



DEPARTMENT OF PUBLIC WORKS

10-YEAR STORMWATER MANAGEMENT PLAN

FISCAL YEARS 2020-2030

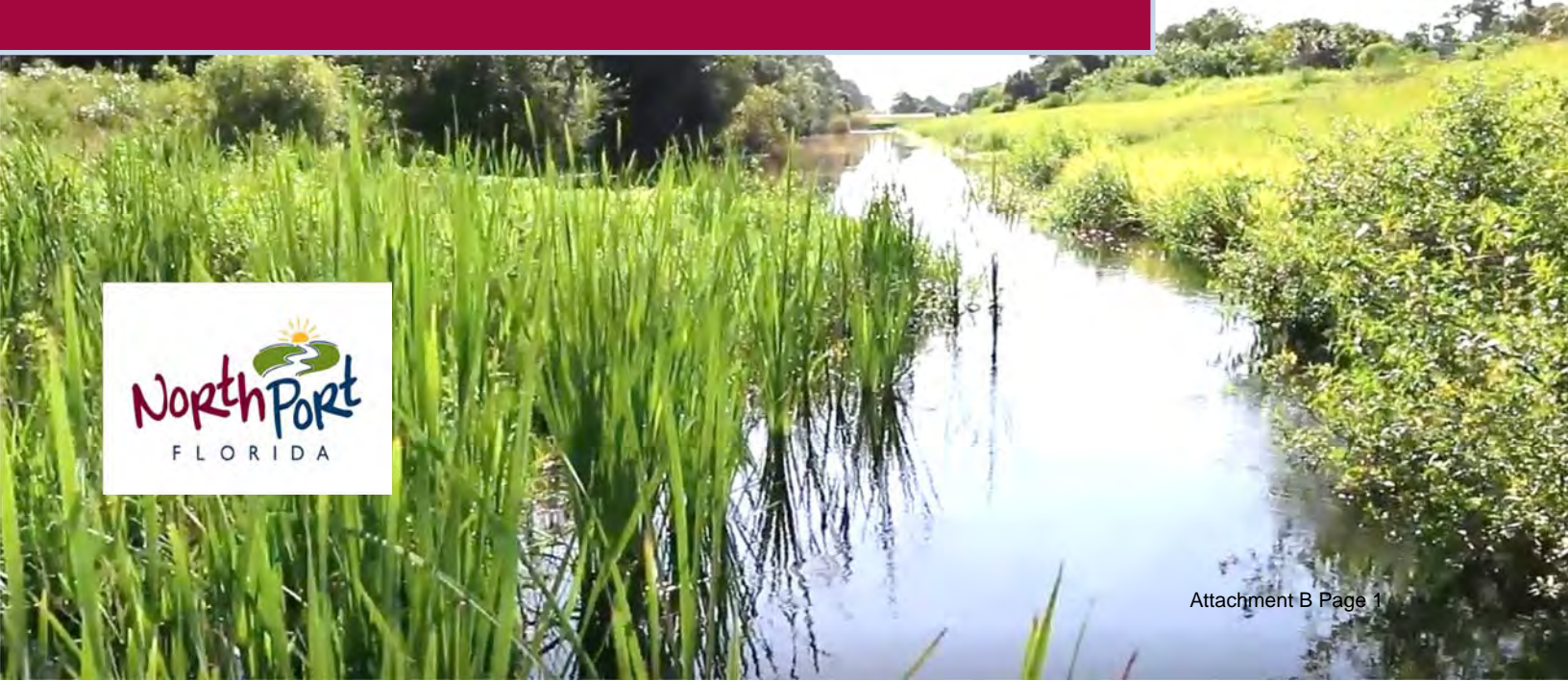


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1 | BACKGROUND



The Stormwater Management Plan (SMP) is North Port's blueprint for an effective drainage system.

The City of North Port was incorporated in 1959 with only 23 residents and has grown over the last 60 years to become a vibrant community with a population of more than 70,000. North Port has an incorporated area of approximately 104 square miles and is located in southeast Sarasota County.

North Port started as a planned community in the 1960's with an extensive stormwater infrastructure network constructed by General Development Corporation (GDC) consisting of 132 miles of manmade retention ditches, 1,613 miles of roadside swales and 79.1 miles of major wet waterways with 64 water control structures (WCS) and stormwater conveyance piping to support its residential, commercial and light industrial developments (See map, Attachment A).

This 10-year Stormwater Management Plan focuses on the maintenance, rehabilitation and replacement of stormwater infrastructure, with budget estimates on projects within a five-year window and plans for major construction projects in years five through ten.

The infrastructure components were constructed in the late 1960's to 1970's and are all about 50 to 60 years old, nearing the end of their useful life.

The WCS are either constructed as sheet metal weirs with horizontal and vertical metal I-beam supports, or drop structures designed with corrugated metal drop pipes. The metal components in the WCS have corroded over time. Of the 64 WCS, 28 are gated structures and several of these have inoperable sheet metal gates. The GDC-installed stormwater conveyance piping is mostly corrugated metal pipes and many are severely corroded and undersized. Collapsed, corroded metal pipes under roadways have resulted in road closures and extensive erosion.

These WCS and pipe failures have been increasing in frequency. Over time, silt has accumulated in the swale, retention ditch, waterway and creek systems which can cause back up of flood waters. The recently completed Federal Emergency Management Agency (FEMA) flood insurance rate maps showed a significant increase in the 100-year special flood hazard area.



2 | DRAINAGE SYSTEM

The City of North Port's drainage system protects property, preserves natural resources and improves the quality of surface water runoff.

The City of North Port's drainage system provides water quality treatment for stormwater runoff. The system consists of swales, outfalls, retention ditches, retention ponds, waterways and the Myakkahatchee Creek.

Figure 2-0 shows how the drainage system works by conveying stormwater from individual parcels into swales (1). Most of the swales in the City are open-swales with a few (mainly along major roads and in private communities) having closed, or curb-and-gutter swales.

From the swales, stormwater flows into outfalls (2) and then into retention ditches (3). In a few areas, the stormwater flows directly into retention ditches (R-ditches). From the R-ditches, stormwater flows into the waterways (4), and then into the Myakkahatchee Creek.

The drainage system is designed to hold water and slowly convey it through the different segments. The swales, outfalls, retention ditches and waterways provide needed holding time for pollutants to get filtered out of the water. In the rainy season, May-October, stormwater is generally always in each drainage system component.

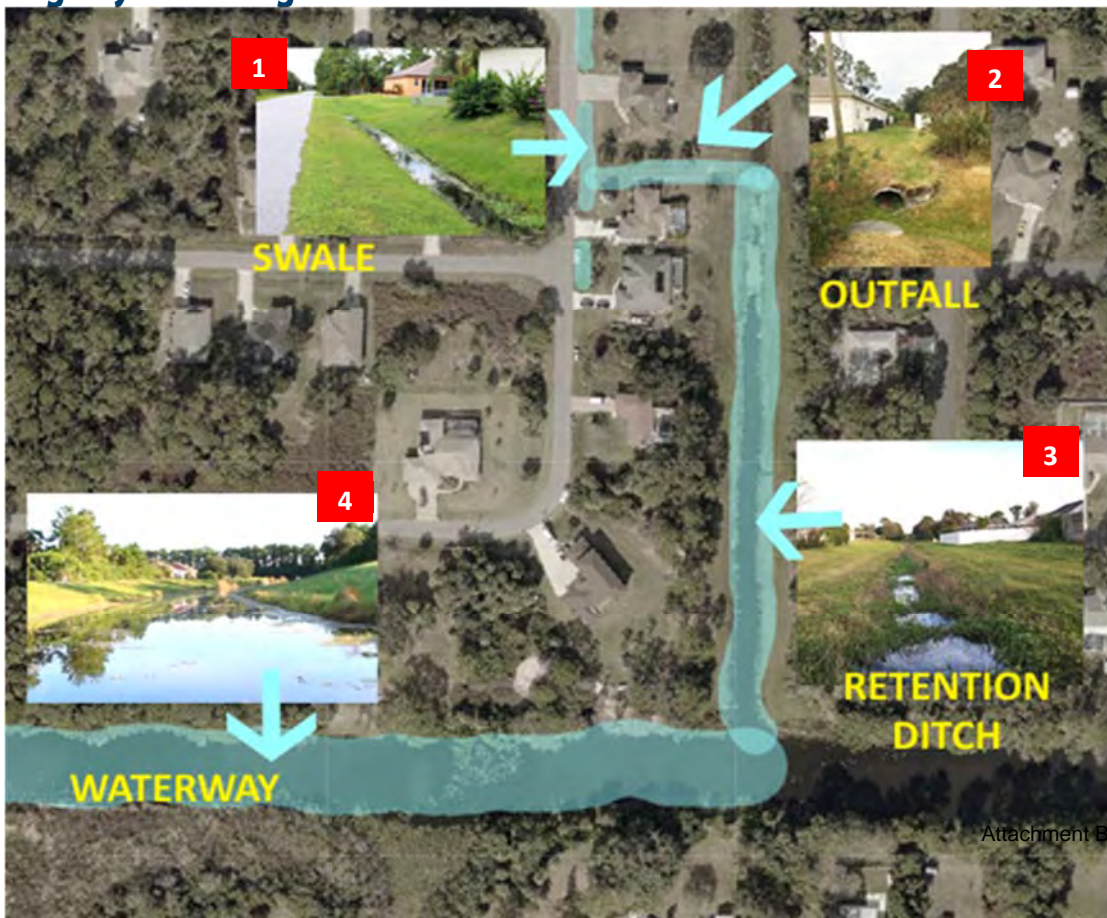
In addition to stormwater, the City's drainage system is affected by groundwater levels and high tides.

1,600+
Miles of
Swales

132
Miles of
R-ditches

79+
Miles of
Waterways

Figure 2-0
Drainage System Diagram



3 | WATER CONTROL STRUCTURES (WCS)

As major drainage system components, water control structures must be maintained.

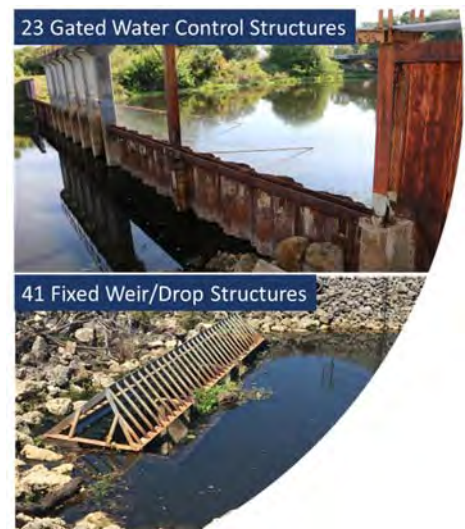
Develop and implement flood reduction and drainage improvement programs while continuing to balance the supply of potable water.

- City of North Port Strategic Plan Infrastructure Objective



The City's waterway system is designed to accommodate several needs: a source for potable water supply, water quality treatment, and stormwater conveyance and attenuation. The waterways form a grid pattern and are interconnected with each other and with the Myakkahatchee Creek.

There are 64 water control structures of which 23 are gated water control structures, five are gated drop structures, 28 are fixed weir (FW) structures, and eight are drop structures.



Water Level Control

The control elevations of these structures are designed so that water is retained in the waterways in a step-down-elevation-system configuration; meaning the water levels in the waterway segments between structures progressively decrease in elevation from north to south and from east to west (Figure 3-0).

This system configuration allows both retention of stormwater runoff for water quality treatment and storage for potable water use. The structures at the southern end of the system also act as a barrier between the tidal water bodies and the fresh water creek system. This allows the city to maintain a fresh water potable supply.

Figure 3-0
Water Control Structures and Waterway Elevations

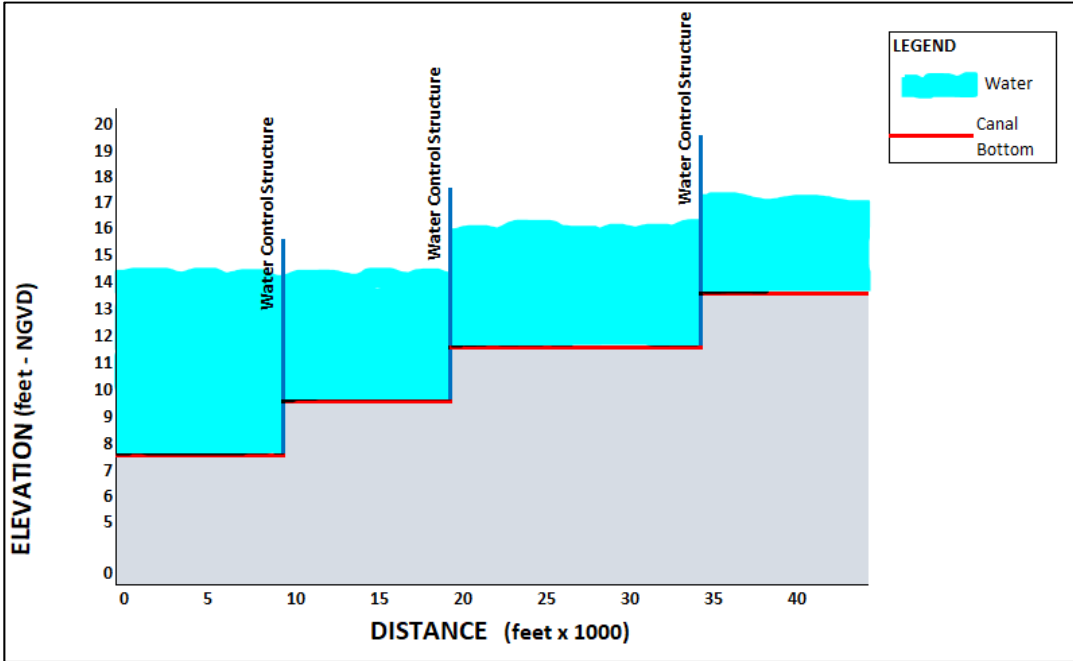


Figure 3-1
Water Control Structure Conditions

Condition

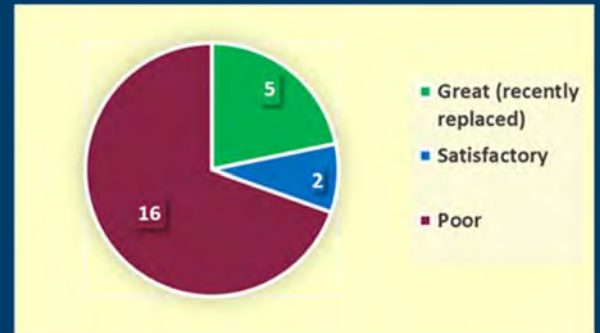
Age, function and structural integrity conditions vary between WCS's and many are in dire need of rehabilitation or complete replacement (Figure 3-1). Delays in the rehabilitation/replacement schedule increase the possibility and risk for a potential massive failure of the deteriorated structures; especially during a severe storm event. Water control structure failures could trigger other catastrophic mishaps such as downstream flooding and washout of roads and bridges.

WCS Condition Assessment

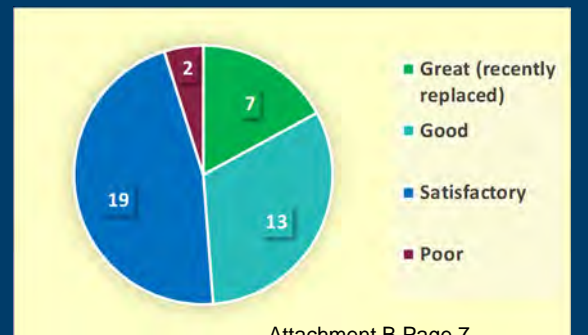
In 2010-2012, an engineering consultant was retained to inspect and evaluate 42 of the City's WCS's to determine structural integrity and functional significance. Of these structures, seven were found to be in overall good condition and require regular inspections and preventive maintenance. Of the remaining 35, 17 structures required complete rehabilitation, replacement or removal and 18 required some repair and maintenance.

The consultant provided a list of WCS priorities for repair or replacement along with cost estimates. Annually, staff updates the list, noting structures that have been repaired or replaced, revising priorities based on current inspection data, and formulating more accurate repair and replacement costs (Attachment B).

GATED WATER CONTROL STRUCTURES CONDITION



FIXED WIER AND DROP STRUCTURES CONDITION



WCS Replacement Plan

The priority for the replacement of the major WCS's is updated annually (Figure 3-2). Since 2006, 11 major WCS's have been completely replaced or rehabilitated, one is in construction, and one is being designed (Attachment C). The current Public Works plan is to annually design and permit one WCS replacement while constructing a previously designed and permitted WCS.

The rehabilitation of WCS 106 on the Cocoplum Waterway just west of North Port Boulevard is underway with completion expected in Spring of 2020. Design for WCS 108 on the Cocoplum Waterway west of Collingswood Boulevard is anticipated to be completed in Fall of 2020 and will be followed by construction budgeted for fiscal year 2021.

Beyond the 5-year budget projections shown, WCS 124, WCS 127, WCS 138, WCS 118, WCS 121 and WCS 125, are anticipated to be constructed in years 2025, 2026, 2027, 2028, 2029 and 2030 respectively. Budget amounts will be proposed when the structure is within the 5-year replacement window.

WCS Repair Plan

Preventative maintenance and minor repairs prolong the life of the WCS's and keep them in good working order. Minor repairs include repair or replacement of: gates, gate actuators, gate stems, gate tracks, tie backs, catwalk deck/railing, vertical and horizontal I-beams, weir sheet metal erosion, and adjacent bank erosion.

The WCS's that have not been replaced are at a vulnerable age when unforeseen component failures can occur. Due to the significant expense and time needed to design, permit and construct replacement WCS's, significant repairs may need to be done on a WCS that is scheduled to be replaced in the near future. Generally, components such as gates, actuators and stems that are in good condition can be salvaged and become spares for use in other failing WCS's.

Public Works Operations staff perform annual inspection of all structures and prioritize major and minor WCS repairs or replacements (Attachment B). Figure 3-3 reflects the fiscal year 2020 repair budget for WCS's.

Figure 3-2
5-year WCS Replacement Budget Plan

	2020	2021	2022	2023	2024
Design	WCS 108	WCS 113	WCS 114	FW 157	WCS 124
Costs	\$199,000	\$308,000	\$203,000	\$234,000	\$241,000
Construction	WCS 106	WCS 108	WCS 113	WCS 114	FW 157
Costs	\$2,500,000	\$2,480,000	\$3,850,000	\$2,540,000	\$2,920,000
	WCS 106	WCS 108	WCS 113	WCS 114	FW 157
Total Costs	2,668,000	\$2,679,000	\$4,158,000	\$2,743,000	\$3,154,000



Figure 3-3
Fiscal Year 2020 WCS Repair Budget Plan

Structure	Description	Budget Estimate
WCS 108	Repair holes in sheet piling	\$10,000
WCS 113	Repair holes in sheet piling, repair gate stem attachment points, evaluate for gate replacement	\$15,000-\$30,000
WCS 118	Replace #1 gate and track, evaluate for gate replacement	\$15,000-\$20,000
WCS 124	Replace #1 gate and track, evaluate for gate replacement	\$15,000-\$20,000
WCS 125	Replace actuator	\$20,000

Water Control Structure Locations

WCS 106	North Port Blvd and Cocoplum Waterway
WCS 108	Collingswood Blvd and Cocoplum Waterway
WCS 113	Snover Waterway and Myakkahatchee Creek
WCS 114	N Salford Blvd and Snover Waterway

WCS 118	Abbotsford St and Blueridge Waterway
WCS 124	Parade Terrace and Lagoon Waterway
WCS 125	Parkmount Terrace and Lagoon Waterway
FW 157	Panacea Blvd and Snover Waterway

4 | DRAINAGE PROGRAM

A proactive maintenance program has reduced emergency drainage repairs and their corresponding high costs

As mentioned, a considerable portion of the City's stormwater infrastructure was constructed in the late 1960's to 1970's and is in need of replacement. Much of the work done in the past has been reactive, many times due to collapsed pipes or frequent complaints. In fiscal year 2018, Public Works began taking a comprehensive, vigorous proactive approach to scheduling and budgeting for the maintenance, rehabilitation and replacement of the stormwater system. Outlined below are the drainage program elements.

Neighborhood Rehabilitation by Grid

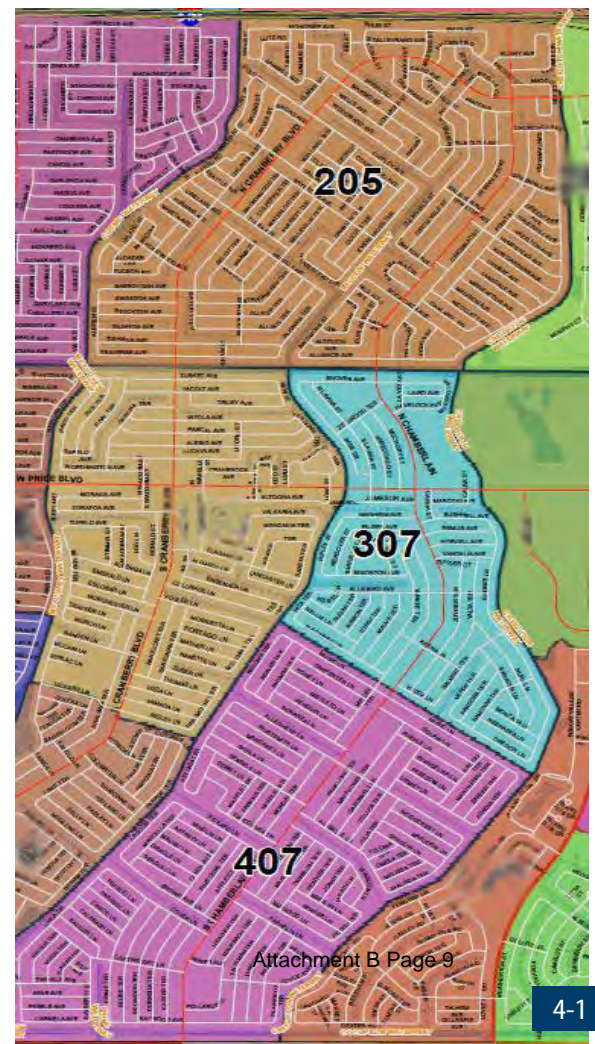
With many different components making up the stormwater drainage system, it is difficult to effectively maintain the system by continually operating in a reactive mode. Using a holistic approach to rehabilitate a neighborhood system of swales, road crossing pipes, outfalls and retention ditches better utilizes resources.

The Neighborhood Rehabilitation by Grid System prioritizes neighborhood stormwater systems improvements by: known flooding, impact on other infrastructure (roads, waterways, etc.), present condition of drainage system, residential density, and impact to community facilities (schools, parks, etc.). The grid system map can be seen in Attachment D.

Grid 205, one of the largest grids in the City, was completed in 2019. Grid 407 rehabilitation, which started in fiscal year 2019, is on schedule to be completed in fiscal year 2020. Grid 307 is scheduled to be rehabilitated in fiscal year 2020. The fiscal year 2020 budget of \$469,500 covers pipes, catch basins, asphalt, rip rap, concrete, sod, hydroseed and surveying.

Figure 4-0

Map of Grids 205, 307 and 407



The Drainage Program is divided into key elements of the City's stormwater infrastructure:

- Neighborhood Rehabilitation by Grid
- Road Crossing Pipe Replacement
- Outfall Replacement
- Retention Ditch Rehabilitation
- Targeted Projects

The 2020 Projects, described in detail on the following pages, were prioritized over other stormwater needs by factors such as known flooding, impact on other infrastructure, present condition of drainage system, residential density and impact to community facilities.





Corrugated steel pipe has an average lifespan of 10-35 years before perforation of the metal occurs.

Road Crossing Pipe Replacement

Road crossing pipes, also called culverts, convey water under the roadway between swales.

Over the past five years, Public Works has replaced over 1,200 corrugated metal road crossing pipes through the following planned and unplanned activities: The Road Bond Project, the Road Rehabilitation Program, annual Drainage Improvement Program and emergency road crossing pipe failures.

There are an estimated 1,338 corrugated metal pipes (CMP's) remaining in the road crossing drainage system. Of these, 1,140 have been divided into the following categories:

- 430 CMPs inspected during the Road Bond Project were estimated to have a life span of 7 years remaining and were not replaced. These road crossing pipes will be replaced through the annual road rehabilitation program as roads are repaved.
- 680 CMPs are in the undeveloped east side area of North Port and pose no significant flood threat to North Port citizens. These will be inspected and added to future road and drainage projects.
- 30 CMPs are estimated to be replaced during the fiscal year 2020 Road Rehabilitation project.

The remaining 198 corrugated metal pipes will be inspected during fiscal years 2020 and 2021. There are a few pipes larger than 36" that will need to be replaced by a contractor. The rest are 36" and smaller and replacement can be completed in-house with material costs estimated at \$550,000. This work is scheduled and budgeted to be completed over ten (10) years. The budget for fiscal year 2020 is \$114,200.





Figure 4-1
Fiscal Year 2020 Retention Ditch
Rehabilitation Schedule

R-DITCH ID	HYDROSEEDING COSTS
61	\$ 3,590
62	\$ 3,910
63	\$ 4,630
66	\$ 3,140

Outfall Replacement/Lining

Outfalls are located in the easement between two property parcels and connect neighborhood swale systems to retention ditches or waterways.

There are an estimated 1,200 outfalls throughout the City. If the parcels on each side of the outfall are developed, the outfall is most likely piped. Parcels that are undeveloped generally have open outfalls.

There are an estimated 300 outfalls throughout the City which are piped, with about 17% having corrugated metal pipes. As the pipes age and deteriorate, they need to be replaced. There are a few instances that due to the pipe location and proximity to homes, outbuildings and/or large trees, the metal pipe, if not too deteriorated, would be lined. In this process, a resin liner is inserted into the existing pipe and cured, creating a pipe-within-a-pipe. This extends the useful life of the pipe without excavation.

Inventorying of the outfall pipes will continue in fiscal year 2020. As part of the Drainage Project, four metal outfall pipes are scheduled to be replaced in fiscal year 2020 with a budget of \$126,000, and seven pipes are expected to be lined with a budget of \$100,000.

Also in fiscal year 2020, Public Works will continue assessing and identifying the outfall pipes needing pipes replaced or added. This information will be used to adequately budget for future rehabilitation.

Retention Ditch Rehabilitation

Stormwater flows from neighborhood swales through the outfalls, then many times into retention ditches prior to flowing into the City's waterway system.

Retention ditches, commonly called R-ditches, slow and store water after rain events and provide water quality benefits by reducing pollutants and sediment.

After time, retention ditches can accumulate sediment and develop slope erosion and must be rehabilitated to ensure they are working as designed. This work, completed by in-house staff, includes digging of retention ditches to the design specifications and reshaping the banks to aid in access and maintenance.

For the last couple of years, maintenance work on the main retention ditch bordering the north side of the City from the Myakkahatchee Creek to Price Boulevard, R-36, has been proceeding. This work will continue through fiscal year 2020. The retention ditches scheduled for rehabilitation in fiscal year 2020 and the costs of hydroseeding are reflected in Figure 4-1.



