%_Cur	620	611.6	618.39	615.16	618.39	0.000028	0.53	2407.14	1808.66	0.05
Reach 1	86586	2%_Cur	900	611.6	618.82	616.19	618.82	0.000028	0.56	3189.64	1826.91	0.05
Reach 1	86586	1%_Cur	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach 1	86586	0.2%_Cur	1370	611.6	619.32	616.74	619.32	0.000032	0.64	4109.51	1846.56	0.05
Reach 1	86548	Bridge	Bridge									
Reach 1	86510	10%_Cur	620	611.6	618.32	615.23	618.36	0.000307	2.1	1039.97	1082.31	0.17
Reach 1	86510	2%_Cur	900	611.6	618.76	616.02	618.8	0.000299	2.19	1572.61	1325.1	0.17
Reach 1	86510	1%_Cur	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach 1	86510	0.2%_Cur	1370	611.6	619.27	617.85	619.3	0.000317	2.4	2328.91	1681.77	0.17
Reach 1	86469	10%_Cur	620	613.41	618.16		618.3	0.001658	3.79	504.77	771.36	0.37
Reach 1	86469	2%_Cur	900	613.41	618.68		618.76	0.001075	3.36	953.56	989.51	0.3
Reach 1	86469	1%_Cur	990	613.41	618.8		618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach 1	86469	0.2%_Cur	1370	613.41	619.21		619.26	0.000882	3.32	1600.57	1377.88	0.28
Reach 1	85402	10%_Cur	620	612.08	617.39		617.43	0.000455	1.78	517.02	1139.15	0.17
Reach 1	85402	2%_Cur	900	612.08	618		618.04	0.000454	1.93	1147.3	1278.53	0.17
Reach 1	85402	1%_Cur	990	612.08	618.13		618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach 1	85402	0.2%_Cur	1370	612.08	618.55		618.6	0.000467	2.09	1910.73	1495.79	0.17
Reach 1	84756	10%_Cur	620	612.91	617.37		617.38	0.000025	0.97	1256.78	891.37	0.09
Reach 1	84756	2%_Cur	900	612.91	617.97		617.99	0.000028	1.14	2167.81	1977.95	0.1
Reach 1	84756	1%_Cur	990	612.91	618.09		618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach 1	84756	0.2%_Cur	1370	612.91	618.51		618.53	0.000038	1.42	3312.27	2214.88	0.11
Reach 1	84575	10%_Cur	620	612	617.36		617.37	0.000278	1.19	900.7	426.26	0.1

Reach 1	84575	2%_Cur	900	612	617.96	617.97	0.000289	1.31	1367.16	1279.56	0.11
Reach 1	84575	1%_Cur	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach 1	84575	0.2%_Cur	1370	612	618.5	618.51	0.000306	1.43	2138.8	1529.92	0.11
Reach 1	83675	10%_Cur	620	609.25	617.23	617.25	0.000076	1.35	852.79	357.14	0.09
Reach 1	83675	2%_Cur	900	609.25	617.79	617.82	0.000111	1.71	1147.51	678.63	0.11
Reach 1	83675	1%_Cur	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12
Reach 1	83675	0.2%_Cur	1370	609.25	618.25	618.3	0.000184	2.29	1492.9	812.49	0.14
Reach 1	83646	10%_Cur	620	608.7	617.23	617.25	0.000127	1.83	1039.75	660.72	0.12
Reach 1	83646	2%_Cur	900	608.7	617.79	617.81	0.000163	2.16	1497.72	960.45	0.13
Reach 1	83646	1%_Cur	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach 1	83646	0.2%_Cur	1370	608.7	618.25	618.29	0.000233	2.68	1968.83	1056.28	0.16
Reach 1	79531	10%_Cur	620	480.5	484.81	485.44	0.015564	6.39	98.26	37.28	0.68
Reach 1	79531	2%_Cur	900	480.5	485.55	486.37	0.014765	7.29	126.38	38.57	0.69
Reach 1	79531	1%_Cur	990	480.5	485.76	486.64	0.014721	7.57	134.42	38.94	0.69
Reach 1	79531	0.2%_Cur	1370	480.5	486.5	487.66	0.015199	8.69	163.94	40.24	0.73
Reach 1	79022	10%_Cur	700	478	484.08	484.21	0.000881	3.02	308.62	138.77	0.28
Reach 1	79022	2%_Cur	1030	478	485.05	485.19	0.000794	3.29	447.96	148.3	0.27
Reach 1	79022	1%_Cur	1140	478	485.28	485.43	0.000809	3.42	482.93	150.59	0.27
Reach 1	79022	0.2%_Cur	1580	478	486.19	486.38	0.000815	3.8	624.49	161.29	0.28
Reach 1	79012	10%_Cur	700	478.5	483.97	481.94	484.17	0.001987	3.57	198.9	63	0.33
Reach 1	79012	2%_Cur	1030	478.5	484.88	482.53	485.14	0.002013	4.17	260.66	111.74	0.34
Reach 1	79012	1%_Cur	1140	478.5	485.08	482.7	485.38	0.002108	4.39	275.67	119.13	0.36
Reach 1	79012	0.2%_Cur	1580	478.5	485.9	483.33	486.3	0.002311	5.11	336.13	133.69	0.38
Reach 1	78964	Bridge	Bridge								
Reach 1	78916	10%_Cur	700	478.5	483.97	481.94	484.17	0.002006	3.57	197.5	57.49	0.33
Reach 1	78916	2%_Cur	1030	478.5	484.52	482.53	484.84	0.002716	4.55	229.44	59.92	0.39
Reach 1	78916	1%_Cur	1140	478.5	484.68	482.7	485.04	0.002925	4.85	239.24	60.65	0.41
Reach 1	78916	0.2%_Cur	1580	478.5	485.31	483.33	485.84	0.003547	5.84	278.4	63.47	0.46
Reach 1	78894	10%_Cur	700	477.3	483.88		484.12	0.001347	3.93	179.14	44.45	0.33
Reach 1	78894	2%_Cur	1030	477.3	484.33		484.76	0.002094	5.23	199.62	46.71	0.42
Reach 1	78894	1%_Cur	1140	477.3	484.46		484.95	0.002355	5.64	205.41	47.33	0.45
Reach 1	78894	0.2%_Cur	1580	477.3	484.89		485.68	0.003395	7.17	226.41	49.51	0.55
Reach 1	78501	10%_Cur	700	474	483.99		484.01	0.000042	0.97	726.88	144.72	0.07

Reach 1	78501	2%_Cur	1030	474	484.53		484.56	0.000072	1.3	809.23	161.41	0.09
Reach 1	78501	1%_Cur	1140	474	484.69		484.72	0.000082	1.41	834.76	164.47	0.1
Reach 1	78501	0.2%_Cur	1580	474	485.27		485.32	0.000125	1.78	933.79	173.59	0.12
Reach 1	78445	10%_Cur	700	472.5	484	473.88	484	0.000026	0.4	1755.52	211.6	0.02
Reach 1	78445	2%_Cur	1030	472.5	484.54	474.25	484.55	0.000046	0.55	1871.03	214.44	0.03
Reach 1	78445	1%_Cur	1140	472.5	484.7	474.37	484.71	0.000053	0.6	1905.07	215.27	0.03
Reach 1	78445	0.2%_Cur	1580	472.5	485.3	474.79	485.31	0.000082	0.78	2033.86	218.38	0.04
Reach 1	78435	Inl	Inl Struct									
Reach 1	78428	10%_Cur	700	472.5	473.85	473.85	474.47	0.021855	6.34	111.94	96.14	1
Reach 1	78428	2%_Cur	1030	472.5	474.22	474.22	475.01	0.020282	7.16	149.18	103.38	0.99
Reach 1	78428	1%_Cur	1140	472.5	474.34	474.34	475.17	0.019874	7.39	161.11	105.59	0.99
Reach 1	78428	0.2%_Cur	1580	472.5	474.76	474.76	475.77	0.018542	8.17	207.41	113.78	0.98
Reach 1	78376	10%_Cur	700	468	473.05		473.11	0.000424	2.07	366.62	113.71	0.18
Reach 1	78376	2%_Cur	1030	468	474.18		474.26	0.000401	2.33	501.5	124.39	0.18
Reach 1	78376	1%_Cur	1140	468	474.44		474.53	0.000415	2.44	534.24	126.69	0.19
Reach 1	78376	0.2%_Cur	1580	468	475.12		475.25	0.000532	2.97	622.65	132.68	0.21
Reach 1	78193	10%_Cur	700	466.4	472.55		472.93	0.002422	4.98	151.89	42.14	0.4
Reach 1	78193	2%_Cur	1030	466.4	473.55		474.06	0.002613	5.88	196.99	47.87	0.43
Reach 1	78193	1%_Cur	1140	466.4	473.74		474.32	0.002841	6.26	206.11	48.95	0.45
Reach 1	78193	0.2%_Cur	1580	466.4	473.9		474.94	0.004951	8.41	213.91	49.85	0.6
Reach 1	78152	10%_Cur	700	467.3	472.64	469.96	472.72	0.00088	2.37	365.18	149.31	0.2
Reach 1	78152	2%_Cur	1030	467.3	473.71	470.42	473.8	0.000824	2.59	530.34	160.69	0.2
Reach 1	78152	1%_Cur	1140	467.3	473.92	470.56	474.02	0.000868	2.72	564.9	162.97	0.2
Reach 1	78152	0.2%_Cur	1580	467.3	474.24	471.08	474.4	0.001343	3.49	617.47	166.38	0.26
Reach 1	78142.5	Bridge	Bridge									
Reach 1	78133	10%_Cur	700	467.3	469.93	469.89	470.81	0.017791	7.55	92.98	63.64	0.96
Reach 1	78133	2%_Cur	1030	467.3	470.49	470.44	471.63	0.017882	8.57	120.81	77.63	0.96
Reach 1	78133	1%_Cur	1140	467.3	470.66	470.61	471.87	0.01774	8.85	129.68	82.04	0.96
Reach 1	78133	0.2%_Cur	1580	467.3	471.38	471.27	472.57	0.014354	9.05	216.09	100.54	0.87
Reach 1	78088	10%_Cur	700	466.21	469.95		470.18	0.003567	3.85	195.88	107.1	0.43
Reach 1	78088	2%_Cur	1030	466.21	470.61		470.9	0.003411	4.4	272.14	123.3	0.43
Reach 1	78088	1%_Cur	1140	466.21	470.82		471.13	0.003327	4.53	298.63	128.34	0.43
Reach 1	78088	0.2%_Cur	1580	466.21	471.52		471.89	0.003257	5.07	393.57	144.08	0.44

Reach 1	77855	10%_Cur	700	465.51	468.73	468.1	469.16	0.005183	5.26	147.83	106.26	0.61
Reach 1	77855	2%_Cur	1030	465.51	468.98	468.65	469.7	0.007817	6.91	175.27	118.48	0.77
Reach 1	77855	1%_Cur	1140	465.51	469.02	468.83	469.87	0.008993	7.5	180.55	120.35	0.83
Reach 1	77855	0.2%_Cur	1580	465.51	469.4	469.4	470.56	0.010411	8.85	229.47	136.46	0.91
Reach 1	77443	10%_Cur	700	463.7	465.65	465.5	466.06	0.011821	5.25	157.16	168.47	0.79
Reach 1	77443	2%_Cur	1030	463.7	466.33		466.66	0.006477	4.84	285.18	205.78	0.6
Reach 1	77443	1%_Cur	1140	463.7	466.56		466.87	0.005476	4.73	333.65	219.08	0.55
Reach 1	77443	0.2%_Cur	1580	463.7	467.45		467.7	0.003105	4.34	552.09	254.4	0.43
Reach 1	77185	10%_Cur	700	462	464.9	463.54	465.06	0.001668	3.26	216.73	146.78	0.36
Reach 1	77185	2%_Cur	1030	462	465.73	464	465.93	0.001457	3.66	291.47	177.64	0.35
Reach 1	77185	1%_Cur	1140	462	466	464.13	466.21	0.001394	3.76	315.38	184.81	0.34
Reach 1	77185	0.2%_Cur	1580	462	467.01	464.58	467.25	0.001213	4.11	405.02	209.23	0.33
Reach 1	77153.5	Bridge	Bridge									
Reach 1	77122	10%_Cur	700	462	463.49	463.49	464.24	0.015388	5.91	104.23	64.57	0.86
Reach 1	77122	2%_Cur	1030	462	463.96	463.96	464.9	0.014812	6.95	135.19	69.84	0.88
Reach 1	77122	1%_Cur	1140	462	464.11	464.11	465.09	0.014402	7.2	145.87	71.87	0.88
Reach 1	77122	0.2%_Cur	1580	462	464.63	464.63	465.76	0.013665	8.15	186.85	85.17	0.89
Reach 1	77052	10%_Cur	700	460.21	459.69	459.44	460.68	0.010826		87.74	34.73	0
Reach 1	77052	2%_Cur	1030	460.21	460.73	460.73	461.63	0.009152	1.55	138.18	85.44	0.56
Reach 1	77052	1%_Cur	1140	460.21	460.88	460.88	461.81	0.009346	2.07	151.37	88.79	0.61
Reach 1	77052	0.2%_Cur	1580	460.21	461.41	461.41	462.44	0.009602	3.65	201.15	100.58	0.71
Reach 1	76409	10%_Cur	700	449.31	451.64	451.64	452.58	0.014601	7.79	91.99	52.95	0.98
Reach 1	76409	2%_Cur	1030	449.31	452.27	452.27	453.35	0.011904	8.46	132.89	89.63	0.93
Reach 1	76409	1%_Cur	1140	449.31	452.49	452.49	453.57	0.010788	8.51	154.75	107.26	0.89
Reach 1	76409	0.2%_Cur	1580	449.31	453.09	453.09	454.31	0.009928	9.27	220.1	112.12	0.88
Reach 1	75569	10%_Cur	700	441.75	450.54		450.57	0.000238	1.41	675.84	161.06	0.1
Reach 1	75569	2%_Cur	1030	441.75	451.72		451.76	0.000269	1.67	871.91	171.32	0.1
Reach 1	75569	1%_Cur	1140	441.75	451.94		451.98	0.000295	1.79	909.26	173.18	0.11
Reach 1	75569	0.2%_Cur	1580	441.75	452.59		452.65	0.000417	2.23	1022.61	177.95	0.13
Reach 1	75540	10%_Cur	700	441.3	450.55	443.91	450.56	0.00004	0.92	938.09	197.48	0.06
Reach 1	75540	2%_Cur	1030	441.3	451.73	444.5	451.75	0.00005	1.13	1180.86	213.38	0.07
Reach 1	75540	1%_Cur	1140	441.3	451.95	444.67	451.97	0.000055	1.21	1227.34	214.12	0.07
Reach 1	75540	0.2%_Cur	1580	441.3	452.59	445.38	452.63	0.000081	1.53	1366.83	216.34	0.09

Reach 1	75524.5	Bridge	Bridge									
Reach 1	75509	10%_Cur	700	441.3	450.54	443.85	450.55	0.000052	1.15	809.56	214.26	0.07
Reach 1	75509	2%_Cur	1030	441.3	451.71	444.47	451.74	0.000062	1.38	1065.72	220.19	0.08
Reach 1	75509	1%_Cur	1140	441.3	451.93	444.63	451.96	0.000068	1.48	1113.37	221.2	0.09
Reach 1	75509	0.2%_Cur	1580	441.3	452.57	445.3	452.62	0.000099	1.87	1255.9	224.21	0.11
Reach 1	75463	10%_Cur	700	441.83	450.5		450.54	0.00016	1.7	556.37	174.96	0.11
Reach 1	75463	2%_Cur	1030	441.83	451.67		451.73	0.000183	2.03	767.83	186.54	0.13
Reach 1	75463	1%_Cur	1140	441.83	451.88		451.94	0.000202	2.16	807.29	188.49	0.13
Reach 1	75463	0.2%_Cur	1580	441.83	452.49		452.59	0.000289	2.71	925.25	194.83	0.16
Reach 1	75435	10%_Cur	700	442.5	450.48		450.54	0.000206	2.09	480.55	178.59	0.15
Reach 1	75435	2%_Cur	1030	442.5	451.64		451.72	0.000221	2.42	697.07	192.67	0.15
Reach 1	75435	1%_Cur	1140	442.5	451.85		451.94	0.000241	2.57	737.47	195.25	0.16
Reach 1	75435	0.2%_Cur	1580	442.5	452.46		452.58	0.000337	3.2	858.07	203.4	0.19
Reach 1	75422	10%_Cur	700	441.5	450.45	445.33	450.53	0.000863	2.41	438.39	177.48	0.16
Reach 1	75422	2%_Cur	1030	441.5	451.63	446.19	451.71	0.000832	2.62	660.06	199.34	0.16
Reach 1	75422	1%_Cur	1140	441.5	451.84	446.41	451.93	0.000892	2.76	702.59	204.07	0.16
Reach 1	75422	0.2%_Cur	1580	441.5	452.45	447.25	452.57	0.00118	3.32	830.47	214.72	0.19
Reach 1	75394.5	Bridge	Bridge									
Reach 1	75369	10%_Cur	700	438.2	441.48	441.48	442.76	0.050589	9.11	78.51	32.91	0.97
Reach 1	75369	2%_Cur	1030	438.2	442.26	442.26	443.88	0.046132	10.29	104.25	37.17	0.97
Reach 1	75369	1%_Cur	1140	438.2	442.5	442.5	444.22	0.045188	10.63	112.23	38.45	0.97
Reach 1	75369	0.2%_Cur	1580	438.2	443.37	443.37	445.46	0.041911	11.77	142.87	43.22	0.97
Reach 1	75362	10%_Cur	700	433.15	438.08	438.08	439.63	0.038232	10.01	72.6	27.27	0.98
Reach 1	75362	2%_Cur	1030	433.15	439.12	439.12	440.91	0.031325	10.9	104.86	34.91	0.93
Reach 1	75362	1%_Cur	1140	433.15	439.43	439.43	441.28	0.029828	11.14	115.79	36.27	0.92
Reach 1	75362	0.2%_Cur	1580	433.15	440.39	440.39	442.58	0.028325	12.32	152.56	40.12	0.92
Reach 1	75312	10%_Cur	700	432.3	435.22	435.22	436.44	0.039815	8.86	80.03	35.38	0.99
Reach 1	75312	2%_Cur	1030	432.3	435.96	435.96	437.48	0.035472	9.96	107.49	39.01	0.98
Reach 1	75312	1%_Cur	1140	432.3	436.19	436.19	437.8	0.034293	10.25	116.56	40.14	0.97
Reach 1	75312	0.2%_Cur	1580	432.3	437.03	437.03	438.94	0.030823	11.25	152.09	44.28	0.96
Reach 1	75158	10%_Cur	700	425.41	429.51		430.25	0.007983	6.98	104.83	41.63	0.72
Reach 1	75158	2%_Cur	1030	425.41	430.48		431.35	0.006448	7.6	148.04	46.87	0.68

Reach 1	75158	1%_Cur	1140	425.41	430.78		431.69	0.006156	7.78	161.96	48.43	0.67
Reach 1	75158	0.2%_Cur	1580	425.41	431.78		432.86	0.005605	8.56	213.41	54.16	0.66
Reach 1	75098	10%_Cur	700	423.5	429.06	427.94	429.63	0.009948	6.08	120.08	42.09	0.57
Reach 1	75098	2%_Cur	1030	423.5	430.13	428.7	430.81	0.008495	6.71	174.87	61.82	0.55
Reach 1	75098	1%_Cur	1140	423.5	430.45	428.94	431.15	0.008124	6.86	195.75	67.96	0.54
Reach 1	75098	0.2%_Cur	1580	423.5	431.57	429.84	432.32	0.007065	7.32	277.06	75.73	0.52
Reach 1	75093.5	Bridge	Bridge									
Reach 1	75089	10%_Cur	700	423.5	428.02	428.02	429.32	0.014623	9.22	79.59	34.88	0.97
Reach 1	75089	2%_Cur	1030	423.5	428.8	428.8	430.44	0.01454	10.43	109.1	40.76	0.97
Reach 1	75089	1%_Cur	1140	423.5	429.05	429.05	430.78	0.014317	10.74	119.8	44.8	0.96
Reach 1	75089	0.2%_Cur	1580	423.5	430.18	430.18	431.94	0.011363	11.05	185.6	69.88	0.87
Reach 1	75042	10%_Cur	700	423.5	427.19	427.19	428.23	0.014879	8.19	88.44	47.46	0.99
Reach 1	75042	2%_Cur	1030	423.5	427.83	427.83	429.13	0.014235	9.21	120.14	52.28	0.98
Reach 1	75042	1%_Cur	1140	423.5	428.02	428.02	429.4	0.014039	9.5	130.37	53.49	0.97
Reach 1	75042	0.2%_Cur	1580	423.5	428.71	428.71	430.39	0.013639	10.55	168.69	57.75	0.97
Reach 1	74782	10%_Cur	700	409.6	414.78		415.18	0.009794	5.06	139.65	45.93	0.49
Reach 1	74782	2%_Cur	1030	409.6	415.43		416.02	0.01165	6.2	170.69	50.32	0.55
Reach 1	74782	1%_Cur	1140	409.6	415.62		416.28	0.012158	6.54	180.4	51.57	0.56
Reach 1	74782	0.2%_Cur	1580	409.6	416.31		417.22	0.013706	7.69	217.78	56.13	0.61
Reach 1	74780	10%_Cur	700	411.9	414.13	414.13	415.1	0.024322	7.89	89.68	49.46	1
Reach 1	74780	2%_Cur	1030	411.9	414.71	414.71	415.94	0.022791	8.91	119.11	52.89	0.99
Reach 1	74780	1%_Cur	1140	411.9	414.89	414.89	416.19	0.02233	9.19	128.61	53.92	0.99
Reach 1	74780	0.2%_Cur	1580	411.9	415.55	415.55	417.12	0.020727	10.14	165.6	57.75	0.98
Reach 1	74779	10%_Cur	700	409.27	412.93	412.93	413.98	0.01602	8.24	87.55	45.37	0.99
Reach 1	74779	2%_Cur	1030	409.27	413.56	413.56	414.89	0.01623	9.31	117.49	49.38	0.98
Reach 1	74779	1%_Cur	1140	409.27	413.76	413.76	415.17	0.016079	9.58	127.54	50.6	0.98
Reach 1	74779	0.2%_Cur	1580	409.27	414.46	414.46	416.18	0.016079	10.66	164.1	54.6	0.98
Reach 1	74711	10%_Cur	700	405.5	409.41	409.41	410.72	0.013736	9.24	78.51	32.47	0.96
Reach 1	74711	2%_Cur	1030	405.5	410.23	410.23	411.83	0.012286	10.32	107.07	37.12	0.94
Reach 1	74711	1%_Cur	1140	405.5	410.47	410.47	412.16	0.012001	10.64	116.26	38.49	0.94
Reach 1	74711	0.2%_Cur	1580	405.5	411.35	411.35	413.37	0.011239	11.76	152.1	43.44	0.94
Reach 1	74082	10%_Cur	700	377.52	379.8	379.8	380.66	0.086171	7.42	94.74	57.88	1
Reach 1	74082	2%_Cur	1030	377.52	380.32	380.32	381.39	0.076957	8.35	125.48	61.92	0.99

Reach 1	74082	1%_Cur	1140	377.52	380.48	380.48	381.62	0.074373	8.6	135.5	63.15	0.98
Reach 1	74082	0.2%_Cur	1580	377.52	381.07	381.07	382.43	0.066696	9.44	174.08	67.48	0.96
Reach 1	73253	10%_Cur	700	359.49	364.56	362.47	364.61	0.000758	1.96	521.19	210.36	0.2
Reach 1	73253	2%_Cur	1030	359.49	365.34	363.14	365.4	0.000784	2.18	687.32	215.62	0.2
Reach 1	73253	1%_Cur	1140	359.49	365.73	363.26	365.78	0.000701	2.15	771.15	218.96	0.19
Reach 1	73253	0.2%_Cur	1580	359.49	366.5	363.68	366.57	0.00077	2.43	943.54	225.67	0.19
Reach 1	73194	10%_Cur	700	358.6	364.44	363.03	364.53	0.002696	2.73	384.52	158.37	0.26
Reach 1	73194	2%_Cur	1030	358.6	365.21	363.5	365.3	0.002512	3.03	508.69	163.75	0.26
Reach 1	73194	1%_Cur	1140	358.6	365.61	363.5	365.7	0.00213	2.97	574.68	166.85	0.25
Reach 1	73194	0.2%_Cur	1580	358.6	366.37	363.71	366.48	0.002228	3.37	703.23	172.73	0.26
Reach 1	73166	Bridge	Bridge									
Reach 1	73148	10%_Cur	700	358.53	363.43	361.07	363.55	0.000882	2.71	268.61	83.29	0.25
Reach 1	73148	2%_Cur	1030	358.53	364.54	361.56	364.68	0.000842	3.03	375.56	107.2	0.24
Reach 1	73148	1%_Cur	1140	358.53	365.36	361.71	365.48	0.000613	2.83	468.93	118.55	0.21
Reach 1	73148	0.2%_Cur	1580	358.53	366.17	362.22	366.34	0.00075	3.37	567.38	126.36	0.23
Reach 1	73074	10%_Cur	700	358.61	362.88		363.33	0.00376	5.41	138.97	55.4	0.54
Reach 1	73074	2%_Cur	1030	358.61	363.97		364.47	0.002875	5.77	204.39	63.47	0.5
Reach 1	73074	1%_Cur	1140	358.61	364.96		365.34	0.00168	5.08	269.73	68.94	0.39
Reach 1	73074	0.2%_Cur	1580	358.61	365.57		366.13	0.002183	6.23	312.61	72.21	0.46
Reach 1	72754	10%_Cur	700	352.8	362.04		362.47	0.001988	5.57	162.61	49.92	0.4
Reach 1	72754	2%_Cur	1030	352.8	363.05		363.64	0.002307	6.65	217.99	59.17	0.44
Reach 1	72754	1%_Cur	1140	352.8	364.48		364.86	0.001298	5.63	340.25	154.11	0.34
Reach 1	72754	0.2%_Cur	1580	352.8	364.87		365.46	0.001976	7.15	406.6	184.69	0.42
Reach 1	72231	10%_Cur	700	351.5	362.28		362.29	0.000034	0.82	2100.34	853.63	0.06
Reach 1	72231	2%_Cur	1030	351.5	363.41		363.42	0.000027	0.82	3094.38	906.93	0.05
Reach 1	72231	1%_Cur	1140	351.5	364.73		364.73	0.000013	0.64	4314.33	951.65	0.04
Reach 1	72231	0.2%_Cur	1580	351.5	365.25		365.25	0.000018	0.78	4816.04	967.49	0.05
Reach 1	71607	10%_Cur	1200	350.7	362.11		362.21	0.000358	2.71	793.34	272.69	0.17
Reach 1	71607	2%_Cur	1700	350.7	363.24		363.35	0.000367	3.01	1112	290.75	0.18
Reach 1	71607	1%_Cur	1960	350.7	364.61		364.69	0.000241	2.68	1520.18	306.04	0.15
Reach 1	71607	0.2%_Cur	2570	350.7	365.09		365.2	0.000333	3.25	1667.59	311.54	0.18
Reach 1	70869	10%_Cur	1200	352	362.07		362.08	0.000093	0.87	2659.44	858.44	0.07
Reach 1	70869	2%_Cur	1700	352	363.23		363.23	0.00008	0.88	3657.17	876.5	0.06

Reach 1	70869	1%_Cur	1960	352	364.61		364.62	0.000047	0.73	4878.17	886.16	0.05
Reach 1	70869	0.2%_Cur	2570	352	365.09		365.1	0.000063	0.88	5305.38	889.27	0.05
Reach 1	70760	10%_Cur	1200	353	362.07	358.46	362.07	0.000032	0.5	5070.11	1322.54	0.04
Reach 1	70760	2%_Cur	1700	353	363.22	359	363.23	0.00003	0.53	6690.22	1469.05	0.04
Reach 1	70760	1%_Cur	1960	353	364.61	359	364.61	0.000018	0.45	8756.87	1500.02	0.03
Reach 1	70760	0.2%_Cur	2570	353	365.09	359	365.09	0.000024	0.54	9479.78	1508.31	0.03
Reach 1	70740	10%_Cur	1200	353.4	362.07	357.49	362.07	0.000039	0.53	4715.7	1244.53	0.04
Reach 1	70740	2%_Cur	1700	353.4	363.22	358.16	363.22	0.000036	0.57	6217.79	1354.19	0.04
Reach 1	70740	1%_Cur	1960	353.4	364.61	358.49	364.61	0.000021	0.49	8166.86	1437.51	0.03
Reach 1	70740	0.2%_Cur	2570	353.4	365.09	359.02	365.09	0.000028	0.59	8860.75	1448.41	0.03
Reach 1	70713	Bridge	Bridge									
Reach 1	70686	10%_Cur	1200	353.4	361.95	357.5	361.95	0.000036	0.8	4482.52	1297.96	0.06
Reach 1	70686	2%_Cur	1700	353.4	363.2	358.15	363.2	0.00003	0.81	6124.62	1329.07	0.05
Reach 1	70686	1%_Cur	1960	353.4	364.6	358.44	364.6	0.000018	0.69	8024.38	1376.45	0.04
Reach 1	70686	0.2%_Cur	2570	353.4	365.08	359	365.08	0.000024	0.83	8685.97	1383.59	0.05
Reach 1	70671	10%_Cur	1200	353.59	361.95	357.53	361.95	0.000022	0.65	5237.77	1235.73	0.05
Reach 1	70671	2%_Cur	1700	353.59	363.2	358.14	363.2	0.000021	0.72	6850.22	1308.55	0.05
Reach 1	70671	1%_Cur	1960	353.59	364.6	358.39	364.6	0.000014	0.64	8723.54	1352.84	0.04
Reach 1	70671	0.2%_Cur	2570	353.59	365.08	359	365.08	0.000019	0.78	9373.73	1360.02	0.04
Reach 1	70632	10%_Cur	1200	354.18	361.95		361.95	0.000015	0.54	6077.91	1186.84	0.04
Reach 1	70632	2%_Cur	1700	354.18	363.19		363.2	0.000016	0.62	7626.55	1291.8	0.04
Reach 1	70632	1%_Cur	1960	354.18	364.6		364.6	0.000011	0.58	9467.18	1332.55	0.03
Reach 1	70632	0.2%_Cur	2570	354.18	365.08		365.08	0.000015	0.7	10107.62	1340.25	0.04
Reach 1	70558	10%_Cur	1228	354	361.94		361.94	0.000016	0.46	6299.4	1172.42	0.03
Reach 1	70558	2%_Cur	1741	354	363.19		363.19	0.000017	0.52	7786.98	1232.06	0.03
Reach 1	70558	1%_Cur	2009	354	364.6		364.6	0.000012	0.5	9561.14	1284.18	0.03
Reach 1	70558	0.2%_Cur	2632	354	365.08		365.08	0.000017	0.61	10178.05	1292.26	0.03
Reach 1	69987	10%_Cur	1228	351.05	361.94		361.94	0.000032	0.82	4160.91	753.17	0.06
Reach 1	69987	2%_Cur	1741	351.05	363.18		363.19	0.000034	0.94	5112.44	777.39	0.06
Reach 1	69987	1%_Cur	2009	351.05	364.59		364.6	0.000026	0.92	6274.9	851.05	0.05
Reach 1	69987	0.2%_Cur	2632	351.05	365.07		365.07	0.000037	1.13	6681.78	859.47	0.06
Reach 1	69405	10%_Cur	1228	353.6	361.91		361.92	0.000128	0.95	2144.28	488.81	0.07
Reach 1	69405	2%_Cur	1741	353.6	363.16		363.16	0.000124	1.05	2779.29	527.16	0.07

Reach 1	69405	1%_Cur	2009	353.6	364.57		364.58	0.000082	0.95	3547.14	555.48	0.06
Reach 1	69405	0.2%_Cur	2632	353.6	365.04		365.05	0.000115	1.16	3808.29	563.82	0.07
Reach 1	68823	10%_Cur	1228	352.7	361.73		361.78	0.000464	1.91	861.2	216.8	0.15
Reach 1	68823	2%_Cur	1741	352.7	362.97		363.03	0.000477	2.14	1162.64	277.31	0.15
Reach 1	68823	1%_Cur	2009	352.7	364.45		364.49	0.000314	1.93	1702.44	465.67	0.12
Reach 1	68823	0.2%_Cur	2632	352.7	364.86		364.93	0.000442	2.35	1905.38	520.17	0.14
Reach 1	68537	10%_Cur	1228	352.7	361.47		361.58	0.001101	2.91	582.51	174.59	0.2
Reach 1	68537	2%_Cur	1741	352.7	362.71		362.83	0.001035	3.18	861.55	265.63	0.2
Reach 1	68537	1%_Cur	2009	352.7	364.29		364.37	0.000577	2.7	1347.87	360.25	0.16
Reach 1	68537	0.2%_Cur	2632	352.7	364.63		364.75	0.000839	3.33	1477.84	404.02	0.19
Reach 1	68474	10%_Cur	1228	353.73	361.47	357.56	361.52	0.00027	1.83	703.18	348.36	0.14
Reach 1	68474	2%_Cur	1741	353.73	362.7	357.97	362.77	0.000271	2.09	895.32	445.73	0.14
Reach 1	68474	1%_Cur	2009	353.73	364.28	358.16	364.34	0.000175	1.92	1141.51	542.34	0.12
Reach 1	68474	0.2%_Cur	2632	353.73	364.62	358.55	364.7	0.000261	2.41	1194.11	569.4	0.15
Reach 1	68402	Bridge	Bridge									
Reach 1	68326	10%_Cur	1228	353.73	361.2	357.37	361.25	0.000261	1.86	659.47	439.18	0.14
Reach 1	68326	2%_Cur	1741	353.73	362.33	357.77	362.4	0.000275	2.17	801.6	509.07	0.15
Reach 1	68326	1%_Cur	2009	353.73	362.85	357.95	362.93	0.000283	2.32	867.44	526.14	0.16
Reach 1	68326	0.2%_Cur	2632	353.73	363.79	358.35	363.9	0.000318	2.67	985.76	569.37	0.17
Reach 1	68280	10%_Cur	1228	352.5	361.21		361.22	0.000199	0.92	1711.59	338.53	0.06
Reach 1	68280	2%_Cur	1741	352.5	362.35		362.36	0.000222	1.09	2117.88	378.35	0.07
Reach 1	68280	1%_Cur	2009	352.5	362.88		362.89	0.000229	1.16	2322.01	396.86	0.07
Reach 1	68280	0.2%_Cur	2632	352.5	363.83		363.84	0.000256	1.32	2727.44	464.38	0.08
Reach 1	67684	10%_Cur	1228	352.5	361.04		361.07	0.000346	1.42	1075.37	333.75	0.11
Reach 1	67684	2%_Cur	1741	352.5	362.17		362.2	0.000349	1.56	1466.65	361.13	0.11
Reach 1	67684	1%_Cur	2009	352.5	362.69		362.73	0.000347	1.61	1659.57	372.8	0.11
Reach 1	67684	0.2%_Cur	2632	352.5	363.63		363.67	0.00037	1.77	2016.17	388.66	0.11
Reach 1	66782	10%_Cur	1228	353.98	360.77		360.8	0.000257	1.4	974.75	232.28	0.11
Reach 1	66782	2%_Cur	1741	353.98	361.88		361.92	0.00028	1.61	1246.93	262.56	0.11
Reach 1	66782	1%_Cur	2009	353.98	362.4		362.44	0.000292	1.72	1393.8	326.75	0.11
Reach 1	66782	0.2%_Cur	2632	353.98	363.29		363.35	0.000331	1.95	1735.94	452.12	0.12
Reach 1	66184	10%_Cur	1821	352.6	360.3		360.39	0.002093	2.45	822.75	218.95	0.19
Reach 1	66184	2%_Cur	2608	352.6	361.36		361.47	0.002133	2.79	1092.03	296.62	0.2

Reach 1	66184	1%_Cur	3049	352.6	361.86		361.98	0.002123	2.93	1247.47	331.05	0.2
Reach 1	66184	0.2%_Cur	3937	352.6	362.74		362.86	0.002022	3.1	1602.98	489.59	0.2
Reach 1	65586	10%_Cur	1821	350	358.94		359.04	0.002411	2.68	715	196.07	0.21
Reach 1	65586	2%_Cur	2608	350	360.04		360.16	0.002247	2.96	956.35	270.78	0.21
Reach 1	65586	1%_Cur	3049	350	360.58		360.71	0.002132	3.05	1122.49	343.56	0.21
Reach 1	65586	0.2%_Cur	3937	350	361.63		361.75	0.001749	3.05	1593.91	621.38	0.19
Reach 1	64938	10%_Cur	1821	349.8	358.37		358.4	0.000529	1.42	1288.8	384.56	0.12
Reach 1	64938	2%_Cur	2608	349.8	359.59		359.62	0.000415	1.48	1832.64	491	0.11
Reach 1	64938	1%_Cur	3049	349.8	360.18		360.22	0.000368	1.49	2142.63	606.23	0.11
Reach 1	64938	0.2%_Cur	3937	349.8	361.33		361.36	0.000286	1.47	3044.62	1081.47	0.1
Reach 1	64710	10%_Cur	1821	346.1	358.28		358.32	0.000241	1.55	1274.43	503.42	0.13
Reach 1	64710	2%_Cur	2608	346.1	359.53		359.56	0.000188	1.56	2122.68	854.76	0.12
Reach 1	64710	1%_Cur	3049	346.1	360.14		360.16	0.000156	1.51	2676.89	988.68	0.11
Reach 1	64710	0.2%_Cur	3937	346.1	361.3		361.32	0.000106	1.38	3937.15	1138.39	0.09
Reach 1	64701	10%_Cur	1821	346.1	358.28	354.93	358.32	0.000418	1.55	1222.56	425.67	0.13
Reach 1	64701	2%_Cur	2608	346.1	359.53	355.45	359.56	0.000299	1.55	1982.67	754.93	0.12
Reach 1	64701	1%_Cur	3049	346.1	360.13	355.62	360.16	0.000251	1.52	2511.12	983.91	0.11
Reach 1	64701	0.2%_Cur	3937	346.1	361.29	355.94	361.32	0.000156	1.35	3766.82	1125.51	0.09
Reach 1	64695.5	Bridge	Bridge									
Reach 1	64690	10%_Cur	1821	345.3	358.25	353.86	358.29	0.000457	1.61	1162.96	381.84	0.14
Reach 1	64690	2%_Cur	2608	345.3	359.5	355.5	359.54	0.000336	1.64	1829.01	662.27	0.12
Reach 1	64690	1%_Cur	3049	345.3	360.11	355.67	360.15	0.000286	1.62	2297.66	905.09	0.12
Reach 1	64690	0.2%_Cur	3937	345.3	361.28	355.98	361.31	0.000184	1.46	3534.24	1109.2	0.1
Reach 1	64681	10%_Cur	1821	345.3	358.25		358.29	0.00051	1.66	1131.61	307.71	0.14
Reach 1	64681	2%_Cur	2608	345.3	359.49		359.54	0.000385	1.72	1705.92	630.02	0.13
Reach 1	64681	1%_Cur	3049	345.3	360.1		360.14	0.000325	1.69	2151.33	820.77	0.12
Reach 1	64681	0.2%_Cur	3937	345.3	361.28		361.3	0.000217	1.56	3325.64	1096.93	0.1
Reach 1	64344	10%_Cur	1821	349.6	358.06		358.11	0.000538	1.76	1087.7	294.04	0.15
Reach 1	64344	2%_Cur	2608	349.6	359.33		359.39	0.00051	1.89	1491.94	343.43	0.14
Reach 1	64344	1%_Cur	3049	349.6	359.95		360.01	0.000511	1.98	1735.07	457.04	0.14
Reach 1	64344	0.2%_Cur	3937	349.6	361.15		361.2	0.000418	1.95	2472.6	841.1	0.13
Reach 1	64064	10%_Cur	1821	350.6	357.77		357.88	0.001339	2.89	918.95	266.16	0.22
Reach 1	64064	2%_Cur	2608	350.6	359.04		359.16	0.001316	3.19	1325.62	411.13	0.22

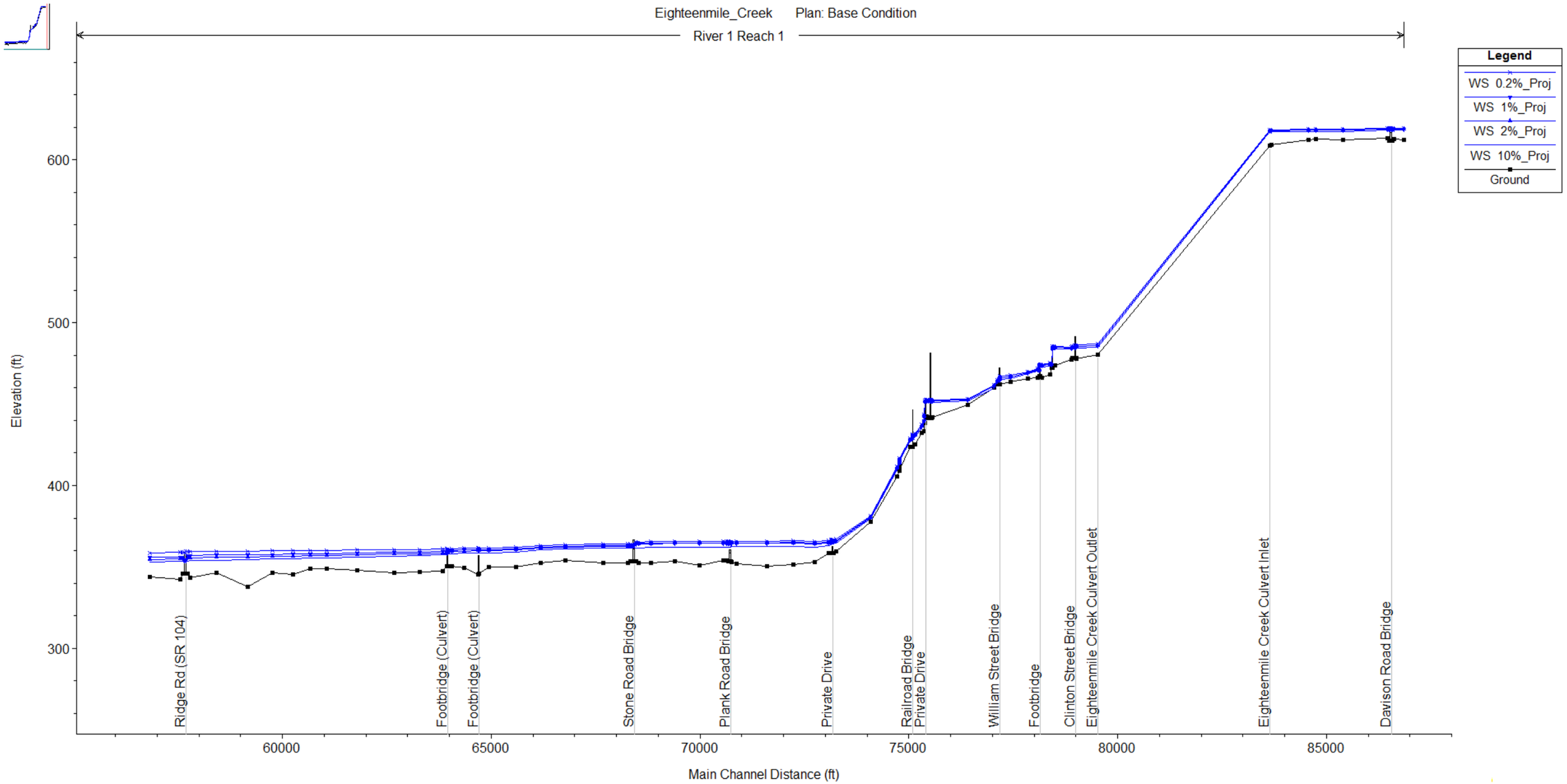
Reach 1	64064	1%_Cur	3049	350.6	359.68		359.79	0.001168	3.15	1603.93	463.72	0.21
Reach 1	64064	0.2%_Cur	3937	350.6	360.96		361.04	0.000802	2.85	2501.92	1126.85	0.17
Reach 1	63963	10%_Cur	1821	350.2	357.66		357.78	0.000645	3.11	903.03	264.74	0.23
Reach 1	63963	2%_Cur	2608	350.2	358.93		359.07	0.000608	3.42	1279.41	330.82	0.23
Reach 1	63963	1%_Cur	3049	350.2	359.55		359.7	0.000593	3.57	1496.96	383.69	0.23
Reach 1	63963	0.2%_Cur	3937	350.2	360.83		360.97	0.000493	3.59	2252.55	1028.46	0.21
Reach 1	63952	10%_Cur	1821	350.2	357.42	354.73	357.72	0.001365	4.39	415.11	237.54	0.34
Reach 1	63952	2%_Cur	2608	350.2	358.86	355.41	359.05	0.000789	3.88	1111.96	327.64	0.26
Reach 1	63952	1%_Cur	3049	350.2	359.52	355.76	359.69	0.000695	3.86	1440.26	366.62	0.25
Reach 1	63952	0.2%_Cur	3937	350.2	360.81	356.44	360.96	0.000548	3.8	2200.5	1025.76	0.23
Reach 1	63946	Bridge	Bridge									
Reach 1	63940	10%_Cur	1821	350.3	357.22	354.64	357.42	0.001168	3.92	729.93	235.28	0.3
Reach 1	63940	2%_Cur	2608	350.3	358.3	355.38	358.53	0.001145	4.34	1048.19	290.96	0.3
Reach 1	63940	1%_Cur	3049	350.3	358.86	355.75	359.11	0.001123	4.53	1222.78	325.97	0.3
Reach 1	63940	0.2%_Cur	3937	350.3	360.51	356.5	360.71	0.000754	4.23	1933.13	746.86	0.25
Reach 1	63930	10%_Cur	1821	350.3	357.23		357.38	0.000904	3.44	836.02	257.93	0.27
Reach 1	63930	2%_Cur	2608	350.3	358.31		358.49	0.000924	3.88	1129.26	292.75	0.28
Reach 1	63930	1%_Cur	3049	350.3	358.87		359.07	0.00092	4.07	1303.46	328.75	0.28
Reach 1	63930	0.2%_Cur	3937	350.3	360.52		360.68	0.000629	3.82	1996.7	736.66	0.23
Reach 1	63845	10%_Cur	1821	347.4	357.11		357.3	0.000981	3.83	842.92	291.22	0.28
Reach 1	63845	2%_Cur	2608	347.4	358.2		358.41	0.001055	4.25	1202.94	373.73	0.28
Reach 1	63845	1%_Cur	3049	347.4	358.78		358.99	0.001029	4.35	1435.46	425.53	0.28
Reach 1	63845	0.2%_Cur	3937	347.4	360.49		360.62	0.00062	3.71	2389.71	897.84	0.21
Reach 1	63280	10%_Cur	1821	346.7	356.72		356.79	0.000743	2.39	1128.33	462.33	0.17
Reach 1	63280	2%_Cur	2608	346.7	357.89		357.94	0.000552	2.31	1726.48	558.75	0.15
Reach 1	63280	1%_Cur	3049	346.7	358.53		358.58	0.000454	2.22	2096.6	601.77	0.14
Reach 1	63280	0.2%_Cur	3937	346.7	360.36		360.39	0.000231	1.82	3446.46	1095.17	0.1
Reach 1	62671	10%_Cur	1821	346.4	356.34		356.4	0.000541	2.5	1357.84	379.07	0.19
Reach 1	62671	2%_Cur	2608	346.4	357.55		357.62	0.000516	2.69	1839.02	418.86	0.19
Reach 1	62671	1%_Cur	3049	346.4	358.21		358.28	0.000492	2.75	2126.55	444.46	0.18
Reach 1	62671	0.2%_Cur	3937	346.4	360.13		360.2	0.000414	2.85	3451.54	1170.59	0.17
Reach 1	61788	10%_Cur	1850	347.7	355.72		355.75	0.001103	1.38	1424.76	384.43	0.12
Reach 1	61788	2%_Cur	2650	347.7	357.01		357.04	0.000877	1.47	1934.91	405.99	0.11

Reach 1	61788	1%_Cur	3100	347.7	357.72		357.75	0.000779	1.5	2227.13	417.51	0.11
Reach 1	61788	0.2%_Cur	4000	347.7	359.78		359.81	0.000484	1.43	3454.76	1315.67	0.09
Reach 1	61059	10%_Cur	1850	348.8	355.14		355.19	0.000568	1.75	1114.46	266.43	0.14
Reach 1	61059	2%_Cur	2650	348.8	356.5		356.55	0.000536	1.92	1491.26	297.18	0.14
Reach 1	61059	1%_Cur	3100	348.8	357.24		357.3	0.000507	1.99	1725.95	330.33	0.13
Reach 1	61059	0.2%_Cur	4000	348.8	359.53		359.56	0.000254	1.65	3194.26	950.44	0.1
Reach 1	60659	10%_Cur	1850	348.93	354.96		354.98	0.000432	1.22	1833.05	535.89	0.11
Reach 1	60659	2%_Cur	2650	348.93	356.35		356.37	0.000332	1.24	2594.92	561.48	0.1
Reach 1	60659	1%_Cur	3100	348.93	357.12		357.14	0.000291	1.24	3030.55	578.01	0.09
Reach 1	60659	0.2%_Cur	4000	348.93	359.47		359.48	0.000147	1.06	4840.92	1081.17	0.06
Reach 1	60262	10%_Cur	1850	345.5	354.77		354.82	0.000356	1.85	1109.31	272.25	0.14
Reach 1	60262	2%_Cur	2650	345.5	356.17		356.23	0.000353	2.01	1548.76	344.57	0.14
Reach 1	60262	1%_Cur	3100	345.5	356.95		357.01	0.000332	2.04	1827.51	373	0.13
Reach 1	60262	0.2%_Cur	4000	345.5	359.37		359.41	0.000191	1.76	3100.21	823.72	0.1
Reach 1	59756	10%_Cur	1850	346.6	354.47		354.52	0.001139	2.17	1087.99	299.53	0.16
Reach 1	59756	2%_Cur	2650	346.6	355.91		355.97	0.000818	2.15	1547.8	337.12	0.14
Reach 1	59756	1%_Cur	3100	346.6	356.72		356.77	0.000689	2.12	1830.54	369.94	0.13
Reach 1	59756	0.2%_Cur	4000	346.6	359.26		359.29	0.000293	1.67	3132.65	751	0.09
Reach 1	59164	10%_Cur	1850	337.8	354.22		354.25	0.000253	1.43	1718.37	376.75	0.08
Reach 1	59164	2%_Cur	2650	337.8	355.7		355.73	0.000249	1.55	2300.91	415.41	0.08
Reach 1	59164	1%_Cur	3100	337.8	356.53		356.56	0.000233	1.57	2654.63	437.88	0.08
Reach 1	59164	0.2%_Cur	4000	337.8	359.16		359.18	0.000142	1.39	4016.7	686.36	0.06
Reach 1	58414	10%_Cur	1850	346.3	353.91		353.93	0.000935	1.22	1627.67	457.63	0.11
Reach 1	58414	2%_Cur	2650	346.3	355.44		355.46	0.000615	1.23	2364.3	501.45	0.09
Reach 1	58414	1%_Cur	3100	346.3	356.3		356.32	0.000498	1.22	2803.15	517.9	0.08
Reach 1	58414	0.2%_Cur	4000	346.3	359.04		359.05	0.000221	1.03	4338.46	620.06	0.06
Reach 1	57798	10%_Cur	1850	343.3	353.43		353.46	0.000738	1.44	1443.44	450.77	0.11
Reach 1	57798	2%_Cur	2650	343.3	355.19		355.21	0.000337	1.18	2381.41	642.55	0.08
Reach 1	57798	1%_Cur	3100	343.3	356.12		356.14	0.000231	1.06	2995.76	674.58	0.07
Reach 1	57798	0.2%_Cur	4000	343.3	358.97		358.98	0.000078	0.76	5026.86	764.62	0.04
Reach 1	57733	10%_Cur	1850	345.8	353.24	349.78	353.38	0.000592	3.09	660.53	671.51	0.24
Reach 1	57733	2%_Cur	2650	345.8	354.99	350.71	355.14	0.000456	3.22	913.49	722.55	0.21
Reach 1	57733	1%_Cur	3100	345.8	355.92	351.04	356.07	0.00041	3.3	1046.59	738.74	0.21
Reach 1	57733	0.2%_Cur	4000	345.8	358.97	351.59	358.98	0.000036	1.2	6042.16	823.27	0.06

Reach 1	57679.5	Bridge	Bridge									
Reach 1	57622	10%_Cur	1850	345.7	352.96	349.67	353.16	0.000797	3.66	530.58	678.53	0.27
Reach 1	57622	2%_Cur	2650	345.7	354.42	350.45	354.67	0.000757	4.09	684.75	718.53	0.27
Reach 1	57622	1%_Cur	3100	345.7	355.09	350.79	355.37	0.000768	4.35	754.48	759.49	0.28
Reach 1	57622	0.2%_Cur	4000	345.7	357.71	351.46	357.72	0.000047	1.29	5585.38	823.63	0.07
Reach 1	57551	10%_Cur	1850	342.2	353.05		353.07	0.000365	1.43	1909.28	562.73	0.1
Reach 1	57551	2%_Cur	2650	342.2	354.56		354.58	0.000227	1.31	2791.81	606.03	0.08
Reach 1	57551	1%_Cur	3100	342.2	355.25		355.26	0.000199	1.3	3215.86	628.51	0.08
Reach 1	57551	0.2%_Cur	4000	342.2	357.71		357.72	0.000094	1.06	4924.27	756.48	0.06
Reach 1	56819	10%_Cur	1850	343.7	352.6	348.51	352.71	0.000692	2.65	783.95	215.17	0.21
Reach 1	56819	2%_Cur	2650	343.7	354.2	349.75	354.31	0.000631	2.76	1152.44	245.6	0.19
Reach 1	56819	1%_Cur	3100	343.7	354.9	350.11	355.02	0.000631	2.87	1329	258.88	0.19
Reach 1	56819	0.2%_Cur	4000	343.7	357.5	350.6	357.59	0.000387	2.56	2318.88	680.33	0.14

Plan: Base Condition

Flows: Projected Future



Plan: Base Condition

Flows: Projected Future

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach 1	86857	10%_Proj	363	612.24	618.52		618.52	0.000006	0.22	2990.59	1960.19	0.02
Reach 1	86857	2%_Proj	539	612.24	618.94		618.94	0.000007	0.26	3848.13	2101.27	0.02
Reach 1	86857	1%_Proj	600	612.24	619.05		619.05	0.000007	0.27	4079.66	2125.36	0.02
Reach 1	86857	0.2%_Proj	847	612.24	619.45		619.45	0.000009	0.32	4942.31	2197.86	0.03
Reach 1	86624	10%_Proj	682	612.9	618.51		618.52	0.00003	0.52	2589.65	1849.45	0.05
Reach 1	86624	2%_Proj	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach 1	86624	1%_Proj	1089	612.9	619.04		619.05	0.000031	0.58	3574.72	1869.96	0.05
Reach 1	86624	0.2%_Proj	1507	612.9	619.44		619.44	0.000034	0.64	4320.15	1883.51	0.05
Reach 1	86586	10%_Proj	682	611.6	618.51	615.43	618.51	0.000027	0.53	2627.46	1813.7	0.05
Reach 1	86586	2%_Proj	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach 1	86586	1%_Proj	1089	611.6	619.04	616.43	619.04	0.00003	0.59	3593.7	1835.67	0.05
Reach 1	86586	0.2%_Proj	1507	611.6	619.44	616.85	619.44	0.000033	0.66	4325.49	1851.38	0.05
Reach 1	86548	Bridge	Bridge									
Reach 1	86510	10%_Proj	682	611.6	618.45	615.42	618.48	0.000291	2.08	1184.6	1136.88	0.16
Reach 1	86510	2%_Proj	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach 1	86510	1%_Proj	1089	611.6	618.99	616.47	619.02	0.000291	2.23	1891.94	1461.88	0.16
Reach 1	86510	0.2%_Proj	1507	611.6	619.39	617.94	619.42	0.000311	2.4	2531.23	1700.63	0.17
Reach 1	86469	10%_Proj	682	613.41	618.33		618.43	0.001348	3.53	639.71	830.97	0.33
Reach 1	86469	2%_Proj	990	613.41	618.8		618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach 1	86469	1%_Proj	1089	613.41	618.91		618.98	0.001007	3.38	1210.77	1210.99	0.3
Reach 1	86469	0.2%_Proj	1507	613.41	619.33		619.38	0.000826	3.27	1777.92	1444.53	0.27
Reach 1	85402	10%_Proj	682	612.08	617.54		617.59	0.000506	1.92	592.38	1164.5	0.18
Reach 1	85402	2%_Proj	990	612.08	618.13		618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach 1	85402	1%_Proj	1089	612.08	618.21		618.26	0.000478	2.04	1431.44	1353.92	0.17
Reach 1	85402	0.2%_Proj	1507	612.08	618.7		618.74	0.000457	2.11	2138.09	1570.66	0.17
Reach 1	84756	10%_Proj	682	612.91	617.52		617.54	0.000026	1.02	1421.28	1269.51	0.09
Reach 1	84756	2%_Proj	990	612.91	618.09		618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach 1	84756	1%_Proj	1089	612.91	618.18		618.2	0.000033	1.27	2600.15	2124.25	0.1
Reach 1	84756	0.2%_Proj	1507	612.91	618.65		618.68	0.00004	1.48	3636.73	2286.69	0.12
Reach 1	84575	10%_Proj	682	612	617.51		617.52	0.000284	1.23	971.22	542.95	0.11

Reach 1	84575	2%_Proj	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach 1	84575	1%_Proj	1089	612	618.17	618.18	0.000317	1.41	1648.2	1405.51	0.11
Reach 1	84575	0.2%_Proj	1507	612	618.64	618.66	0.000298	1.44	2363.55	1561.07	0.11
Reach 1	83675	10%_Proj	682	609.25	617.37	617.4	0.000084	1.44	908.98	445.18	0.09
Reach 1	83675	2%_Proj	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12
Reach 1	83675	1%_Proj	1089	609.25	617.96	618	0.000143	1.98	1266.05	734.13	0.13
Reach 1	83675	0.2%_Proj	1507	609.25	618.38	618.44	0.000201	2.42	1601.15	840.5	0.15
Reach 1	83646	10%_Proj	682	608.7	617.37	617.39	0.000134	1.9	1137.9	738.11	0.12
Reach 1	83646	2%_Proj	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach 1	83646	1%_Proj	1089	608.7	617.96	617.99	0.000201	2.44	1664.17	999.74	0.15
Reach 1	83646	0.2%_Proj	1507	608.7	618.39	618.42	0.000244	2.77	2110.74	1071.61	0.16
Reach 1	79531	10%_Proj	682	480.5	484.97	485.65	0.015587	6.64	104.26	37.56	0.68
Reach 1	79531	2%_Proj	990	480.5	485.74	486.63	0.014926	7.6	133.83	38.91	0.7
Reach 1	79531	1%_Proj	1089	480.5	485.96	486.92	0.014891	7.88	142.34	39.29	0.7
Reach 1	79531	0.2%_Proj	1507	480.5	486.75	488.01	0.01531	9.04	173.99	40.67	0.73
Reach 1	79022	10%_Proj	770	478	484.22	484.36	0.000925	3.17	328.66	140.21	0.29
Reach 1	79022	2%_Proj	1133	478	485.27	485.42	0.000808	3.41	480.67	150.44	0.27
Reach 1	79022	1%_Proj	1254	478	485.52	485.68	0.000818	3.54	519.04	152.91	0.28
Reach 1	79022	0.2%_Proj	1738	478	486.51	486.7	0.000807	3.91	676.14	165.82	0.28
Reach 1	79012	10%_Proj	770	478.5	484.1	482.07	484.32	0.002146	3.8	206.83	64.63	0.34
Reach 1	79012	2%_Proj	1133	478.5	485.07	482.69	485.36	0.002103	4.38	274.7	118.66	0.35
Reach 1	79012	1%_Proj	1254	478.5	485.3	482.88	485.62	0.00219	4.61	291.19	127.87	0.36
Reach 1	79012	0.2%_Proj	1738	478.5	486.19	483.54	486.62	0.002341	5.32	357.32	136.43	0.39
Reach 1	78964	Bridge	Bridge								
Reach 1	78916	10%_Proj	770	478.5	484.1	482.08	484.32	0.002168	3.79	204.68	58.04	0.34
Reach 1	78916	2%_Proj	1133	478.5	484.67	482.69	485.03	0.002913	4.83	238.59	60.6	0.41
Reach 1	78916	1%_Proj	1254	478.5	484.85	482.88	485.25	0.003121	5.13	249.27	61.38	0.43
Reach 1	78916	0.2%_Proj	1738	478.5	485.53	483.53	486.11	0.003703	6.15	292.47	64.45	0.48
Reach 1	78894	10%_Proj	770	477.3	483.99		484.27	0.001502	4.22	183.92	44.99	0.35
Reach 1	78894	2%_Proj	1133	477.3	484.45		484.94	0.002339	5.62	205.03	47.29	0.45
Reach 1	78894	1%_Proj	1254	477.3	484.58		485.14	0.002627	6.06	211.09	47.93	0.48
Reach 1	78894	0.2%_Proj	1738	477.3	485.02		485.93	0.003782	7.69	232.96	50.18	0.58
Reach 1	78501	10%_Proj	770	474	484.12		484.14	0.000048	1.04	745.08	148.92	0.08

Reach 1	78501	2%_Proj	1133	474	484.68		484.71	0.000082	1.4	833.1	164.32	0.1
Reach 1	78501	1%_Proj	1254	474	484.84		484.88	0.000093	1.51	860.57	166.9	0.1
Reach 1	78501	0.2%_Proj	1738	474	485.47		485.52	0.00014	1.9	967.59	176.6	0.13
Reach 1	78445	10%_Proj	770	472.5	484.13	473.96	484.13	0.00003	0.43	1782.01	212.26	0.03
Reach 1	78445	2%_Proj	1133	472.5	484.69	474.36	484.7	0.000052	0.6	1902.86	215.22	0.03
Reach 1	78445	1%_Proj	1254	472.5	484.86	474.48	484.87	0.00006	0.65	1939.11	216.1	0.04
Reach 1	78445	0.2%_Proj	1738	472.5	485.49	474.92	485.5	0.000093	0.84	2076.77	219.41	0.05
Reach 1	78435	Inl	Inl									
Reach 1	78428	10%_Proj	770	472.5	473.93	473.93	474.59	0.021431	6.53	120.13	97.77	0.99
Reach 1	78428	2%_Proj	1133	472.5	474.33	474.33	475.16	0.019904	7.37	160.34	105.45	0.99
Reach 1	78428	1%_Proj	1254	472.5	474.45	474.45	475.34	0.019405	7.6	173.56	107.85	0.98
Reach 1	78428	0.2%_Proj	1738	472.5	474.9	474.9	475.97	0.018227	8.42	223.29	116.45	0.98
Reach 1	78376	10%_Proj	770	468	473.37		473.44	0.000395	2.09	404.64	116.89	0.18
Reach 1	78376	2%_Proj	1133	468	474.43		474.52	0.000412	2.43	533.3	126.62	0.19
Reach 1	78376	1%_Proj	1254	468	474.7		474.8	0.000427	2.55	567.93	129	0.19
Reach 1	78376	0.2%_Proj	1738	468	475.45		475.59	0.000538	3.08	666.54	135.59	0.22
Reach 1	78193	10%_Proj	770	466.4	472.88		473.26	0.002306	5.08	165.95	44.01	0.4
Reach 1	78193	2%_Proj	1133	466.4	473.74		474.31	0.002804	6.22	206.17	48.96	0.45
Reach 1	78193	1%_Proj	1254	466.4	473.93		474.58	0.003058	6.63	215.53	50.04	0.47
Reach 1	78193	0.2%_Proj	1738	466.4	474.1		475.26	0.005308	8.9	224.05	51	0.63
Reach 1	78152	10%_Proj	770	467.3	472.98	470.06	473.06	0.000803	2.36	416.27	152.92	0.19
Reach 1	78152	2%_Proj	1133	467.3	473.92	470.54	474.02	0.000858	2.7	564.71	162.96	0.2
Reach 1	78152	1%_Proj	1254	467.3	474.14	470.7	474.24	0.000906	2.84	600.5	165.29	0.21
Reach 1	78152	0.2%_Proj	1738	467.3	474.49	471.26	474.67	0.001383	3.63	659.45	169.05	0.26
Reach 1	78142.5	Bridge	Bridge									
Reach 1	78133	10%_Proj	770	467.3	470.05	470.02	471	0.017892	7.79	99.1	66.73	0.96
Reach 1	78133	2%_Proj	1133	467.3	470.65	470.59	471.86	0.017753	8.83	129.11	81.76	0.96
Reach 1	78133	1%_Proj	1254	467.3	470.85	470.77	472.12	0.017422	9.08	139.04	86.68	0.95
Reach 1	78133	0.2%_Proj	1738	467.3	471.56	471.47	472.82	0.014448	9.35	234.75	105.34	0.88
Reach 1	78088	10%_Proj	770	466.21	470.09		470.34	0.003555	3.99	211.66	110.65	0.43
Reach 1	78088	2%_Proj	1133	466.21	470.81		471.11	0.003333	4.52	296.92	128.03	0.43
Reach 1	78088	1%_Proj	1254	466.21	471.04		471.36	0.003215	4.64	327.33	133.29	0.43
Reach 1	78088	0.2%_Proj	1738	466.21	471.71		472.12	0.003318	5.28	422.4	148.62	0.45

Reach 1	77855	10%_Proj	770	465.51	468.8	468.22	469.28	0.005642	5.6	155.35	110.95	0.64
Reach 1	77855	2%_Proj	1133	465.51	469.02	468.82	469.86	0.008915	7.46	180.25	120.24	0.82
Reach 1	77855	1%_Proj	1254	465.51	469.05	469	470.05	0.010439	8.14	184.13	121.6	0.89
Reach 1	77855	0.2%_Proj	1738	465.51	469.58	469.58	470.79	0.010093	9.07	254.56	141.7	0.9
Reach 1	77443	10%_Proj	770	463.7	465.79	465.58	466.19	0.010243	5.15	182.34	178.49	0.74
Reach 1	77443	2%_Proj	1133	463.7	466.54		466.85	0.005532	4.73	330.52	218.29	0.56
Reach 1	77443	1%_Proj	1254	463.7	466.79		467.08	0.004658	4.62	387.25	233.12	0.51
Reach 1	77443	0.2%_Proj	1738	463.7	467.78		468.01	0.002593	4.21	636.06	258.4	0.4
Reach 1	77185	10%_Proj	770	462	465.08	463.64	465.25	0.001617	3.35	233.24	157.61	0.36
Reach 1	77185	2%_Proj	1133	462	465.99	464.13	466.19	0.001397	3.75	313.92	184.37	0.34
Reach 1	77185	1%_Proj	1254	462	466.28	464.26	466.49	0.001336	3.85	339.7	201.53	0.34
Reach 1	77185	0.2%_Proj	1738	462	467.34	464.72	467.59	0.001175	4.22	434.14	212.62	0.33
Reach 1	77153.5	Bridge	Bridge									
Reach 1	77122	10%_Proj	770	462	463.58	463.58	464.39	0.015907	6.23	109.76	65.16	0.88
Reach 1	77122	2%_Proj	1133	462	464.09	464.09	465.08	0.014551	7.2	144.78	71.55	0.88
Reach 1	77122	1%_Proj	1254	462	464.28	464.28	465.28	0.013577	7.38	158.81	76.31	0.86
Reach 1	77122	0.2%_Proj	1738	462	464.79	464.79	465.98	0.013651	8.47	200.08	88.69	0.9
Reach 1	77052	10%_Proj	770	460.21	459.81	459.63	460.9	0.011558		91.94	35.54	0
Reach 1	77052	2%_Proj	1133	460.21	460.88	460.88	461.8	0.009272	2.05	151.04	88.71	0.61
Reach 1	77052	1%_Proj	1254	460.21	461.05	461.05	461.99	0.0093	2.51	166.36	92.46	0.64
Reach 1	77052	0.2%_Proj	1738	460.21	461.57	461.57	462.63	0.009729	4.12	217.1	104.09	0.73
Reach 1	76409	10%_Proj	770	449.31	451.8	451.8	452.76	0.01363	7.91	100.24	55.21	0.96
Reach 1	76409	2%_Proj	1133	449.31	452.48	452.48	453.55	0.010862	8.51	153.2	106.15	0.9
Reach 1	76409	1%_Proj	1254	449.31	452.66	452.66	453.77	0.010439	8.7	173.24	108.94	0.89
Reach 1	76409	0.2%_Proj	1738	449.31	453.27	453.27	454.54	0.009871	9.56	240.04	113.45	0.89
Reach 1	75569	10%_Proj	770	441.75	451.04		451.07	0.000216	1.41	757.23	165.47	0.09
Reach 1	75569	2%_Proj	1133	441.75	451.92		451.96	0.000295	1.78	905.63	173	0.11
Reach 1	75569	1%_Proj	1254	441.75	452.13		452.17	0.000326	1.9	941.92	174.65	0.12
Reach 1	75569	0.2%_Proj	1738	441.75	452.76		452.83	0.000466	2.39	1053.87	179.21	0.14
Reach 1	75540	10%_Proj	770	441.3	451.05	444.05	451.06	0.000038	0.94	1038.16	204.35	0.06
Reach 1	75540	2%_Proj	1133	441.3	451.92	444.66	451.95	0.000055	1.21	1222.85	214.05	0.07
Reach 1	75540	1%_Proj	1254	441.3	452.13	444.86	452.16	0.000061	1.3	1267.75	214.77	0.08
Reach 1	75540	0.2%_Proj	1738	441.3	452.77	445.54	452.81	0.000091	1.65	1404.99	216.94	0.1

Reach 1	75524.5	Bridge	Bridge									
Reach 1	75509	10%_Proj	770	441.3	451.04	443.99	451.05	0.000048	1.16	917.24	217.01	0.07
Reach 1	75509	2%_Proj	1133	441.3	451.91	444.64	451.94	0.000068	1.48	1108.75	221.11	0.09
Reach 1	75509	1%_Proj	1254	441.3	452.12	444.82	452.15	0.000076	1.58	1154.73	222.08	0.09
Reach 1	75509	0.2%_Proj	1738	441.3	452.74	445.52	452.8	0.000111	2	1294.69	225.02	0.11
Reach 1	75463	10%_Proj	770	441.83	451		451.04	0.000146	1.71	645.35	180.26	0.11
Reach 1	75463	2%_Proj	1133	441.83	451.86		451.92	0.000201	2.16	803.38	188.3	0.13
Reach 1	75463	1%_Proj	1254	441.83	452.06		452.13	0.000223	2.31	841.43	190.28	0.14
Reach 1	75463	0.2%_Proj	1738	441.83	452.66		452.77	0.000324	2.91	957.1	196.33	0.17
Reach 1	75435	10%_Proj	770	442.5	450.98		451.04	0.000182	2.07	571.92	184.45	0.14
Reach 1	75435	2%_Proj	1133	442.5	451.83		451.92	0.000241	2.57	733.42	195	0.16
Reach 1	75435	1%_Proj	1254	442.5	452.03		452.12	0.000265	2.74	772.38	197.59	0.17
Reach 1	75435	0.2%_Proj	1738	442.5	452.62		452.76	0.000376	3.42	890.49	205.57	0.21
Reach 1	75422	10%_Proj	770	441.5	450.96	445.54	451.03	0.000724	2.31	531.68	185.7	0.15
Reach 1	75422	2%_Proj	1133	441.5	451.82	446.4	451.91	0.000893	2.75	698.27	203.7	0.16
Reach 1	75422	1%_Proj	1254	441.5	452.02	446.64	452.12	0.000964	2.9	739.65	207.21	0.17
Reach 1	75422	0.2%_Proj	1738	441.5	452.61	447.51	452.75	0.001301	3.52	865	217.51	0.2
Reach 1	75394.5	Bridge	Bridge									
Reach 1	75369	10%_Proj	770	438.2	441.66	441.66	443.02	0.049316	9.38	84.26	33.88	0.97
Reach 1	75369	2%_Proj	1133	438.2	442.47	442.47	444.2	0.045579	10.63	111.45	38.33	0.97
Reach 1	75369	1%_Proj	1254	438.2	442.74	442.74	444.56	0.043998	10.94	120.58	39.78	0.97
Reach 1	75369	0.2%_Proj	1738	438.2	443.69	443.69	445.86	0.040206	12.05	154.29	44.94	0.96
Reach 1	75362	10%_Proj	770	433.15	438.31	438.31	439.92	0.036564	10.25	79.05	28.96	0.97
Reach 1	75362	2%_Proj	1133	433.15	439.41	439.41	441.25	0.02988	11.12	115.15	36.2	0.92
Reach 1	75362	1%_Proj	1254	433.15	439.7	439.7	441.64	0.029163	11.44	125.88	37.36	0.91
Reach 1	75362	0.2%_Proj	1738	433.15	440.72	440.72	443	0.027573	12.63	166.11	41.45	0.92
Reach 1	75312	10%_Proj	770	432.3	435.38	435.38	436.67	0.038755	9.13	85.92	36.19	0.99
Reach 1	75312	2%_Proj	1133	432.3	436.17	436.17	437.78	0.03438	10.23	115.96	40.06	0.98
Reach 1	75312	1%_Proj	1254	432.3	436.41	436.41	438.11	0.033365	10.55	125.69	41.24	0.97
Reach 1	75312	0.2%_Proj	1738	432.3	437.3	437.3	439.31	0.030087	11.57	164.24	45.61	0.96
Reach 1	75158	10%_Proj	770	425.41	429.72		430.5	0.007618	7.15	113.74	42.76	0.71
Reach 1	75158	2%_Proj	1133	425.41	430.76		431.66	0.006179	7.78	161.02	48.33	0.67

Reach 1	75158	1%_Proj	1254	425.41	431.08		432.02	0.005834	7.94	177.05	50.08	0.66
Reach 1	75158	0.2%_Proj	1738	425.41	431.67		433.05	0.007319	9.65	207.36	53.48	0.75
Reach 1	75098	10%_Proj	770	423.5	429.29	428.12	429.89	0.009689	6.26	130.12	45.14	0.57
Reach 1	75098	2%_Proj	1133	423.5	430.43	428.91	431.13	0.008158	6.85	194.27	67.6	0.54
Reach 1	75098	1%_Proj	1254	423.5	430.8	429.18	431.51	0.007609	6.94	220.02	72.82	0.53
Reach 1	75098	0.2%_Proj	1738	423.5	431.33	430.16	432.36	0.010019	8.49	259.23	74.92	0.62
Reach 1	75093.5	Bridge	Bridge									
Reach 1	75089	10%_Proj	770	423.5	428.21	428.21	429.58	0.014466	9.47	86.26	36.3	0.96
Reach 1	75089	2%_Proj	1133	423.5	429.03	429.03	430.76	0.014347	10.72	119.04	44.48	0.96
Reach 1	75089	1%_Proj	1254	423.5	429.34	429.34	431.12	0.013607	10.9	133.9	51.65	0.94
Reach 1	75089	0.2%_Proj	1738	423.5	430.3	430.46	432.29	0.012597	11.79	193.84	70.45	0.92
Reach 1	75042	10%_Proj	770	423.5	427.33	427.33	428.43	0.014792	8.44	95.16	48.59	0.99
Reach 1	75042	2%_Proj	1133	423.5	428.01	428.01	429.38	0.014048	9.48	129.73	53.42	0.97
Reach 1	75042	1%_Proj	1254	423.5	428.21	428.21	429.67	0.013943	9.79	140.45	54.66	0.97
Reach 1	75042	0.2%_Proj	1738	423.5	428.94	428.94	430.72	0.013443	10.86	182.37	59.28	0.97
Reach 1	74782	10%_Proj	770	409.6	414.93		415.37	0.010242	5.32	146.5	46.99	0.5
Reach 1	74782	2%_Proj	1133	409.6	415.61		416.26	0.012126	6.52	179.79	51.5	0.56
Reach 1	74782	1%_Proj	1254	409.6	415.81		416.54	0.012569	6.85	190.58	52.85	0.58
Reach 1	74782	0.2%_Proj	1738	409.6	416.54		417.53	0.014137	8.05	230.7	57.63	0.63
Reach 1	74780	10%_Proj	770	411.9	414.26	414.26	415.29	0.023964	8.13	96.09	50.27	1
Reach 1	74780	2%_Proj	1133	411.9	414.88	414.88	416.17	0.022351	9.18	128.02	53.86	0.99
Reach 1	74780	1%_Proj	1254	411.9	415.06	415.06	416.44	0.021919	9.47	138.24	54.94	0.99
Reach 1	74780	0.2%_Proj	1738	411.9	415.75	415.75	417.43	0.020598	10.49	177.49	58.93	0.98
Reach 1	74779	10%_Proj	770	409.27	413.07	413.07	414.18	0.016101	8.49	94.09	46.28	0.99
Reach 1	74779	2%_Proj	1133	409.27	413.75	413.75	415.15	0.016087	9.56	126.91	50.53	0.98
Reach 1	74779	1%_Proj	1254	409.27	413.96	413.96	415.44	0.016013	9.86	137.5	51.72	0.97
Reach 1	74779	0.2%_Proj	1738	409.27	414.71	414.71	416.51	0.015766	10.93	178.01	56.05	0.97
Reach 1	74711	10%_Proj	770	405.5	409.59	409.59	410.97	0.013379	9.5	84.58	33.51	0.96
Reach 1	74711	2%_Proj	1133	405.5	410.46	410.46	412.14	0.012015	10.62	115.69	38.41	0.94
Reach 1	74711	1%_Proj	1254	405.5	410.69	410.69	412.5	0.011952	11.01	124.9	39.74	0.95
Reach 1	74711	0.2%_Proj	1738	405.5	411.64	411.64	413.77	0.010972	12.09	165.18	45.12	0.94
Reach 1	74082	10%_Proj	770	377.52	379.92	379.92	380.82	0.083785	7.64	101.46	58.79	1
Reach 1	74082	2%_Proj	1133	377.52	380.47	380.47	381.6	0.074535	8.59	134.86	63.07	0.98