Tractor Crossing Pipe Replacement/ Installation

Outfalls convey and discharge stormwater into retention ditches or waterways. When the outfall is open (not piped), it is difficult to maintain the retention ditch or waterway as the mowing tractor must dip into and out of the outfall.

To make retention ditch and waterway maintenance safer and more efficient, a tractor crossing pipe is installed at the location where the tractor crosses the outfall. It is estimated there are 380 tractor crossing pipes throughout the City, with 70% of them having corrugated metal pipes. Over time, these metal pipes age and deteriorate and are in need of replacement.

In fiscal year 2020, Public Works will continue inventorying the tractor crossing pipes and assessing their condition to adequately budget for future replacement. Five metal tractor crossing pipes are scheduled to be replaced in fiscal year 2020 with a budget of \$23,200.

Focused Projects

Throughout the City, there are sections of the stormwater system that are failing. These sections, outside of the Grid Project, are evaluated and prioritized for budgeting and scheduled rehabilitation. Three areas: the seawall at Pan American Boulevard and Jeffrey Avenue; Talbot Street outfall; and piping at Talbrook Road and Mayland Street, have been identified for rehabilitation in fiscal year 2020 and budgeted at \$798,800.

2019 Deming Avenue Project before and after



Figure 4-2
Fiscal Year 2020 Focused Projects
with Budget

FY2020 PROJECTS	BUDGET
PanAm/Jeffrey Seawall	\$353,200
Talbot Street Outfall	\$60,700
Talbrook/Mayland Piping	\$384,900

5 | RESPONSIVE IMPROVEMENTS

With a significant portion of the stormwater infrastructure more than 60 years old, deterioration to the point of failure will occur.

While a comprehensive stormwater management program plans for maintenance, repair and replacement, situations arise where action outside of the scheduled program is needed. These include pipe failures, swale regrading, waterway erosion and such. Public Works will continue to evaluate, prioritize and budget for each situation requiring improvement.

Culvert failures on Orlando Boulevard, Richbriar Drive and Sawyer Circle
Budget: \$317,350



Sardinia full front piping and sidewalk project
Budget: \$70,265.40



Kenwood Drive culvert failure repair
Budget: \$94,867



6 | LEVEL OF SERVICE AND MAINTENANCE

Frequently of stormwater maintenance services is set in the Level of Service and reflected in the budget.

Enhancing the System

When setting a level of service, a combination of parameters is taken into consideration: system needs, budget constraints, customer desires, and environmental impacts.

Having an open swale type of stormwater system means that after a rain event, stormwater will be stored in the City's swales, outfalls, retention ditches and waterways. Stormwater will slowly migrate through the system to maximize water treatment by filtration. Thus, controlling the movement of stormwater, as opposed to absence of stormwater in swales, is the target service.

Stormwater system maintenance is pivotal and has been set to optimize resources. Recently, assessment fee charges were re-aligned to the benefit received by properties throughout the City.

Right-of-Way Mowing Services

Mowing of right-of-way swales, outfalls, retention ditches and ponds is necessary for improved stormwater drainage flow capabilities. The mowing is completed not for aesthetic purposes, but to maintain the hydraulic function of the stormwater drainage network. A suitable level of service that corresponds to annual assessment fees has been set and is reflected below in Figure 6-0.

Aquatic Spraying Services

Spraying aquatic weeds is necessary to maintain water quality, reduce impediment of water flow, and limit the deposition of sediment. Public Works utilizes only federally-approved herbicides and the City of North Port holds a permit for their use issued by Florida Fish and Wildlife Conservation Commission. Staff carefully monitors for effectiveness of spraying, and only conducts spraying under calm weather conditions. Record keeping of herbicide use and application is documented.



Swale and Ditch Capacity and Flow Improvements

At a minimum, swales and retention ditches are inspected for elevation changes and impediments every eight years and rehabilitated as necessary. In addition, swales in the Grid Project are rehabilitated and culverts cleaned out, as are swales identified by residents as possible concerns and verified by staff as needing restoration.

**Figure 6-0
Drainage Level of Service**

SERVICE DELIVERY	LEVEL OF SERVICE
RIGHT-OF-WAY MOWING	
Arterial and collector roads	8 times per year
Local roads	6 times per year
Retention ponds and ditches	6 times per year
AQUATIC SPRAYING OF WATERWAYS	3 times per year
SWALE AND DITCH CAPACITY AND FLOW IMPROVEMENTS	Every 8 years
CANAL CAPACITY AND FLOW IMPROVEMENTS	Every 15 years



Canal Capacity and Flow Improvements

Clearing vegetative overgrowth is necessary for proper stormwater conveyance. Canal maintenance dredging is conducted to restore original design depths. Outside of the set service level, issues impeding canal function are addressed as soon as possible.

Lake, Pond and Creek Maintenance

Another essential part of the stormwater management plan is maintenance of the City's lakes, ponds and creek. This includes clearing dense vegetation for proper water flow, removal of debris such as rocks, trees and garbage that has fallen into the waterways, maintaining clear access, and removing sand bars.

Drainage System Inspections

Routine inspections of all City stormwater system components are conducted and any issues resolved. In addition, locations prone to localized flooding and areas where debris, dumped items, and vandalism have been known to create problems are inspected frequently.

Clearing obstructions in the Myakkahatchee Creek is essential to proper water flow which reduces stagnation and the proliferation of algae.



7 | FLOOD REDUCTION STUDIES

Reducing the frequency and severity of flooding in North Port is a high priority and studying potential system solutions helps plan for success.

Big Slough Flood Reduction Study

Public Works has been working with a consultant to complete the Big Slough Flood Reduction Study, cooperatively funded with the Southwest Florida Water Management District (SWFWMD). The consultant conducted stormwater studies and evaluated feasible, cost effective solutions to achieve the tasks listed below. The project is in the permitting stage now and anticipated to be complete in fiscal year 2020.

Reduce Flooding in the Following Localized Areas (study cooperatively funded with SWFWMD):

- Area near the Myakkahatchee Creek just north and south of interstate I-75 (Attachment E). Consultant's work indicated there are no simple local solutions to reduce the flooding in this area and recommends regional solutions.
- Jockey Club area west of the Myakkahatchee Creek (Attachment E). Since the City has resolved flooding issues within the Jockey Club area through pipe replacement and installation of plastic swale liners, the consultant was asked to redirect efforts to the Dorothy Avenue/ Bullard Street area which had flooding as recent as the 2017 Hurricane Irma. Consultant proposed improvements to the conveyance retention ditch system in this area.

Reduce Regional Flooding (study funded by the City):

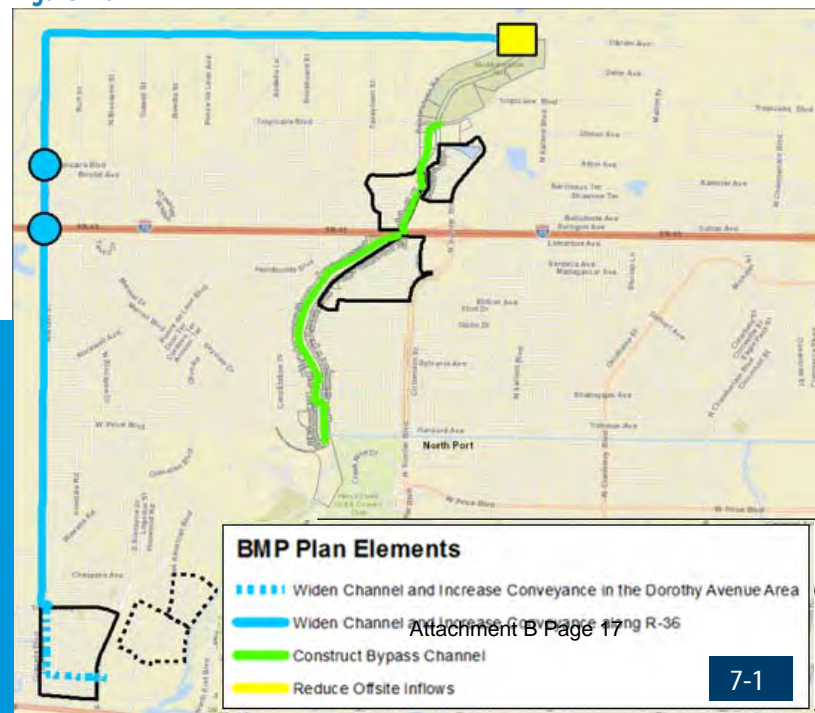
After several flood reduction alternatives were evaluated and presented to the City Commission, the following recommendations were approved as phased components:

- Improve existing retention ditch/conveyance system and upsize road crossing culverts in the Dorothy Avenue area.
- Increase conveyance capacity through widening and upsizing pipe culverts in the R-36 retention ditch/conveyance system that runs along the northern and western boundary of the City.
- Restrict/reduce high flow into the Myakkahatchee Creek near the north City boundary. (Subsequent feedback from Sarasota County and SWFWMD has deemed this option not viable.)
- Construct a new bypass canal parallel to the Myakkahatchee Creek within a portion of the City's Tier I lots that are located north of Price Boulevard. This will not proceed without conducting extensive historical and archaeological environmental research.

Costs

Study costs for the localized areas were covered 50% by a SWFWMD grant. Evaluating reduced regional flooding reduction was funded by the City. Implementation costs will be budgeted in future years.

Figure 7-0



Application for Conceptual Approval from SWFWMD of a Statewide Environmental Resource Permit for the Big Slough Flood Reduction Plan has been submitted.



Attachments



Attachment B

2019 Water Control Structures NPDES Inspection

Metal, Gates, Pipes and Risers: 1 = No Corrosion, 2 = Surface Rust, 3 = Some Rot, 4 = Major Corrosion Overall: 1 = Good, 2 = Fair, 3 = Poor, 4 = Bad
 Concrete: 1 = Good, 2 = Few chips/cracks, 3 = Some Spalling, 4 = Major Chips/Cracks Deterioration Bank Condition: 1 = Good, 2 = Fair, 3 = Poor, 4 = Bad
 Structure Location: Replaced or Rehabilitated = 0, Structure located in undeveloped areas (1), east of Toledo Blade (2), west of Toledo Blade (3), developed areas Snover & Cocoplum (4)

Structure #	Waterway	Date	Metal			Gates				Pipes	Risers	Concrete		Bank Condition	Overall	Structure Location	Replacement Priority Score	Other Observations in 2019	Previous Repairs Completed	Major Replacement CIP Project		Minor Repairs Needed by Contractor		In-House Work Needed				Inspector			
			Sheet Piling	I-Beams	Catwalk	# of Gates	Gate	Hardware	Operational (yes, no, list#)			Columns	Cap							Description	Priority	Description	Priority	Description	Priority	Work Order/Invoice No.	Completion Date				
WCS 101	Myakkahatchee	1/30/19	1	1	1	6	1	1	All Yes			1	1	1	1	0	0	5/9/14 - Completed replacement of existing structure with new structure, two additional gates for a total of 6 gates, gate automation and telemetry 9/5/18 - Repaired telemetry malfunction, replace part no. NL120 CSI Ethernet Interface			Gate 2 leaking oil. Sand building up on high side, 101 backside.	High							John K and Ken Smith		
WCS 106	Cocoplum	1/30/19	1	1	1	6	1	1	All Yes			4	4	2	4	4	16	Gate 6 opens up half way and jams into track. Same way as putting it down, gate goes up crooked both ways.	Replacement under construction April 2019 to 2020											John K and Ken Smith	
WCS 107	Cocoplum	1/30/19	1	1	1	6	1	1	All Yes			1	1	1	1	0	0	Jan 2011 - Retrofitted with concrete weir wall, 6 new stainless steel gates, concrete spillway and large revetment.											John K and Ken Smith		
WCS 108	Cocoplum	1/30/19	3.5	2.5	1	6	1.5	1.5	All Yes			4		2.5	3.5	3.5	12.25	4/2011 - Replaced 3 Gates Nos. 1, 2 and 5 9/7/12 - Replace corroded horizontal I-beams and corroded sections of vertical I-beams, and repair holes in sheet metal pile. 12/17/15 - Replaced 3 more Gates (including the existing electric gate). Use an existing actuator (from the old WCS 101). Needed two new left hand threaded rods, fabricate 3 new gates #3, 4, and 6 and tracks, minor concrete and sheet pile repair. 1/30/19 PO #047665 - Fixed catwalk grate rusted through in one location.	Design FY2020, Construction FY2021.	1	Repair holes in sheet piling both sides of structure at water level. Big chunk of concrete missing in 6th column 30" down. Catwalk grate rusted through in one location.	High	Repair small erosion on NW bank and large erosion under slab on south side. Remove island downstream ~25'x100' (WxL)								John K and Ken Smith
WCS 109	Cocoplum	1/30/19	1	1	2	6	1	1	All Yes			1	1	1	1	0	0	12/17/2015											John K and Ken Smith		
WCS 110	Cocoplum	1/30/19	3	3	1	6	2.5	2.5	All Yes			1.5		2	3	2	6	Very rusted sheet pilings and I-beams.	1/30/19 PO #047665 Fixed top bars in gate frames very corroded, one hole behind I-beam					Repair large erosion under south downstream concrete side bank					John K and Ken Smith		
WCS 111	Cocoplum	1/30/19	2.5	2	1	4	3	3	All Yes			1.5		4	3	2	6	Vertical I-beams slightly corroded at waterline. Structure was repaired before, new horizontal I-beams and catwalk. Small chips off concrete column. Gates are very corroded.	9/12/12 - Replaced corroded horizontal I-beam and corroded sections of vertical support for "cat walk" 1/30/19 PO #047665 - Fixed top bars in gate frames that was corroded					Repair wash out low side of structure					John K and Ken Smith		
WCS 113	Snover	1/30/19	3	1	2	4	2	2	All Yes			3		3	3	4	12	7/28/14 - Repaired erosion below existing concrete slab on the northwest side of WCS No. 113 by injecting flowable fill (cementitious grout) to fill all voids	CIP WCS Replacement Project - Design FY2021, Construction FY2022.	2	Sheet piling both ends holes needs patch. 3rd column concrete busting out, can see the rebar inside the concrete. All stems on gates are rotten out. S. vertical I-beam has large hole.	High	S. downstream concrete bank cracked and large erosion.						John K and Ken Smith		
WCS 114	Snover	1/30/19	3	2	2	4	1	1	All Yes			3		1	3	3.5	10.5	Concrete pitted and one column concrete corner broken. Sheet piling very corroded at the top.	5/12 - Replaced all 4 gates with new steel gates epoxy coated, replace all gate supports, gate slide frameworks, both horizontal I-beams and replaced corroded section of vertical I-beams, rebuilt corroded sections of all 4 lift rods 9/30/15 - Troubleshoot why gates nos. 1 and 2 not opening easily, replace corroded or bent sections of lift rods as needed; if needed, remove and replace 1 gear box with existing gear box at the public works facility; remove corroded first 14 feet long sections of two-strand horizontal and vertical catwalk railing(both sides of railing) and weld on new galvanized steel two-strand horizontal and vertical railing and paint. 12/2016 - Repaired damage to gate, tracks and gear 1/30/19 Fixed PO #047665 - Fixed hole in S. side sheet piling. Repaired Gate #2 as it does not close all the way down, need to physically hammer gate down	CIP WCS Replacement Project - Design FY2022, Construction FY2023.	3								John K and Ken Smith		
WCS 115	Snover	1/30/19	1	1	1	1	1	1				1	1	1	1	1	1	New structure constructed 2018	8/31/18 - Completed replacement of existing structure with new structure, 4 automated gates with remote telemetry control										John K and Ken Smith		

Attachment B

2019 Water Control Structures NPDES Inspection

Metal, Gates, Pipes and Risers: 1 = No Corrosion, 2 = Surface Rust, 3 = Some Rot, 4 = Major Corrosion Overall: 1 = Good, 2 = Fair, 3 = Poor, 4 = Bad
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 Structure Location: Replaced or Rehabilitated = 0, Structure located in undeveloped areas (1), east of Toledo Blade (2), west of Toledo Blade (3), developed areas Snover & Cocoplum (4)

Structure #	Waterway	Date	Metal			Gates				Pipes	Risers	Concrete		Bank Condition	Overall	Structure Location	Replacement Priority Score	Other Observations in 2019	Previous Repairs Completed	Major Replacement CIP Project		Minor Repairs Needed by Contractor		In-House Work Needed				Inspector					
			Sheet Piling	I-Beams	Catwalk	# of Gates	Gate	Hardware	Operational (yes, no, list#)			Columns	Cap							Description	Priority	Description	Priority	Description	Priority	Work Order/Invoice No.	Completion Date						
WCS 117	Blueridge	1/30/19	2	2	1	2	2	2	2	Yes			1	1	1	3	3													John K and Ken Smith			
WCS 118	Blueridge	1/30/19	2	4	1	2	2	2	2	Yes			1	1	3	3	9	9/12/13 - Replace corroded sections of horizontal and vertical railing 6/4/18 - Replaced I Beam, inspect gear box, clean rod, maintain tracks, maintain gate 1/30/19 PO #047588 - Replaced both horizontal I-beam webs that had holes. Repaired tracks for Gate #2 as it does not close all the way down. Maintained gear box and rod.															John K and Ken Smith
WCS 121	MacCaughy	1/30/19	2	4	2	4	3	3		1&4 Yes, 2&4 (electric) No			2	4	2	2	3	6	Concrete cap on weir structure											John K and Ken Smith			
WCS 124	Lagoon	1/30/19	2	1	1.5	4	2	2		2, 3, 4 Yes, 1 No			2		3	2	3	6	6/13/12 - Remove gate sill bottoms as these are corroded and prevent gate from closing and replace angles welded to gate bottoms 11/6/15 - Replace track guide systems for 3 gates and change anchors in track guide systems; clean and lubricate all 3 lift rods for gates; for all 3 tie rods, weld new equivalent 3 ft sections; replace 3 ft corroded sections of weir vertical I-beams at both side banks and encase new sections of I-beam in concrete; repair hole in sheet piling, install 3 new gates. 1/30/19 PO #047665 - Repaired holes in east side sheet piling and repaired vertical I-Beam. Retrofit surplus actuator in place of non-working actuator	CIP WCS Replacement Project - Design FY2024, Construction FY2025.	5												John K and Ken Smith
WCS 125	Lagoon	1/30/19	2	1	1	4	2	2		1, 4 Yes, 2, 4 (electric) No			2		2	2	3	6	6/13/12 - Remove gate sill bottoms as these are corroded and prevent gate from closing and replace angles welded to gate bottoms											John K and Ken Smith			
WCS 127	Creighton	1/30/19	2.5	1	2	2	2	2		All Yes			2		2	2	3	6	1/30/19 PO#047665 - Repaired hole in Vertical I-beams and repaired hole in sheet piling by support bar	CIP WCS Replacement Project - Design FY2025, Construction FY2026.	6									John K and Ken Smith			
WCS 128	Creighton	1/30/19	2.5	1.5	1	1	3	2		All Yes			2	1	2.5	3	7.5	West vertical I-beam and sheet piling corroded but no holes.	9/14/12 - Replace corroded horizontal cap and corroded sections of vertical I-beams											John K and Ken Smith			
WCS 130	Bass Point	1/30/19	3	1	1	2	2	2		2 Yes			2	4	2.5	2	5	I-beam replaced August 2007. 8/07 - Replaced gates and corroded horizontal channels. 6/4/18 - Replaced I-Beam, inspect gear box, clean rod, maintain tracks, maintain gate 1/30/19 PO #047588 - Replaced I-beam webs that had holes. Repaired tracks. Maintained gear box and rod.													John K and Ken Smith		
WCS 131	Bass Point	1/30/19	2.5	1	1	2	4	4		All Yes			3	1	2.5	2	5	9/25/13 Replaced corroded horizontal support beams and corroded sections of tie rods and vertical I-beams on both west and east sides of the structure, patched a small leak in the sheet metal piling and welded new boxes for both gate stems. 8/07 - Weld boxes on gate stems on each gate.												John K and Ken Smith			

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Structure #	Waterway	Date	Metal			Gates				Pipes	Risers	Concrete		Bank Condition	Overall	Structure Location	Replacement Priority Score	Other Observations in 2019	Previous Repairs Completed	Major Replacement CIP Project		Minor Repairs Needed by Contractor		In-House Work Needed				Inspector		
			Sheet Piling	I-Beams	Cat walk	# of Gates	Gate	Hardware	Operational (yes, no, list#)			Columns	Cap							Description	Priority	Description	Priority	Description	Priority	Work Order/Invoice No.	Completion Date			
WCS 137	New Castle	1/30/19	2.5	1	1	2	1	1	All Yes			2		2	2.5	2	5	8/07 - Replace gates and corroded members. 6/4/18 - Replace I Beam, Inspect Rod, clean and repair any bad threads, Gear box-open, replace any bad bearings, check key ways in gear drives. Check brass lifting bushing. Tracks, replace spacer bars as needed or tracks as needed. Adjust, clean and inspect door for proper operation. 1/30/19 PO #047588 - Replaced both horizontal I-beams which have rotted off.											John K and Ken Smith	
WCS 138	New Castle	1/30/19	3	1.5	1	2	1	1	All Yes			2.5		1.5	3	2	6	Weir corroded on top. Crack on W. downstream concrete side bank. Tie rod bit bowed. Some corrosion on sheet piling above first support bar.	8/07 - Replace gates and corroded members. Washout by walkway fixed											John K and Ken Smith
WCS 140	Bethlehem	1/30/19	3.5	1	1	2	1	1	All Yes			1.5		1	3		0	12/2017 - Repair one horizontal I beam, Repair one Vertical I beam, Replace gate #1, Replace gate #2 1/30/19 - Fixed Horizontal I-beam that has fallen off, vertical I-beam has holes, gate #1			Some holes in sheet pilings . Low side backside of structure.	Medium	Repair small erosion under E. side bank concrete.						John K and Ken Smith	
WCS 162	R - 36	1/30/19	1		1	1	1	1	Yes	1		1	1	1	1	3	3	Need some Riprap back side, 162 washing out. 6/4/15 Repaired erosion below existing concrete slab on the northwest side of WCS No. 113 by injecting flowable fill (cementitious grout) to fill all voids 1/30/19 - Removed willows in R-36 and fixed rip rap on downstream of Van Camp			Erosion continues under E. side bank rip rap. Need to add rip rap or use Uretex grout injection.	High							John K and Ken Smith	
FW 120	Blueridge	1/30/19	1.5	1.5										1.5	1.5	3	4.5	Sheet pilings are rusty. No concrete cap. Middle vertical I-beam web corroded					Large Island blocking water flow. Need machine to pull island out.						John K and Ken Smith	
FW 122	MacCaughy	1/30/19	2											1	1	1.5	3	4.5	Minor cracks in both sides of concrete side banks. Sheet pilings are rusty.	1/30/19 - Fixed W. downstream bank minor erosion.		Pin hole sheet piling next to 1st column	Low						John K and Ken Smith	
FW 123	MacCaughy	1/30/19	1.5											1	1.5	1.5	3	4.5	Cracks in the concrete side bank on SE side.2018					E. downstream bank minor erosion.					John K and Ken Smith	
FW 129	Creighton	1/30/19	1							3.5		1	1	1	1	1	1	1	Sheet pilings are rusty. Downstream CMP pipes under Price Blvd are corroded	1/30/19 Fixed - Remove fabric and debris over downstream pipes	This structure will be replaced with the Price Blvd Widening project.								John K and Ken Smith	
FW 132	Bass Point	1/30/19	1							1		1	1	1	1		0	Good Condition.	5/2011 - Severely corroded corrugated metal pipes CMP, erosion and undermining of side banks. Replace with open concrete weir and RCP culvert pipes.										John K and Ken Smith	
FW 133	Bass Point	1/30/19	1							1		1	1	1	1		0	Good Condition.	11/2014 - Severely corroded corrugated metal pipes CMP, erosion and undermining of side banks. Replace with open concrete weir and RCP culvert pipes.										John K and Ken Smith	
FW 135	Twin Lakes	1/30/19	1							1		1	1	1	1		0	8/2009 Replaced concrete drop structure with concrete open weir replaced as part of the Toledo Blade widening project					Repair wash out by sidewalk by Rip Rap						John K and Ken Smith	
FW 136	Blue Waters	1/30/19	1.5							2		1	1	1	1.5	2	3	Downstream pipe is corroded. Will need replacement in the future					Needs more Rip Rap at downstream pipe						John K and Ken Smith	
FW 139	New Castle	1/30/19	1							1		1	1	1	1	1	1	Culvert pipe upstream end joint separation: West=1", East = 7.75"	4/2012 Severely corroded corrugated metal pipes CMP, erosion and undermining of side banks. Replaced with open concrete weir and RCP culvert pipes.					Needs more Rip Rap at downstream pipe					John K and Ken Smith	
FW 151	Snover	1/30/19	1	1								1	1	1	2	2	2	Minor crack in concrete of upstream spillway											Mike J Bob H	
FW 152	Snover	1/30/19	1	1								1	1	1	2	2	2	Crack in concrete of upstream spillway. Very thick Vegetation 2018											Mike J Bob H	
FW 153	Snover	1/30/19	1	1								1	1	1	2	2	2	Swamp grass thick on upstream side, concrete spillway thick vegetation											Mike J Bob H	

Attachment B

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Structure #	Waterway	Date	Metal			Gates				Concrete		Bank Condition	Overall	Structure Location	Replacement Priority Score	Other Observations in 2019	Previous Repairs Completed	Major Replacement CIP Project		Minor Repairs Needed by Contractor		In-House Work Needed				Inspector			
			Sheet Piling	I-Beams	Catwalk	# of Gates	Gate	Hardware	Operational (yes, no, list#)	Pipes	Risers							Columns	Cap	Description	Priority	Description	Priority	Description	Priority		Work Order/Invoice No.	Completion Date	
FW 154	Snover	1/30/19	2	4							2	2	2	2	4	Cracks in concrete of upstream spillway				Replace I-Beam	High							Mike J Bob H	
FW 155	Snover	1/30/19	2	2							2	2	2	2	4	Crack in concrete of upstream spillway. Extreme vegetation 2018. Cracks in downstream concrete side bank												Mike J Bob H	
FW 156	Snover	1/30/19	1	1							1	1	1	2	2	Heavy Vegetation 2018												Mike J Bob H	
FW 157	Snover	1/30/19	4	4							4	2	4	2	8	Access to this structure to repair will need to be evaluated. This structure just west of I-75 on north side of Snover. Complete disrepair 2018.	Design FY2023, Construction FY2024.	4	Upstream concrete and horizontal I-beam completely broken off.	High	Remove large sandbar on downstream side in Snover							Mike J Bob H	
FW 158	Snover	1/30/19	1	1							1.5	1	1	2	2	Crack in concrete of upstream spillway												Mike J Bob H	
FW 159	Snover	1/30/19	1	2							2	1	2	2	4	Horizontal I-beam rusty. Concrete cap sank down ~4 inch off sheet piling.						Concrete cap sank down ~4 inch off sheet piling.						Mike J Bob H	
FW 160	Snover	1/30/19	3	4							3	2	3	2	6	Very tall structure. Big alligator present. Sheet piling corroded thinner at the throat. Concrete cap sank down ~7 inch off sheet piling.				Horizontal I-beam completely broken off.	High							Mike J Bob H	
FW 161	Snover	1/30/19	1	1							2	1	2	2	4							Remove dead cabbage palm ?						Mike J Bob H	
FW 180	Lion Heart	1/30/19	2								1.5	1	2	1.5	0	Sheet pilings are rusty. Pipes partly submerged. Small dead cabbage palm and "island" downstream in Charlotte County. Sent John Elias email on 5-31-17 to check. Downstream needs to be cleaned out 2018 - N.P. side clean out.													John K and Ken Smith
FW 181	Sunset	1/30/19	1.5								*	1	1	1	1.5	* Pipes underwater, not visible. Small "island" downstream in Charlotte County. Sent John Elias email on 5-31-17 to check.													John K and Ken Smith
FW 182	Dorchester	1/30/19	1.5								1	1	1.5	1	1	Sheet pilings are rusty at water level.													John K and Ken Smith
FW 183	Morning Star	1/30/19	1.5								2.5	1	1	1.5	0	Downstream CMP pipe corroded at upstream end, no visible holes in side of pipe.				Four round "bullet-like" holes on the west side sheet piling	Low								John K and Ken Smith
FW 185	Elkcam	1/30/19	1								1	1	1	1	1							Pepper trees need to be removed around bank, pipes and backside of drop structure. **Really bad							John K and Ken Smith
FW 186	Fordham	1/30/19	1								1	1	1	1	1	Banks look Good.													John K and Ken Smith
FW 506	Crestwood	1/30/19	2								1	1	2	1.5	3	4.5						Minor wash out downstream needs Riprap							John K and Ken Smith
FW 507	Flamingo	1/30/19	2								1	1	1	1.5	3	4.5						Needs more Riprap by handrail and headwall. Minor wash out by sidewalk.							John K and Ken Smith
FW 510	Courtland	1/30/19	1.5								1	1	1	1	2	2		1/30/19 - Small "island" downstream in Charlotte County removed.											John K and Ken Smith
GDS 112	Cocoplum	1/30/19			none	none	none	none	No	none	none					4	4	1	4										John K and Ken Smith

Attachment B

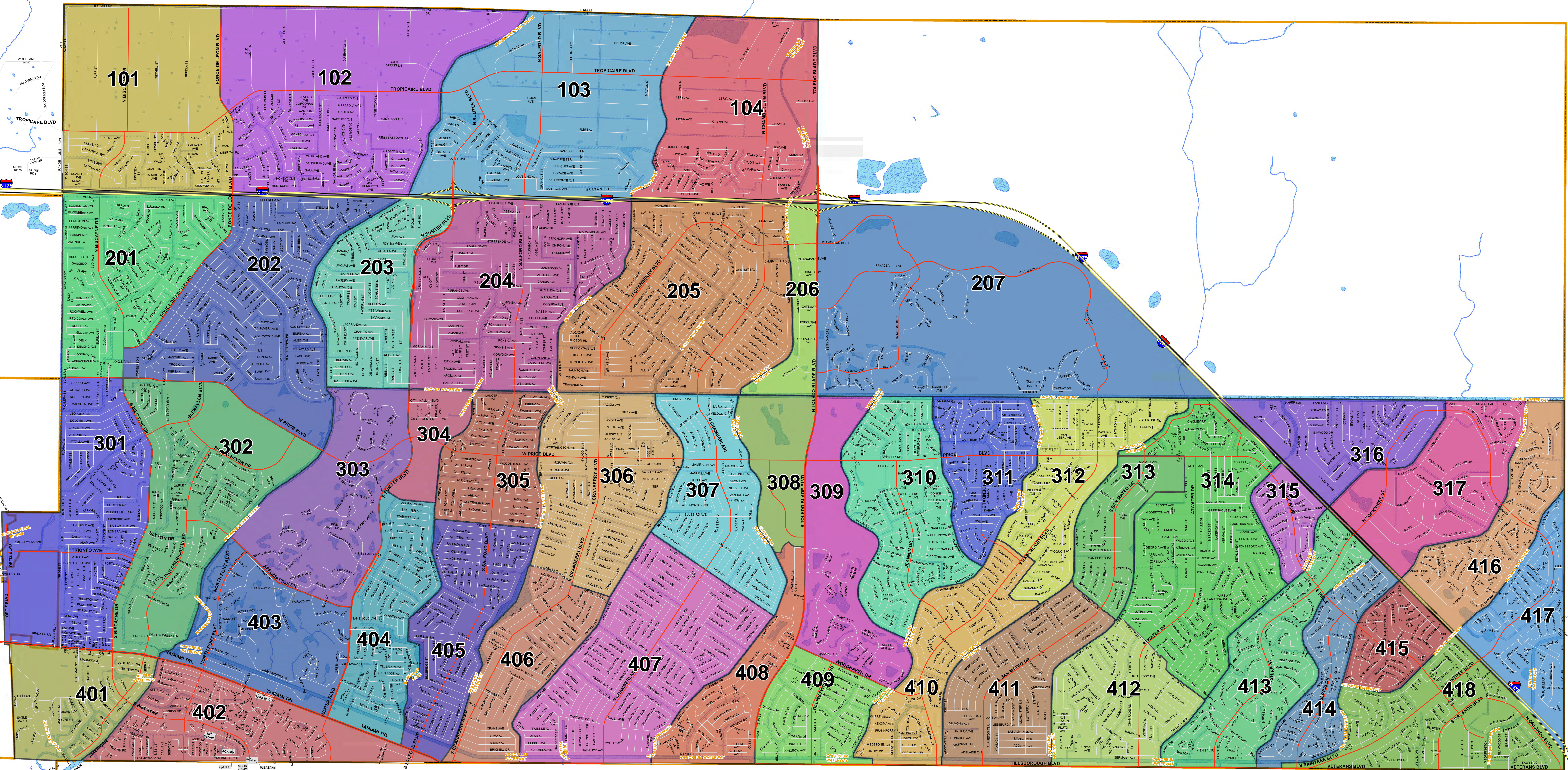
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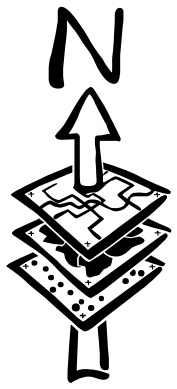
Structure #	Waterway	Date	Metal		Gates				Concrete		Bank Condition	Overall	Structure Location	Replacement Priority Score	Other Observations in 2019	Previous Repairs Completed	Major Replacement CIP Project		Minor Repairs Needed by Contractor		In-House Work Needed				Inspector			
			Sheet Piling	I-Beams	Catwalk	# of Gates	Gate	Hardware	Operational (yes, no, list#)	Pipes							Risers	Columns	Cap	Description	Priority	Description	Priority	Description		Priority	Work Order/Invoice No.	Completion Date
GDS 116	Snover	1/30/19			2	1	4	4	No	4	4	4	4	1	4	Upstream bank has fabriform. Gate hardware completely rotted away.			Replace hand railing and repair corroded drop pipe and side pipe with gate	High	Bank washout on north and south side of road					John K and Ken Smith		
GDS 141	Bethlehem	1/30/19			1	1	4	4	No	4	4			1	4				Repair holes in side of pipe with gate	High	Gate buried in dirt, excavate dirt from around structure					John K and Ken Smith		
GDS 142	Littlefield	1/30/19			1	1	4*	4*	No *	4	4			3	4	*Gate and horizontal side pipe is broken off by storm in 2017.	1/30/19 - Removed massive amount of dead willows and debris logging structure. Repaired bank erosion. Remove toy car in upstream ditch.			Replace horizontal side pipe and gate	High					John K and Ken Smith		
GDS 143	Newman	1/30/19			2	1	2	2	Does side gate work??	4	4			1	4	Dime and quarter sized holes in pipe. Pipe under ground giving away.			Replace hand railing and repair corroded drop pipe and side pipe with gate	High	Repair bank washout. Island need to be removed.					John K and Ken Smith		
GDS 512	Pellam	1/30/19			1	2	1	1	Yes			1*		2	1	This is concrete drop box with 2 fiberglass gates. Catwalk is made of trex type composite.					Bank needs to be repaired Riprap					John K and Ken Smith		
DS 119	Blueridge	1/30/19										1	1.5	1.5	1.5	1	1.5	3	4.5	One pipe downstream rotten.	1/30/19 - Fixed sidewalk washing out.	This structure will be replaced with the Price Blvd Widening project.						John K and Ken Smith
DS 126	Lagoon	1/30/19										3	1	1.5	1.5	1	1.5	3	4.5	Downstream metal pipes are little rusty but in a good condition. Pipe 1&3 holes in pipe by the bank,	1/30/19 - Fixed erosion of rip rap bank near guardrail	This structure will be replaced with the Price Blvd Widening project.						John K and Ken Smith
DS 501	Cheshire	1/30/19										1							0	7/2009 Rebuilt covered concrete structure and replaced corroded 60" diameter CMP pipe with 60" RCP.						Grout seal small leak in joint between inside concrete weir wall and adjoining concrete box (observed by Orrin)		John K and Ken Smith
DS 503	Apollo	1/30/19										2		1	1	1	1		0	Good Condition. Replaced in Sept 2009 *Pipes are under water and not visible.	9/2009 Corroded Triple 72" Diameter CMP drop pipes structure and culvert replacement with concrete box structure with fiberglass skimmer and triple 72" concrete RCP and headwall.							John K and Ken Smith
DS 504	Jupiter	1/30/19										2		1	1	1	1		0	8/2009 Corroded Triple 72" Diameter CMP drop pipes structure and culvert replacement with concrete box structure with fiberglass skimmer and triple 72" concrete RCP and headwall.						Skimmer in the water needs to be attached back on D.S.		John K and Ken Smith
DS 508	Auburn	1/30/19	1.5									1		1	1	3	2.5		0	4/5/19 Uretek chemical foam grout seal used to repair wash out under fabriform and hole near roadway guardrail								John K and Ken Smith
CRE 5.09		1/30/19														Rotted structure at Crestview Waterway and Hillsborough Blvd				Fabricate and install four 3/8" steel tracks to accommodate 4" x 6" x 8' wooden control planks.	High							

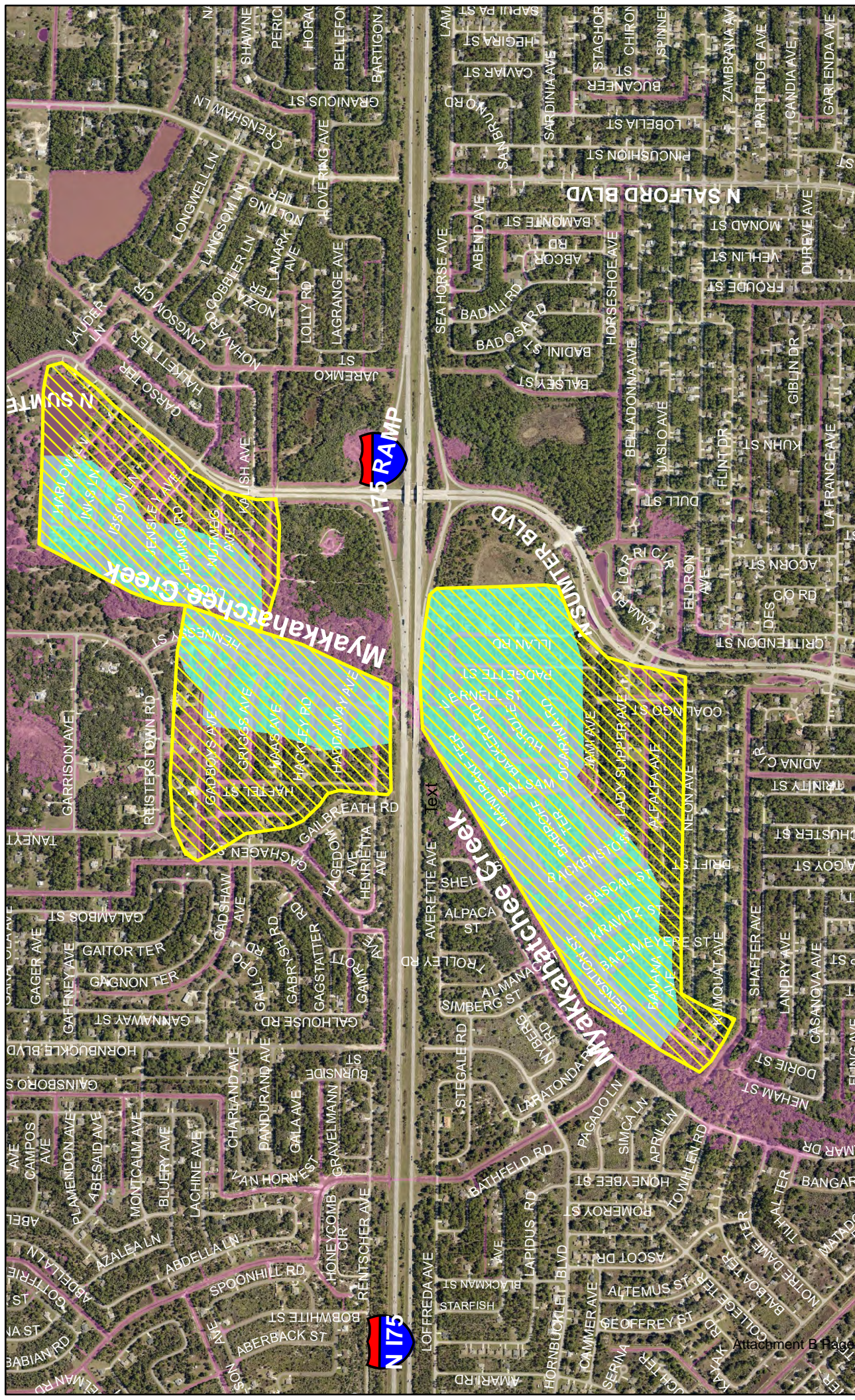
Appendix C - Water Control Structures Rehabilitated and Cost

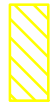
Water Control Structures	Waterway	Location	Rehab Issues	Completed Date	Cost
WCS 135	Twin Lakes	Price East of Toledo Blade	Replace concrete drop structure with concrete open weir, replaced as part of the Toledo Blade widening project	2009	\$134,860
WCS 109	Cocoplum	East of San Mateo	Severe metal sheet piling corrosions, gates, two gates will not open. Retrofit with concrete weir wall and 6 new stainless steel gates and concrete spillway and large revetment.	2009	\$361,244
DS 501	Cheshire	Chancellor Between Sumter and North Port Blvd	Rebuilt covered concrete structure and replaced corroded 60' diameter CMP pipe with 60" RCP.	2009	\$127,357
DS 503	Apollo	Chancellor Just east of Sumter	Corroded Triple 72" Diameter CMP drop pipes structure and culvert replacement with concrete box structure with fiberglass skimmer and triple 72" concrete RCP and headwall.	2009	\$193,939
DS 504	Jupiter	Chancellor Just east of Salford	Corroded Triple 72" Diameter CMP drop pipes structure and culvert replacement with concrete box structure with fiberglass skimmer and triple 72" concrete RCP and headwall.	2009	\$203,833
WCS 107	Cocoplum	Just west of Chamberlain	Severe metal sheet piling corrosions, gates, two gate will not open. Retrofit with concrete weir wall and 6 new stainless steel gates and concrete spillway and large revetment.	2011	\$589,050
DS 132 and culverts	Bass Point	At Jeannin Dr	Severely corroded corrugated metal pipes CMP, erosion and undermining of side banks. Replace with open concrete weir and RCP culvert pipes.	2011	\$477,603
DS 139 and culverts	Snover	East of Haberland	Severely corroded corrugated metal pipes CMP, erosion and undermining of side banks. Replace with open concrete weir and RCP culvert pipes.	2012	\$529,092
WCS 101	Cocoplum	Myakkahatchee Creek near WTP	Complete replacement of existing structure with new structure, two additional gates for a total of 6 gates, gate automation and telemetry	2014	\$1,476,638
DS 133 and culverts	Snover	West of Haberland	Severely corroded corrugated metal pipes CMP, erosion and undermining of side banks. Replace with open concrete weir and RCP culvert pipes.	2014	\$599,152
WCS 115	Snover	East of Chamberlain Blvd	Severe corrosion of metal sheet piling corrosions and gates. Water level could not be retained upstream by structure. Will either replace or rehabilitate entire structure.	2019	\$1,172,577
WCS 106	Cocoplum	South side of Water Treatment Plant	Concrete columns very deteriorated.	In Progress	\$3,080,000 (budgeted)



City of North Port GRID SYSTEM

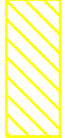




-  Flood Reduction Study Area Near Myakkahatchee Creek and I-75
-  Flood area on July 22, 2013 (Tropicair USGS Gage Elev 23.25ft)
-  Mean Annual Storm Floodplain from 5/22/12 Big Slough Study



Flood Reduction Study Area in Jockey Club Area West of Myakkahatchee Creek



Mean Annual Storm Floodplain from 5/22/12 Big Slough Study

**Watershed Management Program Consulting Services
in the Big Slough Watershed (K883)**

**Best Management Practices (BMP) Analysis
Final Report**

Prepared for

**Southwest Florida Water Management District
&
City of North Port**

Prepared by

Ardaman & Associates, Inc.

September 2014

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1.0 INTRODUCTION

As described in the Southwest Florida Water Management District's Watershed Management Program Guidelines and Specifications, Best Management Practice (BMP) Alternatives Analysis involves modification of the existing model condition to evaluate best management practices, to address the enhancement and protection of natural systems, recharge, and water quality while achieving flood protection.

BMP alternatives analysis involves the use and modification of the existing model condition to evaluate BMPs, to address habitual flooding conditions while ensuring no adverse impact.

Best management practices (BMP) is a phrase which means the best available techniques to reduce harmful environmental impacts. Usually, BMPs for urban watershed management are storage devices that temporarily store and/or treat urban runoff to reduce flooding and/or remove pollutants. For this task, the following alternative methods were evaluated with the unique purpose of reducing flooding: flow diversion, conveyance improvements, detention, exclusion of all existing drop structures and water control structures (WCS), and modification of gated structure and raising road elevations.

1.1 Authorization

Ardaman and Associates was contracted by the Southwest Florida Water Management District to conduct specific tasks of a Watershed Management Program for the North Port/Big Slough Watershed. The project was initiated in July 2003 and a series of work orders were issued. Work order number 4, issued in August 2005, included BMP alternative analysis for the North Port/Big Slough watershed.

1.2 Project Location and General Description

The Big Slough Watershed is located in southeastern Sarasota County, and the slough is tributary to the Myakka River. Portions of the incorporated City of North Port (those areas east of the Myakka) are located within the southern portion of the watershed. The 195.5 square mile watershed encompasses numerous depressional features, including wetlands and water bodies, the most prominent of which is the Big Slough Canal (also called Myakkahatchee Creek in its lower reaches). The Big Slough Canal passes from north to south through the City of North Port, and receives inflows from an internal system of waterways which provide surface drainage throughout the City, before discharging beneath U.S. Highway 41 toward its confluence with the Myakka River. The Big Slough Watershed and portions of the City of North Port are traversed from east to west by Interstate Highway 75.

1.3 Purpose and Objectives

The objective of this study is to evaluate BMP alternatives that would solve flooding conditions within the City of North Port. Existing condition model results and Floodplain

Level of Service (LOS) were used to identify present watershed flooding condition. Various BMP concepts and alternatives were evaluated for their effectiveness in solving flooding problems, permitability, and economic viability.

1.4 Previous Reports

Over the course of the project, numerous interim reports have been submitted along with supporting data to SWFWMD and City of North Port. Those prior reports contain additional details and supporting documentation regarding these tasks completion, and include the following:

WO#1 – Watershed Evaluation

- Task 1.1.2.1 – Existing Watershed Feature Data Evaluation and Assembly
- Task 1.1.2.2 – Sub-basin delineations and landuse inventory

WO#2 – Watershed Evaluation

- Task 1.1.2 – Watershed Evaluation
 - 1.1.2.2 Hydrologic Feature Inventory
 - 1.1.2.3 Hydraulic Feature Inventory
 - 1.1.2.4 Field Reconnaissance
 - 1.1.2.5 ID of Surveys to be Completed by a PLS
 - 1.1.2.6 Preliminary Junction/Reach Coverage Development
 - 1.1.2.7 SW Assessment Inventory and Approach Development
 - 1.1.2.9 Watershed Evaluation Deliverables

WO#3 – Watershed Evaluation

- Task 2.3.1 – Surveys by a Professional Land Surveyor

WO#4 – Watershed Management Plan

- Task 1.1.3.2 – Watershed Parameterization
- Task 1.1.3.3 – Watershed Model Development & Verification
- Task 1.1.3.4 – Floodplain Analysis and Delineation Report
- Task 1.1.3.5a – Level of Service Determination – original analysis
- Task 1.1.3.5b – Level of Service Determination – with model maintenance
- Task 1.1.3.7a – BMP Alternative Formulation Report – original analysis
- Task 1.1.3.7a – BMP Evaluation of Four Crossings
- Task 1.1.3.7b – BMP Evaluation Price Boulevard
- Task 1.1.3.7b – BMP Evaluation WCS-162
- Task 1.1.3.7b – Final BMP Report

WO#7 – Maintenance of Watershed Parameters and Models

- Task 2.2.1 – 2004-2007 LiDAR Comparison
- Task 2.3.1.1 – Collect and Evaluate Environmental Resource Permit (ERP) Information
- Task 2.3.4 – Limited Field Reconnaissance

Task 2.3.6 and 2.3.7 – Generic Hydrologic Features and Generic Hydraulic Features

Task 2.3.6, 2.3.7, and 2.4.1 – Generic Hydrologic Features, Generic Hydraulic Features, and Refined Generic and Semi-generic Geodatabase and Parameterization

Task 2.4.1, 2.4.2, 2.4.3 – Refined Generic and Semi-generic Geodatabase and Parameterization, Watershed Computer Simulation Model Development and Verification, and Floodplain Analysis and Delineation

Task 2.4.3 – Floodplain Analysis and Delineation

Task N/A – Justification Report and Peer Review Presentation

WO#8 – Maintenance of Watershed Parameters and Models

Task 2.2.2 – 2007 LiDAR Review

WO#12 – Maintenance of Watershed Parameters and Models

Task 2.4.11 - Floodway Analysis Report

2.0 CHARACTERIZATION OF FLOOD PRONE AREAS

The Big Slough watershed is located in the Gulf coastal lowlands of southwestern Florida, characterized by flat topography and sandy, shelly and silty sand soils with little organic matter. Its headwaters are rural, consisting primarily of agricultural and undeveloped lands. A vast majority of urban and built up lands occur in the southern portion of the watershed, within in the City of North Port. Commercial development is generally limited to main thoroughfares within the city, especially along the US 41 corridor. Myakkahatchee Creek/Big Slough Canal begins in the southeastern part of Manatee County (near Edgeville) and flows approximately 21 miles through the City of North Port and ultimately empties to the estuarine portion of the Myakka River.

2.1 Hydrologic Inventory

2.1.1 Subbasin Delineation Process

Subbasin delineations were performed to support watershed parameterization and modeling. The subbasins were delineated using Arc Hydro Tools with LiDAR-based terrain data, where available. The surface model was prepared for “automated” subbasin delineation by combining the large terrain models with highly detailed secondary flow path information. The secondary flow paths were digitized based on scanned and orthorectified as-built information, terrain model features, and field observations of drainage patterns.

A set of protocols was developed for assigning subbasin break points, to allow for batch processing of the watershed using the delineation tools. As a result of pre-processing the surface model in the manner described here, the Arc Hydro tools were better able to recognize surface drainage characteristics and provide accurate subbasin delineations for use in model parameterization. In those areas where LiDAR was not available, other

topographic and drainage delineation information was employed to support automated and manual delineations.

2.1.2 Tributary Subbasins and Characterization.

Tributary areas were defined primarily by grouping surface storage features according to their connectivity (via culverts) or primary overflow paths (across topographic saddles). Open channel conveyance systems were also used to identify unique tributary areas. Each tributary area could then be summarized using GIS to describe unique characteristics, as discussed below.

Subbasin sizes range throughout the study area from 0.33 to 1,673.79 acres. Table 2-1 summarizes subbasin size by tributary area.

Table 2-1: Subbasin Size Summary per Tributary

Tributary ID	Count	Minimum	Maximum	Average
A	60	0.33	36.00	9.17
B	1282	0.06	1244.70	30.97
C	339	0.12	61.14	9.91
D	67	1.23	75.40	26.24
E	210	0.19	151.42	10.30
F	54	0.32	83.20	20.68
G	130	0.32	66.63	11.58
H	42	0.77	35.93	11.87
I	58	0.86	71.29	21.11
J	153	0.60	69.53	14.49
K	188	0.63	79.83	10.53
L	33	0.70	70.08	24.53
M	84	1.38	1040.82	133.85
N	119	0.16	28.22	8.22
O	76	0.88	82.72	15.89
P	38	0.11	120.69	13.19
Q	288	1.04	167.71	25.23
R	263	0.42	234.44	21.53
S	361	0.28	1139.68	21.10
T	65	0.28	45.34	13.73
U	799	0.03	410.92	24.79
V	116	0.42	89.73	14.68
W	29	15.55	1673.79	320.55
X	42	0.36	32.10	9.11
Y	84	0.24	47.38	12.87
Z	36	0.41	54.12	17.78

2.1.3 Tributary Land Use Characterization

While the headwaters of the Big Slough Watershed remain predominantly undeveloped or agricultural, changes in land uses throughout the City of North Port reflect significant population growth, with continued commercial and industrial growth along the US 41 corridor and the Price Boulevard intersections with Sumter Boulevard and Toledo Blade Boulevard.

Land use types were acquired as a GIS coverage from the SWFWMD and updated using 2004 aerial photography. Table 2-2 summarizes generalized land use encountered and respective percent areas of coverage, by tributary.

Table 2-2: Generalized Land Use Summary per Tributary

Tributary ID	Residential	Com/Industrial	Upland/Open	Water/Wetland
A	10.55	0.00	86.54	2.91
B	9.06	1.41	66.33	23.19
C	51.87	6.30	34.51	7.32
D	97.99	0.06	0.18	1.77
E	64.02	2.86	24.11	9.02
F	89.64	2.37	5.43	2.56
G	85.46	0.19	10.80	3.56
H	24.47	0.51	33.01	42.01
I	73.04	3.46	16.82	6.68
J	76.21	3.39	16.98	3.42
K	34.18	3.62	58.39	3.81
L	65.17	0.48	25.84	8.51
M	2.02	0.22	75.29	22.47
N	0.32	4.18	88.79	6.71
O	85.80	0.15	11.00	3.04
P	67.31	2.43	11.53	18.73
Q	0.00	0.75	71.86	27.39
R	32.98	0.78	40.77	25.48
S	16.20	2.33	56.24	25.22
T	57.69	5.05	27.44	9.82
U	1.18	1.95	62.64	34.23
V	35.95	7.19	36.04	20.82
W	1.49	0.27	79.92	18.32
X	76.68	2.32	8.57	12.42
Y	85.27	4.58	9.13	1.03
Z	98.90	0.00	0.00	1.10

2.1.4 Tributary Soil Characterization.

Low permeability, hydric soils associated with depressional areas and flood plains are predominant within the study area.