Reach 1	74082	1%_Proj	1254	377.52	380.64	380.64	381.84	0.072232	8.85	145.58	64.33	0.98
Reach 1	74082	0.2%_Proj	1738	377.52	381.25	381.25	382.69	0.065966	9.76	186.19	68.77	0.97
Reach 1	73253	10%_Proj	770	359.49	364.76	362.6	364.81	0.000752	2	562.25	211.67	0.2
Reach 1	73253	2%_Proj	1133	359.49	365.68	363.25	365.73	0.000721	2.17	760.04	218.52	0.19
Reach 1	73253	1%_Proj	1254	359.49	365.93	363.37	365.99	0.000725	2.23	816.2	220.73	0.19
Reach 1	73253	0.2%_Proj	1738	359.49	366.96	363.82	367.02	0.000697	2.42	1046.43	229.59	0.18
Reach 1	73194	10%_Proj	770	358.6	364.64	363.22	364.71	0.002584	2.78	415.55	159.6	0.26
Reach 1	73194	2%_Proj	1133	358.6	365.56	363.5	365.65	0.002207	3	565.64	166.43	0.25
Reach 1	73194	1%_Proj	1254	358.6	365.81	363.51	365.9	0.002174	3.09	608.04	168.4	0.25
Reach 1	73194	0.2%_Proj	1738	358.6	366.83	363.83	366.94	0.001945	3.33	784.02	176.32	0.25
Reach 1	73166	Bridge	Bridge									
Reach 1	73148	10%_Proj	770	358.53	363.68	361.18	363.8	0.000875	2.79	290.3	91.09	0.25
Reach 1	73148	2%_Proj	1133	358.53	365.26	361.7	365.38	0.000645	2.87	456.65	117.54	0.21
Reach 1	73148	1%_Proj	1254	358.53	365.59	361.86	365.72	0.000651	2.98	495.68	120.73	0.22
Reach 1	73148	0.2%_Proj	1738	358.53	366.66	362.4	366.83	0.000705	3.41	630.33	131.12	0.23
Reach 1	73074	10%_Proj	770	358.61	363.13		363.59	0.003492	5.48	153.08	57.89	0.53
Reach 1	73074	2%_Proj	1133	358.61	364.83		365.23	0.001808	5.18	261.14	68.25	0.41
Reach 1	73074	1%_Proj	1254	358.61	365.13		365.56	0.001808	5.38	281.9	69.92	0.41
Reach 1	73074	0.2%_Proj	1738	358.61	366.06		366.63	0.001973	6.26	349.26	74.83	0.44
Reach 1	72754	10%_Proj	770	352.8	362.28		362.74	0.002059	5.82	174.88	52.1	0.41
Reach 1	72754	2%_Proj	1133	352.8	364.31		364.72	0.001401	5.77	316.32	126.22	0.35
Reach 1	72754	1%_Proj	1254	352.8	364.59		365.03	0.001475	6.06	358.57	167.53	0.36
Reach 1	72754	0.2%_Proj	1738	352.8	365.59		366.04	0.001512	6.59	557.39	247.71	0.37
Reach 1	72231	10%_Proj	770	351.5	362.55		362.55	0.000032	0.82	2329.91	862.5	0.06
Reach 1	72231	2%_Proj	1133	351.5	364.57		364.57	0.000014	0.66	4166.71	945.41	0.04
Reach 1	72231	1%_Proj	1254	351.5	364.88		364.88	0.000015	0.68	4457.35	956.31	0.04
Reach 1	72231	0.2%_Proj	1738	351.5	365.88		365.88	0.000016	0.75	5431.88	982.98	0.04
Reach 1	71607	10%_Proj	1320	350.7	362.38		362.48	0.000367	2.81	866.07	277.03	0.18
Reach 1	71607	2%_Proj	1870	350.7	364.46		364.53	0.000236	2.63	1473.27	304.27	0.15
Reach 1	71607	1%_Proj	2156	350.7	364.75		364.83	0.000274	2.88	1561.39	307.59	0.16
Reach 1	71607	0.2%_Proj	2827	350.7	365.73		365.83	0.000306	3.24	1872.15	326.39	0.17
Reach 1	70869	10%_Proj	1320	352	362.34		362.35	0.000091	0.88	2891.47	861.91	0.06
Reach 1	70869	2%_Proj	1870	352	364.46		364.46	0.000047	0.72	4741.12	885.15	0.05

Reach 1	70869	1%_Proj	2156	352	364.75		364.75	0.000053	0.79	4998.01	887.05	0.05
Reach 1	70869	0.2%_Proj	2827	352	365.74		365.74	0.000057	0.86	5881.34	893.06	0.05
Reach 1	70760	10%_Proj	1320	353	362.34	358.58	362.34	0.000033	0.52	5433.3	1377.39	0.04
Reach 1	70760	2%_Proj	1870	353	364.46	359	364.46	0.000018	0.45	8524.88	1498.27	0.03
Reach 1	70760	1%_Proj	2156	353	364.74	359	364.75	0.00002	0.49	8959.59	1501.54	0.03
Reach 1	70760	0.2%_Proj	2827	353	365.74	359	365.74	0.000022	0.53	10465.85	1541.59	0.03
Reach 1	70740	10%_Proj	1320	353.4	362.34	357.68	362.34	0.00004	0.55	5056.23	1288.3	0.04
Reach 1	70740	2%_Proj	1870	353.4	364.45	358.36	364.46	0.000021	0.48	7944.71	1433.53	0.03
Reach 1	70740	1%_Proj	2156	353.4	364.74	358.68	364.75	0.000024	0.53	8361.13	1440.99	0.03
Reach 1	70740	0.2%_Proj	2827	353.4	365.74	359.21	365.74	0.000025	0.58	9799.9	1453.68	0.03
Reach 1	70713	Bridge	Bridge									
Reach 1	70686	10%_Proj	1320	353.4	362.27	357.66	362.27	0.000034	0.8	4899.88	1306.46	0.06
Reach 1	70686	2%_Proj	1870	353.4	364.45	358.35	364.45	0.000018	0.68	7811.11	1373.05	0.04
Reach 1	70686	1%_Proj	2156	353.4	364.74	358.65	364.74	0.00002	0.74	8209.34	1378.45	0.04
Reach 1	70686	0.2%_Proj	2827	353.4	365.73	359.21	365.73	0.000022	0.82	9586.87	1393.26	0.05
Reach 1	70671	10%_Proj	1320	353.59	362.27	357.68	362.27	0.000023	0.69	5644.03	1288.12	0.05
Reach 1	70671	2%_Proj	1870	353.59	364.45	358.31	364.45	0.000013	0.63	8513.92	1350.4	0.04
Reach 1	70671	1%_Proj	2156	353.59	364.74	358.57	364.74	0.000016	0.69	8905.33	1354.85	0.04
Reach 1	70671	0.2%_Proj	2827	353.59	365.73	359	365.73	0.000017	0.78	10259.33	1369.6	0.04
Reach 1	70632	10%_Proj	1320	354.18	362.27		362.27	0.000015	0.56	6459.73	1201.73	0.04
Reach 1	70632	2%_Proj	1870	354.18	364.45		364.45	0.000011	0.56	9260.97	1327.03	0.03
Reach 1	70632	1%_Proj	2156	354.18	364.73		364.74	0.000012	0.62	9646.19	1334.97	0.04
Reach 1	70632	0.2%_Proj	2827	354.18	365.73		365.73	0.000014	0.71	10979.99	1348.52	0.04
Reach 1	70558	10%_Proj	1351	354	362.26		362.26	0.000016	0.47	6675.75	1176.83	0.03
Reach 1	70558	2%_Proj	1915	354	364.44		364.44	0.000012	0.48	9362.53	1278	0.03
Reach 1	70558	1%_Proj	2210	354	364.73		364.73	0.000014	0.54	9733.46	1287.69	0.03
Reach 1	70558	0.2%_Proj	2895	354	365.73		365.73	0.000016	0.61	11018.41	1297.36	0.03
Reach 1	69987	10%_Proj	1351	351.05	362.26		362.26	0.000033	0.85	4402.66	756.81	0.06
Reach 1	69987	2%_Proj	1915	351.05	364.44		364.44	0.000025	0.89	6143.57	846.22	0.05
Reach 1	69987	1%_Proj	2210	351.05	364.73		364.73	0.00003	0.99	6388.29	853.71	0.06
Reach 1	69987	0.2%_Proj	2895	351.05	365.72		365.72	0.000035	1.14	7243.38	869.58	0.06
Reach 1	69405	10%_Proj	1351	353.6	362.23		362.24	0.000127	0.98	2302.53	500.17	0.07
Reach 1	69405	2%_Proj	1915	353.6	364.42		364.42	0.00008	0.93	3461.74	552.72	0.06

Reach 1	69405	1%_Proj	2210	353.6	364.7		364.71	0.000094	1.02	3619.42	557.8	0.06
Reach 1	69405	0.2%_Proj	2895	353.6	365.69		365.7	0.000108	1.18	4180.02	584.83	0.07
Reach 1	68823	10%_Proj	1351	352.7	362.05		362.1	0.000468	1.97	931.74	228.35	0.15
Reach 1	68823	2%_Proj	1915	352.7	364.29		364.34	0.000308	1.89	1633.28	450.15	0.12
Reach 1	68823	1%_Proj	2210	352.7	364.56		364.61	0.00036	2.08	1755.03	477.18	0.13
Reach 1	68823	0.2%_Proj	2895	352.7	365.53		365.59	0.000384	2.29	2279.19	601.4	0.13
Reach 1	68537	10%_Proj	1351	352.7	361.78		361.9	0.001107	3.02	641.03	201.02	0.21
Reach 1	68537	2%_Proj	1915	352.7	364.14		364.22	0.000564	2.64	1295.96	347.27	0.16
Reach 1	68537	1%_Proj	2210	352.7	364.37		364.47	0.00067	2.92	1379.3	369.56	0.17
Reach 1	68537	0.2%_Proj	2895	352.7	365.32		365.44	0.00074	3.28	1799.29	514.91	0.18
Reach 1	68474	10%_Proj	1351	353.73	361.78	357.66	361.83	0.000272	1.9	751	373.33	0.14
Reach 1	68474	2%_Proj	1915	353.73	364.13	358.09	364.19	0.000169	1.86	1118.67	531.04	0.12
Reach 1	68474	1%_Proj	2210	353.73	364.37	358.29	364.43	0.000204	2.09	1154.74	549.64	0.13
Reach 1	68474	0.2%_Proj	2895	353.73	365.31	358.71	365.4	0.000243	2.44	1301.66	635.1	0.14
Reach 1	68402	Bridge	Bridge									
Reach 1	68326	10%_Proj	1351	353.73	361.49	357.46	361.54	0.000265	1.94	695.5	449.77	0.15
Reach 1	68326	2%_Proj	1915	353.73	362.65	357.89	362.73	0.000283	2.27	842.23	517.32	0.15
Reach 1	68326	1%_Proj	2210	353.73	363.21	358.09	363.3	0.00029	2.42	912.05	543.76	0.16
Reach 1	68326	0.2%_Proj	2895	353.73	364.11	358.51	364.23	0.000338	2.82	1025.58	583.96	0.17
Reach 1	68280	10%_Proj	1351	352.5	361.5		361.51	0.000206	0.97	1810.42	347.99	0.07
Reach 1	68280	2%_Proj	1915	352.5	362.67		362.69	0.000229	1.14	2242.83	389.4	0.07
Reach 1	68280	1%_Proj	2210	352.5	363.23		363.25	0.000235	1.21	2466.85	415.7	0.07
Reach 1	68280	0.2%_Proj	2895	352.5	364.15		364.17	0.000271	1.39	2881.14	492.85	0.08
Reach 1	67684	10%_Proj	1351	352.5	361.33		361.36	0.000348	1.46	1171.32	340.91	0.11
Reach 1	67684	2%_Proj	1915	352.5	362.49		362.52	0.000353	1.6	1584.19	369.4	0.11
Reach 1	67684	1%_Proj	2210	352.5	363.05		363.08	0.000349	1.66	1793.21	381.07	0.11
Reach 1	67684	0.2%_Proj	2895	352.5	363.94		363.98	0.000385	1.85	2137.77	392.39	0.11
Reach 1	66782	10%_Proj	1351	353.98	361.05		361.08	0.000264	1.45	1040.25	238.85	0.11
Reach 1	66782	2%_Proj	1915	353.98	362.19		362.24	0.00029	1.68	1332.03	282.66	0.11
Reach 1	66782	1%_Proj	2210	353.98	362.74		362.79	0.000301	1.79	1517.37	373.59	0.12
Reach 1	66782	0.2%_Proj	2895	353.98	363.59		363.65	0.000348	2.05	1873.62	477.75	0.13
Reach 1	66184	10%_Proj	2003	352.6	360.57		360.66	0.002111	2.54	882.69	232.13	0.19
Reach 1	66184	2%_Proj	2869	352.6	361.66		361.78	0.002129	2.88	1183.91	315.9	0.2

Reach 1	66184	1%_Proj	3354	352.6	362.21		362.33	0.00207	2.99	1370.85	382.21	0.2
Reach 1	66184	0.2%_Proj	4331	352.6	363.02		363.15	0.002007	3.16	1746.29	544.15	0.2
Reach 1	65586	10%_Proj	2003	350	359.2		359.32	0.002381	2.76	768.71	204.75	0.21
Reach 1	65586	2%_Proj	2869	350	360.36		360.49	0.002196	3.03	1049.92	313.18	0.21
Reach 1	65586	1%_Proj	3354	350	361		361.12	0.001972	3.06	1280.53	417.43	0.2
Reach 1	65586	0.2%_Proj	4331	350	361.92		362.04	0.001753	3.13	1798.34	763.12	0.2
Reach 1	64938	10%_Proj	2003	349.8	358.66		358.7	0.0005	1.44	1406.43	404.29	0.12
Reach 1	64938	2%_Proj	2869	349.8	359.94		359.98	0.000384	1.48	2010.23	512.91	0.11
Reach 1	64938	1%_Proj	3354	349.8	360.61		360.64	0.000367	1.56	2423.07	707.26	0.11
Reach 1	64938	0.2%_Proj	4331	349.8	361.61		361.64	0.000294	1.53	3374.39	1275.53	0.1
Reach 1	64710	10%_Proj	2003	346.1	358.59		358.62	0.000229	1.57	1438.86	585.28	0.13
Reach 1	64710	2%_Proj	2869	346.1	359.89		359.92	0.000169	1.54	2443.37	920.51	0.11
Reach 1	64710	1%_Proj	3354	346.1	360.57		360.59	0.000134	1.45	3128.69	1087.24	0.1
Reach 1	64710	0.2%_Proj	4331	346.1	361.58		361.6	0.000107	1.41	4264.31	1177.26	0.09
Reach 1	64701	10%_Proj	2003	346.1	358.58	355.16	358.62	0.00039	1.57	1359.76	514.31	0.13
Reach 1	64701	2%_Proj	2869	346.1	359.89	355.56	359.92	0.000277	1.56	2276.81	916.29	0.11
Reach 1	64701	1%_Proj	3354	346.1	360.57	355.74	360.59	0.000208	1.45	2960.33	1086.46	0.1
Reach 1	64701	0.2%_Proj	4331	346.1	361.58	356.07	361.6	0.000154	1.37	4088.47	1165.27	0.09
Reach 1	64695.5	Bridge	Bridge									
Reach 1	64690	10%_Proj	2003	345.3	358.56	355.23	358.6	0.000429	1.63	1281.91	428.47	0.13
Reach 1	64690	2%_Proj	2869	345.3	359.87	355.61	359.9	0.000305	1.63	2087.41	801.69	0.12
Reach 1	64690	1%_Proj	3354	345.3	360.55	355.79	360.58	0.000252	1.59	2729.64	1073.17	0.11
Reach 1	64690	0.2%_Proj	4331	345.3	361.57	356.11	361.59	0.000178	1.47	3850.56	1120.96	0.09
Reach 1	64681	10%_Proj	2003	345.3	358.55		358.59	0.00048	1.69	1239.2	395.71	0.14
Reach 1	64681	2%_Proj	2869	345.3	359.86		359.9	0.000349	1.71	1957.13	754.27	0.13
Reach 1	64681	1%_Proj	3354	345.3	360.54		360.58	0.000287	1.67	2539.71	955.68	0.12
Reach 1	64681	0.2%_Proj	4331	345.3	361.56		361.59	0.000208	1.57	3639.05	1108.59	0.1
Reach 1	64344	10%_Proj	2003	349.6	358.37		358.42	0.000534	1.8	1179.79	304.51	0.15
Reach 1	64344	2%_Proj	2869	349.6	359.7		359.76	0.000505	1.94	1626.59	405.1	0.14
Reach 1	64344	1%_Proj	3354	349.6	360.4		360.45	0.000475	1.98	1955.47	544.24	0.13
Reach 1	64344	0.2%_Proj	4331	349.6	361.43		361.49	0.000434	2.03	2715.93	884.32	0.13
Reach 1	64064	10%_Proj	2003	350.6	358.08		358.19	0.00133	2.96	1002.97	280.66	0.22
Reach 1	64064	2%_Proj	2869	350.6	359.43		359.54	0.001226	3.17	1488.61	438.74	0.21

Reach 1	64064	1%_Proj	3354	350.6	360.15		360.25	0.001041	3.08	1853.71	668.43	0.2
Reach 1	64064	0.2%_Proj	4331	350.6	361.26		361.33	0.000751	2.81	2860.5	1302.67	0.17
Reach 1	63963	10%_Proj	2003	350.2	357.96		358.09	0.000638	3.2	986.36	277.36	0.23
Reach 1	63963	2%_Proj	2869	350.2	359.3		359.45	0.000598	3.51	1407.35	349.82	0.23
Reach 1	63963	1%_Proj	3354	350.2	360.02		360.17	0.000565	3.62	1699.27	455.81	0.23
Reach 1	63963	0.2%_Proj	4331	350.2	361.12		361.26	0.000485	3.64	2585.19	1259.98	0.21
Reach 1	63952	10%_Proj	2003	350.2	357.91	354.9	358.08	0.000822	3.6	884.59	275.67	0.26
Reach 1	63952	2%_Proj	2869	350.2	359.27	355.62	359.44	0.000701	3.8	1350.94	350.23	0.25
Reach 1	63952	1%_Proj	3354	350.2	359.99	356	360.16	0.000638	3.85	1642.87	460.1	0.24
Reach 1	63952	0.2%_Proj	4331	350.2	361.1	356.71	361.25	0.000534	3.84	2533.33	1247.01	0.23
Reach 1	63946	Bridge	Bridge									
Reach 1	63940	10%_Proj	2003	350.3	357.47	354.82	357.68	0.001183	4.06	784.99	242.96	0.3
Reach 1	63940	2%_Proj	2869	350.3	358.63	355.6	358.87	0.001135	4.46	1148.77	311.11	0.3
Reach 1	63940	1%_Proj	3354	350.3	359.39	356.01	359.62	0.001019	4.51	1402.08	358.11	0.29
Reach 1	63940	0.2%_Proj	4331	350.3	360.94	356.58	361.12	0.000694	4.18	2350.49	1121.79	0.25
Reach 1	63930	10%_Proj	2003	350.3	357.49		357.65	0.00091	3.55	903.37	262.97	0.27
Reach 1	63930	2%_Proj	2869	350.3	358.64		358.84	0.000923	3.99	1229.54	309.25	0.28
Reach 1	63930	1%_Proj	3354	350.3	359.4		359.59	0.000831	4.04	1483.62	356.11	0.26
Reach 1	63930	0.2%_Proj	4331	350.3	360.95		361.1	0.000587	3.81	2409.41	1120.32	0.23
Reach 1	63845	10%_Proj	2003	347.4	357.37		357.56	0.00101	3.95	920.02	309.31	0.28
Reach 1	63845	2%_Proj	2869	347.4	358.54		358.75	0.001048	4.33	1335.51	401.78	0.28
Reach 1	63845	1%_Proj	3354	347.4	359.33		359.52	0.000894	4.18	1684.28	479.26	0.26
Reach 1	63845	0.2%_Proj	4331	347.4	360.93		361.04	0.000552	3.58	2867.47	1271.1	0.2
Reach 1	63280	10%_Proj	2003	346.7	356.99		357.06	0.000705	2.4	1256.67	485.8	0.17
Reach 1	63280	2%_Proj	2869	346.7	358.26		358.32	0.000493	2.26	1940.46	583.78	0.14
Reach 1	63280	1%_Proj	3354	346.7	359.13		359.18	0.000355	2.06	2476.15	650.35	0.12
Reach 1	63280	0.2%_Proj	4331	346.7	360.81		360.84	0.00021	1.78	4022.93	1422.57	0.1
Reach 1	62671	10%_Proj	2003	346.4	356.61		356.68	0.00054	2.56	1464.12	386.43	0.19
Reach 1	62671	2%_Proj	2869	346.4	357.94		358.01	0.000504	2.73	2005.3	434	0.19
Reach 1	62671	1%_Proj	3354	346.4	358.86		358.93	0.000449	2.75	2427.81	492.65	0.18
Reach 1	62671	0.2%_Proj	4331	346.4	360.61		360.67	0.00036	2.74	4102.01	1590.98	0.16
Reach 1	61788	10%_Proj	2035	347.7	356.01		356.04	0.001053	1.41	1537.72	389.65	0.12
Reach 1	61788	2%_Proj	2915	347.7	357.43		357.46	0.000819	1.49	2104.62	412.72	0.11

Reach 1	61788	1%_Proj	3410	347.7	358.43	358.46	0.000658	1.49	2527.77	448.28	0.1
Reach 1	61788	0.2%_Proj	4400	347.7	360.31	360.33	0.000409	1.37	4238.48	1609.74	0.08
Reach 1	61059	10%_Proj	2035	348.8	355.44	355.49	0.00057	1.8	1195.18	271.44	0.14
Reach 1	61059	2%_Proj	2915	348.8	356.93	356.99	0.000521	1.97	1624.97	317.13	0.14
Reach 1	61059	1%_Proj	3410	348.8	358.03	358.08	0.000423	1.93	2024.38	550.21	0.12
Reach 1	61059	0.2%_Proj	4400	348.8	360.1	360.13	0.000218	1.58	3768.54	1092.95	0.09
Reach 1	60659	10%_Proj	2035	348.93	355.27	355.29	0.00041	1.23	1998.36	540.7	0.11
Reach 1	60659	2%_Proj	2915	348.93	356.8	356.82	0.000308	1.24	2846.96	570.96	0.09
Reach 1	60659	1%_Proj	3410	348.93	357.93	357.95	0.000237	1.2	3546.24	692.52	0.08
Reach 1	60659	0.2%_Proj	4400	348.93	360.04	360.05	0.000131	1.04	5531.44	1259.91	0.06
Reach 1	60262	10%_Proj	2035	345.5	355.07	355.13	0.000366	1.91	1195.27	290.95	0.14
Reach 1	60262	2%_Proj	2915	345.5	356.62	356.68	0.000343	2.03	1708.14	361.04	0.13
Reach 1	60262	1%_Proj	3410	345.5	357.79	357.84	0.000275	1.95	2154.64	413.81	0.12
Reach 1	60262	0.2%_Proj	4400	345.5	359.96	359.99	0.00017	1.71	3627.02	1046.69	0.09
Reach 1	59756	10%_Proj	2035	346.6	354.78	354.83	0.001079	2.19	1181.64	307.18	0.16
Reach 1	59756	2%_Proj	2915	346.6	356.38	356.44	0.000739	2.13	1709.06	352.47	0.14
Reach 1	59756	1%_Proj	3410	346.6	357.6	357.65	0.000528	2	2186.4	456.58	0.12
Reach 1	59756	0.2%_Proj	4400	346.6	359.86	359.88	0.000251	1.61	3627.87	867.35	0.09
Reach 1	59164	10%_Proj	2035	337.8	354.53	354.56	0.000261	1.48	1835.52	383.71	0.08
Reach 1	59164	2%_Proj	2915	337.8	356.18	356.21	0.000241	1.57	2504.14	429.12	0.08
Reach 1	59164	1%_Proj	3410	337.8	357.45	357.48	0.000192	1.5	3072.85	480.01	0.07
Reach 1	59164	0.2%_Proj	4400	337.8	359.77	359.78	0.000132	1.38	4454.73	739.55	0.06
Reach 1	58414	10%_Proj	2035	346.3	354.22	354.24	0.000871	1.24	1771.25	465.65	0.1
Reach 1	58414	2%_Proj	2915	346.3	355.94	355.96	0.000544	1.22	2617.1	510.99	0.09
Reach 1	58414	1%_Proj	3410	346.3	357.28	357.29	0.000361	1.14	3319.29	540.75	0.07
Reach 1	58414	0.2%_Proj	4400	346.3	359.66	359.67	0.000207	1.04	4731.71	655.44	0.06
Reach 1	57798	10%_Proj	2035	343.3	353.79	353.82	0.000636	1.4	1610.85	470.61	0.1
Reach 1	57798	2%_Proj	2915	343.3	355.73	355.75	0.00027	1.11	2735.96	665.8	0.07
Reach 1	57798	1%_Proj	3410	343.3	357.16	357.17	0.000143	0.91	3707.34	696.03	0.05
Reach 1	57798	0.2%_Proj	4400	343.3	359.59	359.6	0.000072	0.75	5510.46	786.47	0.04
Reach 1	57733	10%_Proj	2035	345.8	353.6	350.01	353.74	0.000573	3.16	712.32	684.64	0.24
Reach 1	57733	2%_Proj	2915	345.8	355.53	350.91	355.69	0.000429	3.27	991.07	732.48	0.21
Reach 1	57733	1%_Proj	3410	345.8	356.97	351.24	357.12	0.000324	3.17	1198.73	757.03	0.19
Reach 1	57733	0.2%_Proj	4400	345.8	359.59	351.8	359.6	0.000035	1.21	6562.46	844.47	0.06

Reach 1	57679.5	Bridge	Bridge									
Reach 1	57622	10%_Proj	2035	345.7	353.29	349.86	353.51	0.000795	3.78	565.95	686.34	0.28
Reach 1	57622	2%_Proj	2915	345.7	354.81	350.66	355.08	0.000766	4.25	725.8	748.04	0.28
Reach 1	57622	1%_Proj	3410	345.7	355.92	351.04	356.2	0.00066	4.29	842.3	783.16	0.26
Reach 1	57622	0.2%_Proj	4400	345.7	358.85	351.71	358.87	0.000036	1.2	6543.49	856.4	0.06
Reach 1	57551	10%_Proj	2035	342.2	353.4		353.41	0.000325	1.4	2107.11	572.44	0.1
Reach 1	57551	2%_Proj	2915	342.2	354.96		354.98	0.00021	1.3	3039.81	618.29	0.08
Reach 1	57551	1%_Proj	3410	342.2	356.08		356.1	0.000153	1.22	3759.14	676.43	0.07
Reach 1	57551	0.2%_Proj	4400	342.2	358.85		358.86	0.000065	0.95	5793.38	762.55	0.05
Reach 1	56819	10%_Proj	2035	343.7	352.97	348.72	353.08	0.000685	2.69	864.85	222.15	0.2
Reach 1	56819	2%_Proj	2915	343.7	354.61	349.96	354.73	0.000633	2.83	1255.29	253.42	0.19
Reach 1	56819	1%_Proj	3410	343.7	355.8	350.29	355.9	0.000528	2.75	1568.88	278.63	0.17
Reach 1	56819	0.2%_Proj	4400	343.7	358.7	350.81	358.77	0.000287	2.33	3306.81	912.09	0.12

Plan: Alt 1-1

Flows: Current and Projected Future

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach1	86857	10%_Cur	330	612.24	618.4		618.4	0.000006	0.22	2753.84	1929.82	0.02
Reach1	86857	2%_Cur	490	612.24	618.83		618.83	0.000007	0.25	3615.59	2070.9	0.02
Reach1	86857	1%_Cur	545	612.24	618.94		618.94	0.000007	0.26	3848.25	2101.28	0.02
Reach1	86857	0.2%_Cur	770	612.24	619.33		619.33	0.000009	0.31	4685.4	2188.02	0.03
Reach1	86857	10%_Proj	363	612.24	618.52		618.52	0.000006	0.22	2990.59	1960.19	0.02
Reach1	86857	2%_Proj	539	612.24	618.94		618.94	0.000007	0.26	3848.13	2101.27	0.02
Reach1	86857	1%_Proj	600	612.24	619.05		619.05	0.000007	0.27	4079.66	2125.36	0.02
Reach1	86857	0.2%_Proj	847	612.24	619.45		619.45	0.000009	0.32	4942.31	2197.86	0.03
Reach1	86624	10%_Cur	620	612.9	618.39		618.39	0.000031	0.52	2365.01	1842.59	0.05
Reach1	86624	2%_Cur	900	612.9	618.82		618.83	0.00003	0.55	3162.81	1861.52	0.05
Reach1	86624	1%_Cur	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach1	86624	0.2%_Cur	1370	612.9	619.32		619.33	0.000033	0.62	4100.25	1879.37	0.05
Reach1	86624	10%_Proj	682	612.9	618.51		618.52	0.00003	0.52	2589.65	1849.45	0.05
Reach1	86624	2%_Proj	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach1	86624	1%_Proj	1089	612.9	619.04		619.05	0.000031	0.58	3574.72	1869.96	0.05
Reach1	86624	0.2%_Proj	1507	612.9	619.44		619.44	0.000034	0.64	4320.15	1883.51	0.05
Reach1	86586	10%_Cur	620	611.6	618.39	615.16	618.39	0.000028	0.53	2407.14	1808.66	0.05
Reach1	86586	2%_Cur	900	611.6	618.82	616.19	618.82	0.000028	0.56	3189.64	1826.91	0.05
Reach1	86586	1%_Cur	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach1	86586	0.2%_Cur	1370	611.6	619.32	616.74	619.32	0.000032	0.64	4109.51	1846.56	0.05
Reach1	86586	10%_Proj	682	611.6	618.51	615.43	618.51	0.000027	0.53	2627.46	1813.7	0.05
Reach1	86586	2%_Proj	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach1	86586	1%_Proj	1089	611.6	619.04	616.43	619.04	0.00003	0.59	3593.7	1835.67	0.05
Reach1	86586	0.2%_Proj	1507	611.6	619.44	616.85	619.44	0.000033	0.66	4325.49	1851.38	0.05
Reach1	86548	Bridge	Bridge									
Reach1	86510	10%_Cur	620	611.6	618.32	615.23	618.36	0.000307	2.1	1039.97	1082.31	0.17
Reach1	86510	2%_Cur	900	611.6	618.76	616.02	618.8	0.000299	2.19	1572.61	1325.1	0.17
Reach1	86510	1%_Cur	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach1	86510	0.2%_Cur	1370	611.6	619.27	617.85	619.3	0.000317	2.4	2328.91	1681.77	0.17
Reach1	86510	10%_Proj	682	611.6	618.45	615.42	618.48	0.000291	2.08	1184.6	1136.88	0.16
Reach1	86510	2%_Proj	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach1	86510	1%_Proj	1089	611.6	618.99	616.47	619.02	0.000291	2.23	1891.94	1461.88	0.16
Reach1	86510	0.2%_Proj	1507	611.6	619.39	617.94	619.42	0.000311	2.4	2531.23	1700.63	0.17

Reach1	86469	10%_Cur	620	613.41	618.16	618.3	0.001658	3.79	504.77	771.36	0.37
Reach1	86469	2%_Cur	900	613.41	618.68	618.76	0.001075	3.36	953.56	989.51	0.3
Reach1	86469	1%_Cur	990	613.41	618.8	618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach1	86469	0.2%_Cur	1370	613.41	619.21	619.26	0.000882	3.32	1600.57	1377.88	0.28
Reach1	86469	10%_Proj	682	613.41	618.33	618.43	0.001348	3.53	639.71	830.97	0.33
Reach1	86469	2%_Proj	990	613.41	618.8	618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach1	86469	1%_Proj	1089	613.41	618.91	618.98	0.001007	3.38	1210.77	1210.99	0.3
Reach1	86469	0.2%_Proj	1507	613.41	619.33	619.38	0.000826	3.27	1777.92	1444.53	0.27
Reach1	85402	10%_Cur	620	612.08	617.39	617.43	0.000455	1.78	517.02	1139.15	0.17
Reach1	85402	2%_Cur	900	612.08	618	618.04	0.000454	1.93	1147.3	1278.53	0.17
Reach1	85402	1%_Cur	990	612.08	618.13	618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach1	85402	0.2%_Cur	1370	612.08	618.55	618.6	0.000467	2.09	1910.73	1495.79	0.17
Reach1	85402	10%_Proj	682	612.08	617.54	617.59	0.000506	1.92	592.38	1164.5	0.18
Reach1	85402	2%_Proj	990	612.08	618.13	618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach1	85402	1%_Proj	1089	612.08	618.21	618.26	0.000478	2.04	1431.44	1353.92	0.17
Reach1	85402	0.2%_Proj	1507	612.08	618.7	618.74	0.000457	2.11	2138.09	1570.66	0.17
Reach1	84756	10%_Cur	620	612.91	617.37	617.38	0.000025	0.97	1256.78	891.37	0.09
Reach1	84756	2%_Cur	900	612.91	617.97	617.99	0.000028	1.14	2167.81	1977.95	0.1
Reach1	84756	1%_Cur	990	612.91	618.09	618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach1	84756	0.2%_Cur	1370	612.91	618.51	618.53	0.000038	1.42	3312.27	2214.88	0.11
Reach1	84756	10%_Proj	682	612.91	617.52	617.54	0.000026	1.02	1421.28	1269.51	0.09
Reach1	84756	2%_Proj	990	612.91	618.09	618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach1	84756	1%_Proj	1089	612.91	618.18	618.2	0.000033	1.27	2600.15	2124.25	0.1
Reach1	84756	0.2%_Proj	1507	612.91	618.65	618.68	0.00004	1.48	3636.73	2286.69	0.12
Reach1	84575	10%_Cur	620	612	617.36	617.37	0.000278	1.19	900.7	426.26	0.1
Reach1	84575	2%_Cur	900	612	617.96	617.97	0.000289	1.31	1367.16	1279.56	0.11
Reach1	84575	1%_Cur	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach1	84575	0.2%_Cur	1370	612	618.5	618.51	0.000306	1.43	2138.8	1529.92	0.11
Reach1	84575	10%_Proj	682	612	617.51	617.52	0.000284	1.23	971.22	542.95	0.11
Reach1	84575	2%_Proj	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach1	84575	1%_Proj	1089	612	618.17	618.18	0.000317	1.41	1648.2	1405.51	0.11
Reach1	84575	0.2%_Proj	1507	612	618.64	618.66	0.000298	1.44	2363.55	1561.07	0.11
Reach1	83675	10%_Cur	620	609.25	617.23	617.25	0.000076	1.35	852.79	357.14	0.09
Reach1	83675	2%_Cur	900	609.25	617.79	617.82	0.000111	1.71	1147.51	678.63	0.11
Reach1	83675	1%_Cur	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12
Reach1	83675	0.2%_Cur	1370	609.25	618.25	618.3	0.000184	2.29	1492.9	812.49	0.14
Reach1	83675	10%_Proj	682	609.25	617.37	617.4	0.000084	1.44	908.98	445.18	0.09
Reach1	83675	2%_Proj	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12

Reach1	83675	1%_Proj	1089	609.25	617.96	618	0.000143	1.98	1266.05	734.13	0.13
Reach1	83675	0.2%_Proj	1507	609.25	618.38	618.44	0.000201	2.42	1601.15	840.5	0.15
Reach1	83646	10%_Cur	620	608.7	617.23	617.25	0.000127	1.83	1039.75	660.72	0.12
Reach1	83646	2%_Cur	900	608.7	617.79	617.81	0.000163	2.16	1497.72	960.45	0.13
Reach1	83646	1%_Cur	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	0.2%_Cur	1370	608.7	618.25	618.29	0.000233	2.68	1968.83	1056.28	0.16
Reach1	83646	10%_Proj	682	608.7	617.37	617.39	0.000134	1.9	1137.9	738.11	0.12
Reach1	83646	2%_Proj	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	1%_Proj	1089	608.7	617.96	617.99	0.000201	2.44	1664.17	999.74	0.15
Reach1	83646	0.2%_Proj	1507	608.7	618.39	618.42	0.000244	2.77	2110.74	1071.61	0.16
Reach1	79531	10%_Cur	620	480.5	484.81	485.44	0.015564	6.39	98.26	37.28	0.68
Reach1	79531	2%_Cur	900	480.5	485.55	486.37	0.014765	7.29	126.38	38.57	0.69
Reach1	79531	1%_Cur	990	480.5	485.76	486.64	0.014721	7.57	134.42	38.94	0.69
Reach1	79531	0.2%_Cur	1370	480.5	486.5	487.66	0.015199	8.69	163.94	40.24	0.73
Reach1	79531	10%_Proj	682	480.5	484.97	485.65	0.015587	6.64	104.26	37.56	0.68
Reach1	79531	2%_Proj	990	480.5	485.74	486.63	0.014926	7.6	133.83	38.91	0.7
Reach1	79531	1%_Proj	1089	480.5	485.96	486.92	0.014891	7.88	142.34	39.29	0.7
Reach1	79531	0.2%_Proj	1507	480.5	486.75	488.01	0.01531	9.04	173.99	40.67	0.73
Reach1	79022	10%_Cur	700	478	484.08	484.21	0.000881	3.02	308.62	138.77	0.28
Reach1	79022	2%_Cur	1030	478	485.05	485.19	0.000794	3.29	447.96	148.3	0.27
Reach1	79022	1%_Cur	1140	478	485.28	485.43	0.000809	3.42	482.93	150.59	0.27
Reach1	79022	0.2%_Cur	1580	478	486.19	486.38	0.000815	3.8	624.49	161.29	0.28
Reach1	79022	10%_Proj	770	478	484.22	484.36	0.000925	3.17	328.66	140.21	0.29
Reach1	79022	2%_Proj	1133	478	485.27	485.42	0.000808	3.41	480.67	150.44	0.27
Reach1	79022	1%_Proj	1254	478	485.52	485.68	0.000818	3.54	519.04	152.91	0.28
Reach1	79022	0.2%_Proj	1738	478	486.51	486.7	0.000807	3.91	676.14	165.82	0.28
Reach1	79012	10%_Cur	700	478.5	483.97	481.94	484.17	0.001987	3.57	198.9	63	0.33
Reach1	79012	2%_Cur	1030	478.5	484.88	482.53	485.14	0.002013	4.17	260.66	111.74	0.34
Reach1	79012	1%_Cur	1140	478.5	485.08	482.7	485.38	0.002108	4.39	275.67	119.13	0.36
Reach1	79012	0.2%_Cur	1580	478.5	485.9	483.33	486.3	0.002311	5.11	336.13	133.69	0.38
Reach1	79012	10%_Proj	770	478.5	484.1	482.07	484.32	0.002146	3.8	206.83	64.63	0.34
Reach1	79012	2%_Proj	1133	478.5	485.07	482.69	485.36	0.002103	4.38	274.7	118.66	0.35
Reach1	79012	1%_Proj	1254	478.5	485.3	482.88	485.62	0.00219	4.61	291.19	127.87	0.36
Reach1	79012	0.2%_Proj	1738	478.5	486.19	483.54	486.62	0.002341	5.32	357.32	136.43	0.39
Reach1	78964	Bridge	Bridge								
Reach1	78916	10%_Cur	700	478.5	483.97	481.94	484.17	0.002006	3.57	197.5	57.49	0.33

Reach1	78916	2%_Cur	1030	478.5	484.52	482.53	484.84	0.002716	4.55	229.44	59.92	0.39
Reach1	78916	1%_Cur	1140	478.5	484.68	482.7	485.04	0.002925	4.85	239.24	60.65	0.41
Reach1	78916	0.2%_Cur	1580	478.5	485.31	483.33	485.84	0.003547	5.84	278.4	63.47	0.46
Reach1	78916	10%_Proj	770	478.5	484.1	482.08	484.32	0.002168	3.79	204.68	58.04	0.34
Reach1	78916	2%_Proj	1133	478.5	484.67	482.69	485.03	0.002913	4.83	238.59	60.6	0.41
Reach1	78916	1%_Proj	1254	478.5	484.85	482.88	485.25	0.003121	5.13	249.27	61.38	0.43
Reach1	78916	0.2%_Proj	1738	478.5	485.53	483.53	486.11	0.003703	6.15	292.47	64.45	0.48
Reach1	78894	10%_Cur	700	477.3	483.88		484.12	0.001347	3.93	179.14	44.45	0.33
Reach1	78894	2%_Cur	1030	477.3	484.33		484.76	0.002094	5.23	199.62	46.71	0.42
Reach1	78894	1%_Cur	1140	477.3	484.46		484.95	0.002355	5.64	205.41	47.33	0.45
Reach1	78894	0.2%_Cur	1580	477.3	484.89		485.68	0.003395	7.17	226.41	49.51	0.55
Reach1	78894	10%_Proj	770	477.3	483.99		484.27	0.001502	4.22	183.92	44.99	0.35
Reach1	78894	2%_Proj	1133	477.3	484.45		484.94	0.002339	5.62	205.03	47.29	0.45
Reach1	78894	1%_Proj	1254	477.3	484.58		485.14	0.002627	6.06	211.09	47.93	0.48
Reach1	78894	0.2%_Proj	1738	477.3	485.02		485.93	0.003782	7.69	232.96	50.18	0.58
Reach1	78501	10%_Cur	700	474	483.99		484.01	0.000042	0.97	726.88	144.72	0.07
Reach1	78501	2%_Cur	1030	474	484.53		484.56	0.000072	1.3	809.23	161.41	0.09
Reach1	78501	1%_Cur	1140	474	484.69		484.72	0.000082	1.41	834.76	164.47	0.1
Reach1	78501	0.2%_Cur	1580	474	485.27		485.32	0.000125	1.78	933.79	173.59	0.12
Reach1	78501	10%_Proj	770	474	484.12		484.14	0.000048	1.04	745.08	148.92	0.08
Reach1	78501	2%_Proj	1133	474	484.68		484.71	0.000082	1.4	833.1	164.32	0.1
Reach1	78501	1%_Proj	1254	474	484.84		484.88	0.000093	1.51	860.57	166.9	0.1
Reach1	78501	0.2%_Proj	1738	474	485.47		485.52	0.00014	1.9	967.59	176.6	0.13
Reach1	78445	10%_Cur	700	472.5	484	473.88	484	0.000026	0.4	1755.52	211.6	0.02
Reach1	78445	2%_Cur	1030	472.5	484.54	474.25	484.55	0.000046	0.55	1871.03	214.44	0.03
Reach1	78445	1%_Cur	1140	472.5	484.7	474.37	484.71	0.000053	0.6	1905.07	215.27	0.03
Reach1	78445	0.2%_Cur	1580	472.5	485.3	474.79	485.31	0.000082	0.78	2033.86	218.38	0.04
Reach1	78445	10%_Proj	770	472.5	484.13	473.96	484.13	0.00003	0.43	1782.01	212.26	0.03
Reach1	78445	2%_Proj	1133	472.5	484.69	474.36	484.7	0.000052	0.6	1902.86	215.22	0.03
Reach1	78445	1%_Proj	1254	472.5	484.86	474.48	484.87	0.00006	0.65	1939.11	216.1	0.04
Reach1	78445	0.2%_Proj	1738	472.5	485.49	474.92	485.5	0.000093	0.84	2076.77	219.41	0.05
Reach1	78435	Inl	Inl									
Reach1	78428	10%_Cur	700	472.5	473.85	473.85	474.47	0.021855	6.34	111.94	96.14	1
Reach1	78428	2%_Cur	1030	472.5	474.22	474.22	475.01	0.020282	7.16	149.18	103.38	0.99
Reach1	78428	1%_Cur	1140	472.5	474.34	474.34	475.17	0.019874	7.39	161.11	105.59	0.99
Reach1	78428	0.2%_Cur	1580	472.5	474.76	474.76	475.77	0.018542	8.17	207.41	113.78	0.98
Reach1	78428	10%_Proj	770	472.5	473.93	473.93	474.59	0.021431	6.53	120.13	97.77	0.99

Reach1	78428	2%_Proj	1133	472.5	474.33	474.33	475.16	0.019904	7.37	160.34	105.45	0.99
Reach1	78428	1%_Proj	1254	472.5	474.45	474.45	475.34	0.019405	7.6	173.56	107.85	0.98
Reach1	78428	0.2%_Proj	1738	472.5	474.9	474.9	475.97	0.018227	8.42	223.29	116.45	0.98
Reach1	78376	10%_Cur	700	468	473.05		473.11	0.000424	2.07	366.62	113.71	0.18
Reach1	78376	2%_Cur	1030	468	474.18		474.26	0.000401	2.33	501.5	124.39	0.18
Reach1	78376	1%_Cur	1140	468	474.44		474.53	0.000415	2.44	534.24	126.69	0.19
Reach1	78376	0.2%_Cur	1580	468	475.12		475.25	0.000532	2.97	622.65	132.68	0.21
Reach1	78376	10%_Proj	770	468	473.37		473.44	0.000395	2.09	404.64	116.89	0.18
Reach1	78376	2%_Proj	1133	468	474.43		474.52	0.000412	2.43	533.3	126.62	0.19
Reach1	78376	1%_Proj	1254	468	474.7		474.8	0.000427	2.55	567.93	129	0.19
Reach1	78376	0.2%_Proj	1738	468	475.45		475.59	0.000538	3.08	666.54	135.59	0.22
Reach1	78193	10%_Cur	700	466.4	472.55		472.93	0.002422	4.98	151.89	42.14	0.4
Reach1	78193	2%_Cur	1030	466.4	473.55		474.06	0.002613	5.88	196.99	47.87	0.43
Reach1	78193	1%_Cur	1140	466.4	473.74		474.32	0.002841	6.26	206.11	48.95	0.45
Reach1	78193	0.2%_Cur	1580	466.4	473.9		474.94	0.004951	8.41	213.91	49.85	0.6
Reach1	78193	10%_Proj	770	466.4	472.88		473.26	0.002306	5.08	165.95	44.01	0.4
Reach1	78193	2%_Proj	1133	466.4	473.74		474.31	0.002804	6.22	206.17	48.96	0.45
Reach1	78193	1%_Proj	1254	466.4	473.93		474.58	0.003058	6.63	215.53	50.04	0.47
Reach1	78193	0.2%_Proj	1738	466.4	474.1		475.26	0.005308	8.9	224.05	51	0.63
Reach1	78152	10%_Cur	700	467.3	472.64	469.96	472.72	0.00088	2.37	365.18	149.31	0.2
Reach1	78152	2%_Cur	1030	467.3	473.71	470.42	473.8	0.000824	2.59	530.34	160.69	0.2
Reach1	78152	1%_Cur	1140	467.3	473.92	470.56	474.02	0.000868	2.72	564.9	162.97	0.2
Reach1	78152	0.2%_Cur	1580	467.3	474.24	471.08	474.4	0.001343	3.49	617.47	166.38	0.26
Reach1	78152	10%_Proj	770	467.3	472.98	470.06	473.06	0.000803	2.36	416.27	152.92	0.19
Reach1	78152	2%_Proj	1133	467.3	473.92	470.54	474.02	0.000858	2.7	564.71	162.96	0.2
Reach1	78152	1%_Proj	1254	467.3	474.14	470.7	474.24	0.000906	2.84	600.5	165.29	0.21
Reach1	78152	0.2%_Proj	1738	467.3	474.49	471.26	474.67	0.001383	3.63	659.45	169.05	0.26
Reach1	78142.5	Bridge	Bridge									
Reach1	78133	10%_Cur	700	467.3	469.93	469.89	470.81	0.017791	7.55	92.98	63.64	0.96
Reach1	78133	2%_Cur	1030	467.3	470.49	470.44	471.63	0.017882	8.57	120.81	77.63	0.96
Reach1	78133	1%_Cur	1140	467.3	470.66	470.61	471.87	0.01774	8.85	129.68	82.04	0.96
Reach1	78133	0.2%_Cur	1580	467.3	471.38	471.27	472.57	0.014354	9.05	216.09	100.54	0.87
Reach1	78133	10%_Proj	770	467.3	470.05	470.02	471	0.017892	7.79	99.1	66.73	0.96
Reach1	78133	2%_Proj	1133	467.3	470.65	470.59	471.86	0.017753	8.83	129.11	81.76	0.96
Reach1	78133	1%_Proj	1254	467.3	470.85	470.77	472.12	0.017422	9.08	139.04	86.68	0.95
Reach1	78133	0.2%_Proj	1738	467.3	471.56	471.47	472.82	0.014448	9.35	234.75	105.34	0.88

Reach1	78088	10%_Cur	700	466.21	469.95		470.18	0.003567	3.85	195.88	107.1	0.43
Reach1	78088	2%_Cur	1030	466.21	470.61		470.9	0.003411	4.4	272.14	123.3	0.43
Reach1	78088	1%_Cur	1140	466.21	470.82		471.13	0.003327	4.53	298.63	128.34	0.43
Reach1	78088	0.2%_Cur	1580	466.21	471.52		471.89	0.003257	5.07	393.57	144.08	0.44
Reach1	78088	10%_Proj	770	466.21	470.09		470.34	0.003555	3.99	211.66	110.65	0.43
Reach1	78088	2%_Proj	1133	466.21	470.81		471.11	0.003333	4.52	296.92	128.03	0.43
Reach1	78088	1%_Proj	1254	466.21	471.04		471.36	0.003215	4.64	327.33	133.29	0.43
Reach1	78088	0.2%_Proj	1738	466.21	471.71		472.12	0.003318	5.28	422.4	148.62	0.45
Reach1	77855	10%_Cur	700	465.51	468.73	468.1	469.16	0.005183	5.26	147.83	106.26	0.61
Reach1	77855	2%_Cur	1030	465.51	468.98	468.65	469.7	0.007817	6.91	175.27	118.48	0.77
Reach1	77855	1%_Cur	1140	465.51	469.02	468.83	469.87	0.008993	7.5	180.55	120.35	0.83
Reach1	77855	0.2%_Cur	1580	465.51	469.4	469.4	470.56	0.010411	8.85	229.47	136.46	0.91
Reach1	77855	10%_Proj	770	465.51	468.8	468.22	469.28	0.005642	5.6	155.35	110.95	0.64
Reach1	77855	2%_Proj	1133	465.51	469.02	468.82	469.86	0.008915	7.46	180.25	120.24	0.82
Reach1	77855	1%_Proj	1254	465.51	469.05	469	470.05	0.010439	8.14	184.13	121.6	0.89
Reach1	77855	0.2%_Proj	1738	465.51	469.58	469.58	470.79	0.010093	9.07	254.56	141.7	0.9
Reach1	77443	10%_Cur	700	463.7	465.65	465.5	466.06	0.011821	5.25	157.16	168.47	0.79
Reach1	77443	2%_Cur	1030	463.7	466.33		466.66	0.006477	4.84	285.18	205.78	0.6
Reach1	77443	1%_Cur	1140	463.7	466.56		466.87	0.005476	4.73	333.65	219.08	0.55
Reach1	77443	0.2%_Cur	1580	463.7	467.45		467.7	0.003105	4.34	552.09	254.4	0.43
Reach1	77443	10%_Proj	770	463.7	465.79	465.58	466.19	0.010243	5.15	182.34	178.49	0.74
Reach1	77443	2%_Proj	1133	463.7	466.54		466.85	0.005532	4.73	330.52	218.29	0.56
Reach1	77443	1%_Proj	1254	463.7	466.79		467.08	0.004658	4.62	387.25	233.12	0.51
Reach1	77443	0.2%_Proj	1738	463.7	467.78		468.01	0.002593	4.21	636.06	258.4	0.4
Reach1	77185	10%_Cur	700	462	464.9	463.54	465.06	0.001668	3.26	216.73	146.78	0.36
Reach1	77185	2%_Cur	1030	462	465.73	464	465.93	0.001457	3.66	291.47	177.64	0.35
Reach1	77185	1%_Cur	1140	462	466	464.13	466.21	0.001394	3.76	315.38	184.81	0.34
Reach1	77185	0.2%_Cur	1580	462	467.01	464.58	467.25	0.001213	4.11	405.02	209.23	0.33
Reach1	77185	10%_Proj	770	462	465.08	463.64	465.25	0.001617	3.35	233.24	157.61	0.36
Reach1	77185	2%_Proj	1133	462	465.99	464.13	466.19	0.001397	3.75	313.92	184.37	0.34
Reach1	77185	1%_Proj	1254	462	466.28	464.26	466.49	0.001336	3.85	339.7	201.53	0.34
Reach1	77185	0.2%_Proj	1738	462	467.34	464.72	467.59	0.001175	4.22	434.14	212.62	0.33
Reach1	77153.5	Bridge	Bridge									
Reach1	77122	10%_Cur	700	462	463.49	463.49	464.24	0.015388	5.91	104.23	64.57	0.86
Reach1	77122	2%_Cur	1030	462	463.96	463.96	464.9	0.014812	6.95	135.19	69.84	0.88
Reach1	77122	1%_Cur	1140	462	464.11	464.11	465.09	0.014402	7.2	145.87	71.87	0.88
Reach1	77122	0.2%_Cur	1580	462	464.63	464.63	465.76	0.013665	8.15	186.85	85.17	0.89

Reach1	77122	10%_Proj	770	462	463.58	463.58	464.39	0.015907	6.23	109.76	65.16	0.88
Reach1	77122	2%_Proj	1133	462	464.09	464.09	465.08	0.014551	7.2	144.78	71.55	0.88
Reach1	77122	1%_Proj	1254	462	464.28	464.28	465.28	0.013577	7.38	158.81	76.31	0.86
Reach1	77122	0.2%_Proj	1738	462	464.79	464.79	465.98	0.013651	8.47	200.08	88.69	0.9
Reach1	77052	10%_Cur	700	460.21	459.69	459.44	460.68	0.010826		87.74	34.73	0
Reach1	77052	2%_Cur	1030	460.21	460.73	460.73	461.63	0.009152	1.55	138.18	85.44	0.56
Reach1	77052	1%_Cur	1140	460.21	460.88	460.88	461.81	0.009346	2.07	151.37	88.79	0.61
Reach1	77052	0.2%_Cur	1580	460.21	461.41	461.41	462.44	0.009602	3.65	201.15	100.58	0.71
Reach1	77052	10%_Proj	770	460.21	459.81	459.63	460.9	0.011558		91.94	35.54	0
Reach1	77052	2%_Proj	1133	460.21	460.88	460.88	461.8	0.009272	2.05	151.04	88.71	0.61
Reach1	77052	1%_Proj	1254	460.21	461.05	461.05	461.99	0.0093	2.51	166.36	92.46	0.64
Reach1	77052	0.2%_Proj	1738	460.21	461.57	461.57	462.63	0.009729	4.12	217.1	104.09	0.73
Reach1	76409	10%_Cur	700	449.31	451.64	451.64	452.58	0.014601	7.79	91.99	52.95	0.98
Reach1	76409	2%_Cur	1030	449.31	452.27	452.27	453.35	0.011904	8.46	132.89	89.63	0.93
Reach1	76409	1%_Cur	1140	449.31	452.49	452.49	453.57	0.010788	8.51	154.75	107.26	0.89
Reach1	76409	0.2%_Cur	1580	449.31	453.09	453.09	454.31	0.009928	9.27	220.1	112.12	0.88
Reach1	76409	10%_Proj	770	449.31	451.8	451.8	452.76	0.01363	7.91	100.24	55.21	0.96
Reach1	76409	2%_Proj	1133	449.31	452.48	452.48	453.55	0.010862	8.51	153.2	106.15	0.9
Reach1	76409	1%_Proj	1254	449.31	452.66	452.66	453.77	0.010439	8.7	173.24	108.94	0.89
Reach1	76409	0.2%_Proj	1738	449.31	453.27	453.27	454.54	0.009871	9.56	240.04	113.45	0.89
Reach1	75569	10%_Cur	700	441.75	450.54		450.57	0.000238	1.41	675.84	161.06	0.1
Reach1	75569	2%_Cur	1030	441.75	451.72		451.76	0.000269	1.67	871.91	171.32	0.1
Reach1	75569	1%_Cur	1140	441.75	451.94		451.98	0.000295	1.79	909.26	173.18	0.11
Reach1	75569	0.2%_Cur	1580	441.75	452.59		452.65	0.000417	2.23	1022.61	177.95	0.13
Reach1	75569	10%_Proj	770	441.75	451.04		451.07	0.000216	1.41	757.23	165.47	0.09
Reach1	75569	2%_Proj	1133	441.75	451.92		451.96	0.000295	1.78	905.63	173	0.11
Reach1	75569	1%_Proj	1254	441.75	452.13		452.17	0.000326	1.9	941.92	174.65	0.12
Reach1	75569	0.2%_Proj	1738	441.75	452.76		452.83	0.000466	2.39	1053.87	179.21	0.14
Reach1	75540	10%_Cur	700	441.3	450.55	443.91	450.56	0.00004	0.92	938.09	197.48	0.06
Reach1	75540	2%_Cur	1030	441.3	451.73	444.5	451.75	0.00005	1.13	1180.86	213.38	0.07
Reach1	75540	1%_Cur	1140	441.3	451.95	444.67	451.97	0.000055	1.21	1227.34	214.12	0.07
Reach1	75540	0.2%_Cur	1580	441.3	452.59	445.38	452.63	0.000081	1.53	1366.83	216.34	0.09
Reach1	75540	10%_Proj	770	441.3	451.05	444.05	451.06	0.000038	0.94	1038.16	204.35	0.06
Reach1	75540	2%_Proj	1133	441.3	451.92	444.66	451.95	0.000055	1.21	1222.85	214.05	0.07
Reach1	75540	1%_Proj	1254	441.3	452.13	444.86	452.16	0.000061	1.3	1267.75	214.77	0.08
Reach1	75540	0.2%_Proj	1738	441.3	452.77	445.54	452.81	0.000091	1.65	1404.99	216.94	0.1
Reach1	75524.5	Bridge	Bridge									

Reach1	75509	10%_Cur	700	441.3	450.54	443.85	450.55	0.000052	1.15	809.56	214.26	0.07
Reach1	75509	2%_Cur	1030	441.3	451.71	444.47	451.74	0.000062	1.38	1065.72	220.19	0.08
Reach1	75509	1%_Cur	1140	441.3	451.93	444.63	451.96	0.000068	1.48	1113.37	221.2	0.09
Reach1	75509	0.2%_Cur	1580	441.3	452.57	445.3	452.62	0.000099	1.87	1255.9	224.21	0.11
Reach1	75509	10%_Proj	770	441.3	451.04	443.99	451.05	0.000048	1.16	917.24	217.01	0.07
Reach1	75509	2%_Proj	1133	441.3	451.91	444.64	451.94	0.000068	1.48	1108.75	221.11	0.09
Reach1	75509	1%_Proj	1254	441.3	452.12	444.82	452.15	0.000076	1.58	1154.73	222.08	0.09
Reach1	75509	0.2%_Proj	1738	441.3	452.74	445.52	452.8	0.000111	2	1294.69	225.02	0.11
Reach1	75463	10%_Cur	700	441.83	450.5		450.54	0.00016	1.7	556.37	174.96	0.11
Reach1	75463	2%_Cur	1030	441.83	451.67		451.73	0.000183	2.03	767.83	186.54	0.13
Reach1	75463	1%_Cur	1140	441.83	451.88		451.94	0.000202	2.16	807.29	188.49	0.13
Reach1	75463	0.2%_Cur	1580	441.83	452.49		452.59	0.000289	2.71	925.25	194.83	0.16
Reach1	75463	10%_Proj	770	441.83	451		451.04	0.000146	1.71	645.35	180.26	0.11
Reach1	75463	2%_Proj	1133	441.83	451.86		451.92	0.000201	2.16	803.38	188.3	0.13
Reach1	75463	1%_Proj	1254	441.83	452.06		452.13	0.000223	2.31	841.43	190.28	0.14
Reach1	75463	0.2%_Proj	1738	441.83	452.66		452.77	0.000324	2.91	957.1	196.33	0.17
Reach1	75435	10%_Cur	700	442.5	450.48		450.54	0.000206	2.09	480.55	178.59	0.15
Reach1	75435	2%_Cur	1030	442.5	451.64		451.72	0.000221	2.42	697.07	192.67	0.15
Reach1	75435	1%_Cur	1140	442.5	451.85		451.94	0.000241	2.57	737.47	195.25	0.16
Reach1	75435	0.2%_Cur	1580	442.5	452.46		452.58	0.000337	3.2	858.07	203.4	0.19
Reach1	75435	10%_Proj	770	442.5	450.98		451.04	0.000182	2.07	571.92	184.45	0.14
Reach1	75435	2%_Proj	1133	442.5	451.83		451.92	0.000241	2.57	733.42	195	0.16
Reach1	75435	1%_Proj	1254	442.5	452.03		452.12	0.000265	2.74	772.38	197.59	0.17
Reach1	75435	0.2%_Proj	1738	442.5	452.62		452.76	0.000376	3.42	890.49	205.57	0.21
Reach1	75422	10%_Cur	700	441.5	450.45	445.33	450.53	0.000863	2.41	438.39	177.48	0.16
Reach1	75422	2%_Cur	1030	441.5	451.63	446.19	451.71	0.000832	2.62	660.06	199.34	0.16
Reach1	75422	1%_Cur	1140	441.5	451.84	446.41	451.93	0.000892	2.76	702.59	204.07	0.16
Reach1	75422	0.2%_Cur	1580	441.5	452.45	447.25	452.57	0.00118	3.32	830.47	214.72	0.19
Reach1	75422	10%_Proj	770	441.5	450.96	445.54	451.03	0.000724	2.31	531.68	185.7	0.15
Reach1	75422	2%_Proj	1133	441.5	451.82	446.4	451.91	0.000893	2.75	698.27	203.7	0.16
Reach1	75422	1%_Proj	1254	441.5	452.02	446.64	452.12	0.000964	2.9	739.65	207.21	0.17
Reach1	75422	0.2%_Proj	1738	441.5	452.61	447.51	452.75	0.001301	3.52	865	217.51	0.2
Reach1	75394.5	Bridge	Bridge									
Reach1	75369	10%_Cur	700	438.2	441.48	441.48	442.76	0.050589	9.11	78.51	32.91	0.97
Reach1	75369	2%_Cur	1030	438.2	442.26	442.26	443.88	0.046132	10.29	104.25	37.17	0.97
Reach1	75369	1%_Cur	1140	438.2	442.5	442.5	444.22	0.045188	10.63	112.23	38.45	0.97

Reach1	75369	0.2%_Cur	1580	438.2	443.37	443.37	445.46	0.041911	11.77	142.87	43.22	0.97
Reach1	75369	10%_Proj	770	438.2	441.66	441.66	443.02	0.049316	9.38	84.26	33.88	0.97
Reach1	75369	2%_Proj	1133	438.2	442.47	442.47	444.2	0.045579	10.63	111.45	38.33	0.97
Reach1	75369	1%_Proj	1254	438.2	442.74	442.74	444.56	0.043998	10.94	120.58	39.78	0.97
Reach1	75369	0.2%_Proj	1738	438.2	443.69	443.69	445.86	0.040206	12.05	154.29	44.94	0.96
Reach1	75362	10%_Cur	700	433.15	438.08	438.08	439.63	0.038232	10.01	72.6	27.27	0.98
Reach1	75362	2%_Cur	1030	433.15	439.12	439.12	440.91	0.031325	10.9	104.86	34.91	0.93
Reach1	75362	1%_Cur	1140	433.15	439.43	439.43	441.28	0.029828	11.14	115.79	36.27	0.92
Reach1	75362	0.2%_Cur	1580	433.15	440.39	440.39	442.58	0.028325	12.32	152.56	40.12	0.92
Reach1	75362	10%_Proj	770	433.15	438.31	438.31	439.92	0.036564	10.25	79.05	28.96	0.97
Reach1	75362	2%_Proj	1133	433.15	439.41	439.41	441.25	0.02988	11.12	115.15	36.2	0.92
Reach1	75362	1%_Proj	1254	433.15	439.7	439.7	441.64	0.029163	11.44	125.88	37.36	0.91
Reach1	75362	0.2%_Proj	1738	433.15	440.72	440.72	443	0.027573	12.63	166.11	41.45	0.92
Reach1	75312	10%_Cur	700	432.3	435.22	435.22	436.44	0.039815	8.86	80.03	35.38	0.99
Reach1	75312	2%_Cur	1030	432.3	435.96	435.96	437.48	0.035472	9.96	107.49	39.01	0.98
Reach1	75312	1%_Cur	1140	432.3	436.19	436.19	437.8	0.034293	10.25	116.56	40.14	0.97
Reach1	75312	0.2%_Cur	1580	432.3	437.03	437.03	438.94	0.030823	11.25	152.09	44.28	0.96
Reach1	75312	10%_Proj	770	432.3	435.38	435.38	436.67	0.038755	9.13	85.92	36.19	0.99
Reach1	75312	2%_Proj	1133	432.3	436.17	436.17	437.78	0.03438	10.23	115.96	40.06	0.98
Reach1	75312	1%_Proj	1254	432.3	436.41	436.41	438.11	0.033365	10.55	125.69	41.24	0.97
Reach1	75312	0.2%_Proj	1738	432.3	437.3	437.3	439.31	0.030087	11.57	164.24	45.61	0.96
Reach1	75158	10%_Cur	700	425.41	429.51		430.25	0.007983	6.98	104.83	41.63	0.72
Reach1	75158	2%_Cur	1030	425.41	430.48		431.35	0.006448	7.6	148.04	46.87	0.68
Reach1	75158	1%_Cur	1140	425.41	430.78		431.69	0.006156	7.78	161.96	48.43	0.67
Reach1	75158	0.2%_Cur	1580	425.41	431.78		432.86	0.005605	8.56	213.41	54.16	0.66
Reach1	75158	10%_Proj	770	425.41	429.72		430.5	0.007618	7.15	113.74	42.76	0.71
Reach1	75158	2%_Proj	1133	425.41	430.76		431.66	0.006179	7.78	161.02	48.33	0.67
Reach1	75158	1%_Proj	1254	425.41	431.08		432.02	0.005834	7.94	177.05	50.08	0.66
Reach1	75158	0.2%_Proj	1738	425.41	431.67		433.05	0.007319	9.65	207.36	53.48	0.75
Reach1	75098	10%_Cur	700	423.5	429.06	427.94	429.63	0.009948	6.08	120.08	42.09	0.57
Reach1	75098	2%_Cur	1030	423.5	430.13	428.7	430.81	0.008495	6.71	174.87	61.82	0.55
Reach1	75098	1%_Cur	1140	423.5	430.45	428.94	431.15	0.008124	6.86	195.75	67.96	0.54
Reach1	75098	0.2%_Cur	1580	423.5	431.57	429.84	432.32	0.007065	7.32	277.06	75.73	0.52
Reach1	75098	10%_Proj	770	423.5	429.29	428.12	429.89	0.009689	6.26	130.12	45.14	0.57
Reach1	75098	2%_Proj	1133	423.5	430.43	428.91	431.13	0.008158	6.85	194.27	67.6	0.54
Reach1	75098	1%_Proj	1254	423.5	430.8	429.18	431.51	0.007609	6.94	220.02	72.82	0.53
Reach1	75098	0.2%_Proj	1738	423.5	431.33	430.16	432.36	0.010019	8.49	259.23	74.92	0.62

Reach1	75093.5	Bridge	Bridge									
Reach1	75089	10%_Cur	700	423.5	428.02	428.02	429.32	0.014623	9.22	79.59	34.88	0.97
Reach1	75089	2%_Cur	1030	423.5	428.8	428.8	430.44	0.01454	10.43	109.1	40.76	0.97
Reach1	75089	1%_Cur	1140	423.5	429.05	429.05	430.78	0.014317	10.74	119.8	44.8	0.96
Reach1	75089	0.2%_Cur	1580	423.5	430.18	430.18	431.94	0.011363	11.05	185.6	69.88	0.87
Reach1	75089	10%_Proj	770	423.5	428.21	428.21	429.58	0.014466	9.47	86.26	36.3	0.96
Reach1	75089	2%_Proj	1133	423.5	429.03	429.03	430.76	0.014347	10.72	119.04	44.48	0.96
Reach1	75089	1%_Proj	1254	423.5	429.34	429.34	431.12	0.013607	10.9	133.9	51.65	0.94
Reach1	75089	0.2%_Proj	1738	423.5	430.3	430.46	432.29	0.012597	11.79	193.84	70.45	0.92
Reach1	75042	10%_Cur	700	423.5	427.19	427.19	428.23	0.014879	8.19	88.44	47.46	0.99
Reach1	75042	2%_Cur	1030	423.5	427.83	427.83	429.13	0.014235	9.21	120.14	52.28	0.98
Reach1	75042	1%_Cur	1140	423.5	428.02	428.02	429.4	0.014039	9.5	130.37	53.49	0.97
Reach1	75042	0.2%_Cur	1580	423.5	428.71	428.71	430.39	0.013639	10.55	168.69	57.75	0.97
Reach1	75042	10%_Proj	770	423.5	427.33	427.33	428.43	0.014792	8.44	95.16	48.59	0.99
Reach1	75042	2%_Proj	1133	423.5	428.01	428.01	429.38	0.014048	9.48	129.73	53.42	0.97
Reach1	75042	1%_Proj	1254	423.5	428.21	428.21	429.67	0.013943	9.79	140.45	54.66	0.97
Reach1	75042	0.2%_Proj	1738	423.5	428.94	428.94	430.72	0.013443	10.86	182.37	59.28	0.97
Reach1	74782	10%_Cur	700	409.6	414.78		415.18	0.009794	5.06	139.65	45.93	0.49
Reach1	74782	2%_Cur	1030	409.6	415.43		416.02	0.01165	6.2	170.69	50.32	0.55
Reach1	74782	1%_Cur	1140	409.6	415.62		416.28	0.012158	6.54	180.4	51.57	0.56
Reach1	74782	0.2%_Cur	1580	409.6	416.31		417.22	0.013706	7.69	217.78	56.13	0.61
Reach1	74782	10%_Proj	770	409.6	414.93		415.37	0.010242	5.32	146.5	46.99	0.5
Reach1	74782	2%_Proj	1133	409.6	415.61		416.26	0.012126	6.52	179.79	51.5	0.56
Reach1	74782	1%_Proj	1254	409.6	415.81		416.54	0.012569	6.85	190.58	52.85	0.58
Reach1	74782	0.2%_Proj	1738	409.6	416.54		417.53	0.014137	8.05	230.7	57.63	0.63
Reach1	74780	10%_Cur	700	411.9	414.13	414.13	415.1	0.024322	7.89	89.68	49.46	1
Reach1	74780	2%_Cur	1030	411.9	414.71	414.71	415.94	0.022791	8.91	119.11	52.89	0.99
Reach1	74780	1%_Cur	1140	411.9	414.89	414.89	416.19	0.02233	9.19	128.61	53.92	0.99
Reach1	74780	0.2%_Cur	1580	411.9	415.55	415.55	417.12	0.020727	10.14	165.6	57.75	0.98
Reach1	74780	10%_Proj	770	411.9	414.26	414.26	415.29	0.023964	8.13	96.09	50.27	1
Reach1	74780	2%_Proj	1133	411.9	414.88	414.88	416.17	0.022351	9.18	128.02	53.86	0.99
Reach1	74780	1%_Proj	1254	411.9	415.06	415.06	416.44	0.021919	9.47	138.24	54.94	0.99
Reach1	74780	0.2%_Proj	1738	411.9	415.75	415.75	417.43	0.020598	10.49	177.49	58.93	0.98
Reach1	74779	10%_Cur	700	409.27	412.93	412.93	413.98	0.01602	8.24	87.55	45.37	0.99
Reach1	74779	2%_Cur	1030	409.27	413.56	413.56	414.89	0.01623	9.31	117.49	49.38	0.98
Reach1	74779	1%_Cur	1140	409.27	413.76	413.76	415.17	0.016079	9.58	127.54	50.6	0.98
Reach1	74779	0.2%_Cur	1580	409.27	414.46	414.46	416.18	0.016079	10.66	164.1	54.6	0.98

Reach1	74779	10%_Proj	770	409.27	413.07	413.07	414.18	0.016101	8.49	94.09	46.28	0.99
Reach1	74779	2%_Proj	1133	409.27	413.75	413.75	415.15	0.016087	9.56	126.91	50.53	0.98
Reach1	74779	1%_Proj	1254	409.27	413.96	413.96	415.44	0.016013	9.86	137.5	51.72	0.97
Reach1	74779	0.2%_Proj	1738	409.27	414.71	414.71	416.51	0.015766	10.93	178.01	56.05	0.97
Reach1	74711	10%_Cur	700	405.5	409.41	409.41	410.72	0.013736	9.24	78.51	32.47	0.96
Reach1	74711	2%_Cur	1030	405.5	410.23	410.23	411.83	0.012286	10.32	107.07	37.12	0.94
Reach1	74711	1%_Cur	1140	405.5	410.47	410.47	412.16	0.012001	10.64	116.26	38.49	0.94
Reach1	74711	0.2%_Cur	1580	405.5	411.35	411.35	413.37	0.011239	11.76	152.1	43.44	0.94
Reach1	74711	10%_Proj	770	405.5	409.59	409.59	410.97	0.013379	9.5	84.58	33.51	0.96
Reach1	74711	2%_Proj	1133	405.5	410.46	410.46	412.14	0.012015	10.62	115.69	38.41	0.94
Reach1	74711	1%_Proj	1254	405.5	410.69	410.69	412.5	0.011952	11.01	124.9	39.74	0.95
Reach1	74711	0.2%_Proj	1738	405.5	411.64	411.64	413.77	0.010972	12.09	165.18	45.12	0.94
Reach1	74082	10%_Cur	700	377.52	379.8	379.8	380.66	0.086171	7.42	94.74	57.88	1
Reach1	74082	2%_Cur	1030	377.52	380.32	380.32	381.39	0.076957	8.35	125.48	61.92	0.99
Reach1	74082	1%_Cur	1140	377.52	380.48	380.48	381.62	0.074373	8.6	135.5	63.15	0.98
Reach1	74082	0.2%_Cur	1580	377.52	381.07	381.07	382.43	0.066696	9.44	174.08	67.48	0.96
Reach1	74082	10%_Proj	770	377.52	379.92	379.92	380.82	0.083785	7.64	101.46	58.79	1
Reach1	74082	2%_Proj	1133	377.52	380.47	380.47	381.6	0.074535	8.59	134.86	63.07	0.98
Reach1	74082	1%_Proj	1254	377.52	380.64	380.64	381.84	0.072232	8.85	145.58	64.33	0.98
Reach1	74082	0.2%_Proj	1738	377.52	381.25	381.25	382.69	0.065966	9.76	186.19	68.77	0.97
Reach1	73253	10%_Cur	700	359.49	364.56	362.47	364.61	0.000761	1.97	520.37	210.33	0.2
Reach1	73253	2%_Cur	1030	359.49	365.34	363.14	365.39	0.000789	2.18	685.72	215.56	0.2
Reach1	73253	1%_Cur	1140	359.49	365.58	363.26	365.64	0.000792	2.25	737.67	217.63	0.2
Reach1	73253	0.2%_Cur	1580	359.49	366.41	363.68	366.48	0.000822	2.49	921.56	224.83	0.2
Reach1	73253	10%_Proj	770	359.49	364.75	362.6	364.8	0.000758	2.01	560.52	211.61	0.2
Reach1	73253	2%_Proj	1133	359.49	365.55	363.25	365.61	0.000801	2.25	731.18	217.37	0.2
Reach1	73253	1%_Proj	1254	359.49	365.8	363.37	365.86	0.000804	2.32	786.52	219.57	0.2
Reach1	73253	0.2%_Proj	1738	359.49	366.73	363.82	366.81	0.000802	2.54	995.09	227.64	0.2
Reach1	73194	10%_Cur	700	358.6	364.44	363.03	364.52	0.002711	2.74	383.82	158.33	0.27
Reach1	73194	2%_Cur	1030	358.6	365.2	363.5	365.3	0.002533	3.04	507.33	163.69	0.27
Reach1	73194	1%_Cur	1140	358.6	365.44	363.5	365.54	0.002479	3.12	546.49	165.53	0.27
Reach1	73194	0.2%_Cur	1580	358.6	366.26	363.71	366.38	0.002413	3.46	684.75	171.9	0.27
Reach1	73194	10%_Proj	770	358.6	364.63	363.22	364.7	0.002612	2.79	414.07	159.55	0.26
Reach1	73194	2%_Proj	1133	358.6	365.41	363.5	365.51	0.00252	3.13	541.29	165.29	0.27
Reach1	73194	1%_Proj	1254	358.6	365.66	363.51	365.76	0.002467	3.22	583.07	167.24	0.27
Reach1	73194	0.2%_Proj	1738	358.6	366.59	363.83	366.71	0.002301	3.52	741.26	174.43	0.27
Reach1	73166	Bridge	Bridge									

Reach1	73148	10%_Cur	700	358.53	363.42	361.07	363.53	0.000893	2.72	267.39	83.15	0.25
Reach1	73148	2%_Cur	1030	358.53	364.5	361.56	364.64	0.000865	3.06	371.27	106.49	0.25
Reach1	73148	1%_Cur	1140	358.53	364.9	361.71	365.05	0.000816	3.11	415.18	112.9	0.24
Reach1	73148	0.2%_Cur	1580	358.53	366.02	362.22	366.2	0.000812	3.46	548.77	124.93	0.24
Reach1	73148	10%_Proj	770	358.53	363.66	361.18	363.78	0.000889	2.8	288.41	90.27	0.25
Reach1	73148	2%_Proj	1133	358.53	364.82	361.7	364.97	0.00085	3.14	405.9	111.89	0.24
Reach1	73148	1%_Proj	1254	358.53	365.25	361.86	365.4	0.000797	3.18	454.91	117.4	0.24
Reach1	73148	0.2%_Proj	1738	358.53	366.38	362.4	366.57	0.000812	3.57	594.21	128.41	0.24
Reach1	73074	10%_Cur	700	358.61	362.85		363.31	0.003871	5.46	137.52	55.14	0.55
Reach1	73074	2%_Cur	1030	358.61	363.91		364.42	0.00303	5.87	200.4	63.12	0.51
Reach1	73074	1%_Cur	1140	358.61	364.33		364.84	0.002638	5.84	227.67	65.47	0.48
Reach1	73074	0.2%_Cur	1580	358.61	365.36		365.97	0.002487	6.49	297.6	71.11	0.48
Reach1	73074	10%_Proj	770	358.61	363.09		363.56	0.003623	5.55	151.02	57.53	0.54
Reach1	73074	2%_Proj	1133	358.61	364.22		364.75	0.002846	5.97	220.28	64.84	0.5
Reach1	73074	1%_Proj	1254	358.61	364.67		365.19	0.002485	5.94	250.09	67.35	0.47
Reach1	73074	0.2%_Proj	1738	358.61	365.68		366.33	0.002469	6.71	320.76	72.81	0.49
Reach1	72754	10%_Cur	700	352.8	361.98		362.42	0.002068	5.65	159.63	49.38	0.4
Reach1	72754	2%_Cur	1030	352.8	362.91		363.53	0.002511	6.84	209.45	57.84	0.46
Reach1	72754	1%_Cur	1140	352.8	363.44		364.04	0.002279	6.84	241.35	63.92	0.44
Reach1	72754	0.2%_Cur	1580	352.8	364.34		365.13	0.002675	8	320.53	130.69	0.49
Reach1	72754	10%_Proj	770	352.8	362.19		362.68	0.002176	5.93	170.41	51.32	0.42
Reach1	72754	2%_Proj	1133	352.8	363.21		363.87	0.00255	7.1	227.53	60.63	0.46
Reach1	72754	1%_Proj	1254	352.8	363.79		364.42	0.002272	7.04	266.33	78.45	0.44
Reach1	72754	0.2%_Proj	1738	352.8	364.7	362.47	365.5	0.002647	8.18	377.45	174.54	0.49
Reach1	72231	10%_Cur	700	351.5	362.23		362.23	0.000036	0.84	2054.15	851.84	0.06
Reach1	72231	2%_Cur	1030	351.5	363.29		363.3	0.00003	0.85	2982.64	899.82	0.06
Reach1	72231	1%_Cur	1140	351.5	363.82		363.82	0.000025	0.81	3464.66	924.26	0.05
Reach1	72231	0.2%_Cur	1580	351.5	364.85		364.85	0.000023	0.86	4432.03	955.54	0.05
Reach1	72231	10%_Proj	770	351.5	362.47		362.48	0.000034	0.84	2263.86	859.96	0.06
Reach1	72231	2%_Proj	1133	351.5	363.63		363.63	0.000028	0.85	3286.68	918.63	0.05
Reach1	72231	1%_Proj	1254	351.5	364.19		364.19	0.000023	0.8	3809.14	933.98	0.05
Reach1	72231	0.2%_Proj	1738	351.5	365.22		365.22	0.000023	0.87	4785	966.48	0.05
Reach1	71607	10%_Cur	1200	350.7	362.05		362.15	0.000372	2.75	776.77	271.7	0.18
Reach1	71607	2%_Cur	1700	350.7	363.11		363.22	0.000397	3.09	1072.32	288.98	0.18
Reach1	71607	1%_Cur	1960	350.7	363.64		363.75	0.000394	3.21	1227.09	295.56	0.19
Reach1	71607	0.2%_Cur	2570	350.7	364.66		364.79	0.000406	3.49	1534.14	306.57	0.19
Reach1	71607	10%_Proj	1320	350.7	362.29		362.4	0.000387	2.86	842.31	275.62	0.18

Reach1	71607	2%_Proj	1870	350.7	363.44		363.56	0.000399	3.18	1169.29	293.08	0.19
Reach1	71607	1%_Proj	2156	350.7	364.01		364.13	0.000393	3.29	1337.37	299.36	0.19
Reach1	71607	0.2%_Proj	2827	350.7	365.02		365.15	0.000416	3.61	1645.61	310.73	0.2
Reach1	70869	10%_Cur	1200	352	362.01		362.02	0.000098	0.89	2604.48	857.62	0.07
Reach1	70869	2%_Cur	1700	352	363.08		363.09	0.000088	0.91	3533.99	874.32	0.06
Reach1	70869	1%_Cur	1960	352	363.62		363.63	0.000083	0.92	4006	879.33	0.06
Reach1	70869	0.2%_Cur	2570	352	364.66		364.66	0.000079	0.95	4918.53	886.46	0.06
Reach1	70869	10%_Proj	1320	352	362.25		362.26	0.000097	0.9	2813.95	860.75	0.07
Reach1	70869	2%_Proj	1870	352	363.42		363.43	0.000086	0.92	3830.67	877.91	0.06
Reach1	70869	1%_Proj	2156	352	364		364.01	0.00008	0.92	4336.93	882.01	0.06
Reach1	70869	0.2%_Proj	2827	352	365.02		365.03	0.00008	0.98	5242.74	888.85	0.06
Reach1	70760	10%_Cur	1200	353	362.01	358.46	362.01	0.000033	0.51	4985.57	1313	0.04
Reach1	70760	2%_Cur	1700	353	363.08	359	363.08	0.000033	0.55	6483.96	1458.4	0.04
Reach1	70760	1%_Cur	1960	353	363.62	359	363.62	0.000032	0.57	7278.9	1488.86	0.04
Reach1	70760	0.2%_Cur	2570	353	364.65	359	364.66	0.00003	0.59	8824.22	1500.53	0.04
Reach1	70760	10%_Proj	1320	353	362.25	358.58	362.25	0.000034	0.52	5310.21	1346.68	0.04
Reach1	70760	2%_Proj	1870	353	363.42	359	363.42	0.000032	0.56	6982.01	1483.94	0.04
Reach1	70760	1%_Proj	2156	353	364	359	364	0.000031	0.57	7839.38	1493.1	0.04
Reach1	70760	0.2%_Proj	2827	353	365.02	359	365.02	0.00003	0.6	9373.16	1504.65	0.04
Reach1	70740	10%_Cur	1200	353.4	362.01	357.49	362.01	0.000041	0.54	4635.94	1238.49	0.04
Reach1	70740	2%_Cur	1700	353.4	363.08	358.16	363.08	0.000039	0.59	6028.31	1332.52	0.04
Reach1	70740	1%_Cur	1960	353.4	363.62	358.49	363.62	0.000038	0.6	6762.05	1398.36	0.04
Reach1	70740	0.2%_Cur	2570	353.4	364.65	359.02	364.66	0.000036	0.64	8230.76	1438.66	0.04
Reach1	70740	10%_Proj	1320	353.4	362.25	357.68	362.25	0.000042	0.56	4940.6	1267.76	0.04
Reach1	70740	2%_Proj	1870	353.4	363.42	358.36	363.42	0.000038	0.6	6487.22	1369.56	0.04
Reach1	70740	1%_Proj	2156	353.4	364	358.68	364	0.000036	0.61	7291.38	1415	0.04
Reach1	70740	0.2%_Proj	2827	353.4	365.02	359.21	365.02	0.000036	0.66	8757.9	1446.96	0.04
Reach1	70713	Bridge	Bridge									
Reach1	70686	10%_Cur	1200	353.4	361.85	357.5	361.85	0.000039	0.83	4358.47	1295.42	0.06
Reach1	70686	2%_Cur	1700	353.4	363.05	358.15	363.05	0.000033	0.83	5929.65	1325.65	0.05
Reach1	70686	1%_Cur	1960	353.4	363.6	358.44	363.6	0.000031	0.85	6661.04	1338.24	0.05
Reach1	70686	0.2%_Cur	2570	353.4	364.64	359	364.64	0.00003	0.9	8078.12	1377.04	0.05
Reach1	70686	10%_Proj	1320	353.4	362.16	357.66	362.16	0.000037	0.83	4757.14	1303.56	0.06
Reach1	70686	2%_Proj	1870	353.4	363.39	358.35	363.4	0.000032	0.84	6389.84	1333.61	0.05
Reach1	70686	1%_Proj	2156	353.4	363.98	358.65	363.98	0.00003	0.86	7171.82	1353.21	0.05
Reach1	70686	0.2%_Proj	2827	353.4	365.01	359.21	365.01	0.00003	0.92	8584	1382.5	0.05

Reach1	70671	10%_Cur	1200	353.59	361.85	357.53	361.85	0.000023	0.67	5120.87	1212.07	0.05
Reach1	70671	2%_Cur	1700	353.59	363.05	358.14	363.05	0.000023	0.74	6658.36	1304.96	0.05
Reach1	70671	1%_Cur	1960	353.59	363.6	358.39	363.6	0.000023	0.76	7378.95	1320.55	0.05
Reach1	70671	0.2%_Cur	2570	353.59	364.64	359	364.64	0.000023	0.84	8776.31	1353.42	0.05
Reach1	70671	10%_Proj	1320	353.59	362.16	357.68	362.16	0.000025	0.71	5503.27	1285.76	0.05
Reach1	70671	2%_Proj	1870	353.59	363.39	358.31	363.4	0.000023	0.76	7111.53	1314.49	0.05
Reach1	70671	1%_Proj	2156	353.59	363.98	358.57	363.98	0.000023	0.79	7883.99	1340.27	0.05
Reach1	70671	0.2%_Proj	2827	353.59	365.01	359	365.01	0.000024	0.87	9273.5	1358.91	0.05
Reach1	70632	10%_Cur	1200	354.18	361.85		361.85	0.000016	0.55	5964.5	1184.02	0.04
Reach1	70632	2%_Cur	1700	354.18	363.05		363.05	0.000017	0.64	7436.99	1289.28	0.04
Reach1	70632	1%_Cur	1960	354.18	363.6		363.6	0.000017	0.67	8147.56	1299.85	0.04
Reach1	70632	0.2%_Cur	2570	354.18	364.64		364.64	0.000018	0.75	9518.67	1333.25	0.04
Reach1	70632	10%_Proj	1320	354.18	362.16		362.16	0.000016	0.57	6328.99	1193.04	0.04
Reach1	70632	2%_Proj	1870	354.18	363.39		363.4	0.000017	0.66	7884.2	1295.47	0.04
Reach1	70632	1%_Proj	2156	354.18	363.98		363.98	0.000017	0.69	8643.65	1310.57	0.04
Reach1	70632	0.2%_Proj	2827	354.18	365.01		365.01	0.000019	0.78	10008.55	1339.3	0.05
Reach1	70558	10%_Cur	1228	354	361.85		361.85	0.000017	0.47	6187.15	1171.1	0.03
Reach1	70558	2%_Cur	1741	354	363.05		363.05	0.000018	0.53	7606.77	1219.49	0.03
Reach1	70558	1%_Cur	2009	354	363.59		363.6	0.000019	0.57	8288.3	1254.86	0.03
Reach1	70558	0.2%_Cur	2632	354	364.64		364.64	0.000021	0.65	9609.52	1285.17	0.04
Reach1	70558	10%_Proj	1351	354	362.15		362.16	0.000017	0.48	6546.94	1175.32	0.03
Reach1	70558	2%_Proj	1915	354	363.39		363.39	0.000019	0.57	8034.01	1250.37	0.03
Reach1	70558	1%_Proj	2210	354	363.97		363.98	0.000019	0.6	8766.94	1263.55	0.03
Reach1	70558	0.2%_Proj	2895	354	365		365	0.000022	0.67	10081.89	1291.68	0.04
Reach1	69987	10%_Cur	1228	351.05	361.84		361.84	0.000034	0.83	4088.51	752.26	0.06
Reach1	69987	2%_Cur	1741	351.05	363.04		363.04	0.000037	0.96	4998.21	771.89	0.06
Reach1	69987	1%_Cur	2009	351.05	363.58		363.59	0.00004	1.05	5431.4	821.62	0.06
Reach1	69987	0.2%_Cur	2632	351.05	364.63		364.63	0.000044	1.2	6303.05	852.03	0.07
Reach1	69987	10%_Proj	1351	351.05	362.15		362.15	0.000035	0.86	4319.52	755.52	0.06
Reach1	69987	2%_Proj	1915	351.05	363.38		363.39	0.000038	1.01	5267.25	789.04	0.06
Reach1	69987	1%_Proj	2210	351.05	363.96		363.97	0.000041	1.1	5746.18	834.46	0.07
Reach1	69987	0.2%_Proj	2895	351.05	364.99		365	0.000046	1.25	6615.89	858.18	0.07
Reach1	69405	10%_Cur	1228	353.6	361.81		361.82	0.000136	0.97	2096.64	485.2	0.07
Reach1	69405	2%_Cur	1741	353.6	363.01		363.02	0.000135	1.08	2700.67	523.12	0.07
Reach1	69405	1%_Cur	2009	353.6	363.55		363.56	0.000134	1.13	2990.38	536.76	0.07
Reach1	69405	0.2%_Cur	2632	353.6	364.59		364.6	0.00014	1.24	3557.16	555.8	0.08
Reach1	69405	10%_Proj	1351	353.6	362.12		362.12	0.000136	1	2246.84	496.48	0.07
Reach1	69405	2%_Proj	1915	353.6	363.35		363.36	0.000136	1.11	2882.34	532.7	0.07

Reach1	69405	1%_Proj	2210	353.6	363.93	363.94	0.000134	1.16	3195.2	543.89	0.07
Reach1	69405	0.2%_Proj	2895	353.6	364.95	364.97	0.000144	1.29	3760.8	562.31	0.08
Reach1	68823	10%_Cur	1228	352.7	361.63	361.68	0.000495	1.96	837.84	213.62	0.15
Reach1	68823	2%_Cur	1741	352.7	362.81	362.87	0.000519	2.21	1118.34	263.54	0.15
Reach1	68823	1%_Cur	2009	352.7	363.35	363.42	0.000522	2.31	1273.5	310.1	0.15
Reach1	68823	0.2%_Cur	2632	352.7	364.37	364.45	0.000561	2.57	1667.35	457.86	0.16
Reach1	68823	10%_Proj	1351	352.7	361.93	361.98	0.000502	2.02	903.88	223.29	0.15
Reach1	68823	2%_Proj	1915	352.7	363.15	363.22	0.000527	2.28	1212.52	291.65	0.15
Reach1	68823	1%_Proj	2210	352.7	363.72	363.8	0.000538	2.4	1397.41	366.35	0.16
Reach1	68823	0.2%_Proj	2895	352.7	364.73	364.81	0.000569	2.64	1838.04	497.8	0.16
Reach1	68537	10%_Cur	1228	352.7	361.34	361.46	0.001196	2.99	560.37	170	0.21
Reach1	68537	2%_Cur	1741	352.7	362.51	362.65	0.001168	3.32	810.58	257.46	0.22
Reach1	68537	1%_Cur	2009	352.7	363.06	363.2	0.001116	3.41	958.39	281.75	0.21
Reach1	68537	0.2%_Cur	2632	352.7	364.07	364.23	0.001104	3.67	1272.26	342.78	0.22
Reach1	68537	10%_Proj	1351	352.7	361.63	361.76	0.001207	3.1	612.81	188.74	0.21
Reach1	68537	2%_Proj	1915	352.7	362.85	363	0.001146	3.39	900.83	271.75	0.22
Reach1	68537	1%_Proj	2210	352.7	363.43	363.58	0.00109	3.47	1067.72	301.03	0.21
Reach1	68537	0.2%_Proj	2895	352.7	364.42	364.58	0.001122	3.8	1397.53	374.86	0.22
Reach1	68474	10%_Cur	1228	353.73	361.34	357.56	361.39	0.000292	1.87	688.67	338.59	0.14
Reach1	68474	2%_Cur	1741	353.73	362.51	357.97	362.58	0.000299	2.15	877.27	429.87	0.15
Reach1	68474	1%_Cur	2009	353.73	363.06	358.16	363.13	0.000301	2.27	969.57	457.49	0.15
Reach1	68474	0.2%_Cur	2632	353.73	364.06	358.56	364.16	0.000325	2.57	1139.5	525.2	0.16
Reach1	68474	10%_Proj	1351	353.73	361.63	357.66	361.69	0.000295	1.95	733.41	362.07	0.15
Reach1	68474	2%_Proj	1915	353.73	362.85	358.09	362.93	0.000303	2.24	934.59	451.14	0.15
Reach1	68474	1%_Proj	2210	353.73	363.43	358.29	363.51	0.000305	2.36	1032.58	468.69	0.15
Reach1	68474	0.2%_Proj	2895	353.73	364.41	358.72	364.52	0.000339	2.7	1198.36	553.05	0.17
Reach1	68402	Bridge	Bridge								
Reach1	68326	10%_Cur	1228	353.73	361.2	357.37	361.25	0.000245	1.82	728.99	439.24	0.14
Reach1	68326	2%_Cur	1741	353.73	362.33	357.74	362.4	0.000258	2.13	887.77	509.14	0.15
Reach1	68326	1%_Cur	2009	353.73	362.85	357.92	362.93	0.000265	2.27	961.32	526.27	0.15
Reach1	68326	0.2%_Cur	2632	353.73	363.8	358.31	363.9	0.000298	2.61	1093.55	569.54	0.16
Reach1	68326	10%_Proj	1351	353.73	361.49	357.47	361.54	0.000248	1.9	769.24	449.84	0.14
Reach1	68326	2%_Proj	1915	353.73	362.65	357.86	362.73	0.000265	2.23	933.16	517.45	0.15
Reach1	68326	1%_Proj	2210	353.73	363.21	358.05	363.29	0.000272	2.37	1011.16	543.9	0.15
Reach1	68326	0.2%_Proj	2895	353.73	364.11	358.46	364.23	0.000316	2.76	1138.09	584.22	0.17
Reach1	68280	10%_Cur	1228	352.5	361.21		361.22	0.000199	0.92	1711.59	338.53	0.06

Reach1	68280	2%_Cur	1741	352.5	362.35	362.36	0.000222	1.09	2117.88	378.35	0.07
Reach1	68280	1%_Cur	2009	352.5	362.88	362.89	0.000229	1.16	2322.01	396.86	0.07
Reach1	68280	0.2%_Cur	2632	352.5	363.83	363.84	0.000256	1.32	2727.44	464.38	0.08
Reach1	68280	10%_Proj	1351	352.5	361.5	361.51	0.000206	0.97	1810.42	347.99	0.07
Reach1	68280	2%_Proj	1915	352.5	362.67	362.69	0.000229	1.14	2242.83	389.4	0.07
Reach1	68280	1%_Proj	2210	352.5	363.23	363.25	0.000235	1.21	2466.85	415.7	0.07
Reach1	68280	0.2%_Proj	2895	352.5	364.15	364.17	0.000271	1.39	2881.14	492.85	0.08
Reach1	67684	10%_Cur	1228	352.5	361.04	361.07	0.000346	1.42	1075.37	333.75	0.11
Reach1	67684	2%_Cur	1741	352.5	362.17	362.2	0.000349	1.56	1466.65	361.13	0.11
Reach1	67684	1%_Cur	2009	352.5	362.69	362.73	0.000347	1.61	1659.57	372.8	0.11
Reach1	67684	0.2%_Cur	2632	352.5	363.63	363.67	0.00037	1.77	2016.17	388.66	0.11
Reach1	67684	10%_Proj	1351	352.5	361.33	361.36	0.000348	1.46	1171.32	340.91	0.11
Reach1	67684	2%_Proj	1915	352.5	362.49	362.52	0.000353	1.6	1584.19	369.4	0.11
Reach1	67684	1%_Proj	2210	352.5	363.05	363.08	0.000349	1.66	1793.21	381.07	0.11
Reach1	67684	0.2%_Proj	2895	352.5	363.94	363.98	0.000385	1.85	2137.77	392.39	0.11
Reach1	66782	10%_Cur	1228	353.98	360.77	360.8	0.000257	1.4	974.75	232.28	0.11
Reach1	66782	2%_Cur	1741	353.98	361.88	361.92	0.00028	1.61	1246.93	262.56	0.11
Reach1	66782	1%_Cur	2009	353.98	362.4	362.44	0.000292	1.72	1393.8	326.75	0.11
Reach1	66782	0.2%_Cur	2632	353.98	363.29	363.35	0.000331	1.95	1735.94	452.12	0.12
Reach1	66782	10%_Proj	1351	353.98	361.05	361.08	0.000264	1.45	1040.25	238.85	0.11
Reach1	66782	2%_Proj	1915	353.98	362.19	362.24	0.00029	1.68	1332.03	282.66	0.11
Reach1	66782	1%_Proj	2210	353.98	362.74	362.79	0.000301	1.79	1517.37	373.59	0.12
Reach1	66782	0.2%_Proj	2895	353.98	363.59	363.65	0.000348	2.05	1873.62	477.75	0.13
Reach1	66184	10%_Cur	1821	352.6	360.3	360.39	0.002093	2.45	822.75	218.95	0.19
Reach1	66184	2%_Cur	2608	352.6	361.36	361.47	0.002133	2.79	1092.03	296.62	0.2
Reach1	66184	1%_Cur	3049	352.6	361.86	361.98	0.002123	2.93	1247.47	331.05	0.2
Reach1	66184	0.2%_Cur	3937	352.6	362.74	362.86	0.002022	3.1	1602.98	489.59	0.2
Reach1	66184	10%_Proj	2003	352.6	360.57	360.66	0.002111	2.54	882.69	232.13	0.19
Reach1	66184	2%_Proj	2869	352.6	361.66	361.78	0.002129	2.88	1183.91	315.9	0.2
Reach1	66184	1%_Proj	3354	352.6	362.21	362.33	0.00207	2.99	1370.85	382.21	0.2
Reach1	66184	0.2%_Proj	4331	352.6	363.02	363.15	0.002007	3.16	1746.29	544.15	0.2
Reach1	65586	10%_Cur	1821	350	358.94	359.04	0.002411	2.68	715	196.07	0.21
Reach1	65586	2%_Cur	2608	350	360.04	360.16	0.002247	2.96	956.35	270.78	0.21
Reach1	65586	1%_Cur	3049	350	360.58	360.71	0.002132	3.05	1122.49	343.56	0.21
Reach1	65586	0.2%_Cur	3937	350	361.63	361.75	0.001749	3.05	1593.91	621.38	0.19
Reach1	65586	10%_Proj	2003	350	359.2	359.32	0.002381	2.76	768.71	204.75	0.21
Reach1	65586	2%_Proj	2869	350	360.36	360.49	0.002196	3.03	1049.92	313.18	0.21
Reach1	65586	1%_Proj	3354	350	361	361.12	0.001972	3.06	1280.53	417.43	0.2

Reach1	65586	0.2%_Proj	4331	350	361.92		362.04	0.001753	3.13	1798.34	763.12	0.2
Reach1	64938	10%_Cur	1821	349.8	358.37		358.4	0.000529	1.42	1288.8	384.56	0.12
Reach1	64938	2%_Cur	2608	349.8	359.59		359.62	0.000415	1.48	1832.64	491	0.11
Reach1	64938	1%_Cur	3049	349.8	360.18		360.22	0.000368	1.49	2142.63	606.23	0.11
Reach1	64938	0.2%_Cur	3937	349.8	361.33		361.36	0.000286	1.47	3044.62	1081.47	0.1
Reach1	64938	10%_Proj	2003	349.8	358.66		358.7	0.0005	1.44	1406.43	404.29	0.12
Reach1	64938	2%_Proj	2869	349.8	359.94		359.98	0.000384	1.48	2010.23	512.91	0.11
Reach1	64938	1%_Proj	3354	349.8	360.61		360.64	0.000367	1.56	2423.07	707.26	0.11
Reach1	64938	0.2%_Proj	4331	349.8	361.61		361.64	0.000294	1.53	3374.39	1275.53	0.1
Reach1	64710	10%_Cur	1821	346.1	358.28		358.32	0.000241	1.55	1274.43	503.42	0.13
Reach1	64710	2%_Cur	2608	346.1	359.53		359.56	0.000188	1.56	2122.68	854.76	0.12
Reach1	64710	1%_Cur	3049	346.1	360.14		360.16	0.000156	1.51	2676.89	988.68	0.11
Reach1	64710	0.2%_Cur	3937	346.1	361.3		361.32	0.000106	1.38	3937.15	1138.39	0.09
Reach1	64710	10%_Proj	2003	346.1	358.59		358.62	0.000229	1.57	1438.86	585.28	0.13
Reach1	64710	2%_Proj	2869	346.1	359.89		359.92	0.000169	1.54	2443.37	920.51	0.11
Reach1	64710	1%_Proj	3354	346.1	360.57		360.59	0.000134	1.45	3128.69	1087.24	0.1
Reach1	64710	0.2%_Proj	4331	346.1	361.58		361.6	0.000107	1.41	4264.31	1177.26	0.09
Reach1	64701	10%_Cur	1821	346.1	358.28	354.93	358.32	0.000418	1.55	1222.56	425.67	0.13
Reach1	64701	2%_Cur	2608	346.1	359.53	355.45	359.56	0.000299	1.55	1982.67	754.93	0.12
Reach1	64701	1%_Cur	3049	346.1	360.13	355.62	360.16	0.000251	1.52	2511.12	983.91	0.11
Reach1	64701	0.2%_Cur	3937	346.1	361.29	355.94	361.32	0.000156	1.35	3766.82	1125.51	0.09
Reach1	64701	10%_Proj	2003	346.1	358.58	355.16	358.62	0.00039	1.57	1359.76	514.31	0.13
Reach1	64701	2%_Proj	2869	346.1	359.89	355.56	359.92	0.000277	1.56	2276.81	916.29	0.11
Reach1	64701	1%_Proj	3354	346.1	360.57	355.74	360.59	0.000208	1.45	2960.33	1086.46	0.1
Reach1	64701	0.2%_Proj	4331	346.1	361.58	356.07	361.6	0.000154	1.37	4088.47	1165.27	0.09
Reach1	64695.5	Bridge	Bridge									
Reach1	64690	10%_Cur	1821	345.3	358.25	353.86	358.29	0.000457	1.61	1162.96	381.84	0.14
Reach1	64690	2%_Cur	2608	345.3	359.5	355.5	359.54	0.000336	1.64	1829.01	662.27	0.12
Reach1	64690	1%_Cur	3049	345.3	360.11	355.67	360.15	0.000286	1.62	2297.66	905.09	0.12
Reach1	64690	0.2%_Cur	3937	345.3	361.28	355.98	361.31	0.000184	1.46	3534.24	1109.2	0.1
Reach1	64690	10%_Proj	2003	345.3	358.56	355.23	358.6	0.000429	1.63	1281.91	428.47	0.13
Reach1	64690	2%_Proj	2869	345.3	359.87	355.61	359.9	0.000305	1.63	2087.41	801.69	0.12
Reach1	64690	1%_Proj	3354	345.3	360.55	355.79	360.58	0.000252	1.59	2729.64	1073.17	0.11
Reach1	64690	0.2%_Proj	4331	345.3	361.57	356.11	361.59	0.000178	1.47	3850.56	1120.96	0.09
Reach1	64681	10%_Cur	1821	345.3	358.25		358.29	0.00051	1.66	1131.61	307.71	0.14
Reach1	64681	2%_Cur	2608	345.3	359.49		359.54	0.000385	1.72	1705.92	630.02	0.13

Reach1	64681	1%_Cur	3049	345.3	360.1	360.14	0.000325	1.69	2151.33	820.77	0.12
Reach1	64681	0.2%_Cur	3937	345.3	361.28	361.3	0.000217	1.56	3325.64	1096.93	0.1
Reach1	64681	10%_Proj	2003	345.3	358.55	358.59	0.00048	1.69	1239.2	395.71	0.14
Reach1	64681	2%_Proj	2869	345.3	359.86	359.9	0.000349	1.71	1957.13	754.27	0.13
Reach1	64681	1%_Proj	3354	345.3	360.54	360.58	0.000287	1.67	2539.71	955.68	0.12
Reach1	64681	0.2%_Proj	4331	345.3	361.56	361.59	0.000208	1.57	3639.05	1108.59	0.1
Reach1	64344	10%_Cur	1821	349.6	358.06	358.11	0.000538	1.76	1087.7	294.04	0.15
Reach1	64344	2%_Cur	2608	349.6	359.33	359.39	0.00051	1.89	1491.94	343.43	0.14
Reach1	64344	1%_Cur	3049	349.6	359.95	360.01	0.000511	1.98	1735.07	457.04	0.14
Reach1	64344	0.2%_Cur	3937	349.6	361.15	361.2	0.000418	1.95	2472.6	841.1	0.13
Reach1	64344	10%_Proj	2003	349.6	358.37	358.42	0.000534	1.8	1179.79	304.51	0.15
Reach1	64344	2%_Proj	2869	349.6	359.7	359.76	0.000505	1.94	1626.59	405.1	0.14
Reach1	64344	1%_Proj	3354	349.6	360.4	360.45	0.000475	1.98	1955.47	544.24	0.13
Reach1	64344	0.2%_Proj	4331	349.6	361.43	361.49	0.000434	2.03	2715.93	884.32	0.13
Reach1	64064	10%_Cur	1821	350.6	357.77	357.88	0.001339	2.89	918.95	266.16	0.22
Reach1	64064	2%_Cur	2608	350.6	359.04	359.16	0.001316	3.19	1325.62	411.13	0.22
Reach1	64064	1%_Cur	3049	350.6	359.68	359.79	0.001168	3.15	1603.93	463.72	0.21
Reach1	64064	0.2%_Cur	3937	350.6	360.96	361.04	0.000802	2.85	2501.92	1126.85	0.17
Reach1	64064	10%_Proj	2003	350.6	358.08	358.19	0.00133	2.96	1002.97	280.66	0.22
Reach1	64064	2%_Proj	2869	350.6	359.43	359.54	0.001226	3.17	1488.61	438.74	0.21
Reach1	64064	1%_Proj	3354	350.6	360.15	360.25	0.001041	3.08	1853.71	668.43	0.2
Reach1	64064	0.2%_Proj	4331	350.6	361.26	361.33	0.000751	2.81	2860.5	1302.67	0.17
Reach1	63963	10%_Cur	1821	350.2	357.66	357.78	0.000645	3.11	903.03	264.74	0.23
Reach1	63963	2%_Cur	2608	350.2	358.93	359.07	0.000608	3.42	1279.41	330.82	0.23
Reach1	63963	1%_Cur	3049	350.2	359.55	359.7	0.000593	3.57	1496.96	383.69	0.23
Reach1	63963	0.2%_Cur	3937	350.2	360.83	360.97	0.000493	3.59	2252.55	1028.46	0.21
Reach1	63963	10%_Proj	2003	350.2	357.96	358.09	0.000638	3.2	986.36	277.36	0.23
Reach1	63963	2%_Proj	2869	350.2	359.3	359.45	0.000598	3.51	1407.35	349.82	0.23
Reach1	63963	1%_Proj	3354	350.2	360.02	360.17	0.000565	3.62	1699.27	455.81	0.23
Reach1	63963	0.2%_Proj	4331	350.2	361.12	361.26	0.000485	3.64	2585.19	1259.98	0.21
Reach1	63952	10%_Cur	1821	350.2	357.42	354.73	357.72	0.001365	4.39	415.11	237.54	0.34
Reach1	63952	2%_Cur	2608	350.2	358.86	355.41	359.05	0.000789	3.88	1111.96	327.64	0.26
Reach1	63952	1%_Cur	3049	350.2	359.52	355.76	359.69	0.000695	3.86	1440.26	366.62	0.25
Reach1	63952	0.2%_Cur	3937	350.2	360.81	356.44	360.96	0.000548	3.8	2200.5	1025.76	0.23
Reach1	63952	10%_Proj	2003	350.2	357.91	354.9	358.08	0.000822	3.6	884.59	275.67	0.26
Reach1	63952	2%_Proj	2869	350.2	359.27	355.62	359.44	0.000701	3.8	1350.94	350.23	0.25
Reach1	63952	1%_Proj	3354	350.2	359.99	356	360.16	0.000638	3.85	1642.87	460.1	0.24
Reach1	63952	0.2%_Proj	4331	350.2	361.1	356.71	361.25	0.000534	3.84	2533.33	1247.01	0.23

Reach1	63946	Bridge	Bridge									
Reach1	63940	10%_Cur	1821	350.3	357.22	354.64	357.42	0.001168	3.92	729.93	235.28	0.3
Reach1	63940	2%_Cur	2608	350.3	358.3	355.38	358.53	0.001145	4.34	1048.19	290.96	0.3
Reach1	63940	1%_Cur	3049	350.3	358.86	355.75	359.11	0.001123	4.53	1222.78	325.97	0.3
Reach1	63940	0.2%_Cur	3937	350.3	360.51	356.5	360.71	0.000754	4.23	1933.13	746.86	0.25
Reach1	63940	10%_Proj	2003	350.3	357.47	354.82	357.68	0.001183	4.06	784.99	242.96	0.3
Reach1	63940	2%_Proj	2869	350.3	358.63	355.6	358.87	0.001135	4.46	1148.77	311.11	0.3
Reach1	63940	1%_Proj	3354	350.3	359.39	356.01	359.62	0.001019	4.51	1402.08	358.11	0.29
Reach1	63940	0.2%_Proj	4331	350.3	360.94	356.58	361.12	0.000694	4.18	2350.49	1121.79	0.25
Reach1	63930	10%_Cur	1821	350.3	357.23		357.38	0.000904	3.44	836.02	257.93	0.27
Reach1	63930	2%_Cur	2608	350.3	358.31		358.49	0.000924	3.88	1129.26	292.75	0.28
Reach1	63930	1%_Cur	3049	350.3	358.87		359.07	0.00092	4.07	1303.46	328.75	0.28
Reach1	63930	0.2%_Cur	3937	350.3	360.52		360.68	0.000629	3.82	1996.7	736.66	0.23
Reach1	63930	10%_Proj	2003	350.3	357.49		357.65	0.00091	3.55	903.37	262.97	0.27
Reach1	63930	2%_Proj	2869	350.3	358.64		358.84	0.000923	3.99	1229.54	309.25	0.28
Reach1	63930	1%_Proj	3354	350.3	359.4		359.59	0.000831	4.04	1483.62	356.11	0.26
Reach1	63930	0.2%_Proj	4331	350.3	360.95		361.1	0.000587	3.81	2409.41	1120.32	0.23
Reach1	63845	10%_Cur	1821	347.4	357.11		357.3	0.000981	3.83	842.92	291.22	0.28
Reach1	63845	2%_Cur	2608	347.4	358.2		358.41	0.001055	4.25	1202.94	373.73	0.28
Reach1	63845	1%_Cur	3049	347.4	358.78		358.99	0.001029	4.35	1435.46	425.53	0.28
Reach1	63845	0.2%_Cur	3937	347.4	360.49		360.62	0.00062	3.71	2389.71	897.84	0.21
Reach1	63845	10%_Proj	2003	347.4	357.37		357.56	0.00101	3.95	920.02	309.31	0.28
Reach1	63845	2%_Proj	2869	347.4	358.54		358.75	0.001048	4.33	1335.51	401.78	0.28
Reach1	63845	1%_Proj	3354	347.4	359.33		359.52	0.000894	4.18	1684.28	479.26	0.26
Reach1	63845	0.2%_Proj	4331	347.4	360.93		361.04	0.000552	3.58	2867.47	1271.1	0.2
Reach1	63280	10%_Cur	1821	346.7	356.72		356.79	0.000743	2.39	1128.33	462.33	0.17
Reach1	63280	2%_Cur	2608	346.7	357.89		357.94	0.000552	2.31	1726.48	558.75	0.15
Reach1	63280	1%_Cur	3049	346.7	358.53		358.58	0.000454	2.22	2096.6	601.77	0.14
Reach1	63280	0.2%_Cur	3937	346.7	360.36		360.39	0.000231	1.82	3446.46	1095.17	0.1
Reach1	63280	10%_Proj	2003	346.7	356.99		357.06	0.000705	2.4	1256.67	485.8	0.17
Reach1	63280	2%_Proj	2869	346.7	358.26		358.32	0.000493	2.26	1940.46	583.78	0.14
Reach1	63280	1%_Proj	3354	346.7	359.13		359.18	0.000355	2.06	2476.15	650.35	0.12
Reach1	63280	0.2%_Proj	4331	346.7	360.81		360.84	0.00021	1.78	4022.93	1422.57	0.1
Reach1	62671	10%_Cur	1821	346.4	356.34		356.4	0.000541	2.5	1357.84	379.07	0.19
Reach1	62671	2%_Cur	2608	346.4	357.55		357.62	0.000516	2.69	1839.02	418.86	0.19
Reach1	62671	1%_Cur	3049	346.4	358.21		358.28	0.000492	2.75	2126.55	444.46	0.18

Reach1	62671	0.2%_Cur	3937	346.4	360.13	360.2	0.000414	2.85	3451.54	1170.59	0.17
Reach1	62671	10%_Proj	2003	346.4	356.61	356.68	0.00054	2.56	1464.12	386.43	0.19
Reach1	62671	2%_Proj	2869	346.4	357.94	358.01	0.000504	2.73	2005.3	434	0.19
Reach1	62671	1%_Proj	3354	346.4	358.86	358.93	0.000449	2.75	2427.81	492.65	0.18
Reach1	62671	0.2%_Proj	4331	346.4	360.61	360.67	0.00036	2.74	4102.01	1590.98	0.16
Reach1	61788	10%_Cur	1850	347.7	355.72	355.75	0.001103	1.38	1424.76	384.43	0.12
Reach1	61788	2%_Cur	2650	347.7	357.01	357.04	0.000877	1.47	1934.91	405.99	0.11
Reach1	61788	1%_Cur	3100	347.7	357.72	357.75	0.000779	1.5	2227.13	417.51	0.11
Reach1	61788	0.2%_Cur	4000	347.7	359.78	359.81	0.000484	1.43	3454.76	1315.67	0.09
Reach1	61788	10%_Proj	2035	347.7	356.01	356.04	0.001053	1.41	1537.72	389.65	0.12
Reach1	61788	2%_Proj	2915	347.7	357.43	357.46	0.000819	1.49	2104.62	412.72	0.11
Reach1	61788	1%_Proj	3410	347.7	358.43	358.46	0.000658	1.49	2527.77	448.28	0.1
Reach1	61788	0.2%_Proj	4400	347.7	360.31	360.33	0.000409	1.37	4238.48	1609.74	0.08
Reach1	61059	10%_Cur	1850	348.8	355.14	355.19	0.000568	1.75	1114.46	266.43	0.14
Reach1	61059	2%_Cur	2650	348.8	356.5	356.55	0.000536	1.92	1491.26	297.18	0.14
Reach1	61059	1%_Cur	3100	348.8	357.24	357.3	0.000507	1.99	1725.95	330.33	0.13
Reach1	61059	0.2%_Cur	4000	348.8	359.53	359.56	0.000254	1.65	3194.26	950.44	0.1
Reach1	61059	10%_Proj	2035	348.8	355.44	355.49	0.00057	1.8	1195.18	271.44	0.14
Reach1	61059	2%_Proj	2915	348.8	356.93	356.99	0.000521	1.97	1624.97	317.13	0.14
Reach1	61059	1%_Proj	3410	348.8	358.03	358.08	0.000423	1.93	2024.38	550.21	0.12
Reach1	61059	0.2%_Proj	4400	348.8	360.1	360.13	0.000218	1.58	3768.54	1092.95	0.09
Reach1	60659	10%_Cur	1850	348.93	354.96	354.98	0.000432	1.22	1833.05	535.89	0.11
Reach1	60659	2%_Cur	2650	348.93	356.35	356.37	0.000332	1.24	2594.92	561.48	0.1
Reach1	60659	1%_Cur	3100	348.93	357.12	357.14	0.000291	1.24	3030.55	578.01	0.09
Reach1	60659	0.2%_Cur	4000	348.93	359.47	359.48	0.000147	1.06	4840.92	1081.17	0.06
Reach1	60659	10%_Proj	2035	348.93	355.27	355.29	0.00041	1.23	1998.36	540.7	0.11
Reach1	60659	2%_Proj	2915	348.93	356.8	356.82	0.000308	1.24	2846.96	570.96	0.09
Reach1	60659	1%_Proj	3410	348.93	357.93	357.95	0.000237	1.2	3546.24	692.52	0.08
Reach1	60659	0.2%_Proj	4400	348.93	360.04	360.05	0.000131	1.04	5531.44	1259.91	0.06
Reach1	60262	10%_Cur	1850	345.5	354.77	354.82	0.000356	1.85	1109.31	272.25	0.14
Reach1	60262	2%_Cur	2650	345.5	356.17	356.23	0.000353	2.01	1548.76	344.57	0.14
Reach1	60262	1%_Cur	3100	345.5	356.95	357.01	0.000332	2.04	1827.51	373	0.13
Reach1	60262	0.2%_Cur	4000	345.5	359.37	359.41	0.000191	1.76	3100.21	823.72	0.1
Reach1	60262	10%_Proj	2035	345.5	355.07	355.13	0.000366	1.91	1195.27	290.95	0.14
Reach1	60262	2%_Proj	2915	345.5	356.62	356.68	0.000343	2.03	1708.14	361.04	0.13
Reach1	60262	1%_Proj	3410	345.5	357.79	357.84	0.000275	1.95	2154.64	413.81	0.12
Reach1	60262	0.2%_Proj	4400	345.5	359.96	359.99	0.00017	1.71	3627.02	1046.69	0.09

Reach1	59756	10%_Cur	1850	346.6	354.47	354.52	0.001139	2.17	1087.99	299.53	0.16
Reach1	59756	2%_Cur	2650	346.6	355.91	355.97	0.000818	2.15	1547.8	337.12	0.14
Reach1	59756	1%_Cur	3100	346.6	356.72	356.77	0.000689	2.12	1830.54	369.94	0.13
Reach1	59756	0.2%_Cur	4000	346.6	359.26	359.29	0.000293	1.67	3132.65	751	0.09
Reach1	59756	10%_Proj	2035	346.6	354.78	354.83	0.001079	2.19	1181.64	307.18	0.16
Reach1	59756	2%_Proj	2915	346.6	356.38	356.44	0.000739	2.13	1709.06	352.47	0.14
Reach1	59756	1%_Proj	3410	346.6	357.6	357.65	0.000528	2	2186.4	456.58	0.12
Reach1	59756	0.2%_Proj	4400	346.6	359.86	359.88	0.000251	1.61	3627.87	867.35	0.09
Reach1	59164	10%_Cur	1850	337.8	354.22	354.25	0.000253	1.43	1718.37	376.75	0.08
Reach1	59164	2%_Cur	2650	337.8	355.7	355.73	0.000249	1.55	2300.91	415.41	0.08
Reach1	59164	1%_Cur	3100	337.8	356.53	356.56	0.000233	1.57	2654.63	437.88	0.08
Reach1	59164	0.2%_Cur	4000	337.8	359.16	359.18	0.000142	1.39	4016.7	686.36	0.06
Reach1	59164	10%_Proj	2035	337.8	354.53	354.56	0.000261	1.48	1835.52	383.71	0.08
Reach1	59164	2%_Proj	2915	337.8	356.18	356.21	0.000241	1.57	2504.14	429.12	0.08
Reach1	59164	1%_Proj	3410	337.8	357.45	357.48	0.000192	1.5	3072.85	480.01	0.07
Reach1	59164	0.2%_Proj	4400	337.8	359.77	359.78	0.000132	1.38	4454.73	739.55	0.06
Reach1	58414	10%_Cur	1850	346.3	353.91	353.93	0.000935	1.22	1627.67	457.63	0.11
Reach1	58414	2%_Cur	2650	346.3	355.44	355.46	0.000615	1.23	2364.3	501.45	0.09
Reach1	58414	1%_Cur	3100	346.3	356.3	356.32	0.000498	1.22	2803.15	517.9	0.08
Reach1	58414	0.2%_Cur	4000	346.3	359.04	359.05	0.000221	1.03	4338.46	620.06	0.06
Reach1	58414	10%_Proj	2035	346.3	354.22	354.24	0.000871	1.24	1771.25	465.65	0.1
Reach1	58414	2%_Proj	2915	346.3	355.94	355.96	0.000544	1.22	2617.1	510.99	0.09
Reach1	58414	1%_Proj	3410	346.3	357.28	357.29	0.000361	1.14	3319.29	540.75	0.07
Reach1	58414	0.2%_Proj	4400	346.3	359.66	359.67	0.000207	1.04	4731.71	655.44	0.06
Reach1	57798	10%_Cur	1850	343.3	353.43	353.46	0.000738	1.44	1443.44	450.77	0.11
Reach1	57798	2%_Cur	2650	343.3	355.19	355.21	0.000337	1.18	2381.41	642.55	0.08
Reach1	57798	1%_Cur	3100	343.3	356.12	356.14	0.000231	1.06	2995.76	674.58	0.07
Reach1	57798	0.2%_Cur	4000	343.3	358.97	358.98	0.000078	0.76	5026.86	764.62	0.04
Reach1	57798	10%_Proj	2035	343.3	353.79	353.82	0.000636	1.4	1610.85	470.61	0.1
Reach1	57798	2%_Proj	2915	343.3	355.73	355.75	0.00027	1.11	2735.96	665.8	0.07
Reach1	57798	1%_Proj	3410	343.3	357.16	357.17	0.000143	0.91	3707.34	696.03	0.05
Reach1	57798	0.2%_Proj	4400	343.3	359.59	359.6	0.000072	0.75	5510.46	786.47	0.04
Reach1	57733	10%_Cur	1850	345.8	353.24	349.78	353.38	0.000592	3.09	660.53	671.51	0.24
Reach1	57733	2%_Cur	2650	345.8	354.99	350.71	355.14	0.000456	3.22	913.49	722.55	0.21
Reach1	57733	1%_Cur	3100	345.8	355.92	351.04	356.07	0.00041	3.3	1046.59	738.74	0.21
Reach1	57733	0.2%_Cur	4000	345.8	358.97	351.59	358.98	0.000036	1.2	6042.16	823.27	0.06
Reach1	57733	10%_Proj	2035	345.8	353.6	350.01	353.74	0.000573	3.16	712.32	684.64	0.24
Reach1	57733	2%_Proj	2915	345.8	355.53	350.91	355.69	0.000429	3.27	991.07	732.48	0.21

Reach1	57733	1%_Proj	3410	345.8	356.97	351.24	357.12	0.000324	3.17	1198.73	757.03	0.19
Reach1	57733	0.2%_Proj	4400	345.8	359.59	351.8	359.6	0.000035	1.21	6562.46	844.47	0.06
Reach1	57679.5	Bridge	Bridge									
Reach1	57622	10%_Cur	1850	345.7	352.96	349.67	353.16	0.000797	3.66	530.58	678.53	0.27
Reach1	57622	2%_Cur	2650	345.7	354.42	350.45	354.67	0.000757	4.09	684.75	718.53	0.27
Reach1	57622	1%_Cur	3100	345.7	355.09	350.79	355.37	0.000768	4.35	754.48	759.49	0.28
Reach1	57622	0.2%_Cur	4000	345.7	357.71	351.46	357.72	0.000047	1.29	5585.38	823.63	0.07
Reach1	57622	10%_Proj	2035	345.7	353.29	349.86	353.51	0.000795	3.78	565.95	686.34	0.28
Reach1	57622	2%_Proj	2915	345.7	354.81	350.66	355.08	0.000766	4.25	725.8	748.04	0.28
Reach1	57622	1%_Proj	3410	345.7	355.92	351.04	356.2	0.00066	4.29	842.3	783.16	0.26
Reach1	57622	0.2%_Proj	4400	345.7	358.85	351.71	358.87	0.000036	1.2	6543.49	856.4	0.06
Reach1	57551	10%_Cur	1850	342.2	353.05		353.07	0.000365	1.43	1909.28	562.73	0.1
Reach1	57551	2%_Cur	2650	342.2	354.56		354.58	0.000227	1.31	2791.81	606.03	0.08
Reach1	57551	1%_Cur	3100	342.2	355.25		355.26	0.000199	1.3	3215.86	628.51	0.08
Reach1	57551	0.2%_Cur	4000	342.2	357.71		357.72	0.000094	1.06	4924.27	756.48	0.06
Reach1	57551	10%_Proj	2035	342.2	353.4		353.41	0.000325	1.4	2107.11	572.44	0.1
Reach1	57551	2%_Proj	2915	342.2	354.96		354.98	0.00021	1.3	3039.81	618.29	0.08
Reach1	57551	1%_Proj	3410	342.2	356.08		356.1	0.000153	1.22	3759.14	676.43	0.07
Reach1	57551	0.2%_Proj	4400	342.2	358.85		358.86	0.000065	0.95	5793.38	762.55	0.05
Reach1	56819	10%_Cur	1850	343.7	352.6	348.51	352.71	0.000692	2.65	783.95	215.17	0.21
Reach1	56819	2%_Cur	2650	343.7	354.2	349.75	354.31	0.000631	2.76	1152.44	245.6	0.19
Reach1	56819	1%_Cur	3100	343.7	354.9	350.11	355.02	0.000631	2.87	1329	258.88	0.19
Reach1	56819	0.2%_Cur	4000	343.7	357.5	350.6	357.59	0.000387	2.56	2318.88	680.33	0.14
Reach1	56819	10%_Proj	2035	343.7	352.97	348.72	353.08	0.000685	2.69	864.85	222.15	0.2
Reach1	56819	2%_Proj	2915	343.7	354.61	349.96	354.73	0.000633	2.83	1255.29	253.42	0.19
Reach1	56819	1%_Proj	3410	343.7	355.8	350.29	355.9	0.000528	2.75	1568.88	278.63	0.17
Reach1	56819	0.2%_Proj	4400	343.7	358.7	350.81	358.77	0.000287	2.33	3306.81	912.09	0.12

Plan: Alt 1-2

Flows: Current and Projected Future

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach1	86857	10%_Cur	330	612.24	618.4		618.4	0.000006	0.22	2753.84	1929.82	0.02
Reach1	86857	2%_Cur	490	612.24	618.83		618.83	0.000007	0.25	3615.59	2070.9	0.02
Reach1	86857	1%_Cur	545	612.24	618.94		618.94	0.000007	0.26	3848.25	2101.28	0.02
Reach1	86857	0.2%_Cur	770	612.24	619.33		619.33	0.000009	0.31	4685.4	2188.02	0.03
Reach1	86857	10%_Proj	363	612.24	618.52		618.52	0.000006	0.22	2990.59	1960.19	0.02
Reach1	86857	2%_Proj	539	612.24	618.94		618.94	0.000007	0.26	3848.13	2101.27	0.02
Reach1	86857	1%_Proj	600	612.24	619.05		619.05	0.000007	0.27	4079.66	2125.36	0.02
Reach1	86857	0.2%_Proj	847	612.24	619.45		619.45	0.000009	0.32	4942.31	2197.86	0.03
Reach1	86624	10%_Cur	620	612.9	618.39		618.39	0.000031	0.52	2365.01	1842.59	0.05
Reach1	86624	2%_Cur	900	612.9	618.82		618.83	0.00003	0.55	3162.81	1861.52	0.05
Reach1	86624	1%_Cur	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach1	86624	0.2%_Cur	1370	612.9	619.32		619.33	0.000033	0.62	4100.25	1879.37	0.05
Reach1	86624	10%_Proj	682	612.9	618.51		618.52	0.00003	0.52	2589.65	1849.45	0.05
Reach1	86624	2%_Proj	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach1	86624	1%_Proj	1089	612.9	619.04		619.05	0.000031	0.58	3574.72	1869.96	0.05
Reach1	86624	0.2%_Proj	1507	612.9	619.44		619.44	0.000034	0.64	4320.15	1883.51	0.05
Reach1	86586	10%_Cur	620	611.6	618.39	615.16	618.39	0.000028	0.53	2407.14	1808.66	0.05
Reach1	86586	2%_Cur	900	611.6	618.82	616.19	618.82	0.000028	0.56	3189.64	1826.91	0.05
Reach1	86586	1%_Cur	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach1	86586	0.2%_Cur	1370	611.6	619.32	616.74	619.32	0.000032	0.64	4109.51	1846.56	0.05
Reach1	86586	10%_Proj	682	611.6	618.51	615.43	618.51	0.000027	0.53	2627.46	1813.7	0.05
Reach1	86586	2%_Proj	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach1	86586	1%_Proj	1089	611.6	619.04	616.43	619.04	0.00003	0.59	3593.7	1835.67	0.05
Reach1	86586	0.2%_Proj	1507	611.6	619.44	616.85	619.44	0.000033	0.66	4325.49	1851.38	0.05
Reach1	86548	Bridge	Bridge									
Reach1	86510	10%_Cur	620	611.6	618.32	615.23	618.36	0.000307	2.1	1039.97	1082.31	0.17
Reach1	86510	2%_Cur	900	611.6	618.76	616.02	618.8	0.000299	2.19	1572.61	1325.1	0.17
Reach1	86510	1%_Cur	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach1	86510	0.2%_Cur	1370	611.6	619.27	617.85	619.3	0.000317	2.4	2328.91	1681.77	0.17
Reach1	86510	10%_Proj	682	611.6	618.45	615.42	618.48	0.000291	2.08	1184.6	1136.88	0.16
Reach1	86510	2%_Proj	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach1	86510	1%_Proj	1089	611.6	618.99	616.47	619.02	0.000291	2.23	1891.94	1461.88	0.16
Reach1	86510	0.2%_Proj	1507	611.6	619.39	617.94	619.42	0.000311	2.4	2531.23	1700.63	0.17

Reach1	86469	10%_Cur	620	613.41	618.16	618.3	0.001658	3.79	504.77	771.36	0.37
Reach1	86469	2%_Cur	900	613.41	618.68	618.76	0.001075	3.36	953.56	989.51	0.3
Reach1	86469	1%_Cur	990	613.41	618.8	618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach1	86469	0.2%_Cur	1370	613.41	619.21	619.26	0.000882	3.32	1600.57	1377.88	0.28
Reach1	86469	10%_Proj	682	613.41	618.33	618.43	0.001348	3.53	639.71	830.97	0.33
Reach1	86469	2%_Proj	990	613.41	618.8	618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach1	86469	1%_Proj	1089	613.41	618.91	618.98	0.001007	3.38	1210.77	1210.99	0.3
Reach1	86469	0.2%_Proj	1507	613.41	619.33	619.38	0.000826	3.27	1777.92	1444.53	0.27
Reach1	85402	10%_Cur	620	612.08	617.39	617.43	0.000455	1.78	517.02	1139.15	0.17
Reach1	85402	2%_Cur	900	612.08	618	618.04	0.000454	1.93	1147.3	1278.53	0.17
Reach1	85402	1%_Cur	990	612.08	618.13	618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach1	85402	0.2%_Cur	1370	612.08	618.55	618.6	0.000467	2.09	1910.73	1495.79	0.17
Reach1	85402	10%_Proj	682	612.08	617.54	617.59	0.000506	1.92	592.38	1164.5	0.18
Reach1	85402	2%_Proj	990	612.08	618.13	618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach1	85402	1%_Proj	1089	612.08	618.21	618.26	0.000478	2.04	1431.44	1353.92	0.17
Reach1	85402	0.2%_Proj	1507	612.08	618.7	618.74	0.000457	2.11	2138.09	1570.66	0.17
Reach1	84756	10%_Cur	620	612.91	617.37	617.38	0.000025	0.97	1256.78	891.37	0.09
Reach1	84756	2%_Cur	900	612.91	617.97	617.99	0.000028	1.14	2167.81	1977.95	0.1
Reach1	84756	1%_Cur	990	612.91	618.09	618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach1	84756	0.2%_Cur	1370	612.91	618.51	618.53	0.000038	1.42	3312.27	2214.88	0.11
Reach1	84756	10%_Proj	682	612.91	617.52	617.54	0.000026	1.02	1421.28	1269.51	0.09
Reach1	84756	2%_Proj	990	612.91	618.09	618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach1	84756	1%_Proj	1089	612.91	618.18	618.2	0.000033	1.27	2600.15	2124.25	0.1
Reach1	84756	0.2%_Proj	1507	612.91	618.65	618.68	0.00004	1.48	3636.73	2286.69	0.12
Reach1	84575	10%_Cur	620	612	617.36	617.37	0.000278	1.19	900.7	426.26	0.1
Reach1	84575	2%_Cur	900	612	617.96	617.97	0.000289	1.31	1367.16	1279.56	0.11
Reach1	84575	1%_Cur	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach1	84575	0.2%_Cur	1370	612	618.5	618.51	0.000306	1.43	2138.8	1529.92	0.11
Reach1	84575	10%_Proj	682	612	617.51	617.52	0.000284	1.23	971.22	542.95	0.11
Reach1	84575	2%_Proj	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach1	84575	1%_Proj	1089	612	618.17	618.18	0.000317	1.41	1648.2	1405.51	0.11
Reach1	84575	0.2%_Proj	1507	612	618.64	618.66	0.000298	1.44	2363.55	1561.07	0.11
Reach1	83675	10%_Cur	620	609.25	617.23	617.25	0.000076	1.35	852.79	357.14	0.09
Reach1	83675	2%_Cur	900	609.25	617.79	617.82	0.000111	1.71	1147.51	678.63	0.11
Reach1	83675	1%_Cur	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12
Reach1	83675	0.2%_Cur	1370	609.25	618.25	618.3	0.000184	2.29	1492.9	812.49	0.14
Reach1	83675	10%_Proj	682	609.25	617.37	617.4	0.000084	1.44	908.98	445.18	0.09
Reach1	83675	2%_Proj	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12

Reach1	83675	1%_Proj	1089	609.25	617.96	618	0.000143	1.98	1266.05	734.13	0.13
Reach1	83675	0.2%_Proj	1507	609.25	618.38	618.44	0.000201	2.42	1601.15	840.5	0.15
Reach1	83646	10%_Cur	620	608.7	617.23	617.25	0.000127	1.83	1039.75	660.72	0.12
Reach1	83646	2%_Cur	900	608.7	617.79	617.81	0.000163	2.16	1497.72	960.45	0.13
Reach1	83646	1%_Cur	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	0.2%_Cur	1370	608.7	618.25	618.29	0.000233	2.68	1968.83	1056.28	0.16
Reach1	83646	10%_Proj	682	608.7	617.37	617.39	0.000134	1.9	1137.9	738.11	0.12
Reach1	83646	2%_Proj	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	1%_Proj	1089	608.7	617.96	617.99	0.000201	2.44	1664.17	999.74	0.15
Reach1	83646	0.2%_Proj	1507	608.7	618.39	618.42	0.000244	2.77	2110.74	1071.61	0.16
Reach1	79531	10%_Cur	620	480.5	484.81	485.44	0.015564	6.39	98.26	37.28	0.68
Reach1	79531	2%_Cur	900	480.5	485.55	486.37	0.014765	7.29	126.38	38.57	0.69
Reach1	79531	1%_Cur	990	480.5	485.76	486.64	0.014721	7.57	134.42	38.94	0.69
Reach1	79531	0.2%_Cur	1370	480.5	486.5	487.66	0.015199	8.69	163.94	40.24	0.73
Reach1	79531	10%_Proj	682	480.5	484.97	485.65	0.015587	6.64	104.26	37.56	0.68
Reach1	79531	2%_Proj	990	480.5	485.74	486.63	0.014926	7.6	133.83	38.91	0.7
Reach1	79531	1%_Proj	1089	480.5	485.96	486.92	0.014891	7.88	142.34	39.29	0.7
Reach1	79531	0.2%_Proj	1507	480.5	486.75	488.01	0.01531	9.04	173.99	40.67	0.73
Reach1	79022	10%_Cur	700	478	484.08	484.21	0.000881	3.02	308.62	138.77	0.28
Reach1	79022	2%_Cur	1030	478	485.05	485.19	0.000794	3.29	447.96	148.3	0.27
Reach1	79022	1%_Cur	1140	478	485.28	485.43	0.000809	3.42	482.93	150.59	0.27
Reach1	79022	0.2%_Cur	1580	478	486.19	486.38	0.000815	3.8	624.49	161.29	0.28
Reach1	79022	10%_Proj	770	478	484.22	484.36	0.000925	3.17	328.66	140.21	0.29
Reach1	79022	2%_Proj	1133	478	485.27	485.42	0.000808	3.41	480.67	150.44	0.27
Reach1	79022	1%_Proj	1254	478	485.52	485.68	0.000818	3.54	519.04	152.91	0.28
Reach1	79022	0.2%_Proj	1738	478	486.51	486.7	0.000807	3.91	676.14	165.82	0.28
Reach1	79012	10%_Cur	700	478.5	483.97	481.94	484.17	0.001987	3.57	198.9	63	0.33
Reach1	79012	2%_Cur	1030	478.5	484.88	482.53	485.14	0.002013	4.17	260.66	111.74	0.34
Reach1	79012	1%_Cur	1140	478.5	485.08	482.7	485.38	0.002108	4.39	275.67	119.13	0.36
Reach1	79012	0.2%_Cur	1580	478.5	485.9	483.33	486.3	0.002311	5.11	336.13	133.69	0.38
Reach1	79012	10%_Proj	770	478.5	484.1	482.07	484.32	0.002146	3.8	206.83	64.63	0.34
Reach1	79012	2%_Proj	1133	478.5	485.07	482.69	485.36	0.002103	4.38	274.7	118.66	0.35
Reach1	79012	1%_Proj	1254	478.5	485.3	482.88	485.62	0.00219	4.61	291.19	127.87	0.36
Reach1	79012	0.2%_Proj	1738	478.5	486.19	483.54	486.62	0.002341	5.32	357.32	136.43	0.39
Reach1	78964	Bridge	Bridge								
Reach1	78916	10%_Cur	700	478.5	483.97	481.94	484.17	0.002006	3.57	197.5	57.49	0.33

Reach1	78916	2%_Cur	1030	478.5	484.52	482.53	484.84	0.002716	4.55	229.44	59.92	0.39
Reach1	78916	1%_Cur	1140	478.5	484.68	482.7	485.04	0.002925	4.85	239.24	60.65	0.41
Reach1	78916	0.2%_Cur	1580	478.5	485.31	483.33	485.84	0.003547	5.84	278.4	63.47	0.46
Reach1	78916	10%_Proj	770	478.5	484.1	482.08	484.32	0.002168	3.79	204.68	58.04	0.34
Reach1	78916	2%_Proj	1133	478.5	484.67	482.69	485.03	0.002913	4.83	238.59	60.6	0.41
Reach1	78916	1%_Proj	1254	478.5	484.85	482.88	485.25	0.003121	5.13	249.27	61.38	0.43
Reach1	78916	0.2%_Proj	1738	478.5	485.53	483.53	486.11	0.003703	6.15	292.47	64.45	0.48
Reach1	78894	10%_Cur	700	477.3	483.88		484.12	0.001347	3.93	179.14	44.45	0.33
Reach1	78894	2%_Cur	1030	477.3	484.33		484.76	0.002094	5.23	199.62	46.71	0.42
Reach1	78894	1%_Cur	1140	477.3	484.46		484.95	0.002355	5.64	205.41	47.33	0.45
Reach1	78894	0.2%_Cur	1580	477.3	484.89		485.68	0.003395	7.17	226.41	49.51	0.55
Reach1	78894	10%_Proj	770	477.3	483.99		484.27	0.001502	4.22	183.92	44.99	0.35
Reach1	78894	2%_Proj	1133	477.3	484.45		484.94	0.002339	5.62	205.03	47.29	0.45
Reach1	78894	1%_Proj	1254	477.3	484.58		485.14	0.002627	6.06	211.09	47.93	0.48
Reach1	78894	0.2%_Proj	1738	477.3	485.02		485.93	0.003782	7.69	232.96	50.18	0.58
Reach1	78501	10%_Cur	700	474	483.99		484.01	0.000042	0.97	726.88	144.72	0.07
Reach1	78501	2%_Cur	1030	474	484.53		484.56	0.000072	1.3	809.23	161.41	0.09
Reach1	78501	1%_Cur	1140	474	484.69		484.72	0.000082	1.41	834.76	164.47	0.1
Reach1	78501	0.2%_Cur	1580	474	485.27		485.32	0.000125	1.78	933.79	173.59	0.12
Reach1	78501	10%_Proj	770	474	484.12		484.14	0.000048	1.04	745.08	148.92	0.08
Reach1	78501	2%_Proj	1133	474	484.68		484.71	0.000082	1.4	833.1	164.32	0.1
Reach1	78501	1%_Proj	1254	474	484.84		484.88	0.000093	1.51	860.57	166.9	0.1
Reach1	78501	0.2%_Proj	1738	474	485.47		485.52	0.00014	1.9	967.59	176.6	0.13
Reach1	78445	10%_Cur	700	472.5	484	473.88	484	0.000026	0.4	1755.52	211.6	0.02
Reach1	78445	2%_Cur	1030	472.5	484.54	474.25	484.55	0.000046	0.55	1871.03	214.44	0.03
Reach1	78445	1%_Cur	1140	472.5	484.7	474.37	484.71	0.000053	0.6	1905.07	215.27	0.03
Reach1	78445	0.2%_Cur	1580	472.5	485.3	474.79	485.31	0.000082	0.78	2033.86	218.38	0.04
Reach1	78445	10%_Proj	770	472.5	484.13	473.96	484.13	0.00003	0.43	1782.01	212.26	0.03
Reach1	78445	2%_Proj	1133	472.5	484.69	474.36	484.7	0.000052	0.6	1902.86	215.22	0.03
Reach1	78445	1%_Proj	1254	472.5	484.86	474.48	484.87	0.00006	0.65	1939.11	216.1	0.04
Reach1	78445	0.2%_Proj	1738	472.5	485.49	474.92	485.5	0.000093	0.84	2076.77	219.41	0.05
Reach1	78435	Inl	Inl Struct									
Reach1	78428	10%_Cur	700	472.5	473.85	473.85	474.47	0.021855	6.34	111.94	96.14	1
Reach1	78428	2%_Cur	1030	472.5	474.22	474.22	475.01	0.020282	7.16	149.18	103.38	0.99
Reach1	78428	1%_Cur	1140	472.5	474.34	474.34	475.17	0.019874	7.39	161.11	105.59	0.99
Reach1	78428	0.2%_Cur	1580	472.5	474.76	474.76	475.77	0.018542	8.17	207.41	113.78	0.98
Reach1	78428	10%_Proj	770	472.5	473.93	473.93	474.59	0.021431	6.53	120.13	97.77	0.99

Reach1	78428	2%_Proj	1133	472.5	474.33	474.33	475.16	0.019904	7.37	160.34	105.45	0.99
Reach1	78428	1%_Proj	1254	472.5	474.45	474.45	475.34	0.019405	7.6	173.56	107.85	0.98
Reach1	78428	0.2%_Proj	1738	472.5	474.9	474.9	475.97	0.018227	8.42	223.29	116.45	0.98
Reach1	78376	10%_Cur	700	468	473.05		473.11	0.000424	2.07	366.62	113.71	0.18
Reach1	78376	2%_Cur	1030	468	474.18		474.26	0.000401	2.33	501.5	124.39	0.18
Reach1	78376	1%_Cur	1140	468	474.44		474.53	0.000415	2.44	534.24	126.69	0.19
Reach1	78376	0.2%_Cur	1580	468	475.12		475.25	0.000532	2.97	622.65	132.68	0.21
Reach1	78376	10%_Proj	770	468	473.37		473.44	0.000395	2.09	404.64	116.89	0.18
Reach1	78376	2%_Proj	1133	468	474.43		474.52	0.000412	2.43	533.3	126.62	0.19
Reach1	78376	1%_Proj	1254	468	474.7		474.8	0.000427	2.55	567.93	129	0.19
Reach1	78376	0.2%_Proj	1738	468	475.45		475.59	0.000538	3.08	666.54	135.59	0.22
Reach1	78193	10%_Cur	700	466.4	472.55		472.93	0.002422	4.98	151.89	42.14	0.4
Reach1	78193	2%_Cur	1030	466.4	473.55		474.06	0.002613	5.88	196.99	47.87	0.43
Reach1	78193	1%_Cur	1140	466.4	473.74		474.32	0.002841	6.26	206.11	48.95	0.45
Reach1	78193	0.2%_Cur	1580	466.4	473.9		474.94	0.004951	8.41	213.91	49.85	0.6
Reach1	78193	10%_Proj	770	466.4	472.88		473.26	0.002306	5.08	165.95	44.01	0.4
Reach1	78193	2%_Proj	1133	466.4	473.74		474.31	0.002804	6.22	206.17	48.96	0.45
Reach1	78193	1%_Proj	1254	466.4	473.93		474.58	0.003058	6.63	215.53	50.04	0.47
Reach1	78193	0.2%_Proj	1738	466.4	474.1		475.26	0.005308	8.9	224.05	51	0.63
Reach1	78152	10%_Cur	700	467.3	472.64	469.96	472.72	0.00088	2.37	365.18	149.31	0.2
Reach1	78152	2%_Cur	1030	467.3	473.71	470.42	473.8	0.000824	2.59	530.34	160.69	0.2
Reach1	78152	1%_Cur	1140	467.3	473.92	470.56	474.02	0.000868	2.72	564.9	162.97	0.2
Reach1	78152	0.2%_Cur	1580	467.3	474.24	471.08	474.4	0.001343	3.49	617.47	166.38	0.26
Reach1	78152	10%_Proj	770	467.3	472.98	470.06	473.06	0.000803	2.36	416.27	152.92	0.19
Reach1	78152	2%_Proj	1133	467.3	473.92	470.54	474.02	0.000858	2.7	564.71	162.96	0.2
Reach1	78152	1%_Proj	1254	467.3	474.14	470.7	474.24	0.000906	2.84	600.5	165.29	0.21
Reach1	78152	0.2%_Proj	1738	467.3	474.49	471.26	474.67	0.001383	3.63	659.45	169.05	0.26
Reach1	78142.5	Bridge	Bridge									
Reach1	78133	10%_Cur	700	467.3	469.93	469.89	470.81	0.017791	7.55	92.98	63.64	0.96
Reach1	78133	2%_Cur	1030	467.3	470.49	470.44	471.63	0.017882	8.57	120.81	77.63	0.96
Reach1	78133	1%_Cur	1140	467.3	470.66	470.61	471.87	0.01774	8.85	129.68	82.04	0.96
Reach1	78133	0.2%_Cur	1580	467.3	471.38	471.27	472.57	0.014354	9.05	216.09	100.54	0.87
Reach1	78133	10%_Proj	770	467.3	470.05	470.02	471	0.017892	7.79	99.1	66.73	0.96
Reach1	78133	2%_Proj	1133	467.3	470.65	470.59	471.86	0.017753	8.83	129.11	81.76	0.96
Reach1	78133	1%_Proj	1254	467.3	470.85	470.77	472.12	0.017422	9.08	139.04	86.68	0.95
Reach1	78133	0.2%_Proj	1738	467.3	471.56	471.47	472.82	0.014448	9.35	234.75	105.34	0.88

Reach1	78088	10%_Cur	700	466.21	469.95		470.18	0.003567	3.85	195.88	107.1	0.43
Reach1	78088	2%_Cur	1030	466.21	470.61		470.9	0.003411	4.4	272.14	123.3	0.43
Reach1	78088	1%_Cur	1140	466.21	470.82		471.13	0.003327	4.53	298.63	128.34	0.43
Reach1	78088	0.2%_Cur	1580	466.21	471.52		471.89	0.003257	5.07	393.57	144.08	0.44
Reach1	78088	10%_Proj	770	466.21	470.09		470.34	0.003555	3.99	211.66	110.65	0.43
Reach1	78088	2%_Proj	1133	466.21	470.81		471.11	0.003333	4.52	296.92	128.03	0.43
Reach1	78088	1%_Proj	1254	466.21	471.04		471.36	0.003215	4.64	327.33	133.29	0.43
Reach1	78088	0.2%_Proj	1738	466.21	471.71		472.12	0.003318	5.28	422.4	148.62	0.45
Reach1	77855	10%_Cur	700	465.51	468.73	468.1	469.16	0.005183	5.26	147.83	106.26	0.61
Reach1	77855	2%_Cur	1030	465.51	468.98	468.65	469.7	0.007817	6.91	175.27	118.48	0.77
Reach1	77855	1%_Cur	1140	465.51	469.02	468.83	469.87	0.008993	7.5	180.55	120.35	0.83
Reach1	77855	0.2%_Cur	1580	465.51	469.4	469.4	470.56	0.010411	8.85	229.47	136.46	0.91
Reach1	77855	10%_Proj	770	465.51	468.8	468.22	469.28	0.005642	5.6	155.35	110.95	0.64
Reach1	77855	2%_Proj	1133	465.51	469.02	468.82	469.86	0.008915	7.46	180.25	120.24	0.82
Reach1	77855	1%_Proj	1254	465.51	469.05	469	470.05	0.010439	8.14	184.13	121.6	0.89
Reach1	77855	0.2%_Proj	1738	465.51	469.58	469.58	470.79	0.010093	9.07	254.56	141.7	0.9
Reach1	77443	10%_Cur	700	463.7	465.65	465.5	466.06	0.011821	5.25	157.16	168.47	0.79
Reach1	77443	2%_Cur	1030	463.7	466.33		466.66	0.006477	4.84	285.18	205.78	0.6
Reach1	77443	1%_Cur	1140	463.7	466.56		466.87	0.005476	4.73	333.65	219.08	0.55
Reach1	77443	0.2%_Cur	1580	463.7	467.45		467.7	0.003105	4.34	552.09	254.4	0.43
Reach1	77443	10%_Proj	770	463.7	465.79	465.58	466.19	0.010243	5.15	182.34	178.49	0.74
Reach1	77443	2%_Proj	1133	463.7	466.54		466.85	0.005532	4.73	330.52	218.29	0.56
Reach1	77443	1%_Proj	1254	463.7	466.79		467.08	0.004658	4.62	387.25	233.12	0.51
Reach1	77443	0.2%_Proj	1738	463.7	467.78		468.01	0.002593	4.21	636.06	258.4	0.4
Reach1	77185	10%_Cur	700	462	464.9	463.54	465.06	0.001668	3.26	216.73	146.78	0.36
Reach1	77185	2%_Cur	1030	462	465.73	464	465.93	0.001457	3.66	291.47	177.64	0.35
Reach1	77185	1%_Cur	1140	462	466	464.13	466.21	0.001394	3.76	315.38	184.81	0.34
Reach1	77185	0.2%_Cur	1580	462	467.01	464.58	467.25	0.001213	4.11	405.02	209.23	0.33
Reach1	77185	10%_Proj	770	462	465.08	463.64	465.25	0.001617	3.35	233.24	157.61	0.36
Reach1	77185	2%_Proj	1133	462	465.99	464.13	466.19	0.001397	3.75	313.92	184.37	0.34
Reach1	77185	1%_Proj	1254	462	466.28	464.26	466.49	0.001336	3.85	339.7	201.53	0.34
Reach1	77185	0.2%_Proj	1738	462	467.34	464.72	467.59	0.001175	4.22	434.14	212.62	0.33
Reach1	77153.5	Bridge	Bridge									
Reach1	77122	10%_Cur	700	462	463.49	463.49	464.24	0.015388	5.91	104.23	64.57	0.86
Reach1	77122	2%_Cur	1030	462	463.96	463.96	464.9	0.014812	6.95	135.19	69.84	0.88
Reach1	77122	1%_Cur	1140	462	464.11	464.11	465.09	0.014402	7.2	145.87	71.87	0.88
Reach1	77122	0.2%_Cur	1580	462	464.63	464.63	465.76	0.013665	8.15	186.85	85.17	0.89

Reach1	77122	10%_Proj	770	462	463.58	463.58	464.39	0.015907	6.23	109.76	65.16	0.88
Reach1	77122	2%_Proj	1133	462	464.09	464.09	465.08	0.014551	7.2	144.78	71.55	0.88
Reach1	77122	1%_Proj	1254	462	464.28	464.28	465.28	0.013577	7.38	158.81	76.31	0.86
Reach1	77122	0.2%_Proj	1738	462	464.79	464.79	465.98	0.013651	8.47	200.08	88.69	0.9
Reach1	77052	10%_Cur	700	460.21	459.69	459.44	460.68	0.010826		87.74	34.73	0
Reach1	77052	2%_Cur	1030	460.21	460.73	460.73	461.63	0.009152	1.55	138.18	85.44	0.56
Reach1	77052	1%_Cur	1140	460.21	460.88	460.88	461.81	0.009346	2.07	151.37	88.79	0.61
Reach1	77052	0.2%_Cur	1580	460.21	461.41	461.41	462.44	0.009602	3.65	201.15	100.58	0.71
Reach1	77052	10%_Proj	770	460.21	459.81	459.63	460.9	0.011558		91.94	35.54	0
Reach1	77052	2%_Proj	1133	460.21	460.88	460.88	461.8	0.009272	2.05	151.04	88.71	0.61
Reach1	77052	1%_Proj	1254	460.21	461.05	461.05	461.99	0.0093	2.51	166.36	92.46	0.64
Reach1	77052	0.2%_Proj	1738	460.21	461.57	461.57	462.63	0.009729	4.12	217.1	104.09	0.73
Reach1	76409	10%_Cur	700	449.31	451.64	451.64	452.58	0.014601	7.79	91.99	52.95	0.98
Reach1	76409	2%_Cur	1030	449.31	452.27	452.27	453.35	0.011904	8.46	132.89	89.63	0.93
Reach1	76409	1%_Cur	1140	449.31	452.49	452.49	453.57	0.010788	8.51	154.75	107.26	0.89
Reach1	76409	0.2%_Cur	1580	449.31	453.09	453.09	454.31	0.009928	9.27	220.1	112.12	0.88
Reach1	76409	10%_Proj	770	449.31	451.8	451.8	452.76	0.01363	7.91	100.24	55.21	0.96
Reach1	76409	2%_Proj	1133	449.31	452.48	452.48	453.55	0.010862	8.51	153.2	106.15	0.9
Reach1	76409	1%_Proj	1254	449.31	452.66	452.66	453.77	0.010439	8.7	173.24	108.94	0.89
Reach1	76409	0.2%_Proj	1738	449.31	453.27	453.27	454.54	0.009871	9.56	240.04	113.45	0.89
Reach1	75569	10%_Cur	700	441.75	450.54		450.57	0.000238	1.41	675.84	161.06	0.1
Reach1	75569	2%_Cur	1030	441.75	451.72		451.76	0.000269	1.67	871.91	171.32	0.1
Reach1	75569	1%_Cur	1140	441.75	451.94		451.98	0.000295	1.79	909.26	173.18	0.11
Reach1	75569	0.2%_Cur	1580	441.75	452.59		452.65	0.000417	2.23	1022.61	177.95	0.13
Reach1	75569	10%_Proj	770	441.75	451.04		451.07	0.000216	1.41	757.23	165.47	0.09
Reach1	75569	2%_Proj	1133	441.75	451.92		451.96	0.000295	1.78	905.63	173	0.11
Reach1	75569	1%_Proj	1254	441.75	452.13		452.17	0.000326	1.9	941.92	174.65	0.12
Reach1	75569	0.2%_Proj	1738	441.75	452.76		452.83	0.000466	2.39	1053.87	179.21	0.14
Reach1	75540	10%_Cur	700	441.3	450.55	443.91	450.56	0.00004	0.92	938.09	197.48	0.06
Reach1	75540	2%_Cur	1030	441.3	451.73	444.5	451.75	0.00005	1.13	1180.86	213.38	0.07
Reach1	75540	1%_Cur	1140	441.3	451.95	444.67	451.97	0.000055	1.21	1227.34	214.12	0.07
Reach1	75540	0.2%_Cur	1580	441.3	452.59	445.38	452.63	0.000081	1.53	1366.83	216.34	0.09
Reach1	75540	10%_Proj	770	441.3	451.05	444.05	451.06	0.000038	0.94	1038.16	204.35	0.06
Reach1	75540	2%_Proj	1133	441.3	451.92	444.66	451.95	0.000055	1.21	1222.85	214.05	0.07
Reach1	75540	1%_Proj	1254	441.3	452.13	444.86	452.16	0.000061	1.3	1267.75	214.77	0.08
Reach1	75540	0.2%_Proj	1738	441.3	452.77	445.54	452.81	0.000091	1.65	1404.99	216.94	0.1
Reach1	75524.5	Bridge	Bridge									