Soil types were identified using soil survey data for Sarasota, Charlotte, Manatee and DeSoto Counties acquired as a GIS coverage from SWFWMD. Individual soil types were categorized according to their runoff potential. In order to perform that categorization, the hydrologic soil group of each soil was defined according to the relevant soil survey reports. A brief discussion of each hydrologic soil group's characteristics is provided below.

HYDROLOGIC SOIL GROUP A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively well drained sands or gravelly sands. These soils have a high rate of water transmission.

HYDROLOGIC SOIL GROUP B. Soils having a moderate infiltration when thoroughly wet. These consist mainly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

HYDROLOGIC SOIL GROUP C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

HYDROLOGIC SOIL GROUP D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have high shrink-swell potential, soils that have a permanent high water table, soils that have a clay pan or clay layer at or near the surface, and soils that are shallow over nearly impervious material.

Some soil types are classified as belonging to dual hydrologic soil groups, such as A/D, B/D, or C/D. These ratings mean that, under natural conditions, the soil is classified as belonging to hydrologic soil group D, but by artificial methods the water table could be lowered sufficiently so that the soil would fit into a lower runoff potential category.

Table 2-3 presents a summary of hydrologic soil groups encountered (with dual classified groups assigned to the un-drained condition "D") and respective percent areas of coverage.

Table 2-3: Hydrologic Soil Group Summary per Tributary

Tributary	Hydrologic Soil Coverage Area %								
	A	A/D	B	B/D	C	C/D	D	UND	W
A	0.00	0.00	0.00	70.01	0.36	0.88	28.75	0.00	0.00
B	0.00	0.00	0.09	70.30	1.07	0.04	28.16	0.23	0.10
C	0.00	0.06	0.00	61.51	7.64	0.87	25.03	0.00	4.89
D	0.00	0.00	0.00	71.73	0.09	0.21	27.98	0.00	0.00
E	0.00	0.00	0.00	77.85	0.71	0.91	18.81	0.00	1.73
F	0.00	0.00	0.00	63.79	0.00	1.48	34.73	0.00	0.00
G	0.00	0.00	0.00	50.55	0.04	0.00	49.41	0.00	0.00
H	0.00	0.00	0.00	90.15	5.12	0.00	4.73	0.00	0.00
I	0.00	0.00	0.00	66.44	0.06	0.77	32.73	0.00	0.00
J	0.00	0.00	0.00	65.84	0.00	0.85	33.09	0.00	0.22
K	0.00	0.00	0.00	70.16	0.08	1.21	28.08	0.00	0.47
L	0.00	0.00	0.00	50.53	0.00	1.90	47.57	0.00	0.00
M	0.38	0.00	0.36	77.05	4.82	0.00	17.38	0.01	0.00
N	0.00	0.00	0.00	68.48	0.00	0.45	29.89	0.00	1.18
O	0.00	0.00	0.00	67.36	0.00	0.00	32.50	0.14	0.00
P	0.00	0.00	0.00	75.24	0.00	0.12	24.64	0.01	0.00
Q	0.00	0.00	0.00	64.78	0.00	0.13	35.09	0.00	0.00
R	0.00	0.00	0.00	65.45	0.00	0.90	33.62	0.02	0.00
S	0.00	0.00	0.00	63.35	0.00	0.07	36.57	0.00	0.00
T	0.00	0.00	0.00	70.31	0.00	0.52	29.17	0.00	0.00
U	0.00	0.00	0.00	64.62	0.00	0.01	34.98	0.00	0.39
V	0.00	0.00	0.00	48.77	0.00	0.00	51.23	0.00	0.00
W	0.61	0.00	0.25	75.03	11.94	0.00	12.17	0.00	0.00
X	0.00	0.00	0.00	56.73	0.00	0.00	42.64	0.00	0.64
Y	0.00	0.00	0.00	70.24	0.00	0.15	29.61	0.00	0.00
Z	0.00	0.00	0.00	73.02	0.00	3.30	23.69	0.00	0.00

2.1.5 Tributary Hydrologic Parameterization

Subbasin parameterization was performed in order to assign values for hydrologic model development, including: Time of Concentration (Tc), Runoff Curve Number (CN), Percentages of imperviousness, and Peak Rate Factor (K').

Time of Concentration (Tc) is generally defined as the amount of time it takes for a drop of water to travel from the most hydrologically distant point in a basin to the point where that basin discharges to a receiving water body (represented in the model as a node). It is used as a parameter in the computation of a runoff hydrograph, when using the SCS Unit Hydrograph method for hydrograph generation.

The Tc computation was made according to techniques recommended in TR-55 by the National Resource Conservation Service. According to that methodology, runoff generally moves along the surface of a basin as sheet flow, shallow concentrated flow, open channel flow, or some combination of these until it is intercepted by a storage or conveyance system. Travel times for each flow segment are computed and summed, yielding a time of concentration for the basin. Further adjustments can be made to account for movement through ponds, storm sewers and the like in order to account for additional travel time, when not accounted for in the modeled conveyance system.

Travel segment data for this study was developed using aerial photography, one foot SWFWMD 1"=200' scale aerial imagery, 2-foot SWFWMD digital photogrammetric contours and the digital terrain model to define travel paths, lengths, slopes and land cover for sheet and shallow concentrated flow segments. For open channel segments, cross sectional geometry and roughness values were estimated, and lengths and slopes taken from the terrain model. For conveyance systems (such as pipes, channels, embedded ponds and wetlands) a velocity method was employed to adjust times of concentration.

Runoff Curve Numbers were developed for each subbasin, based on land use and hydrologic soil group designations. Using GIS, basin, land use and soils polygon coverages were intersected with one another, resulting in the creation of a single composite polygon coverage. Each polygon in the composite coverage contains a land use code, a hydrologic soil group, and a basin assignment. Combinations of land use and soils were then used, along with a lookup table of curve number values, to define area-weighted runoff curve numbers within each basin. Percentages of imperviousness were developed in a like manner, based on land use within each subbasin area. Runoff curve numbers that were employed in this analysis were representative of average antecedent moisture conditions (AMC-II) and were adapted from tables provided in the NRCS publication, TR-55.

The peak rate factor (K') is a numeric value used to describe the shape of a unit hydrograph for a basin. The peak rate factor varies from one basin to another. Throughout the state, typical values applied by hydrologists range from 256 to 484, with even lower values applied in flat, swampy areas. A peak rate factor of 256 was used for all subbasins within the Big Slough watershed. That value is most appropriate in basins that exhibit little topographic relief, which includes the vast majority of all subbasins delineated in the study area.

2.2 Hydraulic Feature Inventory

2.2.1 Hydraulic Feature Inventory

An inventory of hydraulic features within the watershed area was initially performed using digital aerial photography, as-built and ERP data, in order to identify conveyance structures, open channels, SMSAs, lakes and wetlands greater than one acre in area throughout the watershed. Each feature was assigned a unique HYD-ID, as an identifier for subsequent field reconnaissance and survey. The hydraulic feature inventory served as an initial database of features to be incorporated into a model database for simulation.

2.2.2 Summary of Water Body Features by Tributary and Type

Wetlands and water bodies of varying size are located throughout the watershed area. Named water bodies include: Big Slough Canal or Myakkahatchee Creek, Cocoplum Water Way, Snover Water Way and a series of named internal water ways providing surface drainage for the City of North Port. Area lakes range in size from 1.0 to 125 acres. In addition, numerous retention and detention ponds are present, providing stormwater attenuation and water quality treatment throughout the area. Table 2-4 presents a summary of water bodies and their sizes in each tributary.

Table 2-4: Water Body Size Summary per Tributary

Tributary	Count	Minimum Area (acres)	Maximum Area (acres)	Average Area (acres)
A	0	0.00	0.00	0.00
B	386	0.20	110.46	4.90
C	9	0.60	2.77	1.72
D	0	0.00	0.00	0.00
E	37	0.19	25.93	3.06
F	1	3.99	3.99	3.99
G	9	1.26	17.93	3.93
H	10	0.77	12.99	3.98
I	11	0.07	12.23	2.79
J	5	0.40	2.39	1.20
K	3	2.21	11.54	5.96
L	3	2.86	5.06	3.88
M	18	1.01	6.89	3.13
N	6	1.22	13.75	4.75
O	3	1.05	3.04	1.73
P	1	75.40	75.40	75.40
Q	121	1.03	36.57	4.72
R	77	1.22	60.85	9.02
S	112	0.35	35.30	5.72
T	20	1.08	19.34	5.93
U	363	0.13	125.04	5.61
V	12	1.12	30.60	12.98
W	0	0.00	0.00	0.00
X	5	1.18	15.20	7.16
Y	0	0.00	0.00	0.00
Z	0	0.00	0.00	0.00

2.2.3 Summary of Conveyance Features by Tributary and Type

Surface drainage throughout the watershed consists largely of natural sloughs, creeks and numerous manmade ditches and canals. Manmade storage features (SMSA) and natural depressional features (lakes and wetlands) are interconnected by drainage culverts or joined across natural topographic saddles. Table 2-5 summarizes number of conveyance features and Table 2-6 presents lengths of open channels in each tributary.

Table 2-5: Conveyance Features per Tributary

Tributary	Bridge	Channel	Culvert	Riser Pipes	Weir
A	1	23	10	50	175
B	16	382	210	39	3631
C	16	156	108	129	1028
D	0	43	9	3	194
E	0	67	67	50	616
F	0	27	13	1	175
G	1	63	42	28	384
H	2	17	9	13	138
I	0	27	10	17	195
J	0	87	51	1	427
K	4	75	51	77	531
L	0	19	6	0	103
M	0	9	18	0	202
N	2	49	27	69	316
O	0	39	19	13	218
P	0	24	15	0	95
Q	1	65	18	0	867
R	0	114	72	0	752
S	6	104	44	49	1050
T	0	27	19	10	197
U	3	47	116	62	2316
V	1	51	50	5	345
W	1	15	18	0	48
X	0	28	11	0	94
Y	0	49	23	0	239
Z	0	19	11	0	97

Table 2-6: Open Channel Lengths per Tributary

Tributary ID	Count	Minimum (feet)	Maximum (feet)	Average (feet)
A	23	267	1600	780
B	382	124	4819	1173
C	155	193	3674	1011
D	44	252	1896	1067
E	67	221	2110	855
F	27	185	1977	1053
G	64	243	1985	801
H	16	361	2261	908
I	28	293	2347	1179
J	87	255	2844	956
K	75	265	1935	897
L	19	491	2443	1167
M	10	723	5785	2052
N	49	231	2501	882
O	39	260	2186	973
P	24	88	2890	1070
Q	65	367	2677	1300
R	110	384	2878	1449
S	103	257	2309	932
T	26	260	2021	996
U	47	500	4442	1623
V	51	255	2202	786
W	15	1137	4578	2372
X	32	257	2421	1254
Y	49	224	2426	896
Z	19	443	2191	1044

2.2.4 Tributary Hydraulic Connectivity

Connectivity within tributary areas was determined through review of aerial photographs, as-built and construction drawings, topographic data and field investigation. That connectivity is defined and stored in the project database as a node-reach topological relationship.

2.3 Magnitude of Present Flooding

The magnitude of present flooding in the watershed was identified by using the results of floodplain and flood protection level of service (LOS) analyses.

2.3.1 Identification of Flooded Areas

The City of North Port experiences three distinct types of flooding problems. The most severe and the least common problem is a small number of habitable structures near Big Slough that experience flooding in the 100 year event. Also significant and very isolated is major road flooding in 25-year and 100-year events. Finally extensive local road flooding is common even during a smaller storm event. While inconvenient, this local road flooding poses little risk of damage to the citizens' property.

As shown in Figure 2-1, 2-2, and 2-3 (10, 25, and 100-year LOS figures), the majority of flooding within the City is related to street flooding. An arterial street/emergency route (West Price Boulevard), which provides access to the City's emergency facilities, will flood in 10-year or higher storm events.

Most of the habitable structures that flood in a 100-year storm event are located in the neighborhood located adjacent to Big Slough/Myakkahatchee Creek between Cocoplum Waterway and Tropicaire Boulevard. Locations of the houses that would flood (model predicted) in a 100-year storm event are shown in Figure 2-3 (100-year LOS figure).

2.3.2 Estimated Number of Structures Flooded (10-, 25-, and 100-year)

Based on the model results, it is estimated that ~5 structures will flood in a 10-year storm event; ~ 7 structures will flood in a 25-year storm event; and ~75 structures will flood in a 100-year storm event within the City of North Port.

Habitable structures were identified by visually inspecting 2008 aerial imagery in the City of North Port, and placing a point in GIS on the topographical high of the 2004/2007 hybrid LiDAR DTM. The elevation of the 2004/2007 hybrid LiDAR DTM at the point was compared with 10-year, 25-year and 100-year modeled maximum stages. Where maximum stages were higher than the habitable structure, it was reported as a flooded structure. Since the surveyed house pad elevations (finished floor elevations) data was not available, the method applied in estimating the number of flooded structures is very approximate.

2.3.3 Emergency and Evacuation Route Inundation (10-, 25-, and 100-year)

Estimated lengths of emergency and evacuation route inundation are presented in Table 2-7. As stated earlier, the majority of flooding within the City is associated with street/road flooding.

Evacuation routes were received from the City of North Port, and emergency routes were identified by Ardaman as the shortest route from an emergency facility to an evacuation route. Street centerlines were acquired from Sarasota County. The positions of all lines were verified in GIS as on the centerline of the road, and moved to the centerline if necessary. Any portion of the centerline of the road that overlapped with the 10-year, 25-year or 100-year floodplain was reported as inundated.

Table 2-7: Estimated Lengths of Road Inundation

Storm Event	Length of Emergency Route Inundation (feet)	Length of Evacuation Route Inundation (feet)
10-year	6,403	1,464
25-year	7,758	3,077
100-year	19,625	7,218

3.0 ALTERNATIVE BMP FORMULATION

According to Southwest Florida Water Management District’s Watershed Management Program Guidelines and Specifications (SWFWMD G&S), the generation of best management practices (BMP) alternatives must take into account many watershed management issues in order to formulate an alternative that is permittable, economically viable, and is supported by the public. This study is mainly focused in addressing storm event flooding conditions within the City of North Port.

3.1 BMP Development Process

As described in the SWFWMD G&S, alternatives analysis involves the use and modification of the existing model condition to evaluate BMPs, to address habitual flooding conditions while ensuring no adverse impact.

Best management practice is a phrase which means the best available techniques to reduce harmful environmental impacts. Usually, BMPs for urban watershed management are storage devices that temporarily store and/or treat urban runoff to reduce flooding and/or remove pollutants. For this task, the following alternative methods were evaluated with the unique purpose of reducing flooding: Flow diversion, conveyance improvements, detention and exclusion of all existing drop structures and water control structures (WCS), modification of gated structure and raising road elevations.

3.2 Alternative BMP Concepts

Various BMP alternative concepts evaluated in this study include conveyance improvements, stormwater management storage areas, flood proofing, and flow diversions.

3.3 Alternative BMP Evaluation

BMP alternative evaluations were performed using the existing watershed model and updating it to reflect various BMP scenarios. The following sections provide a brief description of each evaluated BMP alternative and a summary of the evaluation outcome.

3.3.1 Regional BMPs:

BMP alternatives that could potentially improve flooding condition in a large area are considered as regional BMPs. These alternatives could significantly alter the hydrodynamics of the drainage system. Although the alternatives presented in this report might not be permittable or economically viable, they provide a better understanding of the hydraulic response when applying the BMPs to further understand improvement limitations.

Six different regional BMPs were evaluated. Results from each BMP evaluation were compared to a benchmark scenario to evaluate the impact of the BMP. The benchmark scenario used was the 24-hour-100 year existing condition model previously submitted. The storm event used for the evaluations was the 24-hour, 100 year event with a Type II, Florida modified rainfall distribution.

For these analyses, the following GIS procedures were used when comparing the existing condition (Benchmark) and the proposed scenario (BMP):

Three potential analyses were considered when comparing each BMP scenario to the Benchmark Scenario.

- For the first analysis, the geoprocessing tool “Symmetric Difference” was applied with the BMP floodplain and benchmark floodplain as inputs, resulting in flooded area reduction and flooded area increase polygons for each scenario. Flooded area reduction represents area that flooded in the benchmark scenario, but not in the BMP scenario, and flooded area increase represents area that did not flood in the benchmark scenario, but did flood in the BMP scenario. Results were then summarized by sub-watershed in acres.
- The second analysis compared the length of street flooding in the BMP scenarios to length of street flooding in the benchmark scenario. The BMP scenario floodplain shapefile was intersected with the streets shapefile, and the total length of flooding was summarized by sub-watershed. Benchmark flooded street data was obtained from previous analysis per LOS (Level of Service) requirements.
- The final analysis compared the number of flooded parcels in the benchmark scenario to the number of flooded parcels in the BMP scenarios. To determine which parcels were flooded we used the parcels polygon shapefile downloaded from Sarasota County. Elevations were extracted from the LiDAR-based terrain data utilizing the centroid of the parcel as a calculation point, and one foot was added to the calculated elevation to represent buildings on fill material. Parcels in waterways or ponds were eliminated and not considered in these analyses. These elevations were then compared to the maximum stages from the CHAN model output for the BMP and benchmark simulation. Any parcels with elevations less than the maximum stage were considered flooded. The comparisons of the BMP scenario to the benchmark scenario were then broken down by sub-watershed for better understanding of local response to the BMP.

3.3.1.1 BMP #1: Remove Structures throughout City of North Port Waterways

Objective:

The objective of this BMP is to understand current primary drainage system capacity assuming no losses due to water control structures or drop structures within several waterways. Also, additional connectivity was provided among a few R canals southwest of the I-75 corridor to evaluate the response when transferring some of the existing load throughout less compromised areas.

Description:

Water control structures (WCS) and drop structures (DS) depicted in Figure 3-1 were removed and replaced with an equivalent channel section that mimics the immediate upstream canal's section. Also, and as stated before, additional connections were provided between a few existing secondary manmade R canals. Specifically, canal R-36 was hydraulically connected to the R-43 canal via a weir with equivalent channel geometry. Similarly, the R-43 canal was also connected with the R-24 and R-32 (See Figure 3-1).

Results:

Overall results indicate general improvements immediately north of Price Blvd and along Bass Point waterway while increasing flooding between S Toledo Blvd and S Sumter Blvd. Also, improvements are observed southwest of I-75 where supplemental canal connectivity was provided. An initial evaluation suggests that this BMP may not be feasible due to potential loss of potable water supply, fish and wildlife habitat, and wetlands. Please refer to Figure 3-1 and Table 3-1 for a summary of BMP#1 analysis results.

Table 3-1: BMP#1 Results Summary

Sub-Watershed	Bench Mark Total Flooded Area (Acres)	BMP1 Total Flooded Area (Acres)	BMP1 Total Flooded Area Change (%)	Bench Mark Flooded Street Length (Feet)	BMP1 Flooded Street Length (Feet)	BMP1 Flooded Street Length Change (%)	Bench Mark Flooded Parcels (Units)	BMP1 Flooded Parcels (Units)	BMP1 Flooded Parcels Change (%)
A	58	59	0.8	7,959	8,124	2.1	2	2	0.0
B	15,839	15,881	0.3	304,750	306,791	0.7	665	655	-1.5
C	724	745	2.8	118,951	124,883	5.0	38	40	5.3
D	150	172	14.5	38,510	47,969	24.6	15	17	13.3
E	407	446	9.5	47,961	65,534	36.6	2	2	0.0
F	98	124	25.7	22,234	34,741	56.3	1	1	0.0
G	250	208	-16.7	53,687	36,920	-31.2	17	9	-47.1
H	199	186	-6.4	1,082	548	-49.3	2	2	0.0
I	165	165	0.2	21,519	25,051	16.4	2	1	-50.0
J	335	298	-11.2	84,088	57,952	-31.1	15	15	0.0
K	240	237	-1.3	45,022	44,366	-1.5	5	5	0.0
L	69	67	-1.5	11,354	11,267	-0.8	0	0	0.0
M	2,426	2,475	2.0	0	0	0.0	0	0	0.0
N	150	146	-2.7	14,407	14,101	-2.1	1	1	0.0
O	189	177	-6.2	56,008	49,468	-11.7	9	8	-11.1
P	191	192	0.5	11,134	11,173	0.4	6	6	0.0
Q	3,733	3,735	0.1	0	0	0.0	0	0	0.0
R	2,294	2,320	1.1	86,929	99,236	14.2	43	60	39.5
S	2,489	2,454	-1.4	23,286	20,576	-11.6	74	74	0.0
T	206	190	-8.1	14,915	9,256	-37.9	5	2	-60.0
U	9,907	9,888	-0.2	8,973	8,934	-0.4	19	19	0.0
V	553	545	-1.5	20,054	18,184	-9.3	6	6	0.0
W	1,207	1,207	0.0	0	0	0.0	0	0	0.0
X	92	92	0.4	7,471	7,445	-0.3	2	2	0.0
Y	189	179	-5.1	70,162	63,890	-8.9	11	11	0.0
Z	51	48	-5.9	14,978	14,783	-1.3	0	0	0.0
Total	42,211	42,236	0.1	1,085,434	1,081,192	-0.4	940	938	-0.2

3.3.1.2 BMP #2: Constrain Flow Entering City Of North Port at Big Slough Canal

Objective:

The objective of this BMP is to constrain the volume of water coming from offsite areas through the Big Slough canal prior to entering the City in the Estates area.

The BMP would involve real estate acquisition, maintenance activities, dam construction and removal of existing hydraulic structures (culverts).

Description:

On the northwest City boundary, at the intersection of Big Slough canal with R-36 and R-580 waterways, all existing earthen weirs were raised to limit runoff from offsite areas, leaving the Big Slough canal as the only conveyance system into the western portion of the City (see Figure 3-2). All earthen weirs farther north, at the intersection of Big Slough canal and Power Line Road were raised as well.

Results:

This BMP results in approximately 0.5 feet flood stage reduction within the vicinity of the Big Slough canal from the City's northern border to just south of I-75. Likewise, results indicate that flood stages increase approximately 1.0 foot in the offsite areas north of R-36 and R-580 waterways. Table 3-2 summarizes BMP#2 analysis results.

Table 3-2: BMP#2 Results Summary

Sub-Watershed	Bench Mark Total Flooded Area (Acres)	BMP2 Total Flooded Area (Acres)	BMP2 Total Flooded Area Change (%)	Bench Mark Flooded Street Length (Feet)	BMP2 Flooded Street Length (Feet)	BMP2 Flooded Street Length Change (%)	Bench Mark Flooded Parcels (Units)	BMP2 Flooded Parcels (Units)	BMP2 Flooded Parcels Change (%)
A	58	58	0.0	7,959	7,958	0.0	2	2	0.0
B	15,839	16,092	1.6	304,750	260,559	-14.5	665	458	-31.1
C	724	725	0.0	118,951	118,959	0.0	38	38	0.0
D	150	150	0.0	38,510	38,460	-0.1	15	15	0.0
E	407	407	0.0	47,961	47,969	0.0	2	2	0.0
F	98	98	0.0	22,234	22,241	0.0	1	1	0.0
G	250	250	0.0	53,687	53,666	0.0	17	17	0.0
H	199	199	-0.1	1,082	1,078	-0.4	2	2	0.0
I	165	165	0.0	21,519	21,514	0.0	2	2	0.0
J	335	314	-6.4	84,088	72,205	-14.1	15	12	-20.0
K	240	240	0.0	45,022	45,020	0.0	5	5	0.0
L	69	69	0.0	11,354	11,354	0.0	0	0	0.0
M	2,426	2,421	-0.2	0	0	0.0	0	0	0.0
N	150	150	0.0	14,407	14,407	0.0	1	1	0.0
O	189	189	0.0	56,008	55,994	0.0	9	9	0.0
P	191	179	-6.1	11,134	10,124	-9.1	6	4	-33.3
Q	3,733	3,742	0.2	0	0	0.0	0	0	0.0
R	2,294	2,302	0.3	86,929	86,186	-0.9	43	45	4.7
S	2,489	2,486	-0.2	23,286	20,530	-11.8	74	73	-1.4
T	206	206	0.0	14,915	14,904	-0.1	5	5	0.0
U	9,907	9,907	0.0	8,973	8,973	0.0	19	19	0.0
V	553	552	-0.2	20,054	20,043	-0.1	6	6	0.0
W	1,207	1,207	0.0	0	0	0.0	0	0	0.0
X	92	87	-5.1	7,471	5,780	-22.6	2	2	0.0
Y	189	188	-0.5	70,162	69,877	-0.4	11	11	0.0
Z	51	51	-0.1	14,978	14,952	-0.2	0	0	0.0
Total	42,211	42,434	0.5	1,085,434	1,022,753	-5.8	940	729	-22.4

3.3.1.3 BMP #3: Diversion Alternative

Objective:

The purpose of this BMP is to divert flows from offsite areas via the existing R-36 canal, by increasing its capacity and improving its hydraulic connectivity with Deer Prairie Slough canal.

This BMP would involve construction of new structures, maintenance activities, real estate acquisition, and detailed hydrologic and hydraulic evaluation of the western boundary (Deer Prairie Slough watershed).

Description:

On the northwest boundary, along R-36 canal, two earthen overflow weirs were provided to enhance the R-36 waterway connectivity with Deer Prairie Slough canal (See Figure 3). Weir location and parameters were selected based on terrain and hydraulic constraints. The weirs were located on the northwest corner to address flooding in the Estates area and along Big Slough canal. Weir lengths and elevation used are as follows: Weir 1, L: 300 feet at EL:22.0 feet, NAVD88 and Weir 2, L:450 feet at EL:21.0 feet, NAVD88. The R-36 canal capacity was also doubled by replacing the existing cross-section with a 60 feet bottom width trapezoidal channel with 4:1 side slopes. The current model assumes no tailwater influence from Deer Prairie Slough.

Results:

As anticipated, simulation results indicate flood reduction throughout the Estates area, along the Big Slough Canal between the R-36 canal and I-75 corridor as well as in the localized area along Big Slough south of I-75 (See Figure 3-3). Overall results indicate a flood stage reduction between 0.1 foot and 1.0 foot throughout the aforementioned areas.

As mentioned before, these results were obtained assuming no increase in stages in the Deer Prairie Slough Canal since a fixed tailwater condition was used for modeling purposes. Further consideration of impacts of additional flow into the Deer Prairie Slough watershed should be taken into account during final evaluation of BMP's. Table 3-3 summarizes BMP#3 analysis results.