Reach1	75509	10%_Cur	700	441.3	450.54	443.85	450.55	0.000052	1.15	809.56	214.26	0.07
Reach1	75509	2%_Cur	1030	441.3	451.71	444.47	451.74	0.000062	1.38	1065.72	220.19	0.08
Reach1	75509	1%_Cur	1140	441.3	451.93	444.63	451.96	0.000068	1.48	1113.37	221.2	0.09
Reach1	75509	0.2%_Cur	1580	441.3	452.57	445.3	452.62	0.000099	1.87	1255.9	224.21	0.11
Reach1	75509	10%_Proj	770	441.3	451.04	443.99	451.05	0.000048	1.16	917.24	217.01	0.07
Reach1	75509	2%_Proj	1133	441.3	451.91	444.64	451.94	0.000068	1.48	1108.75	221.11	0.09
Reach1	75509	1%_Proj	1254	441.3	452.12	444.82	452.15	0.000076	1.58	1154.73	222.08	0.09
Reach1	75509	0.2%_Proj	1738	441.3	452.74	445.52	452.8	0.000111	2	1294.69	225.02	0.11
Reach1	75463	10%_Cur	700	441.83	450.5		450.54	0.00016	1.7	556.37	174.96	0.11
Reach1	75463	2%_Cur	1030	441.83	451.67		451.73	0.000183	2.03	767.83	186.54	0.13
Reach1	75463	1%_Cur	1140	441.83	451.88		451.94	0.000202	2.16	807.29	188.49	0.13
Reach1	75463	0.2%_Cur	1580	441.83	452.49		452.59	0.000289	2.71	925.25	194.83	0.16
Reach1	75463	10%_Proj	770	441.83	451		451.04	0.000146	1.71	645.35	180.26	0.11
Reach1	75463	2%_Proj	1133	441.83	451.86		451.92	0.000201	2.16	803.38	188.3	0.13
Reach1	75463	1%_Proj	1254	441.83	452.06		452.13	0.000223	2.31	841.43	190.28	0.14
Reach1	75463	0.2%_Proj	1738	441.83	452.66		452.77	0.000324	2.91	957.1	196.33	0.17
Reach1	75435	10%_Cur	700	442.5	450.48		450.54	0.000206	2.09	480.55	178.59	0.15
Reach1	75435	2%_Cur	1030	442.5	451.64		451.72	0.000221	2.42	697.07	192.67	0.15
Reach1	75435	1%_Cur	1140	442.5	451.85		451.94	0.000241	2.57	737.47	195.25	0.16
Reach1	75435	0.2%_Cur	1580	442.5	452.46		452.58	0.000337	3.2	858.07	203.4	0.19
Reach1	75435	10%_Proj	770	442.5	450.98		451.04	0.000182	2.07	571.92	184.45	0.14
Reach1	75435	2%_Proj	1133	442.5	451.83		451.92	0.000241	2.57	733.42	195	0.16
Reach1	75435	1%_Proj	1254	442.5	452.03		452.12	0.000265	2.74	772.38	197.59	0.17
Reach1	75435	0.2%_Proj	1738	442.5	452.62		452.76	0.000376	3.42	890.49	205.57	0.21
Reach1	75422	10%_Cur	700	441.5	450.45	445.33	450.53	0.000863	2.41	438.39	177.48	0.16
Reach1	75422	2%_Cur	1030	441.5	451.63	446.19	451.71	0.000832	2.62	660.06	199.34	0.16
Reach1	75422	1%_Cur	1140	441.5	451.84	446.41	451.93	0.000892	2.76	702.59	204.07	0.16
Reach1	75422	0.2%_Cur	1580	441.5	452.45	447.25	452.57	0.00118	3.32	830.47	214.72	0.19
Reach1	75422	10%_Proj	770	441.5	450.96	445.54	451.03	0.000724	2.31	531.68	185.7	0.15
Reach1	75422	2%_Proj	1133	441.5	451.82	446.4	451.91	0.000893	2.75	698.27	203.7	0.16
Reach1	75422	1%_Proj	1254	441.5	452.02	446.64	452.12	0.000964	2.9	739.65	207.21	0.17
Reach1	75422	0.2%_Proj	1738	441.5	452.61	447.51	452.75	0.001301	3.52	865	217.51	0.2
Reach1	75394.5	Bridge	Bridge									
Reach1	75369	10%_Cur	700	438.2	441.48	441.48	442.76	0.050589	9.11	78.51	32.91	0.97
Reach1	75369	2%_Cur	1030	438.2	442.26	442.26	443.88	0.046132	10.29	104.25	37.17	0.97
Reach1	75369	1%_Cur	1140	438.2	442.5	442.5	444.22	0.045188	10.63	112.23	38.45	0.97

Reach1	75369	0.2%_Cur	1580	438.2	443.37	443.37	445.46	0.041911	11.77	142.87	43.22	0.97
Reach1	75369	10%_Proj	770	438.2	441.66	441.66	443.02	0.049316	9.38	84.26	33.88	0.97
Reach1	75369	2%_Proj	1133	438.2	442.47	442.47	444.2	0.045579	10.63	111.45	38.33	0.97
Reach1	75369	1%_Proj	1254	438.2	442.74	442.74	444.56	0.043998	10.94	120.58	39.78	0.97
Reach1	75369	0.2%_Proj	1738	438.2	443.69	443.69	445.86	0.040206	12.05	154.29	44.94	0.96
Reach1	75362	10%_Cur	700	433.15	438.08	438.08	439.63	0.038232	10.01	72.6	27.27	0.98
Reach1	75362	2%_Cur	1030	433.15	439.12	439.12	440.91	0.031325	10.9	104.86	34.91	0.93
Reach1	75362	1%_Cur	1140	433.15	439.43	439.43	441.28	0.029828	11.14	115.79	36.27	0.92
Reach1	75362	0.2%_Cur	1580	433.15	440.39	440.39	442.58	0.028325	12.32	152.56	40.12	0.92
Reach1	75362	10%_Proj	770	433.15	438.31	438.31	439.92	0.036564	10.25	79.05	28.96	0.97
Reach1	75362	2%_Proj	1133	433.15	439.41	439.41	441.25	0.02988	11.12	115.15	36.2	0.92
Reach1	75362	1%_Proj	1254	433.15	439.7	439.7	441.64	0.029163	11.44	125.88	37.36	0.91
Reach1	75362	0.2%_Proj	1738	433.15	440.72	440.72	443	0.027573	12.63	166.11	41.45	0.92
Reach1	75312	10%_Cur	700	432.3	435.22	435.22	436.44	0.039815	8.86	80.03	35.38	0.99
Reach1	75312	2%_Cur	1030	432.3	435.96	435.96	437.48	0.035472	9.96	107.49	39.01	0.98
Reach1	75312	1%_Cur	1140	432.3	436.19	436.19	437.8	0.034293	10.25	116.56	40.14	0.97
Reach1	75312	0.2%_Cur	1580	432.3	437.03	437.03	438.94	0.030823	11.25	152.09	44.28	0.96
Reach1	75312	10%_Proj	770	432.3	435.38	435.38	436.67	0.038755	9.13	85.92	36.19	0.99
Reach1	75312	2%_Proj	1133	432.3	436.17	436.17	437.78	0.03438	10.23	115.96	40.06	0.98
Reach1	75312	1%_Proj	1254	432.3	436.41	436.41	438.11	0.033365	10.55	125.69	41.24	0.97
Reach1	75312	0.2%_Proj	1738	432.3	437.3	437.3	439.31	0.030087	11.57	164.24	45.61	0.96
Reach1	75158	10%_Cur	700	425.41	429.51		430.25	0.007983	6.98	104.83	41.63	0.72
Reach1	75158	2%_Cur	1030	425.41	430.48		431.35	0.006448	7.6	148.04	46.87	0.68
Reach1	75158	1%_Cur	1140	425.41	430.78		431.69	0.006156	7.78	161.96	48.43	0.67
Reach1	75158	0.2%_Cur	1580	425.41	431.78		432.86	0.005605	8.56	213.41	54.16	0.66
Reach1	75158	10%_Proj	770	425.41	429.72		430.5	0.007618	7.15	113.74	42.76	0.71
Reach1	75158	2%_Proj	1133	425.41	430.76		431.66	0.006179	7.78	161.02	48.33	0.67
Reach1	75158	1%_Proj	1254	425.41	431.08		432.02	0.005834	7.94	177.05	50.08	0.66
Reach1	75158	0.2%_Proj	1738	425.41	431.67		433.05	0.007319	9.65	207.36	53.48	0.75
Reach1	75098	10%_Cur	700	423.5	429.06	427.94	429.63	0.009948	6.08	120.08	42.09	0.57
Reach1	75098	2%_Cur	1030	423.5	430.13	428.7	430.81	0.008495	6.71	174.87	61.82	0.55
Reach1	75098	1%_Cur	1140	423.5	430.45	428.94	431.15	0.008124	6.86	195.75	67.96	0.54
Reach1	75098	0.2%_Cur	1580	423.5	431.57	429.84	432.32	0.007065	7.32	277.06	75.73	0.52
Reach1	75098	10%_Proj	770	423.5	429.29	428.12	429.89	0.009689	6.26	130.12	45.14	0.57
Reach1	75098	2%_Proj	1133	423.5	430.43	428.91	431.13	0.008158	6.85	194.27	67.6	0.54
Reach1	75098	1%_Proj	1254	423.5	430.8	429.18	431.51	0.007609	6.94	220.02	72.82	0.53
Reach1	75098	0.2%_Proj	1738	423.5	431.33	430.16	432.36	0.010019	8.49	259.23	74.92	0.62

Reach1	75093.5	Bridge	Bridge									
Reach1	75089	10%_Cur	700	423.5	428.02	428.02	429.32	0.014623	9.22	79.59	34.88	0.97
Reach1	75089	2%_Cur	1030	423.5	428.8	428.8	430.44	0.01454	10.43	109.1	40.76	0.97
Reach1	75089	1%_Cur	1140	423.5	429.05	429.05	430.78	0.014317	10.74	119.8	44.8	0.96
Reach1	75089	0.2%_Cur	1580	423.5	430.18	430.18	431.94	0.011363	11.05	185.6	69.88	0.87
Reach1	75089	10%_Proj	770	423.5	428.21	428.21	429.58	0.014466	9.47	86.26	36.3	0.96
Reach1	75089	2%_Proj	1133	423.5	429.03	429.03	430.76	0.014347	10.72	119.04	44.48	0.96
Reach1	75089	1%_Proj	1254	423.5	429.34	429.34	431.12	0.013607	10.9	133.9	51.65	0.94
Reach1	75089	0.2%_Proj	1738	423.5	430.3	430.46	432.29	0.012597	11.79	193.84	70.45	0.92
Reach1	75042	10%_Cur	700	423.5	427.19	427.19	428.23	0.014879	8.19	88.44	47.46	0.99
Reach1	75042	2%_Cur	1030	423.5	427.83	427.83	429.13	0.014235	9.21	120.14	52.28	0.98
Reach1	75042	1%_Cur	1140	423.5	428.02	428.02	429.4	0.014039	9.5	130.37	53.49	0.97
Reach1	75042	0.2%_Cur	1580	423.5	428.71	428.71	430.39	0.013639	10.55	168.69	57.75	0.97
Reach1	75042	10%_Proj	770	423.5	427.33	427.33	428.43	0.014792	8.44	95.16	48.59	0.99
Reach1	75042	2%_Proj	1133	423.5	428.01	428.01	429.38	0.014048	9.48	129.73	53.42	0.97
Reach1	75042	1%_Proj	1254	423.5	428.21	428.21	429.67	0.013943	9.79	140.45	54.66	0.97
Reach1	75042	0.2%_Proj	1738	423.5	428.94	428.94	430.72	0.013443	10.86	182.37	59.28	0.97
Reach1	74782	10%_Cur	700	409.6	414.78		415.18	0.009794	5.06	139.65	45.93	0.49
Reach1	74782	2%_Cur	1030	409.6	415.43		416.02	0.01165	6.2	170.69	50.32	0.55
Reach1	74782	1%_Cur	1140	409.6	415.62		416.28	0.012158	6.54	180.4	51.57	0.56
Reach1	74782	0.2%_Cur	1580	409.6	416.31		417.22	0.013706	7.69	217.78	56.13	0.61
Reach1	74782	10%_Proj	770	409.6	414.93		415.37	0.010242	5.32	146.5	46.99	0.5
Reach1	74782	2%_Proj	1133	409.6	415.61		416.26	0.012126	6.52	179.79	51.5	0.56
Reach1	74782	1%_Proj	1254	409.6	415.81		416.54	0.012569	6.85	190.58	52.85	0.58
Reach1	74782	0.2%_Proj	1738	409.6	416.54		417.53	0.014137	8.05	230.7	57.63	0.63
Reach1	74780	10%_Cur	700	411.9	414.13	414.13	415.1	0.024322	7.89	89.68	49.46	1
Reach1	74780	2%_Cur	1030	411.9	414.71	414.71	415.94	0.022791	8.91	119.11	52.89	0.99
Reach1	74780	1%_Cur	1140	411.9	414.89	414.89	416.19	0.02233	9.19	128.61	53.92	0.99
Reach1	74780	0.2%_Cur	1580	411.9	415.55	415.55	417.12	0.020727	10.14	165.6	57.75	0.98
Reach1	74780	10%_Proj	770	411.9	414.26	414.26	415.29	0.023964	8.13	96.09	50.27	1
Reach1	74780	2%_Proj	1133	411.9	414.88	414.88	416.17	0.022351	9.18	128.02	53.86	0.99
Reach1	74780	1%_Proj	1254	411.9	415.06	415.06	416.44	0.021919	9.47	138.24	54.94	0.99
Reach1	74780	0.2%_Proj	1738	411.9	415.75	415.75	417.43	0.020598	10.49	177.49	58.93	0.98
Reach1	74779	10%_Cur	700	409.27	412.93	412.93	413.98	0.01602	8.24	87.55	45.37	0.99
Reach1	74779	2%_Cur	1030	409.27	413.56	413.56	414.89	0.01623	9.31	117.49	49.38	0.98
Reach1	74779	1%_Cur	1140	409.27	413.76	413.76	415.17	0.016079	9.58	127.54	50.6	0.98
Reach1	74779	0.2%_Cur	1580	409.27	414.46	414.46	416.18	0.016079	10.66	164.1	54.6	0.98

Reach1	74779	10%_Proj	770	409.27	413.07	413.07	414.18	0.016101	8.49	94.09	46.28	0.99
Reach1	74779	2%_Proj	1133	409.27	413.75	413.75	415.15	0.016087	9.56	126.91	50.53	0.98
Reach1	74779	1%_Proj	1254	409.27	413.96	413.96	415.44	0.016013	9.86	137.5	51.72	0.97
Reach1	74779	0.2%_Proj	1738	409.27	414.71	414.71	416.51	0.015766	10.93	178.01	56.05	0.97
Reach1	74711	10%_Cur	700	405.5	409.41	409.41	410.72	0.013736	9.24	78.51	32.47	0.96
Reach1	74711	2%_Cur	1030	405.5	410.23	410.23	411.83	0.012286	10.32	107.07	37.12	0.94
Reach1	74711	1%_Cur	1140	405.5	410.47	410.47	412.16	0.012001	10.64	116.26	38.49	0.94
Reach1	74711	0.2%_Cur	1580	405.5	411.35	411.35	413.37	0.011239	11.76	152.1	43.44	0.94
Reach1	74711	10%_Proj	770	405.5	409.59	409.59	410.97	0.013379	9.5	84.58	33.51	0.96
Reach1	74711	2%_Proj	1133	405.5	410.46	410.46	412.14	0.012015	10.62	115.69	38.41	0.94
Reach1	74711	1%_Proj	1254	405.5	410.69	410.69	412.5	0.011952	11.01	124.9	39.74	0.95
Reach1	74711	0.2%_Proj	1738	405.5	411.64	411.64	413.77	0.010972	12.09	165.18	45.12	0.94
Reach1	74082	10%_Cur	700	377.52	379.8	379.8	380.66	0.086171	7.42	94.74	57.88	1
Reach1	74082	2%_Cur	1030	377.52	380.32	380.32	381.39	0.076957	8.35	125.48	61.92	0.99
Reach1	74082	1%_Cur	1140	377.52	380.48	380.48	381.62	0.074373	8.6	135.5	63.15	0.98
Reach1	74082	0.2%_Cur	1580	377.52	381.07	381.07	382.43	0.066696	9.44	174.08	67.48	0.96
Reach1	74082	10%_Proj	770	377.52	379.92	379.92	380.82	0.083785	7.64	101.46	58.79	1
Reach1	74082	2%_Proj	1133	377.52	380.47	380.47	381.6	0.074535	8.59	134.86	63.07	0.98
Reach1	74082	1%_Proj	1254	377.52	380.64	380.64	381.84	0.072232	8.85	145.58	64.33	0.98
Reach1	74082	0.2%_Proj	1738	377.52	381.25	381.25	382.69	0.065966	9.76	186.19	68.77	0.97
Reach1	73253	10%_Cur	700	359.49	364.56	362.47	364.6	0.000764	1.97	519.44	210.3	0.2
Reach1	73253	2%_Cur	1030	359.49	365.33	363.14	365.38	0.000795	2.19	683.76	215.5	0.2
Reach1	73253	1%_Cur	1140	359.49	365.73	363.26	365.78	0.000702	2.15	770.98	218.95	0.19
Reach1	73253	0.2%_Cur	1580	359.49	366.51	363.68	366.57	0.000769	2.43	943.67	225.68	0.19
Reach1	73253	10%_Proj	770	359.49	364.75	362.6	364.8	0.000761	2.01	559.73	211.59	0.2
Reach1	73253	2%_Proj	1133	359.49	365.68	363.25	365.73	0.00072	2.17	760.27	218.53	0.19
Reach1	73253	1%_Proj	1254	359.49	365.93	363.37	365.99	0.000726	2.23	816.14	220.73	0.19
Reach1	73253	0.2%_Proj	1738	359.49	366.8	363.82	366.87	0.00077	2.5	1010.04	228.21	0.19
Reach1	73194	10%_Cur	700	358.6	364.43	363.03	364.51	0.002728	2.74	383.02	158.29	0.27
Reach1	73194	2%_Cur	1030	358.6	365.19	363.5	365.29	0.002558	3.05	505.65	163.61	0.27
Reach1	73194	1%_Cur	1140	358.6	365.61	363.5	365.7	0.002131	2.97	574.52	166.84	0.25
Reach1	73194	0.2%_Cur	1580	358.6	366.37	363.71	366.48	0.002227	3.37	703.33	172.73	0.26
Reach1	73194	10%_Proj	770	358.6	364.62	363.22	364.7	0.002625	2.79	413.39	159.52	0.26
Reach1	73194	2%_Proj	1133	358.6	365.56	363.5	365.65	0.002204	3	565.84	166.44	0.25
Reach1	73194	1%_Proj	1254	358.6	365.81	363.51	365.9	0.002174	3.09	607.99	168.39	0.25
Reach1	73194	0.2%_Proj	1738	358.6	366.66	363.83	366.77	0.002188	3.47	753.78	174.99	0.26
Reach1	73166	Bridge	Bridge									

Reach1	73148	10%_Cur	700	358.53	363.37	361.07	363.49	0.000929	2.75	263.37	82.68	0.25
Reach1	73148	2%_Cur	1030	358.53	364.47	361.56	364.61	0.000886	3.09	367.53	105.86	0.25
Reach1	73148	1%_Cur	1140	358.53	365.37	361.71	365.49	0.000613	2.82	469.08	118.57	0.21
Reach1	73148	0.2%_Cur	1580	358.53	366.17	362.22	366.34	0.00075	3.37	567.45	126.37	0.23
Reach1	73148	10%_Proj	770	358.53	363.64	361.18	363.76	0.000905	2.82	286.34	89.36	0.25
Reach1	73148	2%_Proj	1133	358.53	365.26	361.7	365.39	0.000645	2.87	456.79	117.55	0.21
Reach1	73148	1%_Proj	1254	358.53	365.59	361.86	365.72	0.000651	2.98	495.64	120.72	0.22
Reach1	73148	0.2%_Proj	1738	358.53	366.46	362.4	366.65	0.000778	3.52	605.21	129.24	0.24
Reach1	73074	10%_Cur	700	358.61	362.76		363.25	0.00429	5.63	132.52	54.24	0.57
Reach1	73074	2%_Cur	1030	358.61	363.85		364.38	0.003181	5.96	196.82	62.8	0.52
Reach1	73074	1%_Cur	1140	358.61	364.96		365.34	0.001678	5.07	269.83	68.95	0.39
Reach1	73074	0.2%_Cur	1580	358.61	365.57		366.13	0.002182	6.23	312.66	72.22	0.46
Reach1	73074	10%_Proj	770	358.61	363.05		363.53	0.00378	5.62	148.68	57.12	0.55
Reach1	73074	2%_Proj	1133	358.61	364.83		365.23	0.001806	5.18	261.24	68.26	0.41
Reach1	73074	1%_Proj	1254	358.61	365.13		365.56	0.001809	5.38	281.87	69.92	0.41
Reach1	73074	0.2%_Proj	1738	358.61	365.8		366.42	0.002296	6.56	329.7	73.45	0.47
Reach1	72754	10%_Cur	700	352.8	361.72		362.23	0.002455	5.98	147.36	47.08	0.44
Reach1	72754	2%_Cur	1030	352.8	362.76		363.43	0.002743	7.05	200.9	56.47	0.47
Reach1	72754	1%_Cur	1140	352.8	364.48		364.87	0.001296	5.63	340.58	154.4	0.34
Reach1	72754	0.2%_Cur	1580	352.8	364.87		365.46	0.001973	7.15	406.91	184.79	0.42
Reach1	72754	10%_Proj	770	352.8	362.08		362.59	0.002334	6.07	164.91	50.34	0.43
Reach1	72754	2%_Proj	1133	352.8	364.31		364.72	0.001399	5.77	316.58	126.51	0.35
Reach1	72754	1%_Proj	1254	352.8	364.59		365.03	0.001476	6.06	358.46	167.49	0.36
Reach1	72754	0.2%_Proj	1738	352.8	365.11		365.73	0.002049	7.42	453.09	199.77	0.43
Reach1	72231	10%_Cur	700	351.5	362		362.01	0.000046	0.92	1860.29	844.34	0.07
Reach1	72231	2%_Cur	1030	351.5	363.17		363.17	0.000033	0.88	2870.64	892.3	0.06
Reach1	72231	1%_Cur	1140	351.5	364.73		364.73	0.000013	0.64	4316.16	951.73	0.04
Reach1	72231	0.2%_Cur	1580	351.5	365.25		365.25	0.000018	0.78	4817.25	967.53	0.05
Reach1	72231	10%_Proj	770	351.5	362.38		362.38	0.000038	0.87	2181.58	856.78	0.06
Reach1	72231	2%_Proj	1133	351.5	364.57		364.57	0.000014	0.66	4168.41	945.48	0.04
Reach1	72231	1%_Proj	1254	351.5	364.87		364.88	0.000015	0.68	4456.83	956.3	0.04
Reach1	72231	0.2%_Proj	1738	351.5	365.51		365.51	0.000019	0.81	5066.1	974.19	0.05
Reach1	71607	10%_Cur	1200	350.7	361.79		361.91	0.000441	2.92	706.39	267.41	0.19
Reach1	71607	2%_Cur	1700	350.7	362.97		363.09	0.000429	3.18	1032.15	286.7	0.19
Reach1	71607	1%_Cur	1960	350.7	364.61		364.69	0.000241	2.68	1520.8	306.06	0.15
Reach1	71607	0.2%_Cur	2570	350.7	365.09		365.2	0.000332	3.25	1668.01	311.56	0.18
Reach1	71607	10%_Proj	1320	350.7	362.18		362.29	0.000415	2.93	812.51	273.84	0.19

Reach1	71607	2%_Proj	1870	350.7	364.46		364.53	0.000236	2.63	1473.84	304.29	0.15
Reach1	71607	1%_Proj	2156	350.7	364.75		364.83	0.000274	2.88	1561.21	307.58	0.16
Reach1	71607	0.2%_Proj	2827	350.7	365.33		365.45	0.000362	3.44	1743.83	317.15	0.18
Reach1	70869	10%_Cur	1200	352	361.73		361.74	0.000123	0.98	2366.86	843.91	0.08
Reach1	70869	2%_Cur	1700	352	362.94		362.95	0.000097	0.95	3408.11	871.68	0.07
Reach1	70869	1%_Cur	1960	352	364.61		364.62	0.000047	0.73	4879.99	886.18	0.05
Reach1	70869	0.2%_Cur	2570	352	365.09		365.1	0.000063	0.88	5306.58	889.28	0.05
Reach1	70869	10%_Proj	1320	352	362.14		362.15	0.000106	0.94	2715.69	859.28	0.07
Reach1	70869	2%_Proj	1870	352	364.46		364.46	0.000047	0.72	4742.79	885.16	0.05
Reach1	70869	1%_Proj	2156	352	364.75		364.75	0.000053	0.79	4997.52	887.05	0.05
Reach1	70869	0.2%_Proj	2827	352	365.34		365.34	0.000068	0.92	5523.83	890.71	0.05
Reach1	70760	10%_Cur	1200	353	361.73	358.46	361.73	0.000041	0.55	4622.69	1290.4	0.04
Reach1	70760	2%_Cur	1700	353	362.94	359	362.94	0.000036	0.57	6274.52	1442.19	0.04
Reach1	70760	1%_Cur	1960	353	364.61	359	364.61	0.000018	0.45	8759.94	1500.04	0.03
Reach1	70760	0.2%_Cur	2570	353	365.09	359	365.09	0.000024	0.54	9481.8	1508.38	0.03
Reach1	70760	10%_Proj	1320	353	362.14	358.58	362.14	0.000037	0.54	5156.66	1334.56	0.04
Reach1	70760	2%_Proj	1870	353	364.46	359	364.46	0.000018	0.45	8527.71	1498.3	0.03
Reach1	70760	1%_Proj	2156	353	364.74	359	364.75	0.00002	0.49	8958.76	1501.54	0.03
Reach1	70760	0.2%_Proj	2827	353	365.34	359	365.34	0.000026	0.57	9851.56	1521	0.03
Reach1	70740	10%_Cur	1200	353.4	361.73	357.49	361.73	0.000052	0.59	4292	1228.4	0.04
Reach1	70740	2%_Cur	1700	353.4	362.94	358.16	362.94	0.000043	0.61	5836.21	1325.23	0.04
Reach1	70740	1%_Cur	1960	353.4	364.61	358.49	364.61	0.000021	0.49	8169.8	1437.57	0.03
Reach1	70740	0.2%_Cur	2570	353.4	365.09	359.02	365.09	0.000028	0.59	8862.7	1448.44	0.03
Reach1	70740	10%_Proj	1320	353.4	362.14	357.68	362.14	0.000045	0.57	4796.72	1250.63	0.04
Reach1	70740	2%_Proj	1870	353.4	364.46	358.36	364.46	0.000021	0.48	7947.42	1433.58	0.03
Reach1	70740	1%_Proj	2156	353.4	364.74	358.68	364.75	0.000024	0.53	8360.34	1440.97	0.03
Reach1	70740	0.2%_Proj	2827	353.4	365.34	359.21	365.34	0.00003	0.62	9216.69	1452.65	0.04
Reach1	70713	Bridge	Bridge									
Reach1	70686	10%_Cur	1200	353.4	361.7	357.5	361.71	0.000043	0.85	4169.86	1275.18	0.06
Reach1	70686	2%_Cur	1700	353.4	362.9	358.15	362.9	0.000036	0.87	5727.49	1321.92	0.06
Reach1	70686	1%_Cur	1960	353.4	364.6	358.44	364.61	0.000018	0.69	8027.2	1376.49	0.04
Reach1	70686	0.2%_Cur	2570	353.4	365.08	359	365.08	0.000024	0.83	8687.83	1383.61	0.05
Reach1	70686	10%_Proj	1320	353.4	362	357.66	362.01	0.000042	0.87	4558.11	1299.5	0.06
Reach1	70686	2%_Proj	1870	353.4	364.45	358.35	364.45	0.000018	0.68	7813.75	1373.1	0.04
Reach1	70686	1%_Proj	2156	353.4	364.73	358.65	364.74	0.00002	0.74	8208.59	1378.45	0.04
Reach1	70686	0.2%_Proj	2827	353.4	365.33	359.21	365.33	0.000026	0.87	9025.77	1387.25	0.05

Reach1	70671	10%_Cur	1200	353.59	361.7	357.53	361.71	0.000026	0.69	4945.39	1189.42	0.05
Reach1	70671	2%_Cur	1700	353.59	362.9	358.14	362.9	0.000025	0.76	6459.33	1301.64	0.05
Reach1	70671	1%_Cur	1960	353.59	364.6	358.39	364.6	0.000014	0.64	8726.31	1352.87	0.04
Reach1	70671	0.2%_Cur	2570	353.59	365.08	359	365.08	0.000019	0.78	9375.6	1360.04	0.04
Reach1	70671	10%_Proj	1320	353.59	362	357.68	362.01	0.000026	0.71	5309.95	1244.56	0.05
Reach1	70671	2%_Proj	1870	353.59	364.45	358.31	364.45	0.000013	0.63	8516.51	1350.43	0.04
Reach1	70671	1%_Proj	2156	353.59	364.73	358.57	364.74	0.000016	0.69	8904.59	1354.84	0.04
Reach1	70671	0.2%_Proj	2827	353.59	365.33	359	365.33	0.00002	0.83	9707.75	1363.69	0.05
Reach1	70632	10%_Cur	1200	354.18	361.7		361.7	0.000018	0.57	5791.41	1179.71	0.04
Reach1	70632	2%_Cur	1700	354.18	362.9		362.9	0.000018	0.64	7240.57	1278.5	0.04
Reach1	70632	1%_Cur	1960	354.18	364.6		364.6	0.000011	0.58	9469.9	1332.59	0.03
Reach1	70632	0.2%_Cur	2570	354.18	365.08		365.08	0.000015	0.7	10109.42	1340.26	0.04
Reach1	70632	10%_Proj	1320	354.18	362		362	0.000018	0.59	6146.89	1188.54	0.04
Reach1	70632	2%_Proj	1870	354.18	364.45		364.45	0.000011	0.56	9263.52	1327.1	0.03
Reach1	70632	1%_Proj	2156	354.18	364.73		364.74	0.000012	0.62	9645.46	1334.96	0.04
Reach1	70632	0.2%_Proj	2827	354.18	365.32		365.33	0.000017	0.75	10436.6	1343.38	0.04
Reach1	70558	10%_Cur	1228	354	361.7		361.7	0.000019	0.48	6015.53	1169.07	0.03
Reach1	70558	2%_Cur	1741	354	362.89		362.89	0.000019	0.55	7421.25	1207.5	0.03
Reach1	70558	1%_Cur	2009	354	364.6		364.6	0.000012	0.5	9563.77	1284.24	0.03
Reach1	70558	0.2%_Cur	2632	354	365.08		365.08	0.000017	0.61	10179.79	1292.27	0.03
Reach1	70558	10%_Proj	1351	354	362		362	0.000019	0.5	6367.11	1173.21	0.03
Reach1	70558	2%_Proj	1915	354	364.45		364.45	0.000012	0.48	9364.99	1278.07	0.03
Reach1	70558	1%_Proj	2210	354	364.73		364.73	0.000014	0.54	9732.75	1287.68	0.03
Reach1	70558	0.2%_Proj	2895	354	365.32		365.32	0.000019	0.65	10494.88	1294.18	0.04
Reach1	69987	10%_Cur	1228	351.05	361.69		361.7	0.000037	0.86	3977.8	750.87	0.06
Reach1	69987	2%_Cur	1741	351.05	362.88		362.89	0.000039	0.99	4880.09	767.61	0.06
Reach1	69987	1%_Cur	2009	351.05	364.59		364.6	0.000026	0.92	6276.64	851.13	0.05
Reach1	69987	0.2%_Cur	2632	351.05	365.07		365.07	0.000037	1.13	6682.93	859.49	0.06
Reach1	69987	10%_Proj	1351	351.05	361.99		362	0.000038	0.89	4203.47	753.73	0.06
Reach1	69987	2%_Proj	1915	351.05	364.44		364.44	0.000025	0.89	6145.23	846.27	0.05
Reach1	69987	1%_Proj	2210	351.05	364.72		364.73	0.00003	0.99	6387.79	853.7	0.06
Reach1	69987	0.2%_Proj	2895	351.05	365.31		365.32	0.000041	1.2	6891.95	863.57	0.07
Reach1	69405	10%_Cur	1228	353.6	361.66		361.67	0.00015	1.01	2024.25	479.65	0.08
Reach1	69405	2%_Cur	1741	353.6	362.85		362.86	0.000147	1.11	2619.44	518.75	0.08
Reach1	69405	1%_Cur	2009	353.6	364.57		364.58	0.000082	0.95	3548.29	555.51	0.06
Reach1	69405	0.2%_Cur	2632	353.6	365.04		365.05	0.000115	1.16	3809.05	563.85	0.07
Reach1	69405	10%_Proj	1351	353.6	361.96		361.97	0.00015	1.03	2169.54	490.72	0.08
Reach1	69405	2%_Proj	1915	353.6	364.42		364.43	0.00008	0.93	3462.84	552.75	0.06

Reach1	69405	1%_Proj	2210	353.6	364.7	364.71	0.000094	1.02	3619.09	557.79	0.06
Reach1	69405	0.2%_Proj	2895	353.6	365.28	365.29	0.000126	1.23	3944.64	568.92	0.07
Reach1	68823	10%_Cur	1228	352.7	361.46	361.51	0.000551	2.04	802.05	210.57	0.16
Reach1	68823	2%_Cur	1741	352.7	362.64	362.7	0.000567	2.28	1073.69	254.39	0.16
Reach1	68823	1%_Cur	2009	352.7	364.45	364.49	0.000314	1.93	1703.47	465.9	0.12
Reach1	68823	0.2%_Cur	2632	352.7	364.86	364.93	0.000442	2.35	1906.15	520.37	0.14
Reach1	68823	10%_Proj	1351	352.7	361.75	361.81	0.000555	2.1	865.4	217.36	0.16
Reach1	68823	2%_Proj	1915	352.7	364.3	364.34	0.000308	1.89	1634.22	450.36	0.12
Reach1	68823	1%_Proj	2210	352.7	364.56	364.61	0.00036	2.08	1754.72	477.11	0.13
Reach1	68823	0.2%_Proj	2895	352.7	365.08	365.16	0.000477	2.48	2025.53	545.22	0.15
Reach1	68537	10%_Cur	1228	352.7	361.13	361.27	0.00137	3.13	526.22	163.53	0.23
Reach1	68537	2%_Cur	1741	352.7	362.3	362.46	0.001332	3.48	757.57	248.17	0.23
Reach1	68537	1%_Cur	2009	352.7	364.29	364.37	0.000576	2.7	1348.74	360.51	0.16
Reach1	68537	0.2%_Cur	2632	352.7	364.63	364.75	0.000839	3.33	1478.51	404.27	0.19
Reach1	68537	10%_Proj	1351	352.7	361.43	361.57	0.001367	3.23	575.33	172.83	0.23
Reach1	68537	2%_Proj	1915	352.7	364.14	364.22	0.000563	2.64	1296.74	347.43	0.16
Reach1	68537	1%_Proj	2210	352.7	364.37	364.47	0.00067	2.93	1379.05	369.49	0.17
Reach1	68537	0.2%_Proj	2895	352.7	364.83	364.97	0.000921	3.54	1562.44	435.72	0.2
Reach1	68474	10%_Cur	1228	353.73	361.13	357.56	361.19	0.000334	1.96	654.24	332.23	0.15
Reach1	68474	2%_Cur	1741	353.73	362.3	357.97	362.38	0.000335	2.23	832.56	393.06	0.16
Reach1	68474	1%_Cur	2009	353.73	364.28	358.16	364.34	0.000174	1.92	1141.91	542.56	0.12
Reach1	68474	0.2%_Cur	2632	353.73	364.62	358.55	364.71	0.000261	2.41	1194.39	569.55	0.15
Reach1	68474	10%_Proj	1351	353.73	361.43	357.66	361.49	0.000336	2.03	697.05	344.98	0.16
Reach1	68474	2%_Proj	1915	353.73	364.14	358.09	364.19	0.000169	1.86	1119.04	531.23	0.12
Reach1	68474	1%_Proj	2210	353.73	364.36	358.29	364.43	0.000204	2.09	1154.65	549.59	0.13
Reach1	68474	0.2%_Proj	2895	353.73	364.82	358.71	364.92	0.000292	2.59	1225.27	586.03	0.15
Reach1	68402	Bridge	Bridge								
Reach1	68326	10%_Cur	1228	353.73	360.82	357.37	360.88	0.000334	2.01	611.7	414.71	0.16
Reach1	68326	2%_Cur	1741	353.73	361.86	357.77	361.95	0.000354	2.34	742.97	469.88	0.17
Reach1	68326	1%_Cur	2009	353.73	362.36	357.95	362.46	0.000361	2.49	805.55	509.85	0.17
Reach1	68326	0.2%_Cur	2632	353.73	363.31	358.35	363.44	0.000392	2.84	925.48	548.26	0.18
Reach1	68326	10%_Proj	1351	353.73	361.08	357.46	361.15	0.00034	2.1	644.7	435.73	0.16
Reach1	68326	2%_Proj	1915	353.73	362.17	357.89	362.26	0.000362	2.45	781.55	505.14	0.17
Reach1	68326	1%_Proj	2210	353.73	362.71	358.09	362.81	0.000367	2.6	849.48	519.86	0.18
Reach1	68326	0.2%_Proj	2895	353.73	363.63	358.51	363.77	0.000412	3	965.52	561.06	0.19
Reach1	68280	10%_Cur	1228	352.5	360.83		360.84	0.000249	0.99	1585.37	330.09	0.07

Reach1	68280	2%_Cur	1741	352.5	361.88	361.9	0.00028	1.17	1946.64	360.61	0.08
Reach1	68280	1%_Cur	2009	352.5	362.39	362.4	0.000291	1.25	2132.21	379.82	0.08
Reach1	68280	0.2%_Cur	2632	352.5	363.35	363.37	0.000316	1.41	2516.15	425.49	0.09
Reach1	68280	10%_Proj	1351	352.5	361.1	361.11	0.000256	1.03	1673.16	334.57	0.07
Reach1	68280	2%_Proj	1915	352.5	362.19	362.21	0.00029	1.23	2059.97	372.62	0.08
Reach1	68280	1%_Proj	2210	352.5	362.74	362.76	0.000296	1.3	2268.09	391.51	0.08
Reach1	68280	0.2%_Proj	2895	352.5	363.67	363.7	0.000331	1.48	2657.69	451.97	0.09
Reach1	67684	10%_Cur	1228	352.5	360.61	360.65	0.000459	1.58	936.85	312.94	0.13
Reach1	67684	2%_Cur	1741	352.5	361.65	361.69	0.000474	1.75	1282.16	348.54	0.13
Reach1	67684	1%_Cur	2009	352.5	362.15	362.19	0.00047	1.81	1458.6	360.55	0.13
Reach1	67684	0.2%_Cur	2632	352.5	363.1	363.15	0.000483	1.96	1811.69	382.24	0.13
Reach1	67684	10%_Proj	1351	352.5	360.87	360.91	0.000468	1.63	1019.49	325.82	0.13
Reach1	67684	2%_Proj	1915	352.5	361.95	362	0.000478	1.8	1389.18	355.83	0.13
Reach1	67684	1%_Proj	2210	352.5	362.5	362.54	0.000468	1.85	1586.71	369.53	0.12
Reach1	67684	0.2%_Proj	2895	352.5	363.41	363.46	0.000498	2.03	1932.1	386.05	0.13
Reach1	66782	10%_Cur	1228	353.98	360.29	360.32	0.000295	1.43	1007.05	292.71	0.11
Reach1	66782	2%_Cur	1741	353.98	361.32	361.35	0.000296	1.58	1313.55	303.21	0.11
Reach1	66782	1%_Cur	2009	353.98	361.82	361.86	0.000292	1.64	1466.65	308.33	0.11
Reach1	66782	0.2%_Cur	2632	353.98	362.76	362.8	0.000305	1.8	1775.28	374.78	0.12
Reach1	66782	10%_Proj	1351	353.98	360.55	360.58	0.000297	1.47	1081.91	295.31	0.11
Reach1	66782	2%_Proj	1915	353.98	361.62	361.66	0.000298	1.63	1405.22	306.28	0.11
Reach1	66782	1%_Proj	2210	353.98	362.17	362.21	0.000291	1.68	1575.93	311.92	0.11
Reach1	66782	0.2%_Proj	2895	353.98	363.06	363.1	0.000318	1.88	1891.21	396.04	0.12
Reach1	66184	10%_Cur	1821	352.6	359.88	359.98	0.001025	2.54	863.21	279.37	0.2
Reach1	66184	2%_Cur	2608	352.6	360.91	361.01	0.000992	2.78	1155.22	291.04	0.2
Reach1	66184	1%_Cur	3049	352.6	361.4	361.52	0.000985	2.91	1301.21	298.92	0.2
Reach1	66184	0.2%_Cur	3937	352.6	362.34	362.46	0.000946	3.09	1619.42	399.78	0.2
Reach1	66184	10%_Proj	2003	352.6	360.14	360.23	0.001018	2.6	934.08	282.43	0.2
Reach1	66184	2%_Proj	2869	352.6	361.2	361.31	0.000989	2.86	1242.04	294.19	0.2
Reach1	66184	1%_Proj	3354	352.6	361.76	361.87	0.000961	2.96	1411.5	323.27	0.2
Reach1	66184	0.2%_Proj	4331	352.6	362.62	362.75	0.000975	3.21	1742.84	475.08	0.2
Reach1	65586	10%_Cur	1821	350	358.95	359.06	0.002561	2.73	747.77	261.69	0.22
Reach1	65586	2%_Cur	2608	350	360.04	360.16	0.00224	2.92	1051.92	319.78	0.21
Reach1	65586	1%_Cur	3049	350	360.58	360.7	0.002058	2.96	1239.33	375.75	0.2
Reach1	65586	0.2%_Cur	3937	350	361.63	361.73	0.001628	2.91	1718.07	621.78	0.19
Reach1	65586	10%_Proj	2003	350	359.21	359.33	0.002495	2.79	818.2	266.74	0.22
Reach1	65586	2%_Proj	2869	350	360.36	360.48	0.002142	2.95	1159.12	352.29	0.21
Reach1	65586	1%_Proj	3354	350	361	361.11	0.001839	2.92	1403.88	417.64	0.19

Reach1	65586	0.2%_Proj	4331	350	361.92		362.02	0.001584	2.94	1921.46	763.14	0.18
Reach1	64938	10%_Cur	1821	349.8	358.37		358.4	0.000529	1.42	1288.8	384.56	0.12
Reach1	64938	2%_Cur	2608	349.8	359.59		359.62	0.000415	1.48	1832.64	491	0.11
Reach1	64938	1%_Cur	3049	349.8	360.18		360.22	0.000368	1.49	2142.63	606.23	0.11
Reach1	64938	0.2%_Cur	3937	349.8	361.33		361.36	0.000286	1.47	3044.62	1081.47	0.1
Reach1	64938	10%_Proj	2003	349.8	358.66		358.7	0.0005	1.44	1406.43	404.29	0.12
Reach1	64938	2%_Proj	2869	349.8	359.94		359.98	0.000384	1.48	2010.23	512.91	0.11
Reach1	64938	1%_Proj	3354	349.8	360.61		360.64	0.000367	1.56	2423.07	707.26	0.11
Reach1	64938	0.2%_Proj	4331	349.8	361.61		361.64	0.000294	1.53	3374.39	1275.53	0.1
Reach1	64710	10%_Cur	1821	346.1	358.28		358.32	0.000241	1.55	1274.43	503.42	0.13
Reach1	64710	2%_Cur	2608	346.1	359.53		359.56	0.000188	1.56	2122.68	854.76	0.12
Reach1	64710	1%_Cur	3049	346.1	360.14		360.16	0.000156	1.51	2676.89	988.68	0.11
Reach1	64710	0.2%_Cur	3937	346.1	361.3		361.32	0.000106	1.38	3937.15	1138.39	0.09
Reach1	64710	10%_Proj	2003	346.1	358.59		358.62	0.000229	1.57	1438.86	585.28	0.13
Reach1	64710	2%_Proj	2869	346.1	359.89		359.92	0.000169	1.54	2443.37	920.51	0.11
Reach1	64710	1%_Proj	3354	346.1	360.57		360.59	0.000134	1.45	3128.69	1087.24	0.1
Reach1	64710	0.2%_Proj	4331	346.1	361.58		361.6	0.000107	1.41	4264.31	1177.26	0.09
Reach1	64701	10%_Cur	1821	346.1	358.28	354.93	358.32	0.000418	1.55	1222.56	425.67	0.13
Reach1	64701	2%_Cur	2608	346.1	359.53	355.45	359.56	0.000299	1.55	1982.67	754.93	0.12
Reach1	64701	1%_Cur	3049	346.1	360.13	355.62	360.16	0.000251	1.52	2511.12	983.91	0.11
Reach1	64701	0.2%_Cur	3937	346.1	361.29	355.94	361.32	0.000156	1.35	3766.82	1125.51	0.09
Reach1	64701	10%_Proj	2003	346.1	358.58	355.16	358.62	0.00039	1.57	1359.76	514.31	0.13
Reach1	64701	2%_Proj	2869	346.1	359.89	355.56	359.92	0.000277	1.56	2276.81	916.29	0.11
Reach1	64701	1%_Proj	3354	346.1	360.57	355.74	360.59	0.000208	1.45	2960.33	1086.46	0.1
Reach1	64701	0.2%_Proj	4331	346.1	361.58	356.07	361.6	0.000154	1.37	4088.47	1165.27	0.09
Reach1	64695.5	Bridge	Bridge									
Reach1	64690	10%_Cur	1821	345.3	358.25	353.86	358.29	0.000457	1.61	1162.96	381.84	0.14
Reach1	64690	2%_Cur	2608	345.3	359.5	355.5	359.54	0.000336	1.64	1829.01	662.27	0.12
Reach1	64690	1%_Cur	3049	345.3	360.11	355.67	360.15	0.000286	1.62	2297.66	905.09	0.12
Reach1	64690	0.2%_Cur	3937	345.3	361.28	355.98	361.31	0.000184	1.46	3534.24	1109.2	0.1
Reach1	64690	10%_Proj	2003	345.3	358.56	355.23	358.6	0.000429	1.63	1281.91	428.47	0.13
Reach1	64690	2%_Proj	2869	345.3	359.87	355.61	359.9	0.000305	1.63	2087.41	801.69	0.12
Reach1	64690	1%_Proj	3354	345.3	360.55	355.79	360.58	0.000252	1.59	2729.64	1073.17	0.11
Reach1	64690	0.2%_Proj	4331	345.3	361.57	356.11	361.59	0.000178	1.47	3850.56	1120.96	0.09
Reach1	64681	10%_Cur	1821	345.3	358.25		358.29	0.00051	1.66	1131.61	307.71	0.14
Reach1	64681	2%_Cur	2608	345.3	359.49		359.54	0.000385	1.72	1705.92	630.02	0.13

Reach1	64681	1%_Cur	3049	345.3	360.1	360.14	0.000325	1.69	2151.33	820.77	0.12
Reach1	64681	0.2%_Cur	3937	345.3	361.28	361.3	0.000217	1.56	3325.64	1096.93	0.1
Reach1	64681	10%_Proj	2003	345.3	358.55	358.59	0.00048	1.69	1239.2	395.71	0.14
Reach1	64681	2%_Proj	2869	345.3	359.86	359.9	0.000349	1.71	1957.13	754.27	0.13
Reach1	64681	1%_Proj	3354	345.3	360.54	360.58	0.000287	1.67	2539.71	955.68	0.12
Reach1	64681	0.2%_Proj	4331	345.3	361.56	361.59	0.000208	1.57	3639.05	1108.59	0.1
Reach1	64344	10%_Cur	1821	349.6	358.06	358.11	0.000538	1.76	1087.7	294.04	0.15
Reach1	64344	2%_Cur	2608	349.6	359.33	359.39	0.00051	1.89	1491.94	343.43	0.14
Reach1	64344	1%_Cur	3049	349.6	359.95	360.01	0.000511	1.98	1735.07	457.04	0.14
Reach1	64344	0.2%_Cur	3937	349.6	361.15	361.2	0.000418	1.95	2472.6	841.1	0.13
Reach1	64344	10%_Proj	2003	349.6	358.37	358.42	0.000534	1.8	1179.79	304.51	0.15
Reach1	64344	2%_Proj	2869	349.6	359.7	359.76	0.000505	1.94	1626.59	405.1	0.14
Reach1	64344	1%_Proj	3354	349.6	360.4	360.45	0.000475	1.98	1955.47	544.24	0.13
Reach1	64344	0.2%_Proj	4331	349.6	361.43	361.49	0.000434	2.03	2715.93	884.32	0.13
Reach1	64064	10%_Cur	1821	350.6	357.77	357.88	0.001339	2.89	918.95	266.16	0.22
Reach1	64064	2%_Cur	2608	350.6	359.04	359.16	0.001316	3.19	1325.62	411.13	0.22
Reach1	64064	1%_Cur	3049	350.6	359.68	359.79	0.001168	3.15	1603.93	463.72	0.21
Reach1	64064	0.2%_Cur	3937	350.6	360.96	361.04	0.000802	2.85	2501.92	1126.85	0.17
Reach1	64064	10%_Proj	2003	350.6	358.08	358.19	0.00133	2.96	1002.97	280.66	0.22
Reach1	64064	2%_Proj	2869	350.6	359.43	359.54	0.001226	3.17	1488.61	438.74	0.21
Reach1	64064	1%_Proj	3354	350.6	360.15	360.25	0.001041	3.08	1853.71	668.43	0.2
Reach1	64064	0.2%_Proj	4331	350.6	361.26	361.33	0.000751	2.81	2860.5	1302.67	0.17
Reach1	63963	10%_Cur	1821	350.2	357.66	357.78	0.000645	3.11	903.03	264.74	0.23
Reach1	63963	2%_Cur	2608	350.2	358.93	359.07	0.000608	3.42	1279.41	330.82	0.23
Reach1	63963	1%_Cur	3049	350.2	359.55	359.7	0.000593	3.57	1496.96	383.69	0.23
Reach1	63963	0.2%_Cur	3937	350.2	360.83	360.97	0.000493	3.59	2252.55	1028.46	0.21
Reach1	63963	10%_Proj	2003	350.2	357.96	358.09	0.000638	3.2	986.36	277.36	0.23
Reach1	63963	2%_Proj	2869	350.2	359.3	359.45	0.000598	3.51	1407.35	349.82	0.23
Reach1	63963	1%_Proj	3354	350.2	360.02	360.17	0.000565	3.62	1699.27	455.81	0.23
Reach1	63963	0.2%_Proj	4331	350.2	361.12	361.26	0.000485	3.64	2585.19	1259.98	0.21
Reach1	63952	10%_Cur	1821	350.2	357.42	354.73	357.72	0.001365	4.39	415.11	237.54	0.34
Reach1	63952	2%_Cur	2608	350.2	358.86	355.41	359.05	0.000789	3.88	1111.96	327.64	0.26
Reach1	63952	1%_Cur	3049	350.2	359.52	355.76	359.69	0.000695	3.86	1440.26	366.62	0.25
Reach1	63952	0.2%_Cur	3937	350.2	360.81	356.44	360.96	0.000548	3.8	2200.5	1025.76	0.23
Reach1	63952	10%_Proj	2003	350.2	357.91	354.9	358.08	0.000822	3.6	884.59	275.67	0.26
Reach1	63952	2%_Proj	2869	350.2	359.27	355.62	359.44	0.000701	3.8	1350.94	350.23	0.25
Reach1	63952	1%_Proj	3354	350.2	359.99	356	360.16	0.000638	3.85	1642.87	460.1	0.24
Reach1	63952	0.2%_Proj	4331	350.2	361.1	356.71	361.25	0.000534	3.84	2533.33	1247.01	0.23

Reach1	63946	Bridge	Bridge									
Reach1	63940	10%_Cur	1821	350.3	357.22	354.64	357.42	0.001168	3.92	729.93	235.28	0.3
Reach1	63940	2%_Cur	2608	350.3	358.3	355.38	358.53	0.001145	4.34	1048.19	290.96	0.3
Reach1	63940	1%_Cur	3049	350.3	358.86	355.75	359.11	0.001123	4.53	1222.78	325.97	0.3
Reach1	63940	0.2%_Cur	3937	350.3	360.51	356.5	360.71	0.000754	4.23	1933.13	746.86	0.25
Reach1	63940	10%_Proj	2003	350.3	357.47	354.82	357.68	0.001183	4.06	784.99	242.96	0.3
Reach1	63940	2%_Proj	2869	350.3	358.63	355.6	358.87	0.001135	4.46	1148.77	311.11	0.3
Reach1	63940	1%_Proj	3354	350.3	359.39	356.01	359.62	0.001019	4.51	1402.08	358.11	0.29
Reach1	63940	0.2%_Proj	4331	350.3	360.94	356.58	361.12	0.000694	4.18	2350.49	1121.79	0.25
Reach1	63930	10%_Cur	1821	350.3	357.23		357.38	0.000904	3.44	836.02	257.93	0.27
Reach1	63930	2%_Cur	2608	350.3	358.31		358.49	0.000924	3.88	1129.26	292.75	0.28
Reach1	63930	1%_Cur	3049	350.3	358.87		359.07	0.00092	4.07	1303.46	328.75	0.28
Reach1	63930	0.2%_Cur	3937	350.3	360.52		360.68	0.000629	3.82	1996.7	736.66	0.23
Reach1	63930	10%_Proj	2003	350.3	357.49		357.65	0.00091	3.55	903.37	262.97	0.27
Reach1	63930	2%_Proj	2869	350.3	358.64		358.84	0.000923	3.99	1229.54	309.25	0.28
Reach1	63930	1%_Proj	3354	350.3	359.4		359.59	0.000831	4.04	1483.62	356.11	0.26
Reach1	63930	0.2%_Proj	4331	350.3	360.95		361.1	0.000587	3.81	2409.41	1120.32	0.23
Reach1	63845	10%_Cur	1821	347.4	357.11		357.3	0.000981	3.83	842.92	291.22	0.28
Reach1	63845	2%_Cur	2608	347.4	358.2		358.41	0.001055	4.25	1202.94	373.73	0.28
Reach1	63845	1%_Cur	3049	347.4	358.78		358.99	0.001029	4.35	1435.46	425.53	0.28
Reach1	63845	0.2%_Cur	3937	347.4	360.49		360.62	0.00062	3.71	2389.71	897.84	0.21
Reach1	63845	10%_Proj	2003	347.4	357.37		357.56	0.00101	3.95	920.02	309.31	0.28
Reach1	63845	2%_Proj	2869	347.4	358.54		358.75	0.001048	4.33	1335.51	401.78	0.28
Reach1	63845	1%_Proj	3354	347.4	359.33		359.52	0.000894	4.18	1684.28	479.26	0.26
Reach1	63845	0.2%_Proj	4331	347.4	360.93		361.04	0.000552	3.58	2867.47	1271.1	0.2
Reach1	63280	10%_Cur	1821	346.7	356.72		356.79	0.000743	2.39	1128.33	462.33	0.17
Reach1	63280	2%_Cur	2608	346.7	357.89		357.94	0.000552	2.31	1726.48	558.75	0.15
Reach1	63280	1%_Cur	3049	346.7	358.53		358.58	0.000454	2.22	2096.6	601.77	0.14
Reach1	63280	0.2%_Cur	3937	346.7	360.36		360.39	0.000231	1.82	3446.46	1095.17	0.1
Reach1	63280	10%_Proj	2003	346.7	356.99		357.06	0.000705	2.4	1256.67	485.8	0.17
Reach1	63280	2%_Proj	2869	346.7	358.26		358.32	0.000493	2.26	1940.46	583.78	0.14
Reach1	63280	1%_Proj	3354	346.7	359.13		359.18	0.000355	2.06	2476.15	650.35	0.12
Reach1	63280	0.2%_Proj	4331	346.7	360.81		360.84	0.00021	1.78	4022.93	1422.57	0.1
Reach1	62671	10%_Cur	1821	346.4	356.34		356.4	0.000541	2.5	1357.84	379.07	0.19
Reach1	62671	2%_Cur	2608	346.4	357.55		357.62	0.000516	2.69	1839.02	418.86	0.19
Reach1	62671	1%_Cur	3049	346.4	358.21		358.28	0.000492	2.75	2126.55	444.46	0.18

Reach1	62671	0.2%_Cur	3937	346.4	360.13	360.2	0.000414	2.85	3451.54	1170.59	0.17
Reach1	62671	10%_Proj	2003	346.4	356.61	356.68	0.00054	2.56	1464.12	386.43	0.19
Reach1	62671	2%_Proj	2869	346.4	357.94	358.01	0.000504	2.73	2005.3	434	0.19
Reach1	62671	1%_Proj	3354	346.4	358.86	358.93	0.000449	2.75	2427.81	492.65	0.18
Reach1	62671	0.2%_Proj	4331	346.4	360.61	360.67	0.00036	2.74	4102.01	1590.98	0.16
Reach1	61788	10%_Cur	1850	347.7	355.72	355.75	0.001103	1.38	1424.76	384.43	0.12
Reach1	61788	2%_Cur	2650	347.7	357.01	357.04	0.000877	1.47	1934.91	405.99	0.11
Reach1	61788	1%_Cur	3100	347.7	357.72	357.75	0.000779	1.5	2227.13	417.51	0.11
Reach1	61788	0.2%_Cur	4000	347.7	359.78	359.81	0.000484	1.43	3454.76	1315.67	0.09
Reach1	61788	10%_Proj	2035	347.7	356.01	356.04	0.001053	1.41	1537.72	389.65	0.12
Reach1	61788	2%_Proj	2915	347.7	357.43	357.46	0.000819	1.49	2104.62	412.72	0.11
Reach1	61788	1%_Proj	3410	347.7	358.43	358.46	0.000658	1.49	2527.77	448.28	0.1
Reach1	61788	0.2%_Proj	4400	347.7	360.31	360.33	0.000409	1.37	4238.48	1609.74	0.08
Reach1	61059	10%_Cur	1850	348.8	355.14	355.19	0.000568	1.75	1114.46	266.43	0.14
Reach1	61059	2%_Cur	2650	348.8	356.5	356.55	0.000536	1.92	1491.26	297.18	0.14
Reach1	61059	1%_Cur	3100	348.8	357.24	357.3	0.000507	1.99	1725.95	330.33	0.13
Reach1	61059	0.2%_Cur	4000	348.8	359.53	359.56	0.000254	1.65	3194.26	950.44	0.1
Reach1	61059	10%_Proj	2035	348.8	355.44	355.49	0.00057	1.8	1195.18	271.44	0.14
Reach1	61059	2%_Proj	2915	348.8	356.93	356.99	0.000521	1.97	1624.97	317.13	0.14
Reach1	61059	1%_Proj	3410	348.8	358.03	358.08	0.000423	1.93	2024.38	550.21	0.12
Reach1	61059	0.2%_Proj	4400	348.8	360.1	360.13	0.000218	1.58	3768.54	1092.95	0.09
Reach1	60659	10%_Cur	1850	348.93	354.96	354.98	0.000432	1.22	1833.05	535.89	0.11
Reach1	60659	2%_Cur	2650	348.93	356.35	356.37	0.000332	1.24	2594.92	561.48	0.1
Reach1	60659	1%_Cur	3100	348.93	357.12	357.14	0.000291	1.24	3030.55	578.01	0.09
Reach1	60659	0.2%_Cur	4000	348.93	359.47	359.48	0.000147	1.06	4840.92	1081.17	0.06
Reach1	60659	10%_Proj	2035	348.93	355.27	355.29	0.00041	1.23	1998.36	540.7	0.11
Reach1	60659	2%_Proj	2915	348.93	356.8	356.82	0.000308	1.24	2846.96	570.96	0.09
Reach1	60659	1%_Proj	3410	348.93	357.93	357.95	0.000237	1.2	3546.24	692.52	0.08
Reach1	60659	0.2%_Proj	4400	348.93	360.04	360.05	0.000131	1.04	5531.44	1259.91	0.06
Reach1	60262	10%_Cur	1850	345.5	354.77	354.82	0.000356	1.85	1109.31	272.25	0.14
Reach1	60262	2%_Cur	2650	345.5	356.17	356.23	0.000353	2.01	1548.76	344.57	0.14
Reach1	60262	1%_Cur	3100	345.5	356.95	357.01	0.000332	2.04	1827.51	373	0.13
Reach1	60262	0.2%_Cur	4000	345.5	359.37	359.41	0.000191	1.76	3100.21	823.72	0.1
Reach1	60262	10%_Proj	2035	345.5	355.07	355.13	0.000366	1.91	1195.27	290.95	0.14
Reach1	60262	2%_Proj	2915	345.5	356.62	356.68	0.000343	2.03	1708.14	361.04	0.13
Reach1	60262	1%_Proj	3410	345.5	357.79	357.84	0.000275	1.95	2154.64	413.81	0.12
Reach1	60262	0.2%_Proj	4400	345.5	359.96	359.99	0.00017	1.71	3627.02	1046.69	0.09

Reach1	59756	10%_Cur	1850	346.6	354.47		354.52	0.001139	2.17	1087.99	299.53	0.16
Reach1	59756	2%_Cur	2650	346.6	355.91		355.97	0.000818	2.15	1547.8	337.12	0.14
Reach1	59756	1%_Cur	3100	346.6	356.72		356.77	0.000689	2.12	1830.54	369.94	0.13
Reach1	59756	0.2%_Cur	4000	346.6	359.26		359.29	0.000293	1.67	3132.65	751	0.09
Reach1	59756	10%_Proj	2035	346.6	354.78		354.83	0.001079	2.19	1181.64	307.18	0.16
Reach1	59756	2%_Proj	2915	346.6	356.38		356.44	0.000739	2.13	1709.06	352.47	0.14
Reach1	59756	1%_Proj	3410	346.6	357.6		357.65	0.000528	2	2186.4	456.58	0.12
Reach1	59756	0.2%_Proj	4400	346.6	359.86		359.88	0.000251	1.61	3627.87	867.35	0.09
Reach1	59164	10%_Cur	1850	337.8	354.22		354.25	0.000253	1.43	1718.37	376.75	0.08
Reach1	59164	2%_Cur	2650	337.8	355.7		355.73	0.000249	1.55	2300.91	415.41	0.08
Reach1	59164	1%_Cur	3100	337.8	356.53		356.56	0.000233	1.57	2654.63	437.88	0.08
Reach1	59164	0.2%_Cur	4000	337.8	359.16		359.18	0.000142	1.39	4016.7	686.36	0.06
Reach1	59164	10%_Proj	2035	337.8	354.53		354.56	0.000261	1.48	1835.52	383.71	0.08
Reach1	59164	2%_Proj	2915	337.8	356.18		356.21	0.000241	1.57	2504.14	429.12	0.08
Reach1	59164	1%_Proj	3410	337.8	357.45		357.48	0.000192	1.5	3072.85	480.01	0.07
Reach1	59164	0.2%_Proj	4400	337.8	359.77		359.78	0.000132	1.38	4454.73	739.55	0.06
Reach1	58414	10%_Cur	1850	346.3	353.91		353.93	0.000935	1.22	1627.67	457.63	0.11
Reach1	58414	2%_Cur	2650	346.3	355.44		355.46	0.000615	1.23	2364.3	501.45	0.09
Reach1	58414	1%_Cur	3100	346.3	356.3		356.32	0.000498	1.22	2803.15	517.9	0.08
Reach1	58414	0.2%_Cur	4000	346.3	359.04		359.05	0.000221	1.03	4338.46	620.06	0.06
Reach1	58414	10%_Proj	2035	346.3	354.22		354.24	0.000871	1.24	1771.25	465.65	0.1
Reach1	58414	2%_Proj	2915	346.3	355.94		355.96	0.000544	1.22	2617.1	510.99	0.09
Reach1	58414	1%_Proj	3410	346.3	357.28		357.29	0.000361	1.14	3319.29	540.75	0.07
Reach1	58414	0.2%_Proj	4400	346.3	359.66		359.67	0.000207	1.04	4731.71	655.44	0.06
Reach1	57798	10%_Cur	1850	343.3	353.43		353.46	0.000738	1.44	1443.44	450.77	0.11
Reach1	57798	2%_Cur	2650	343.3	355.19		355.21	0.000337	1.18	2381.41	642.55	0.08
Reach1	57798	1%_Cur	3100	343.3	356.12		356.14	0.000231	1.06	2995.76	674.58	0.07
Reach1	57798	0.2%_Cur	4000	343.3	358.97		358.98	0.000078	0.76	5026.86	764.62	0.04
Reach1	57798	10%_Proj	2035	343.3	353.79		353.82	0.000636	1.4	1610.85	470.61	0.1
Reach1	57798	2%_Proj	2915	343.3	355.73		355.75	0.00027	1.11	2735.96	665.8	0.07
Reach1	57798	1%_Proj	3410	343.3	357.16		357.17	0.000143	0.91	3707.34	696.03	0.05
Reach1	57798	0.2%_Proj	4400	343.3	359.59		359.6	0.000072	0.75	5510.46	786.47	0.04
Reach1	57733	10%_Cur	1850	345.8	353.24	349.78	353.38	0.000592	3.09	660.53	671.51	0.24
Reach1	57733	2%_Cur	2650	345.8	354.99	350.71	355.14	0.000456	3.22	913.49	722.55	0.21
Reach1	57733	1%_Cur	3100	345.8	355.92	351.04	356.07	0.00041	3.3	1046.59	738.74	0.21
Reach1	57733	0.2%_Cur	4000	345.8	358.97	351.59	358.98	0.000036	1.2	6042.16	823.27	0.06
Reach1	57733	10%_Proj	2035	345.8	353.6	350.01	353.74	0.000573	3.16	712.32	684.64	0.24
Reach1	57733	2%_Proj	2915	345.8	355.53	350.91	355.69	0.000429	3.27	991.07	732.48	0.21

Reach1	57733	1%_Proj	3410	345.8	356.97	351.24	357.12	0.000324	3.17	1198.73	757.03	0.19
Reach1	57733	0.2%_Proj	4400	345.8	359.59	351.8	359.6	0.000035	1.21	6562.46	844.47	0.06
Reach1	57679.5	Bridge	Bridge									
Reach1	57622	10%_Cur	1850	345.7	352.96	349.67	353.16	0.000797	3.66	530.58	678.53	0.27
Reach1	57622	2%_Cur	2650	345.7	354.42	350.45	354.67	0.000757	4.09	684.75	718.53	0.27
Reach1	57622	1%_Cur	3100	345.7	355.09	350.79	355.37	0.000768	4.35	754.48	759.49	0.28
Reach1	57622	0.2%_Cur	4000	345.7	357.71	351.46	357.72	0.000047	1.29	5585.38	823.63	0.07
Reach1	57622	10%_Proj	2035	345.7	353.29	349.86	353.51	0.000795	3.78	565.95	686.34	0.28
Reach1	57622	2%_Proj	2915	345.7	354.81	350.66	355.08	0.000766	4.25	725.8	748.04	0.28
Reach1	57622	1%_Proj	3410	345.7	355.92	351.04	356.2	0.00066	4.29	842.3	783.16	0.26
Reach1	57622	0.2%_Proj	4400	345.7	358.85	351.71	358.87	0.000036	1.2	6543.49	856.4	0.06
Reach1	57551	10%_Cur	1850	342.2	353.05		353.07	0.000365	1.43	1909.28	562.73	0.1
Reach1	57551	2%_Cur	2650	342.2	354.56		354.58	0.000227	1.31	2791.81	606.03	0.08
Reach1	57551	1%_Cur	3100	342.2	355.25		355.26	0.000199	1.3	3215.86	628.51	0.08
Reach1	57551	0.2%_Cur	4000	342.2	357.71		357.72	0.000094	1.06	4924.27	756.48	0.06
Reach1	57551	10%_Proj	2035	342.2	353.4		353.41	0.000325	1.4	2107.11	572.44	0.1
Reach1	57551	2%_Proj	2915	342.2	354.96		354.98	0.00021	1.3	3039.81	618.29	0.08
Reach1	57551	1%_Proj	3410	342.2	356.08		356.1	0.000153	1.22	3759.14	676.43	0.07
Reach1	57551	0.2%_Proj	4400	342.2	358.85		358.86	0.000065	0.95	5793.38	762.55	0.05
Reach1	56819	10%_Cur	1850	343.7	352.6	348.51	352.71	0.000692	2.65	783.95	215.17	0.21
Reach1	56819	2%_Cur	2650	343.7	354.2	349.75	354.31	0.000631	2.76	1152.44	245.6	0.19
Reach1	56819	1%_Cur	3100	343.7	354.9	350.11	355.02	0.000631	2.87	1329	258.88	0.19
Reach1	56819	0.2%_Cur	4000	343.7	357.5	350.6	357.59	0.000387	2.56	2318.88	680.33	0.14
Reach1	56819	10%_Proj	2035	343.7	352.97	348.72	353.08	0.000685	2.69	864.85	222.15	0.2
Reach1	56819	2%_Proj	2915	343.7	354.61	349.96	354.73	0.000633	2.83	1255.29	253.42	0.19
Reach1	56819	1%_Proj	3410	343.7	355.8	350.29	355.9	0.000528	2.75	1568.88	278.63	0.17
Reach1	56819	0.2%_Proj	4400	343.7	358.7	350.81	358.77	0.000287	2.33	3306.81	912.09	0.12

Plan: Alt 1-3

Flows: Current and Projected Future

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach1	86857	10%_Cur	330	612.24	618.4		618.4	0.000006	0.22	2753.84	1929.82	0.02
Reach1	86857	2%_Cur	490	612.24	618.83		618.83	0.000007	0.25	3615.59	2070.9	0.02
Reach1	86857	1%_Cur	545	612.24	618.94		618.94	0.000007	0.26	3848.25	2101.28	0.02
Reach1	86857	0.2%_Cur	770	612.24	619.33		619.33	0.000009	0.31	4685.4	2188.02	0.03
Reach1	86857	10%_Proj	363	612.24	618.52		618.52	0.000006	0.22	2990.59	1960.19	0.02
Reach1	86857	2%_Proj	539	612.24	618.94		618.94	0.000007	0.26	3848.13	2101.27	0.02
Reach1	86857	1%_Proj	600	612.24	619.05		619.05	0.000007	0.27	4079.66	2125.36	0.02
Reach1	86857	0.2%_Proj	847	612.24	619.45		619.45	0.000009	0.32	4942.31	2197.86	0.03
Reach1	86624	10%_Cur	620	612.9	618.39		618.39	0.000031	0.52	2365.01	1842.59	0.05
Reach1	86624	2%_Cur	900	612.9	618.82		618.83	0.00003	0.55	3162.81	1861.52	0.05
Reach1	86624	1%_Cur	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach1	86624	0.2%_Cur	1370	612.9	619.32		619.33	0.000033	0.62	4100.25	1879.37	0.05
Reach1	86624	10%_Proj	682	612.9	618.51		618.52	0.00003	0.52	2589.65	1849.45	0.05
Reach1	86624	2%_Proj	990	612.9	618.93		618.94	0.000031	0.56	3370.41	1865.88	0.05
Reach1	86624	1%_Proj	1089	612.9	619.04		619.05	0.000031	0.58	3574.72	1869.96	0.05
Reach1	86624	0.2%_Proj	1507	612.9	619.44		619.44	0.000034	0.64	4320.15	1883.51	0.05
Reach1	86586	10%_Cur	620	611.6	618.39	615.16	618.39	0.000028	0.53	2407.14	1808.66	0.05
Reach1	86586	2%_Cur	900	611.6	618.82	616.19	618.82	0.000028	0.56	3189.64	1826.91	0.05
Reach1	86586	1%_Cur	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach1	86586	0.2%_Cur	1370	611.6	619.32	616.74	619.32	0.000032	0.64	4109.51	1846.56	0.05
Reach1	86586	10%_Proj	682	611.6	618.51	615.43	618.51	0.000027	0.53	2627.46	1813.7	0.05
Reach1	86586	2%_Proj	990	611.6	618.93	616.3	618.93	0.000029	0.58	3393.38	1831.33	0.05
Reach1	86586	1%_Proj	1089	611.6	619.04	616.43	619.04	0.00003	0.59	3593.7	1835.67	0.05
Reach1	86586	0.2%_Proj	1507	611.6	619.44	616.85	619.44	0.000033	0.66	4325.49	1851.38	0.05
Reach1	86548	Bridge	Bridge									
Reach1	86510	10%_Cur	620	611.6	618.32	615.23	618.36	0.000307	2.1	1039.97	1082.31	0.17
Reach1	86510	2%_Cur	900	611.6	618.76	616.02	618.8	0.000299	2.19	1572.61	1325.1	0.17
Reach1	86510	1%_Cur	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach1	86510	0.2%_Cur	1370	611.6	619.27	617.85	619.3	0.000317	2.4	2328.91	1681.77	0.17
Reach1	86510	10%_Proj	682	611.6	618.45	615.42	618.48	0.000291	2.08	1184.6	1136.88	0.16
Reach1	86510	2%_Proj	990	611.6	618.88	616.24	618.91	0.000295	2.21	1731.17	1413.61	0.16
Reach1	86510	1%_Proj	1089	611.6	618.99	616.47	619.02	0.000291	2.23	1891.94	1461.88	0.16
Reach1	86510	0.2%_Proj	1507	611.6	619.39	617.94	619.42	0.000311	2.4	2531.23	1700.63	0.17

Reach1	86469	10%_Cur	620	613.41	618.16	618.3	0.001658	3.79	504.77	771.36	0.37
Reach1	86469	2%_Cur	900	613.41	618.68	618.76	0.001075	3.36	953.56	989.51	0.3
Reach1	86469	1%_Cur	990	613.41	618.8	618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach1	86469	0.2%_Cur	1370	613.41	619.21	619.26	0.000882	3.32	1600.57	1377.88	0.28
Reach1	86469	10%_Proj	682	613.41	618.33	618.43	0.001348	3.53	639.71	830.97	0.33
Reach1	86469	2%_Proj	990	613.41	618.8	618.87	0.001029	3.35	1078.13	1110.72	0.3
Reach1	86469	1%_Proj	1089	613.41	618.91	618.98	0.001007	3.38	1210.77	1210.99	0.3
Reach1	86469	0.2%_Proj	1507	613.41	619.33	619.38	0.000826	3.27	1777.92	1444.53	0.27
Reach1	85402	10%_Cur	620	612.08	617.39	617.43	0.000455	1.78	517.02	1139.15	0.17
Reach1	85402	2%_Cur	900	612.08	618	618.04	0.000454	1.93	1147.3	1278.53	0.17
Reach1	85402	1%_Cur	990	612.08	618.13	618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach1	85402	0.2%_Cur	1370	612.08	618.55	618.6	0.000467	2.09	1910.73	1495.79	0.17
Reach1	85402	10%_Proj	682	612.08	617.54	617.59	0.000506	1.92	592.38	1164.5	0.18
Reach1	85402	2%_Proj	990	612.08	618.13	618.17	0.000449	1.95	1315.34	1304.16	0.17
Reach1	85402	1%_Proj	1089	612.08	618.21	618.26	0.000478	2.04	1431.44	1353.92	0.17
Reach1	85402	0.2%_Proj	1507	612.08	618.7	618.74	0.000457	2.11	2138.09	1570.66	0.17
Reach1	84756	10%_Cur	620	612.91	617.37	617.38	0.000025	0.97	1256.78	891.37	0.09
Reach1	84756	2%_Cur	900	612.91	617.97	617.99	0.000028	1.14	2167.81	1977.95	0.1
Reach1	84756	1%_Cur	990	612.91	618.09	618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach1	84756	0.2%_Cur	1370	612.91	618.51	618.53	0.000038	1.42	3312.27	2214.88	0.11
Reach1	84756	10%_Proj	682	612.91	617.52	617.54	0.000026	1.02	1421.28	1269.51	0.09
Reach1	84756	2%_Proj	990	612.91	618.09	618.11	0.00003	1.19	2424.54	2084.3	0.1
Reach1	84756	1%_Proj	1089	612.91	618.18	618.2	0.000033	1.27	2600.15	2124.25	0.1
Reach1	84756	0.2%_Proj	1507	612.91	618.65	618.68	0.00004	1.48	3636.73	2286.69	0.12
Reach1	84575	10%_Cur	620	612	617.36	617.37	0.000278	1.19	900.7	426.26	0.1
Reach1	84575	2%_Cur	900	612	617.96	617.97	0.000289	1.31	1367.16	1279.56	0.11
Reach1	84575	1%_Cur	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach1	84575	0.2%_Cur	1370	612	618.5	618.51	0.000306	1.43	2138.8	1529.92	0.11
Reach1	84575	10%_Proj	682	612	617.51	617.52	0.000284	1.23	971.22	542.95	0.11
Reach1	84575	2%_Proj	990	612	618.08	618.1	0.000297	1.35	1534.47	1344.1	0.11
Reach1	84575	1%_Proj	1089	612	618.17	618.18	0.000317	1.41	1648.2	1405.51	0.11
Reach1	84575	0.2%_Proj	1507	612	618.64	618.66	0.000298	1.44	2363.55	1561.07	0.11
Reach1	83675	10%_Cur	620	609.25	617.23	617.25	0.000076	1.35	852.79	357.14	0.09
Reach1	83675	2%_Cur	900	609.25	617.79	617.82	0.000111	1.71	1147.51	678.63	0.11
Reach1	83675	1%_Cur	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12
Reach1	83675	0.2%_Cur	1370	609.25	618.25	618.3	0.000184	2.29	1492.9	812.49	0.14
Reach1	83675	10%_Proj	682	609.25	617.37	617.4	0.000084	1.44	908.98	445.18	0.09
Reach1	83675	2%_Proj	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12

Reach1	83675	1%_Proj	1089	609.25	617.96	618	0.000143	1.98	1266.05	734.13	0.13
Reach1	83675	0.2%_Proj	1507	609.25	618.38	618.44	0.000201	2.42	1601.15	840.5	0.15
Reach1	83646	10%_Cur	620	608.7	617.23	617.25	0.000127	1.83	1039.75	660.72	0.12
Reach1	83646	2%_Cur	900	608.7	617.79	617.81	0.000163	2.16	1497.72	960.45	0.13
Reach1	83646	1%_Cur	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	0.2%_Cur	1370	608.7	618.25	618.29	0.000233	2.68	1968.83	1056.28	0.16
Reach1	83646	10%_Proj	682	608.7	617.37	617.39	0.000134	1.9	1137.9	738.11	0.12
Reach1	83646	2%_Proj	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	1%_Proj	1089	608.7	617.96	617.99	0.000201	2.44	1664.17	999.74	0.15
Reach1	83646	0.2%_Proj	1507	608.7	618.39	618.42	0.000244	2.77	2110.74	1071.61	0.16
Reach1	79531	10%_Cur	620	480.5	484.81	485.44	0.015564	6.39	98.26	37.28	0.68
Reach1	79531	2%_Cur	900	480.5	485.55	486.37	0.014765	7.29	126.38	38.57	0.69
Reach1	79531	1%_Cur	990	480.5	485.76	486.64	0.014721	7.57	134.42	38.94	0.69
Reach1	79531	0.2%_Cur	1370	480.5	486.5	487.66	0.015199	8.69	163.94	40.24	0.73
Reach1	79531	10%_Proj	682	480.5	484.97	485.65	0.015587	6.64	104.26	37.56	0.68
Reach1	79531	2%_Proj	990	480.5	485.74	486.63	0.014926	7.6	133.83	38.91	0.7
Reach1	79531	1%_Proj	1089	480.5	485.96	486.92	0.014891	7.88	142.34	39.29	0.7
Reach1	79531	0.2%_Proj	1507	480.5	486.75	488.01	0.01531	9.04	173.99	40.67	0.73
Reach1	79022	10%_Cur	700	478	484.08	484.21	0.000881	3.02	308.62	138.77	0.28
Reach1	79022	2%_Cur	1030	478	485.05	485.19	0.000794	3.29	447.96	148.3	0.27
Reach1	79022	1%_Cur	1140	478	485.28	485.43	0.000809	3.42	482.93	150.59	0.27
Reach1	79022	0.2%_Cur	1580	478	486.19	486.38	0.000815	3.8	624.49	161.29	0.28
Reach1	79022	10%_Proj	770	478	484.22	484.36	0.000925	3.17	328.66	140.21	0.29
Reach1	79022	2%_Proj	1133	478	485.27	485.42	0.000808	3.41	480.67	150.44	0.27
Reach1	79022	1%_Proj	1254	478	485.52	485.68	0.000818	3.54	519.04	152.91	0.28
Reach1	79022	0.2%_Proj	1738	478	486.51	486.7	0.000807	3.91	676.14	165.82	0.28
Reach1	79012	10%_Cur	700	478.5	483.97	481.94	484.17	0.001987	3.57	198.9	63	0.33
Reach1	79012	2%_Cur	1030	478.5	484.88	482.53	485.14	0.002013	4.17	260.66	111.74	0.34
Reach1	79012	1%_Cur	1140	478.5	485.08	482.7	485.38	0.002108	4.39	275.67	119.13	0.36
Reach1	79012	0.2%_Cur	1580	478.5	485.9	483.33	486.3	0.002311	5.11	336.13	133.69	0.38
Reach1	79012	10%_Proj	770	478.5	484.1	482.07	484.32	0.002146	3.8	206.83	64.63	0.34
Reach1	79012	2%_Proj	1133	478.5	485.07	482.69	485.36	0.002103	4.38	274.7	118.66	0.35
Reach1	79012	1%_Proj	1254	478.5	485.3	482.88	485.62	0.00219	4.61	291.19	127.87	0.36
Reach1	79012	0.2%_Proj	1738	478.5	486.19	483.54	486.62	0.002341	5.32	357.32	136.43	0.39
Reach1	78964	Bridge	Bridge								
Reach1	78916	10%_Cur	700	478.5	483.97	481.94	484.17	0.002006	3.57	197.5	57.49	0.33