Table 3-3: BMP#3 Results Summary

Sub-Watershed	Bench Mark Total Flooded Area (Acres)	BMP3 Total Flooded Area (Acres)	BMP3 Total Flooded Area Change (%)	Bench Mark Flooded Street Length (Feet)	BMP3 Flooded Street Length (Feet)	BMP3 Flooded Street Length Change (%)	Bench Mark Flooded Parcels (Units)	BMP3 Flooded Parcels (Units)	BMP3 Flooded Parcels Change (%)
A	58	58	0.0	7,959	7,958	0.0	2	2	0.0
B	15,839	15,720	-0.8	304,750	282,118	-7.4	665	568	-14.6
C	724	724	-0.1	118,951	118,890	-0.1	38	38	0.0
D	150	150	-0.2	38,510	38,348	-0.4	15	15	0.0
E	407	407	-0.1	47,961	47,880	-0.2	2	2	0.0
F	98	98	-0.3	22,234	22,141	-0.4	1	1	0.0
G	250	250	0.0	53,687	53,663	0.0	17	17	0.0
H	199	198	-0.3	1,082	1,065	-1.5	2	2	0.0
I	165	165	0.0	21,519	21,463	-0.3	2	2	0.0
J	335	316	-5.7	84,088	73,854	-12.2	15	13	-13.3
K	240	240	0.0	45,022	45,022	0.0	5	5	0.0
L	69	69	0.0	11,354	11,354	0.0	0	0	0.0
M	2,426	2,426	0.0	0	0	0.0	0	0	0.0
N	150	150	0.0	14,407	14,407	0.0	1	1	0.0
O	189	189	0.0	56,008	55,998	0.0	9	9	0.0
P	191	184	-3.4	11,134	10,572	-5.0	6	4	-33.3
Q	3,733	3,731	-0.1	0	0	0.0	0	0	0.0
R	2,294	2,199	-4.1	86,929	64,689	-25.6	43	27	-37.2
S	2,489	2,486	-0.1	23,286	20,653	-11.3	74	73	-1.4
T	206	206	0.0	14,915	14,892	-0.2	5	5	0.0
U	9,907	9,907	0.0	8,973	8,973	0.0	19	19	0.0
V	553	552	-0.2	20,054	19,978	-0.4	6	6	0.0
W	1,207	1,207	0.0	0	0	0.0	0	0	0.0
X	92	86	-5.6	7,471	6,029	-19.3	2	2	0.0
Y	189	184	-2.4	70,162	68,020	-3.1	11	9	-18.2
Z	51	51	-0.2	14,978	14,924	-0.4	0	0	0.0
Total	42,211	41,953	-0.6	1,085,434	1,022,891	-5.8	940	820	-12.8

3.3.1.4 BMP #4: R-580 Improvements

Objective:

The objective of this alternative is to induce additional flows through Creighton waterway by improving current conveyance capacity in the R-580 waterway.

Description:

Waterway R-580's bottom profile was reset assuming a flat ditch at its lower elevation of 15.0 feet, NAVD along the entire stretch. The current bottom configuration of the R-580 waterway transitions between 17.71 feet, NAVD88 bottom elevation on the most western end to 23.0 feet, NAVD88 bottom elevation at the most eastern end and sags between these ends at elevation 15.0 feet, NAVD88 (see Figure 3-4).

Results:

This alternative results in small improvements within the vicinity of Big Slough. However, and as intended, additional flows were induced towards Creighton waterway. Inducing additional flow through Creighton waterway will result in additional flooding near I-75 for this particular rainfall event as shown on Figure 3-4. A summary of BMP#4 analysis results is presented in Table 3-4.

Table 3-4: BMP#4 Results Summary

Sub-Watershed	Bench Mark Total Flooded Area (Acres)	BMP4 Total Flooded Area (Acres)	BMP4 Total Flooded Area Change (%)	Bench Mark Flooded Street Length (Feet)	BMP4 Flooded Street Length (Feet)	BMP4 Flooded Street Length Change (%)	Bench Mark Flooded Parcels (Units)	BMP4 Flooded Parcels (Units)	BMP4 Flooded Parcels Change (%)
A	58	58	-0.1	7,959	7,953	-0.1	2	2	0.0
B	15,839	15,806	-0.2	304,750	298,627	-2.0	665	638	-4.1
C	724	725	0.1	118,951	119,411	0.4	38	38	0.0
D	150	151	0.2	38,510	38,526	0.0	15	15	0.0
E	407	408	0.1	47,961	48,223	0.6	2	2	0.0
F	98	99	0.4	22,234	22,517	1.3	1	1	0.0
G	250	250	0.1	53,687	53,782	0.2	17	17	0.0
H	199	199	-0.1	1,082	1,077	-0.4	2	2	0.0
I	165	165	0.1	21,519	21,636	0.6	2	2	0.0
J	335	329	-1.9	84,088	80,578	-4.2	15	15	0.0
K	240	240	0.0	45,022	45,026	0.0	5	5	0.0
L	69	69	0.0	11,354	11,354	0.0	0	0	0.0
M	2,426	2,426	0.0	0	0	0.0	0	0	0.0
N	150	150	0.0	14,407	14,412	0.0	1	1	0.0
O	189	189	0.1	56,008	56,041	0.1	9	9	0.0
P	191	189	-0.7	11,134	11,005	-1.2	6	5	-16.7
Q	3,733	3,720	-0.4	0	0	0.0	0	0	0.0
R	2,294	2,288	-0.3	86,929	85,260	-1.9	43	43	0.0
S	2,489	2,489	0.0	23,286	22,823	-2.0	74	74	0.0
T	206	206	0.0	14,915	14,957	0.3	5	5	0.0
U	9,907	9,910	0.0	8,973	8,973	0.0	19	19	0.0
V	553	577	4.3	20,054	23,139	15.4	6	10	66.7
W	1,207	1,207	0.0	0	0	0.0	0	0	0.0
X	92	90	-1.3	7,471	7,215	-3.4	2	2	0.0
Y	189	188	-0.4	70,162	69,897	-0.4	11	11	0.0
Z	51	51	-0.1	14,978	14,939	-0.3	0	0	0.0
Total	42,211	42,179	-0.1	1,085,434	1,077,371	-0.7	940	916	-2.6

3.3.1.5 BMP #5: Increase Capacity on Southern Boundary

Objective:

The objective of this alternative is to evaluate the system response when doubling the southern boundary discharge capacity into Charlotte Harbor area.

The BMP would involve conveyance improvements, construction of new structures and/or reconditioning of existing structures, maintenance activities, real estate acquisition, and detailed evaluation of the southern boundary through hydrology and hydraulic modeling.

Description:

All structures discharging from Cocoplum waterway into the Charlotte Harbor area under Hillsborough Blvd and their upstream weirs were doubled in capacity. A total of 13 structures under Hillsborough Blvd were double in the model and a total of 6 lateral weirs along Cocoplum waterway were doubled in size (see Figure 3-5).

Results:

This alternative was evaluated for information purposes only, as it is understood that inducing additional flows into Charlotte Harbor would not be desirable. Results indicate that improvements relative to house flooding were not significant; however roads experienced a considerable flood reduction between S Sumter Blvd and Atwater Dr. (see Figure 3-5). A summary of BMP#5 analysis results is presented in Table 3-5.

Table 3-5: BMP#5 Results Summary

Sub-Watershed	Bench Mark Total Flooded Area (Acres)	BMP5 Total Flooded Area (Acres)	BMP5 Total Flooded Area Change (%)	Bench Mark Flooded Street Length (Feet)	BMP5 Flooded Street Length (Feet)	BMP5 Flooded Street Length Change (%)	Bench Mark Flooded Parcels (Units)	BMP5 Flooded Parcels (Units)	BMP5 Flooded Parcels Change (%)
A	58	58	0.1	7,959	8,001	0.5	2	1	-50.0
B	15,839	15,836	0.0	304,750	304,487	-0.1	665	665	0.0
C	724	612	-15.6	118,951	75,331	-36.7	38	25	-34.2
D	150	121	-19.8	38,510	20,694	-46.3	15	7	0.0
E	407	395	-3.1	47,961	42,761	-10.8	2	2	0.0
F	98	76	-22.7	22,234	8,236	-63.0	1	1	-11.8
G	250	245	-2.1	53,687	51,993	-3.2	17	15	0.0
H	199	196	-1.4	1,082	1,000	-7.6	2	2	-50.0
I	165	143	-13.1	21,519	8,237	-61.7	2	1	0.0
J	335	335	0.0	84,088	84,042	-0.1	15	15	0.0
K	240	238	-0.8	45,022	44,688	-0.7	5	5	0.0
L	69	67	-2.1	11,354	11,317	-0.3	0	0	0.0
M	2,426	2,426	0.0	0	0	0.0	0	0	0.0
N	150	149	-0.6	14,407	14,407	0.0	1	1	0.0
O	189	180	-4.6	56,008	51,322	-8.4	9	9	0.0
P	191	191	0.0	11,134	11,133	0.0	6	6	0.0
Q	3,733	3,733	0.0	0	0	0.0	0	0	0.0
R	2,294	2,293	-0.1	86,929	86,339	-0.7	43	43	0.0
S	2,489	2,489	0.0	23,286	23,282	0.0	74	74	0.0
T	206	206	-0.3	14,915	14,756	-1.1	5	5	0.0
U	9,907	9,907	0.0	8,973	8,973	0.0	19	19	0.0
V	553	553	0.0	20,054	20,047	0.0	6	6	0.0
W	1,207	1,207	0.0	0	0	0.0	0	0	0.0
X	92	92	0.0	7,471	7,471	0.0	2	2	0.0
Y	189	189	0.0	70,162	70,161	0.0	11	11	0.0
Z	51	51	0.0	14,978	14,976	0.0	0	0	0.0
Total	42,211	41,988	-0.5	1,085,434	983,655	-9.4	940	915	-2.7

3.3.1.6 BMP #6: Upstream Detention Alternative

Objective:

The objective of this analysis is to examine the effects when attenuating peak flow rates in agricultural areas along the Big Slough canal with a series of new detention facilities.

This BMP would involve construction of stormwater management storage areas, maintenance activities and real estate acquisition.

Description:

In offsite areas, seven detention facilities were added to the model. Each detention area has a 100 acre footprint and is more than 10 feet deep. These areas were located on upland sites along Big Slough canal where feasible (see Figure 3-6). The bottom elevations of these detention areas were set at the adjacent canal initial elevation. Each of these ponds was linked to the Big Slough canal by a 500 foot weir. The crest elevations were set at the bottom of the pond. The total anticipated detained volume is 600 acre-ft per detention site, a total of 4,200 acre-ft.

Results:

Results indicate that the supplemental detention area alternative produces little reduction in peak water surface elevations. Elevations along Big Slough were reduced by only 0.1 to 0.6 feet, making this option less attractive. The extent of flooding for this BMP is essentially the same as the existing scenario with few flood reduction areas along the Big Slough canal (see Figure 3-6). Initial evaluation suggests that the costs associated with purchasing the proposed detention areas from private landowners will likely be high. In addition the complexity of building reservoirs will make it a less attractive solution; e.g. runup wave analysis will increase the height of the perimeter berm. Total costs include an initial cost of location, proper land acquisition and construction, in addition to recurring maintenance and operation costs. A summary of BMP#6 analysis results is presented in Table 3-6.

Table 3-6: BMP#6 Results Summary

Sub-Watershed	Bench Mark Total Flooded Area (Acres)	BMP6 Total Flooded Area (Acres)	BMP6 Total Flooded Area Change (%)	Bench Mark Flooded Street Length (Feet)	BMP6 Flooded Street Length (Feet)	BMP6 Flooded Street Length Change (%)	Bench Mark Flooded Parcels (Units)	BMP6 Flooded Parcels (Units)	BMP6 Flooded Parcels Change (%)
A	58	58	0.0	7,959	7,959	0.0	2	2	0.0
B	15,839	15,645	-1.2	304,750	280,497	-8.0	665	563	-15.3
C	724	724	-0.1	118,951	118,818	-0.1	38	38	0.0
D	150	150	-0.5	38,510	38,067	-1.2	15	15	0.0
E	407	407	-0.1	47,961	47,827	-0.3	2	2	0.0
F	98	98	-0.6	22,234	22,019	-1.0	1	1	0.0
G	250	250	0.0	53,687	53,659	-0.1	17	17	0.0
H	199	197	-0.8	1,082	1,021	-5.6	2	2	0.0
I	165	165	-0.1	21,519	21,418	-0.5	2	2	0.0
J	335	311	-7.2	84,088	72,123	-14.2	15	13	-13.3
K	240	240	0.0	45,022	45,022	0.0	5	5	0.0
L	69	69	0.0	11,354	11,354	0.0	0	0	0.0
M	2,426	2,426	0.0	0	0	0.0	0	0	0.0
N	150	150	0.0	14,407	14,407	0.0	1	1	0.0
O	189	189	-0.1	56,008	55,961	-0.1	9	9	0.0
P	191	183	-3.8	11,134	10,588	-4.9	6	4	-33.3
Q	3,733	3,723	-0.3	0	0	0.0	0	0	0.0
R	2,294	2,268	-1.2	86,929	80,023	-7.9	43	42	-2.3
S	2,489	2,485	-0.2	23,286	20,307	-12.8	74	73	-1.4
T	206	206	0.0	14,915	14,866	-0.3	5	5	0.0
U	9,907	9,907	0.0	8,973	8,973	0.0	19	19	0.0
V	553	550	-0.5	20,054	19,833	-1.1	6	6	0.0
W	1,207	1,207	0.0	0	0	0.0	0	0	0.0
X	92	88	-4.4	7,471	6,413	-14.2	2	2	0.0
Y	189	187	-0.7	70,162	69,679	-0.7	11	11	0.0
Z	51	51	-0.4	14,978	14,887	-0.6	0	0	0.0
Total	42,211	41,934	-0.7	1,085,434	1,035,721	-4.6	940	832	-11.5

3.3.2 BMP Evaluation of Four Crossings

Under this evaluation, as requested by the City of North Port, hydraulic performance and the effects of potential conveyance improvements at four sites, including: R-36 Canal at I-75, Myakkahatchee Creek at I-75, R-36 Canal at Tropicaire Boulevard, and Myakkahatchee Creek at Tropicaire Boulevard were analyzed.

A systematic evaluation was conducted to first understand the existing hydraulic behavior of each of the four crossings under various synthetic storm events. Head differences across each structure, flow conditions at peak discharge, and hydraulic connectivity (including flow patterns in adjacent areas) were assessed to understand unique conditions at each crossing.

In order to evaluate effectiveness of potential BMP improvements at these locations (including any resulting flood reduction and/or downstream flood increase), conveyance capacity at each site was increased by doubling the number of existing structures. This was achieved by adding a duplicate set of model reach elements at each location. A description of existing crossings and the applied BMP for evaluation are provided in Table 3-7.

Table 3-7: Location and Description of Existing and BMP Conditions

Crossing Location	Existing Crossing	BMP Condition
R-36 Canal at I-75	Two (2) 7.5' x 6' box culverts	Two (2) identical 7.5' x 6' box culverts were added in parallel to existing structure
Myakkahatchee Creek at I-75	Two (2) parallel bridges with 8 piers and a total span of 540 feet	Two (2) identical parallel bridges were added in parallel to existing structure
R-36 Canal at Tropicaire Blvd	Two (2) 5' diameter RCP culverts	Two (2) identical 5' diameter RCP culverts were added in parallel to existing structure
Myakkahatchee Creek at Tropicaire Blvd	One (1) bridge with 4 piers and a total span of 150 feet	One (1) identical bridge was added in parallel to existing structure

3.3.2.1 R-36 Canal at I-75 Evaluation

Existing condition model results indicate that more than two feet of head difference occurs across this structure during the 100-year storm event (see Table 3-8 and Figures 3-7 & 3-8). Under the proposed BMP condition, model results indicate that a peak stage reduction of up to 0.6 feet occurs upstream of the crossing, while a stage increase of approximately 0.6 feet occurs in the downstream areas. It is notable that reduced discharges are observed from the R-36 Canal westward into the adjacent Deer Prairie Slough watershed for the proposed BMP condition. This overflow connection with the adjacent watershed to the west is located north of I-75. The reduced overflow results in an increased total volume remaining within the North Port area, by virtue of the improved conveyance capacity of the proposed BMP. In summary, increasing the crossing capacity of the R-36 Canal at I-75 may reduce water levels upstream of the crossing, but

also raises flood elevations in the downstream areas. Mitigation of flooding in downstream areas was beyond the scope of this evaluation.

Table 3-8: R-36 Canal at I-75 Crossing Evaluation Results Summary

Table 3-8 (a): Existing Condition Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NR3210	17.47	19.57	20.38	20.99	21.69	22.30
D/S Node Max Stage (ft)*	NR3220	16.82	18.33	18.86	19.20	19.56	19.92
Difference in Stage (ft)	n/a	0.65	1.24	1.52	1.78	2.14	2.38
Flow (cfs)	n/a	424	586	654	710	779	846

Table 3-8 (b): With BMP Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NR3210	17.05	18.97	19.74	20.34	21.08	22.08
D/S Node Max Stage (ft)*	NR3220	16.88	18.61	19.25	19.69	20.19	20.74
Difference in Stage (ft)	n/a	0.17	0.36	0.49	0.65	0.90	1.34
Flow (cfs)	n/a	433	631	735	845	997	1223

Table 3-8 (c): Difference in Flows and Stages between BMP and Existing Condition

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)	NR3210	-0.42	-0.60	-0.64	-0.65	-0.61	-0.22
D/S Node Max Stage (ft)	NR3220	0.06	0.28	0.39	0.49	0.63	0.82
Flow (cfs)	n/a	9	45	82	135	218	377

*Vertical datum of stage reported in the table is with reference to NAVD88 Datum.

3.3.2.2 Myakkahatchee Creek at I-75 Evaluation

Existing condition model results indicate that approximately one foot of head difference occurs across this structure during extreme storm events (see Table 3-9 and Figures 3-9 & 3-10). This head difference is relatively small considering the magnitude of flow that arrives from the upstream contributing watershed (up to 8000 cubic feet per second). The applied BMP at this location assumes that the conveyance capacity of the bridge

crossing was doubled. In other words, an identical, parallel 540-foot bridge span was added to investigate the benefit of increasing bridge capacity. Under this hypothetical scenario, model results indicate that a localized stage reduction of 0.7 feet is observed immediately at the upstream end of the crossing. However, peak stage reductions decrease further upstream of the crossing along the creek. No significant change in peak elevations is observed 1,200 feet upstream of the crossing. Also, no significant change to flooding conditions is observed in areas downstream of the crossing. In summary, increasing the crossing capacity of the bridge over Myakkahatchee Creek at I-75 may reduce water levels immediately upstream of the crossing, but does not generally improve flooding conditions north of I-75. The area impacted by this improvement is very localized and would not justify the cost of the improvement.

3.3.2.3 R-36 Canal at Tropicaire Boulevard Evaluation

Existing condition model results indicate that up to three feet of head difference occurs across this structure during various storm events (see Table 3-10 and Figures 3-11 & 3-12). Under the proposed BMP conditions, model results indicate a peak stage reduction of approximately 0.8 feet upstream of the crossing, while a stage increase of up to 1.1 feet occurs downstream of Tropicaire. During all events, discharges from the R-36 canal into Deer Prairie Slough watershed are observed north of Tropicaire Boulevard. The proposed BMP results in a reduction of those discharges to Deer Prairie Slough and a resulting increased total volume remaining within the North Port area. In summary, while increasing the crossing capacity of the R-36 Canal at Tropicaire Boulevard may reduce water levels upstream of the crossing, it also raises flood elevations in downstream areas. Mitigation of flooding in downstream areas was beyond the scope of this evaluation.

3.3.2.4 Myakkahatchee Creek at Tropicaire Boulevard Evaluation

Existing condition model results indicate that the maximum calculated head difference for the various storm events is 0.2 feet; therefore the bridge is not causing a flow restriction (see Table 3-11 and Figures 3-13 & 3-14). Regardless, a BMP was applied for evaluation and assumes that the conveyance capacity was increased (doubled) by adding an identical bridge element in parallel to the existing structure. Under this scenario, model results indicate that a maximum localized stage reduction of approximately 0.1 feet was calculated, yet no significant change is observed further upstream nor downstream of the crossing. In summary, increasing the crossing capacity of the bridge over Myakkahatchee Creek at Tropicaire Boulevard does not substantially improve flooding conditions north of I-75.

Model results (maximum stages and maximum flows) for various storm events (Mean Annual, 5-year, 10-year, 25-year, 50-year, and 100-year) are provided in tabular form within the accompanying geodatabase.

Table 3-9: Myakkahatchee Creek at I-75 Crossing Evaluation Results Summary

Table 3-9 (a): Existing Condition Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NB0750	20.40	21.89	22.19	22.46	22.82	23.93
D/S Node Max Stage (ft)*	NB0780	19.81	20.86	21.13	21.37	21.79	22.83
Difference in Stage (ft)	n/a	0.59	1.03	1.07	1.09	1.02	1.10
Flow (cfs)	n/a	1306	3045	3640	4236	5290	7816

Table 3-9 (b): With BMP Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NB0750	19.97	21.16	21.45	21.71	22.14	23.35
D/S Node Max Stage (ft)*	NB0780	19.82	20.87	21.14	21.39	21.83	23.02
Difference in Stage (ft)	n/a	0.16	0.29	0.31	0.32	0.30	0.33
Flow (cfs)	n/a	1311	3601	3673	4291	5175	8509

Table 3-9 (c): Difference in Flows and Stages between BMP and Existing Condition

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)	NB0750	-0.43	-0.72	-0.75	-0.75	-0.68	-0.58
D/S Node Max Stage (ft)	NB0780	0.00	0.01	0.01	0.02	0.04	0.20
Flow (cfs)	n/a	5	556	33	55	-115	692

*Vertical datum of stage reported in the table is with reference to NAVD88 Datum.

Table 3-10: R-36 Canal at Tropicaire Boulevard Crossing Evaluation Results Summary

Table 3-10 (a): Existing Condition Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NR0170	21.57	21.99	22.08	22.15	22.22	22.33
D/S Node Max Stage (ft)*	NR3190	18.15	19.74	20.48	21.07	21.73	22.31
Difference in Stage (ft)	n/a	3.42	2.25	1.61	1.08	0.49	0.01
Flow (cfs)	n/a	414	420	420	420	421	420

Table 3-10 (b): With BMP Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NR0170	20.77	21.77	21.94	22.06	22.18	22.32
D/S Node Max Stage (ft)*	NR3190	19.29	20.68	21.11	21.49	21.90	22.32
Difference in Stage (ft)	n/a	1.48	1.10	0.83	0.57	0.28	0.00
Flow (cfs)	n/a	550	575	576	578	578	577

Table 3-10 (c): Difference in Flows and Stages between BMP and Existing Condition

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)	NR0170	-0.80	-0.21	-0.14	-0.09	-0.04	0.00
D/S Node Max Stage (ft)	NR3190	1.14	0.94	0.63	0.42	0.17	0.01
Flow (cfs)	n/a	136	156	156	157	158	157

*Vertical datum of stage reported in the table is with reference to NAVD88 Datum.

Table 3-11: Myakkahatchee Creek at Tropicaire Boulevard Crossing Evaluation Results Summary

Table 3-11(a): Existing Condition Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NB0700	22.79	24.28	24.51	24.71	24.99	26.13
D/S Node Max Stage (ft)*	NB0710	22.70	24.08	24.31	24.52	24.83	26.07
Difference in Stage (ft)	n/a	0.09	0.19	0.20	0.20	0.16	0.06
Flow (cfs)	n/a	1332	2582	2785	2890	2973	2756

Table 3-11(b): With BMP Upstream and Downstream Node Maximum Stages and Flows

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)*	NB0700	22.73	24.17	24.41	24.63	24.94	26.11
D/S Node Max Stage (ft)*	NB0710	22.71	24.12	24.35	24.57	24.88	26.09
Difference in Stage (ft)	n/a	0.02	0.05	0.06	0.06	0.05	0.02
Flow (cfs)	n/a	1353	2712	3001	3167	3278	3031

Table 3-11(c): Difference in Flows and Stages between BMP and Existing Condition

Location	Node Name	Mean Annual	1 Day 10YR	1 Day 25YR	1 Day 50YR	1 Day 100YR	5 Day 100YR
U/S Node Max Stage (ft)	NB0700	-0.06	-0.10	-0.10	-0.09	-0.06	-0.02
D/S Node Max Stage (ft)	NB0710	0.01	0.04	0.04	0.05	0.05	0.02
Flow (cfs)	n/a	21	131	217	277	305	275

*Vertical datum of stage reported in the table is with reference to NAVD88 Datum.

3.3.3 WCS-162 Evaluation

WCS-162 is located on the R-36 Canal, north of Interstate 75, and immediately upstream of Tropicaire Boulevard (refer to Figure 3-15). This is the only gated weir structure on the R-36 Canal, with one 2.25 feet high by 2 feet wide pull up slide gate. The City generally operates this structure by fully opening the gate in anticipation of a storm event to lower the water level in the R-36 canal to minimize potential upstream flooding; otherwise, the gate remains closed. The City staff would like to determine if adding gates would help draw down the canal more quickly and increase conveyance capacity.

3.3.3.1 *R-36 Canal Drawdown Evaluation*

To reduce impacts downstream of WCS-162 while improving peak conditions upstream of the structure, an evaluation was performed to determine the benefits of adding additional gates. The evaluation included calculating the drawdown time for the R-36 canal and the additional conveyance capacity provided by the additional gates.

To evaluate BMPs at WCS-162, Ardaman requested to survey the structure to better understand the geometry of the structure and canal with the purpose of assessing availability of adequate space for additional gates. The survey data provided by Van Buskirk/Fish & Associates, Inc. is included in Appendix A, and the structure pictures are provided in Appendix B. The existing condition model was revised using the latest (2014) survey information for this BMP Evaluation. The update model simulated results rendered no change in model results compared to the May 2012 Governing Board approved model.

The benefits of reducing time required to lower R-36 canal elevation by adding gates at WCS-162 upstream of the structure were assessed by performing a drawdown analysis. For the drawdown evaluation, the R-36 canal upstream of WCS-162 was assumed to be at the control elevation of the weir (elevation 18.3 feet NAVD88). The water level at the canal was simulated by fully opening the existing gate with no additional flows coming into the canal. The existing condition drawdown simulation results indicates that it would take approximately 18 hours to lower the canal to elevation 15 feet (refer to Figure 3-16).

The canal drawdown simulation was repeated for one and two additional gates scenarios. The canal stage hydrographs upstream of the structure with additional gates are also plotted in Figure 3-16. As shown in Figure 3-16, the time required to drawdown R-36 canal will decrease to 11 hours by adding an identical gate. When 2 additional matching gates are provided, the time require to drawdown R-36 canal would decrease to 9 hours. Therefore, the total time required to drawdown R-36 canal (to elevation 15 feet) upstream of WCS-162 will be reduced by 7 and 9 hours by adding one and two additional gates respectively.

3.3.3.2 *Storm Events Simulation Results*

The mean annual, 5-year, and 10-year storm events were simulated using the updated existing condition model with 2014 survey information. The City's water control structure operation criteria were employed in these simulations. The gates are closed at the

beginning of the simulation, and they will be fully open when Big Slough Canal stage at Tropicaire rises to Elevation 15.88 feet NAVD88.

Benefits of flood control at the upstream of WCS-162 during a storm event were evaluated by simulating the mean annual storm event starting at the drawdown stage levels (Elevation 15 feet NAVD88). For this evaluation, initial stages in R-36 Canal upstream of WCS-162 were set to the drawdown levels, i.e. simulated canal stages after 18 hours of drawdown simulation. The lower initials at the canal will account for the additional canal storage capacity available upstream of WCS-162. During the lower initial condition simulation, the WCS-162 gate was assumed to be opened throughout the simulation. Model results with lowered initials were compared to the results with the normal initial stage, which is at the invert elevation (at elevation 18.29 feet NAVD88) of WCS-162 weir. Table 3-12 presents model results and comparison of max stages of R-36 canal upstream of WCS-162 weir with normal and lowered initial stage at the canal for the mean annual storm event. As indicated in the table, simulated results suggest that there will be no difference in peak stages in R-36 canal due to the lower initial canal stage. It should be noted that model results suggest the 50-foot wide weir at WCS-162 overtops by 2.6 feet conveying 328 cfs of peak flow across the structure during the mean annual storm event. The R-36 Canal upstream of WCS-162 holds approximately 30 acre-feet of storage capacity behind the gate, whereas more than 3,000 acre-feet of runoff volume is conveyed by the canal during the mean annual storm event. The additional available storage seems to be insignificant compared to the runoff conveyed by the canal during the storm event.

In addition, benefits of having one additional gate with the lowered R-36 canal stages upstream of WCS-162 were also evaluated. For this scenario, both gates (one existing and one additional BMP gate) were assumed to be fully opened throughout the simulation. The model results for mean annual storm event for this scenario are also presented in Table 3-12. The simulated results suggest that there will be no difference in R-36 canal max stages upstream of WCS-162 with an additional gate at the structure. As no difference in peak stages were predicted for the mean annual storm event, no other higher return period storm events (5-year and 10-year) were analyzed with additional gates.

In conclusion, providing one or two additional gates at WCS-162 will help to reduce the time required to drawdown canal levels at the upstream of the structure; however the model results suggest that lower initial levels in R-36 canal upstream of the structure will provide no benefits in terms of reducing flooding at the upstream areas even for small storm events such as mean annual storm event. Also, the modeling results suggest that there would be no adverse impacts in the downstream of WCS-162 due to the additional gate.

**Table 3-12: Mean Annual Event Simulated Maximum Stages in R-36 Canal
Upstream of WCS-162**

Model Node ⁺	Existing Condition Max Stage (ft, NAVD88)	Scenario 1: Existing with Lowered Initials		Scenario 2: One Additional Gate BMP with Lowered Initials	
		Max Stage (ft, NAVD88)	Difference in Max Stage (ft)	Max Stage (ft, NAVD88)	Difference in Max Stage(ft)
NR0170*	21.55	21.55	0.00	21.56	0.01
Water Control Structure WCS-162					
NR3160**	21.86	21.86	0.00	21.85	0.00
NR3150	21.87	21.86	0.00	21.86	0.00
NR3140	22.09	22.09	0.00	22.09	0.00
NR3130	22.23	22.23	0.00	22.23	0.00
NR3125	22.42	22.41	-0.01	22.41	-0.01
NR3120	22.58	22.57	-0.01	22.57	-0.01
NR3110	22.76	22.76	-0.01	22.76	-0.01
NR3100	22.85	22.84	-0.01	22.84	-0.01
NR3090	22.94	22.94	0.00	22.94	0.00
NR3080	23.01	23.01	0.00	23.01	0.00
NR3070	23.09	23.09	0.00	23.08	0.00
NR3060	23.20	23.20	0.00	23.20	0.00
NR3050	23.40	23.40	0.00	23.40	0.00
NR3040	23.44	23.44	0.00	23.44	0.00
NR3030	23.51	23.51	0.00	23.51	0.00
NR3025	23.58	23.58	0.00	23.58	0.00
NR3020	23.59	23.59	0.00	23.59	0.00
NR3010	23.62	23.62	0.00	23.62	0.00
NB5695	23.65	23.65	0.00	23.65	0.00

⁺ Model nodes are presented from downstream to upstream location at R-36 canal

* Model Node Downstream of WCS-162

** Model Node Upstream of WCS-162

3.3.4 Price Boulevard LOS Improvements

Existing condition model results (May 2012 Governing Board approved model) predict that West Price Boulevard would intermittently flood between Locher Road and the Big Slough Canal during the 10, 25, and 100-year, 24-hour storm events. The currently designated City of North Port Level of Service (LOS) is shown in Figure 3-17. As shown on this figure, the West Price Boulevard stretch is identified as an arterial street that floods during the 100-year, 24-hour design storm event. This arterial street is critical to stormwater emergency response since it provides access to emergency facilities such as North Port Utilities Building, North Port High School and Heron Creek Middle School. Therefore, the City of North Port requested further evaluation of the stretch of West Price Boulevard between North Biscayne Boulevard and the Big Slough Canal to provide BMP recommendations to meet the City of North Port LOS criteria. City Unified Land Development Code Chapter 18 Level of Service criteria for arterial roads states that flooding must be less than 6 inches, as measured at the outside edge of pavement in a 100-year, 24-hour design storm event.

Ardaman staff reviewed the May 2012 Governing Board approved model setup within the area of interest (AOI) to verify whether the current model adequately represents the 2014 condition. With desktop and field reconnaissance of the area, it was observed that a section of the surface and sub-surface drainage systems near the North Port High School had been recently updated. Ardaman recommended surveying the AOI to better represent the existing condition. The survey data provided by Van Buskirk/Fish & Associates, Inc. is included in Appendix C.

Existing (2014) Condition Description:

Based on recent survey, stormwater runoff collected from the north and south swales of West Price Boulevard generally flows west from the North Port Utilities Building, whereas stormwater runoff from the remaining areas flows east from this location. Accumulated stormwater runoff going west from the North Port Utilities Building ultimately flows north via the Indian burial ground toward the R-32 canal.

Stormwater runoff going east toward Big Slough is routed through a series of surface water features (ditches, swales and inlets) which connects to a sub-surface system along the north side of West Price Boulevard.

Existing Condition Model Update and Results:

The May 2012 Governing Board approved model was updated using the 2014 survey provided by Van Buskirk/Fish & Associates, Inc. The revised 100-year storm event model results indicate that West Price Boulevard would not flood near the North Port High School as previously predicted. However, the stretch of West Price Boulevard north of Little Salt Spring would still flood by 0.4 feet at the crown during the 10-year storm event. Survey data indicates that road overtopping would occur at the lowest point (near the culvert crossing) at 17.3 feet NAVD88. The model predicted the 25-year and 100-year storm maximum stages at West Price Boulevard are 17.9 and 18.2 feet NAVD88 respectively. The revised existing condition floodplain delineations for the 100-year storm event and the revised LOS are presented in Figure 3-18.

BMP Alternative Analysis

The objective of this series of BMPs is to mitigate flooding along the stretch of West Price Boulevard near the Indian burial ground to meet the existing City of North Port LOS criteria.

Five different BMP alternatives were considered. Only the three alternatives that were determined to be effective in improving the LOS are described below:

3.3.4.1 West Price Boulevard BMP 1

Description

The first BMP alternative involves dredging the R-24 and R-32 canals. As shown in Figure 3-19, this alternative would require: dredging 2,300 feet of R-24 canal and 1,800 feet of R-32 canal to add approximately 2 to 3 feet of depth; and installing one extra parallel 36-inch pipe at the existing culvert crossing, between Indian burial ground and the R-32 canal. Figures showing comparison of existing and BMP cross-sections and bottom profiles of these canals are provided in Appendix D.

The City is not allowed to disturb the 50-foot wide drainage right-of-way through the Indian burial ground.

Results

Model results, comparison of floodplains, and the maximum stages at notable locations are presented in Figure 3-19. Model results with BMP_1 alternative suggest that West Price Boulevard would not overtop during the 25-year storm event. In addition, this alternative would reduce flooding on some local streets (Dundee Ave, Surf Ave, and San Salvador Road) located north of R-32 canal.

The model predicted that the 100-year maximum stage at West Price Boulevard with BMP_1 alternative will be reduced from 18.2 to 17.5 feet NAVD88. West Price Boulevard would still overtop by 0.2 feet over the crown of the road at the lowest section during the 100-year storm event. However, the road would be passable according to City of North Port LOS criteria. Figure 3-20 shows the comparison of the 100-year floodplain and maximum stages at notable locations with BMP 1 alternative. Model results also indicate that there will be no adverse impacts at downstream areas due to this improvement.

3.3.4.2 West Price Boulevard BMP 2

Description

The second BMP alternative consists of raising the road (West Price Boulevard) such that it would not flood during the 100-year design storm event. This alternative would involve raising approximately 1,900 feet of West Price Boulevard to an elevation of 18.5 feet NAVD88. Survey data suggests that the lowest segment of the road, which is located at the culvert crossing, needs to be raised by 1.2 feet to reach an elevation of 18.5 feet NAVD88. Figure 3-21 shows the comparison of the 100-year floodplain as well

as the extent of West Price Boulevard that needs to be raised to reduce flooding potential during the event.

Results

Model results suggest that the 100-year peak stages upstream and downstream of the culvert across West Price Boulevard would be 18.2 feet NAVD88 with this alternative. The model predicted the 100-year maximum stage at West Price Boulevard is below the recommended raised road crown elevation of 18.5 feet NAVD88. The peak stage model results suggest that there will be no adverse impacts or increase in stages upstream or downstream of the improvement for any modeled storm event.

Additional right-of-way requirement to raise the road and its availability should be thoroughly assessed prior to selecting this BMP alternative.

3.3.4.3 *West Price Boulevard BMP 3*

Description

The third BMP alternative evaluated incorporates both BMP_1 and BMP_2 improvements, i.e. dredging the R-32 and R-24 canals, adding a new pipe crossing, and raising the road such that it would not flood during the 100-year storm event.

Results

Model results suggest that the 100-year peak stage upstream of the culvert across West Price Boulevard would be 17.6 feet NAVD88 with this alternative. Figure 3-22 shows the comparison of the 100-year floodplain as well as the elements of BMP_3 improvements. This alternative would require raising approximately 950 feet of West Price Boulevard to elevation 18.0 feet NAVD88. Compared to BMP_2 improvements, this alternative would reduce the required road improvement length by half at a lower elevation (6 inches lower than BMP_2). Similar to BMP_1 and BMP_2, the peak stage model results suggest that there will be no adverse impacts or increase in stages upstream or downstream of the road improvement for any model storm event.

3.3.4.4 *Other Evaluated BMPs*

In addition to the three previously described BMP alternatives, a few other BMPs were evaluated. However, modeling results suggest that these BMPs would not mitigate the flooding conditions along the evaluated stretch of West Price Boulevard.

One of the other BMPs evaluated was to install a 24-inch pipe at the south side of West Price Boulevard near the culvert that would run approximately 1,400 feet to the east and connect to the existing sub-surface system inlet. This BMP did not show any improvements since the BMP pipe is too long and there was not sufficient hydraulic gradient available to convey the necessary flow rate through the pipe.

Another BMP evaluated was to provide a 20-foot wide cut/swale that would connect the flooded area south of West Price Boulevard to the south towards the Little Salt Spring basin. 25-year storm event model results suggest that this BMP alternative would lower

peak stages at West Price Boulevard only by 0.2 feet. However, the road would still flood during this event. Also, this BMP may raise environmental concerns considering that it would require diverting stormwater runoff from the road towards Little Salt Spring basin.

3.3.4.5 Summary and Recommendations

Various BMP alternatives were evaluated to mitigate flooding at West Price Boulevard with the purpose of meeting City of North Port LOS criteria. BMP_1 alternative (dredging R-24 and R-32 canals) would eradicate the road flooding in a 25-year design storm event, and it would minimize flooding in a 100-year storm event to make it passable during the event. BMP_2 alternative would eliminate road flooding in a 100-year design storm event by raising West Price Blvd. BMP_3 alternative would also eliminate West Price Boulevard road flooding in a 100-year storm event while minimizing road improvements. A summary of 100-year peak stages for each BMP alternatives and recommended road crown and edge of pavement elevations are provided in Table 3-13. It is estimated that it would cost \$0.8 million, \$0.9 million, and \$1.3 million for BMP_1, BMP_2, and BMP_3, respectively (see Appendix E for the detailed cost estimates). These cost estimates are approximate, and they are used for the comparison purpose only. Considering the project cost, BMP_2 alternative (raising the road) appears to be the most effective approach to eliminate road flooding conditions for the 100-year design storm event. In 2010, the city cleaned these canals with the purpose of removing mucks accumulated at the bottom. It is recommended current cross-sections and bottom profiles of these canals be surveyed to verify dredging requirements prior to selecting dredging alternatives. Also, canal dredging cost could be less, if City of North Port performs the dredging using in-house resources.

Table 3-13: Summary of West Price Boulevard BMPs

BMP Description	100-year Flood Elevation (ft, NAVD88)		EOP Elevation (ft, NAVD88)		Road Crown Elevation (ft, NAVD88)		Preliminary Cost Estimate for Construction in 2017
	Without BMP	With BMP	Existing	Proposed	Existing	Proposed	
No. 1- Dredge R-24 and 32, add 36" pipe	18.2	17.5	17	17	17.3	17.3	\$832,000
No. 2- Raise 1900 LF of Price Blvd 1.2' higher	18.2	18.2	17	18.2	17.3	18.5	\$859,000
No. 3- Dredge R-24 and 32, add 36" pipe, Raise 850 LF of Price Blvd 0.7' higher	18.2	17.6	17	17.7	17.3	18.0	\$1,308,000

The 25-year and 100-year storm events revised existing condition and BMP 1, 2, and 3 alternatives model results (maximum stages and maximum flows) are provided in tabular form within the accompanying geodatabase along with updated model network (basins, nodes, and reaches). CHAN model data and simulation run files for these alternatives are also included in an external hard drive.

4.0 CONCEPTUAL PERMIT APPLICATION

Conceptual permit application was not included in this project.

5.0 CONCLUSIONS

It is recommended that the City of North Port purchase the small number of habitable structures in which flooding is predicted in the 100 year event. Purchasing the affected properties may be more cost effective than implementing any BMPs. Figure 5-1 shows the 74 parcels (one parcel contains two habitable structures) identified in the LOS analysis, in addition to 25 parcels reported as flooded in 1992 and 27 properties reported as damaged in 2003 (also see Table 5-1 below). Several parcels were identified as flooded in more than one event, which is noted in the table.

It is recommended that finished floor elevations of the 101 parcels are acquired by survey, and finished floor elevations are compared with modeled 100 year event maximum stages, to determine which properties flood in the 100 year event. Highlighted rows indicate parcels that were identified as flooded in the LOS analysis, and have documented flooding in the 1992 and/or 2003 event.

Table 5-1: Summary of Parcels to Survey

PID	Address	City, State, Zip	In 100 Year Level of Service Analysis	Reported as Flooded in 1992	Reported as Flooded in 2003
1122-16-0325	1297 NACKMAN RD	NORTH PORT, FL 34288	Yes		
1008-25-5316	1400 LONGBOW AVE	NORTH PORT, FL 34288	Yes		
0976-26-4128	2386 VESTRIDGE ST	NORTH PORT, FL 34287	Yes		
0964-08-1404	2912 OKLAHOMA ST	NORTH PORT, FL 34286	Yes		
0995-18-2835	2989 SARLETTO ST	NORTH PORT, FL 34287		Yes	
0995-18-2836	2999 SARLETTO ST	NORTH PORT, FL 34287		Yes	
0967-06-0117	3166 SNOWBIRD ST	NORTH PORT, FL 34291	Yes	Yes	Yes
0993-26-4012	3236 MONTCLAIR CIR	NORTH PORT, FL 34287	Yes		
0993-26-3801	3262 MONTCLAIR CIR	NORTH PORT, FL 34287	Yes		
0993-26-3730	3589 MONTCLAIR CIR	NORTH PORT, FL 34287	Yes		
0993-26-3815	3626 MONTCLAIR CIR	NORTH PORT, FL 34287	Yes		
0993-26-3816	3652 MONTCLAIR CIR	NORTH PORT, FL 34287	Yes		

PID	Address	City, State, Zip	In 100 Year Level of Service Analysis	Reported as Flooded in 1992	Reported as Flooded in 2003
0954-14-2522	4268 BACKENSTO ST	NORTH PORT, FL 34291	Yes		Yes
1144-07-4316	4268 LEESBURG AVE	NORTH PORT, FL 34288	Yes		
1002-18-4613	4353 MCKIBBEN DR	NORTH PORT, FL 34287	Yes		
1002-27-6618	4399 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-18-4810	4440 MONGITE RD	NORTH PORT, FL 34287	Yes		
0955-15-4601	4441 COBBLER LN	NORTH PORT, FL 34286	Yes		
1002-27-6621	4441 MONGITE RD	NORTH PORT, FL 34287	Yes		
0996-19-1923	4531 NELE ST	NORTH PORT, FL 34287		Yes	
1002-18-4806	4534 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-27-6627	4567 MONGITE RD	NORTH PORT, FL 34287	Yes		
0996-19-1922	4573 NELE ST	NORTH PORT, FL 34287		Yes	
1002-27-6628	4583 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-27-6629	4599 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-27-6630	4609 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-27-6631	4625 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-18-5011	4628 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-18-5010	4640 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-27-6632	4641 MONGITE RD	NORTH PORT, FL 34287	Yes		
1002-18-5008	4668 MONGITE RD	NORTH PORT, FL 34287	Yes		
0996-19-4324	4943 GROBE ST	NORTH PORT, FL 34287	Yes		
0996-19-2317	4964 GROBE ST	NORTH PORT, FL 34287		Yes	
1001-27-6105	4974 ESCALANTE DR	NORTH PORT, FL 34287	Yes		
1001-27-6106	4982 ESCALANTE DR	NORTH PORT, FL 34287	Yes		
1001-27-6316	4983 ESCALANTE DR	NORTH PORT, FL 34287	Yes		
0996-19-4325	4987 GROBE ST	NORTH PORT, FL 34287	Yes		
1001-27-6107	4990 ESCALANTE DR	NORTH PORT, FL 34287	Yes		
0996-19-2318	4991 BULLARD ST	NORTH PORT, FL 34287		Yes	


PID	Address	City, State, Zip	In 100 Year Level of Service Analysis	Reported as Flooded in 1992	Reported as Flooded in 2003
0953-15-2713	5005 LACEY ST	NORTH PORT, FL 34286	Yes		Yes
0996-09-4126	5009 BULLARD ST	NORTH PORT, FL 34287	Yes		
0955-15-3218	5060 IBSON LN	NORTH PORT, FL 34286	Yes		
0942-15-3308	5089 HABLOW LN	NORTH PORT, FL 34286	Yes		
0942-15-3307	5101 HABLOW LN	NORTH PORT, FL 34286	Yes		
1001-27-6115	5102 ESCALANTE DR	NORTH PORT, FL 34287	Yes		
0942-15-3205	5133 INKS LN	NORTH PORT, FL 34286	Yes		
1001-27-6117	5142 ESCALANTE DR	NORTH PORT, FL 34287	Yes		
0942-15-3204	5149 INKS LN	NORTH PORT, FL 34286	Yes		
0942-15-3301	5173 HABLOW LN	NORTH PORT, FL 34286	Yes		
0953-15-2415	5208 GRIGGS AVE	NORTH PORT, FL 34291	Yes		
0953-15-2214	5224 HACKLEY RD	NORTH PORT, FL 34291	Yes		
0953-15-2615	5272 GADBOYS AVE	NORTH PORT, FL 34291	Yes		
0953-15-2614	5278 GADBOYS AVE	NORTH PORT, FL 34291	Yes		
0953-15-2324	5290 HAAS AVE	NORTH PORT, FL 34291	Yes		
1001-27-6122	5292 TREKELL ST	NORTH PORT, FL 34287	Yes		
1001-27-6123	5302 TREKELL ST	NORTH PORT, FL 34287	Yes		
0996-19-4339	5323 GROBE ST	NORTH PORT, FL 34287		Yes	
0944-15-2728	5363 LACEY ST	NORTH PORT, FL 34286	Yes		Yes
0955-15-4505	5382 NOHAVA RD	NORTH PORT, FL 34286	Yes		
0954-14-2930	5437 MANDRAKE TER	NORTH PORT, FL 34291	Yes		
0954-14-2515	5497 LADY SLIPPER AVE	NORTH PORT, FL 34291			Yes
0953-14-1109	5516 REISTERSTOWN RD	NORTH PORT, FL 34291			Yes
0944-07-1204	5519 GARRISON AVE	NORTH PORT, FL 34291			Yes
0953-14-1108	5547 TANEYTOWN ST	NORTH PORT, FL 34291			Yes
0953-14-1208	5551 REISTERSTOWN RD	NORTH PORT, FL 34291	Yes	Yes	Yes

PID	Address	City, State, Zip	In 100 Year Level of Service Analysis	Reported as Flooded in 1992	Reported as Flooded in 2003
0953-14-1113	5555 HENNESSY ST	NORTH PORT, FL 34291	Yes	Yes	Yes
0953-14-1207	5585 REISTERSTOWN RD	NORTH PORT, FL 34291			Yes
0953-14-1111	5588 REISTERSTOWN RD	NORTH PORT, FL 34291	Yes		Yes
0944-07-1202	5621 GARRISON AVE	NORTH PORT, FL 34291	Yes		
0953-14-1206	5621 REISTERSTOWN RD	NORTH PORT, FL 34291	Yes	Yes	Yes
0953-14-1112	5624 REISTERSTOWN RD	NORTH PORT, FL 34291	Yes	Yes	Yes
0942-08-0004	5625 N SUMTER BLVD	NORTH PORT, FL 34286	Yes		
1002-18-4802	5650 POSTMA ST	NORTH PORT, FL 34287	Yes		
0954-14-2520	5654 LADY SLIPPER AVE	NORTH PORT, FL 34291			Yes
0944-07-1309	5664 GARRISON AVE	NORTH PORT, FL 34291	Yes		Yes
0944-07-1304	5779 REISTERSTOWN RD	NORTH PORT, FL 34291	Yes	Yes	Yes
0967-05-8905	5788 SYLVANIA AVE	NORTH PORT, FL 34291			Yes
0967-05-8904	5814 SYLVANIA AVE	NORTH PORT, FL 34291			Yes
0942-04-1904	5815 SUMTER BLVD	NORTH PORT, FL 34286	Yes		Yes
0968-05-7474	5834 BURWIN AVE	NORTH PORT, FL 34291	Yes		
0968-05-7448	5839 BATTERSEA AVE	NORTH PORT, FL 34291	Yes		Yes
0968-05-7450	5861 BATTERSEA AVE	NORTH PORT, FL 34291	Yes		Yes
0968-05-8024	5933 BURWIN AVE	NORTH PORT, FL 34291	Yes		
0968-05-7454	5971 BATTERSEA AVE	NORTH PORT, FL 34291	Yes		Yes
0941-04-1613	6527 REISTERSTOWN RD	NORTH PORT, FL 34291			Yes
0943-01-1009	6531 TANEYTOWN ST	NORTH PORT, FL 34291		Yes	
0941-04-1611	6669 REISTERSTOWN RD	NORTH PORT, FL 34291	Yes	Yes	Yes
0941-04-1609	6869 REISTERSTOWN RD	NORTH PORT, FL 34291		Yes	Yes

PID	Address	City, State, Zip	In 100 Year Level of Service Analysis	Reported as Flooded in 1992	Reported as Flooded in 2003
0941-04-1615	6969 REISTERSTOWN RD	NORTH PORT, FL 34291			Yes
0952-12-1121	7254 MUNCEY RD	NORTH PORT, FL 34291	Yes		
0996-09-3204	8515 FAY AVE	NORTH PORT, FL 34287		Yes	
0996-19-4520	8634 HERBISON AVE	NORTH PORT, FL 34287		Yes	
0996-19-4508	8645 CRISTOBAL AVE	NORTH PORT, FL 34287		Yes	
0996-19-4519	8664 HERBISON AVE	NORTH PORT, FL 34287		Yes	
0996-19-4517	8720 HERBISON AVE	NORTH PORT, FL 34287	Yes		
0996-19-4515	8772 HERBISON AVE	NORTH PORT, FL 34287		Yes	
0996-19-4513	8795 CRISTOBAL AVE	NORTH PORT, FL 34287		Yes	
0995-19-2413	8796 PORTO BELLO AVE	NORTH PORT, FL 34287	Yes		
0996-19-4514	8798 HERBISON AVE	NORTH PORT, FL 34287	Yes	Yes	
0995-18-2838	8855 CHESEBRO AVE	NORTH PORT, FL 34287		Yes	
0995-18-2837	8875 CHESEBRO AVE	NORTH PORT, FL 34287		Yes	

We trust that this report satisfies your expectations and appreciate the opportunity to work with you on this important project. If you have any questions, or if we can be of further service to you, please do not hesitate to call.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.