Reach1	78916	2%_Cur	1030	478.5	484.52	482.53	484.84	0.002716	4.55	229.44	59.92	0.39
Reach1	78916	1%_Cur	1140	478.5	484.68	482.7	485.04	0.002925	4.85	239.24	60.65	0.41
Reach1	78916	0.2%_Cur	1580	478.5	485.31	483.33	485.84	0.003547	5.84	278.4	63.47	0.46
Reach1	78916	10%_Proj	770	478.5	484.1	482.08	484.32	0.002168	3.79	204.68	58.04	0.34
Reach1	78916	2%_Proj	1133	478.5	484.67	482.69	485.03	0.002913	4.83	238.59	60.6	0.41
Reach1	78916	1%_Proj	1254	478.5	484.85	482.88	485.25	0.003121	5.13	249.27	61.38	0.43
Reach1	78916	0.2%_Proj	1738	478.5	485.53	483.53	486.11	0.003703	6.15	292.47	64.45	0.48
Reach1	78894	10%_Cur	700	477.3	483.88		484.12	0.001347	3.93	179.14	44.45	0.33
Reach1	78894	2%_Cur	1030	477.3	484.33		484.76	0.002094	5.23	199.62	46.71	0.42
Reach1	78894	1%_Cur	1140	477.3	484.46		484.95	0.002355	5.64	205.41	47.33	0.45
Reach1	78894	0.2%_Cur	1580	477.3	484.89		485.68	0.003395	7.17	226.41	49.51	0.55
Reach1	78894	10%_Proj	770	477.3	483.99		484.27	0.001502	4.22	183.92	44.99	0.35
Reach1	78894	2%_Proj	1133	477.3	484.45		484.94	0.002339	5.62	205.03	47.29	0.45
Reach1	78894	1%_Proj	1254	477.3	484.58		485.14	0.002627	6.06	211.09	47.93	0.48
Reach1	78894	0.2%_Proj	1738	477.3	485.02		485.93	0.003782	7.69	232.96	50.18	0.58
Reach1	78501	10%_Cur	700	474	483.99		484.01	0.000042	0.97	726.88	144.72	0.07
Reach1	78501	2%_Cur	1030	474	484.53		484.56	0.000072	1.3	809.23	161.41	0.09
Reach1	78501	1%_Cur	1140	474	484.69		484.72	0.000082	1.41	834.76	164.47	0.1
Reach1	78501	0.2%_Cur	1580	474	485.27		485.32	0.000125	1.78	933.79	173.59	0.12
Reach1	78501	10%_Proj	770	474	484.12		484.14	0.000048	1.04	745.08	148.92	0.08
Reach1	78501	2%_Proj	1133	474	484.68		484.71	0.000082	1.4	833.1	164.32	0.1
Reach1	78501	1%_Proj	1254	474	484.84		484.88	0.000093	1.51	860.57	166.9	0.1
Reach1	78501	0.2%_Proj	1738	474	485.47		485.52	0.00014	1.9	967.59	176.6	0.13
Reach1	78445	10%_Cur	700	472.5	484	473.88	484	0.000026	0.4	1755.52	211.6	0.02
Reach1	78445	2%_Cur	1030	472.5	484.54	474.25	484.55	0.000046	0.55	1871.03	214.44	0.03
Reach1	78445	1%_Cur	1140	472.5	484.7	474.37	484.71	0.000053	0.6	1905.07	215.27	0.03
Reach1	78445	0.2%_Cur	1580	472.5	485.3	474.79	485.31	0.000082	0.78	2033.86	218.38	0.04
Reach1	78445	10%_Proj	770	472.5	484.13	473.96	484.13	0.00003	0.43	1782.01	212.26	0.03
Reach1	78445	2%_Proj	1133	472.5	484.69	474.36	484.7	0.000052	0.6	1902.86	215.22	0.03
Reach1	78445	1%_Proj	1254	472.5	484.86	474.48	484.87	0.00006	0.65	1939.11	216.1	0.04
Reach1	78445	0.2%_Proj	1738	472.5	485.49	474.92	485.5	0.000093	0.84	2076.77	219.41	0.05
Reach1	78435	Inl	Inl Struct									
Reach1	78428	10%_Cur	700	472.5	473.85	473.85	474.47	0.021855	6.34	111.94	96.14	1
Reach1	78428	2%_Cur	1030	472.5	474.22	474.22	475.01	0.020282	7.16	149.18	103.38	0.99
Reach1	78428	1%_Cur	1140	472.5	474.34	474.34	475.17	0.019874	7.39	161.11	105.59	0.99
Reach1	78428	0.2%_Cur	1580	472.5	474.76	474.76	475.77	0.018542	8.17	207.41	113.78	0.98
Reach1	78428	10%_Proj	770	472.5	473.93	473.93	474.59	0.021431	6.53	120.13	97.77	0.99

Reach1	78428	2%_Proj	1133	472.5	474.33	474.33	475.16	0.019904	7.37	160.34	105.45	0.99
Reach1	78428	1%_Proj	1254	472.5	474.45	474.45	475.34	0.019405	7.6	173.56	107.85	0.98
Reach1	78428	0.2%_Proj	1738	472.5	474.9	474.9	475.97	0.018227	8.42	223.29	116.45	0.98
Reach1	78376	10%_Cur	700	468	473.05		473.11	0.000424	2.07	366.62	113.71	0.18
Reach1	78376	2%_Cur	1030	468	474.18		474.26	0.000401	2.33	501.5	124.39	0.18
Reach1	78376	1%_Cur	1140	468	474.44		474.53	0.000415	2.44	534.24	126.69	0.19
Reach1	78376	0.2%_Cur	1580	468	475.12		475.25	0.000532	2.97	622.65	132.68	0.21
Reach1	78376	10%_Proj	770	468	473.37		473.44	0.000395	2.09	404.64	116.89	0.18
Reach1	78376	2%_Proj	1133	468	474.43		474.52	0.000412	2.43	533.3	126.62	0.19
Reach1	78376	1%_Proj	1254	468	474.7		474.8	0.000427	2.55	567.93	129	0.19
Reach1	78376	0.2%_Proj	1738	468	475.45		475.59	0.000538	3.08	666.54	135.59	0.22
Reach1	78193	10%_Cur	700	466.4	472.55		472.93	0.002422	4.98	151.89	42.14	0.4
Reach1	78193	2%_Cur	1030	466.4	473.55		474.06	0.002613	5.88	196.99	47.87	0.43
Reach1	78193	1%_Cur	1140	466.4	473.74		474.32	0.002841	6.26	206.11	48.95	0.45
Reach1	78193	0.2%_Cur	1580	466.4	473.9		474.94	0.004951	8.41	213.91	49.85	0.6
Reach1	78193	10%_Proj	770	466.4	472.88		473.26	0.002306	5.08	165.95	44.01	0.4
Reach1	78193	2%_Proj	1133	466.4	473.74		474.31	0.002804	6.22	206.17	48.96	0.45
Reach1	78193	1%_Proj	1254	466.4	473.93		474.58	0.003058	6.63	215.53	50.04	0.47
Reach1	78193	0.2%_Proj	1738	466.4	474.1		475.26	0.005308	8.9	224.05	51	0.63
Reach1	78152	10%_Cur	700	467.3	472.64	469.96	472.72	0.00088	2.37	365.18	149.31	0.2
Reach1	78152	2%_Cur	1030	467.3	473.71	470.42	473.8	0.000824	2.59	530.34	160.69	0.2
Reach1	78152	1%_Cur	1140	467.3	473.92	470.56	474.02	0.000868	2.72	564.9	162.97	0.2
Reach1	78152	0.2%_Cur	1580	467.3	474.24	471.08	474.4	0.001343	3.49	617.47	166.38	0.26
Reach1	78152	10%_Proj	770	467.3	472.98	470.06	473.06	0.000803	2.36	416.27	152.92	0.19
Reach1	78152	2%_Proj	1133	467.3	473.92	470.54	474.02	0.000858	2.7	564.71	162.96	0.2
Reach1	78152	1%_Proj	1254	467.3	474.14	470.7	474.24	0.000906	2.84	600.5	165.29	0.21
Reach1	78152	0.2%_Proj	1738	467.3	474.49	471.26	474.67	0.001383	3.63	659.45	169.05	0.26
Reach1	78142.5	Bridge	Bridge									
Reach1	78133	10%_Cur	700	467.3	469.93	469.89	470.81	0.017791	7.55	92.98	63.64	0.96
Reach1	78133	2%_Cur	1030	467.3	470.49	470.44	471.63	0.017882	8.57	120.81	77.63	0.96
Reach1	78133	1%_Cur	1140	467.3	470.66	470.61	471.87	0.01774	8.85	129.68	82.04	0.96
Reach1	78133	0.2%_Cur	1580	467.3	471.38	471.27	472.57	0.014354	9.05	216.09	100.54	0.87
Reach1	78133	10%_Proj	770	467.3	470.05	470.02	471	0.017892	7.79	99.1	66.73	0.96
Reach1	78133	2%_Proj	1133	467.3	470.65	470.59	471.86	0.017753	8.83	129.11	81.76	0.96
Reach1	78133	1%_Proj	1254	467.3	470.85	470.77	472.12	0.017422	9.08	139.04	86.68	0.95
Reach1	78133	0.2%_Proj	1738	467.3	471.56	471.47	472.82	0.014448	9.35	234.75	105.34	0.88

Reach1	78088	10%_Cur	700	466.21	469.95		470.18	0.003567	3.85	195.88	107.1	0.43
Reach1	78088	2%_Cur	1030	466.21	470.61		470.9	0.003411	4.4	272.14	123.3	0.43
Reach1	78088	1%_Cur	1140	466.21	470.82		471.13	0.003327	4.53	298.63	128.34	0.43
Reach1	78088	0.2%_Cur	1580	466.21	471.52		471.89	0.003257	5.07	393.57	144.08	0.44
Reach1	78088	10%_Proj	770	466.21	470.09		470.34	0.003555	3.99	211.66	110.65	0.43
Reach1	78088	2%_Proj	1133	466.21	470.81		471.11	0.003333	4.52	296.92	128.03	0.43
Reach1	78088	1%_Proj	1254	466.21	471.04		471.36	0.003215	4.64	327.33	133.29	0.43
Reach1	78088	0.2%_Proj	1738	466.21	471.71		472.12	0.003318	5.28	422.4	148.62	0.45
Reach1	77855	10%_Cur	700	465.51	468.73	468.1	469.16	0.005183	5.26	147.83	106.26	0.61
Reach1	77855	2%_Cur	1030	465.51	468.98	468.65	469.7	0.007817	6.91	175.27	118.48	0.77
Reach1	77855	1%_Cur	1140	465.51	469.02	468.83	469.87	0.008993	7.5	180.55	120.35	0.83
Reach1	77855	0.2%_Cur	1580	465.51	469.4	469.4	470.56	0.010411	8.85	229.47	136.46	0.91
Reach1	77855	10%_Proj	770	465.51	468.8	468.22	469.28	0.005642	5.6	155.35	110.95	0.64
Reach1	77855	2%_Proj	1133	465.51	469.02	468.82	469.86	0.008915	7.46	180.25	120.24	0.82
Reach1	77855	1%_Proj	1254	465.51	469.05	469	470.05	0.010439	8.14	184.13	121.6	0.89
Reach1	77855	0.2%_Proj	1738	465.51	469.58	469.58	470.79	0.010093	9.07	254.56	141.7	0.9
Reach1	77443	10%_Cur	700	463.7	465.65	465.5	466.06	0.011821	5.25	157.16	168.47	0.79
Reach1	77443	2%_Cur	1030	463.7	466.33		466.66	0.006477	4.84	285.18	205.78	0.6
Reach1	77443	1%_Cur	1140	463.7	466.56		466.87	0.005476	4.73	333.65	219.08	0.55
Reach1	77443	0.2%_Cur	1580	463.7	467.45		467.7	0.003105	4.34	552.09	254.4	0.43
Reach1	77443	10%_Proj	770	463.7	465.79	465.58	466.19	0.010243	5.15	182.34	178.49	0.74
Reach1	77443	2%_Proj	1133	463.7	466.54		466.85	0.005532	4.73	330.52	218.29	0.56
Reach1	77443	1%_Proj	1254	463.7	466.79		467.08	0.004658	4.62	387.25	233.12	0.51
Reach1	77443	0.2%_Proj	1738	463.7	467.78		468.01	0.002593	4.21	636.06	258.4	0.4
Reach1	77185	10%_Cur	700	462	464.9	463.54	465.06	0.001668	3.26	216.73	146.78	0.36
Reach1	77185	2%_Cur	1030	462	465.73	464	465.93	0.001457	3.66	291.47	177.64	0.35
Reach1	77185	1%_Cur	1140	462	466	464.13	466.21	0.001394	3.76	315.38	184.81	0.34
Reach1	77185	0.2%_Cur	1580	462	467.01	464.58	467.25	0.001213	4.11	405.02	209.23	0.33
Reach1	77185	10%_Proj	770	462	465.08	463.64	465.25	0.001617	3.35	233.24	157.61	0.36
Reach1	77185	2%_Proj	1133	462	465.99	464.13	466.19	0.001397	3.75	313.92	184.37	0.34
Reach1	77185	1%_Proj	1254	462	466.28	464.26	466.49	0.001336	3.85	339.7	201.53	0.34
Reach1	77185	0.2%_Proj	1738	462	467.34	464.72	467.59	0.001175	4.22	434.14	212.62	0.33
Reach1	77153.5	Bridge	Bridge									
Reach1	77122	10%_Cur	700	462	463.49	463.49	464.24	0.015388	5.91	104.23	64.57	0.86
Reach1	77122	2%_Cur	1030	462	463.96	463.96	464.9	0.014812	6.95	135.19	69.84	0.88
Reach1	77122	1%_Cur	1140	462	464.11	464.11	465.09	0.014402	7.2	145.87	71.87	0.88
Reach1	77122	0.2%_Cur	1580	462	464.63	464.63	465.76	0.013665	8.15	186.85	85.17	0.89

Reach1	77122	10%_Proj	770	462	463.58	463.58	464.39	0.015907	6.23	109.76	65.16	0.88
Reach1	77122	2%_Proj	1133	462	464.09	464.09	465.08	0.014551	7.2	144.78	71.55	0.88
Reach1	77122	1%_Proj	1254	462	464.28	464.28	465.28	0.013577	7.38	158.81	76.31	0.86
Reach1	77122	0.2%_Proj	1738	462	464.79	464.79	465.98	0.013651	8.47	200.08	88.69	0.9
Reach1	77052	10%_Cur	700	460.21	459.69	459.44	460.68	0.010826		87.74	34.73	0
Reach1	77052	2%_Cur	1030	460.21	460.73	460.73	461.63	0.009152	1.55	138.18	85.44	0.56
Reach1	77052	1%_Cur	1140	460.21	460.88	460.88	461.81	0.009346	2.07	151.37	88.79	0.61
Reach1	77052	0.2%_Cur	1580	460.21	461.41	461.41	462.44	0.009602	3.65	201.15	100.58	0.71
Reach1	77052	10%_Proj	770	460.21	459.81	459.63	460.9	0.011558		91.94	35.54	0
Reach1	77052	2%_Proj	1133	460.21	460.88	460.88	461.8	0.009272	2.05	151.04	88.71	0.61
Reach1	77052	1%_Proj	1254	460.21	461.05	461.05	461.99	0.0093	2.51	166.36	92.46	0.64
Reach1	77052	0.2%_Proj	1738	460.21	461.57	461.57	462.63	0.009729	4.12	217.1	104.09	0.73
Reach1	76409	10%_Cur	700	449.31	451.64	451.64	452.58	0.014601	7.79	91.99	52.95	0.98
Reach1	76409	2%_Cur	1030	449.31	452.27	452.27	453.35	0.011904	8.46	132.89	89.63	0.93
Reach1	76409	1%_Cur	1140	449.31	452.49	452.49	453.57	0.010788	8.51	154.75	107.26	0.89
Reach1	76409	0.2%_Cur	1580	449.31	453.09	453.09	454.31	0.009928	9.27	220.1	112.12	0.88
Reach1	76409	10%_Proj	770	449.31	451.8	451.8	452.76	0.01363	7.91	100.24	55.21	0.96
Reach1	76409	2%_Proj	1133	449.31	452.48	452.48	453.55	0.010862	8.51	153.2	106.15	0.9
Reach1	76409	1%_Proj	1254	449.31	452.66	452.66	453.77	0.010439	8.7	173.24	108.94	0.89
Reach1	76409	0.2%_Proj	1738	449.31	453.27	453.27	454.54	0.009871	9.56	240.04	113.45	0.89
Reach1	75569	10%_Cur	700	441.75	450.54		450.57	0.000238	1.41	675.84	161.06	0.1
Reach1	75569	2%_Cur	1030	441.75	451.72		451.76	0.000269	1.67	871.91	171.32	0.1
Reach1	75569	1%_Cur	1140	441.75	451.94		451.98	0.000295	1.79	909.26	173.18	0.11
Reach1	75569	0.2%_Cur	1580	441.75	452.59		452.65	0.000417	2.23	1022.61	177.95	0.13
Reach1	75569	10%_Proj	770	441.75	451.04		451.07	0.000216	1.41	757.23	165.47	0.09
Reach1	75569	2%_Proj	1133	441.75	451.92		451.96	0.000295	1.78	905.63	173	0.11
Reach1	75569	1%_Proj	1254	441.75	452.13		452.17	0.000326	1.9	941.92	174.65	0.12
Reach1	75569	0.2%_Proj	1738	441.75	452.76		452.83	0.000466	2.39	1053.87	179.21	0.14
Reach1	75540	10%_Cur	700	441.3	450.55	443.91	450.56	0.00004	0.92	938.09	197.48	0.06
Reach1	75540	2%_Cur	1030	441.3	451.73	444.5	451.75	0.00005	1.13	1180.86	213.38	0.07
Reach1	75540	1%_Cur	1140	441.3	451.95	444.67	451.97	0.000055	1.21	1227.34	214.12	0.07
Reach1	75540	0.2%_Cur	1580	441.3	452.59	445.38	452.63	0.000081	1.53	1366.83	216.34	0.09
Reach1	75540	10%_Proj	770	441.3	451.05	444.05	451.06	0.000038	0.94	1038.16	204.35	0.06
Reach1	75540	2%_Proj	1133	441.3	451.92	444.66	451.95	0.000055	1.21	1222.85	214.05	0.07
Reach1	75540	1%_Proj	1254	441.3	452.13	444.86	452.16	0.000061	1.3	1267.75	214.77	0.08
Reach1	75540	0.2%_Proj	1738	441.3	452.77	445.54	452.81	0.000091	1.65	1404.99	216.94	0.1
Reach1	75524.5	Bridge	Bridge									

Reach1	75509	10%_Cur	700	441.3	450.54	443.85	450.55	0.000052	1.15	809.56	214.26	0.07
Reach1	75509	2%_Cur	1030	441.3	451.71	444.47	451.74	0.000062	1.38	1065.72	220.19	0.08
Reach1	75509	1%_Cur	1140	441.3	451.93	444.63	451.96	0.000068	1.48	1113.37	221.2	0.09
Reach1	75509	0.2%_Cur	1580	441.3	452.57	445.3	452.62	0.000099	1.87	1255.9	224.21	0.11
Reach1	75509	10%_Proj	770	441.3	451.04	443.99	451.05	0.000048	1.16	917.24	217.01	0.07
Reach1	75509	2%_Proj	1133	441.3	451.91	444.64	451.94	0.000068	1.48	1108.75	221.11	0.09
Reach1	75509	1%_Proj	1254	441.3	452.12	444.82	452.15	0.000076	1.58	1154.73	222.08	0.09
Reach1	75509	0.2%_Proj	1738	441.3	452.74	445.52	452.8	0.000111	2	1294.69	225.02	0.11
Reach1	75463	10%_Cur	700	441.83	450.5		450.54	0.00016	1.7	556.37	174.96	0.11
Reach1	75463	2%_Cur	1030	441.83	451.67		451.73	0.000183	2.03	767.83	186.54	0.13
Reach1	75463	1%_Cur	1140	441.83	451.88		451.94	0.000202	2.16	807.29	188.49	0.13
Reach1	75463	0.2%_Cur	1580	441.83	452.49		452.59	0.000289	2.71	925.25	194.83	0.16
Reach1	75463	10%_Proj	770	441.83	451		451.04	0.000146	1.71	645.35	180.26	0.11
Reach1	75463	2%_Proj	1133	441.83	451.86		451.92	0.000201	2.16	803.38	188.3	0.13
Reach1	75463	1%_Proj	1254	441.83	452.06		452.13	0.000223	2.31	841.43	190.28	0.14
Reach1	75463	0.2%_Proj	1738	441.83	452.66		452.77	0.000324	2.91	957.1	196.33	0.17
Reach1	75435	10%_Cur	700	442.5	450.48		450.54	0.000206	2.09	480.55	178.59	0.15
Reach1	75435	2%_Cur	1030	442.5	451.64		451.72	0.000221	2.42	697.07	192.67	0.15
Reach1	75435	1%_Cur	1140	442.5	451.85		451.94	0.000241	2.57	737.47	195.25	0.16
Reach1	75435	0.2%_Cur	1580	442.5	452.46		452.58	0.000337	3.2	858.07	203.4	0.19
Reach1	75435	10%_Proj	770	442.5	450.98		451.04	0.000182	2.07	571.92	184.45	0.14
Reach1	75435	2%_Proj	1133	442.5	451.83		451.92	0.000241	2.57	733.42	195	0.16
Reach1	75435	1%_Proj	1254	442.5	452.03		452.12	0.000265	2.74	772.38	197.59	0.17
Reach1	75435	0.2%_Proj	1738	442.5	452.62		452.76	0.000376	3.42	890.49	205.57	0.21
Reach1	75422	10%_Cur	700	441.5	450.45	445.33	450.53	0.000863	2.41	438.39	177.48	0.16
Reach1	75422	2%_Cur	1030	441.5	451.63	446.19	451.71	0.000832	2.62	660.06	199.34	0.16
Reach1	75422	1%_Cur	1140	441.5	451.84	446.41	451.93	0.000892	2.76	702.59	204.07	0.16
Reach1	75422	0.2%_Cur	1580	441.5	452.45	447.25	452.57	0.00118	3.32	830.47	214.72	0.19
Reach1	75422	10%_Proj	770	441.5	450.96	445.54	451.03	0.000724	2.31	531.68	185.7	0.15
Reach1	75422	2%_Proj	1133	441.5	451.82	446.4	451.91	0.000893	2.75	698.27	203.7	0.16
Reach1	75422	1%_Proj	1254	441.5	452.02	446.64	452.12	0.000964	2.9	739.65	207.21	0.17
Reach1	75422	0.2%_Proj	1738	441.5	452.61	447.51	452.75	0.001301	3.52	865	217.51	0.2
Reach1	75394.5	Bridge	Bridge									
Reach1	75369	10%_Cur	700	438.2	441.48	441.48	442.76	0.050589	9.11	78.51	32.91	0.97
Reach1	75369	2%_Cur	1030	438.2	442.26	442.26	443.88	0.046132	10.29	104.25	37.17	0.97
Reach1	75369	1%_Cur	1140	438.2	442.5	442.5	444.22	0.045188	10.63	112.23	38.45	0.97

Reach1	75369	0.2%_Cur	1580	438.2	443.37	443.37	445.46	0.041911	11.77	142.87	43.22	0.97
Reach1	75369	10%_Proj	770	438.2	441.66	441.66	443.02	0.049316	9.38	84.26	33.88	0.97
Reach1	75369	2%_Proj	1133	438.2	442.47	442.47	444.2	0.045579	10.63	111.45	38.33	0.97
Reach1	75369	1%_Proj	1254	438.2	442.74	442.74	444.56	0.043998	10.94	120.58	39.78	0.97
Reach1	75369	0.2%_Proj	1738	438.2	443.69	443.69	445.86	0.040206	12.05	154.29	44.94	0.96
Reach1	75362	10%_Cur	700	433.15	438.08	438.08	439.63	0.038232	10.01	72.6	27.27	0.98
Reach1	75362	2%_Cur	1030	433.15	439.12	439.12	440.91	0.031325	10.9	104.86	34.91	0.93
Reach1	75362	1%_Cur	1140	433.15	439.43	439.43	441.28	0.029828	11.14	115.79	36.27	0.92
Reach1	75362	0.2%_Cur	1580	433.15	440.39	440.39	442.58	0.028325	12.32	152.56	40.12	0.92
Reach1	75362	10%_Proj	770	433.15	438.31	438.31	439.92	0.036564	10.25	79.05	28.96	0.97
Reach1	75362	2%_Proj	1133	433.15	439.41	439.41	441.25	0.02988	11.12	115.15	36.2	0.92
Reach1	75362	1%_Proj	1254	433.15	439.7	439.7	441.64	0.029163	11.44	125.88	37.36	0.91
Reach1	75362	0.2%_Proj	1738	433.15	440.72	440.72	443	0.027573	12.63	166.11	41.45	0.92
Reach1	75312	10%_Cur	700	432.3	435.22	435.22	436.44	0.039815	8.86	80.03	35.38	0.99
Reach1	75312	2%_Cur	1030	432.3	435.96	435.96	437.48	0.035472	9.96	107.49	39.01	0.98
Reach1	75312	1%_Cur	1140	432.3	436.19	436.19	437.8	0.034293	10.25	116.56	40.14	0.97
Reach1	75312	0.2%_Cur	1580	432.3	437.03	437.03	438.94	0.030823	11.25	152.09	44.28	0.96
Reach1	75312	10%_Proj	770	432.3	435.38	435.38	436.67	0.038755	9.13	85.92	36.19	0.99
Reach1	75312	2%_Proj	1133	432.3	436.17	436.17	437.78	0.03438	10.23	115.96	40.06	0.98
Reach1	75312	1%_Proj	1254	432.3	436.41	436.41	438.11	0.033365	10.55	125.69	41.24	0.97
Reach1	75312	0.2%_Proj	1738	432.3	437.3	437.3	439.31	0.030087	11.57	164.24	45.61	0.96
Reach1	75158	10%_Cur	700	425.41	429.51		430.25	0.007983	6.98	104.83	41.63	0.72
Reach1	75158	2%_Cur	1030	425.41	430.48		431.35	0.006448	7.6	148.04	46.87	0.68
Reach1	75158	1%_Cur	1140	425.41	430.78		431.69	0.006156	7.78	161.96	48.43	0.67
Reach1	75158	0.2%_Cur	1580	425.41	431.78		432.86	0.005605	8.56	213.41	54.16	0.66
Reach1	75158	10%_Proj	770	425.41	429.72		430.5	0.007618	7.15	113.74	42.76	0.71
Reach1	75158	2%_Proj	1133	425.41	430.76		431.66	0.006179	7.78	161.02	48.33	0.67
Reach1	75158	1%_Proj	1254	425.41	431.08		432.02	0.005834	7.94	177.05	50.08	0.66
Reach1	75158	0.2%_Proj	1738	425.41	431.67		433.05	0.007319	9.65	207.36	53.48	0.75
Reach1	75098	10%_Cur	700	423.5	429.06	427.94	429.63	0.009948	6.08	120.08	42.09	0.57
Reach1	75098	2%_Cur	1030	423.5	430.13	428.7	430.81	0.008495	6.71	174.87	61.82	0.55
Reach1	75098	1%_Cur	1140	423.5	430.45	428.94	431.15	0.008124	6.86	195.75	67.96	0.54
Reach1	75098	0.2%_Cur	1580	423.5	431.57	429.84	432.32	0.007065	7.32	277.06	75.73	0.52
Reach1	75098	10%_Proj	770	423.5	429.29	428.12	429.89	0.009689	6.26	130.12	45.14	0.57
Reach1	75098	2%_Proj	1133	423.5	430.43	428.91	431.13	0.008158	6.85	194.27	67.6	0.54
Reach1	75098	1%_Proj	1254	423.5	430.8	429.18	431.51	0.007609	6.94	220.02	72.82	0.53
Reach1	75098	0.2%_Proj	1738	423.5	431.33	430.16	432.36	0.010019	8.49	259.23	74.92	0.62

Reach1	75093.5	Bridge	Bridge									
Reach1	75089	10%_Cur	700	423.5	428.02	428.02	429.32	0.014623	9.22	79.59	34.88	0.97
Reach1	75089	2%_Cur	1030	423.5	428.8	428.8	430.44	0.01454	10.43	109.1	40.76	0.97
Reach1	75089	1%_Cur	1140	423.5	429.05	429.05	430.78	0.014317	10.74	119.8	44.8	0.96
Reach1	75089	0.2%_Cur	1580	423.5	430.18	430.18	431.94	0.011363	11.05	185.6	69.88	0.87
Reach1	75089	10%_Proj	770	423.5	428.21	428.21	429.58	0.014466	9.47	86.26	36.3	0.96
Reach1	75089	2%_Proj	1133	423.5	429.03	429.03	430.76	0.014347	10.72	119.04	44.48	0.96
Reach1	75089	1%_Proj	1254	423.5	429.34	429.34	431.12	0.013607	10.9	133.9	51.65	0.94
Reach1	75089	0.2%_Proj	1738	423.5	430.3	430.46	432.29	0.012597	11.79	193.84	70.45	0.92
Reach1	75042	10%_Cur	700	423.5	427.19	427.19	428.23	0.014879	8.19	88.44	47.46	0.99
Reach1	75042	2%_Cur	1030	423.5	427.83	427.83	429.13	0.014235	9.21	120.14	52.28	0.98
Reach1	75042	1%_Cur	1140	423.5	428.02	428.02	429.4	0.014039	9.5	130.37	53.49	0.97
Reach1	75042	0.2%_Cur	1580	423.5	428.71	428.71	430.39	0.013639	10.55	168.69	57.75	0.97
Reach1	75042	10%_Proj	770	423.5	427.33	427.33	428.43	0.014792	8.44	95.16	48.59	0.99
Reach1	75042	2%_Proj	1133	423.5	428.01	428.01	429.38	0.014048	9.48	129.73	53.42	0.97
Reach1	75042	1%_Proj	1254	423.5	428.21	428.21	429.67	0.013943	9.79	140.45	54.66	0.97
Reach1	75042	0.2%_Proj	1738	423.5	428.94	428.94	430.72	0.013443	10.86	182.37	59.28	0.97
Reach1	74782	10%_Cur	700	409.6	414.78		415.18	0.009794	5.06	139.65	45.93	0.49
Reach1	74782	2%_Cur	1030	409.6	415.43		416.02	0.01165	6.2	170.69	50.32	0.55
Reach1	74782	1%_Cur	1140	409.6	415.62		416.28	0.012158	6.54	180.4	51.57	0.56
Reach1	74782	0.2%_Cur	1580	409.6	416.31		417.22	0.013706	7.69	217.78	56.13	0.61
Reach1	74782	10%_Proj	770	409.6	414.93		415.37	0.010242	5.32	146.5	46.99	0.5
Reach1	74782	2%_Proj	1133	409.6	415.61		416.26	0.012126	6.52	179.79	51.5	0.56
Reach1	74782	1%_Proj	1254	409.6	415.81		416.54	0.012569	6.85	190.58	52.85	0.58
Reach1	74782	0.2%_Proj	1738	409.6	416.54		417.53	0.014137	8.05	230.7	57.63	0.63
Reach1	74780	10%_Cur	700	411.9	414.13	414.13	415.1	0.024322	7.89	89.68	49.46	1
Reach1	74780	2%_Cur	1030	411.9	414.71	414.71	415.94	0.022791	8.91	119.11	52.89	0.99
Reach1	74780	1%_Cur	1140	411.9	414.89	414.89	416.19	0.02233	9.19	128.61	53.92	0.99
Reach1	74780	0.2%_Cur	1580	411.9	415.55	415.55	417.12	0.020727	10.14	165.6	57.75	0.98
Reach1	74780	10%_Proj	770	411.9	414.26	414.26	415.29	0.023964	8.13	96.09	50.27	1
Reach1	74780	2%_Proj	1133	411.9	414.88	414.88	416.17	0.022351	9.18	128.02	53.86	0.99
Reach1	74780	1%_Proj	1254	411.9	415.06	415.06	416.44	0.021919	9.47	138.24	54.94	0.99
Reach1	74780	0.2%_Proj	1738	411.9	415.75	415.75	417.43	0.020598	10.49	177.49	58.93	0.98
Reach1	74779	10%_Cur	700	409.27	412.93	412.93	413.98	0.01602	8.24	87.55	45.37	0.99
Reach1	74779	2%_Cur	1030	409.27	413.56	413.56	414.89	0.01623	9.31	117.49	49.38	0.98
Reach1	74779	1%_Cur	1140	409.27	413.76	413.76	415.17	0.016079	9.58	127.54	50.6	0.98
Reach1	74779	0.2%_Cur	1580	409.27	414.46	414.46	416.18	0.016079	10.66	164.1	54.6	0.98

Reach1	74779	10%_Proj	770	409.27	413.07	413.07	414.18	0.016101	8.49	94.09	46.28	0.99
Reach1	74779	2%_Proj	1133	409.27	413.75	413.75	415.15	0.016087	9.56	126.91	50.53	0.98
Reach1	74779	1%_Proj	1254	409.27	413.96	413.96	415.44	0.016013	9.86	137.5	51.72	0.97
Reach1	74779	0.2%_Proj	1738	409.27	414.71	414.71	416.51	0.015766	10.93	178.01	56.05	0.97
Reach1	74711	10%_Cur	700	405.5	409.41	409.41	410.72	0.013736	9.24	78.51	32.47	0.96
Reach1	74711	2%_Cur	1030	405.5	410.23	410.23	411.83	0.012286	10.32	107.07	37.12	0.94
Reach1	74711	1%_Cur	1140	405.5	410.47	410.47	412.16	0.012001	10.64	116.26	38.49	0.94
Reach1	74711	0.2%_Cur	1580	405.5	411.35	411.35	413.37	0.011239	11.76	152.1	43.44	0.94
Reach1	74711	10%_Proj	770	405.5	409.59	409.59	410.97	0.013379	9.5	84.58	33.51	0.96
Reach1	74711	2%_Proj	1133	405.5	410.46	410.46	412.14	0.012015	10.62	115.69	38.41	0.94
Reach1	74711	1%_Proj	1254	405.5	410.69	410.69	412.5	0.011952	11.01	124.9	39.74	0.95
Reach1	74711	0.2%_Proj	1738	405.5	411.64	411.64	413.77	0.010972	12.09	165.18	45.12	0.94
Reach1	74082	10%_Cur	700	377.52	379.8	379.8	380.66	0.086171	7.42	94.74	57.88	1
Reach1	74082	2%_Cur	1030	377.52	380.32	380.32	381.39	0.076957	8.35	125.48	61.92	0.99
Reach1	74082	1%_Cur	1140	377.52	380.48	380.48	381.62	0.074373	8.6	135.5	63.15	0.98
Reach1	74082	0.2%_Cur	1580	377.52	381.07	381.07	382.43	0.066696	9.44	174.08	67.48	0.96
Reach1	74082	10%_Proj	770	377.52	379.92	379.92	380.82	0.083785	7.64	101.46	58.79	1
Reach1	74082	2%_Proj	1133	377.52	380.47	380.47	381.6	0.074535	8.59	134.86	63.07	0.98
Reach1	74082	1%_Proj	1254	377.52	380.64	380.64	381.84	0.072232	8.85	145.58	64.33	0.98
Reach1	74082	0.2%_Proj	1738	377.52	381.25	381.25	382.69	0.065966	9.76	186.19	68.77	0.97
Reach1	73253	10%_Cur	700	359.49	364.55	362.47	364.6	0.000766	1.97	519.06	210.29	0.2
Reach1	73253	2%_Cur	1030	359.49	365.32	363.14	365.38	0.000799	2.2	682.44	215.46	0.2
Reach1	73253	1%_Cur	1140	359.49	365.55	363.26	365.61	0.00081	2.27	731.66	217.39	0.2
Reach1	73253	0.2%_Cur	1580	359.49	366.36	363.68	366.44	0.000848	2.52	911.42	224.44	0.2
Reach1	73253	10%_Proj	770	359.49	364.74	362.6	364.79	0.000768	2.02	557.67	211.52	0.2
Reach1	73253	2%_Proj	1133	359.49	365.53	363.25	365.59	0.000815	2.27	726.7	217.19	0.2
Reach1	73253	1%_Proj	1254	359.49	365.77	363.37	365.84	0.000821	2.34	780.48	219.33	0.2
Reach1	73253	0.2%_Proj	1738	359.49	366.67	363.82	366.75	0.000833	2.57	981.97	227.14	0.2
Reach1	73194	10%_Cur	700	358.6	364.43	363.03	364.51	0.002735	2.74	382.69	158.28	0.27
Reach1	73194	2%_Cur	1030	358.6	365.19	363.5	365.28	0.002575	3.06	504.53	163.55	0.27
Reach1	73194	1%_Cur	1140	358.6	365.41	363.5	365.51	0.00255	3.15	541.38	165.29	0.27
Reach1	73194	0.2%_Cur	1580	358.6	366.21	363.71	366.33	0.002506	3.51	676.18	171.51	0.27
Reach1	73194	10%_Proj	770	358.6	364.61	363.22	364.69	0.002659	2.8	411.63	159.46	0.27
Reach1	73194	2%_Proj	1133	358.6	365.39	363.5	365.49	0.002575	3.16	537.47	165.11	0.27
Reach1	73194	1%_Proj	1254	358.6	365.63	363.51	365.73	0.002533	3.25	577.94	167	0.27
Reach1	73194	0.2%_Proj	1738	358.6	366.52	363.83	366.65	0.002407	3.57	730.23	173.94	0.27
Reach1	73166	Bridge	Bridge									

Reach1	73148	10%_Cur	700	358.53	363.36	361.07	363.48	0.000938	2.76	262.48	82.58	0.25
Reach1	73148	2%_Cur	1030	358.53	364.44	361.56	364.58	0.000904	3.11	364.41	105.33	0.25
Reach1	73148	1%_Cur	1140	358.53	364.81	361.71	364.96	0.000868	3.17	404.47	111.74	0.25
Reach1	73148	0.2%_Cur	1580	358.53	365.93	362.22	366.12	0.000851	3.51	537.99	124.08	0.25
Reach1	73148	10%_Proj	770	358.53	363.6	361.18	363.73	0.000931	2.84	283.17	87.94	0.25
Reach1	73148	2%_Proj	1133	358.53	364.74	361.7	364.9	0.000893	3.19	397.46	110.8	0.25
Reach1	73148	1%_Proj	1254	358.53	365.14	361.86	365.3	0.00085	3.25	442.57	116.24	0.25
Reach1	73148	0.2%_Proj	1738	358.53	366.3	362.4	366.49	0.000846	3.62	584.12	127.65	0.25
Reach1	73074	10%_Cur	700	358.61	362.74		363.23	0.004398	5.67	131.35	54.04	0.58
Reach1	73074	2%_Cur	1030	358.61	363.8		364.35	0.003318	6.03	193.74	62.53	0.53
Reach1	73074	1%_Cur	1140	358.61	364.19		364.73	0.002956	6.05	218.2	64.66	0.51
Reach1	73074	0.2%_Cur	1580	358.61	365.23		365.87	0.0027	6.66	288.49	70.44	0.5
Reach1	73074	10%_Proj	770	358.61	362.99		363.49	0.004054	5.74	144.91	56.46	0.56
Reach1	73074	2%_Proj	1133	358.61	364.1		364.66	0.003132	6.15	212.54	64.18	0.52
Reach1	73074	1%_Proj	1254	358.61	364.51		365.07	0.002785	6.16	239.61	66.48	0.5
Reach1	73074	0.2%_Proj	1738	358.61	365.56		366.24	0.002649	6.86	312.29	72.19	0.5
Reach1	72754	10%_Cur	700	352.8	361.64		362.17	0.002595	6.09	143.62	46.35	0.45
Reach1	72754	2%_Cur	1030	352.8	362.61		363.32	0.003003	7.27	192.52	55.1	0.49
Reach1	72754	1%_Cur	1140	352.8	363.1		363.8	0.002749	7.29	220.88	59.62	0.48
Reach1	72754	0.2%_Cur	1580	352.8	363.96		364.9	0.00328	8.59	280.93	86.16	0.53
Reach1	72754	10%_Proj	770	352.8	361.87		362.44	0.00269	6.37	154.34	48.4	0.46
Reach1	72754	2%_Proj	1133	352.8	362.89		363.65	0.003075	7.56	208.26	57.65	0.5
Reach1	72754	1%_Proj	1254	352.8	363.43		364.17	0.002769	7.54	240.89	63.62	0.48
Reach1	72754	0.2%_Proj	1738	352.8	364.3	362.47	365.27	0.003304	8.86	315.76	125.62	0.54
Reach1	72231	10%_Cur	700	351.5	361.93		361.94	0.000049	0.95	1800.46	837.1	0.07
Reach1	72231	2%_Cur	1030	351.5	363.04		363.05	0.000037	0.92	2760.84	885.39	0.06
Reach1	72231	1%_Cur	1140	351.5	363.54		363.54	0.00003	0.87	3207.8	914.08	0.06
Reach1	72231	0.2%_Cur	1580	351.5	364.57		364.57	0.000028	0.92	4162.2	945.22	0.06
Reach1	72231	10%_Proj	770	351.5	362.19		362.2	0.000045	0.94	2021.49	850.57	0.07
Reach1	72231	2%_Proj	1133	351.5	363.36		363.36	0.000034	0.92	3043.77	903.71	0.06
Reach1	72231	1%_Proj	1254	351.5	363.9		363.9	0.000028	0.87	3536.23	926.02	0.05
Reach1	72231	0.2%_Proj	1738	351.5	364.93		364.94	0.000027	0.92	4511.83	957.98	0.05
Reach1	71607	10%_Cur	1200	350.7	361.71		361.83	0.000466	2.98	684.35	266.06	0.19
Reach1	71607	2%_Cur	1700	350.7	362.83		362.96	0.000466	3.28	992.24	284.4	0.2
Reach1	71607	1%_Cur	1960	350.7	363.33		363.46	0.000467	3.41	1135.77	291.67	0.2
Reach1	71607	0.2%_Cur	2570	350.7	364.34		364.49	0.000472	3.69	1438.87	302.96	0.21
Reach1	71607	10%_Proj	1320	350.7	361.97		362.09	0.000476	3.09	753.77	270.3	0.2

Reach1	71607	2%_Proj	1870	350.7	363.14		363.28	0.000471	3.38	1082.35	289.55	0.2
Reach1	71607	1%_Proj	2156	350.7	363.68		363.82	0.000466	3.5	1240.52	296.05	0.2
Reach1	71607	0.2%_Proj	2827	350.7	364.71		364.86	0.00048	3.81	1549.22	307.13	0.21
Reach1	70869	10%_Cur	1200	352	361.64		361.65	0.000133	1.01	2291.85	835.59	0.08
Reach1	70869	2%_Cur	1700	352	362.8		362.8	0.000108	0.99	3281.68	869.02	0.07
Reach1	70869	1%_Cur	1960	352	363.3		363.31	0.000102	0.99	3725.43	877.06	0.07
Reach1	70869	0.2%_Cur	2570	352	364.34		364.35	0.000094	1.02	4637.65	884.39	0.06
Reach1	70869	10%_Proj	1320	352	361.91		361.92	0.000129	1.01	2518.2	855.68	0.08
Reach1	70869	2%_Proj	1870	352	363.12		363.12	0.000105	0.99	3561.03	874.89	0.07
Reach1	70869	1%_Proj	2156	352	363.67		363.67	0.000098	1	4044.22	879.64	0.07
Reach1	70869	0.2%_Proj	2827	352	364.71		364.71	0.000093	1.04	4962.47	886.79	0.06
Reach1	70760	10%_Cur	1200	353	361.64	358.46	361.64	0.000045	0.57	4507.29	1280.67	0.05
Reach1	70760	2%_Cur	1700	353	362.79	359	362.79	0.00004	0.59	6065.69	1427.55	0.04
Reach1	70760	1%_Cur	1960	353	363.3	359	363.3	0.000038	0.6	6804.04	1474.6	0.04
Reach1	70760	0.2%_Cur	2570	353	364.34	359	364.34	0.000036	0.63	8348.14	1496.94	0.04
Reach1	70760	10%_Proj	1320	353	361.91	358.58	361.91	0.000044	0.58	4852.83	1303.82	0.04
Reach1	70760	2%_Proj	1870	353	363.11	359	363.12	0.000039	0.6	6528.46	1460.87	0.04
Reach1	70760	1%_Proj	2156	353	363.66	359	363.67	0.000038	0.62	7343.11	1489.35	0.04
Reach1	70760	0.2%_Proj	2827	353	364.7	359	364.71	0.000036	0.64	8898.19	1501.08	0.04
Reach1	70740	10%_Cur	1200	353.4	361.64	357.49	361.64	0.000056	0.61	4181.73	1226.26	0.05
Reach1	70740	2%_Cur	1700	353.4	362.79	358.16	362.79	0.000047	0.63	5643.75	1317.88	0.04
Reach1	70740	1%_Cur	1960	353.4	363.3	358.49	363.3	0.000045	0.65	6322.49	1363.63	0.04
Reach1	70740	0.2%_Cur	2570	353.4	364.34	359.02	364.34	0.000042	0.68	7774.76	1430.45	0.04
Reach1	70740	10%_Proj	1320	353.4	361.91	357.68	361.91	0.000054	0.61	4510.22	1232.63	0.04
Reach1	70740	2%_Proj	1870	353.4	363.11	358.36	363.11	0.000046	0.64	6068.73	1336.44	0.04
Reach1	70740	1%_Proj	2156	353.4	363.66	358.68	363.66	0.000044	0.66	6822.12	1401.57	0.04
Reach1	70740	0.2%_Proj	2827	353.4	364.7	359.21	364.71	0.000042	0.7	8301.35	1439.92	0.04
Reach1	70713	Bridge	Bridge									
Reach1	70686	10%_Cur	1200	353.4	361.6	357.5	361.61	0.000047	0.88	4042.38	1254.91	0.06
Reach1	70686	2%_Cur	1700	353.4	362.74	358.15	362.74	0.00004	0.9	5520.31	1318.1	0.06
Reach1	70686	1%_Cur	1960	353.4	363.27	358.44	363.27	0.000038	0.91	6219.46	1330.7	0.06
Reach1	70686	0.2%_Cur	2570	353.4	364.32	359	364.32	0.000036	0.96	7635.32	1369.9	0.06
Reach1	70686	10%_Proj	1320	353.4	361.89	357.66	361.89	0.000046	0.9	4408.73	1296.45	0.06
Reach1	70686	2%_Proj	1870	353.4	363.07	358.35	363.08	0.000039	0.91	5962.47	1326.25	0.06
Reach1	70686	1%_Proj	2156	353.4	363.64	358.65	363.64	0.000036	0.92	6713.87	1339.14	0.06
Reach1	70686	0.2%_Proj	2827	353.4	364.69	359.21	364.69	0.000036	0.98	8142.64	1377.73	0.06

Reach1	70671	10%_Cur	1200	353.59	361.6	357.53	361.61	0.000028	0.7	4826.19	1177.09	0.05
Reach1	70671	2%_Cur	1700	353.59	362.74	358.14	362.74	0.000028	0.79	6255.34	1298.27	0.05
Reach1	70671	1%_Cur	1960	353.59	363.27	358.39	363.27	0.000027	0.82	6943.62	1310.66	0.05
Reach1	70671	0.2%_Cur	2570	353.59	364.32	359	364.32	0.000027	0.88	8340.84	1348.39	0.05
Reach1	70671	10%_Proj	1320	353.59	361.89	357.68	361.89	0.000028	0.73	5168.08	1220.56	0.05
Reach1	70671	2%_Proj	1870	353.59	363.07	358.31	363.08	0.000028	0.81	6690.66	1305.58	0.05
Reach1	70671	1%_Proj	2156	353.59	363.64	358.57	363.64	0.000027	0.83	7431.08	1321.73	0.05
Reach1	70671	0.2%_Proj	2827	353.59	364.69	359	364.69	0.000027	0.91	8839.69	1354.13	0.05
Reach1	70632	10%_Cur	1200	354.18	361.6		361.6	0.000019	0.58	5672.72	1176.75	0.04
Reach1	70632	2%_Cur	1700	354.18	362.74		362.74	0.000019	0.66	7041.76	1255.55	0.04
Reach1	70632	1%_Cur	1960	354.18	363.27		363.27	0.00002	0.71	7718.44	1293.02	0.05
Reach1	70632	0.2%_Cur	2570	354.18	364.32		364.32	0.000021	0.79	9090.37	1322.36	0.05
Reach1	70632	10%_Proj	1320	354.18	361.89		361.89	0.000019	0.6	6010.3	1185.16	0.04
Reach1	70632	2%_Proj	1870	354.18	363.07		363.07	0.000021	0.7	7468.71	1289.7	0.05
Reach1	70632	1%_Proj	2156	354.18	363.64		363.64	0.00002	0.73	8198.66	1300.7	0.05
Reach1	70632	0.2%_Proj	2827	354.18	364.69		364.69	0.000022	0.82	9580.86	1334.09	0.05
Reach1	70558	10%_Cur	1228	354	361.6		361.6	0.00002	0.49	5897.66	1167.62	0.03
Reach1	70558	2%_Cur	1741	354	362.74		362.74	0.000021	0.56	7232.98	1185.6	0.04
Reach1	70558	1%_Cur	2009	354	363.26		363.26	0.000021	0.59	7874.14	1238.76	0.04
Reach1	70558	0.2%_Cur	2632	354	364.31		364.32	0.000024	0.67	9196.53	1272.72	0.04
Reach1	70558	10%_Proj	1351	354	361.89		361.89	0.00002	0.51	6231.94	1171.63	0.03
Reach1	70558	2%_Proj	1915	354	363.07		363.07	0.000021	0.58	7636.23	1221.33	0.04
Reach1	70558	1%_Proj	2210	354	363.63		363.64	0.000023	0.63	8337.06	1255.72	0.04
Reach1	70558	0.2%_Proj	2895	354	364.68		364.68	0.000025	0.71	9668.93	1286.38	0.04
Reach1	69987	10%_Cur	1228	351.05	361.59		361.59	0.000039	0.87	3901.72	749.92	0.06
Reach1	69987	2%_Cur	1741	351.05	362.73		362.73	0.000042	1.01	4759.31	763.21	0.06
Reach1	69987	1%_Cur	2009	351.05	363.25		363.26	0.000044	1.08	5165.52	781.4	0.07
Reach1	69987	0.2%_Cur	2632	351.05	364.3		364.31	0.00005	1.25	6028.37	843.11	0.07
Reach1	69987	10%_Proj	1351	351.05	361.88		361.88	0.00004	0.91	4116.25	752.61	0.06
Reach1	69987	2%_Proj	1915	351.05	363.06		363.06	0.000044	1.06	5015.55	772.52	0.07
Reach1	69987	1%_Proj	2210	351.05	363.62		363.63	0.000048	1.15	5461.82	823.35	0.07
Reach1	69987	0.2%_Proj	2895	351.05	364.67		364.68	0.000052	1.31	6340.58	852.77	0.07
Reach1	69405	10%_Cur	1228	353.6	361.56		361.57	0.000161	1.03	1974.79	476.07	0.08
Reach1	69405	2%_Cur	1741	353.6	362.69		362.7	0.000161	1.15	2536.46	514.3	0.08
Reach1	69405	1%_Cur	2009	353.6	363.21		363.23	0.00016	1.2	2810.68	528.83	0.08
Reach1	69405	0.2%_Cur	2632	353.6	364.26		364.27	0.000163	1.31	3374.96	549.9	0.08
Reach1	69405	10%_Proj	1351	353.6	361.84		361.85	0.000162	1.06	2111.83	486.35	0.08
Reach1	69405	2%_Proj	1915	353.6	363.02		363.03	0.000162	1.18	2709.12	523.55	0.08

Reach1	69405	1%_Proj	2210	353.6	363.58	363.59	0.00016	1.23	3006.8	537.34	0.08
Reach1	69405	0.2%_Proj	2895	353.6	364.63	364.64	0.000166	1.36	3577.81	556.46	0.08
Reach1	68823	10%_Cur	1228	352.7	361.34	361.4	0.000596	2.09	777.31	208.57	0.16
Reach1	68823	2%_Cur	1741	352.7	362.46	362.53	0.000628	2.36	1028.1	249.45	0.17
Reach1	68823	1%_Cur	2009	352.7	362.98	363.05	0.000635	2.47	1163.35	277.55	0.17
Reach1	68823	0.2%_Cur	2632	352.7	364	364.09	0.000675	2.75	1506.37	413.43	0.17
Reach1	68823	10%_Proj	1351	352.7	361.62	361.68	0.000602	2.16	836.61	213.45	0.17
Reach1	68823	2%_Proj	1915	352.7	362.78	362.86	0.000636	2.44	1111.59	262.17	0.17
Reach1	68823	1%_Proj	2210	352.7	363.34	363.42	0.000635	2.54	1270.23	309.18	0.17
Reach1	68823	0.2%_Proj	2895	352.7	364.36	364.46	0.000681	2.83	1663.76	457.05	0.18
Reach1	68537	10%_Cur	1228	352.7	360.99	361.13	0.001514	3.24	502.51	159.03	0.24
Reach1	68537	2%_Cur	1741	352.7	362.08	362.25	0.00153	3.65	704.26	225.51	0.24
Reach1	68537	1%_Cur	2009	352.7	362.6	362.78	0.001469	3.76	834.39	261.31	0.24
Reach1	68537	0.2%_Cur	2632	352.7	363.63	363.82	0.001389	3.98	1128.45	312.98	0.24
Reach1	68537	10%_Proj	1351	352.7	361.26	361.41	0.001524	3.35	547.17	167.46	0.24
Reach1	68537	2%_Proj	1915	352.7	362.4	362.58	0.001511	3.74	783.12	252.96	0.25
Reach1	68537	1%_Proj	2210	352.7	362.97	363.15	0.00142	3.82	934.42	277.63	0.24
Reach1	68537	0.2%_Proj	2895	352.7	363.99	364.18	0.001395	4.1	1244.05	337.13	0.24
Reach1	68474	10%_Cur	1228	353.73	360.98	357.56	361.05	0.000367	2.01	636.84	327.62	0.16
Reach1	68474	2%_Cur	1741	353.73	362.08	357.97	362.16	0.000379	2.32	804.49	384.48	0.17
Reach1	68474	1%_Cur	2009	353.73	362.6	358.16	362.69	0.00038	2.45	892.71	438.62	0.17
Reach1	68474	0.2%_Cur	2632	353.73	363.62	358.56	363.74	0.000395	2.74	1065.51	474.55	0.18
Reach1	68474	10%_Proj	1351	353.73	361.26	357.66	361.33	0.000371	2.09	677.12	336.2	0.16
Reach1	68474	2%_Proj	1915	353.73	362.4	358.09	362.49	0.000383	2.41	859.24	420.65	0.17
Reach1	68474	1%_Proj	2210	353.73	362.97	358.29	363.07	0.00038	2.53	955.08	454.91	0.17
Reach1	68474	0.2%_Proj	2895	353.73	363.98	358.72	364.1	0.000408	2.86	1125.16	519.08	0.18
Reach1	68402	Bridge	Bridge								
Reach1	68326	10%_Cur	1228	353.73	360.82	357.37	360.88	0.000313	1.97	675.7	415.03	0.16
Reach1	68326	2%_Cur	1741	353.73	361.87	357.74	361.94	0.000332	2.29	822.36	470.01	0.17
Reach1	68326	1%_Cur	2009	353.73	362.36	357.92	362.45	0.000338	2.44	892.29	509.93	0.17
Reach1	68326	0.2%_Cur	2632	353.73	363.32	358.31	363.43	0.000367	2.78	1026.34	548.45	0.18
Reach1	68326	10%_Proj	1351	353.73	361.08	357.47	361.15	0.000319	2.05	712.57	435.78	0.16
Reach1	68326	2%_Proj	1915	353.73	362.17	357.86	362.26	0.00034	2.4	865.48	505.22	0.17
Reach1	68326	1%_Proj	2210	353.73	362.71	358.05	362.81	0.000343	2.55	941.38	520.02	0.17
Reach1	68326	0.2%_Proj	2895	353.73	363.64	358.46	363.76	0.000386	2.93	1071.11	561.33	0.19
Reach1	68280	10%_Cur	1228	352.5	360.83		360.84	0.000249	0.99	1585.37	330.09	0.07

Reach1	68280	2%_Cur	1741	352.5	361.88	361.9	0.00028	1.17	1946.64	360.61	0.08
Reach1	68280	1%_Cur	2009	352.5	362.39	362.4	0.000291	1.25	2132.21	379.82	0.08
Reach1	68280	0.2%_Cur	2632	352.5	363.35	363.37	0.000316	1.41	2516.15	425.49	0.09
Reach1	68280	10%_Proj	1351	352.5	361.1	361.11	0.000256	1.03	1673.16	334.57	0.07
Reach1	68280	2%_Proj	1915	352.5	362.19	362.21	0.00029	1.23	2059.97	372.62	0.08
Reach1	68280	1%_Proj	2210	352.5	362.74	362.76	0.000296	1.3	2268.09	391.51	0.08
Reach1	68280	0.2%_Proj	2895	352.5	363.67	363.7	0.000331	1.48	2657.69	451.97	0.09
Reach1	67684	10%_Cur	1228	352.5	360.61	360.65	0.000459	1.58	936.85	312.94	0.13
Reach1	67684	2%_Cur	1741	352.5	361.65	361.69	0.000474	1.75	1282.16	348.54	0.13
Reach1	67684	1%_Cur	2009	352.5	362.15	362.19	0.00047	1.81	1458.6	360.55	0.13
Reach1	67684	0.2%_Cur	2632	352.5	363.1	363.15	0.000483	1.96	1811.69	382.24	0.13
Reach1	67684	10%_Proj	1351	352.5	360.87	360.91	0.000468	1.63	1019.49	325.82	0.13
Reach1	67684	2%_Proj	1915	352.5	361.95	362	0.000478	1.8	1389.18	355.83	0.13
Reach1	67684	1%_Proj	2210	352.5	362.5	362.54	0.000468	1.85	1586.71	369.53	0.12
Reach1	67684	0.2%_Proj	2895	352.5	363.41	363.46	0.000498	2.03	1932.1	386.05	0.13
Reach1	66782	10%_Cur	1228	353.98	360.29	360.32	0.000295	1.43	1007.05	292.71	0.11
Reach1	66782	2%_Cur	1741	353.98	361.32	361.35	0.000296	1.58	1313.55	303.21	0.11
Reach1	66782	1%_Cur	2009	353.98	361.82	361.86	0.000292	1.64	1466.65	308.33	0.11
Reach1	66782	0.2%_Cur	2632	353.98	362.76	362.8	0.000305	1.8	1775.28	374.78	0.12
Reach1	66782	10%_Proj	1351	353.98	360.55	360.58	0.000297	1.47	1081.91	295.31	0.11
Reach1	66782	2%_Proj	1915	353.98	361.62	361.66	0.000298	1.63	1405.22	306.28	0.11
Reach1	66782	1%_Proj	2210	353.98	362.17	362.21	0.000291	1.68	1575.93	311.92	0.11
Reach1	66782	0.2%_Proj	2895	353.98	363.06	363.1	0.000318	1.88	1891.21	396.04	0.12
Reach1	66184	10%_Cur	1821	352.6	359.88	359.98	0.001025	2.54	863.21	279.37	0.2
Reach1	66184	2%_Cur	2608	352.6	360.91	361.01	0.000992	2.78	1155.22	291.04	0.2
Reach1	66184	1%_Cur	3049	352.6	361.4	361.52	0.000985	2.91	1301.21	298.92	0.2
Reach1	66184	0.2%_Cur	3937	352.6	362.34	362.46	0.000946	3.09	1619.42	399.78	0.2
Reach1	66184	10%_Proj	2003	352.6	360.14	360.23	0.001018	2.6	934.08	282.43	0.2
Reach1	66184	2%_Proj	2869	352.6	361.2	361.31	0.000989	2.86	1242.04	294.19	0.2
Reach1	66184	1%_Proj	3354	352.6	361.76	361.87	0.000961	2.96	1411.5	323.27	0.2
Reach1	66184	0.2%_Proj	4331	352.6	362.62	362.75	0.000975	3.21	1742.84	475.08	0.2
Reach1	65586	10%_Cur	1821	350	358.95	359.06	0.002561	2.73	747.77	261.69	0.22
Reach1	65586	2%_Cur	2608	350	360.04	360.16	0.00224	2.92	1051.92	319.78	0.21
Reach1	65586	1%_Cur	3049	350	360.58	360.7	0.002058	2.96	1239.33	375.75	0.2
Reach1	65586	0.2%_Cur	3937	350	361.63	361.73	0.001628	2.91	1718.07	621.78	0.19
Reach1	65586	10%_Proj	2003	350	359.21	359.33	0.002495	2.79	818.2	266.74	0.22
Reach1	65586	2%_Proj	2869	350	360.36	360.48	0.002142	2.95	1159.12	352.29	0.21
Reach1	65586	1%_Proj	3354	350	361	361.11	0.001839	2.92	1403.88	417.64	0.19

Reach1	65586	0.2%_Proj	4331	350	361.92		362.02	0.001584	2.94	1921.46	763.14	0.18
Reach1	64938	10%_Cur	1821	349.8	358.37		358.4	0.000529	1.42	1288.8	384.56	0.12
Reach1	64938	2%_Cur	2608	349.8	359.59		359.62	0.000415	1.48	1832.64	491	0.11
Reach1	64938	1%_Cur	3049	349.8	360.18		360.22	0.000368	1.49	2142.63	606.23	0.11
Reach1	64938	0.2%_Cur	3937	349.8	361.33		361.36	0.000286	1.47	3044.62	1081.47	0.1
Reach1	64938	10%_Proj	2003	349.8	358.66		358.7	0.0005	1.44	1406.43	404.29	0.12
Reach1	64938	2%_Proj	2869	349.8	359.94		359.98	0.000384	1.48	2010.23	512.91	0.11
Reach1	64938	1%_Proj	3354	349.8	360.61		360.64	0.000367	1.56	2423.07	707.26	0.11
Reach1	64938	0.2%_Proj	4331	349.8	361.61		361.64	0.000294	1.53	3374.39	1275.53	0.1
Reach1	64710	10%_Cur	1821	346.1	358.28		358.32	0.000241	1.55	1274.43	503.42	0.13
Reach1	64710	2%_Cur	2608	346.1	359.53		359.56	0.000188	1.56	2122.68	854.76	0.12
Reach1	64710	1%_Cur	3049	346.1	360.14		360.16	0.000156	1.51	2676.89	988.68	0.11
Reach1	64710	0.2%_Cur	3937	346.1	361.3		361.32	0.000106	1.38	3937.15	1138.39	0.09
Reach1	64710	10%_Proj	2003	346.1	358.59		358.62	0.000229	1.57	1438.86	585.28	0.13
Reach1	64710	2%_Proj	2869	346.1	359.89		359.92	0.000169	1.54	2443.37	920.51	0.11
Reach1	64710	1%_Proj	3354	346.1	360.57		360.59	0.000134	1.45	3128.69	1087.24	0.1
Reach1	64710	0.2%_Proj	4331	346.1	361.58		361.6	0.000107	1.41	4264.31	1177.26	0.09
Reach1	64701	10%_Cur	1821	346.1	358.28	354.93	358.32	0.000418	1.55	1222.56	425.67	0.13
Reach1	64701	2%_Cur	2608	346.1	359.53	355.45	359.56	0.000299	1.55	1982.67	754.93	0.12
Reach1	64701	1%_Cur	3049	346.1	360.13	355.62	360.16	0.000251	1.52	2511.12	983.91	0.11
Reach1	64701	0.2%_Cur	3937	346.1	361.29	355.94	361.32	0.000156	1.35	3766.82	1125.51	0.09
Reach1	64701	10%_Proj	2003	346.1	358.58	355.16	358.62	0.00039	1.57	1359.76	514.31	0.13
Reach1	64701	2%_Proj	2869	346.1	359.89	355.56	359.92	0.000277	1.56	2276.81	916.29	0.11
Reach1	64701	1%_Proj	3354	346.1	360.57	355.74	360.59	0.000208	1.45	2960.33	1086.46	0.1
Reach1	64701	0.2%_Proj	4331	346.1	361.58	356.07	361.6	0.000154	1.37	4088.47	1165.27	0.09
Reach1	64695.5	Bridge	Bridge									
Reach1	64690	10%_Cur	1821	345.3	358.25	353.86	358.29	0.000457	1.61	1162.96	381.84	0.14
Reach1	64690	2%_Cur	2608	345.3	359.5	355.5	359.54	0.000336	1.64	1829.01	662.27	0.12
Reach1	64690	1%_Cur	3049	345.3	360.11	355.67	360.15	0.000286	1.62	2297.66	905.09	0.12
Reach1	64690	0.2%_Cur	3937	345.3	361.28	355.98	361.31	0.000184	1.46	3534.24	1109.2	0.1
Reach1	64690	10%_Proj	2003	345.3	358.56	355.23	358.6	0.000429	1.63	1281.91	428.47	0.13
Reach1	64690	2%_Proj	2869	345.3	359.87	355.61	359.9	0.000305	1.63	2087.41	801.69	0.12
Reach1	64690	1%_Proj	3354	345.3	360.55	355.79	360.58	0.000252	1.59	2729.64	1073.17	0.11
Reach1	64690	0.2%_Proj	4331	345.3	361.57	356.11	361.59	0.000178	1.47	3850.56	1120.96	0.09
Reach1	64681	10%_Cur	1821	345.3	358.25		358.29	0.00051	1.66	1131.61	307.71	0.14
Reach1	64681	2%_Cur	2608	345.3	359.49		359.54	0.000385	1.72	1705.92	630.02	0.13

Reach1	64681	1%_Cur	3049	345.3	360.1	360.14	0.000325	1.69	2151.33	820.77	0.12
Reach1	64681	0.2%_Cur	3937	345.3	361.28	361.3	0.000217	1.56	3325.64	1096.93	0.1
Reach1	64681	10%_Proj	2003	345.3	358.55	358.59	0.00048	1.69	1239.2	395.71	0.14
Reach1	64681	2%_Proj	2869	345.3	359.86	359.9	0.000349	1.71	1957.13	754.27	0.13
Reach1	64681	1%_Proj	3354	345.3	360.54	360.58	0.000287	1.67	2539.71	955.68	0.12
Reach1	64681	0.2%_Proj	4331	345.3	361.56	361.59	0.000208	1.57	3639.05	1108.59	0.1
Reach1	64344	10%_Cur	1821	349.6	358.06	358.11	0.000538	1.76	1087.7	294.04	0.15
Reach1	64344	2%_Cur	2608	349.6	359.33	359.39	0.00051	1.89	1491.94	343.43	0.14
Reach1	64344	1%_Cur	3049	349.6	359.95	360.01	0.000511	1.98	1735.07	457.04	0.14
Reach1	64344	0.2%_Cur	3937	349.6	361.15	361.2	0.000418	1.95	2472.6	841.1	0.13
Reach1	64344	10%_Proj	2003	349.6	358.37	358.42	0.000534	1.8	1179.79	304.51	0.15
Reach1	64344	2%_Proj	2869	349.6	359.7	359.76	0.000505	1.94	1626.59	405.1	0.14
Reach1	64344	1%_Proj	3354	349.6	360.4	360.45	0.000475	1.98	1955.47	544.24	0.13
Reach1	64344	0.2%_Proj	4331	349.6	361.43	361.49	0.000434	2.03	2715.93	884.32	0.13
Reach1	64064	10%_Cur	1821	350.6	357.77	357.88	0.001339	2.89	918.95	266.16	0.22
Reach1	64064	2%_Cur	2608	350.6	359.04	359.16	0.001316	3.19	1325.62	411.13	0.22
Reach1	64064	1%_Cur	3049	350.6	359.68	359.79	0.001168	3.15	1603.93	463.72	0.21
Reach1	64064	0.2%_Cur	3937	350.6	360.96	361.04	0.000802	2.85	2501.92	1126.85	0.17
Reach1	64064	10%_Proj	2003	350.6	358.08	358.19	0.00133	2.96	1002.97	280.66	0.22
Reach1	64064	2%_Proj	2869	350.6	359.43	359.54	0.001226	3.17	1488.61	438.74	0.21
Reach1	64064	1%_Proj	3354	350.6	360.15	360.25	0.001041	3.08	1853.71	668.43	0.2
Reach1	64064	0.2%_Proj	4331	350.6	361.26	361.33	0.000751	2.81	2860.5	1302.67	0.17
Reach1	63963	10%_Cur	1821	350.2	357.66	357.78	0.000645	3.11	903.03	264.74	0.23
Reach1	63963	2%_Cur	2608	350.2	358.93	359.07	0.000608	3.42	1279.41	330.82	0.23
Reach1	63963	1%_Cur	3049	350.2	359.55	359.7	0.000593	3.57	1496.96	383.69	0.23
Reach1	63963	0.2%_Cur	3937	350.2	360.83	360.97	0.000493	3.59	2252.55	1028.46	0.21
Reach1	63963	10%_Proj	2003	350.2	357.96	358.09	0.000638	3.2	986.36	277.36	0.23
Reach1	63963	2%_Proj	2869	350.2	359.3	359.45	0.000598	3.51	1407.35	349.82	0.23
Reach1	63963	1%_Proj	3354	350.2	360.02	360.17	0.000565	3.62	1699.27	455.81	0.23
Reach1	63963	0.2%_Proj	4331	350.2	361.12	361.26	0.000485	3.64	2585.19	1259.98	0.21
Reach1	63952	10%_Cur	1821	350.2	357.42	354.73	357.72	0.001365	4.39	415.11	237.54	0.34
Reach1	63952	2%_Cur	2608	350.2	358.86	355.41	359.05	0.000789	3.88	1111.96	327.64	0.26
Reach1	63952	1%_Cur	3049	350.2	359.52	355.76	359.69	0.000695	3.86	1440.26	366.62	0.25
Reach1	63952	0.2%_Cur	3937	350.2	360.81	356.44	360.96	0.000548	3.8	2200.5	1025.76	0.23
Reach1	63952	10%_Proj	2003	350.2	357.91	354.9	358.08	0.000822	3.6	884.59	275.67	0.26
Reach1	63952	2%_Proj	2869	350.2	359.27	355.62	359.44	0.000701	3.8	1350.94	350.23	0.25
Reach1	63952	1%_Proj	3354	350.2	359.99	356	360.16	0.000638	3.85	1642.87	460.1	0.24
Reach1	63952	0.2%_Proj	4331	350.2	361.1	356.71	361.25	0.000534	3.84	2533.33	1247.01	0.23

Reach1	63946	Bridge	Bridge									
Reach1	63940	10%_Cur	1821	350.3	357.22	354.64	357.42	0.001168	3.92	729.93	235.28	0.3
Reach1	63940	2%_Cur	2608	350.3	358.3	355.38	358.53	0.001145	4.34	1048.19	290.96	0.3
Reach1	63940	1%_Cur	3049	350.3	358.86	355.75	359.11	0.001123	4.53	1222.78	325.97	0.3
Reach1	63940	0.2%_Cur	3937	350.3	360.51	356.5	360.71	0.000754	4.23	1933.13	746.86	0.25
Reach1	63940	10%_Proj	2003	350.3	357.47	354.82	357.68	0.001183	4.06	784.99	242.96	0.3
Reach1	63940	2%_Proj	2869	350.3	358.63	355.6	358.87	0.001135	4.46	1148.77	311.11	0.3
Reach1	63940	1%_Proj	3354	350.3	359.39	356.01	359.62	0.001019	4.51	1402.08	358.11	0.29
Reach1	63940	0.2%_Proj	4331	350.3	360.94	356.58	361.12	0.000694	4.18	2350.49	1121.79	0.25
Reach1	63930	10%_Cur	1821	350.3	357.23		357.38	0.000904	3.44	836.02	257.93	0.27
Reach1	63930	2%_Cur	2608	350.3	358.31		358.49	0.000924	3.88	1129.26	292.75	0.28
Reach1	63930	1%_Cur	3049	350.3	358.87		359.07	0.00092	4.07	1303.46	328.75	0.28
Reach1	63930	0.2%_Cur	3937	350.3	360.52		360.68	0.000629	3.82	1996.7	736.66	0.23
Reach1	63930	10%_Proj	2003	350.3	357.49		357.65	0.00091	3.55	903.37	262.97	0.27
Reach1	63930	2%_Proj	2869	350.3	358.64		358.84	0.000923	3.99	1229.54	309.25	0.28
Reach1	63930	1%_Proj	3354	350.3	359.4		359.59	0.000831	4.04	1483.62	356.11	0.26
Reach1	63930	0.2%_Proj	4331	350.3	360.95		361.1	0.000587	3.81	2409.41	1120.32	0.23
Reach1	63845	10%_Cur	1821	347.4	357.11		357.3	0.000981	3.83	842.92	291.22	0.28
Reach1	63845	2%_Cur	2608	347.4	358.2		358.41	0.001055	4.25	1202.94	373.73	0.28
Reach1	63845	1%_Cur	3049	347.4	358.78		358.99	0.001029	4.35	1435.46	425.53	0.28
Reach1	63845	0.2%_Cur	3937	347.4	360.49		360.62	0.00062	3.71	2389.71	897.84	0.21
Reach1	63845	10%_Proj	2003	347.4	357.37		357.56	0.00101	3.95	920.02	309.31	0.28
Reach1	63845	2%_Proj	2869	347.4	358.54		358.75	0.001048	4.33	1335.51	401.78	0.28
Reach1	63845	1%_Proj	3354	347.4	359.33		359.52	0.000894	4.18	1684.28	479.26	0.26
Reach1	63845	0.2%_Proj	4331	347.4	360.93		361.04	0.000552	3.58	2867.47	1271.1	0.2
Reach1	63280	10%_Cur	1821	346.7	356.72		356.79	0.000743	2.39	1128.33	462.33	0.17
Reach1	63280	2%_Cur	2608	346.7	357.89		357.94	0.000552	2.31	1726.48	558.75	0.15
Reach1	63280	1%_Cur	3049	346.7	358.53		358.58	0.000454	2.22	2096.6	601.77	0.14
Reach1	63280	0.2%_Cur	3937	346.7	360.36		360.39	0.000231	1.82	3446.46	1095.17	0.1
Reach1	63280	10%_Proj	2003	346.7	356.99		357.06	0.000705	2.4	1256.67	485.8	0.17
Reach1	63280	2%_Proj	2869	346.7	358.26		358.32	0.000493	2.26	1940.46	583.78	0.14
Reach1	63280	1%_Proj	3354	346.7	359.13		359.18	0.000355	2.06	2476.15	650.35	0.12
Reach1	63280	0.2%_Proj	4331	346.7	360.81		360.84	0.00021	1.78	4022.93	1422.57	0.1
Reach1	62671	10%_Cur	1821	346.4	356.34		356.4	0.000541	2.5	1357.84	379.07	0.19
Reach1	62671	2%_Cur	2608	346.4	357.55		357.62	0.000516	2.69	1839.02	418.86	0.19
Reach1	62671	1%_Cur	3049	346.4	358.21		358.28	0.000492	2.75	2126.55	444.46	0.18

Reach1	62671	0.2%_Cur	3937	346.4	360.13	360.2	0.000414	2.85	3451.54	1170.59	0.17
Reach1	62671	10%_Proj	2003	346.4	356.61	356.68	0.00054	2.56	1464.12	386.43	0.19
Reach1	62671	2%_Proj	2869	346.4	357.94	358.01	0.000504	2.73	2005.3	434	0.19
Reach1	62671	1%_Proj	3354	346.4	358.86	358.93	0.000449	2.75	2427.81	492.65	0.18
Reach1	62671	0.2%_Proj	4331	346.4	360.61	360.67	0.00036	2.74	4102.01	1590.98	0.16
Reach1	61788	10%_Cur	1850	347.7	355.72	355.75	0.001103	1.38	1424.76	384.43	0.12
Reach1	61788	2%_Cur	2650	347.7	357.01	357.04	0.000877	1.47	1934.91	405.99	0.11
Reach1	61788	1%_Cur	3100	347.7	357.72	357.75	0.000779	1.5	2227.13	417.51	0.11
Reach1	61788	0.2%_Cur	4000	347.7	359.78	359.81	0.000484	1.43	3454.76	1315.67	0.09
Reach1	61788	10%_Proj	2035	347.7	356.01	356.04	0.001053	1.41	1537.72	389.65	0.12
Reach1	61788	2%_Proj	2915	347.7	357.43	357.46	0.000819	1.49	2104.62	412.72	0.11
Reach1	61788	1%_Proj	3410	347.7	358.43	358.46	0.000658	1.49	2527.77	448.28	0.1
Reach1	61788	0.2%_Proj	4400	347.7	360.31	360.33	0.000409	1.37	4238.48	1609.74	0.08
Reach1	61059	10%_Cur	1850	348.8	355.14	355.19	0.000568	1.75	1114.46	266.43	0.14
Reach1	61059	2%_Cur	2650	348.8	356.5	356.55	0.000536	1.92	1491.26	297.18	0.14
Reach1	61059	1%_Cur	3100	348.8	357.24	357.3	0.000507	1.99	1725.95	330.33	0.13
Reach1	61059	0.2%_Cur	4000	348.8	359.53	359.56	0.000254	1.65	3194.26	950.44	0.1
Reach1	61059	10%_Proj	2035	348.8	355.44	355.49	0.00057	1.8	1195.18	271.44	0.14
Reach1	61059	2%_Proj	2915	348.8	356.93	356.99	0.000521	1.97	1624.97	317.13	0.14
Reach1	61059	1%_Proj	3410	348.8	358.03	358.08	0.000423	1.93	2024.38	550.21	0.12
Reach1	61059	0.2%_Proj	4400	348.8	360.1	360.13	0.000218	1.58	3768.54	1092.95	0.09
Reach1	60659	10%_Cur	1850	348.93	354.96	354.98	0.000432	1.22	1833.05	535.89	0.11
Reach1	60659	2%_Cur	2650	348.93	356.35	356.37	0.000332	1.24	2594.92	561.48	0.1
Reach1	60659	1%_Cur	3100	348.93	357.12	357.14	0.000291	1.24	3030.55	578.01	0.09
Reach1	60659	0.2%_Cur	4000	348.93	359.47	359.48	0.000147	1.06	4840.92	1081.17	0.06
Reach1	60659	10%_Proj	2035	348.93	355.27	355.29	0.00041	1.23	1998.36	540.7	0.11
Reach1	60659	2%_Proj	2915	348.93	356.8	356.82	0.000308	1.24	2846.96	570.96	0.09
Reach1	60659	1%_Proj	3410	348.93	357.93	357.95	0.000237	1.2	3546.24	692.52	0.08
Reach1	60659	0.2%_Proj	4400	348.93	360.04	360.05	0.000131	1.04	5531.44	1259.91	0.06
Reach1	60262	10%_Cur	1850	345.5	354.77	354.82	0.000356	1.85	1109.31	272.25	0.14
Reach1	60262	2%_Cur	2650	345.5	356.17	356.23	0.000353	2.01	1548.76	344.57	0.14
Reach1	60262	1%_Cur	3100	345.5	356.95	357.01	0.000332	2.04	1827.51	373	0.13
Reach1	60262	0.2%_Cur	4000	345.5	359.37	359.41	0.000191	1.76	3100.21	823.72	0.1
Reach1	60262	10%_Proj	2035	345.5	355.07	355.13	0.000366	1.91	1195.27	290.95	0.14
Reach1	60262	2%_Proj	2915	345.5	356.62	356.68	0.000343	2.03	1708.14	361.04	0.13
Reach1	60262	1%_Proj	3410	345.5	357.79	357.84	0.000275	1.95	2154.64	413.81	0.12
Reach1	60262	0.2%_Proj	4400	345.5	359.96	359.99	0.00017	1.71	3627.02	1046.69	0.09