Nestor Aceituno, P.E.
Senior Project Engineer
10/10/2014

Shankar Gautam
N.A.
Shankar Gautam, P.E.
Project Engineer

cc: Elizabeth Wong, City of North Port

FIGURES

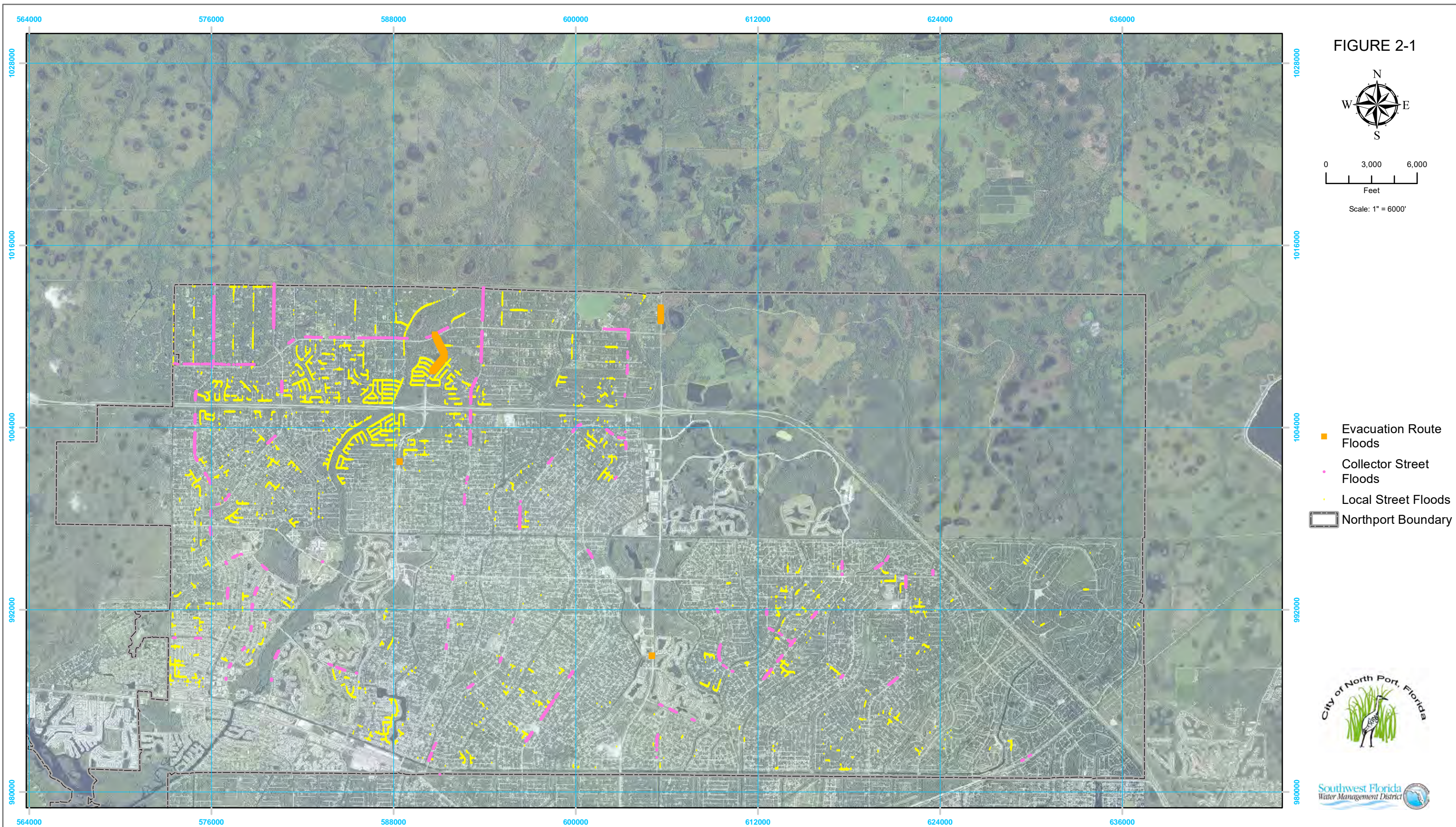
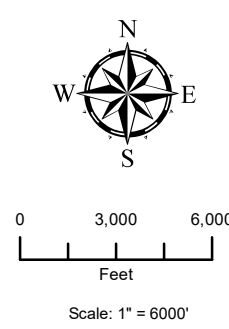


FIGURE 2-1



- Evacuation Route Floods
- Collector Street Floods
- Local Street Floods
- Northport Boundary



Project: 03-065	Projection: State Plane Florida West
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Prepared by: CGG	Modified by: Modified:
File: \\03-065\ArcGIS_ArcLayouts\2014\0909 - Final BMP Figures\LOS 10.mxd	

10 YEAR LEVEL OF SERVICE
CITY OF NORTH PORT, SARASOTA COUNTY, FL

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 8008 South Orange Avenue
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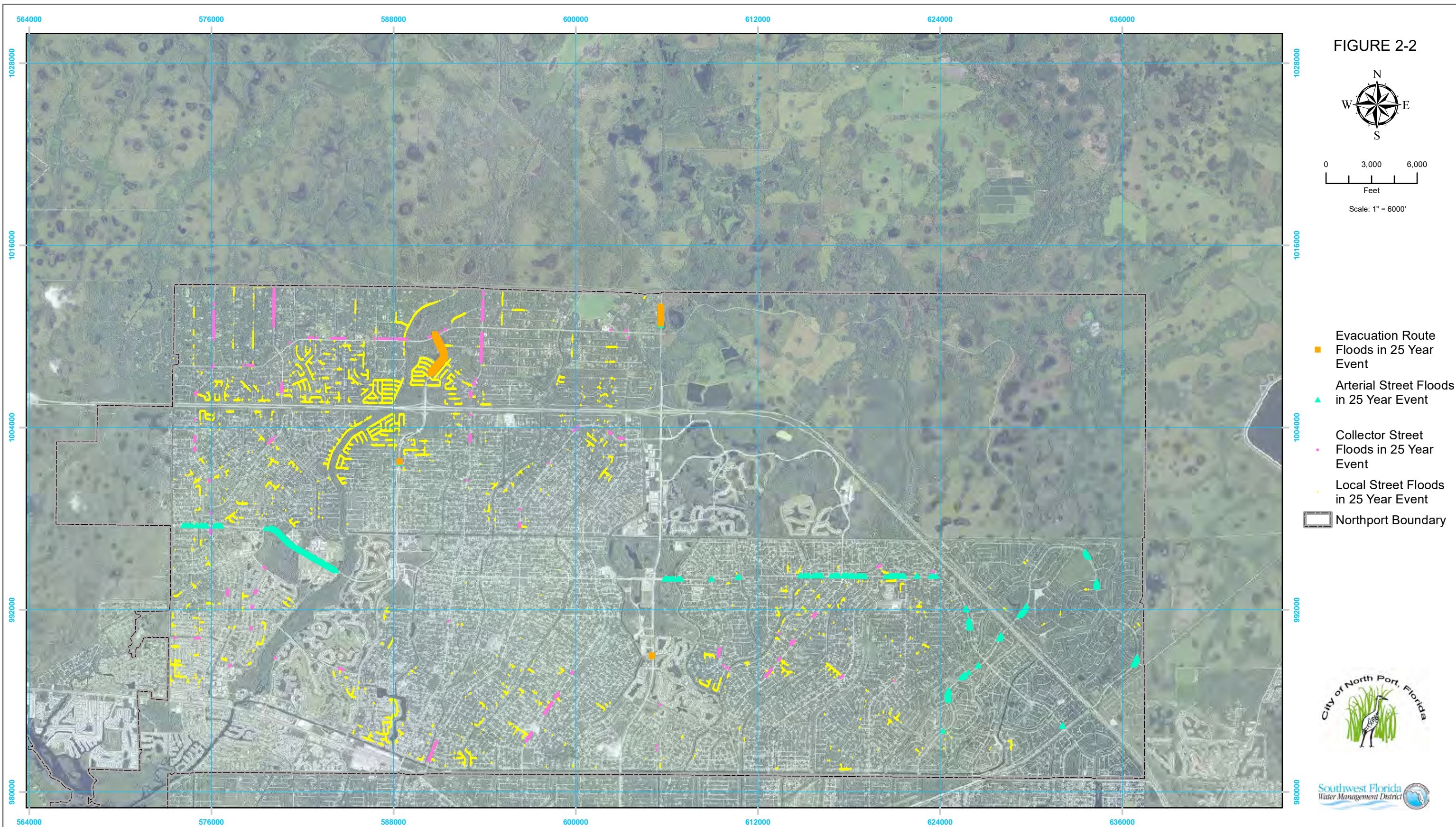
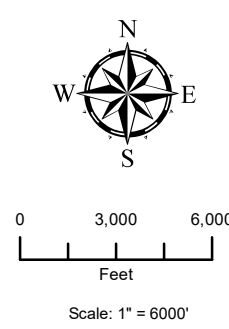


FIGURE 2-2



- Evacuation Route
- Floods in 25 Year Event
- Arterial Street Floods in 25 Year Event
- Collector Street Floods in 25 Year Event
- Local Street Floods in 25 Year Event
- Northport Boundary



Project: 03-065	Projection: State Plane Florida West
Prepared: 9/17/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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25 YEAR LEVEL OF SERVICE
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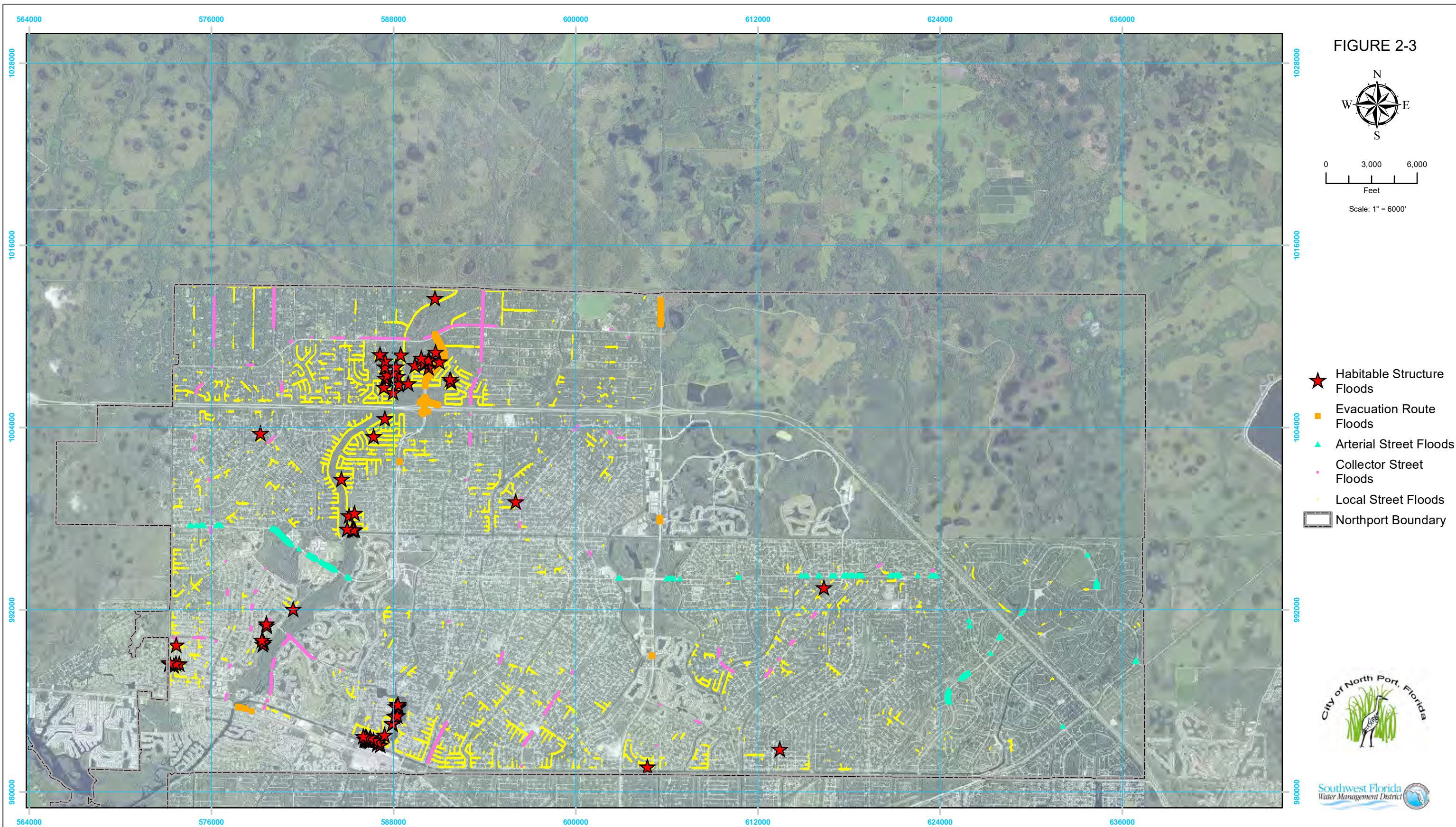
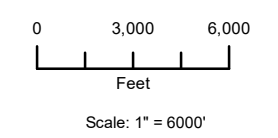
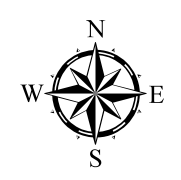








FIGURE 2-3



-  Habitable Structure Floods
-  Evacuation Route Floods
-  Arterial Street Floods
-  Collector Street Floods
-  Local Street Floods
-  Northport Boundary



Project: 03-065	Projection: State Plane Florida West
Prepared: 9/17/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
File: \\03-065\ArcGIS_ArcLayouts\20140909 - Final BMP Figures\LOS 100.mxd	

100 YEAR LEVEL OF SERVICE
CITY OF NORTH PORT, SARASOTA COUNTY, FL

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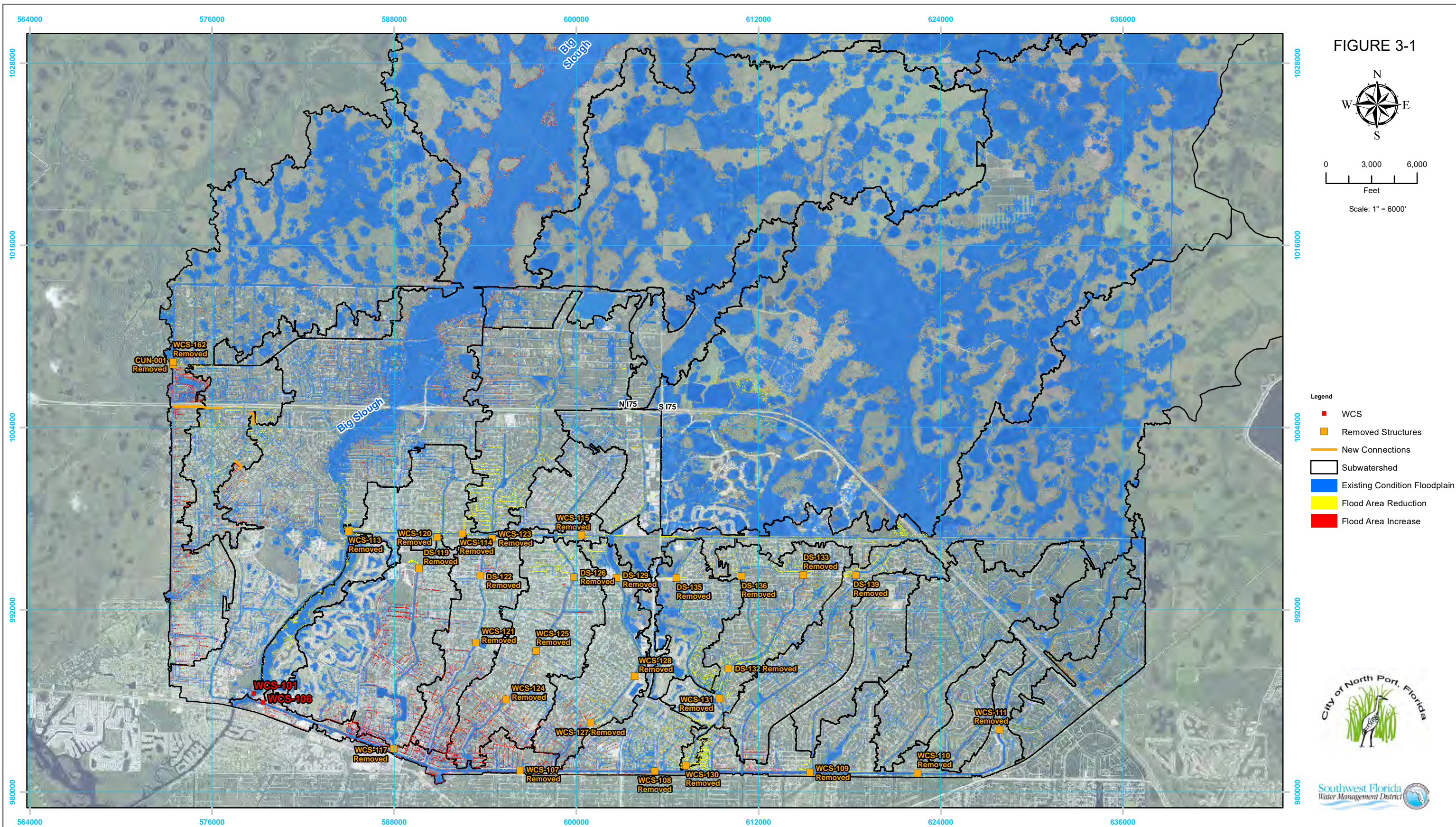
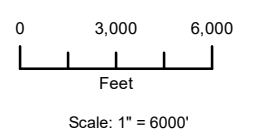


FIGURE 3-1



- Legend
- WCS
 - Removed Structures
 - New Connections
 - ▭ Subwatershed
 - Existing Condition Floodplain
 - Flood Area Reduction
 - Flood Area Increase

Project: 03-065	Projection: Florida East West
Prepared: 10-11-07	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
File: \\03-065\ArcGIS\ArcLayouts\20140909 - Final BMP Figures\BMP1.mxd	

NORTH PORT / BIG SLOUGH WMP BMP ALTERNATIVE 1 - 1 DAY 100 YEAR EVALUATION

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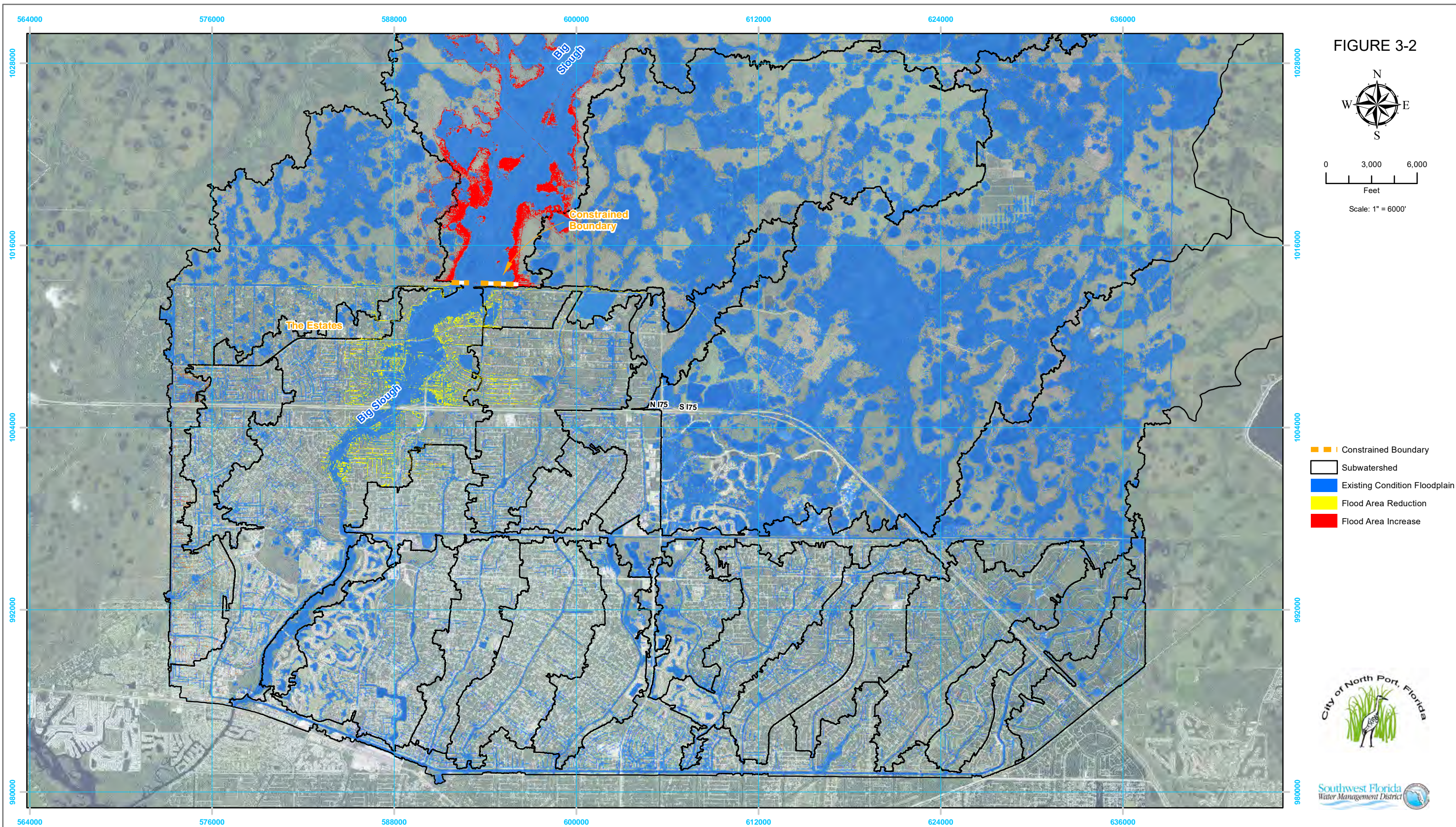
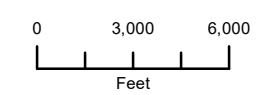
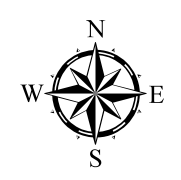


FIGURE 3-2



Scale: 1" = 6000'

- Constrained Boundary
- Subwatershed
- Existing Condition Floodplain
- Flood Area Reduction
- Flood Area Increase



Project: 03-065	Projection: State Plane Florida West
Prepared: 9/9/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
File: \\03-065\ArcGISL_ArcLayouts\20140909 - Final BMP Figures\BMP2.mxd	

NORTH PORT / BIG SLOUGH WMP

BMP ALTERNATIVE 2 - 1 DAY 100 YEAR EVALUATION

Ardaman & Associates, Inc.
 Geotechnical, Environmental and
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 Orlando, Florida 32809

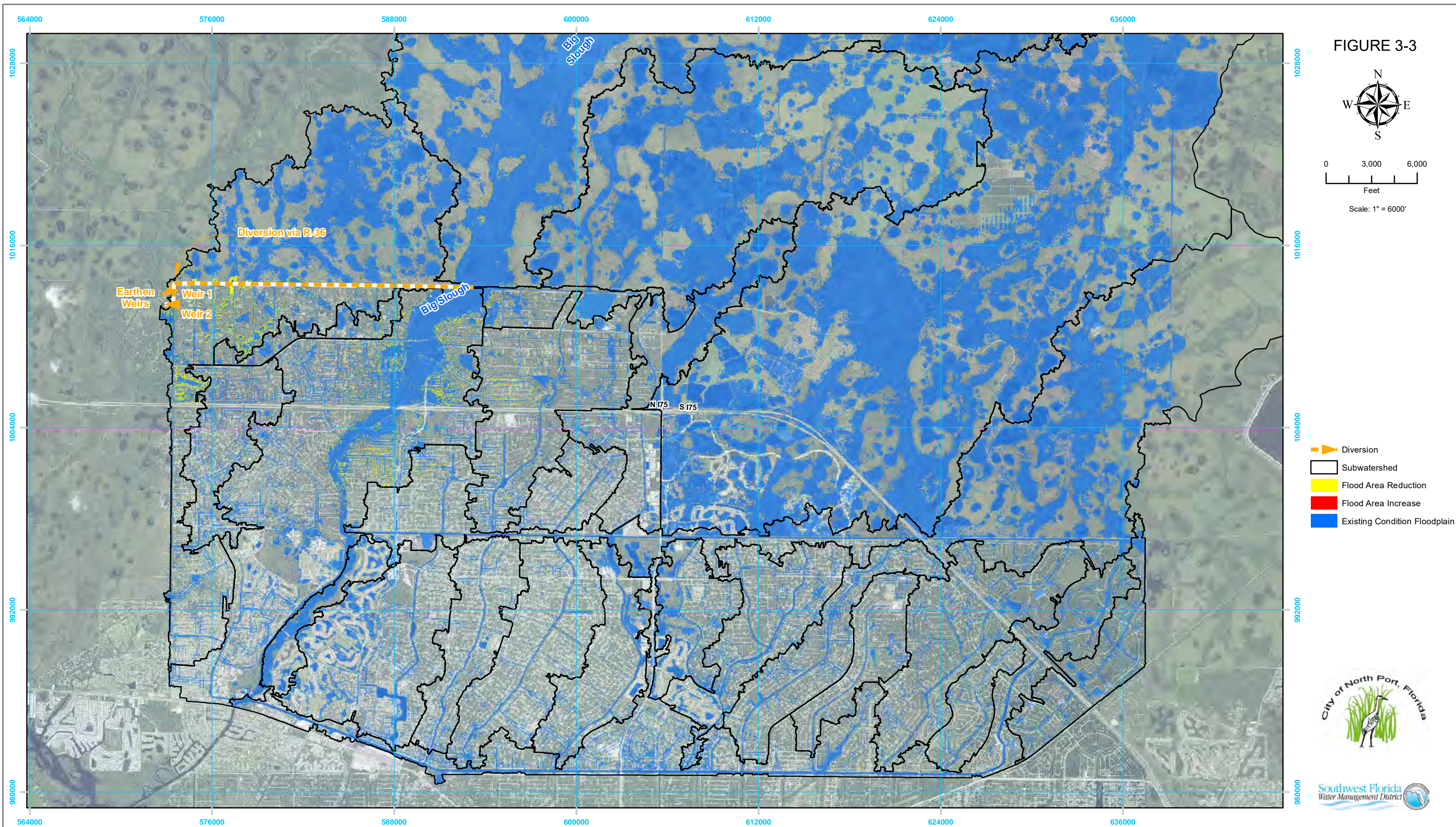
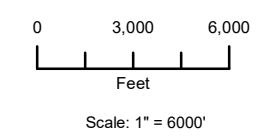
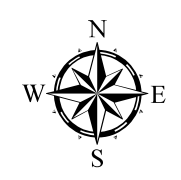


FIGURE 3-3



- Diversion
- Subwatershed
- Flood Area Reduction
- Flood Area Increase
- Existing Condition Floodplain



Project: 03-065	Projection: State Plane Florida West
Prepared: 9/9/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
File: \\03-065\ArcGIS\ArcLayouts\20140909 - Final BMP Figures\BMP3.mxd	

NORTH PORT / BIG SLOUGH WMP

BMP ALTERNATIVE 3 - 1 DAY 100 YEAR EVALUATION

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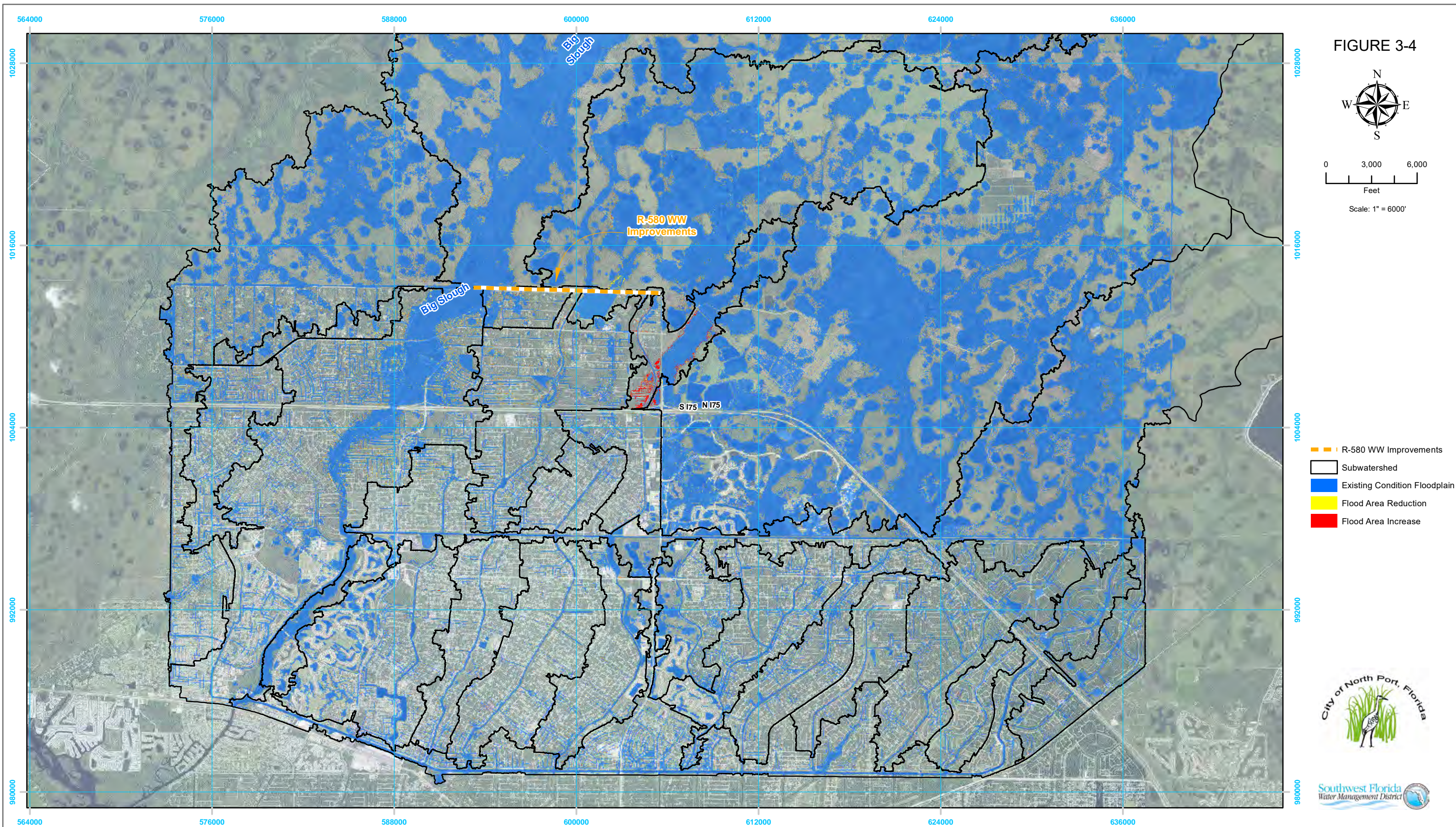
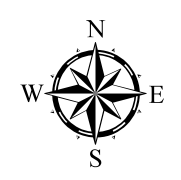