Reach1	59756	10%_Cur	1850	346.6	354.47		354.52	0.001139	2.17	1087.99	299.53	0.16
Reach1	59756	2%_Cur	2650	346.6	355.91		355.97	0.000818	2.15	1547.8	337.12	0.14
Reach1	59756	1%_Cur	3100	346.6	356.72		356.77	0.000689	2.12	1830.54	369.94	0.13
Reach1	59756	0.2%_Cur	4000	346.6	359.26		359.29	0.000293	1.67	3132.65	751	0.09
Reach1	59756	10%_Proj	2035	346.6	354.78		354.83	0.001079	2.19	1181.64	307.18	0.16
Reach1	59756	2%_Proj	2915	346.6	356.38		356.44	0.000739	2.13	1709.06	352.47	0.14
Reach1	59756	1%_Proj	3410	346.6	357.6		357.65	0.000528	2	2186.4	456.58	0.12
Reach1	59756	0.2%_Proj	4400	346.6	359.86		359.88	0.000251	1.61	3627.87	867.35	0.09
Reach1	59164	10%_Cur	1850	337.8	354.22		354.25	0.000253	1.43	1718.37	376.75	0.08
Reach1	59164	2%_Cur	2650	337.8	355.7		355.73	0.000249	1.55	2300.91	415.41	0.08
Reach1	59164	1%_Cur	3100	337.8	356.53		356.56	0.000233	1.57	2654.63	437.88	0.08
Reach1	59164	0.2%_Cur	4000	337.8	359.16		359.18	0.000142	1.39	4016.7	686.36	0.06
Reach1	59164	10%_Proj	2035	337.8	354.53		354.56	0.000261	1.48	1835.52	383.71	0.08
Reach1	59164	2%_Proj	2915	337.8	356.18		356.21	0.000241	1.57	2504.14	429.12	0.08
Reach1	59164	1%_Proj	3410	337.8	357.45		357.48	0.000192	1.5	3072.85	480.01	0.07
Reach1	59164	0.2%_Proj	4400	337.8	359.77		359.78	0.000132	1.38	4454.73	739.55	0.06
Reach1	58414	10%_Cur	1850	346.3	353.91		353.93	0.000935	1.22	1627.67	457.63	0.11
Reach1	58414	2%_Cur	2650	346.3	355.44		355.46	0.000615	1.23	2364.3	501.45	0.09
Reach1	58414	1%_Cur	3100	346.3	356.3		356.32	0.000498	1.22	2803.15	517.9	0.08
Reach1	58414	0.2%_Cur	4000	346.3	359.04		359.05	0.000221	1.03	4338.46	620.06	0.06
Reach1	58414	10%_Proj	2035	346.3	354.22		354.24	0.000871	1.24	1771.25	465.65	0.1
Reach1	58414	2%_Proj	2915	346.3	355.94		355.96	0.000544	1.22	2617.1	510.99	0.09
Reach1	58414	1%_Proj	3410	346.3	357.28		357.29	0.000361	1.14	3319.29	540.75	0.07
Reach1	58414	0.2%_Proj	4400	346.3	359.66		359.67	0.000207	1.04	4731.71	655.44	0.06
Reach1	57798	10%_Cur	1850	343.3	353.43		353.46	0.000738	1.44	1443.44	450.77	0.11
Reach1	57798	2%_Cur	2650	343.3	355.19		355.21	0.000337	1.18	2381.41	642.55	0.08
Reach1	57798	1%_Cur	3100	343.3	356.12		356.14	0.000231	1.06	2995.76	674.58	0.07
Reach1	57798	0.2%_Cur	4000	343.3	358.97		358.98	0.000078	0.76	5026.86	764.62	0.04
Reach1	57798	10%_Proj	2035	343.3	353.79		353.82	0.000636	1.4	1610.85	470.61	0.1
Reach1	57798	2%_Proj	2915	343.3	355.73		355.75	0.00027	1.11	2735.96	665.8	0.07
Reach1	57798	1%_Proj	3410	343.3	357.16		357.17	0.000143	0.91	3707.34	696.03	0.05
Reach1	57798	0.2%_Proj	4400	343.3	359.59		359.6	0.000072	0.75	5510.46	786.47	0.04
Reach1	57733	10%_Cur	1850	345.8	353.24	349.78	353.38	0.000592	3.09	660.53	671.51	0.24
Reach1	57733	2%_Cur	2650	345.8	354.99	350.71	355.14	0.000456	3.22	913.49	722.55	0.21
Reach1	57733	1%_Cur	3100	345.8	355.92	351.04	356.07	0.00041	3.3	1046.59	738.74	0.21
Reach1	57733	0.2%_Cur	4000	345.8	358.97	351.59	358.98	0.000036	1.2	6042.16	823.27	0.06
Reach1	57733	10%_Proj	2035	345.8	353.6	350.01	353.74	0.000573	3.16	712.32	684.64	0.24
Reach1	57733	2%_Proj	2915	345.8	355.53	350.91	355.69	0.000429	3.27	991.07	732.48	0.21

Reach1	57733	1%_Proj	3410	345.8	356.97	351.24	357.12	0.000324	3.17	1198.73	757.03	0.19
Reach1	57733	0.2%_Proj	4400	345.8	359.59	351.8	359.6	0.000035	1.21	6562.46	844.47	0.06
Reach1	57679.5	Bridge	Bridge									
Reach1	57622	10%_Cur	1850	345.7	352.96	349.67	353.16	0.000797	3.66	530.58	678.53	0.27
Reach1	57622	2%_Cur	2650	345.7	354.42	350.45	354.67	0.000757	4.09	684.75	718.53	0.27
Reach1	57622	1%_Cur	3100	345.7	355.09	350.79	355.37	0.000768	4.35	754.48	759.49	0.28
Reach1	57622	0.2%_Cur	4000	345.7	357.71	351.46	357.72	0.000047	1.29	5585.38	823.63	0.07
Reach1	57622	10%_Proj	2035	345.7	353.29	349.86	353.51	0.000795	3.78	565.95	686.34	0.28
Reach1	57622	2%_Proj	2915	345.7	354.81	350.66	355.08	0.000766	4.25	725.8	748.04	0.28
Reach1	57622	1%_Proj	3410	345.7	355.92	351.04	356.2	0.00066	4.29	842.3	783.16	0.26
Reach1	57622	0.2%_Proj	4400	345.7	358.85	351.71	358.87	0.000036	1.2	6543.49	856.4	0.06
Reach1	57551	10%_Cur	1850	342.2	353.05		353.07	0.000365	1.43	1909.28	562.73	0.1
Reach1	57551	2%_Cur	2650	342.2	354.56		354.58	0.000227	1.31	2791.81	606.03	0.08
Reach1	57551	1%_Cur	3100	342.2	355.25		355.26	0.000199	1.3	3215.86	628.51	0.08
Reach1	57551	0.2%_Cur	4000	342.2	357.71		357.72	0.000094	1.06	4924.27	756.48	0.06
Reach1	57551	10%_Proj	2035	342.2	353.4		353.41	0.000325	1.4	2107.11	572.44	0.1
Reach1	57551	2%_Proj	2915	342.2	354.96		354.98	0.00021	1.3	3039.81	618.29	0.08
Reach1	57551	1%_Proj	3410	342.2	356.08		356.1	0.000153	1.22	3759.14	676.43	0.07
Reach1	57551	0.2%_Proj	4400	342.2	358.85		358.86	0.000065	0.95	5793.38	762.55	0.05
Reach1	56819	10%_Cur	1850	343.7	352.6	348.51	352.71	0.000692	2.65	783.95	215.17	0.21
Reach1	56819	2%_Cur	2650	343.7	354.2	349.75	354.31	0.000631	2.76	1152.44	245.6	0.19
Reach1	56819	1%_Cur	3100	343.7	354.9	350.11	355.02	0.000631	2.87	1329	258.88	0.19
Reach1	56819	0.2%_Cur	4000	343.7	357.5	350.6	357.59	0.000387	2.56	2318.88	680.33	0.14
Reach1	56819	10%_Proj	2035	343.7	352.97	348.72	353.08	0.000685	2.69	864.85	222.15	0.2
Reach1	56819	2%_Proj	2915	343.7	354.61	349.96	354.73	0.000633	2.83	1255.29	253.42	0.19
Reach1	56819	1%_Proj	3410	343.7	355.8	350.29	355.9	0.000528	2.75	1568.88	278.63	0.17
Reach1	56819	0.2%_Proj	4400	343.7	358.7	350.81	358.77	0.000287	2.33	3306.81	912.09	0.12

Plan: Alt 2-1

Flows: Current and Projected Future

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach1	86857	10%_Cur	330	612.24	618.37		618.37	0.000006	0.22	2708.52	1917.19	0.02
Reach1	86857	2%_Cur	490	612.24	618.81		618.81	0.000007	0.26	3571.03	2065.36	0.02
Reach1	86857	1%_Cur	545	612.24	618.91		618.91	0.000007	0.27	3794.59	2095.66	0.02
Reach1	86857	0.2%_Cur	770	612.24	619.29		619.29	0.000009	0.31	4597.71	2179.04	0.03
Reach1	86857	10%_Proj	363	612.24	618.51		618.51	0.000006	0.23	2972.77	1958.5	0.02
Reach1	86857	2%_Proj	539	612.24	618.91		618.91	0.000007	0.27	3794.59	2095.66	0.02
Reach1	86857	1%_Proj	600	612.24	619.02		619.02	0.000008	0.28	4021.24	2119.31	0.02
Reach1	86857	0.2%_Proj	847	612.24	619.41		619.41	0.000009	0.32	4863.63	2194.02	0.03
Reach1	86624	10%_Cur	620	612.9	618.37		618.37	0.000033	0.53	2321.17	1840.57	0.05
Reach1	86624	2%_Cur	900	612.9	618.8		618.8	0.000031	0.56	3122.48	1860.68	0.05
Reach1	86624	1%_Cur	990	612.9	618.91		618.91	0.000032	0.57	3322.36	1864.87	0.05
Reach1	86624	0.2%_Cur	1370	612.9	619.28		619.29	0.000035	0.63	4024.11	1878.01	0.05
Reach1	86624	10%_Proj	682	612.9	618.5		618.51	0.00003	0.52	2572.72	1849.1	0.05
Reach1	86624	2%_Proj	990	612.9	618.91		618.91	0.000032	0.57	3322.36	1864.87	0.05
Reach1	86624	1%_Proj	1089	612.9	619.02		619.02	0.000033	0.59	3522.8	1869.03	0.05
Reach1	86624	0.2%_Proj	1507	612.9	619.4		619.41	0.000036	0.65	4252.12	1882.18	0.05
Reach1	86586	10%_Cur	620	611.6	618.37	615.16	618.37	0.00003	0.54	2363.77	1807.66	0.05
Reach1	86586	2%_Cur	900	611.6	618.8	616.19	618.8	0.000029	0.57	3149.95	1826.01	0.05
Reach1	86586	1%_Cur	990	611.6	618.91	616.3	618.91	0.00003	0.59	3346	1830.3	0.05
Reach1	86586	0.2%_Cur	1370	611.6	619.28	616.74	619.28	0.000034	0.65	4034.59	1845.01	0.05
Reach1	86586	10%_Proj	682	611.6	618.5	615.43	618.51	0.000028	0.54	2610.75	1813.32	0.05
Reach1	86586	2%_Proj	990	611.6	618.91	616.3	618.91	0.00003	0.59	3346	1830.3	0.05
Reach1	86586	1%_Proj	1089	611.6	619.01	616.43	619.02	0.000031	0.6	3542.62	1834.57	0.05
Reach1	86586	0.2%_Proj	1507	611.6	619.4	616.85	619.41	0.000035	0.67	4258.4	1849.77	0.06
Reach1	86548	Bridge	Bridge									
Reach1	86510	10%_Cur	620	611.6	618.29	615.23	618.33	0.000325	2.15	1008.56	1069.76	0.17
Reach1	86510	2%_Cur	900	611.6	618.74	616.02	618.77	0.000299	2.19	1544.05	1299.92	0.17
Reach1	86510	1%_Cur	990	611.6	618.85	616.24	618.88	0.000311	2.26	1689.33	1401.32	0.17
Reach1	86510	0.2%_Cur	1370	611.6	619.23	617.85	619.26	0.000316	2.38	2260.89	1673.49	0.17
Reach1	86510	10%_Proj	682	611.6	618.44	615.42	618.47	0.000297	2.1	1172.27	1133.03	0.16
Reach1	86510	2%_Proj	990	611.6	618.85	616.24	618.88	0.000311	2.26	1689.33	1401.32	0.17
Reach1	86510	1%_Proj	1089	611.6	618.96	616.47	618.99	0.000308	2.28	1846.41	1447.17	0.17
Reach1	86510	0.2%_Proj	1507	611.6	619.35	617.94	619.38	0.000334	2.48	2462.12	1694.21	0.18

Reach1	86469	10%_Cur	620	613.41	618.12	618.27	0.001787	3.9	473.26	742.98	0.38
Reach1	86469	2%_Cur	900	613.41	618.65	618.73	0.001147	3.45	923.84	967.49	0.31
Reach1	86469	1%_Cur	990	613.41	618.76	618.84	0.001098	3.44	1039.64	1064.47	0.31
Reach1	86469	0.2%_Cur	1370	613.41	619.16	619.22	0.000979	3.47	1533.94	1358.69	0.3
Reach1	86469	10%_Proj	682	613.41	618.31	618.42	0.001409	3.59	624.99	826.2	0.34
Reach1	86469	2%_Proj	990	613.41	618.76	618.84	0.001098	3.44	1039.64	1064.47	0.31
Reach1	86469	1%_Proj	1089	613.41	618.87	618.95	0.00109	3.5	1164.34	1177.5	0.31
Reach1	86469	0.2%_Proj	1507	613.41	619.28	619.34	0.000907	3.41	1710.33	1428.14	0.29
Reach1	85402	10%_Cur	620	612.08	617.37	617.4	0.000432	1.64	540.13	1135.19	0.15
Reach1	85402	2%_Cur	900	612.08	617.96	618	0.000447	1.81	1135.19	1271.88	0.16
Reach1	85402	1%_Cur	990	612.08	618.09	618.13	0.00044	1.83	1298.28	1297.19	0.16
Reach1	85402	0.2%_Cur	1370	612.08	618.51	618.54	0.000445	1.94	1871.39	1459.42	0.16
Reach1	85402	10%_Proj	682	612.08	617.51	617.56	0.000509	1.82	591.43	1160.6	0.17
Reach1	85402	2%_Proj	990	612.08	618.09	618.13	0.00044	1.83	1298.28	1297.19	0.16
Reach1	85402	1%_Proj	1089	612.08	618.17	618.21	0.000465	1.9	1407.53	1314.11	0.16
Reach1	85402	0.2%_Proj	1507	612.08	618.65	618.69	0.00044	1.96	2092.05	1545.25	0.16
Reach1	84756	10%_Cur	620	612.91	617.35	617.36	0.00002	0.88	1451.42	843.75	0.08
Reach1	84756	2%_Cur	900	612.91	617.94	617.95	0.000022	1.03	2326.17	1948.94	0.09
Reach1	84756	1%_Cur	990	612.91	618.07	618.08	0.000024	1.08	2574.61	2065.05	0.09
Reach1	84756	0.2%_Cur	1370	612.91	618.47	618.49	0.00003	1.28	3440.79	2203.1	0.1
Reach1	84756	10%_Proj	682	612.91	617.5	617.51	0.00002	0.92	1606.14	1212.35	0.08
Reach1	84756	2%_Proj	990	612.91	618.07	618.08	0.000024	1.08	2574.61	2065.05	0.09
Reach1	84756	1%_Proj	1089	612.91	618.14	618.16	0.000026	1.15	2740.78	2114.36	0.09
Reach1	84756	0.2%_Proj	1507	612.91	618.61	618.63	0.000031	1.33	3760.45	2268.77	0.1
Reach1	84575	10%_Cur	620	612	617.34	617.35	0.000168	0.96	1146.87	555.19	0.08
Reach1	84575	2%_Cur	900	612	617.94	617.94	0.000171	1.04	1648.35	1297.62	0.09
Reach1	84575	1%_Cur	990	612	618.06	618.07	0.000175	1.07	1815.4	1371.08	0.09
Reach1	84575	0.2%_Cur	1370	612	618.46	618.47	0.000192	1.17	2404.76	1521.4	0.09
Reach1	84575	10%_Proj	682	612	617.49	617.5	0.000169	0.98	1233.25	648.34	0.08
Reach1	84575	2%_Proj	990	612	618.06	618.07	0.000175	1.07	1815.4	1371.08	0.09
Reach1	84575	1%_Proj	1089	612	618.14	618.15	0.00019	1.12	1924.95	1408.4	0.09
Reach1	84575	0.2%_Proj	1507	612	618.61	618.62	0.000191	1.19	2625.98	1553.96	0.09
Reach1	83675	10%_Cur	620	609.25	617.23	617.25	0.000076	1.35	852.79	357.14	0.09
Reach1	83675	2%_Cur	900	609.25	617.79	617.82	0.000111	1.71	1147.51	678.63	0.11
Reach1	83675	1%_Cur	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12
Reach1	83675	0.2%_Cur	1370	609.25	618.25	618.3	0.000184	2.29	1492.9	812.49	0.14
Reach1	83675	10%_Proj	682	609.25	617.37	617.4	0.000084	1.44	908.98	445.18	0.09
Reach1	83675	2%_Proj	990	609.25	617.9	617.94	0.000124	1.83	1224.65	713.63	0.12

Reach1	83675	1%_Proj	1089	609.25	617.96	618	0.000143	1.98	1266.05	734.13	0.13
Reach1	83675	0.2%_Proj	1507	609.25	618.38	618.44	0.000201	2.42	1601.15	840.5	0.15
Reach1	83646	10%_Cur	620	608.7	617.23	617.25	0.000127	1.83	1039.75	660.72	0.12
Reach1	83646	2%_Cur	900	608.7	617.79	617.81	0.000163	2.16	1497.72	960.45	0.13
Reach1	83646	1%_Cur	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	0.2%_Cur	1370	608.7	618.25	618.29	0.000233	2.68	1968.83	1056.28	0.16
Reach1	83646	10%_Proj	682	608.7	617.37	617.39	0.000134	1.9	1137.9	738.11	0.12
Reach1	83646	2%_Proj	990	608.7	617.9	617.93	0.000176	2.27	1606.35	986.39	0.14
Reach1	83646	1%_Proj	1089	608.7	617.96	617.99	0.000201	2.44	1664.17	999.74	0.15
Reach1	83646	0.2%_Proj	1507	608.7	618.39	618.42	0.000244	2.77	2110.74	1071.61	0.16
Reach1	79531	10%_Cur	620	480.5	484.81	485.44	0.015564	6.39	98.26	37.28	0.68
Reach1	79531	2%_Cur	900	480.5	485.55	486.37	0.014765	7.29	126.38	38.57	0.69
Reach1	79531	1%_Cur	990	480.5	485.76	486.64	0.014721	7.57	134.42	38.94	0.69
Reach1	79531	0.2%_Cur	1370	480.5	486.5	487.66	0.015199	8.69	163.94	40.24	0.73
Reach1	79531	10%_Proj	682	480.5	484.97	485.65	0.015587	6.64	104.26	37.56	0.68
Reach1	79531	2%_Proj	990	480.5	485.74	486.63	0.014926	7.6	133.83	38.91	0.7
Reach1	79531	1%_Proj	1089	480.5	485.96	486.92	0.014891	7.88	142.34	39.29	0.7
Reach1	79531	0.2%_Proj	1507	480.5	486.75	488.01	0.01531	9.04	173.99	40.67	0.73
Reach1	79022	10%_Cur	700	478	484.08	484.21	0.000881	3.02	308.62	138.77	0.28
Reach1	79022	2%_Cur	1030	478	485.05	485.19	0.000794	3.29	447.96	148.3	0.27
Reach1	79022	1%_Cur	1140	478	485.28	485.43	0.000809	3.42	482.93	150.59	0.27
Reach1	79022	0.2%_Cur	1580	478	486.19	486.38	0.000815	3.8	624.49	161.29	0.28
Reach1	79022	10%_Proj	770	478	484.22	484.36	0.000925	3.17	328.66	140.21	0.29
Reach1	79022	2%_Proj	1133	478	485.27	485.42	0.000808	3.41	480.67	150.44	0.27
Reach1	79022	1%_Proj	1254	478	485.52	485.68	0.000818	3.54	519.04	152.91	0.28
Reach1	79022	0.2%_Proj	1738	478	486.51	486.7	0.000807	3.91	676.14	165.82	0.28
Reach1	79012	10%_Cur	700	478.5	483.97	481.94	484.17	0.001987	3.57	198.9	63	0.33
Reach1	79012	2%_Cur	1030	478.5	484.88	482.53	485.14	0.002013	4.17	260.66	111.74	0.34
Reach1	79012	1%_Cur	1140	478.5	485.08	482.7	485.38	0.002108	4.39	275.67	119.13	0.36
Reach1	79012	0.2%_Cur	1580	478.5	485.9	483.33	486.3	0.002311	5.11	336.13	133.69	0.38
Reach1	79012	10%_Proj	770	478.5	484.1	482.07	484.32	0.002146	3.8	206.83	64.63	0.34
Reach1	79012	2%_Proj	1133	478.5	485.07	482.69	485.36	0.002103	4.38	274.7	118.66	0.35
Reach1	79012	1%_Proj	1254	478.5	485.3	482.88	485.62	0.00219	4.61	291.19	127.87	0.36
Reach1	79012	0.2%_Proj	1738	478.5	486.19	483.54	486.62	0.002341	5.32	357.32	136.43	0.39
Reach1	78964	Bridge	Bridge								
Reach1	78916	10%_Cur	700	478.5	483.97	481.94	484.17	0.002006	3.57	197.5	57.49	0.33

Reach1	78916	2%_Cur	1030	478.5	484.52	482.53	484.84	0.002716	4.55	229.44	59.92	0.39
Reach1	78916	1%_Cur	1140	478.5	484.68	482.7	485.04	0.002925	4.85	239.24	60.65	0.41
Reach1	78916	0.2%_Cur	1580	478.5	485.31	483.33	485.84	0.003547	5.84	278.4	63.47	0.46
Reach1	78916	10%_Proj	770	478.5	484.1	482.08	484.32	0.002168	3.79	204.68	58.04	0.34
Reach1	78916	2%_Proj	1133	478.5	484.67	482.69	485.03	0.002913	4.83	238.59	60.6	0.41
Reach1	78916	1%_Proj	1254	478.5	484.85	482.88	485.25	0.003121	5.13	249.27	61.38	0.43
Reach1	78916	0.2%_Proj	1738	478.5	485.53	483.53	486.11	0.003703	6.15	292.47	64.45	0.48
Reach1	78894	10%_Cur	700	477.3	483.88		484.12	0.001347	3.93	179.14	44.45	0.33
Reach1	78894	2%_Cur	1030	477.3	484.33		484.76	0.002094	5.23	199.62	46.71	0.42
Reach1	78894	1%_Cur	1140	477.3	484.46		484.95	0.002355	5.64	205.41	47.33	0.45
Reach1	78894	0.2%_Cur	1580	477.3	484.89		485.68	0.003395	7.17	226.41	49.51	0.55
Reach1	78894	10%_Proj	770	477.3	483.99		484.27	0.001502	4.22	183.92	44.99	0.35
Reach1	78894	2%_Proj	1133	477.3	484.45		484.94	0.002339	5.62	205.03	47.29	0.45
Reach1	78894	1%_Proj	1254	477.3	484.58		485.14	0.002627	6.06	211.09	47.93	0.48
Reach1	78894	0.2%_Proj	1738	477.3	485.02		485.93	0.003782	7.69	232.96	50.18	0.58
Reach1	78501	10%_Cur	700	474	483.99		484.01	0.000042	0.97	726.88	144.72	0.07
Reach1	78501	2%_Cur	1030	474	484.53		484.56	0.000072	1.3	809.23	161.41	0.09
Reach1	78501	1%_Cur	1140	474	484.69		484.72	0.000082	1.41	834.76	164.47	0.1
Reach1	78501	0.2%_Cur	1580	474	485.27		485.32	0.000125	1.78	933.79	173.59	0.12
Reach1	78501	10%_Proj	770	474	484.12		484.14	0.000048	1.04	745.08	148.92	0.08
Reach1	78501	2%_Proj	1133	474	484.68		484.71	0.000082	1.4	833.1	164.32	0.1
Reach1	78501	1%_Proj	1254	474	484.84		484.88	0.000093	1.51	860.57	166.9	0.1
Reach1	78501	0.2%_Proj	1738	474	485.47		485.52	0.00014	1.9	967.59	176.6	0.13
Reach1	78445	10%_Cur	700	472.5	484	473.88	484	0.000026	0.4	1755.52	211.6	0.02
Reach1	78445	2%_Cur	1030	472.5	484.54	474.25	484.55	0.000046	0.55	1871.03	214.44	0.03
Reach1	78445	1%_Cur	1140	472.5	484.7	474.37	484.71	0.000053	0.6	1905.07	215.27	0.03
Reach1	78445	0.2%_Cur	1580	472.5	485.3	474.79	485.31	0.000082	0.78	2033.86	218.38	0.04
Reach1	78445	10%_Proj	770	472.5	484.13	473.96	484.13	0.00003	0.43	1782.01	212.26	0.03
Reach1	78445	2%_Proj	1133	472.5	484.69	474.36	484.7	0.000052	0.6	1902.86	215.22	0.03
Reach1	78445	1%_Proj	1254	472.5	484.86	474.48	484.87	0.00006	0.65	1939.11	216.1	0.04
Reach1	78445	0.2%_Proj	1738	472.5	485.49	474.92	485.5	0.000093	0.84	2076.77	219.41	0.05
Reach1	78435	Inl	Inl Struct									
Reach1	78428	10%_Cur	700	472.5	473.85	473.85	474.47	0.021855	6.34	111.94	96.14	1
Reach1	78428	2%_Cur	1030	472.5	474.22	474.22	475.01	0.020282	7.16	149.18	103.38	0.99
Reach1	78428	1%_Cur	1140	472.5	474.34	474.34	475.17	0.019874	7.39	161.11	105.59	0.99
Reach1	78428	0.2%_Cur	1580	472.5	474.76	474.76	475.77	0.018542	8.17	207.41	113.78	0.98
Reach1	78428	10%_Proj	770	472.5	473.93	473.93	474.59	0.021431	6.53	120.13	97.77	0.99

Reach1	78428	2%_Proj	1133	472.5	474.33	474.33	475.16	0.019904	7.37	160.34	105.45	0.99
Reach1	78428	1%_Proj	1254	472.5	474.45	474.45	475.34	0.019405	7.6	173.56	107.85	0.98
Reach1	78428	0.2%_Proj	1738	472.5	474.9	474.9	475.97	0.018227	8.42	223.29	116.45	0.98
Reach1	78376	10%_Cur	700	468	473.05		473.11	0.000424	2.07	366.62	113.71	0.18
Reach1	78376	2%_Cur	1030	468	474.18		474.26	0.000401	2.33	501.5	124.39	0.18
Reach1	78376	1%_Cur	1140	468	474.44		474.53	0.000415	2.44	534.24	126.69	0.19
Reach1	78376	0.2%_Cur	1580	468	475.12		475.25	0.000532	2.97	622.65	132.68	0.21
Reach1	78376	10%_Proj	770	468	473.37		473.44	0.000395	2.09	404.64	116.89	0.18
Reach1	78376	2%_Proj	1133	468	474.43		474.52	0.000412	2.43	533.3	126.62	0.19
Reach1	78376	1%_Proj	1254	468	474.7		474.8	0.000427	2.55	567.93	129	0.19
Reach1	78376	0.2%_Proj	1738	468	475.45		475.59	0.000538	3.08	666.54	135.59	0.22
Reach1	78193	10%_Cur	700	466.4	472.55		472.93	0.002422	4.98	151.89	42.14	0.4
Reach1	78193	2%_Cur	1030	466.4	473.55		474.06	0.002613	5.88	196.99	47.87	0.43
Reach1	78193	1%_Cur	1140	466.4	473.74		474.32	0.002841	6.26	206.11	48.95	0.45
Reach1	78193	0.2%_Cur	1580	466.4	473.9		474.94	0.004951	8.41	213.91	49.85	0.6
Reach1	78193	10%_Proj	770	466.4	472.88		473.26	0.002306	5.08	165.95	44.01	0.4
Reach1	78193	2%_Proj	1133	466.4	473.74		474.31	0.002804	6.22	206.17	48.96	0.45
Reach1	78193	1%_Proj	1254	466.4	473.93		474.58	0.003058	6.63	215.53	50.04	0.47
Reach1	78193	0.2%_Proj	1738	466.4	474.1		475.26	0.005308	8.9	224.05	51	0.63
Reach1	78152	10%_Cur	700	467.3	472.64	469.96	472.72	0.00088	2.37	365.18	149.31	0.2
Reach1	78152	2%_Cur	1030	467.3	473.71	470.42	473.8	0.000824	2.59	530.34	160.69	0.2
Reach1	78152	1%_Cur	1140	467.3	473.92	470.56	474.02	0.000868	2.72	564.9	162.97	0.2
Reach1	78152	0.2%_Cur	1580	467.3	474.24	471.08	474.4	0.001343	3.49	617.47	166.38	0.26
Reach1	78152	10%_Proj	770	467.3	472.98	470.06	473.06	0.000803	2.36	416.27	152.92	0.19
Reach1	78152	2%_Proj	1133	467.3	473.92	470.54	474.02	0.000858	2.7	564.71	162.96	0.2
Reach1	78152	1%_Proj	1254	467.3	474.14	470.7	474.24	0.000906	2.84	600.5	165.29	0.21
Reach1	78152	0.2%_Proj	1738	467.3	474.49	471.26	474.67	0.001383	3.63	659.45	169.05	0.26
Reach1	78142.5	Bridge	Bridge									
Reach1	78133	10%_Cur	700	467.3	469.93	469.89	470.81	0.017791	7.55	92.98	63.64	0.96
Reach1	78133	2%_Cur	1030	467.3	470.49	470.44	471.63	0.017882	8.57	120.81	77.63	0.96
Reach1	78133	1%_Cur	1140	467.3	470.66	470.61	471.87	0.01774	8.85	129.68	82.04	0.96
Reach1	78133	0.2%_Cur	1580	467.3	471.38	471.27	472.57	0.014354	9.05	216.09	100.54	0.87
Reach1	78133	10%_Proj	770	467.3	470.05	470.02	471	0.017892	7.79	99.1	66.73	0.96
Reach1	78133	2%_Proj	1133	467.3	470.65	470.59	471.86	0.017753	8.83	129.11	81.76	0.96
Reach1	78133	1%_Proj	1254	467.3	470.85	470.77	472.12	0.017422	9.08	139.04	86.68	0.95
Reach1	78133	0.2%_Proj	1738	467.3	471.56	471.47	472.82	0.014448	9.35	234.75	105.34	0.88

Reach1	78088	10%_Cur	700	466.21	469.95		470.18	0.003567	3.85	195.88	107.1	0.43
Reach1	78088	2%_Cur	1030	466.21	470.61		470.9	0.003411	4.4	272.14	123.3	0.43
Reach1	78088	1%_Cur	1140	466.21	470.82		471.13	0.003327	4.53	298.63	128.34	0.43
Reach1	78088	0.2%_Cur	1580	466.21	471.52		471.89	0.003257	5.07	393.57	144.08	0.44
Reach1	78088	10%_Proj	770	466.21	470.09		470.34	0.003555	3.99	211.66	110.65	0.43
Reach1	78088	2%_Proj	1133	466.21	470.81		471.11	0.003333	4.52	296.92	128.03	0.43
Reach1	78088	1%_Proj	1254	466.21	471.04		471.36	0.003215	4.64	327.33	133.29	0.43
Reach1	78088	0.2%_Proj	1738	466.21	471.71		472.12	0.003318	5.28	422.4	148.62	0.45
Reach1	77855	10%_Cur	700	465.51	468.73	468.1	469.16	0.005183	5.26	147.83	106.26	0.61
Reach1	77855	2%_Cur	1030	465.51	468.98	468.65	469.7	0.007817	6.91	175.27	118.48	0.77
Reach1	77855	1%_Cur	1140	465.51	469.02	468.83	469.87	0.008993	7.5	180.55	120.35	0.83
Reach1	77855	0.2%_Cur	1580	465.51	469.4	469.4	470.56	0.010411	8.85	229.47	136.46	0.91
Reach1	77855	10%_Proj	770	465.51	468.8	468.22	469.28	0.005642	5.6	155.35	110.95	0.64
Reach1	77855	2%_Proj	1133	465.51	469.02	468.82	469.86	0.008915	7.46	180.25	120.24	0.82
Reach1	77855	1%_Proj	1254	465.51	469.05	469	470.05	0.010439	8.14	184.13	121.6	0.89
Reach1	77855	0.2%_Proj	1738	465.51	469.58	469.58	470.79	0.010093	9.07	254.56	141.7	0.9
Reach1	77443	10%_Cur	700	463.7	465.65	465.5	466.06	0.011821	5.25	157.16	168.47	0.79
Reach1	77443	2%_Cur	1030	463.7	466.33		466.66	0.006477	4.84	285.18	205.78	0.6
Reach1	77443	1%_Cur	1140	463.7	466.56		466.87	0.005476	4.73	333.65	219.08	0.55
Reach1	77443	0.2%_Cur	1580	463.7	467.45		467.7	0.003105	4.34	552.09	254.4	0.43
Reach1	77443	10%_Proj	770	463.7	465.79	465.58	466.19	0.010243	5.15	182.34	178.49	0.74
Reach1	77443	2%_Proj	1133	463.7	466.54		466.85	0.005532	4.73	330.52	218.29	0.56
Reach1	77443	1%_Proj	1254	463.7	466.79		467.08	0.004658	4.62	387.25	233.12	0.51
Reach1	77443	0.2%_Proj	1738	463.7	467.78		468.01	0.002593	4.21	636.06	258.4	0.4
Reach1	77185	10%_Cur	700	462	464.9	463.54	465.06	0.001668	3.26	216.73	146.78	0.36
Reach1	77185	2%_Cur	1030	462	465.73	464	465.93	0.001457	3.66	291.47	177.64	0.35
Reach1	77185	1%_Cur	1140	462	466	464.13	466.21	0.001394	3.76	315.38	184.81	0.34
Reach1	77185	0.2%_Cur	1580	462	467.01	464.58	467.25	0.001213	4.11	405.02	209.23	0.33
Reach1	77185	10%_Proj	770	462	465.08	463.64	465.25	0.001617	3.35	233.24	157.61	0.36
Reach1	77185	2%_Proj	1133	462	465.99	464.13	466.19	0.001397	3.75	313.92	184.37	0.34
Reach1	77185	1%_Proj	1254	462	466.28	464.26	466.49	0.001336	3.85	339.7	201.53	0.34
Reach1	77185	0.2%_Proj	1738	462	467.34	464.72	467.59	0.001175	4.22	434.14	212.62	0.33
Reach1	77153.5	Bridge	Bridge									
Reach1	77122	10%_Cur	700	462	463.49	463.49	464.24	0.015388	5.91	104.23	64.57	0.86
Reach1	77122	2%_Cur	1030	462	463.96	463.96	464.9	0.014812	6.95	135.19	69.84	0.88
Reach1	77122	1%_Cur	1140	462	464.11	464.11	465.09	0.014402	7.2	145.87	71.87	0.88
Reach1	77122	0.2%_Cur	1580	462	464.63	464.63	465.76	0.013665	8.15	186.85	85.17	0.89

Reach1	77122	10%_Proj	770	462	463.58	463.58	464.39	0.015907	6.23	109.76	65.16	0.88
Reach1	77122	2%_Proj	1133	462	464.09	464.09	465.08	0.014551	7.2	144.78	71.55	0.88
Reach1	77122	1%_Proj	1254	462	464.28	464.28	465.28	0.013577	7.38	158.81	76.31	0.86
Reach1	77122	0.2%_Proj	1738	462	464.79	464.79	465.98	0.013651	8.47	200.08	88.69	0.9
Reach1	77052	10%_Cur	700	460.21	459.69	459.44	460.68	0.010826		87.74	34.73	0
Reach1	77052	2%_Cur	1030	460.21	460.73	460.73	461.63	0.009152	1.55	138.18	85.44	0.56
Reach1	77052	1%_Cur	1140	460.21	460.88	460.88	461.81	0.009346	2.07	151.37	88.79	0.61
Reach1	77052	0.2%_Cur	1580	460.21	461.41	461.41	462.44	0.009602	3.65	201.15	100.58	0.71
Reach1	77052	10%_Proj	770	460.21	459.81	459.63	460.9	0.011558		91.94	35.54	0
Reach1	77052	2%_Proj	1133	460.21	460.88	460.88	461.8	0.009272	2.05	151.04	88.71	0.61
Reach1	77052	1%_Proj	1254	460.21	461.05	461.05	461.99	0.0093	2.51	166.36	92.46	0.64
Reach1	77052	0.2%_Proj	1738	460.21	461.57	461.57	462.63	0.009729	4.12	217.1	104.09	0.73
Reach1	76409	10%_Cur	700	449.31	451.64	451.64	452.58	0.014601	7.79	91.99	52.95	0.98
Reach1	76409	2%_Cur	1030	449.31	452.27	452.27	453.35	0.011904	8.46	132.89	89.63	0.93
Reach1	76409	1%_Cur	1140	449.31	452.49	452.49	453.57	0.010788	8.51	154.75	107.26	0.89
Reach1	76409	0.2%_Cur	1580	449.31	453.09	453.09	454.31	0.009928	9.27	220.1	112.12	0.88
Reach1	76409	10%_Proj	770	449.31	451.8	451.8	452.76	0.01363	7.91	100.24	55.21	0.96
Reach1	76409	2%_Proj	1133	449.31	452.48	452.48	453.55	0.010862	8.51	153.2	106.15	0.9
Reach1	76409	1%_Proj	1254	449.31	452.66	452.66	453.77	0.010439	8.7	173.24	108.94	0.89
Reach1	76409	0.2%_Proj	1738	449.31	453.27	453.27	454.54	0.009871	9.56	240.04	113.45	0.89
Reach1	75569	10%_Cur	700	441.75	450.54		450.57	0.000238	1.41	675.84	161.06	0.1
Reach1	75569	2%_Cur	1030	441.75	451.72		451.76	0.000269	1.67	871.91	171.32	0.1
Reach1	75569	1%_Cur	1140	441.75	451.94		451.98	0.000295	1.79	909.26	173.18	0.11
Reach1	75569	0.2%_Cur	1580	441.75	452.59		452.65	0.000417	2.23	1022.61	177.95	0.13
Reach1	75569	10%_Proj	770	441.75	451.04		451.07	0.000216	1.41	757.23	165.47	0.09
Reach1	75569	2%_Proj	1133	441.75	451.92		451.96	0.000295	1.78	905.63	173	0.11
Reach1	75569	1%_Proj	1254	441.75	452.13		452.17	0.000326	1.9	941.92	174.65	0.12
Reach1	75569	0.2%_Proj	1738	441.75	452.76		452.83	0.000466	2.39	1053.87	179.21	0.14
Reach1	75540	10%_Cur	700	441.3	450.55	443.91	450.56	0.00004	0.92	938.09	197.48	0.06
Reach1	75540	2%_Cur	1030	441.3	451.73	444.5	451.75	0.00005	1.13	1180.86	213.38	0.07
Reach1	75540	1%_Cur	1140	441.3	451.95	444.67	451.97	0.000055	1.21	1227.34	214.12	0.07
Reach1	75540	0.2%_Cur	1580	441.3	452.59	445.38	452.63	0.000081	1.53	1366.83	216.34	0.09
Reach1	75540	10%_Proj	770	441.3	451.05	444.05	451.06	0.000038	0.94	1038.16	204.35	0.06
Reach1	75540	2%_Proj	1133	441.3	451.92	444.66	451.95	0.000055	1.21	1222.85	214.05	0.07
Reach1	75540	1%_Proj	1254	441.3	452.13	444.86	452.16	0.000061	1.3	1267.75	214.77	0.08
Reach1	75540	0.2%_Proj	1738	441.3	452.77	445.54	452.81	0.000091	1.65	1404.99	216.94	0.1
Reach1	75524.5	Bridge	Bridge									

Reach1	75509	10%_Cur	700	441.3	450.54	443.85	450.55	0.000052	1.15	809.56	214.26	0.07
Reach1	75509	2%_Cur	1030	441.3	451.71	444.47	451.74	0.000062	1.38	1065.72	220.19	0.08
Reach1	75509	1%_Cur	1140	441.3	451.93	444.63	451.96	0.000068	1.48	1113.37	221.2	0.09
Reach1	75509	0.2%_Cur	1580	441.3	452.57	445.3	452.62	0.000099	1.87	1255.9	224.21	0.11
Reach1	75509	10%_Proj	770	441.3	451.04	443.99	451.05	0.000048	1.16	917.24	217.01	0.07
Reach1	75509	2%_Proj	1133	441.3	451.91	444.64	451.94	0.000068	1.48	1108.75	221.11	0.09
Reach1	75509	1%_Proj	1254	441.3	452.12	444.82	452.15	0.000076	1.58	1154.73	222.08	0.09
Reach1	75509	0.2%_Proj	1738	441.3	452.74	445.52	452.8	0.000111	2	1294.69	225.02	0.11
Reach1	75463	10%_Cur	700	441.83	450.5		450.54	0.00016	1.7	556.37	174.96	0.11
Reach1	75463	2%_Cur	1030	441.83	451.67		451.73	0.000183	2.03	767.83	186.54	0.13
Reach1	75463	1%_Cur	1140	441.83	451.88		451.94	0.000202	2.16	807.29	188.49	0.13
Reach1	75463	0.2%_Cur	1580	441.83	452.49		452.59	0.000289	2.71	925.25	194.83	0.16
Reach1	75463	10%_Proj	770	441.83	451		451.04	0.000146	1.71	645.35	180.26	0.11
Reach1	75463	2%_Proj	1133	441.83	451.86		451.92	0.000201	2.16	803.38	188.3	0.13
Reach1	75463	1%_Proj	1254	441.83	452.06		452.13	0.000223	2.31	841.43	190.28	0.14
Reach1	75463	0.2%_Proj	1738	441.83	452.66		452.77	0.000324	2.91	957.1	196.33	0.17
Reach1	75435	10%_Cur	700	442.5	450.48		450.54	0.000206	2.09	480.55	178.59	0.15
Reach1	75435	2%_Cur	1030	442.5	451.64		451.72	0.000221	2.42	697.07	192.67	0.15
Reach1	75435	1%_Cur	1140	442.5	451.85		451.94	0.000241	2.57	737.47	195.25	0.16
Reach1	75435	0.2%_Cur	1580	442.5	452.46		452.58	0.000337	3.2	858.07	203.4	0.19
Reach1	75435	10%_Proj	770	442.5	450.98		451.04	0.000182	2.07	571.92	184.45	0.14
Reach1	75435	2%_Proj	1133	442.5	451.83		451.92	0.000241	2.57	733.42	195	0.16
Reach1	75435	1%_Proj	1254	442.5	452.03		452.12	0.000265	2.74	772.38	197.59	0.17
Reach1	75435	0.2%_Proj	1738	442.5	452.62		452.76	0.000376	3.42	890.49	205.57	0.21
Reach1	75422	10%_Cur	700	441.5	450.45	445.33	450.53	0.000863	2.41	438.39	177.48	0.16
Reach1	75422	2%_Cur	1030	441.5	451.63	446.19	451.71	0.000832	2.62	660.06	199.34	0.16
Reach1	75422	1%_Cur	1140	441.5	451.84	446.41	451.93	0.000892	2.76	702.59	204.07	0.16
Reach1	75422	0.2%_Cur	1580	441.5	452.45	447.25	452.57	0.00118	3.32	830.47	214.72	0.19
Reach1	75422	10%_Proj	770	441.5	450.96	445.54	451.03	0.000724	2.31	531.68	185.7	0.15
Reach1	75422	2%_Proj	1133	441.5	451.82	446.4	451.91	0.000893	2.75	698.27	203.7	0.16
Reach1	75422	1%_Proj	1254	441.5	452.02	446.64	452.12	0.000964	2.9	739.65	207.21	0.17
Reach1	75422	0.2%_Proj	1738	441.5	452.61	447.51	452.75	0.001301	3.52	865	217.51	0.2
Reach1	75394.5	Bridge	Bridge									
Reach1	75369	10%_Cur	700	438.2	441.48	441.48	442.76	0.050589	9.11	78.51	32.91	0.97
Reach1	75369	2%_Cur	1030	438.2	442.26	442.26	443.88	0.046132	10.29	104.25	37.17	0.97
Reach1	75369	1%_Cur	1140	438.2	442.5	442.5	444.22	0.045188	10.63	112.23	38.45	0.97

Reach1	75369	0.2%_Cur	1580	438.2	443.37	443.37	445.46	0.041911	11.77	142.87	43.22	0.97
Reach1	75369	10%_Proj	770	438.2	441.66	441.66	443.02	0.049316	9.38	84.26	33.88	0.97
Reach1	75369	2%_Proj	1133	438.2	442.47	442.47	444.2	0.045579	10.63	111.45	38.33	0.97
Reach1	75369	1%_Proj	1254	438.2	442.74	442.74	444.56	0.043998	10.94	120.58	39.78	0.97
Reach1	75369	0.2%_Proj	1738	438.2	443.69	443.69	445.86	0.040206	12.05	154.29	44.94	0.96
Reach1	75362	10%_Cur	700	433.15	438.08	438.08	439.63	0.038232	10.01	72.6	27.27	0.98
Reach1	75362	2%_Cur	1030	433.15	439.12	439.12	440.91	0.031325	10.9	104.86	34.91	0.93
Reach1	75362	1%_Cur	1140	433.15	439.43	439.43	441.28	0.029828	11.14	115.79	36.27	0.92
Reach1	75362	0.2%_Cur	1580	433.15	440.39	440.39	442.58	0.028325	12.32	152.56	40.12	0.92
Reach1	75362	10%_Proj	770	433.15	438.31	438.31	439.92	0.036564	10.25	79.05	28.96	0.97
Reach1	75362	2%_Proj	1133	433.15	439.41	439.41	441.25	0.02988	11.12	115.15	36.2	0.92
Reach1	75362	1%_Proj	1254	433.15	439.7	439.7	441.64	0.029163	11.44	125.88	37.36	0.91
Reach1	75362	0.2%_Proj	1738	433.15	440.72	440.72	443	0.027573	12.63	166.11	41.45	0.92
Reach1	75312	10%_Cur	700	432.3	435.22	435.22	436.44	0.039815	8.86	80.03	35.38	0.99
Reach1	75312	2%_Cur	1030	432.3	435.96	435.96	437.48	0.035472	9.96	107.49	39.01	0.98
Reach1	75312	1%_Cur	1140	432.3	436.19	436.19	437.8	0.034293	10.25	116.56	40.14	0.97
Reach1	75312	0.2%_Cur	1580	432.3	437.03	437.03	438.94	0.030823	11.25	152.09	44.28	0.96
Reach1	75312	10%_Proj	770	432.3	435.38	435.38	436.67	0.038755	9.13	85.92	36.19	0.99
Reach1	75312	2%_Proj	1133	432.3	436.17	436.17	437.78	0.03438	10.23	115.96	40.06	0.98
Reach1	75312	1%_Proj	1254	432.3	436.41	436.41	438.11	0.033365	10.55	125.69	41.24	0.97
Reach1	75312	0.2%_Proj	1738	432.3	437.3	437.3	439.31	0.030087	11.57	164.24	45.61	0.96
Reach1	75158	10%_Cur	700	425.41	429.51		430.25	0.007983	6.98	104.83	41.63	0.72
Reach1	75158	2%_Cur	1030	425.41	430.48		431.35	0.006448	7.6	148.04	46.87	0.68
Reach1	75158	1%_Cur	1140	425.41	430.78		431.69	0.006156	7.78	161.96	48.43	0.67
Reach1	75158	0.2%_Cur	1580	425.41	431.78		432.86	0.005605	8.56	213.41	54.16	0.66
Reach1	75158	10%_Proj	770	425.41	429.72		430.5	0.007618	7.15	113.74	42.76	0.71
Reach1	75158	2%_Proj	1133	425.41	430.76		431.66	0.006179	7.78	161.02	48.33	0.67
Reach1	75158	1%_Proj	1254	425.41	431.08		432.02	0.005834	7.94	177.05	50.08	0.66
Reach1	75158	0.2%_Proj	1738	425.41	431.67		433.05	0.007319	9.65	207.36	53.48	0.75
Reach1	75098	10%_Cur	700	423.5	429.06	427.94	429.63	0.009948	6.08	120.08	42.09	0.57
Reach1	75098	2%_Cur	1030	423.5	430.13	428.7	430.81	0.008495	6.71	174.87	61.82	0.55
Reach1	75098	1%_Cur	1140	423.5	430.45	428.94	431.15	0.008124	6.86	195.75	67.96	0.54
Reach1	75098	0.2%_Cur	1580	423.5	431.57	429.84	432.32	0.007065	7.32	277.06	75.73	0.52
Reach1	75098	10%_Proj	770	423.5	429.29	428.12	429.89	0.009689	6.26	130.12	45.14	0.57
Reach1	75098	2%_Proj	1133	423.5	430.43	428.91	431.13	0.008158	6.85	194.27	67.6	0.54
Reach1	75098	1%_Proj	1254	423.5	430.8	429.18	431.51	0.007609	6.94	220.02	72.82	0.53
Reach1	75098	0.2%_Proj	1738	423.5	431.33	430.16	432.36	0.010019	8.49	259.23	74.92	0.62

Reach1	75093.5	Bridge	Bridge									
Reach1	75089	10%_Cur	700	423.5	428.02	428.02	429.32	0.014623	9.22	79.59	34.88	0.97
Reach1	75089	2%_Cur	1030	423.5	428.8	428.8	430.44	0.01454	10.43	109.1	40.76	0.97
Reach1	75089	1%_Cur	1140	423.5	429.05	429.05	430.78	0.014317	10.74	119.8	44.8	0.96
Reach1	75089	0.2%_Cur	1580	423.5	430.18	430.18	431.94	0.011363	11.05	185.6	69.88	0.87
Reach1	75089	10%_Proj	770	423.5	428.21	428.21	429.58	0.014466	9.47	86.26	36.3	0.96
Reach1	75089	2%_Proj	1133	423.5	429.03	429.03	430.76	0.014347	10.72	119.04	44.48	0.96
Reach1	75089	1%_Proj	1254	423.5	429.34	429.34	431.12	0.013607	10.9	133.9	51.65	0.94
Reach1	75089	0.2%_Proj	1738	423.5	430.3	430.46	432.29	0.012597	11.79	193.84	70.45	0.92
Reach1	75042	10%_Cur	700	423.5	427.19	427.19	428.23	0.014879	8.19	88.44	47.46	0.99
Reach1	75042	2%_Cur	1030	423.5	427.83	427.83	429.13	0.014235	9.21	120.14	52.28	0.98
Reach1	75042	1%_Cur	1140	423.5	428.02	428.02	429.4	0.014039	9.5	130.37	53.49	0.97
Reach1	75042	0.2%_Cur	1580	423.5	428.71	428.71	430.39	0.013639	10.55	168.69	57.75	0.97
Reach1	75042	10%_Proj	770	423.5	427.33	427.33	428.43	0.014792	8.44	95.16	48.59	0.99
Reach1	75042	2%_Proj	1133	423.5	428.01	428.01	429.38	0.014048	9.48	129.73	53.42	0.97
Reach1	75042	1%_Proj	1254	423.5	428.21	428.21	429.67	0.013943	9.79	140.45	54.66	0.97
Reach1	75042	0.2%_Proj	1738	423.5	428.94	428.94	430.72	0.013443	10.86	182.37	59.28	0.97
Reach1	74782	10%_Cur	700	409.6	414.78		415.18	0.009794	5.06	139.65	45.93	0.49
Reach1	74782	2%_Cur	1030	409.6	415.43		416.02	0.01165	6.2	170.69	50.32	0.55
Reach1	74782	1%_Cur	1140	409.6	415.62		416.28	0.012158	6.54	180.4	51.57	0.56
Reach1	74782	0.2%_Cur	1580	409.6	416.31		417.22	0.013706	7.69	217.78	56.13	0.61
Reach1	74782	10%_Proj	770	409.6	414.93		415.37	0.010242	5.32	146.5	46.99	0.5
Reach1	74782	2%_Proj	1133	409.6	415.61		416.26	0.012126	6.52	179.79	51.5	0.56
Reach1	74782	1%_Proj	1254	409.6	415.81		416.54	0.012569	6.85	190.58	52.85	0.58
Reach1	74782	0.2%_Proj	1738	409.6	416.54		417.53	0.014137	8.05	230.7	57.63	0.63
Reach1	74780	10%_Cur	700	411.9	414.13	414.13	415.1	0.024322	7.89	89.68	49.46	1
Reach1	74780	2%_Cur	1030	411.9	414.71	414.71	415.94	0.022791	8.91	119.11	52.89	0.99
Reach1	74780	1%_Cur	1140	411.9	414.89	414.89	416.19	0.02233	9.19	128.61	53.92	0.99
Reach1	74780	0.2%_Cur	1580	411.9	415.55	415.55	417.12	0.020727	10.14	165.6	57.75	0.98
Reach1	74780	10%_Proj	770	411.9	414.26	414.26	415.29	0.023964	8.13	96.09	50.27	1
Reach1	74780	2%_Proj	1133	411.9	414.88	414.88	416.17	0.022351	9.18	128.02	53.86	0.99
Reach1	74780	1%_Proj	1254	411.9	415.06	415.06	416.44	0.021919	9.47	138.24	54.94	0.99
Reach1	74780	0.2%_Proj	1738	411.9	415.75	415.75	417.43	0.020598	10.49	177.49	58.93	0.98
Reach1	74779	10%_Cur	700	409.27	412.93	412.93	413.98	0.01602	8.24	87.55	45.37	0.99
Reach1	74779	2%_Cur	1030	409.27	413.56	413.56	414.89	0.01623	9.31	117.49	49.38	0.98
Reach1	74779	1%_Cur	1140	409.27	413.76	413.76	415.17	0.016079	9.58	127.54	50.6	0.98
Reach1	74779	0.2%_Cur	1580	409.27	414.46	414.46	416.18	0.016079	10.66	164.1	54.6	0.98

Reach1	74779	10%_Proj	770	409.27	413.07	413.07	414.18	0.016101	8.49	94.09	46.28	0.99
Reach1	74779	2%_Proj	1133	409.27	413.75	413.75	415.15	0.016087	9.56	126.91	50.53	0.98
Reach1	74779	1%_Proj	1254	409.27	413.96	413.96	415.44	0.016013	9.86	137.5	51.72	0.97
Reach1	74779	0.2%_Proj	1738	409.27	414.71	414.71	416.51	0.015766	10.93	178.01	56.05	0.97
Reach1	74711	10%_Cur	700	405.5	409.41	409.41	410.72	0.013736	9.24	78.51	32.47	0.96
Reach1	74711	2%_Cur	1030	405.5	410.23	410.23	411.83	0.012286	10.32	107.07	37.12	0.94
Reach1	74711	1%_Cur	1140	405.5	410.47	410.47	412.16	0.012001	10.64	116.26	38.49	0.94
Reach1	74711	0.2%_Cur	1580	405.5	411.35	411.35	413.37	0.011239	11.76	152.1	43.44	0.94
Reach1	74711	10%_Proj	770	405.5	409.59	409.59	410.97	0.013379	9.5	84.58	33.51	0.96
Reach1	74711	2%_Proj	1133	405.5	410.46	410.46	412.14	0.012015	10.62	115.69	38.41	0.94
Reach1	74711	1%_Proj	1254	405.5	410.69	410.69	412.5	0.011952	11.01	124.9	39.74	0.95
Reach1	74711	0.2%_Proj	1738	405.5	411.64	411.64	413.77	0.010972	12.09	165.18	45.12	0.94
Reach1	74082	10%_Cur	700	377.52	379.8	379.8	380.66	0.086171	7.42	94.74	57.88	1
Reach1	74082	2%_Cur	1030	377.52	380.32	380.32	381.39	0.076957	8.35	125.48	61.92	0.99
Reach1	74082	1%_Cur	1140	377.52	380.48	380.48	381.62	0.074373	8.6	135.5	63.15	0.98
Reach1	74082	0.2%_Cur	1580	377.52	381.07	381.07	382.43	0.066696	9.44	174.08	67.48	0.96
Reach1	74082	10%_Proj	770	377.52	379.92	379.92	380.82	0.083785	7.64	101.46	58.79	1
Reach1	74082	2%_Proj	1133	377.52	380.47	380.47	381.6	0.074535	8.59	134.86	63.07	0.98
Reach1	74082	1%_Proj	1254	377.52	380.64	380.64	381.84	0.072232	8.85	145.58	64.33	0.98
Reach1	74082	0.2%_Proj	1738	377.52	381.25	381.25	382.69	0.065966	9.76	186.19	68.77	0.97
Reach1	73253	10%_Cur	700	359.49	364.56	362.47	364.61	0.000758	1.96	521.19	210.36	0.2
Reach1	73253	2%_Cur	1030	359.49	365.34	363.14	365.4	0.000784	2.18	687.32	215.62	0.2
Reach1	73253	1%_Cur	1140	359.49	365.73	363.26	365.78	0.000701	2.15	771.15	218.96	0.19
Reach1	73253	0.2%_Cur	1580	359.49	366.5	363.68	366.57	0.00077	2.43	943.54	225.67	0.19
Reach1	73253	10%_Proj	770	359.49	364.76	362.6	364.81	0.000752	2	562.25	211.67	0.2
Reach1	73253	2%_Proj	1133	359.49	365.68	363.25	365.73	0.000721	2.17	760.04	218.52	0.19
Reach1	73253	1%_Proj	1254	359.49	365.93	363.37	365.99	0.000725	2.23	816.2	220.73	0.19
Reach1	73253	0.2%_Proj	1738	359.49	366.96	363.82	367.02	0.000697	2.42	1046.43	229.59	0.18
Reach1	73194	10%_Cur	700	358.6	364.44	363.03	364.53	0.002696	2.73	384.52	158.37	0.26
Reach1	73194	2%_Cur	1030	358.6	365.21	363.5	365.3	0.002512	3.03	508.69	163.75	0.26
Reach1	73194	1%_Cur	1140	358.6	365.61	363.5	365.7	0.00213	2.97	574.68	166.85	0.25
Reach1	73194	0.2%_Cur	1580	358.6	366.37	363.71	366.48	0.002228	3.37	703.23	172.73	0.26
Reach1	73194	10%_Proj	770	358.6	364.64	363.22	364.71	0.002584	2.78	415.55	159.6	0.26
Reach1	73194	2%_Proj	1133	358.6	365.56	363.5	365.65	0.002207	3	565.64	166.43	0.25
Reach1	73194	1%_Proj	1254	358.6	365.81	363.51	365.9	0.002174	3.09	608.04	168.4	0.25
Reach1	73194	0.2%_Proj	1738	358.6	366.83	363.83	366.94	0.001945	3.33	784.02	176.32	0.25
Reach1	73166	Bridge	Bridge									

Reach1	73148	10%_Cur	700	358.53	363.43	361.07	363.55	0.000882	2.71	268.61	83.29	0.25
Reach1	73148	2%_Cur	1030	358.53	364.54	361.56	364.68	0.000842	3.03	375.56	107.2	0.24
Reach1	73148	1%_Cur	1140	358.53	365.36	361.71	365.48	0.000613	2.83	468.93	118.55	0.21
Reach1	73148	0.2%_Cur	1580	358.53	366.17	362.22	366.34	0.00075	3.37	567.38	126.36	0.23
Reach1	73148	10%_Proj	770	358.53	363.68	361.18	363.8	0.000875	2.79	290.3	91.09	0.25
Reach1	73148	2%_Proj	1133	358.53	365.26	361.7	365.38	0.000645	2.87	456.65	117.54	0.21
Reach1	73148	1%_Proj	1254	358.53	365.59	361.86	365.72	0.000651	2.98	495.68	120.73	0.22
Reach1	73148	0.2%_Proj	1738	358.53	366.66	362.4	366.83	0.000705	3.41	630.33	131.12	0.23
Reach1	73074	10%_Cur	700	358.61	362.88		363.33	0.00376	5.41	138.97	55.4	0.54
Reach1	73074	2%_Cur	1030	358.61	363.97		364.47	0.002875	5.77	204.39	63.47	0.5
Reach1	73074	1%_Cur	1140	358.61	364.96		365.34	0.00168	5.08	269.73	68.94	0.39
Reach1	73074	0.2%_Cur	1580	358.61	365.57		366.13	0.002183	6.23	312.61	72.21	0.46
Reach1	73074	10%_Proj	770	358.61	363.13		363.59	0.003492	5.48	153.08	57.89	0.53
Reach1	73074	2%_Proj	1133	358.61	364.83		365.23	0.001808	5.18	261.14	68.25	0.41
Reach1	73074	1%_Proj	1254	358.61	365.13		365.56	0.001808	5.38	281.9	69.92	0.41
Reach1	73074	0.2%_Proj	1738	358.61	366.06		366.63	0.001973	6.26	349.26	74.83	0.44
Reach1	72754	10%_Cur	700	352.8	362.04		362.47	0.001988	5.57	162.61	49.92	0.4
Reach1	72754	2%_Cur	1030	352.8	363.05		363.64	0.002307	6.65	217.99	59.17	0.44
Reach1	72754	1%_Cur	1140	352.8	364.48		364.86	0.001298	5.63	340.25	154.11	0.34
Reach1	72754	0.2%_Cur	1580	352.8	364.87		365.46	0.001976	7.15	406.6	184.69	0.42
Reach1	72754	10%_Proj	770	352.8	362.28		362.74	0.002059	5.82	174.88	52.1	0.41
Reach1	72754	2%_Proj	1133	352.8	364.31		364.72	0.001401	5.77	316.32	126.22	0.35
Reach1	72754	1%_Proj	1254	352.8	364.59		365.03	0.001475	6.06	358.57	167.53	0.36
Reach1	72754	0.2%_Proj	1738	352.8	365.59		366.04	0.001512	6.59	557.39	247.71	0.37
Reach1	72231	10%_Cur	700	351.5	362.28		362.29	0.000034	0.82	2100.34	853.63	0.06
Reach1	72231	2%_Cur	1030	351.5	363.41		363.42	0.000027	0.82	3094.38	906.93	0.05
Reach1	72231	1%_Cur	1140	351.5	364.73		364.73	0.000013	0.64	4314.33	951.65	0.04
Reach1	72231	0.2%_Cur	1580	351.5	365.25		365.25	0.000018	0.78	4816.04	967.49	0.05
Reach1	72231	10%_Proj	770	351.5	362.55		362.55	0.000032	0.82	2329.91	862.5	0.06
Reach1	72231	2%_Proj	1133	351.5	364.57		364.57	0.000014	0.66	4166.71	945.41	0.04
Reach1	72231	1%_Proj	1254	351.5	364.88		364.88	0.000015	0.68	4457.35	956.31	0.04
Reach1	72231	0.2%_Proj	1738	351.5	365.88		365.88	0.000016	0.75	5431.88	982.98	0.04
Reach1	71607	10%_Cur	1200	350.7	362.11		362.21	0.000358	2.71	793.34	272.69	0.17
Reach1	71607	2%_Cur	1700	350.7	363.24		363.35	0.000367	3.01	1112	290.75	0.18
Reach1	71607	1%_Cur	1960	350.7	364.61		364.69	0.000241	2.68	1520.18	306.04	0.15
Reach1	71607	0.2%_Cur	2570	350.7	365.09		365.2	0.000333	3.25	1667.59	311.54	0.18
Reach1	71607	10%_Proj	1320	350.7	362.38		362.48	0.000367	2.81	866.07	277.03	0.18

Reach1	71607	2%_Proj	1870	350.7	364.46		364.53	0.000236	2.63	1473.27	304.27	0.15
Reach1	71607	1%_Proj	2156	350.7	364.75		364.83	0.000274	2.88	1561.39	307.59	0.16
Reach1	71607	0.2%_Proj	2827	350.7	365.73		365.83	0.000306	3.24	1872.15	326.39	0.17
Reach1	70869	10%_Cur	1200	352	362.07		362.08	0.000093	0.87	2659.44	858.44	0.07
Reach1	70869	2%_Cur	1700	352	363.23		363.23	0.00008	0.88	3657.17	876.5	0.06
Reach1	70869	1%_Cur	1960	352	364.61		364.62	0.000047	0.73	4878.17	886.16	0.05
Reach1	70869	0.2%_Cur	2570	352	365.09		365.1	0.000063	0.88	5305.38	889.27	0.05
Reach1	70869	10%_Proj	1320	352	362.34		362.35	0.000091	0.88	2891.47	861.91	0.06
Reach1	70869	2%_Proj	1870	352	364.46		364.46	0.000047	0.72	4741.12	885.15	0.05
Reach1	70869	1%_Proj	2156	352	364.75		364.75	0.000053	0.79	4998.01	887.05	0.05
Reach1	70869	0.2%_Proj	2827	352	365.74		365.74	0.000057	0.86	5881.34	893.06	0.05
Reach1	70760	10%_Cur	1200	353	362.07	358.46	362.07	0.000032	0.5	5070.11	1322.54	0.04
Reach1	70760	2%_Cur	1700	353	363.22	359	363.23	0.00003	0.53	6690.22	1469.05	0.04
Reach1	70760	1%_Cur	1960	353	364.61	359	364.61	0.000018	0.45	8756.87	1500.02	0.03
Reach1	70760	0.2%_Cur	2570	353	365.09	359	365.09	0.000024	0.54	9479.78	1508.31	0.03
Reach1	70760	10%_Proj	1320	353	362.34	358.58	362.34	0.000033	0.52	5433.3	1377.39	0.04
Reach1	70760	2%_Proj	1870	353	364.46	359	364.46	0.000018	0.45	8524.88	1498.27	0.03
Reach1	70760	1%_Proj	2156	353	364.74	359	364.75	0.00002	0.49	8959.59	1501.54	0.03
Reach1	70760	0.2%_Proj	2827	353	365.74	359	365.74	0.000022	0.53	10465.85	1541.59	0.03
Reach1	70740	10%_Cur	1200	353.4	362.07	357.49	362.07	0.000039	0.53	4715.7	1244.53	0.04
Reach1	70740	2%_Cur	1700	353.4	363.22	358.16	363.22	0.000036	0.57	6217.79	1354.19	0.04
Reach1	70740	1%_Cur	1960	353.4	364.61	358.49	364.61	0.000021	0.49	8166.86	1437.51	0.03
Reach1	70740	0.2%_Cur	2570	353.4	365.09	359.02	365.09	0.000028	0.59	8860.75	1448.41	0.03
Reach1	70740	10%_Proj	1320	353.4	362.34	357.68	362.34	0.00004	0.55	5056.23	1288.3	0.04
Reach1	70740	2%_Proj	1870	353.4	364.45	358.36	364.46	0.000021	0.48	7944.71	1433.53	0.03
Reach1	70740	1%_Proj	2156	353.4	364.74	358.68	364.75	0.000024	0.53	8361.13	1440.99	0.03
Reach1	70740	0.2%_Proj	2827	353.4	365.74	359.21	365.74	0.000025	0.58	9799.9	1453.68	0.03
Reach1	70713	Bridge	Bridge									
Reach1	70686	10%_Cur	1200	353.4	361.95	357.5	361.95	0.000036	0.8	4482.52	1297.96	0.06
Reach1	70686	2%_Cur	1700	353.4	363.2	358.15	363.2	0.00003	0.81	6124.62	1329.07	0.05
Reach1	70686	1%_Cur	1960	353.4	364.6	358.44	364.6	0.000018	0.69	8024.38	1376.45	0.04
Reach1	70686	0.2%_Cur	2570	353.4	365.08	359	365.08	0.000024	0.83	8685.97	1383.59	0.05
Reach1	70686	10%_Proj	1320	353.4	362.27	357.66	362.27	0.000034	0.8	4899.88	1306.46	0.06
Reach1	70686	2%_Proj	1870	353.4	364.45	358.35	364.45	0.000018	0.68	7811.11	1373.05	0.04
Reach1	70686	1%_Proj	2156	353.4	364.74	358.65	364.74	0.00002	0.74	8209.34	1378.45	0.04
Reach1	70686	0.2%_Proj	2827	353.4	365.73	359.21	365.73	0.000022	0.82	9586.87	1393.26	0.05

Reach1	70671	10%_Cur	1200	353.59	361.95	357.53	361.95	0.000022	0.65	5237.77	1235.73	0.05
Reach1	70671	2%_Cur	1700	353.59	363.2	358.14	363.2	0.000021	0.72	6850.22	1308.55	0.05
Reach1	70671	1%_Cur	1960	353.59	364.6	358.39	364.6	0.000014	0.64	8723.54	1352.84	0.04
Reach1	70671	0.2%_Cur	2570	353.59	365.08	359	365.08	0.000019	0.78	9373.73	1360.02	0.04
Reach1	70671	10%_Proj	1320	353.59	362.27	357.68	362.27	0.000023	0.69	5644.03	1288.12	0.05
Reach1	70671	2%_Proj	1870	353.59	364.45	358.31	364.45	0.000013	0.63	8513.92	1350.4	0.04
Reach1	70671	1%_Proj	2156	353.59	364.74	358.57	364.74	0.000016	0.69	8905.33	1354.85	0.04
Reach1	70671	0.2%_Proj	2827	353.59	365.73	359	365.73	0.000017	0.78	10259.33	1369.6	0.04
Reach1	70632	10%_Cur	1200	354.18	361.95		361.95	0.000015	0.54	6077.91	1186.84	0.04
Reach1	70632	2%_Cur	1700	354.18	363.19		363.2	0.000016	0.62	7626.55	1291.8	0.04
Reach1	70632	1%_Cur	1960	354.18	364.6		364.6	0.000011	0.58	9467.18	1332.55	0.03
Reach1	70632	0.2%_Cur	2570	354.18	365.08		365.08	0.000015	0.7	10107.62	1340.25	0.04
Reach1	70632	10%_Proj	1320	354.18	362.27		362.27	0.000015	0.56	6459.73	1201.73	0.04
Reach1	70632	2%_Proj	1870	354.18	364.45		364.45	0.000011	0.56	9260.97	1327.03	0.03
Reach1	70632	1%_Proj	2156	354.18	364.73		364.74	0.000012	0.62	9646.19	1334.97	0.04
Reach1	70632	0.2%_Proj	2827	354.18	365.73		365.73	0.000014	0.71	10979.99	1348.52	0.04
Reach1	70558	10%_Cur	1228	354	361.94		361.94	0.000016	0.46	6299.4	1172.42	0.03
Reach1	70558	2%_Cur	1741	354	363.19		363.19	0.000017	0.52	7786.98	1232.06	0.03
Reach1	70558	1%_Cur	2009	354	364.6		364.6	0.000012	0.5	9561.14	1284.18	0.03
Reach1	70558	0.2%_Cur	2632	354	365.08		365.08	0.000017	0.61	10178.05	1292.26	0.03
Reach1	70558	10%_Proj	1351	354	362.26		362.26	0.000016	0.47	6675.75	1176.83	0.03
Reach1	70558	2%_Proj	1915	354	364.44		364.44	0.000012	0.48	9362.53	1278	0.03
Reach1	70558	1%_Proj	2210	354	364.73		364.73	0.000014	0.54	9733.46	1287.69	0.03
Reach1	70558	0.2%_Proj	2895	354	365.73		365.73	0.000016	0.61	11018.41	1297.36	0.03
Reach1	69987	10%_Cur	1228	351.05	361.94		361.94	0.000032	0.82	4160.91	753.17	0.06
Reach1	69987	2%_Cur	1741	351.05	363.18		363.19	0.000034	0.94	5112.44	777.39	0.06
Reach1	69987	1%_Cur	2009	351.05	364.59		364.6	0.000026	0.92	6274.9	851.05	0.05
Reach1	69987	0.2%_Cur	2632	351.05	365.07		365.07	0.000037	1.13	6681.78	859.47	0.06
Reach1	69987	10%_Proj	1351	351.05	362.26		362.26	0.000033	0.85	4402.66	756.81	0.06
Reach1	69987	2%_Proj	1915	351.05	364.44		364.44	0.000025	0.89	6143.57	846.22	0.05
Reach1	69987	1%_Proj	2210	351.05	364.73		364.73	0.00003	0.99	6388.29	853.71	0.06
Reach1	69987	0.2%_Proj	2895	351.05	365.72		365.72	0.000035	1.14	7243.38	869.58	0.06
Reach1	69405	10%_Cur	1228	353.6	361.91		361.92	0.000128	0.95	2144.28	488.81	0.07
Reach1	69405	2%_Cur	1741	353.6	363.16		363.16	0.000124	1.05	2779.29	527.16	0.07
Reach1	69405	1%_Cur	2009	353.6	364.57		364.58	0.000082	0.95	3547.14	555.48	0.06
Reach1	69405	0.2%_Cur	2632	353.6	365.04		365.05	0.000115	1.16	3808.29	563.82	0.07
Reach1	69405	10%_Proj	1351	353.6	362.23		362.24	0.000127	0.98	2302.53	500.17	0.07
Reach1	69405	2%_Proj	1915	353.6	364.42		364.42	0.00008	0.93	3461.74	552.72	0.06

Reach1	69405	1%_Proj	2210	353.6	364.7	364.71	0.000094	1.02	3619.42	557.8	0.06
Reach1	69405	0.2%_Proj	2895	353.6	365.69	365.7	0.000108	1.18	4180.02	584.83	0.07
Reach1	68823	10%_Cur	1228	352.7	361.73	361.78	0.000464	1.91	861.2	216.8	0.15
Reach1	68823	2%_Cur	1741	352.7	362.97	363.03	0.000477	2.14	1162.64	277.31	0.15
Reach1	68823	1%_Cur	2009	352.7	364.45	364.49	0.000314	1.93	1702.44	465.67	0.12
Reach1	68823	0.2%_Cur	2632	352.7	364.86	364.93	0.000442	2.35	1905.38	520.17	0.14
Reach1	68823	10%_Proj	1351	352.7	362.05	362.1	0.000468	1.97	931.74	228.35	0.15
Reach1	68823	2%_Proj	1915	352.7	364.29	364.34	0.000308	1.89	1633.28	450.15	0.12
Reach1	68823	1%_Proj	2210	352.7	364.56	364.61	0.00036	2.08	1755.03	477.18	0.13
Reach1	68823	0.2%_Proj	2895	352.7	365.53	365.59	0.000384	2.29	2279.19	601.4	0.13
Reach1	68537	10%_Cur	1228	352.7	361.47	361.58	0.001101	2.91	582.51	174.59	0.2
Reach1	68537	2%_Cur	1741	352.7	362.71	362.83	0.001035	3.18	861.55	265.63	0.2
Reach1	68537	1%_Cur	2009	352.7	364.29	364.37	0.000577	2.7	1347.87	360.25	0.16
Reach1	68537	0.2%_Cur	2632	352.7	364.63	364.75	0.000839	3.33	1477.84	404.02	0.19
Reach1	68537	10%_Proj	1351	352.7	361.78	361.9	0.001107	3.02	641.03	201.02	0.21
Reach1	68537	2%_Proj	1915	352.7	364.14	364.22	0.000564	2.64	1295.96	347.27	0.16
Reach1	68537	1%_Proj	2210	352.7	364.37	364.47	0.00067	2.92	1379.3	369.56	0.17
Reach1	68537	0.2%_Proj	2895	352.7	365.32	365.44	0.00074	3.28	1799.29	514.91	0.18
Reach1	68474	10%_Cur	1228	353.73	361.47	357.56	361.52	0.00027	1.83	703.18	348.36	0.14
Reach1	68474	2%_Cur	1741	353.73	362.7	357.97	362.77	0.000271	2.09	895.32	445.73	0.14
Reach1	68474	1%_Cur	2009	353.73	364.28	358.16	364.34	0.000175	1.92	1141.51	542.34	0.12
Reach1	68474	0.2%_Cur	2632	353.73	364.62	358.55	364.7	0.000261	2.41	1194.11	569.4	0.15
Reach1	68474	10%_Proj	1351	353.73	361.78	357.66	361.83	0.000272	1.9	751	373.33	0.14
Reach1	68474	2%_Proj	1915	353.73	364.13	358.09	364.19	0.000169	1.86	1118.67	531.04	0.12
Reach1	68474	1%_Proj	2210	353.73	364.37	358.29	364.43	0.000204	2.09	1154.74	549.64	0.13
Reach1	68474	0.2%_Proj	2895	353.73	365.31	358.71	365.4	0.000243	2.44	1301.66	635.1	0.14
Reach1	68402	Bridge	Bridge								
Reach1	68326	10%_Cur	1228	353.73	361.2	357.37	361.25	0.000261	1.86	659.47	439.18	0.14
Reach1	68326	2%_Cur	1741	353.73	362.33	357.77	362.4	0.000275	2.17	801.6	509.07	0.15
Reach1	68326	1%_Cur	2009	353.73	362.85	357.95	362.93	0.000283	2.32	867.44	526.14	0.16
Reach1	68326	0.2%_Cur	2632	353.73	363.79	358.35	363.9	0.000318	2.67	985.76	569.37	0.17
Reach1	68326	10%_Proj	1351	353.73	361.49	357.46	361.54	0.000265	1.94	695.5	449.77	0.15
Reach1	68326	2%_Proj	1915	353.73	362.65	357.89	362.73	0.000283	2.27	842.23	517.32	0.15
Reach1	68326	1%_Proj	2210	353.73	363.21	358.09	363.3	0.00029	2.42	912.05	543.76	0.16
Reach1	68326	0.2%_Proj	2895	353.73	364.11	358.51	364.23	0.000338	2.82	1025.58	583.96	0.17
Reach1	68280	10%_Cur	1228	352.5	361.21		361.22	0.000199	0.92	1711.59	338.53	0.06

Reach1	68280	2%_Cur	1741	352.5	362.35	362.36	0.000222	1.09	2117.88	378.35	0.07
Reach1	68280	1%_Cur	2009	352.5	362.88	362.89	0.000229	1.16	2322.01	396.86	0.07
Reach1	68280	0.2%_Cur	2632	352.5	363.83	363.84	0.000256	1.32	2727.44	464.38	0.08
Reach1	68280	10%_Proj	1351	352.5	361.5	361.51	0.000206	0.97	1810.42	347.99	0.07
Reach1	68280	2%_Proj	1915	352.5	362.67	362.69	0.000229	1.14	2242.83	389.4	0.07
Reach1	68280	1%_Proj	2210	352.5	363.23	363.25	0.000235	1.21	2466.85	415.7	0.07
Reach1	68280	0.2%_Proj	2895	352.5	364.15	364.17	0.000271	1.39	2881.14	492.85	0.08
Reach1	67684	10%_Cur	1228	352.5	361.04	361.07	0.000346	1.42	1075.37	333.75	0.11
Reach1	67684	2%_Cur	1741	352.5	362.17	362.2	0.000349	1.56	1466.65	361.13	0.11
Reach1	67684	1%_Cur	2009	352.5	362.69	362.73	0.000347	1.61	1659.57	372.8	0.11
Reach1	67684	0.2%_Cur	2632	352.5	363.63	363.67	0.00037	1.77	2016.17	388.66	0.11
Reach1	67684	10%_Proj	1351	352.5	361.33	361.36	0.000348	1.46	1171.32	340.91	0.11
Reach1	67684	2%_Proj	1915	352.5	362.49	362.52	0.000353	1.6	1584.19	369.4	0.11
Reach1	67684	1%_Proj	2210	352.5	363.05	363.08	0.000349	1.66	1793.21	381.07	0.11
Reach1	67684	0.2%_Proj	2895	352.5	363.94	363.98	0.000385	1.85	2137.77	392.39	0.11
Reach1	66782	10%_Cur	1228	353.98	360.77	360.8	0.000257	1.4	974.75	232.28	0.11
Reach1	66782	2%_Cur	1741	353.98	361.88	361.92	0.00028	1.61	1246.93	262.56	0.11
Reach1	66782	1%_Cur	2009	353.98	362.4	362.44	0.000292	1.72	1393.8	326.75	0.11
Reach1	66782	0.2%_Cur	2632	353.98	363.29	363.35	0.000331	1.95	1735.94	452.12	0.12
Reach1	66782	10%_Proj	1351	353.98	361.05	361.08	0.000264	1.45	1040.25	238.85	0.11
Reach1	66782	2%_Proj	1915	353.98	362.19	362.24	0.00029	1.68	1332.03	282.66	0.11
Reach1	66782	1%_Proj	2210	353.98	362.74	362.79	0.000301	1.79	1517.37	373.59	0.12
Reach1	66782	0.2%_Proj	2895	353.98	363.59	363.65	0.000348	2.05	1873.62	477.75	0.13
Reach1	66184	10%_Cur	1821	352.6	360.3	360.39	0.002093	2.45	822.75	218.95	0.19
Reach1	66184	2%_Cur	2608	352.6	361.36	361.47	0.002133	2.79	1092.03	296.62	0.2
Reach1	66184	1%_Cur	3049	352.6	361.86	361.98	0.002123	2.93	1247.47	331.05	0.2
Reach1	66184	0.2%_Cur	3937	352.6	362.74	362.86	0.002022	3.1	1602.98	489.59	0.2
Reach1	66184	10%_Proj	2003	352.6	360.57	360.66	0.002111	2.54	882.69	232.13	0.19
Reach1	66184	2%_Proj	2869	352.6	361.66	361.78	0.002129	2.88	1183.91	315.9	0.2
Reach1	66184	1%_Proj	3354	352.6	362.21	362.33	0.00207	2.99	1370.85	382.21	0.2
Reach1	66184	0.2%_Proj	4331	352.6	363.02	363.15	0.002007	3.16	1746.29	544.15	0.2
Reach1	65586	10%_Cur	1821	350	358.94	359.04	0.002411	2.68	715	196.07	0.21
Reach1	65586	2%_Cur	2608	350	360.04	360.16	0.002247	2.96	956.35	270.78	0.21
Reach1	65586	1%_Cur	3049	350	360.58	360.71	0.002132	3.05	1122.49	343.56	0.21
Reach1	65586	0.2%_Cur	3937	350	361.63	361.75	0.001749	3.05	1593.91	621.38	0.19
Reach1	65586	10%_Proj	2003	350	359.2	359.32	0.002381	2.76	768.71	204.75	0.21
Reach1	65586	2%_Proj	2869	350	360.36	360.49	0.002196	3.03	1049.92	313.18	0.21
Reach1	65586	1%_Proj	3354	350	361	361.12	0.001972	3.06	1280.53	417.43	0.2

Reach1	65586	0.2%_Proj	4331	350	361.92		362.04	0.001753	3.13	1798.34	763.12	0.2
Reach1	64938	10%_Cur	1821	349.8	358.37		358.4	0.000529	1.42	1288.8	384.56	0.12
Reach1	64938	2%_Cur	2608	349.8	359.59		359.62	0.000415	1.48	1832.64	491	0.11
Reach1	64938	1%_Cur	3049	349.8	360.18		360.22	0.000368	1.49	2142.63	606.23	0.11
Reach1	64938	0.2%_Cur	3937	349.8	361.33		361.36	0.000286	1.47	3044.62	1081.47	0.1
Reach1	64938	10%_Proj	2003	349.8	358.66		358.7	0.0005	1.44	1406.43	404.29	0.12
Reach1	64938	2%_Proj	2869	349.8	359.94		359.98	0.000384	1.48	2010.23	512.91	0.11
Reach1	64938	1%_Proj	3354	349.8	360.61		360.64	0.000367	1.56	2423.07	707.26	0.11
Reach1	64938	0.2%_Proj	4331	349.8	361.61		361.64	0.000294	1.53	3374.39	1275.53	0.1
Reach1	64710	10%_Cur	1821	346.1	358.28		358.32	0.000241	1.55	1274.43	503.42	0.13
Reach1	64710	2%_Cur	2608	346.1	359.53		359.56	0.000188	1.56	2122.68	854.76	0.12
Reach1	64710	1%_Cur	3049	346.1	360.14		360.16	0.000156	1.51	2676.89	988.68	0.11
Reach1	64710	0.2%_Cur	3937	346.1	361.3		361.32	0.000106	1.38	3937.15	1138.39	0.09
Reach1	64710	10%_Proj	2003	346.1	358.59		358.62	0.000229	1.57	1438.86	585.28	0.13
Reach1	64710	2%_Proj	2869	346.1	359.89		359.92	0.000169	1.54	2443.37	920.51	0.11
Reach1	64710	1%_Proj	3354	346.1	360.57		360.59	0.000134	1.45	3128.69	1087.24	0.1
Reach1	64710	0.2%_Proj	4331	346.1	361.58		361.6	0.000107	1.41	4264.31	1177.26	0.09
Reach1	64701	10%_Cur	1821	346.1	358.28	354.93	358.32	0.000418	1.55	1222.56	425.67	0.13
Reach1	64701	2%_Cur	2608	346.1	359.53	355.45	359.56	0.000299	1.55	1982.67	754.93	0.12
Reach1	64701	1%_Cur	3049	346.1	360.13	355.62	360.16	0.000251	1.52	2511.12	983.91	0.11
Reach1	64701	0.2%_Cur	3937	346.1	361.29	355.94	361.32	0.000156	1.35	3766.82	1125.51	0.09
Reach1	64701	10%_Proj	2003	346.1	358.58	355.16	358.62	0.00039	1.57	1359.76	514.31	0.13
Reach1	64701	2%_Proj	2869	346.1	359.89	355.56	359.92	0.000277	1.56	2276.81	916.29	0.11
Reach1	64701	1%_Proj	3354	346.1	360.57	355.74	360.59	0.000208	1.45	2960.33	1086.46	0.1
Reach1	64701	0.2%_Proj	4331	346.1	361.58	356.07	361.6	0.000154	1.37	4088.47	1165.27	0.09
Reach1	64695.5	Bridge	Bridge									
Reach1	64690	10%_Cur	1821	345.3	358.25	353.86	358.29	0.000457	1.61	1162.96	381.84	0.14
Reach1	64690	2%_Cur	2608	345.3	359.5	355.5	359.54	0.000336	1.64	1829.01	662.27	0.12
Reach1	64690	1%_Cur	3049	345.3	360.11	355.67	360.15	0.000286	1.62	2297.66	905.09	0.12
Reach1	64690	0.2%_Cur	3937	345.3	361.28	355.98	361.31	0.000184	1.46	3534.24	1109.2	0.1
Reach1	64690	10%_Proj	2003	345.3	358.56	355.23	358.6	0.000429	1.63	1281.91	428.47	0.13
Reach1	64690	2%_Proj	2869	345.3	359.87	355.61	359.9	0.000305	1.63	2087.41	801.69	0.12
Reach1	64690	1%_Proj	3354	345.3	360.55	355.79	360.58	0.000252	1.59	2729.64	1073.17	0.11
Reach1	64690	0.2%_Proj	4331	345.3	361.57	356.11	361.59	0.000178	1.47	3850.56	1120.96	0.09
Reach1	64681	10%_Cur	1821	345.3	358.25		358.29	0.00051	1.66	1131.61	307.71	0.14
Reach1	64681	2%_Cur	2608	345.3	359.49		359.54	0.000385	1.72	1705.92	630.02	0.13

Reach1	64681	1%_Cur	3049	345.3	360.1	360.14	0.000325	1.69	2151.33	820.77	0.12
Reach1	64681	0.2%_Cur	3937	345.3	361.28	361.3	0.000217	1.56	3325.64	1096.93	0.1
Reach1	64681	10%_Proj	2003	345.3	358.55	358.59	0.00048	1.69	1239.2	395.71	0.14
Reach1	64681	2%_Proj	2869	345.3	359.86	359.9	0.000349	1.71	1957.13	754.27	0.13
Reach1	64681	1%_Proj	3354	345.3	360.54	360.58	0.000287	1.67	2539.71	955.68	0.12
Reach1	64681	0.2%_Proj	4331	345.3	361.56	361.59	0.000208	1.57	3639.05	1108.59	0.1
Reach1	64344	10%_Cur	1821	349.6	358.06	358.11	0.000538	1.76	1087.7	294.04	0.15
Reach1	64344	2%_Cur	2608	349.6	359.33	359.39	0.00051	1.89	1491.94	343.43	0.14
Reach1	64344	1%_Cur	3049	349.6	359.95	360.01	0.000511	1.98	1735.07	457.04	0.14
Reach1	64344	0.2%_Cur	3937	349.6	361.15	361.2	0.000418	1.95	2472.6	841.1	0.13
Reach1	64344	10%_Proj	2003	349.6	358.37	358.42	0.000534	1.8	1179.79	304.51	0.15
Reach1	64344	2%_Proj	2869	349.6	359.7	359.76	0.000505	1.94	1626.59	405.1	0.14
Reach1	64344	1%_Proj	3354	349.6	360.4	360.45	0.000475	1.98	1955.47	544.24	0.13
Reach1	64344	0.2%_Proj	4331	349.6	361.43	361.49	0.000434	2.03	2715.93	884.32	0.13
Reach1	64064	10%_Cur	1821	350.6	357.77	357.88	0.001339	2.89	918.95	266.16	0.22
Reach1	64064	2%_Cur	2608	350.6	359.04	359.16	0.001316	3.19	1325.62	411.13	0.22
Reach1	64064	1%_Cur	3049	350.6	359.68	359.79	0.001168	3.15	1603.93	463.72	0.21
Reach1	64064	0.2%_Cur	3937	350.6	360.96	361.04	0.000802	2.85	2501.92	1126.85	0.17
Reach1	64064	10%_Proj	2003	350.6	358.08	358.19	0.00133	2.96	1002.97	280.66	0.22
Reach1	64064	2%_Proj	2869	350.6	359.43	359.54	0.001226	3.17	1488.61	438.74	0.21
Reach1	64064	1%_Proj	3354	350.6	360.15	360.25	0.001041	3.08	1853.71	668.43	0.2
Reach1	64064	0.2%_Proj	4331	350.6	361.26	361.33	0.000751	2.81	2860.5	1302.67	0.17
Reach1	63963	10%_Cur	1821	350.2	357.66	357.78	0.000645	3.11	903.03	264.74	0.23
Reach1	63963	2%_Cur	2608	350.2	358.93	359.07	0.000608	3.42	1279.41	330.82	0.23
Reach1	63963	1%_Cur	3049	350.2	359.55	359.7	0.000593	3.57	1496.96	383.69	0.23
Reach1	63963	0.2%_Cur	3937	350.2	360.83	360.97	0.000493	3.59	2252.55	1028.46	0.21
Reach1	63963	10%_Proj	2003	350.2	357.96	358.09	0.000638	3.2	986.36	277.36	0.23
Reach1	63963	2%_Proj	2869	350.2	359.3	359.45	0.000598	3.51	1407.35	349.82	0.23
Reach1	63963	1%_Proj	3354	350.2	360.02	360.17	0.000565	3.62	1699.27	455.81	0.23
Reach1	63963	0.2%_Proj	4331	350.2	361.12	361.26	0.000485	3.64	2585.19	1259.98	0.21
Reach1	63952	10%_Cur	1821	350.2	357.42	354.73	357.72	0.001365	4.39	415.11	237.54	0.34
Reach1	63952	2%_Cur	2608	350.2	358.86	355.41	359.05	0.000789	3.88	1111.96	327.64	0.26
Reach1	63952	1%_Cur	3049	350.2	359.52	355.76	359.69	0.000695	3.86	1440.26	366.62	0.25
Reach1	63952	0.2%_Cur	3937	350.2	360.81	356.44	360.96	0.000548	3.8	2200.5	1025.76	0.23
Reach1	63952	10%_Proj	2003	350.2	357.91	354.9	358.08	0.000822	3.6	884.59	275.67	0.26
Reach1	63952	2%_Proj	2869	350.2	359.27	355.62	359.44	0.000701	3.8	1350.94	350.23	0.25
Reach1	63952	1%_Proj	3354	350.2	359.99	356	360.16	0.000638	3.85	1642.87	460.1	0.24
Reach1	63952	0.2%_Proj	4331	350.2	361.1	356.71	361.25	0.000534	3.84	2533.33	1247.01	0.23

Reach1	63946	Bridge	Bridge									
Reach1	63940	10%_Cur	1821	350.3	357.22	354.64	357.42	0.001168	3.92	729.93	235.28	0.3
Reach1	63940	2%_Cur	2608	350.3	358.3	355.38	358.53	0.001145	4.34	1048.19	290.96	0.3
Reach1	63940	1%_Cur	3049	350.3	358.86	355.75	359.11	0.001123	4.53	1222.78	325.97	0.3
Reach1	63940	0.2%_Cur	3937	350.3	360.51	356.5	360.71	0.000754	4.23	1933.13	746.86	0.25
Reach1	63940	10%_Proj	2003	350.3	357.47	354.82	357.68	0.001183	4.06	784.99	242.96	0.3
Reach1	63940	2%_Proj	2869	350.3	358.63	355.6	358.87	0.001135	4.46	1148.77	311.11	0.3
Reach1	63940	1%_Proj	3354	350.3	359.39	356.01	359.62	0.001019	4.51	1402.08	358.11	0.29
Reach1	63940	0.2%_Proj	4331	350.3	360.94	356.58	361.12	0.000694	4.18	2350.49	1121.79	0.25
Reach1	63930	10%_Cur	1821	350.3	357.23		357.38	0.000904	3.44	836.02	257.93	0.27
Reach1	63930	2%_Cur	2608	350.3	358.31		358.49	0.000924	3.88	1129.26	292.75	0.28
Reach1	63930	1%_Cur	3049	350.3	358.87		359.07	0.00092	4.07	1303.46	328.75	0.28
Reach1	63930	0.2%_Cur	3937	350.3	360.52		360.68	0.000629	3.82	1996.7	736.66	0.23
Reach1	63930	10%_Proj	2003	350.3	357.49		357.65	0.00091	3.55	903.37	262.97	0.27
Reach1	63930	2%_Proj	2869	350.3	358.64		358.84	0.000923	3.99	1229.54	309.25	0.28
Reach1	63930	1%_Proj	3354	350.3	359.4		359.59	0.000831	4.04	1483.62	356.11	0.26
Reach1	63930	0.2%_Proj	4331	350.3	360.95		361.1	0.000587	3.81	2409.41	1120.32	0.23
Reach1	63845	10%_Cur	1821	347.4	357.11		357.3	0.000981	3.83	842.92	291.22	0.28
Reach1	63845	2%_Cur	2608	347.4	358.2		358.41	0.001055	4.25	1202.94	373.73	0.28
Reach1	63845	1%_Cur	3049	347.4	358.78		358.99	0.001029	4.35	1435.46	425.53	0.28
Reach1	63845	0.2%_Cur	3937	347.4	360.49		360.62	0.00062	3.71	2389.71	897.84	0.21
Reach1	63845	10%_Proj	2003	347.4	357.37		357.56	0.00101	3.95	920.02	309.31	0.28
Reach1	63845	2%_Proj	2869	347.4	358.54		358.75	0.001048	4.33	1335.51	401.78	0.28
Reach1	63845	1%_Proj	3354	347.4	359.33		359.52	0.000894	4.18	1684.28	479.26	0.26
Reach1	63845	0.2%_Proj	4331	347.4	360.93		361.04	0.000552	3.58	2867.47	1271.1	0.2
Reach1	63280	10%_Cur	1821	346.7	356.72		356.79	0.000743	2.39	1128.33	462.33	0.17
Reach1	63280	2%_Cur	2608	346.7	357.89		357.94	0.000552	2.31	1726.48	558.75	0.15
Reach1	63280	1%_Cur	3049	346.7	358.53		358.58	0.000454	2.22	2096.6	601.77	0.14
Reach1	63280	0.2%_Cur	3937	346.7	360.36		360.39	0.000231	1.82	3446.46	1095.17	0.1
Reach1	63280	10%_Proj	2003	346.7	356.99		357.06	0.000705	2.4	1256.67	485.8	0.17
Reach1	63280	2%_Proj	2869	346.7	358.26		358.32	0.000493	2.26	1940.46	583.78	0.14
Reach1	63280	1%_Proj	3354	346.7	359.13		359.18	0.000355	2.06	2476.15	650.35	0.12
Reach1	63280	0.2%_Proj	4331	346.7	360.81		360.84	0.00021	1.78	4022.93	1422.57	0.1
Reach1	62671	10%_Cur	1821	346.4	356.34		356.4	0.000541	2.5	1357.84	379.07	0.19
Reach1	62671	2%_Cur	2608	346.4	357.55		357.62	0.000516	2.69	1839.02	418.86	0.19
Reach1	62671	1%_Cur	3049	346.4	358.21		358.28	0.000492	2.75	2126.55	444.46	0.18

Reach1	62671	0.2%_Cur	3937	346.4	360.13	360.2	0.000414	2.85	3451.54	1170.59	0.17
Reach1	62671	10%_Proj	2003	346.4	356.61	356.68	0.00054	2.56	1464.12	386.43	0.19
Reach1	62671	2%_Proj	2869	346.4	357.94	358.01	0.000504	2.73	2005.3	434	0.19
Reach1	62671	1%_Proj	3354	346.4	358.86	358.93	0.000449	2.75	2427.81	492.65	0.18
Reach1	62671	0.2%_Proj	4331	346.4	360.61	360.67	0.00036	2.74	4102.01	1590.98	0.16
Reach1	61788	10%_Cur	1850	347.7	355.72	355.75	0.001103	1.38	1424.76	384.43	0.12
Reach1	61788	2%_Cur	2650	347.7	357.01	357.04	0.000877	1.47	1934.91	405.99	0.11
Reach1	61788	1%_Cur	3100	347.7	357.72	357.75	0.000779	1.5	2227.13	417.51	0.11
Reach1	61788	0.2%_Cur	4000	347.7	359.78	359.81	0.000484	1.43	3454.76	1315.67	0.09
Reach1	61788	10%_Proj	2035	347.7	356.01	356.04	0.001053	1.41	1537.72	389.65	0.12
Reach1	61788	2%_Proj	2915	347.7	357.43	357.46	0.000819	1.49	2104.62	412.72	0.11
Reach1	61788	1%_Proj	3410	347.7	358.43	358.46	0.000658	1.49	2527.77	448.28	0.1
Reach1	61788	0.2%_Proj	4400	347.7	360.31	360.33	0.000409	1.37	4238.48	1609.74	0.08
Reach1	61059	10%_Cur	1850	348.8	355.14	355.19	0.000568	1.75	1114.46	266.43	0.14
Reach1	61059	2%_Cur	2650	348.8	356.5	356.55	0.000536	1.92	1491.26	297.18	0.14
Reach1	61059	1%_Cur	3100	348.8	357.24	357.3	0.000507	1.99	1725.95	330.33	0.13
Reach1	61059	0.2%_Cur	4000	348.8	359.53	359.56	0.000254	1.65	3194.26	950.44	0.1
Reach1	61059	10%_Proj	2035	348.8	355.44	355.49	0.00057	1.8	1195.18	271.44	0.14
Reach1	61059	2%_Proj	2915	348.8	356.93	356.99	0.000521	1.97	1624.97	317.13	0.14
Reach1	61059	1%_Proj	3410	348.8	358.03	358.08	0.000423	1.93	2024.38	550.21	0.12
Reach1	61059	0.2%_Proj	4400	348.8	360.1	360.13	0.000218	1.58	3768.54	1092.95	0.09
Reach1	60659	10%_Cur	1850	348.93	354.96	354.98	0.000432	1.22	1833.05	535.89	0.11
Reach1	60659	2%_Cur	2650	348.93	356.35	356.37	0.000332	1.24	2594.92	561.48	0.1
Reach1	60659	1%_Cur	3100	348.93	357.12	357.14	0.000291	1.24	3030.55	578.01	0.09
Reach1	60659	0.2%_Cur	4000	348.93	359.47	359.48	0.000147	1.06	4840.92	1081.17	0.06
Reach1	60659	10%_Proj	2035	348.93	355.27	355.29	0.00041	1.23	1998.36	540.7	0.11
Reach1	60659	2%_Proj	2915	348.93	356.8	356.82	0.000308	1.24	2846.96	570.96	0.09
Reach1	60659	1%_Proj	3410	348.93	357.93	357.95	0.000237	1.2	3546.24	692.52	0.08
Reach1	60659	0.2%_Proj	4400	348.93	360.04	360.05	0.000131	1.04	5531.44	1259.91	0.06
Reach1	60262	10%_Cur	1850	345.5	354.77	354.82	0.000356	1.85	1109.31	272.25	0.14
Reach1	60262	2%_Cur	2650	345.5	356.17	356.23	0.000353	2.01	1548.76	344.57	0.14
Reach1	60262	1%_Cur	3100	345.5	356.95	357.01	0.000332	2.04	1827.51	373	0.13
Reach1	60262	0.2%_Cur	4000	345.5	359.37	359.41	0.000191	1.76	3100.21	823.72	0.1
Reach1	60262	10%_Proj	2035	345.5	355.07	355.13	0.000366	1.91	1195.27	290.95	0.14
Reach1	60262	2%_Proj	2915	345.5	356.62	356.68	0.000343	2.03	1708.14	361.04	0.13
Reach1	60262	1%_Proj	3410	345.5	357.79	357.84	0.000275	1.95	2154.64	413.81	0.12
Reach1	60262	0.2%_Proj	4400	345.5	359.96	359.99	0.00017	1.71	3627.02	1046.69	0.09

Reach1	59756	10%_Cur	1850	346.6	354.47	354.52	0.001139	2.17	1087.99	299.53	0.16
Reach1	59756	2%_Cur	2650	346.6	355.91	355.97	0.000818	2.15	1547.8	337.12	0.14
Reach1	59756	1%_Cur	3100	346.6	356.72	356.77	0.000689	2.12	1830.54	369.94	0.13
Reach1	59756	0.2%_Cur	4000	346.6	359.26	359.29	0.000293	1.67	3132.65	751	0.09
Reach1	59756	10%_Proj	2035	346.6	354.78	354.83	0.001079	2.19	1181.64	307.18	0.16
Reach1	59756	2%_Proj	2915	346.6	356.38	356.44	0.000739	2.13	1709.06	352.47	0.14
Reach1	59756	1%_Proj	3410	346.6	357.6	357.65	0.000528	2	2186.4	456.58	0.12
Reach1	59756	0.2%_Proj	4400	346.6	359.86	359.88	0.000251	1.61	3627.87	867.35	0.09
Reach1	59164	10%_Cur	1850	337.8	354.22	354.25	0.000253	1.43	1718.37	376.75	0.08
Reach1	59164	2%_Cur	2650	337.8	355.7	355.73	0.000249	1.55	2300.91	415.41	0.08
Reach1	59164	1%_Cur	3100	337.8	356.53	356.56	0.000233	1.57	2654.61	437.87	0.08
Reach1	59164	0.2%_Cur	4000	337.8	359.16	359.18	0.000142	1.39	4016.7	686.36	0.06
Reach1	59164	10%_Proj	2035	337.8	354.53	354.56	0.000261	1.48	1835.52	383.71	0.08
Reach1	59164	2%_Proj	2915	337.8	356.18	356.21	0.000241	1.57	2504.15	429.12	0.08
Reach1	59164	1%_Proj	3410	337.8	357.45	357.48	0.000192	1.5	3072.85	480.01	0.07
Reach1	59164	0.2%_Proj	4400	337.8	359.77	359.78	0.000132	1.38	4454.73	739.55	0.06
Reach1	58414	10%_Cur	1850	346.3	353.91	353.93	0.000935	1.22	1627.67	457.63	0.11
Reach1	58414	2%_Cur	2650	346.3	355.44	355.46	0.000615	1.23	2364.3	501.45	0.09
Reach1	58414	1%_Cur	3100	346.3	356.3	356.32	0.000498	1.22	2803.14	517.9	0.08
Reach1	58414	0.2%_Cur	4000	346.3	359.04	359.05	0.000221	1.03	4338.46	620.06	0.06
Reach1	58414	10%_Proj	2035	346.3	354.22	354.24	0.000871	1.24	1771.25	465.65	0.1
Reach1	58414	2%_Proj	2915	346.3	355.94	355.96	0.000544	1.22	2617.11	510.99	0.09
Reach1	58414	1%_Proj	3410	346.3	357.28	357.29	0.000361	1.14	3319.29	540.75	0.07
Reach1	58414	0.2%_Proj	4400	346.3	359.66	359.67	0.000207	1.04	4731.71	655.44	0.06
Reach1	57798	10%_Cur	1850	343.3	353.43	353.46	0.000738	1.44	1443.44	450.77	0.11
Reach1	57798	2%_Cur	2650	343.3	355.19	355.21	0.000337	1.18	2381.41	642.55	0.08
Reach1	57798	1%_Cur	3100	343.3	356.12	356.14	0.000231	1.06	2995.74	674.58	0.07
Reach1	57798	0.2%_Cur	4000	343.3	358.97	358.98	0.000078	0.76	5026.86	764.62	0.04
Reach1	57798	10%_Proj	2035	343.3	353.79	353.82	0.000636	1.4	1610.85	470.61	0.1
Reach1	57798	2%_Proj	2915	343.3	355.73	355.75	0.00027	1.11	2735.98	665.8	0.07
Reach1	57798	1%_Proj	3410	343.3	357.16	357.17	0.000143	0.91	3707.34	696.03	0.05
Reach1	57798	0.2%_Proj	4400	343.3	359.59	359.6	0.000072	0.75	5510.46	786.47	0.04
Reach1	57733	10%_Cur	1850	345.8	353.24	349.78	353.38	0.000592	3.09	660.53	671.51	0.24
Reach1	57733	2%_Cur	2650	345.8	354.99	350.71	355.14	0.000456	3.22	913.49	722.55	0.21
Reach1	57733	1%_Cur	3100	345.8	355.92	351.04	356.07	0.00041	3.3	1046.59	738.74	0.21
Reach1	57733	0.2%_Cur	4000	345.8	358.97	351.59	358.98	0.000036	1.2	6042.16	823.27	0.06
Reach1	57733	10%_Proj	2035	345.8	353.6	350.01	353.74	0.000573	3.16	712.32	684.64	0.24
Reach1	57733	2%_Proj	2915	345.8	355.53	350.91	355.69	0.000429	3.27	991.07	732.48	0.21

Reach1	57733	1%_Proj	3410	345.8	356.97	351.24	357.12	0.000324	3.17	1198.73	757.03	0.19
Reach1	57733	0.2%_Proj	4400	345.8	359.59	351.8	359.6	0.000035	1.21	6562.46	844.47	0.06
Reach1	57679.5	Bridge	Bridge									
Reach1	57622	10%_Cur	1850	345.7	352.96	349.67	353.16	0.000797	3.66	530.58	678.53	0.27
Reach1	57622	2%_Cur	2650	345.7	354.42	350.45	354.67	0.000757	4.09	684.75	718.53	0.27
Reach1	57622	1%_Cur	3100	345.7	355.09	350.79	355.37	0.000768	4.35	754.48	759.48	0.28
Reach1	57622	0.2%_Cur	4000	345.7	357.71	351.46	357.72	0.000047	1.29	5585.38	823.63	0.07
Reach1	57622	10%_Proj	2035	345.7	353.29	349.86	353.51	0.000795	3.78	565.95	686.34	0.28
Reach1	57622	2%_Proj	2915	345.7	354.81	350.66	355.08	0.000766	4.25	725.81	748.04	0.28
Reach1	57622	1%_Proj	3410	345.7	355.92	351.04	356.2	0.00066	4.29	842.3	783.16	0.26
Reach1	57622	0.2%_Proj	4400	345.7	358.85	351.71	358.87	0.000036	1.2	6543.49	856.4	0.06
Reach1	57551	10%_Cur	1850	342.2	353.05		353.07	0.000365	1.43	1909.28	562.73	0.1
Reach1	57551	2%_Cur	2650	342.2	354.56		354.58	0.000227	1.31	2791.81	606.03	0.08
Reach1	57551	1%_Cur	3100	342.2	355.25		355.26	0.000199	1.3	3215.84	628.51	0.08
Reach1	57551	0.2%_Cur	4000	342.2	357.71		357.72	0.000094	1.06	4924.27	756.48	0.06
Reach1	57551	10%_Proj	2035	342.2	353.4		353.41	0.000325	1.4	2107.11	572.44	0.1
Reach1	57551	2%_Proj	2915	342.2	354.96		354.98	0.00021	1.3	3039.83	618.29	0.08
Reach1	57551	1%_Proj	3410	342.2	356.08		356.1	0.000153	1.22	3759.14	676.43	0.07
Reach1	57551	0.2%_Proj	4400	342.2	358.85		358.86	0.000065	0.95	5793.38	762.55	0.05
Reach1	56819	10%_Cur	1850	343.7	352.6	348.51	352.71	0.000692	2.65	783.95	215.17	0.21
Reach1	56819	2%_Cur	2650	343.7	354.2	349.75	354.31	0.000631	2.76	1152.44	245.6	0.19
Reach1	56819	1%_Cur	3100	343.7	354.9	350.11	355.02	0.000631	2.87	1329	258.88	0.19
Reach1	56819	0.2%_Cur	4000	343.7	357.5	350.6	357.59	0.000387	2.56	2318.88	680.33	0.14
Reach1	56819	10%_Proj	2035	343.7	352.97	348.72	353.08	0.000685	2.69	864.85	222.15	0.2
Reach1	56819	2%_Proj	2915	343.7	354.61	349.96	354.73	0.000633	2.83	1255.29	253.42	0.19
Reach1	56819	1%_Proj	3410	343.7	355.8	350.29	355.9	0.000528	2.75	1568.88	278.63	0.17
Reach1	56819	0.2%_Proj	4400	343.7	358.7	350.81	358.77	0.000287	2.33	3306.81	912.09	0.12

Plan: Alt 2-2

Flows: Current and Projected Future

Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Reach1	86857	10%_Cur	330	612.24	618.37		618.37	0.000006	0.22	2705.71	1916.4	0.02
Reach1	86857	2%_Cur	490	612.24	618.83		618.83	0.000007	0.25	3623.81	2071.92	0.02
Reach1	86857	1%_Cur	545	612.24	618.94		618.94	0.000007	0.26	3856.72	2102.17	0.02
Reach1	86857	0.2%_Cur	770	612.24	619.33		619.33	0.000009	0.31	4684.07	2187.9	0.03
Reach1	86857	10%_Proj	363	612.24	618.5		618.5	0.000006	0.23	2943.98	1955.78	0.02
Reach1	86857	2%_Proj	539	612.24	618.94		618.94	0.000007	0.26	3856.72	2102.17	0.02
Reach1	86857	1%_Proj	600	612.24	619.03		619.03	0.000008	0.28	4040.78	2121.34	0.02
Reach1	86857	0.2%_Proj	847	612.24	619.45		619.45	0.000009	0.32	4949.02	2198.19	0.03
Reach1	86624	10%_Cur	620	612.9	618.37		618.37	0.000033	0.53	2318.48	1840.47	0.05
Reach1	86624	2%_Cur	900	612.9	618.83		618.83	0.00003	0.55	3170.31	1861.68	0.05
Reach1	86624	1%_Cur	990	612.9	618.94		618.94	0.00003	0.56	3378.04	1866.04	0.05
Reach1	86624	0.2%_Cur	1370	612.9	619.32		619.33	0.000033	0.62	4099.1	1879.35	0.05
Reach1	86624	10%_Proj	682	612.9	618.49		618.49	0.000031	0.53	2545.3	1848.52	0.05
Reach1	86624	2%_Proj	990	612.9	618.94		618.94	0.00003	0.56	3378.04	1866.04	0.05
Reach1	86624	1%_Proj	1089	612.9	619.03		619.03	0.000032	0.58	3540.25	1869.35	0.05
Reach1	86624	0.2%_Proj	1507	612.9	619.44		619.45	0.000034	0.64	4325.9	1883.62	0.05
Reach1	86586	10%_Cur	620	611.6	618.37	615.16	618.37	0.00003	0.54	2361.12	1807.6	0.05
Reach1	86586	2%_Cur	900	611.6	618.83	616.19	618.83	0.000028	0.56	3196.89	1827.06	0.05
Reach1	86586	1%_Cur	990	611.6	618.94	616.3	618.94	0.000029	0.58	3400.87	1831.49	0.05
Reach1	86586	0.2%_Cur	1370	611.6	619.32	616.74	619.32	0.000032	0.64	4108.38	1846.53	0.05
Reach1	86586	10%_Proj	682	611.6	618.49	615.43	618.49	0.000029	0.54	2583.86	1812.71	0.05
Reach1	86586	2%_Proj	990	611.6	618.94	616.3	618.94	0.000029	0.58	3400.87	1831.49	0.05
Reach1	86586	1%_Proj	1089	611.6	619.02	616.43	619.03	0.00003	0.6	3559.76	1834.94	0.05
Reach1	86586	0.2%_Proj	1507	611.6	619.44	616.85	619.44	0.000033	0.66	4331.14	1851.52	0.05
Reach1	86548	Bridge	Bridge									
Reach1	86510	10%_Cur	620	611.6	618.29	615.23	618.33	0.000326	2.16	1006.67	1069.31	0.17
Reach1	86510	2%_Cur	900	611.6	618.77	616.02	618.8	0.000297	2.19	1578.61	1329.46	0.16
Reach1	86510	1%_Cur	990	611.6	618.88	616.24	618.91	0.000292	2.2	1737.73	1415.54	0.16
Reach1	86510	0.2%_Cur	1370	611.6	619.27	617.85	619.3	0.000317	2.4	2327.68	1681.65	0.17
Reach1	86510	10%_Proj	682	611.6	618.42	615.42	618.46	0.000307	2.13	1152.34	1126.83	0.17
Reach1	86510	2%_Proj	990	611.6	618.88	616.24	618.91	0.000292	2.2	1737.73	1415.54	0.16
Reach1	86510	1%_Proj	1089	611.6	618.99	616.47	619.02	0.000291	2.22	1894.62	1462.8	0.16
Reach1	86510	0.2%_Proj	1507	611.6	619.39	617.94	619.42	0.000309	2.4	2536.83	1701.15	0.17

Reach1	86469	10%_Cur	620	612.41	618.14	618.27	0.001272	3.6	503.78	758.85	0.33
Reach1	86469	2%_Cur	900	612.41	618.68	618.76	0.000899	3.3	968.65	989.4	0.28
Reach1	86469	1%_Cur	990	612.41	618.79	618.87	0.000876	3.32	1091.72	1108.95	0.28
Reach1	86469	0.2%_Cur	1370	612.41	619.2	619.26	0.0008	3.36	1602.46	1370.27	0.27
Reach1	86469	10%_Proj	682	612.41	618.29	618.41	0.001152	3.51	622.32	820.37	0.31
Reach1	86469	2%_Proj	990	612.41	618.79	618.87	0.000876	3.32	1091.72	1108.95	0.28
Reach1	86469	1%_Proj	1089	612.41	618.9	618.98	0.000877	3.38	1218.76	1205.84	0.28
Reach1	86469	0.2%_Proj	1507	612.41	619.33	619.39	0.00075	3.31	1786.44	1442.94	0.26
Reach1	85402	10%_Cur	620	611.08	617.35	617.37	0.000565	1.42	584.52	1126.51	0.12
Reach1	85402	2%_Cur	900	611.08	617.95	617.98	0.000591	1.58	1166.51	1268.23	0.12
Reach1	85402	1%_Cur	990	611.08	618.08	618.11	0.000584	1.6	1331.76	1294.69	0.12
Reach1	85402	0.2%_Cur	1370	611.08	618.5	618.53	0.000591	1.69	1912.06	1455.63	0.13
Reach1	85402	10%_Proj	682	611.08	617.5	617.53	0.00059	1.48	624.49	1158.14	0.12
Reach1	85402	2%_Proj	990	611.08	618.08	618.11	0.000584	1.6	1331.76	1294.69	0.12
Reach1	85402	1%_Proj	1089	611.08	618.16	618.19	0.000619	1.66	1441.03	1311.42	0.13
Reach1	85402	0.2%_Proj	1507	611.08	618.65	618.68	0.000584	1.71	2136.23	1543.62	0.13
Reach1	84756	10%_Cur	620	611.91	617.33	617.34	0.000013	0.83	1354.71	816.72	0.07
Reach1	84756	2%_Cur	900	611.91	617.93	617.94	0.000017	1.01	2217.25	1932.81	0.08
Reach1	84756	1%_Cur	990	611.91	618.05	618.07	0.000018	1.07	2466.83	2053.29	0.08
Reach1	84756	0.2%_Cur	1370	611.91	618.46	618.48	0.000025	1.31	3337.97	2201.15	0.1
Reach1	84756	10%_Proj	682	611.91	617.48	617.49	0.000014	0.88	1503.69	1166.54	0.07
Reach1	84756	2%_Proj	990	611.91	618.05	618.07	0.000018	1.07	2466.83	2053.29	0.08
Reach1	84756	1%_Proj	1089	611.91	618.13	618.15	0.000021	1.15	2632.08	2110.64	0.09
Reach1	84756	0.2%_Proj	1507	611.91	618.6	618.63	0.000027	1.37	3661.06	2260.36	0.1
Reach1	84575	10%_Cur	620	611	617.32	617.34	0.000179	1.08	966.28	423.15	0.09
Reach1	84575	2%_Cur	900	611	617.92	617.93	0.000209	1.24	1398.36	1213.44	0.09
Reach1	84575	1%_Cur	990	611	618.04	618.06	0.000221	1.29	1560.02	1333.21	0.1
Reach1	84575	0.2%_Cur	1370	611	618.45	618.47	0.000248	1.42	2149.99	1518.72	0.1
Reach1	84575	10%_Proj	682	611	617.47	617.49	0.000188	1.12	1032.07	515.08	0.09
Reach1	84575	2%_Proj	990	611	618.04	618.06	0.000221	1.29	1560.02	1333.21	0.1
Reach1	84575	1%_Proj	1089	611	618.12	618.14	0.000242	1.36	1666.41	1370.8	0.1
Reach1	84575	0.2%_Proj	1507	611	618.6	618.62	0.000247	1.44	2374.52	1552.08	0.1
Reach1	83675	10%_Cur	620	608.25	617.23	617.25	0.000056	1.25	898.14	357.64	0.08
Reach1	83675	2%_Cur	900	608.25	617.79	617.82	0.000085	1.61	1193.15	679.32	0.1
Reach1	83675	1%_Cur	990	608.25	617.9	617.93	0.000096	1.72	1270.42	714.08	0.1
Reach1	83675	0.2%_Cur	1370	608.25	618.25	618.3	0.000145	2.18	1538.99	812.89	0.13
Reach1	83675	10%_Proj	682	608.25	617.37	617.4	0.000063	1.34	954.31	446.11	0.08
Reach1	83675	2%_Proj	990	608.25	617.9	617.93	0.000096	1.72	1270.42	714.08	0.1

Reach1	83675	1%_Proj	1089	608.25	617.96	618	0.000111	1.86	1312	736.14	0.11
Reach1	83675	0.2%_Proj	1507	608.25	618.38	618.44	0.00016	2.31	1647.24	840.88	0.14
Reach1	83646	10%_Cur	620	607.7	617.23	617.25	0.000117	1.79	1050.9	660.72	0.11
Reach1	83646	2%_Cur	900	607.7	617.79	617.82	0.000152	2.13	1508.87	960.45	0.12
Reach1	83646	1%_Cur	990	607.7	617.9	617.93	0.000166	2.24	1617.49	986.39	0.13
Reach1	83646	0.2%_Cur	1370	607.7	618.25	618.29	0.000221	2.65	1979.97	1056.28	0.15
Reach1	83646	10%_Proj	682	607.7	617.37	617.39	0.000124	1.87	1149.04	738.11	0.11
Reach1	83646	2%_Proj	990	607.7	617.9	617.93	0.000166	2.24	1617.49	986.39	0.13
Reach1	83646	1%_Proj	1089	607.7	617.96	617.99	0.00019	2.41	1675.32	999.74	0.14
Reach1	83646	0.2%_Proj	1507	607.7	618.39	618.42	0.000232	2.74	2121.89	1071.61	0.16
Reach1	79531	10%_Cur	620	480.5	484.81	485.44	0.015564	6.39	98.26	37.28	0.68
Reach1	79531	2%_Cur	900	480.5	485.55	486.37	0.014765	7.29	126.38	38.57	0.69
Reach1	79531	1%_Cur	990	480.5	485.76	486.64	0.014721	7.57	134.42	38.94	0.69
Reach1	79531	0.2%_Cur	1370	480.5	486.5	487.66	0.015199	8.69	163.94	40.24	0.73
Reach1	79531	10%_Proj	682	480.5	484.97	485.65	0.015587	6.64	104.26	37.56	0.68
Reach1	79531	2%_Proj	990	480.5	485.74	486.63	0.014926	7.6	133.83	38.91	0.7
Reach1	79531	1%_Proj	1089	480.5	485.96	486.92	0.014891	7.88	142.34	39.29	0.7
Reach1	79531	0.2%_Proj	1507	480.5	486.75	488.01	0.01531	9.04	173.99	40.67	0.73
Reach1	79022	10%_Cur	700	478	484.08	484.21	0.000881	3.02	308.62	138.77	0.28
Reach1	79022	2%_Cur	1030	478	485.05	485.19	0.000794	3.29	447.96	148.3	0.27
Reach1	79022	1%_Cur	1140	478	485.28	485.43	0.000809	3.42	482.93	150.59	0.27
Reach1	79022	0.2%_Cur	1580	478	486.19	486.38	0.000815	3.8	624.49	161.29	0.28
Reach1	79022	10%_Proj	770	478	484.22	484.36	0.000925	3.17	328.66	140.21	0.29
Reach1	79022	2%_Proj	1133	478	485.27	485.42	0.000808	3.41	480.67	150.44	0.27
Reach1	79022	1%_Proj	1254	478	485.52	485.68	0.000818	3.54	519.04	152.91	0.28
Reach1	79022	0.2%_Proj	1738	478	486.51	486.7	0.000807	3.91	676.14	165.82	0.28
Reach1	79012	10%_Cur	700	478.5	483.97	481.94	484.17	0.001987	3.57	198.9	63	0.33
Reach1	79012	2%_Cur	1030	478.5	484.88	482.53	485.14	0.002013	4.17	260.66	111.74	0.34
Reach1	79012	1%_Cur	1140	478.5	485.08	482.7	485.38	0.002108	4.39	275.67	119.13	0.36
Reach1	79012	0.2%_Cur	1580	478.5	485.9	483.33	486.3	0.002311	5.11	336.13	133.69	0.38
Reach1	79012	10%_Proj	770	478.5	484.1	482.07	484.32	0.002146	3.8	206.83	64.63	0.34
Reach1	79012	2%_Proj	1133	478.5	485.07	482.69	485.36	0.002103	4.38	274.7	118.66	0.35
Reach1	79012	1%_Proj	1254	478.5	485.3	482.88	485.62	0.00219	4.61	291.19	127.87	0.36
Reach1	79012	0.2%_Proj	1738	478.5	486.19	483.54	486.62	0.002341	5.32	357.32	136.43	0.39
Reach1	78964	Bridge	Bridge								
Reach1	78916	10%_Cur	700	478.5	483.97	481.94	484.17	0.002006	3.57	197.5	57.49	0.33

Reach1	78916	2%_Cur	1030	478.5	484.52	482.53	484.84	0.002716	4.55	229.44	59.92	0.39
Reach1	78916	1%_Cur	1140	478.5	484.68	482.7	485.04	0.002925	4.85	239.24	60.65	0.41
Reach1	78916	0.2%_Cur	1580	478.5	485.31	483.33	485.84	0.003547	5.84	278.4	63.47	0.46
Reach1	78916	10%_Proj	770	478.5	484.1	482.08	484.32	0.002168	3.79	204.68	58.04	0.34
Reach1	78916	2%_Proj	1133	478.5	484.67	482.69	485.03	0.002913	4.83	238.59	60.6	0.41
Reach1	78916	1%_Proj	1254	478.5	484.85	482.88	485.25	0.003121	5.13	249.27	61.38	0.43
Reach1	78916	0.2%_Proj	1738	478.5	485.53	483.53	486.11	0.003703	6.15	292.47	64.45	0.48
Reach1	78894	10%_Cur	700	477.3	483.88		484.12	0.001347	3.93	179.14	44.45	0.33
Reach1	78894	2%_Cur	1030	477.3	484.33		484.76	0.002094	5.23	199.62	46.71	0.42
Reach1	78894	1%_Cur	1140	477.3	484.46		484.95	0.002355	5.64	205.41	47.33	0.45
Reach1	78894	0.2%_Cur	1580	477.3	484.89		485.68	0.003395	7.17	226.41	49.51	0.55
Reach1	78894	10%_Proj	770	477.3	483.99		484.27	0.001502	4.22	183.92	44.99	0.35
Reach1	78894	2%_Proj	1133	477.3	484.45		484.94	0.002339	5.62	205.03	47.29	0.45
Reach1	78894	1%_Proj	1254	477.3	484.58		485.14	0.002627	6.06	211.09	47.93	0.48
Reach1	78894	0.2%_Proj	1738	477.3	485.02		485.93	0.003782	7.69	232.96	50.18	0.58
Reach1	78501	10%_Cur	700	474	483.99		484.01	0.000042	0.97	726.88	144.72	0.07
Reach1	78501	2%_Cur	1030	474	484.53		484.56	0.000072	1.3	809.23	161.41	0.09
Reach1	78501	1%_Cur	1140	474	484.69		484.72	0.000082	1.41	834.76	164.47	0.1
Reach1	78501	0.2%_Cur	1580	474	485.27		485.32	0.000125	1.78	933.79	173.59	0.12
Reach1	78501	10%_Proj	770	474	484.12		484.14	0.000048	1.04	745.08	148.92	0.08
Reach1	78501	2%_Proj	1133	474	484.68		484.71	0.000082	1.4	833.1	164.32	0.1
Reach1	78501	1%_Proj	1254	474	484.84		484.88	0.000093	1.51	860.57	166.9	0.1
Reach1	78501	0.2%_Proj	1738	474	485.47		485.52	0.00014	1.9	967.59	176.6	0.13
Reach1	78445	10%_Cur	700	472.5	484	473.88	484	0.000026	0.4	1755.52	211.6	0.02
Reach1	78445	2%_Cur	1030	472.5	484.54	474.25	484.55	0.000046	0.55	1871.03	214.44	0.03
Reach1	78445	1%_Cur	1140	472.5	484.7	474.37	484.71	0.000053	0.6	1905.07	215.27	0.03
Reach1	78445	0.2%_Cur	1580	472.5	485.3	474.79	485.31	0.000082	0.78	2033.86	218.38	0.04
Reach1	78445	10%_Proj	770	472.5	484.13	473.96	484.13	0.00003	0.43	1782.01	212.26	0.03
Reach1	78445	2%_Proj	1133	472.5	484.69	474.36	484.7	0.000052	0.6	1902.86	215.22	0.03
Reach1	78445	1%_Proj	1254	472.5	484.86	474.48	484.87	0.00006	0.65	1939.11	216.1	0.04
Reach1	78445	0.2%_Proj	1738	472.5	485.49	474.92	485.5	0.000093	0.84	2076.77	219.41	0.05
Reach1	78435	Inl	Inl Struct									
Reach1	78428	10%_Cur	700	472.5	473.85	473.85	474.47	0.021855	6.34	111.94	96.14	1
Reach1	78428	2%_Cur	1030	472.5	474.22	474.22	475.01	0.020282	7.16	149.18	103.38	0.99
Reach1	78428	1%_Cur	1140	472.5	474.34	474.34	475.17	0.019874	7.39	161.11	105.59	0.99
Reach1	78428	0.2%_Cur	1580	472.5	474.76	474.76	475.77	0.018542	8.17	207.41	113.78	0.98
Reach1	78428	10%_Proj	770	472.5	473.93	473.93	474.59	0.021431	6.53	120.13	97.77	0.99

Reach1	78428	2%_Proj	1133	472.5	474.33	474.33	475.16	0.019904	7.37	160.34	105.45	0.99
Reach1	78428	1%_Proj	1254	472.5	474.45	474.45	475.34	0.019405	7.6	173.56	107.85	0.98
Reach1	78428	0.2%_Proj	1738	472.5	474.9	474.9	475.97	0.018227	8.42	223.29	116.45	0.98
Reach1	78376	10%_Cur	700	468	473.05		473.11	0.000424	2.07	366.62	113.71	0.18
Reach1	78376	2%_Cur	1030	468	474.18		474.26	0.000401	2.33	501.5	124.39	0.18
Reach1	78376	1%_Cur	1140	468	474.44		474.53	0.000415	2.44	534.24	126.69	0.19
Reach1	78376	0.2%_Cur	1580	468	475.12		475.25	0.000532	2.97	622.65	132.68	0.21
Reach1	78376	10%_Proj	770	468	473.37		473.44	0.000395	2.09	404.64	116.89	0.18
Reach1	78376	2%_Proj	1133	468	474.43		474.52	0.000412	2.43	533.3	126.62	0.19
Reach1	78376	1%_Proj	1254	468	474.7		474.8	0.000427	2.55	567.93	129	0.19
Reach1	78376	0.2%_Proj	1738	468	475.45		475.59	0.000538	3.08	666.54	135.59	0.22
Reach1	78193	10%_Cur	700	466.4	472.55		472.93	0.002422	4.98	151.89	42.14	0.4
Reach1	78193	2%_Cur	1030	466.4	473.55		474.06	0.002613	5.88	196.99	47.87	0.43
Reach1	78193	1%_Cur	1140	466.4	473.74		474.32	0.002841	6.26	206.11	48.95	0.45
Reach1	78193	0.2%_Cur	1580	466.4	473.9		474.94	0.004951	8.41	213.91	49.85	0.6
Reach1	78193	10%_Proj	770	466.4	472.88		473.26	0.002306	5.08	165.95	44.01	0.4
Reach1	78193	2%_Proj	1133	466.4	473.74		474.31	0.002804	6.22	206.17	48.96	0.45
Reach1	78193	1%_Proj	1254	466.4	473.93		474.58	0.003058	6.63	215.53	50.04	0.47
Reach1	78193	0.2%_Proj	1738	466.4	474.1		475.26	0.005308	8.9	224.05	51	0.63
Reach1	78152	10%_Cur	700	467.3	472.64	469.96	472.72	0.00088	2.37	365.18	149.31	0.2
Reach1	78152	2%_Cur	1030	467.3	473.71	470.42	473.8	0.000824	2.59	530.34	160.69	0.2
Reach1	78152	1%_Cur	1140	467.3	473.92	470.56	474.02	0.000868	2.72	564.9	162.97	0.2
Reach1	78152	0.2%_Cur	1580	467.3	474.24	471.08	474.4	0.001343	3.49	617.47	166.38	0.26
Reach1	78152	10%_Proj	770	467.3	472.98	470.06	473.06	0.000803	2.36	416.27	152.92	0.19
Reach1	78152	2%_Proj	1133	467.3	473.92	470.54	474.02	0.000858	2.7	564.71	162.96	0.2
Reach1	78152	1%_Proj	1254	467.3	474.14	470.7	474.24	0.000906	2.84	600.5	165.29	0.21
Reach1	78152	0.2%_Proj	1738	467.3	474.49	471.26	474.67	0.001383	3.63	659.45	169.05	0.26
Reach1	78142.5	Bridge	Bridge									
Reach1	78133	10%_Cur	700	467.3	469.93	469.89	470.81	0.017791	7.55	92.98	63.64	0.96
Reach1	78133	2%_Cur	1030	467.3	470.49	470.44	471.63	0.017882	8.57	120.81	77.63	0.96
Reach1	78133	1%_Cur	1140	467.3	470.66	470.61	471.87	0.01774	8.85	129.68	82.04	0.96
Reach1	78133	0.2%_Cur	1580	467.3	471.38	471.27	472.57	0.014354	9.05	216.09	100.54	0.87
Reach1	78133	10%_Proj	770	467.3	470.05	470.02	471	0.017892	7.79	99.1	66.73	0.96
Reach1	78133	2%_Proj	1133	467.3	470.65	470.59	471.86	0.017753	8.83	129.11	81.76	0.96
Reach1	78133	1%_Proj	1254	467.3	470.85	470.77	472.12	0.017422	9.08	139.04	86.68	0.95
Reach1	78133	0.2%_Proj	1738	467.3	471.56	471.47	472.82	0.014448	9.35	234.75	105.34	0.88

Reach1	78088	10%_Cur	700	466.21	469.95		470.18	0.003567	3.85	195.88	107.1	0.43
Reach1	78088	2%_Cur	1030	466.21	470.61		470.9	0.003411	4.4	272.14	123.3	0.43
Reach1	78088	1%_Cur	1140	466.21	470.82		471.13	0.003327	4.53	298.63	128.34	0.43
Reach1	78088	0.2%_Cur	1580	466.21	471.52		471.89	0.003257	5.07	393.57	144.08	0.44
Reach1	78088	10%_Proj	770	466.21	470.09		470.34	0.003555	3.99	211.66	110.65	0.43
Reach1	78088	2%_Proj	1133	466.21	470.81		471.11	0.003333	4.52	296.92	128.03	0.43
Reach1	78088	1%_Proj	1254	466.21	471.04		471.36	0.003215	4.64	327.33	133.29	0.43
Reach1	78088	0.2%_Proj	1738	466.21	471.71		472.12	0.003318	5.28	422.4	148.62	0.45
Reach1	77855	10%_Cur	700	465.51	468.73	468.1	469.16	0.005183	5.26	147.83	106.26	0.61
Reach1	77855	2%_Cur	1030	465.51	468.98	468.65	469.7	0.007817	6.91	175.27	118.48	0.77
Reach1	77855	1%_Cur	1140	465.51	469.02	468.83	469.87	0.008993	7.5	180.55	120.35	0.83
Reach1	77855	0.2%_Cur	1580	465.51	469.4	469.4	470.56	0.010411	8.85	229.47	136.46	0.91
Reach1	77855	10%_Proj	770	465.51	468.8	468.22	469.28	0.005642	5.6	155.35	110.95	0.64
Reach1	77855	2%_Proj	1133	465.51	469.02	468.82	469.86	0.008915	7.46	180.25	120.24	0.82
Reach1	77855	1%_Proj	1254	465.51	469.05	469	470.05	0.010439	8.14	184.13	121.6	0.89
Reach1	77855	0.2%_Proj	1738	465.51	469.58	469.58	470.79	0.010093	9.07	254.56	141.7	0.9
Reach1	77443	10%_Cur	700	463.7	465.65	465.5	466.06	0.011821	5.25	157.16	168.47	0.79
Reach1	77443	2%_Cur	1030	463.7	466.33		466.66	0.006477	4.84	285.18	205.78	0.6
Reach1	77443	1%_Cur	1140	463.7	466.56		466.87	0.005476	4.73	333.65	219.08	0.55
Reach1	77443	0.2%_Cur	1580	463.7	467.45		467.7	0.003105	4.34	552.09	254.4	0.43
Reach1	77443	10%_Proj	770	463.7	465.79	465.58	466.19	0.010243	5.15	182.34	178.49	0.74
Reach1	77443	2%_Proj	1133	463.7	466.54		466.85	0.005532	4.73	330.52	218.29	0.56
Reach1	77443	1%_Proj	1254	463.7	466.79		467.08	0.004658	4.62	387.25	233.12	0.51
Reach1	77443	0.2%_Proj	1738	463.7	467.78		468.01	0.002593	4.21	636.06	258.4	0.4
Reach1	77185	10%_Cur	700	462	464.9	463.54	465.06	0.001668	3.26	216.73	146.78	0.36
Reach1	77185	2%_Cur	1030	462	465.73	464	465.93	0.001457	3.66	291.47	177.64	0.35
Reach1	77185	1%_Cur	1140	462	466	464.13	466.21	0.001394	3.76	315.38	184.81	0.34
Reach1	77185	0.2%_Cur	1580	462	467.01	464.58	467.25	0.001213	4.11	405.02	209.23	0.33
Reach1	77185	10%_Proj	770	462	465.08	463.64	465.25	0.001617	3.35	233.24	157.61	0.36
Reach1	77185	2%_Proj	1133	462	465.99	464.13	466.19	0.001397	3.75	313.92	184.37	0.34
Reach1	77185	1%_Proj	1254	462	466.28	464.26	466.49	0.001336	3.85	339.7	201.53	0.34
Reach1	77185	0.2%_Proj	1738	462	467.34	464.72	467.59	0.001175	4.22	434.14	212.62	0.33
Reach1	77153.5	Bridge	Bridge									
Reach1	77122	10%_Cur	700	462	463.49	463.49	464.24	0.015388	5.91	104.23	64.57	0.86
Reach1	77122	2%_Cur	1030	462	463.96	463.96	464.9	0.014812	6.95	135.19	69.84	0.88
Reach1	77122	1%_Cur	1140	462	464.11	464.11	465.09	0.014402	7.2	145.87	71.87	0.88
Reach1	77122	0.2%_Cur	1580	462	464.63	464.63	465.76	0.013665	8.15	186.85	85.17	0.89

Reach1	77122	10%_Proj	770	462	463.58	463.58	464.39	0.015907	6.23	109.76	65.16	0.88
Reach1	77122	2%_Proj	1133	462	464.09	464.09	465.08	0.014551	7.2	144.78	71.55	0.88
Reach1	77122	1%_Proj	1254	462	464.28	464.28	465.28	0.013577	7.38	158.81	76.31	0.86
Reach1	77122	0.2%_Proj	1738	462	464.79	464.79	465.98	0.013651	8.47	200.08	88.69	0.9
Reach1	77052	10%_Cur	700	460.21	459.69	459.44	460.68	0.010826		87.74	34.73	0
Reach1	77052	2%_Cur	1030	460.21	460.73	460.73	461.63	0.009152	1.55	138.18	85.44	0.56
Reach1	77052	1%_Cur	1140	460.21	460.88	460.88	461.81	0.009346	2.07	151.37	88.79	0.61
Reach1	77052	0.2%_Cur	1580	460.21	461.41	461.41	462.44	0.009602	3.65	201.15	100.58	0.71
Reach1	77052	10%_Proj	770	460.21	459.81	459.63	460.9	0.011558		91.94	35.54	0
Reach1	77052	2%_Proj	1133	460.21	460.88	460.88	461.8	0.009272	2.05	151.04	88.71	0.61
Reach1	77052	1%_Proj	1254	460.21	461.05	461.05	461.99	0.0093	2.51	166.36	92.46	0.64
Reach1	77052	0.2%_Proj	1738	460.21	461.57	461.57	462.63	0.009729	4.12	217.1	104.09	0.73
Reach1	76409	10%_Cur	700	449.31	451.64	451.64	452.58	0.014601	7.79	91.99	52.95	0.98
Reach1	76409	2%_Cur	1030	449.31	452.27	452.27	453.35	0.011904	8.46	132.89	89.63	0.93
Reach1	76409	1%_Cur	1140	449.31	452.49	452.49	453.57	0.010788	8.51	154.75	107.26	0.89
Reach1	76409	0.2%_Cur	1580	449.31	453.09	453.09	454.31	0.009928	9.27	220.1	112.12	0.88
Reach1	76409	10%_Proj	770	449.31	451.8	451.8	452.76	0.01363	7.91	100.24	55.21	0.96
Reach1	76409	2%_Proj	1133	449.31	452.48	452.48	453.55	0.010862	8.51	153.2	106.15	0.9
Reach1	76409	1%_Proj	1254	449.31	452.66	452.66	453.77	0.010439	8.7	173.24	108.94	0.89
Reach1	76409	0.2%_Proj	1738	449.31	453.27	453.27	454.54	0.009871	9.56	240.04	113.45	0.89
Reach1	75569	10%_Cur	700	441.75	450.54		450.57	0.000238	1.41	675.84	161.06	0.1
Reach1	75569	2%_Cur	1030	441.75	451.72		451.76	0.000269	1.67	871.91	171.32	0.1
Reach1	75569	1%_Cur	1140	441.75	451.94		451.98	0.000295	1.79	909.26	173.18	0.11
Reach1	75569	0.2%_Cur	1580	441.75	452.59		452.65	0.000417	2.23	1022.61	177.95	0.13
Reach1	75569	10%_Proj	770	441.75	451.04		451.07	0.000216	1.41	757.23	165.47	0.09
Reach1	75569	2%_Proj	1133	441.75	451.92		451.96	0.000295	1.78	905.63	173	0.11
Reach1	75569	1%_Proj	1254	441.75	452.13		452.17	0.000326	1.9	941.92	174.65	0.12
Reach1	75569	0.2%_Proj	1738	441.75	452.76		452.83	0.000466	2.39	1053.87	179.21	0.14
Reach1	75540	10%_Cur	700	441.3	450.55	443.91	450.56	0.00004	0.92	938.09	197.48	0.06
Reach1	75540	2%_Cur	1030	441.3	451.73	444.5	451.75	0.00005	1.13	1180.86	213.38	0.07
Reach1	75540	1%_Cur	1140	441.3	451.95	444.67	451.97	0.000055	1.21	1227.34	214.12	0.07
Reach1	75540	0.2%_Cur	1580	441.3	452.59	445.38	452.63	0.000081	1.53	1366.83	216.34	0.09
Reach1	75540	10%_Proj	770	441.3	451.05	444.05	451.06	0.000038	0.94	1038.16	204.35	0.06
Reach1	75540	2%_Proj	1133	441.3	451.92	444.66	451.95	0.000055	1.21	1222.85	214.05	0.07
Reach1	75540	1%_Proj	1254	441.3	452.13	444.86	452.16	0.000061	1.3	1267.75	214.77	0.08
Reach1	75540	0.2%_Proj	1738	441.3	452.77	445.54	452.81	0.000091	1.65	1404.99	216.94	0.1
Reach1	75524.5	Bridge	Bridge									

Reach1	75509	10%_Cur	700	441.3	450.54	443.85	450.55	0.000052	1.15	809.56	214.26	0.07
Reach1	75509	2%_Cur	1030	441.3	451.71	444.47	451.74	0.000062	1.38	1065.72	220.19	0.08
Reach1	75509	1%_Cur	1140	441.3	451.93	444.63	451.96	0.000068	1.48	1113.37	221.2	0.09
Reach1	75509	0.2%_Cur	1580	441.3	452.57	445.3	452.62	0.000099	1.87	1255.9	224.21	0.11
Reach1	75509	10%_Proj	770	441.3	451.04	443.99	451.05	0.000048	1.16	917.24	217.01	0.07
Reach1	75509	2%_Proj	1133	441.3	451.91	444.64	451.94	0.000068	1.48	1108.75	221.11	0.09
Reach1	75509	1%_Proj	1254	441.3	452.12	444.82	452.15	0.000076	1.58	1154.73	222.08	0.09
Reach1	75509	0.2%_Proj	1738	441.3	452.74	445.52	452.8	0.000111	2	1294.69	225.02	0.11
Reach1	75463	10%_Cur	700	441.83	450.5		450.54	0.00016	1.7	556.37	174.96	0.11
Reach1	75463	2%_Cur	1030	441.83	451.67		451.73	0.000183	2.03	767.83	186.54	0.13
Reach1	75463	1%_Cur	1140	441.83	451.88		451.94	0.000202	2.16	807.29	188.49	0.13
Reach1	75463	0.2%_Cur	1580	441.83	452.49		452.59	0.000289	2.71	925.25	194.83	0.16
Reach1	75463	10%_Proj	770	441.83	451		451.04	0.000146	1.71	645.35	180.26	0.11
Reach1	75463	2%_Proj	1133	441.83	451.86		451.92	0.000201	2.16	803.38	188.3	0.13
Reach1	75463	1%_Proj	1254	441.83	452.06		452.13	0.000223	2.31	841.43	190.28	0.14
Reach1	75463	0.2%_Proj	1738	441.83	452.66		452.77	0.000324	2.91	957.1	196.33	0.17
Reach1	75435	10%_Cur	700	442.5	450.48		450.54	0.000206	2.09	480.55	178.59	0.15
Reach1	75435	2%_Cur	1030	442.5	451.64		451.72	0.000221	2.42	697.07	192.67	0.15
Reach1	75435	1%_Cur	1140	442.5	451.85		451.94	0.000241	2.57	737.47	195.25	0.16
Reach1	75435	0.2%_Cur	1580	442.5	452.46		452.58	0.000337	3.2	858.07	203.4	0.19
Reach1	75435	10%_Proj	770	442.5	450.98		451.04	0.000182	2.07	571.92	184.45	0.14
Reach1	75435	2%_Proj	1133	442.5	451.83		451.92	0.000241	2.57	733.42	195	0.16
Reach1	75435	1%_Proj	1254	442.5	452.03		452.12	0.000265	2.74	772.38	197.59	0.17
Reach1	75435	0.2%_Proj	1738	442.5	452.62		452.76	0.000376	3.42	890.49	205.57	0.21
Reach1	75422	10%_Cur	700	441.5	450.45	445.33	450.53	0.000863	2.41	438.39	177.48	0.16
Reach1	75422	2%_Cur	1030	441.5	451.63	446.19	451.71	0.000832	2.62	660.06	199.34	0.16
Reach1	75422	1%_Cur	1140	441.5	451.84	446.41	451.93	0.000892	2.76	702.59	204.07	0.16
Reach1	75422	0.2%_Cur	1580	441.5	452.45	447.25	452.57	0.00118	3.32	830.47	214.72	0.19
Reach1	75422	10%_Proj	770	441.5	450.96	445.54	451.03	0.000724	2.31	531.68	185.7	0.15
Reach1	75422	2%_Proj	1133	441.5	451.82	446.4	451.91	0.000893	2.75	698.27	203.7	0.16
Reach1	75422	1%_Proj	1254	441.5	452.02	446.64	452.12	0.000964	2.9	739.65	207.21	0.17
Reach1	75422	0.2%_Proj	1738	441.5	452.61	447.51	452.75	0.001301	3.52	865	217.51	0.2
Reach1	75394.5	Bridge	Bridge									
Reach1	75369	10%_Cur	700	438.2	441.48	441.48	442.76	0.050589	9.11	78.51	32.91	0.97
Reach1	75369	2%_Cur	1030	438.2	442.26	442.26	443.88	0.046132	10.29	104.25	37.17	0.97
Reach1	75369	1%_Cur	1140	438.2	442.5	442.5	444.22	0.045188	10.63	112.23	38.45	0.97

Reach1	75369	0.2%_Cur	1580	438.2	443.37	443.37	445.46	0.041911	11.77	142.87	43.22	0.97
Reach1	75369	10%_Proj	770	438.2	441.66	441.66	443.02	0.049316	9.38	84.26	33.88	0.97
Reach1	75369	2%_Proj	1133	438.2	442.47	442.47	444.2	0.045579	10.63	111.45	38.33	0.97
Reach1	75369	1%_Proj	1254	438.2	442.74	442.74	444.56	0.043998	10.94	120.58	39.78	0.97
Reach1	75369	0.2%_Proj	1738	438.2	443.69	443.69	445.86	0.040206	12.05	154.29	44.94	0.96
Reach1	75362	10%_Cur	700	433.15	438.08	438.08	439.63	0.038232	10.01	72.6	27.27	0.98
Reach1	75362	2%_Cur	1030	433.15	439.12	439.12	440.91	0.031325	10.9	104.86	34.91	0.93
Reach1	75362	1%_Cur	1140	433.15	439.43	439.43	441.28	0.029828	11.14	115.79	36.27	0.92
Reach1	75362	0.2%_Cur	1580	433.15	440.39	440.39	442.58	0.028325	12.32	152.56	40.12	0.92
Reach1	75362	10%_Proj	770	433.15	438.31	438.31	439.92	0.036564	10.25	79.05	28.96	0.97
Reach1	75362	2%_Proj	1133	433.15	439.41	439.41	441.25	0.02988	11.12	115.15	36.2	0.92
Reach1	75362	1%_Proj	1254	433.15	439.7	439.7	441.64	0.029163	11.44	125.88	37.36	0.91
Reach1	75362	0.2%_Proj	1738	433.15	440.72	440.72	443	0.027573	12.63	166.11	41.45	0.92
Reach1	75312	10%_Cur	700	432.3	435.22	435.22	436.44	0.039815	8.86	80.03	35.38	0.99
Reach1	75312	2%_Cur	1030	432.3	435.96	435.96	437.48	0.035472	9.96	107.49	39.01	0.98
Reach1	75312	1%_Cur	1140	432.3	436.19	436.19	437.8	0.034293	10.25	116.56	40.14	0.97
Reach1	75312	0.2%_Cur	1580	432.3	437.03	437.03	438.94	0.030823	11.25	152.09	44.28	0.96
Reach1	75312	10%_Proj	770	432.3	435.38	435.38	436.67	0.038755	9.13	85.92	36.19	0.99
Reach1	75312	2%_Proj	1133	432.3	436.17	436.17	437.78	0.03438	10.23	115.96	40.06	0.98
Reach1	75312	1%_Proj	1254	432.3	436.41	436.41	438.11	0.033365	10.55	125.69	41.24	0.97
Reach1	75312	0.2%_Proj	1738	432.3	437.3	437.3	439.31	0.030087	11.57	164.24	45.61	0.96
Reach1	75158	10%_Cur	700	425.41	429.51		430.25	0.007983	6.98	104.83	41.63	0.72
Reach1	75158	2%_Cur	1030	425.41	430.48		431.35	0.006448	7.6	148.04	46.87	0.68
Reach1	75158	1%_Cur	1140	425.41	430.78		431.69	0.006156	7.78	161.96	48.43	0.67
Reach1	75158	0.2%_Cur	1580	425.41	431.78		432.86	0.005605	8.56	213.41	54.16	0.66
Reach1	75158	10%_Proj	770	425.41	429.72		430.5	0.007618	7.15	113.74	42.76	0.71
Reach1	75158	2%_Proj	1133	425.41	430.76		431.66	0.006179	7.78	161.02	48.33	0.67
Reach1	75158	1%_Proj	1254	425.41	431.08		432.02	0.005834	7.94	177.05	50.08	0.66
Reach1	75158	0.2%_Proj	1738	425.41	431.67		433.05	0.007319	9.65	207.36	53.48	0.75
Reach1	75098	10%_Cur	700	423.5	429.06	427.94	429.63	0.009948	6.08	120.08	42.09	0.57
Reach1	75098	2%_Cur	1030	423.5	430.13	428.7	430.81	0.008495	6.71	174.87	61.82	0.55
Reach1	75098	1%_Cur	1140	423.5	430.45	428.94	431.15	0.008124	6.86	195.75	67.96	0.54
Reach1	75098	0.2%_Cur	1580	423.5	431.57	429.84	432.32	0.007065	7.32	277.06	75.73	0.52
Reach1	75098	10%_Proj	770	423.5	429.29	428.12	429.89	0.009689	6.26	130.12	45.14	0.57
Reach1	75098	2%_Proj	1133	423.5	430.43	428.91	431.13	0.008158	6.85	194.27	67.6	0.54
Reach1	75098	1%_Proj	1254	423.5	430.8	429.18	431.51	0.007609	6.94	220.02	72.82	0.53
Reach1	75098	0.2%_Proj	1738	423.5	431.33	430.16	432.36	0.010019	8.49	259.23	74.92	0.62

Reach1	75093.5	Bridge	Bridge									
Reach1	75089	10%_Cur	700	423.5	428.02	428.02	429.32	0.014623	9.22	79.59	34.88	0.97
Reach1	75089	2%_Cur	1030	423.5	428.8	428.8	430.44	0.01454	10.43	109.1	40.76	0.97
Reach1	75089	1%_Cur	1140	423.5	429.05	429.05	430.78	0.014317	10.74	119.8	44.8	0.96
Reach1	75089	0.2%_Cur	1580	423.5	430.18	430.18	431.94	0.011363	11.05	185.6	69.88	0.87
Reach1	75089	10%_Proj	770	423.5	428.21	428.21	429.58	0.014466	9.47	86.26	36.3	0.96
Reach1	75089	2%_Proj	1133	423.5	429.03	429.03	430.76	0.014347	10.72	119.04	44.48	0.96
Reach1	75089	1%_Proj	1254	423.5	429.34	429.34	431.12	0.013607	10.9	133.9	51.65	0.94
Reach1	75089	0.2%_Proj	1738	423.5	430.3	430.46	432.29	0.012597	11.79	193.84	70.45	0.92
Reach1	75042	10%_Cur	700	423.5	427.19	427.19	428.23	0.014879	8.19	88.44	47.46	0.99
Reach1	75042	2%_Cur	1030	423.5	427.83	427.83	429.13	0.014235	9.21	120.14	52.28	0.98
Reach1	75042	1%_Cur	1140	423.5	428.02	428.02	429.4	0.014039	9.5	130.37	53.49	0.97
Reach1	75042	0.2%_Cur	1580	423.5	428.71	428.71	430.39	0.013639	10.55	168.69	57.75	0.97
Reach1	75042	10%_Proj	770	423.5	427.33	427.33	428.43	0.014792	8.44	95.16	48.59	0.99
Reach1	75042	2%_Proj	1133	423.5	428.01	428.01	429.38	0.014048	9.48	129.73	53.42	0.97
Reach1	75042	1%_Proj	1254	423.5	428.21	428.21	429.67	0.013943	9.79	140.45	54.66	0.97
Reach1	75042	0.2%_Proj	1738	423.5	428.94	428.94	430.72	0.013443	10.86	182.37	59.28	0.97
Reach1	74782	10%_Cur	700	409.6	414.78		415.18	0.009794	5.06	139.65	45.93	0.49
Reach1	74782	2%_Cur	1030	409.6	415.43		416.02	0.01165	6.2	170.69	50.32	0.55
Reach1	74782	1%_Cur	1140	409.6	415.62		416.28	0.012158	6.54	180.4	51.57	0.56
Reach1	74782	0.2%_Cur	1580	409.6	416.31		417.22	0.013706	7.69	217.78	56.13	0.61
Reach1	74782	10%_Proj	770	409.6	414.93		415.37	0.010242	5.32	146.5	46.99	0.5
Reach1	74782	2%_Proj	1133	409.6	415.61		416.26	0.012126	6.52	179.79	51.5	0.56
Reach1	74782	1%_Proj	1254	409.6	415.81		416.54	0.012569	6.85	190.58	52.85	0.58
Reach1	74782	0.2%_Proj	1738	409.6	416.54		417.53	0.014137	8.05	230.7	57.63	0.63
Reach1	74780	10%_Cur	700	411.9	414.13	414.13	415.1	0.024322	7.89	89.68	49.46	1
Reach1	74780	2%_Cur	1030	411.9	414.71	414.71	415.94	0.022791	8.91	119.11	52.89	0.99
Reach1	74780	1%_Cur	1140	411.9	414.89	414.89	416.19	0.02233	9.19	128.61	53.92	0.99
Reach1	74780	0.2%_Cur	1580	411.9	415.55	415.55	417.12	0.020727	10.14	165.6	57.75	0.98
Reach1	74780	10%_Proj	770	411.9	414.26	414.26	415.29	0.023964	8.13	96.09	50.27	1
Reach1	74780	2%_Proj	1133	411.9	414.88	414.88	416.17	0.022351	9.18	128.02	53.86	0.99
Reach1	74780	1%_Proj	1254	411.9	415.06	415.06	416.44	0.021919	9.47	138.24	54.94	0.99
Reach1	74780	0.2%_Proj	1738	411.9	415.75	415.75	417.43	0.020598	10.49	177.49	58.93	0.98
Reach1	74779	10%_Cur	700	409.27	412.93	412.93	413.98	0.01602	8.24	87.55	45.37	0.99
Reach1	74779	2%_Cur	1030	409.27	413.56	413.56	414.89	0.01623	9.31	117.49	49.38	0.98
Reach1	74779	1%_Cur	1140	409.27	413.76	413.76	415.17	0.016079	9.58	127.54	50.6	0.98
Reach1	74779	0.2%_Cur	1580	409.27	414.46	414.46	416.18	0.016079	10.66	164.1	54.6	0.98

Reach1	74779	10%_Proj	770	409.27	413.07	413.07	414.18	0.016101	8.49	94.09	46.28	0.99
Reach1	74779	2%_Proj	1133	409.27	413.75	413.75	415.15	0.016087	9.56	126.91	50.53	0.98
Reach1	74779	1%_Proj	1254	409.27	413.96	413.96	415.44	0.016013	9.86	137.5	51.72	0.97
Reach1	74779	0.2%_Proj	1738	409.27	414.71	414.71	416.51	0.015766	10.93	178.01	56.05	0.97
Reach1	74711	10%_Cur	700	405.5	409.41	409.41	410.72	0.013736	9.24	78.51	32.47	0.96
Reach1	74711	2%_Cur	1030	405.5	410.23	410.23	411.83	0.012286	10.32	107.07	37.12	0.94
Reach1	74711	1%_Cur	1140	405.5	410.47	410.47	412.16	0.012001	10.64	116.26	38.49	0.94
Reach1	74711	0.2%_Cur	1580	405.5	411.35	411.35	413.37	0.011239	11.76	152.1	43.44	0.94
Reach1	74711	10%_Proj	770	405.5	409.59	409.59	410.97	0.013379	9.5	84.58	33.51	0.96
Reach1	74711	2%_Proj	1133	405.5	410.46	410.46	412.14	0.012015	10.62	115.69	38.41	0.94
Reach1	74711	1%_Proj	1254	405.5	410.69	410.69	412.5	0.011952	11.01	124.9	39.74	0.95
Reach1	74711	0.2%_Proj	1738	405.5	411.64	411.64	413.77	0.010972	12.09	165.18	45.12	0.94
Reach1	74082	10%_Cur	700	377.52	379.8	379.8	380.66	0.086171	7.42	94.74	57.88	1
Reach1	74082	2%_Cur	1030	377.52	380.32	380.32	381.39	0.076957	8.35	125.48	61.92	0.99
Reach1	74082	1%_Cur	1140	377.52	380.48	380.48	381.62	0.074373	8.6	135.5	63.15	0.98
Reach1	74082	0.2%_Cur	1580	377.52	381.07	381.07	382.43	0.066696	9.44	174.08	67.48	0.96
Reach1	74082	10%_Proj	770	377.52	379.92	379.92	380.82	0.083785	7.64	101.46	58.79	1
Reach1	74082	2%_Proj	1133	377.52	380.47	380.47	381.6	0.074535	8.59	134.86	63.07	0.98
Reach1	74082	1%_Proj	1254	377.52	380.64	380.64	381.84	0.072232	8.85	145.58	64.33	0.98
Reach1	74082	0.2%_Proj	1738	377.52	381.25	381.25	382.69	0.065966	9.76	186.19	68.77	0.97
Reach1	73253	10%_Cur	700	359.49	364.56	362.47	364.61	0.000758	1.96	521.19	210.36	0.2
Reach1	73253	2%_Cur	1030	359.49	365.34	363.14	365.4	0.000784	2.18	687.32	215.62	0.2
Reach1	73253	1%_Cur	1140	359.49	365.73	363.26	365.78	0.000701	2.15	771.15	218.96	0.19
Reach1	73253	0.2%_Cur	1580	359.49	366.5	363.68	366.57	0.00077	2.43	943.54	225.67	0.19
Reach1	73253	10%_Proj	770	359.49	364.76	362.6	364.81	0.000752	2	562.25	211.67	0.2
Reach1	73253	2%_Proj	1133	359.49	365.68	363.25	365.73	0.000721	2.17	760.04	218.52	0.19
Reach1	73253	1%_Proj	1254	359.49	365.93	363.37	365.99	0.000725	2.23	816.2	220.73	0.19
Reach1	73253	0.2%_Proj	1738	359.49	366.96	363.82	367.02	0.000697	2.42	1046.43	229.59	0.18
Reach1	73194	10%_Cur	700	358.6	364.44	363.03	364.53	0.002696	2.73	384.52	158.37	0.26
Reach1	73194	2%_Cur	1030	358.6	365.21	363.5	365.3	0.002512	3.03	508.69	163.75	0.26
Reach1	73194	1%_Cur	1140	358.6	365.61	363.5	365.7	0.00213	2.97	574.68	166.85	0.25
Reach1	73194	0.2%_Cur	1580	358.6	366.37	363.71	366.48	0.002228	3.37	703.23	172.73	0.26
Reach1	73194	10%_Proj	770	358.6	364.64	363.22	364.71	0.002584	2.78	415.55	159.6	0.26
Reach1	73194	2%_Proj	1133	358.6	365.56	363.5	365.65	0.002207	3	565.64	166.43	0.25
Reach1	73194	1%_Proj	1254	358.6	365.81	363.51	365.9	0.002174	3.09	608.04	168.4	0.25
Reach1	73194	0.2%_Proj	1738	358.6	366.83	363.83	366.94	0.001945	3.33	784.02	176.32	0.25
Reach1	73166	Bridge	Bridge									

Reach1	73148	10%_Cur	700	358.53	363.43	361.07	363.55	0.000882	2.71	268.61	83.29	0.25
Reach1	73148	2%_Cur	1030	358.53	364.54	361.56	364.68	0.000842	3.03	375.56	107.2	0.24
Reach1	73148	1%_Cur	1140	358.53	365.36	361.71	365.48	0.000613	2.83	468.93	118.55	0.21
Reach1	73148	0.2%_Cur	1580	358.53	366.17	362.22	366.34	0.00075	3.37	567.38	126.36	0.23
Reach1	73148	10%_Proj	770	358.53	363.68	361.18	363.8	0.000875	2.79	290.3	91.09	0.25
Reach1	73148	2%_Proj	1133	358.53	365.26	361.7	365.38	0.000645	2.87	456.65	117.54	0.21
Reach1	73148	1%_Proj	1254	358.53	365.59	361.86	365.72	0.000651	2.98	495.68	120.73	0.22
Reach1	73148	0.2%_Proj	1738	358.53	366.66	362.4	366.83	0.000705	3.41	630.33	131.12	0.23
Reach1	73074	10%_Cur	700	358.61	362.88		363.33	0.00376	5.41	138.97	55.4	0.54
Reach1	73074	2%_Cur	1030	358.61	363.97		364.47	0.002875	5.77	204.39	63.47	0.5
Reach1	73074	1%_Cur	1140	358.61	364.96		365.34	0.00168	5.08	269.73	68.94	0.39
Reach1	73074	0.2%_Cur	1580	358.61	365.57		366.13	0.002183	6.23	312.61	72.21	0.46
Reach1	73074	10%_Proj	770	358.61	363.13		363.59	0.003492	5.48	153.08	57.89	0.53
Reach1	73074	2%_Proj	1133	358.61	364.83		365.23	0.001808	5.18	261.14	68.25	0.41
Reach1	73074	1%_Proj	1254	358.61	365.13		365.56	0.001808	5.38	281.9	69.92	0.41
Reach1	73074	0.2%_Proj	1738	358.61	366.06		366.63	0.001973	6.26	349.26	74.83	0.44
Reach1	72754	10%_Cur	700	352.8	362.04		362.47	0.001988	5.57	162.61	49.92	0.4
Reach1	72754	2%_Cur	1030	352.8	363.05		363.64	0.002307	6.65	217.99	59.17	0.44
Reach1	72754	1%_Cur	1140	352.8	364.48		364.86	0.001298	5.63	340.25	154.11	0.34
Reach1	72754	0.2%_Cur	1580	352.8	364.87		365.46	0.001976	7.15	406.6	184.69	0.42
Reach1	72754	10%_Proj	770	352.8	362.28		362.74	0.002059	5.82	174.88	52.1	0.41
Reach1	72754	2%_Proj	1133	352.8	364.31		364.72	0.001401	5.77	316.32	126.22	0.35
Reach1	72754	1%_Proj	1254	352.8	364.59		365.03	0.001475	6.06	358.57	167.53	0.36
Reach1	72754	0.2%_Proj	1738	352.8	365.59		366.04	0.001512	6.59	557.39	247.71	0.37
Reach1	72231	10%_Cur	700	351.5	362.28		362.29	0.000034	0.82	2100.34	853.63	0.06
Reach1	72231	2%_Cur	1030	351.5	363.41		363.42	0.000027	0.82	3094.38	906.93	0.05
Reach1	72231	1%_Cur	1140	351.5	364.73		364.73	0.000013	0.64	4314.33	951.65	0.04
Reach1	72231	0.2%_Cur	1580	351.5	365.25		365.25	0.000018	0.78	4816.04	967.49	0.05
Reach1	72231	10%_Proj	770	351.5	362.55		362.55	0.000032	0.82	2329.91	862.5	0.06
Reach1	72231	2%_Proj	1133	351.5	364.57		364.57	0.000014	0.66	4166.71	945.41	0.04
Reach1	72231	1%_Proj	1254	351.5	364.88		364.88	0.000015	0.68	4457.35	956.31	0.04
Reach1	72231	0.2%_Proj	1738	351.5	365.88		365.88	0.000016	0.75	5431.88	982.98	0.04
Reach1	71607	10%_Cur	1200	350.7	362.11		362.21	0.000358	2.71	793.34	272.69	0.17
Reach1	71607	2%_Cur	1700	350.7	363.24		363.35	0.000367	3.01	1112	290.75	0.18
Reach1	71607	1%_Cur	1960	350.7	364.61		364.69	0.000241	2.68	1520.18	306.04	0.15
Reach1	71607	0.2%_Cur	2570	350.7	365.09		365.2	0.000333	3.25	1667.59	311.54	0.18
Reach1	71607	10%_Proj	1320	350.7	362.38		362.48	0.000367	2.81	866.07	277.03	0.18

Reach1	71607	2%_Proj	1870	350.7	364.46		364.53	0.000236	2.63	1473.27	304.27	0.15
Reach1	71607	1%_Proj	2156	350.7	364.75		364.83	0.000274	2.88	1561.39	307.59	0.16
Reach1	71607	0.2%_Proj	2827	350.7	365.73		365.83	0.000306	3.24	1872.15	326.39	0.17
Reach1	70869	10%_Cur	1200	352	362.07		362.08	0.000093	0.87	2659.44	858.44	0.07
Reach1	70869	2%_Cur	1700	352	363.23		363.23	0.00008	0.88	3657.17	876.5	0.06
Reach1	70869	1%_Cur	1960	352	364.61		364.62	0.000047	0.73	4878.17	886.16	0.05
Reach1	70869	0.2%_Cur	2570	352	365.09		365.1	0.000063	0.88	5305.38	889.27	0.05
Reach1	70869	10%_Proj	1320	352	362.34		362.35	0.000091	0.88	2891.47	861.91	0.06
Reach1	70869	2%_Proj	1870	352	364.46		364.46	0.000047	0.72	4741.12	885.15	0.05
Reach1	70869	1%_Proj	2156	352	364.75		364.75	0.000053	0.79	4998.01	887.05	0.05
Reach1	70869	0.2%_Proj	2827	352	365.74		365.74	0.000057	0.86	5881.34	893.06	0.05
Reach1	70760	10%_Cur	1200	353	362.07	358.46	362.07	0.000032	0.5	5070.11	1322.54	0.04
Reach1	70760	2%_Cur	1700	353	363.22	359	363.23	0.00003	0.53	6690.22	1469.05	0.04
Reach1	70760	1%_Cur	1960	353	364.61	359	364.61	0.000018	0.45	8756.87	1500.02	0.03
Reach1	70760	0.2%_Cur	2570	353	365.09	359	365.09	0.000024	0.54	9479.78	1508.31	0.03
Reach1	70760	10%_Proj	1320	353	362.34	358.58	362.34	0.000033	0.52	5433.3	1377.39	0.04
Reach1	70760	2%_Proj	1870	353	364.46	359	364.46	0.000018	0.45	8524.88	1498.27	0.03
Reach1	70760	1%_Proj	2156	353	364.74	359	364.75	0.00002	0.49	8959.59	1501.54	0.03
Reach1	70760	0.2%_Proj	2827	353	365.74	359	365.74	0.000022	0.53	10465.85	1541.59	0.03
Reach1	70740	10%_Cur	1200	353.4	362.07	357.49	362.07	0.000039	0.53	4715.7	1244.53	0.04
Reach1	70740	2%_Cur	1700	353.4	363.22	358.16	363.22	0.000036	0.57	6217.79	1354.19	0.04
Reach1	70740	1%_Cur	1960	353.4	364.61	358.49	364.61	0.000021	0.49	8166.86	1437.51	0.03
Reach1	70740	0.2%_Cur	2570	353.4	365.09	359.02	365.09	0.000028	0.59	8860.75	1448.41	0.03
Reach1	70740	10%_Proj	1320	353.4	362.34	357.68	362.34	0.00004	0.55	5056.23	1288.3	0.04
Reach1	70740	2%_Proj	1870	353.4	364.45	358.36	364.46	0.000021	0.48	7944.71	1433.53	0.03
Reach1	70740	1%_Proj	2156	353.4	364.74	358.68	364.75	0.000024	0.53	8361.13	1440.99	0.03
Reach1	70740	0.2%_Proj	2827	353.4	365.74	359.21	365.74	0.000025	0.58	9799.9	1453.68	0.03
Reach1	70713	Bridge	Bridge									
Reach1	70686	10%_Cur	1200	353.4	361.95	357.5	361.95	0.000036	0.8	4482.52	1297.96	0.06
Reach1	70686	2%_Cur	1700	353.4	363.2	358.15	363.2	0.00003	0.81	6124.62	1329.07	0.05
Reach1	70686	1%_Cur	1960	353.4	364.6	358.44	364.6	0.000018	0.69	8024.38	1376.45	0.04
Reach1	70686	0.2%_Cur	2570	353.4	365.08	359	365.08	0.000024	0.83	8685.97	1383.59	0.05
Reach1	70686	10%_Proj	1320	353.4	362.27	357.66	362.27	0.000034	0.8	4899.88	1306.46	0.06
Reach1	70686	2%_Proj	1870	353.4	364.45	358.35	364.45	0.000018	0.68	7811.11	1373.05	0.04
Reach1	70686	1%_Proj	2156	353.4	364.74	358.65	364.74	0.00002	0.74	8209.34	1378.45	0.04
Reach1	70686	0.2%_Proj	2827	353.4	365.73	359.21	365.73	0.000022	0.82	9586.87	1393.26	0.05

Reach1	70671	10%_Cur	1200	353.59	361.95	357.53	361.95	0.000022	0.65	5237.77	1235.73	0.05
Reach1	70671	2%_Cur	1700	353.59	363.2	358.14	363.2	0.000021	0.72	6850.22	1308.55	0.05
Reach1	70671	1%_Cur	1960	353.59	364.6	358.39	364.6	0.000014	0.64	8723.54	1352.84	0.04
Reach1	70671	0.2%_Cur	2570	353.59	365.08	359	365.08	0.000019	0.78	9373.73	1360.02	0.04
Reach1	70671	10%_Proj	1320	353.59	362.27	357.68	362.27	0.000023	0.69	5644.03	1288.12	0.05
Reach1	70671	2%_Proj	1870	353.59	364.45	358.31	364.45	0.000013	0.63	8513.92	1350.4	0.04
Reach1	70671	1%_Proj	2156	353.59	364.74	358.57	364.74	0.000016	0.69	8905.33	1354.85	0.04
Reach1	70671	0.2%_Proj	2827	353.59	365.73	359	365.73	0.000017	0.78	10259.33	1369.6	0.04
Reach1	70632	10%_Cur	1200	354.18	361.95		361.95	0.000015	0.54	6077.91	1186.84	0.04
Reach1	70632	2%_Cur	1700	354.18	363.19		363.2	0.000016	0.62	7626.55	1291.8	0.04
Reach1	70632	1%_Cur	1960	354.18	364.6		364.6	0.000011	0.58	9467.18	1332.55	0.03
Reach1	70632	0.2%_Cur	2570	354.18	365.08		365.08	0.000015	0.7	10107.62	1340.25	0.04
Reach1	70632	10%_Proj	1320	354.18	362.27		362.27	0.000015	0.56	6459.73	1201.73	0.04
Reach1	70632	2%_Proj	1870	354.18	364.45		364.45	0.000011	0.56	9260.97	1327.03	0.03
Reach1	70632	1%_Proj	2156	354.18	364.73		364.74	0.000012	0.62	9646.19	1334.97	0.04
Reach1	70632	0.2%_Proj	2827	354.18	365.73		365.73	0.000014	0.71	10979.99	1348.52	0.04
Reach1	70558	10%_Cur	1228	354	361.94		361.94	0.000016	0.46	6299.4	1172.42	0.03
Reach1	70558	2%_Cur	1741	354	363.19		363.19	0.000017	0.52	7786.98	1232.06	0.03
Reach1	70558	1%_Cur	2009	354	364.6		364.6	0.000012	0.5	9561.14	1284.18	0.03
Reach1	70558	0.2%_Cur	2632	354	365.08		365.08	0.000017	0.61	10178.05	1292.26	0.03
Reach1	70558	10%_Proj	1351	354	362.26		362.26	0.000016	0.47	6675.75	1176.83	0.03
Reach1	70558	2%_Proj	1915	354	364.44		364.44	0.000012	0.48	9362.53	1278	0.03
Reach1	70558	1%_Proj	2210	354	364.73		364.73	0.000014	0.54	9733.46	1287.69	0.03
Reach1	70558	0.2%_Proj	2895	354	365.73		365.73	0.000016	0.61	11018.41	1297.36	0.03
Reach1	69987	10%_Cur	1228	351.05	361.94		361.94	0.000032	0.82	4160.91	753.17	0.06
Reach1	69987	2%_Cur	1741	351.05	363.18		363.19	0.000034	0.94	5112.44	777.39	0.06
Reach1	69987	1%_Cur	2009	351.05	364.59		364.6	0.000026	0.92	6274.9	851.05	0.05
Reach1	69987	0.2%_Cur	2632	351.05	365.07		365.07	0.000037	1.13	6681.78	859.47	0.06
Reach1	69987	10%_Proj	1351	351.05	362.26		362.26	0.000033	0.85	4402.66	756.81	0.06
Reach1	69987	2%_Proj	1915	351.05	364.44		364.44	0.000025	0.89	6143.57	846.22	0.05
Reach1	69987	1%_Proj	2210	351.05	364.73		364.73	0.00003	0.99	6388.29	853.71	0.06
Reach1	69987	0.2%_Proj	2895	351.05	365.72		365.72	0.000035	1.14	7243.38	869.58	0.06
Reach1	69405	10%_Cur	1228	353.6	361.91		361.92	0.000128	0.95	2144.28	488.81	0.07
Reach1	69405	2%_Cur	1741	353.6	363.16		363.16	0.000124	1.05	2779.29	527.16	0.07
Reach1	69405	1%_Cur	2009	353.6	364.57		364.58	0.000082	0.95	3547.14	555.48	0.06
Reach1	69405	0.2%_Cur	2632	353.6	365.04		365.05	0.000115	1.16	3808.29	563.82	0.07
Reach1	69405	10%_Proj	1351	353.6	362.23		362.24	0.000127	0.98	2302.53	500.17	0.07
Reach1	69405	2%_Proj	1915	353.6	364.42		364.42	0.00008	0.93	3461.74	552.72	0.06

Reach1	69405	1%_Proj	2210	353.6	364.7	364.71	0.000094	1.02	3619.42	557.8	0.06
Reach1	69405	0.2%_Proj	2895	353.6	365.69	365.7	0.000108	1.18	4180.02	584.83	0.07
Reach1	68823	10%_Cur	1228	352.7	361.73	361.78	0.000464	1.91	861.2	216.8	0.15
Reach1	68823	2%_Cur	1741	352.7	362.97	363.03	0.000477	2.14	1162.64	277.31	0.15
Reach1	68823	1%_Cur	2009	352.7	364.45	364.49	0.000314	1.93	1702.44	465.67	0.12
Reach1	68823	0.2%_Cur	2632	352.7	364.86	364.93	0.000442	2.35	1905.38	520.17	0.14
Reach1	68823	10%_Proj	1351	352.7	362.05	362.1	0.000468	1.97	931.74	228.35	0.15
Reach1	68823	2%_Proj	1915	352.7	364.29	364.34	0.000308	1.89	1633.28	450.15	0.12
Reach1	68823	1%_Proj	2210	352.7	364.56	364.61	0.00036	2.08	1755.03	477.18	0.13
Reach1	68823	0.2%_Proj	2895	352.7	365.53	365.59	0.000384	2.29	2279.19	601.4	0.13
Reach1	68537	10%_Cur	1228	352.7	361.47	361.58	0.001101	2.91	582.51	174.59	0.2
Reach1	68537	2%_Cur	1741	352.7	362.71	362.83	0.001035	3.18	861.55	265.63	0.2
Reach1	68537	1%_Cur	2009	352.7	364.29	364.37	0.000577	2.7	1347.87	360.25	0.16
Reach1	68537	0.2%_Cur	2632	352.7	364.63	364.75	0.000839	3.33	1477.84	404.02	0.19
Reach1	68537	10%_Proj	1351	352.7	361.78	361.9	0.001107	3.02	641.03	201.02	0.21
Reach1	68537	2%_Proj	1915	352.7	364.14	364.22	0.000564	2.64	1295.96	347.27	0.16
Reach1	68537	1%_Proj	2210	352.7	364.37	364.47	0.00067	2.92	1379.3	369.56	0.17
Reach1	68537	0.2%_Proj	2895	352.7	365.32	365.44	0.00074	3.28	1799.29	514.91	0.18
Reach1	68474	10%_Cur	1228	353.73	361.47	357.56	361.52	0.00027	1.83	703.18	348.36	0.14
Reach1	68474	2%_Cur	1741	353.73	362.7	357.97	362.77	0.000271	2.09	895.32	445.73	0.14
Reach1	68474	1%_Cur	2009	353.73	364.28	358.16	364.34	0.000175	1.92	1141.51	542.34	0.12
Reach1	68474	0.2%_Cur	2632	353.73	364.62	358.55	364.7	0.000261	2.41	1194.11	569.4	0.15
Reach1	68474	10%_Proj	1351	353.73	361.78	357.66	361.83	0.000272	1.9	751	373.33	0.14
Reach1	68474	2%_Proj	1915	353.73	364.13	358.09	364.19	0.000169	1.86	1118.67	531.04	0.12
Reach1	68474	1%_Proj	2210	353.73	364.37	358.29	364.43	0.000204	2.09	1154.74	549.64	0.13
Reach1	68474	0.2%_Proj	2895	353.73	365.31	358.71	365.4	0.000243	2.44	1301.66	635.1	0.14
Reach1	68402	Bridge	Bridge								
Reach1	68326	10%_Cur	1228	353.73	361.2	357.37	361.25	0.000261	1.86	659.47	439.18	0.14
Reach1	68326	2%_Cur	1741	353.73	362.33	357.77	362.4	0.000275	2.17	801.6	509.07	0.15
Reach1	68326	1%_Cur	2009	353.73	362.85	357.95	362.93	0.000283	2.32	867.44	526.14	0.16
Reach1	68326	0.2%_Cur	2632	353.73	363.79	358.35	363.9	0.000318	2.67	985.76	569.37	0.17
Reach1	68326	10%_Proj	1351	353.73	361.49	357.46	361.54	0.000265	1.94	695.5	449.77	0.15
Reach1	68326	2%_Proj	1915	353.73	362.65	357.89	362.73	0.000283	2.27	842.23	517.32	0.15
Reach1	68326	1%_Proj	2210	353.73	363.21	358.09	363.3	0.00029	2.42	912.05	543.76	0.16
Reach1	68326	0.2%_Proj	2895	353.73	364.11	358.51	364.23	0.000338	2.82	1025.58	583.96	0.17
Reach1	68280	10%_Cur	1228	352.5	361.21		361.22	0.000199	0.92	1711.59	338.53	0.06

Reach1	68280	2%_Cur	1741	352.5	362.35	362.36	0.000222	1.09	2117.88	378.35	0.07
Reach1	68280	1%_Cur	2009	352.5	362.88	362.89	0.000229	1.16	2322.01	396.86	0.07
Reach1	68280	0.2%_Cur	2632	352.5	363.83	363.84	0.000256	1.32	2727.44	464.38	0.08
Reach1	68280	10%_Proj	1351	352.5	361.5	361.51	0.000206	0.97	1810.42	347.99	0.07
Reach1	68280	2%_Proj	1915	352.5	362.67	362.69	0.000229	1.14	2242.83	389.4	0.07
Reach1	68280	1%_Proj	2210	352.5	363.23	363.25	0.000235	1.21	2466.85	415.7	0.07
Reach1	68280	0.2%_Proj	2895	352.5	364.15	364.17	0.000271	1.39	2881.14	492.85	0.08
Reach1	67684	10%_Cur	1228	352.5	361.04	361.07	0.000346	1.42	1075.37	333.75	0.11
Reach1	67684	2%_Cur	1741	352.5	362.17	362.2	0.000349	1.56	1466.65	361.13	0.11
Reach1	67684	1%_Cur	2009	352.5	362.69	362.73	0.000347	1.61	1659.57	372.8	0.11
Reach1	67684	0.2%_Cur	2632	352.5	363.63	363.67	0.00037	1.77	2016.17	388.66	0.11
Reach1	67684	10%_Proj	1351	352.5	361.33	361.36	0.000348	1.46	1171.32	340.91	0.11
Reach1	67684	2%_Proj	1915	352.5	362.49	362.52	0.000353	1.6	1584.19	369.4	0.11
Reach1	67684	1%_Proj	2210	352.5	363.05	363.08	0.000349	1.66	1793.21	381.07	0.11
Reach1	67684	0.2%_Proj	2895	352.5	363.94	363.98	0.000385	1.85	2137.77	392.39	0.11
Reach1	66782	10%_Cur	1228	353.98	360.77	360.8	0.000257	1.4	974.75	232.28	0.11
Reach1	66782	2%_Cur	1741	353.98	361.88	361.92	0.00028	1.61	1246.93	262.56	0.11
Reach1	66782	1%_Cur	2009	353.98	362.4	362.44	0.000292	1.72	1393.8	326.75	0.11
Reach1	66782	0.2%_Cur	2632	353.98	363.29	363.35	0.000331	1.95	1735.94	452.12	0.12
Reach1	66782	10%_Proj	1351	353.98	361.05	361.08	0.000264	1.45	1040.25	238.85	0.11
Reach1	66782	2%_Proj	1915	353.98	362.19	362.24	0.00029	1.68	1332.03	282.66	0.11
Reach1	66782	1%_Proj	2210	353.98	362.74	362.79	0.000301	1.79	1517.37	373.59	0.12
Reach1	66782	0.2%_Proj	2895	353.98	363.59	363.65	0.000348	2.05	1873.62	477.75	0.13
Reach1	66184	10%_Cur	1821	352.6	360.3	360.39	0.002093	2.45	822.75	218.95	0.19
Reach1	66184	2%_Cur	2608	352.6	361.36	361.47	0.002133	2.79	1092.03	296.62	0.2
Reach1	66184	1%_Cur	3049	352.6	361.86	361.98	0.002123	2.93	1247.47	331.05	0.2
Reach1	66184	0.2%_Cur	3937	352.6	362.74	362.86	0.002022	3.1	1602.98	489.59	0.2
Reach1	66184	10%_Proj	2003	352.6	360.57	360.66	0.002111	2.54	882.69	232.13	0.19
Reach1	66184	2%_Proj	2869	352.6	361.66	361.78	0.002129	2.88	1183.91	315.9	0.2
Reach1	66184	1%_Proj	3354	352.6	362.21	362.33	0.00207	2.99	1370.85	382.21	0.2
Reach1	66184	0.2%_Proj	4331	352.6	363.02	363.15	0.002007	3.16	1746.29	544.15	0.2
Reach1	65586	10%_Cur	1821	350	358.94	359.04	0.002411	2.68	715	196.07	0.21
Reach1	65586	2%_Cur	2608	350	360.04	360.16	0.002247	2.96	956.35	270.78	0.21
Reach1	65586	1%_Cur	3049	350	360.58	360.71	0.002132	3.05	1122.49	343.56	0.21
Reach1	65586	0.2%_Cur	3937	350	361.63	361.75	0.001749	3.05	1593.91	621.38	0.19
Reach1	65586	10%_Proj	2003	350	359.2	359.32	0.002381	2.76	768.71	204.75	0.21
Reach1	65586	2%_Proj	2869	350	360.36	360.49	0.002196	3.03	1049.92	313.18	0.21
Reach1	65586	1%_Proj	3354	350	361	361.12	0.001972	3.06	1280.53	417.43	0.2

Reach1	65586	0.2%_Proj	4331	350	361.92		362.04	0.001753	3.13	1798.34	763.12	0.2
Reach1	64938	10%_Cur	1821	349.8	358.37		358.4	0.000529	1.42	1288.8	384.56	0.12
Reach1	64938	2%_Cur	2608	349.8	359.59		359.62	0.000415	1.48	1832.64	491	0.11
Reach1	64938	1%_Cur	3049	349.8	360.18		360.22	0.000368	1.49	2142.63	606.23	0.11
Reach1	64938	0.2%_Cur	3937	349.8	361.33		361.36	0.000286	1.47	3044.62	1081.47	0.1
Reach1	64938	10%_Proj	2003	349.8	358.66		358.7	0.0005	1.44	1406.43	404.29	0.12
Reach1	64938	2%_Proj	2869	349.8	359.94		359.98	0.000384	1.48	2010.23	512.91	0.11
Reach1	64938	1%_Proj	3354	349.8	360.61		360.64	0.000367	1.56	2423.07	707.26	0.11
Reach1	64938	0.2%_Proj	4331	349.8	361.61		361.64	0.000294	1.53	3374.39	1275.53	0.1
Reach1	64710	10%_Cur	1821	346.1	358.28		358.32	0.000241	1.55	1274.43	503.42	0.13
Reach1	64710	2%_Cur	2608	346.1	359.53		359.56	0.000188	1.56	2122.68	854.76	0.12
Reach1	64710	1%_Cur	3049	346.1	360.14		360.16	0.000156	1.51	2676.89	988.68	0.11
Reach1	64710	0.2%_Cur	3937	346.1	361.3		361.32	0.000106	1.38	3937.15	1138.39	0.09
Reach1	64710	10%_Proj	2003	346.1	358.59		358.62	0.000229	1.57	1438.86	585.28	0.13
Reach1	64710	2%_Proj	2869	346.1	359.89		359.92	0.000169	1.54	2443.37	920.51	0.11
Reach1	64710	1%_Proj	3354	346.1	360.57		360.59	0.000134	1.45	3128.69	1087.24	0.1
Reach1	64710	0.2%_Proj	4331	346.1	361.58		361.6	0.000107	1.41	4264.31	1177.26	0.09
Reach1	64701	10%_Cur	1821	346.1	358.28	354.93	358.32	0.000418	1.55	1222.56	425.67	0.13
Reach1	64701	2%_Cur	2608	346.1	359.53	355.45	359.56	0.000299	1.55	1982.67	754.93	0.12
Reach1	64701	1%_Cur	3049	346.1	360.13	355.62	360.16	0.000251	1.52	2511.12	983.91	0.11
Reach1	64701	0.2%_Cur	3937	346.1	361.29	355.94	361.32	0.000156	1.35	3766.82	1125.51	0.09
Reach1	64701	10%_Proj	2003	346.1	358.58	355.16	358.62	0.00039	1.57	1359.76	514.31	0.13
Reach1	64701	2%_Proj	2869	346.1	359.89	355.56	359.92	0.000277	1.56	2276.81	916.29	0.11
Reach1	64701	1%_Proj	3354	346.1	360.57	355.74	360.59	0.000208	1.45	2960.33	1086.46	0.1
Reach1	64701	0.2%_Proj	4331	346.1	361.58	356.07	361.6	0.000154	1.37	4088.47	1165.27	0.09
Reach1	64695.5	Bridge	Bridge									
Reach1	64690	10%_Cur	1821	345.3	358.25	353.86	358.29	0.000457	1.61	1162.96	381.84	0.14
Reach1	64690	2%_Cur	2608	345.3	359.5	355.5	359.54	0.000336	1.64	1829.01	662.27	0.12
Reach1	64690	1%_Cur	3049	345.3	360.11	355.67	360.15	0.000286	1.62	2297.66	905.09	0.12
Reach1	64690	0.2%_Cur	3937	345.3	361.28	355.98	361.31	0.000184	1.46	3534.24	1109.2	0.1
Reach1	64690	10%_Proj	2003	345.3	358.56	355.23	358.6	0.000429	1.63	1281.91	428.47	0.13
Reach1	64690	2%_Proj	2869	345.3	359.87	355.61	359.9	0.000305	1.63	2087.41	801.69	0.12
Reach1	64690	1%_Proj	3354	345.3	360.55	355.79	360.58	0.000252	1.59	2729.64	1073.17	0.11
Reach1	64690	0.2%_Proj	4331	345.3	361.57	356.11	361.59	0.000178	1.47	3850.56	1120.96	0.09
Reach1	64681	10%_Cur	1821	345.3	358.25		358.29	0.00051	1.66	1131.61	307.71	0.14
Reach1	64681	2%_Cur	2608	345.3	359.49		359.54	0.000385	1.72	1705.92	630.02	0.13

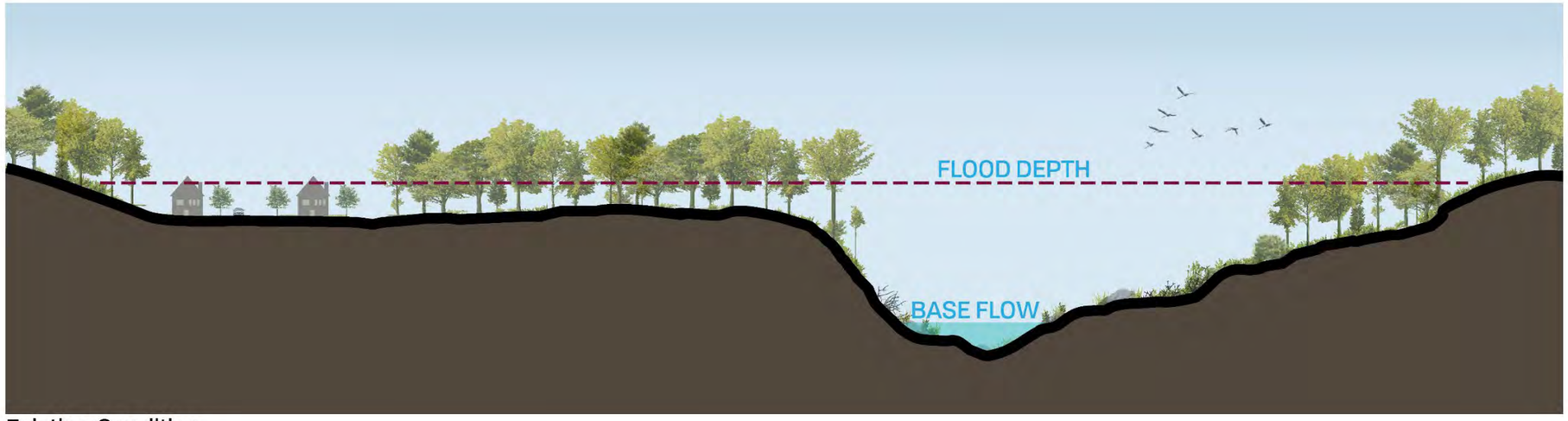
Reach1	64681	1%_Cur	3049	345.3	360.1	360.14	0.000325	1.69	2151.33	820.77	0.12
Reach1	64681	0.2%_Cur	3937	345.3	361.28	361.3	0.000217	1.56	3325.64	1096.93	0.1
Reach1	64681	10%_Proj	2003	345.3	358.55	358.59	0.00048	1.69	1239.2	395.71	0.14
Reach1	64681	2%_Proj	2869	345.3	359.86	359.9	0.000349	1.71	1957.13	754.27	0.13
Reach1	64681	1%_Proj	3354	345.3	360.54	360.58	0.000287	1.67	2539.71	955.68	0.12
Reach1	64681	0.2%_Proj	4331	345.3	361.56	361.59	0.000208	1.57	3639.05	1108.59	0.1
Reach1	64344	10%_Cur	1821	349.6	358.06	358.11	0.000538	1.76	1087.7	294.04	0.15
Reach1	64344	2%_Cur	2608	349.6	359.33	359.39	0.00051	1.89	1491.94	343.43	0.14
Reach1	64344	1%_Cur	3049	349.6	359.95	360.01	0.000511	1.98	1735.07	457.04	0.14
Reach1	64344	0.2%_Cur	3937	349.6	361.15	361.2	0.000418	1.95	2472.6	841.1	0.13
Reach1	64344	10%_Proj	2003	349.6	358.37	358.42	0.000534	1.8	1179.79	304.51	0.15
Reach1	64344	2%_Proj	2869	349.6	359.7	359.76	0.000505	1.94	1626.59	405.1	0.14
Reach1	64344	1%_Proj	3354	349.6	360.4	360.45	0.000475	1.98	1955.47	544.24	0.13
Reach1	64344	0.2%_Proj	4331	349.6	361.43	361.49	0.000434	2.03	2715.93	884.32	0.13
Reach1	64064	10%_Cur	1821	350.6	357.77	357.88	0.001339	2.89	918.95	266.16	0.22
Reach1	64064	2%_Cur	2608	350.6	359.04	359.16	0.001316	3.19	1325.62	411.13	0.22
Reach1	64064	1%_Cur	3049	350.6	359.68	359.79	0.001168	3.15	1603.93	463.72	0.21
Reach1	64064	0.2%_Cur	3937	350.6	360.96	361.04	0.000802	2.85	2501.92	1126.85	0.17
Reach1	64064	10%_Proj	2003	350.6	358.08	358.19	0.00133	2.96	1002.97	280.66	0.22
Reach1	64064	2%_Proj	2869	350.6	359.43	359.54	0.001226	3.17	1488.61	438.74	0.21
Reach1	64064	1%_Proj	3354	350.6	360.15	360.25	0.001041	3.08	1853.71	668.43	0.2
Reach1	64064	0.2%_Proj	4331	350.6	361.26	361.33	0.000751	2.81	2860.5	1302.67	0.17
Reach1	63963	10%_Cur	1821	350.2	357.66	357.78	0.000645	3.11	903.03	264.74	0.23
Reach1	63963	2%_Cur	2608	350.2	358.93	359.07	0.000608	3.42	1279.41	330.82	0.23
Reach1	63963	1%_Cur	3049	350.2	359.55	359.7	0.000593	3.57	1496.96	383.69	0.23
Reach1	63963	0.2%_Cur	3937	350.2	360.83	360.97	0.000493	3.59	2252.55	1028.46	0.21
Reach1	63963	10%_Proj	2003	350.2	357.96	358.09	0.000638	3.2	986.36	277.36	0.23
Reach1	63963	2%_Proj	2869	350.2	359.3	359.45	0.000598	3.51	1407.35	349.82	0.23
Reach1	63963	1%_Proj	3354	350.2	360.02	360.17	0.000565	3.62	1699.27	455.81	0.23
Reach1	63963	0.2%_Proj	4331	350.2	361.12	361.26	0.000485	3.64	2585.19	1259.98	0.21
Reach1	63952	10%_Cur	1821	350.2	357.42	354.73	357.72	0.001365	4.39	415.11	237.54	0.34
Reach1	63952	2%_Cur	2608	350.2	358.86	355.41	359.05	0.000789	3.88	1111.96	327.64	0.26
Reach1	63952	1%_Cur	3049	350.2	359.52	355.76	359.69	0.000695	3.86	1440.26	366.62	0.25
Reach1	63952	0.2%_Cur	3937	350.2	360.81	356.44	360.96	0.000548	3.8	2200.5	1025.76	0.23
Reach1	63952	10%_Proj	2003	350.2	357.91	354.9	358.08	0.000822	3.6	884.59	275.67	0.26
Reach1	63952	2%_Proj	2869	350.2	359.27	355.62	359.44	0.000701	3.8	1350.94	350.23	0.25
Reach1	63952	1%_Proj	3354	350.2	359.99	356	360.16	0.000638	3.85	1642.87	460.1	0.24
Reach1	63952	0.2%_Proj	4331	350.2	361.1	356.71	361.25	0.000534	3.84	2533.33	1247.01	0.23

Reach1	63946	Bridge	Bridge									
Reach1	63940	10%_Cur	1821	350.3	357.22	354.64	357.42	0.001168	3.92	729.93	235.28	0.3
Reach1	63940	2%_Cur	2608	350.3	358.3	355.38	358.53	0.001145	4.34	1048.19	290.96	0.3
Reach1	63940	1%_Cur	3049	350.3	358.86	355.75	359.11	0.001123	4.53	1222.78	325.97	0.3
Reach1	63940	0.2%_Cur	3937	350.3	360.51	356.5	360.71	0.000754	4.23	1933.13	746.86	0.25
Reach1	63940	10%_Proj	2003	350.3	357.47	354.82	357.68	0.001183	4.06	784.99	242.96	0.3
Reach1	63940	2%_Proj	2869	350.3	358.63	355.6	358.87	0.001135	4.46	1148.77	311.11	0.3
Reach1	63940	1%_Proj	3354	350.3	359.39	356.01	359.62	0.001019	4.51	1402.08	358.11	0.29
Reach1	63940	0.2%_Proj	4331	350.3	360.94	356.58	361.12	0.000694	4.18	2350.49	1121.79	0.25
Reach1	63930	10%_Cur	1821	350.3	357.23		357.38	0.000904	3.44	836.02	257.93	0.27
Reach1	63930	2%_Cur	2608	350.3	358.31		358.49	0.000924	3.88	1129.26	292.75	0.28
Reach1	63930	1%_Cur	3049	350.3	358.87		359.07	0.00092	4.07	1303.46	328.75	0.28
Reach1	63930	0.2%_Cur	3937	350.3	360.52		360.68	0.000629	3.82	1996.7	736.66	0.23
Reach1	63930	10%_Proj	2003	350.3	357.49		357.65	0.00091	3.55	903.37	262.97	0.27
Reach1	63930	2%_Proj	2869	350.3	358.64		358.84	0.000923	3.99	1229.54	309.25	0.28
Reach1	63930	1%_Proj	3354	350.3	359.4		359.59	0.000831	4.04	1483.62	356.11	0.26
Reach1	63930	0.2%_Proj	4331	350.3	360.95		361.1	0.000587	3.81	2409.41	1120.32	0.23
Reach1	63845	10%_Cur	1821	347.4	357.11		357.3	0.000981	3.83	842.92	291.22	0.28
Reach1	63845	2%_Cur	2608	347.4	358.2		358.41	0.001055	4.25	1202.94	373.73	0.28
Reach1	63845	1%_Cur	3049	347.4	358.78		358.99	0.001029	4.35	1435.46	425.53	0.28
Reach1	63845	0.2%_Cur	3937	347.4	360.49		360.62	0.00062	3.71	2389.71	897.84	0.21
Reach1	63845	10%_Proj	2003	347.4	357.37		357.56	0.00101	3.95	920.02	309.31	0.28
Reach1	63845	2%_Proj	2869	347.4	358.54		358.75	0.001048	4.33	1335.51	401.78	0.28
Reach1	63845	1%_Proj	3354	347.4	359.33		359.52	0.000894	4.18	1684.28	479.26	0.26
Reach1	63845	0.2%_Proj	4331	347.4	360.93		361.04	0.000552	3.58	2867.47	1271.1	0.2
Reach1	63280	10%_Cur	1821	346.7	356.72		356.79	0.000743	2.39	1128.33	462.33	0.17
Reach1	63280	2%_Cur	2608	346.7	357.89		357.94	0.000552	2.31	1726.48	558.75	0.15
Reach1	63280	1%_Cur	3049	346.7	358.53		358.58	0.000454	2.22	2096.6	601.77	0.14
Reach1	63280	0.2%_Cur	3937	346.7	360.36		360.39	0.000231	1.82	3446.46	1095.17	0.1
Reach1	63280	10%_Proj	2003	346.7	356.99		357.06	0.000705	2.4	1256.67	485.8	0.17
Reach1	63280	2%_Proj	2869	346.7	358.26		358.32	0.000493	2.26	1940.46	583.78	0.14
Reach1	63280	1%_Proj	3354	346.7	359.13		359.18	0.000355	2.06	2476.15	650.35	0.12
Reach1	63280	0.2%_Proj	4331	346.7	360.81		360.84	0.00021	1.78	4022.93	1422.57	0.1
Reach1	62671	10%_Cur	1821	346.4	356.34		356.4	0.000541	2.5	1357.84	379.07	0.19
Reach1	62671	2%_Cur	2608	346.4	357.55		357.62	0.000516	2.69	1839.02	418.86	0.19
Reach1	62671	1%_Cur	3049	346.4	358.21		358.28	0.000492	2.75	2126.55	444.46	0.18

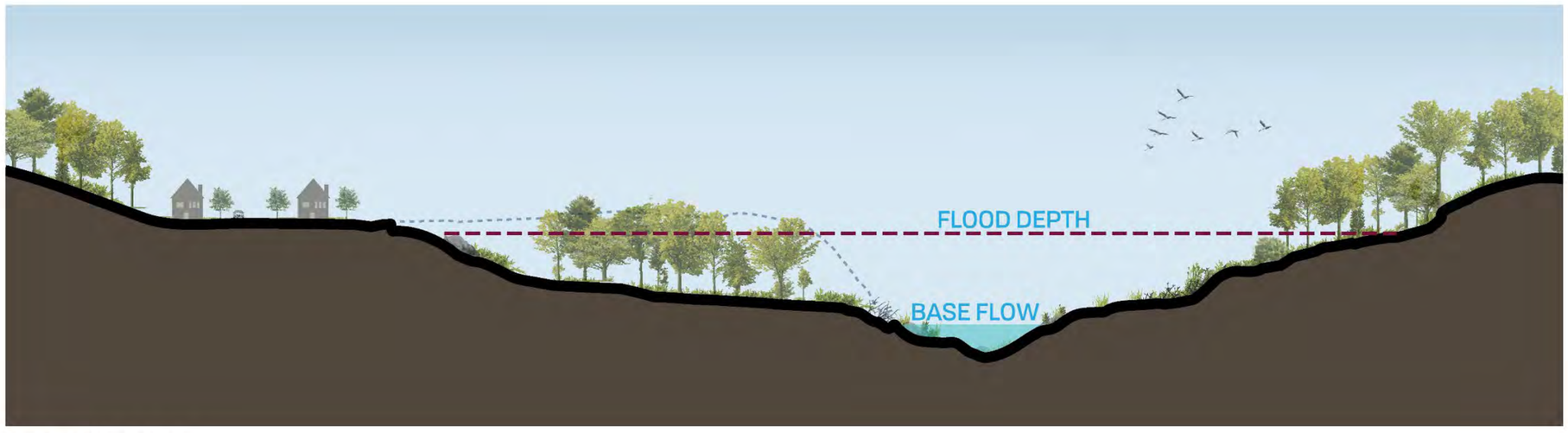
Reach1	62671	0.2%_Cur	3937	346.4	360.13	360.2	0.000414	2.85	3451.54	1170.59	0.17
Reach1	62671	10%_Proj	2003	346.4	356.61	356.68	0.00054	2.56	1464.12	386.43	0.19
Reach1	62671	2%_Proj	2869	346.4	357.94	358.01	0.000504	2.73	2005.3	434	0.19
Reach1	62671	1%_Proj	3354	346.4	358.86	358.93	0.000449	2.75	2427.81	492.65	0.18
Reach1	62671	0.2%_Proj	4331	346.4	360.61	360.67	0.00036	2.74	4102.01	1590.98	0.16
Reach1	61788	10%_Cur	1850	347.7	355.72	355.75	0.001103	1.38	1424.76	384.43	0.12
Reach1	61788	2%_Cur	2650	347.7	357.01	357.04	0.000877	1.47	1934.91	405.99	0.11
Reach1	61788	1%_Cur	3100	347.7	357.72	357.75	0.000779	1.5	2227.13	417.51	0.11
Reach1	61788	0.2%_Cur	4000	347.7	359.78	359.81	0.000484	1.43	3454.76	1315.67	0.09
Reach1	61788	10%_Proj	2035	347.7	356.01	356.04	0.001053	1.41	1537.72	389.65	0.12
Reach1	61788	2%_Proj	2915	347.7	357.43	357.46	0.000819	1.49	2104.62	412.72	0.11
Reach1	61788	1%_Proj	3410	347.7	358.43	358.46	0.000658	1.49	2527.77	448.28	0.1
Reach1	61788	0.2%_Proj	4400	347.7	360.31	360.33	0.000409	1.37	4238.48	1609.74	0.08
Reach1	61059	10%_Cur	1850	348.8	355.14	355.19	0.000568	1.75	1114.46	266.43	0.14
Reach1	61059	2%_Cur	2650	348.8	356.5	356.55	0.000536	1.92	1491.26	297.18	0.14
Reach1	61059	1%_Cur	3100	348.8	357.24	357.3	0.000507	1.99	1725.95	330.33	0.13
Reach1	61059	0.2%_Cur	4000	348.8	359.53	359.56	0.000254	1.65	3194.26	950.44	0.1
Reach1	61059	10%_Proj	2035	348.8	355.44	355.49	0.00057	1.8	1195.18	271.44	0.14
Reach1	61059	2%_Proj	2915	348.8	356.93	356.99	0.000521	1.97	1624.97	317.13	0.14
Reach1	61059	1%_Proj	3410	348.8	358.03	358.08	0.000423	1.93	2024.38	550.21	0.12
Reach1	61059	0.2%_Proj	4400	348.8	360.1	360.13	0.000218	1.58	3768.54	1092.95	0.09
Reach1	60659	10%_Cur	1850	348.93	354.96	354.98	0.000432	1.22	1833.05	535.89	0.11
Reach1	60659	2%_Cur	2650	348.93	356.35	356.37	0.000332	1.24	2594.92	561.48	0.1
Reach1	60659	1%_Cur	3100	348.93	357.12	357.14	0.000291	1.24	3030.55	578.01	0.09
Reach1	60659	0.2%_Cur	4000	348.93	359.47	359.48	0.000147	1.06	4840.92	1081.17	0.06
Reach1	60659	10%_Proj	2035	348.93	355.27	355.29	0.00041	1.23	1998.36	540.7	0.11
Reach1	60659	2%_Proj	2915	348.93	356.8	356.82	0.000308	1.24	2846.96	570.96	0.09
Reach1	60659	1%_Proj	3410	348.93	357.93	357.95	0.000237	1.2	3546.24	692.52	0.08
Reach1	60659	0.2%_Proj	4400	348.93	360.04	360.05	0.000131	1.04	5531.44	1259.91	0.06
Reach1	60262	10%_Cur	1850	345.5	354.77	354.82	0.000356	1.85	1109.31	272.25	0.14
Reach1	60262	2%_Cur	2650	345.5	356.17	356.23	0.000353	2.01	1548.76	344.57	0.14
Reach1	60262	1%_Cur	3100	345.5	356.95	357.01	0.000332	2.04	1827.51	373	0.13
Reach1	60262	0.2%_Cur	4000	345.5	359.37	359.41	0.000191	1.76	3100.21	823.72	0.1
Reach1	60262	10%_Proj	2035	345.5	355.07	355.13	0.000366	1.91	1195.27	290.95	0.14
Reach1	60262	2%_Proj	2915	345.5	356.62	356.68	0.000343	2.03	1708.14	361.04	0.13
Reach1	60262	1%_Proj	3410	345.5	357.79	357.84	0.000275	1.95	2154.64	413.81	0.12
Reach1	60262	0.2%_Proj	4400	345.5	359.96	359.99	0.00017	1.71	3627.02	1046.69	0.09

Reach1	59756	10%_Cur	1850	346.6	354.47		354.52	0.001139	2.17	1087.99	299.53	0.16
Reach1	59756	2%_Cur	2650	346.6	355.91		355.97	0.000818	2.15	1547.8	337.12	0.14
Reach1	59756	1%_Cur	3100	346.6	356.72		356.77	0.000689	2.12	1830.54	369.94	0.13
Reach1	59756	0.2%_Cur	4000	346.6	359.26		359.29	0.000293	1.67	3132.65	751	0.09
Reach1	59756	10%_Proj	2035	346.6	354.78		354.83	0.001079	2.19	1181.64	307.18	0.16
Reach1	59756	2%_Proj	2915	346.6	356.38		356.44	0.000739	2.13	1709.06	352.47	0.14
Reach1	59756	1%_Proj	3410	346.6	357.6		357.65	0.000528	2	2186.4	456.58	0.12
Reach1	59756	0.2%_Proj	4400	346.6	359.86		359.88	0.000251	1.61	3627.87	867.35	0.09
Reach1	59164	10%_Cur	1850	337.8	354.22		354.25	0.000253	1.43	1718.37	376.75	0.08
Reach1	59164	2%_Cur	2650	337.8	355.7		355.73	0.000249	1.55	2300.91	415.41	0.08
Reach1	59164	1%_Cur	3100	337.8	356.53		356.56	0.000233	1.57	2654.63	437.88	0.08
Reach1	59164	0.2%_Cur	4000	337.8	359.16		359.18	0.000142	1.39	4016.7	686.36	0.06
Reach1	59164	10%_Proj	2035	337.8	354.53		354.56	0.000261	1.48	1835.52	383.71	0.08
Reach1	59164	2%_Proj	2915	337.8	356.18		356.21	0.000241	1.57	2504.15	429.12	0.08
Reach1	59164	1%_Proj	3410	337.8	357.45		357.48	0.000192	1.5	3072.85	480.01	0.07
Reach1	59164	0.2%_Proj	4400	337.8	359.77		359.78	0.000132	1.38	4454.73	739.55	0.06
Reach1	58414	10%_Cur	1850	346.3	353.91		353.93	0.000935	1.22	1627.67	457.63	0.11
Reach1	58414	2%_Cur	2650	346.3	355.44		355.46	0.000615	1.23	2364.3	501.45	0.09
Reach1	58414	1%_Cur	3100	346.3	356.3		356.32	0.000498	1.22	2803.15	517.9	0.08
Reach1	58414	0.2%_Cur	4000	346.3	359.04		359.05	0.000221	1.03	4338.46	620.06	0.06
Reach1	58414	10%_Proj	2035	346.3	354.22		354.24	0.000871	1.24	1771.25	465.65	0.1
Reach1	58414	2%_Proj	2915	346.3	355.94		355.96	0.000544	1.22	2617.11	510.99	0.09
Reach1	58414	1%_Proj	3410	346.3	357.28		357.29	0.000361	1.14	3319.29	540.75	0.07
Reach1	58414	0.2%_Proj	4400	346.3	359.66		359.67	0.000207	1.04	4731.71	655.44	0.06
Reach1	57798	10%_Cur	1850	343.3	353.43		353.46	0.000738	1.44	1443.44	450.77	0.11
Reach1	57798	2%_Cur	2650	343.3	355.19		355.21	0.000337	1.18	2381.41	642.55	0.08
Reach1	57798	1%_Cur	3100	343.3	356.12		356.14	0.000231	1.06	2995.76	674.58	0.07
Reach1	57798	0.2%_Cur	4000	343.3	358.97		358.98	0.000078	0.76	5026.86	764.62	0.04
Reach1	57798	10%_Proj	2035	343.3	353.79		353.82	0.000636	1.4	1610.85	470.61	0.1
Reach1	57798	2%_Proj	2915	343.3	355.73		355.75	0.00027	1.11	2735.98	665.8	0.07
Reach1	57798	1%_Proj	3410	343.3	357.16		357.17	0.000143	0.91	3707.34	696.03	0.05
Reach1	57798	0.2%_Proj	4400	343.3	359.59		359.6	0.000072	0.75	5510.46	786.47	0.04
Reach1	57733	10%_Cur	1850	345.8	353.24	349.78	353.38	0.000592	3.09	660.53	671.51	0.24
Reach1	57733	2%_Cur	2650	345.8	354.99	350.71	355.14	0.000456	3.22	913.49	722.55	0.21
Reach1	57733	1%_Cur	3100	345.8	355.92	351.04	356.07	0.00041	3.3	1046.59	738.74	0.21
Reach1	57733	0.2%_Cur	4000	345.8	358.97	351.59	358.98	0.000036	1.2	6042.16	823.27	0.06
Reach1	57733	10%_Proj	2035	345.8	353.6	350.01	353.74	0.000573	3.16	712.32	684.64	0.24
Reach1	57733	2%_Proj	2915	345.8	355.53	350.91	355.69	0.000429	3.27	991.07	732.48	0.21

Reach1	57733	1%_Proj	3410	345.8	356.97	351.24	357.12	0.000324	3.17	1198.73	757.03	0.19
Reach1	57733	0.2%_Proj	4400	345.8	359.59	351.8	359.6	0.000035	1.21	6562.46	844.47	0.06
Reach1	57679.5	Bridge	Bridge									
Reach1	57622	10%_Cur	1850	345.7	352.96	349.67	353.16	0.000797	3.66	530.58	678.53	0.27
Reach1	57622	2%_Cur	2650	345.7	354.42	350.45	354.67	0.000757	4.09	684.75	718.53	0.27
Reach1	57622	1%_Cur	3100	345.7	355.09	350.79	355.37	0.000768	4.35	754.48	759.49	0.28
Reach1	57622	0.2%_Cur	4000	345.7	357.71	351.46	357.72	0.000047	1.29	5585.38	823.63	0.07
Reach1	57622	10%_Proj	2035	345.7	353.29	349.86	353.51	0.000795	3.78	565.95	686.34	0.28
Reach1	57622	2%_Proj	2915	345.7	354.81	350.66	355.08	0.000766	4.25	725.81	748.04	0.28
Reach1	57622	1%_Proj	3410	345.7	355.92	351.04	356.2	0.00066	4.29	842.3	783.16	0.26
Reach1	57622	0.2%_Proj	4400	345.7	358.85	351.71	358.87	0.000036	1.2	6543.49	856.4	0.06
Reach1	57551	10%_Cur	1850	342.2	353.05		353.07	0.000365	1.43	1909.26	562.73	0.1
Reach1	57551	2%_Cur	2650	342.2	354.56		354.58	0.000227	1.31	2791.81	606.03	0.08
Reach1	57551	1%_Cur	3100	342.2	355.25		355.26	0.000199	1.3	3215.86	628.51	0.08
Reach1	57551	0.2%_Cur	4000	342.2	357.71		357.72	0.000094	1.06	4924.27	756.48	0.06
Reach1	57551	10%_Proj	2035	342.2	353.4		353.41	0.000325	1.4	2107.11	572.44	0.1
Reach1	57551	2%_Proj	2915	342.2	354.96		354.98	0.00021	1.3	3039.83	618.29	0.08
Reach1	57551	1%_Proj	3410	342.2	356.08		356.1	0.000153	1.22	3759.14	676.43	0.07
Reach1	57551	0.2%_Proj	4400	342.2	358.85		358.86	0.000065	0.95	5793.38	762.55	0.05
Reach1	56819	10%_Cur	1850	343.7	352.6	348.51	352.71	0.000692	2.65	783.95	215.17	0.21
Reach1	56819	2%_Cur	2650	343.7	354.2	349.75	354.31	0.000631	2.76	1152.44	245.6	0.19
Reach1	56819	1%_Cur	3100	343.7	354.9	350.11	355.02	0.000631	2.87	1329	258.88	0.19
Reach1	56819	0.2%_Cur	4000	343.7	357.5	350.6	357.59	0.000387	2.56	2318.88	680.33	0.14
Reach1	56819	10%_Proj	2035	343.7	352.97	348.72	353.08	0.000685	2.69	864.85	222.15	0.2
Reach1	56819	2%_Proj	2915	343.7	354.61	349.96	354.73	0.000633	2.83	1255.29	253.42	0.19
Reach1	56819	1%_Proj	3410	343.7	355.8	350.29	355.9	0.000528	2.75	1568.88	278.63	0.17
Reach1	56819	0.2%_Proj	4400	343.7	358.7	350.81	358.77	0.000287	2.33	3306.81	912.09	0.12

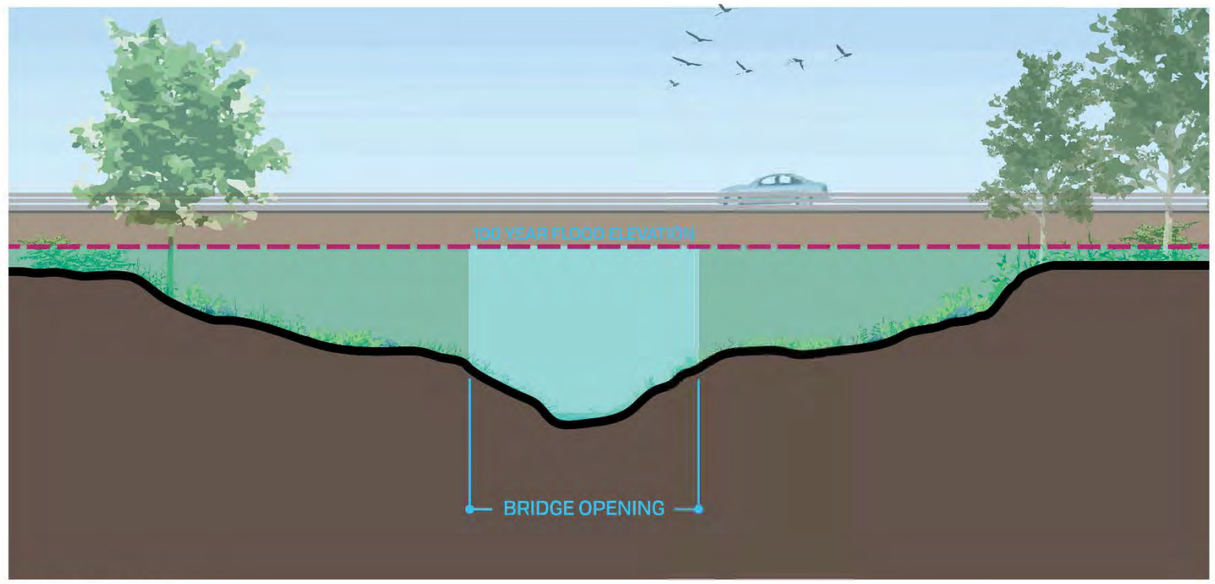


Existing Condition



Future Condition

FLOODPLAIN BENCH



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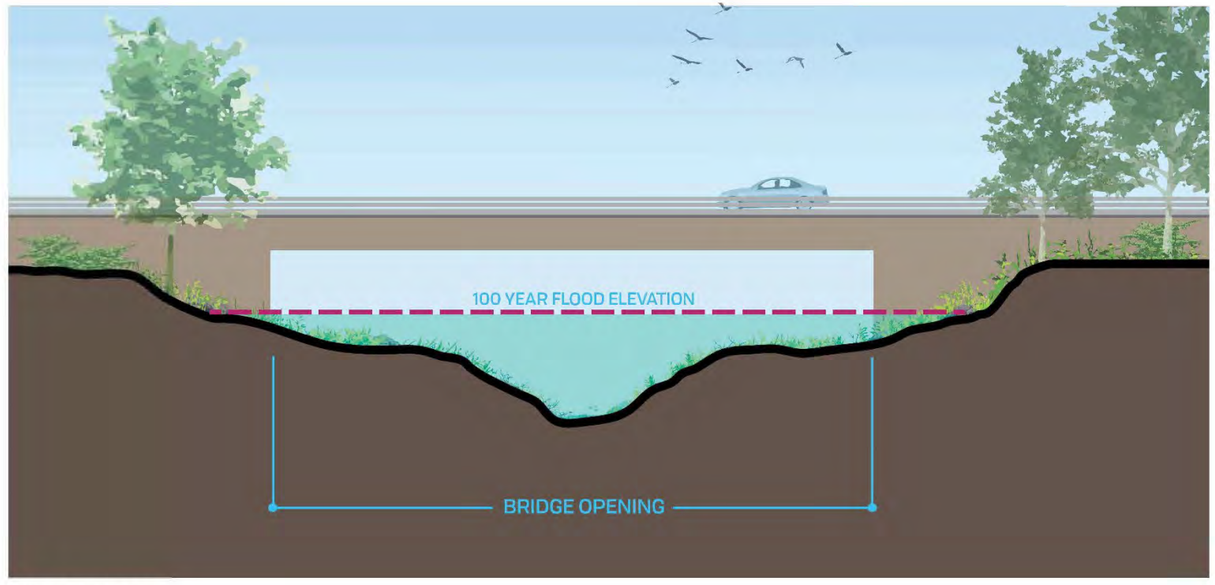
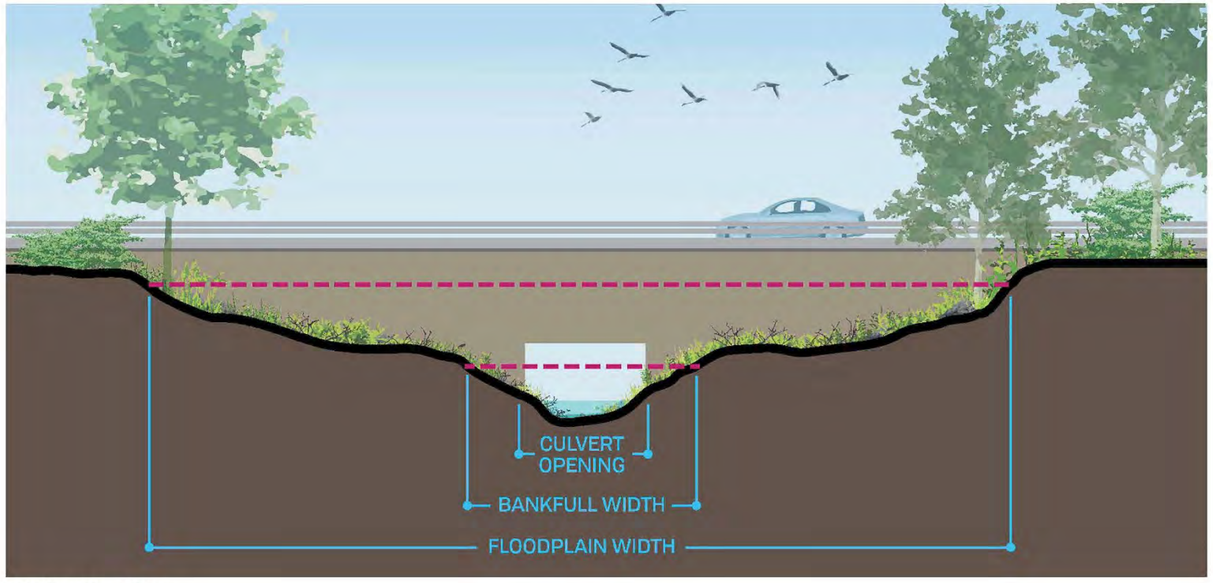


Future Condition

EXPANDED BRIDGE OPENING



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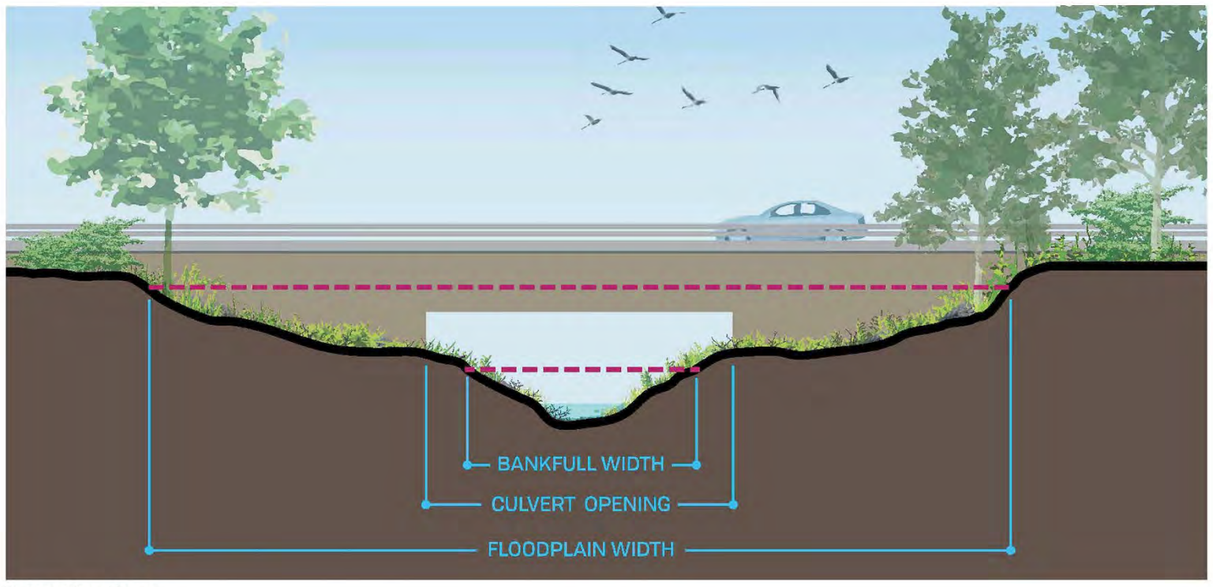
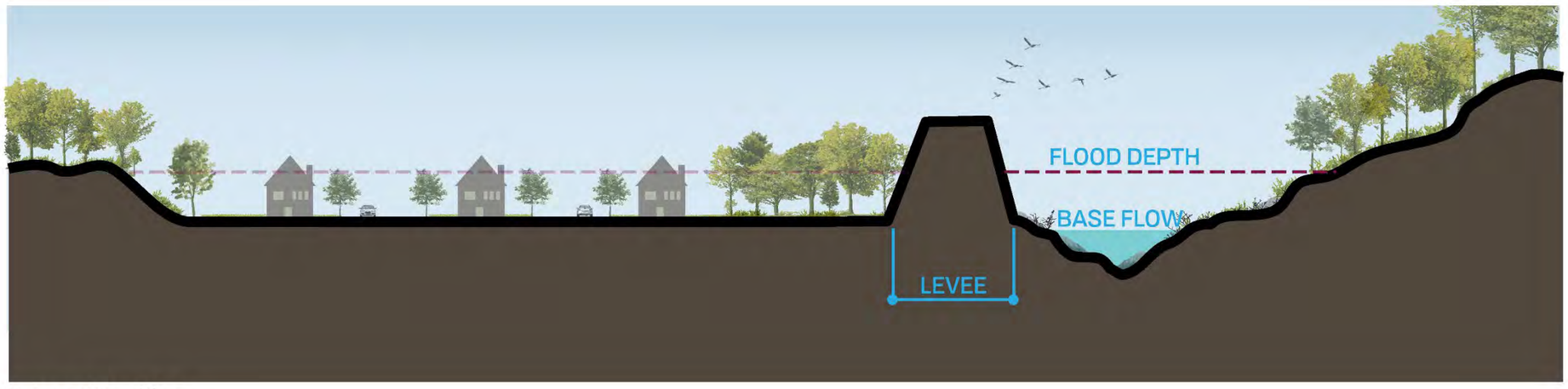


Future Condition

EXPANDED CULVERT OPENING

Existing Condition



Future Condition

PROTECTIVE LEVEE

Appendix G. Ice-Jam Mitigation Strategies

Ice Jam Flooding Mitigation Strategies

There are several widely accepted and practiced standards for ice jam controls to mitigate the ice jam related flooding. These are referred to as ice jam mitigation strategies and each strategy is very much site dependent. A strategy that works for a certain reach of a river wouldn't work for another reach in the same river due to river morphology and hydrodynamics. Therefore, each of these strategies need to be analyzed with numerical modeling and simulations to check if they work for a considered area/reach of a river before implementing or recommending with the previous observational experience alone. The standard strategies that are widely accepted and practiced in cold region engineering are:

- Ice booms
- Ice breaking using explosives
- Ice breaking using ice-breaker ferries and cutters
- Installing inflatable dams (Obermeyer spillways)
- Mixing heated effluent to the cold water
- Removal of bridge piers or heated bridge piers or heated riverbank dikes
- Ice retention structures
- Ice forecasting systems and ice management

Ice Booms

Ice booms are the most widely used ice jam control strategy to control ice movement and minimizes surface ice transport. They can be both permanent and temporary structures depending on the emergency measure in high-risk situations. They mainly consist of a series of timber beams or pontoons connected and strung across a river. Once the ice disappears, the booms can be removed if needed and transported elsewhere for storage during the summer months. Ice booms are flexible and can be designed to release ice gradually when overloaded. They can be a relatively cost-effective intervention and can be placed seasonally to reduce potential negative environmental impacts. Ice booms can also be deployed relatively rapidly, rendering them effective as an emergency response measure.

However, the removal of ice booms can be costly since the components of each boom must be disconnected, cleaned, transported and stored until their next deployment. Ice booms can also be ineffective given that ice jams have the potential to circumvent the booms by moving underneath them. Ice booms do not suit all river environments and require low river flow velocity and adequate upstream ice storage capacity.

Ice Breaking Using Explosives

Thermally grown ice is relatively easy to break up by blasting, while frazil ice is more difficult because it absorbs much of the blast energy. Ice blasting using dynamite is being widely used in rivers where very thick ice jams are formed. It is a very efficient method that can be performed within minutes. It is easily transported to remote locations and does not require any maintenance. Holes are drilled in the ice and dynamite is inserted to blow the ice apart. The most effective results can be achieved by placing the charges underneath the ice surface.

Using dynamite to clear ice can, however, be harmful to the environment. It is also a dangerous method to employ with potentially fatal consequences. Dynamite is not a sustainable solution and can require

multiple treatments during extreme cold. It also requires the containment of large areas, which might have to be repeated several times.

Ice Breaking using Ice-Breaker Ferries and Cutters

Ice breakers are specialized vessels designed to break ice jams in wide rivers. They represent a non-structural ice jam mitigation method that is used internationally, in lakes, wide rivers, and oceans. Ice breakers are generally operated when temperatures start to rise, before it reaches the peak cold. They are most suitable for ice sheet breaking (juxtaposed type ice jams), as there are limitations for the ice thickness that they are capable of breaking.

Cutting thick ice covers can also mechanically weaken the ice jams and help relive the internal pressure of an ice-covered channel due to the thick ice cover. A thick ice cover increases the resistance to flow and slowdown the discharge under the ice covers and increase the backwater effects upstream. By cutting the ice cover this pressure can be relieved and the backwater effects can be minimized to reduce upstream flooding potentials. This can also help to control the ice jam breakup and control large ice pieces release from the break-up.

Ice breakers can typically break thick ice covers of up to three to ten feet. Ice breakers have proven to be effective tools for breaking up ice cover on rivers. There are multiple types of ice breakers and, being a mobile solution, they can be flexibly targeted at areas with the most need. Operating ice breakers requires a highly skilled command and crew and are not suitable in all environments. Transporting ice breakers is also relatively difficult, making it a time-consuming and potentially cost-intensive solution.

Installing Inflatable Dams (Obermeyer Spillways)

Removing permanent run-of-river low head dams that are prone to ice jams and replacing them with floatable dams can be a good solution for flow control for all seasons. Since the crest elevation can altered, they allow for a control release of incoming ice, allowing it to spillover without jamming. Also, in case of a sudden freeze-up jam that lead to an overnight thick jam can also be broken by frequent or oscillatory movement of lowering and raising the crest to break or weaken the ice jam. Obermeyer Spillway gates are recommended in areas where it is more prone to ice accumulation and flow control is still essential during all seasons.

Obermeyer Spillway Gates consist of a row of steel gate panels installed either at the top of dams or as free-standing structures. The system utilizes a combination of metal flap-gate panels supported by multiple small inflatable “bladders” that adjust the panels’ angle and elevation. By controlling the pressure in the bladders, the water flow can be infinitely adjusted within the system control range. Panels can also be designed to include heated abutment plates to prevent ice formation.

Mixing Heated Effluent to the Cold Water

The release of warm water waves into a river from a nearby treatment plants or additions of heated water mixing can help mitigate ice jam formations where the above mentioned alternatives won’t work. Provided that the effluent is added to the river prior to ice jam formation, the additional water volume can increase the river flow velocities and prevent ice jam creation in the first place. The wastewater can also be used for the thermal control of ice, as the released warm water can melt or thin ice jams.

Removal of Bridge Piers or Heated Bridge Piers or Heated Riverbank Dikes

Bridge piers are a hotspot for capturing surface and suspended frazil ice. When surface ice floes are adhered to the bridge piers and abutments the lateral growth of ice rapidly increase thus snagging more ice on the surface creating an ice bridge across the river. When there are more piers across the river the potential of ice bridging between piers increase due to a series of small ice bridging between two piers can be rapidly form than between longer between the longer pier spans.

Removing bridge piers can lead to high cost construction projects with inconvenience to the daily traffic through the bridge and the structural integrity. Therefore, heated bridge piers can be a good alternative to the existing piers that are prone to more ice cohesion and that can lead to high cost of removing the piers. This will limit the ice adhesion to the bridge and pass through the surface and suspended ice without encouraging snagging, capturing and flocculation of surface ice at bridge piers avoiding the possible ice jams.

Also, the heating of piers can heat the surrounding water and mix with the ambient cold water that will lead to the melt existing surface and suspended ice in the water. This reduces any extra ice generation in the water column.

However, heating bridge piers involves carful installation of the wiring and maintenance of the heating elements and energy costs. More frequent inspections of the bridge piers are also needed since the temperature can affect the concrete composition or special treatment for the concrete is needed.

Ice Retention Structures

Ice retention structures are used to control ice jams by actively initiating jams in more suitable locations where they are less damaging. Ice is captured and retained upstream of residential areas.

Ice retention structures are cost-effective, installation methods are simple, however the design is highly customizable according to the site. A retention structure can be associated with a flood bench so that increased water levels due to ice accumulation can be compromised be allowing more storage in the flood bench. The retention structures don't increase the water level during normal flows.

However, the structures do require ongoing maintenance to remove debris. Channel bed scour is a concern for these structures, therefore, a scour analysis needed to perform in the vicinity of the structure to make sure the ice mitigation strategy will not adversely affect the normal river flow.

Ice Forecasting Systems and Ice Management

Visual monitoring of the ice formation, and ice cover progressions and water levels are good elements of monitoring the ice conditions of a river during the wintertime, but not sufficient to accurately predict the upstream back water effects or ice jam formations or ice jam break-ups. Ice condition and ice jam monitoring system is a useful tool for emergency ice management but limited in ice forecasting ability.

Ice long-term forecasting and short-term freeze-up and ice jam breakup predictions is a complicated process and challenging due to several reasons. Ice forecasting needs geomorphological, meteorological, coupled thermodynamics and hydrodynamics to identify the factors effecting an ice jam condition.

Therefore, an ice forecasting simulation will not be able to be carried out in a timely manner to help making emergency decisions. Therefore, a good forecasting system that will recommend an ice management plan would and customized ice monitoring strategy would be the most appropriate

alternative to follow. An annual ice jam simulation with that accounts for forecasted meteorological and hydrological conditions and simulated ice control strategy that is suitable for the upcoming winter can identify the flood prone areas and enable to calculate the associate risk beforehand. These annual studies can also suggest the type of monitoring that is needed in different reaches or areas. For example, if an area needed to visually monitor the ice formation and ice transport through webcams or need to perform a calculation procedure such as "Freezing-Degree-Day" (FDD) method to predict the thickness of an ice jam to break to make decision when to start breaking. This will help officials to manager the resources and order the equipment and staff available before an emergency occur.

Gomez and Sullivan suggests performing a freeze-up or a break-up ice simulation study before implementing or recommending any of the above discussed strategies. The basic data needs and steps involved in an ice simulation analysis is also outlined below.

Ice Forecasting Model Simulations

Freeze-up ice simulation is a complex simulation carried out to predict ice generation, movement and coagulation with the change of air temperature, water temperature and water flow over a period of time. Usually these simulations and carried out for a two to three-month time period. A calibration and validation is also needed to ensure accuracy. A freeze-up or ice jam simulation needs the following input data:

- Accurate river bathymetry created from LiDAR survey or hydro-corrected bathymetric data from the state agencies.
- Weather data such as air temperature, wind condition, cloud cover, snowfall and precipitation data.
- Flow conditions, from gauge data or measured data. (e.g. upstream discharge and downstream water level data).
- Ice conditions data, such as water temperature data, incoming ice concentration, and initial ice cover thickness or initial ice floe concertation's and ice floe thickness.
- Visual observation data that are useful to calibrate the model, such as ice cover leading edge propagation locations, water temperature and ice thickness measurements.

The results of such a simulation, when the results are in agreement with observational data, can lead to a better understanding of ice behavior and associated ice jam flooding in the simulated areas that will aid officials and emergency responders in developing better ice management plans.