FIGURE 3-4



0 3,000 6,000
Feet
Scale: 1" = 6000'

- - - R-580 WW Improvements
- Subwatershed
- Existing Condition Floodplain
- Flood Area Reduction
- Flood Area Increase



Project: 03-065	Projection: State Plane Florida West	
Prepared: 9/9/2014	Horizontal Datum: NAD83	Vertical Datum: N/A
Prepared by: CGG	Modified by:	Modified:
File: \\03-065\ArcGISL_ArcLayouts\20140909 - Final BMP Figures\BMP4.mxd		

NORTH PORT / BIG SLOUGH WMP

BMP ALTERNATIVE 4 - 1 DAY 100 YEAR EVALUATION

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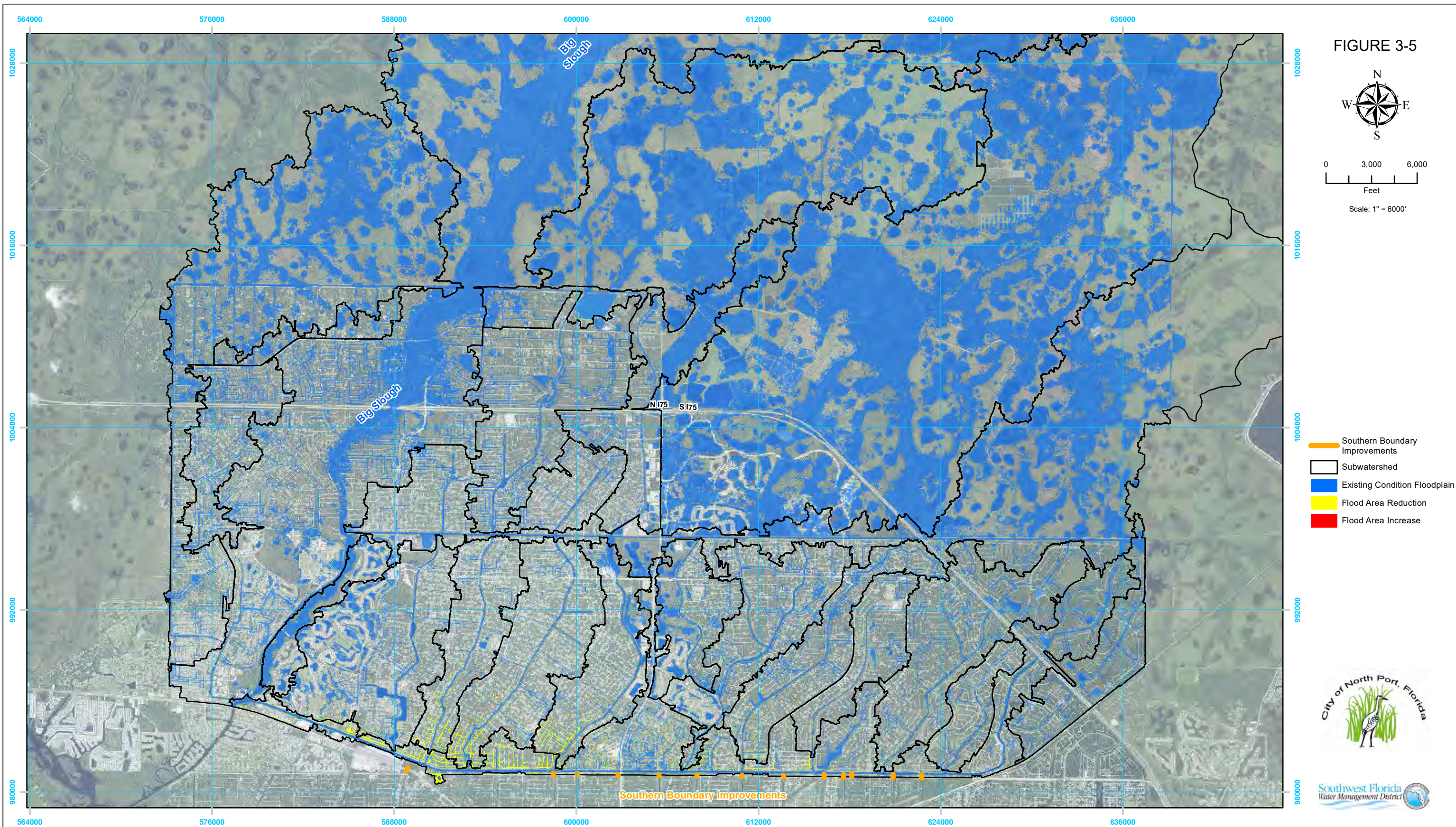
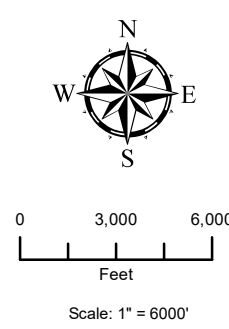







FIGURE 3-5



-  Southern Boundary Improvements
-  Subwatershed
-  Existing Condition Floodplain
-  Flood Area Reduction
-  Flood Area Increase



Project: 03-065	Projection: State Plane Florida West
Prepared: 9/9/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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NORTH PORT / BIG SLOUGH WMP

BMP ALTERNATIVE 5 - 1 DAY 100 YEAR EVALUATION

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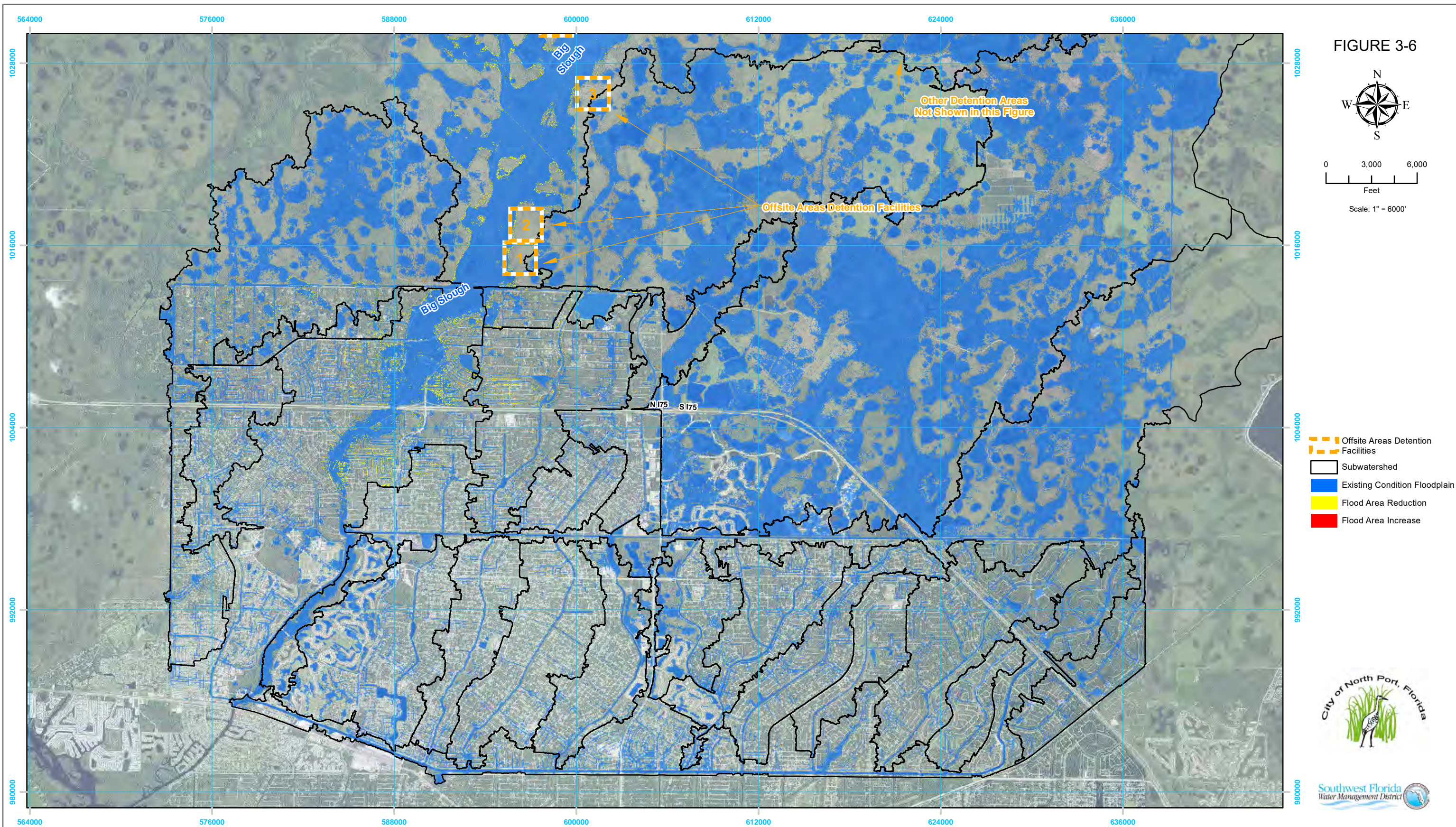
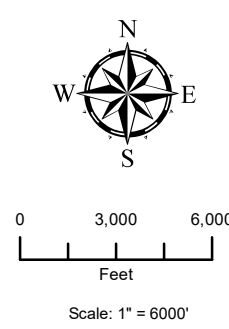

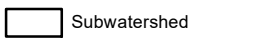
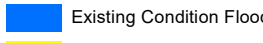
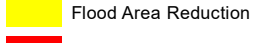
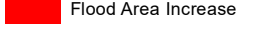


FIGURE 3-6



-  Offsite Areas Detention Facilities
-  Subwatershed
-  Existing Condition Floodplain
-  Flood Area Reduction
-  Flood Area Increase

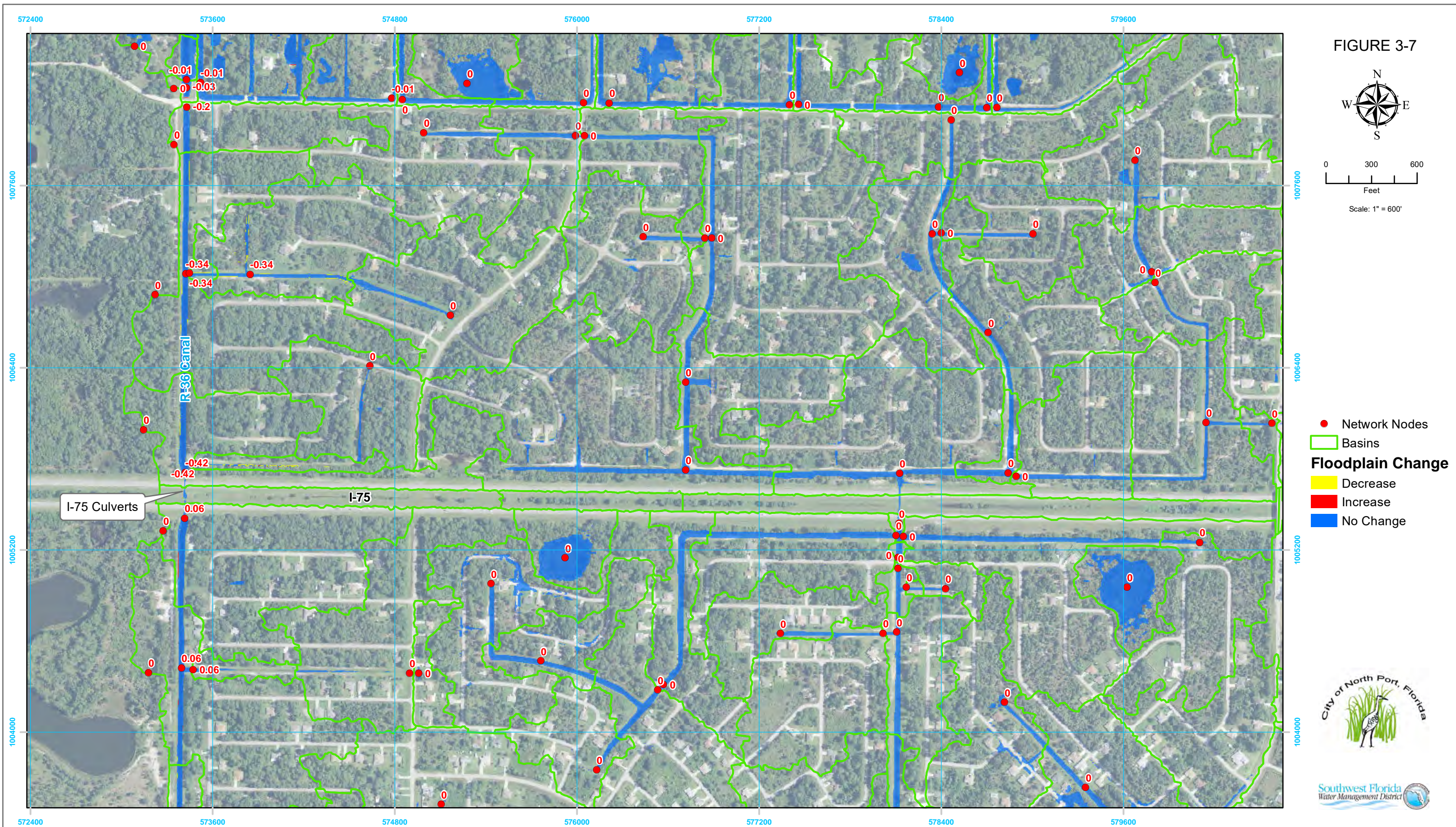


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Prepared: 9/9/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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NORTH PORT / BIG SLOUGH WMP

BMP ALTERNATIVE 6 - 1 DAY 100 YEAR EVALUATION

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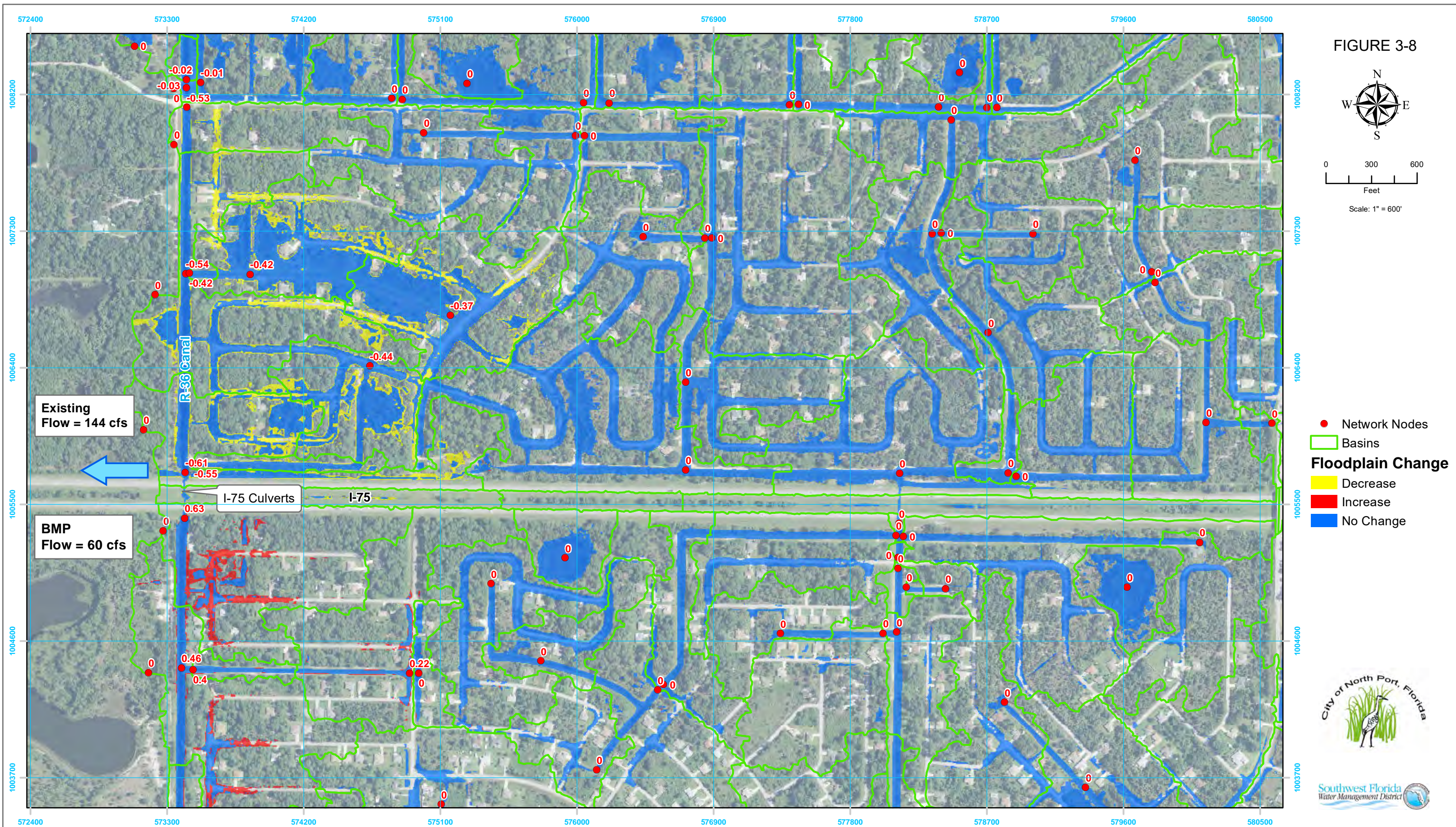


MODEL RESULTS WITH MEAN ANNUAL FLOODPLAIN COMPARISON AND DIFFERENCE IN MAX STAGES
R-36 CANAL AT I-75 BMP EVALUATION

Project: 03-065	Projection: State Plane Florida West
Prepared: 9/10/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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**MODEL RESULTS WITH 1-DAY 100-YEAR FLOODPLAIN COMPARISON
AND DIFFERENCE IN MAX STAGES
R-36 CANAL AT I-75 BMP EVALUATION**

Project: 03-065	Projection: State Plane Florida West	
Prepared: 9/10/2014	Horizontal Datum: NAD83	Vertical Datum: N/A
Prepared by: CGG	Modified by:	Modified:
File: \\20140909 - Final BMP Figures\BMP1 Crossing 1D100Yr.mxd		

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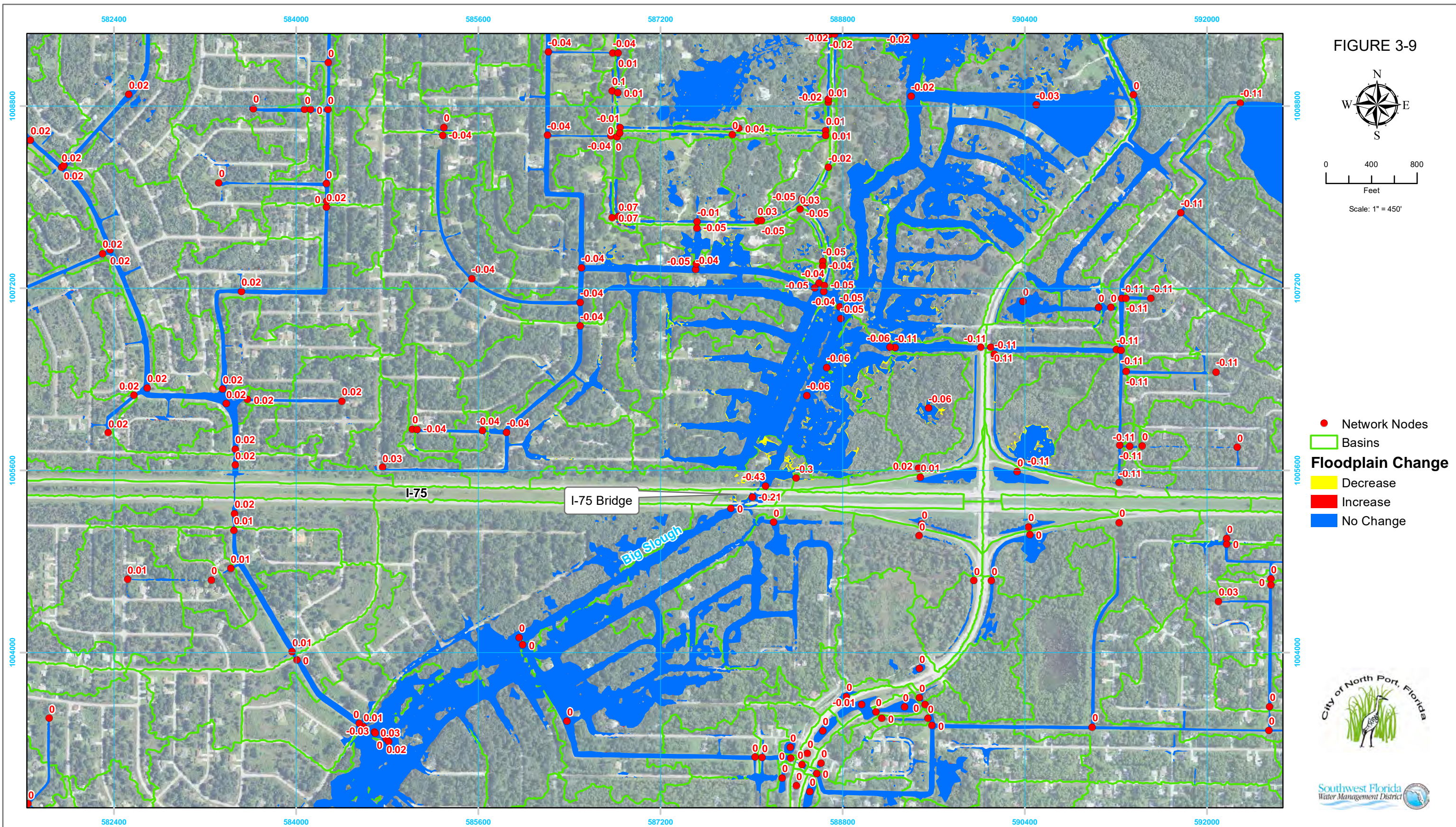
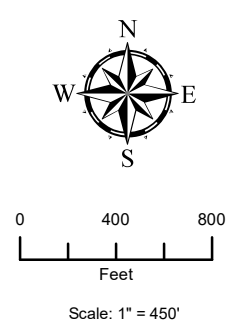


FIGURE 3-9



- Network Nodes
- ▭ Basins
- Floodplain Change**
- ▭ Decrease
- ▭ Increase
- ▭ No Change

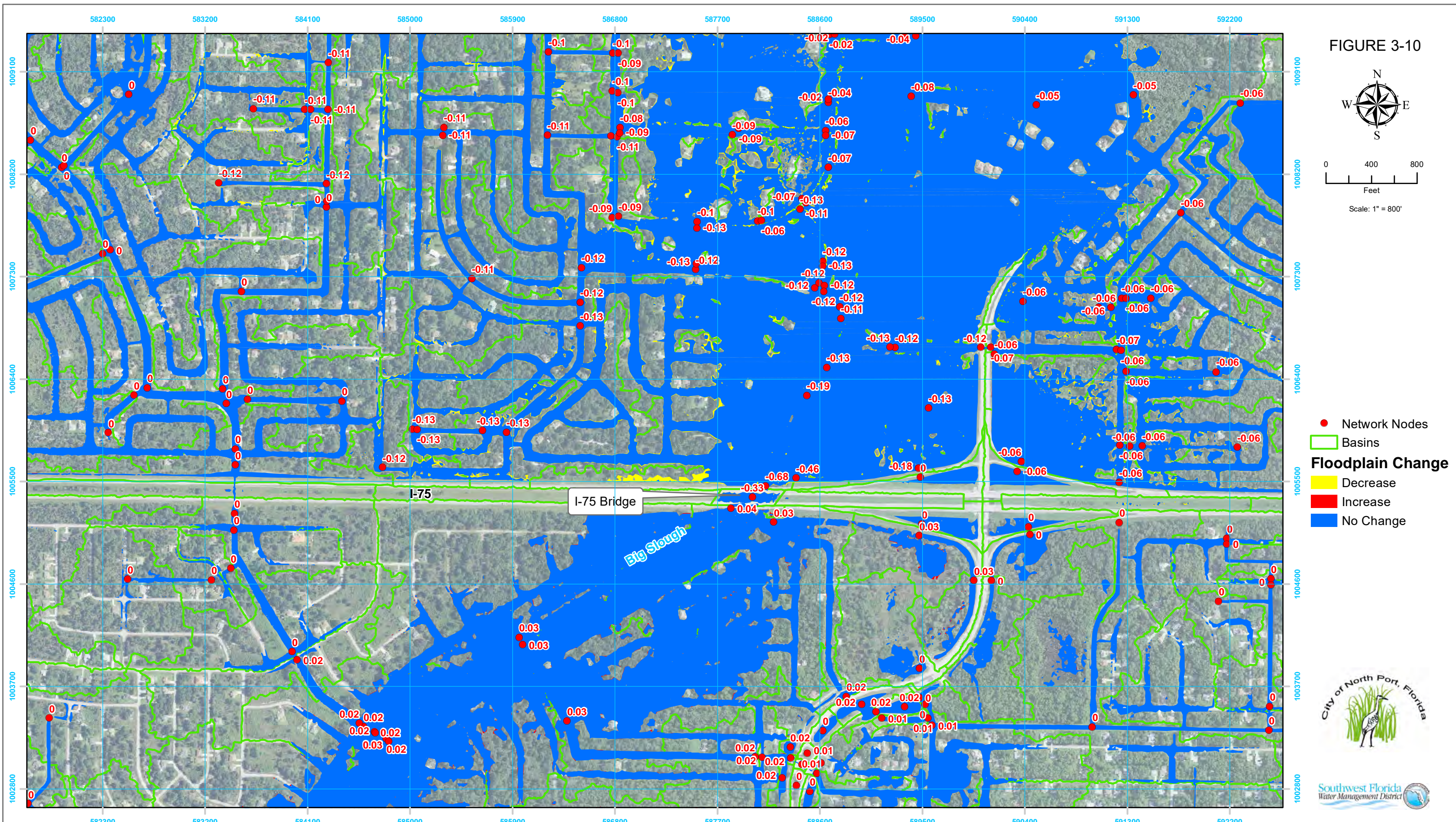
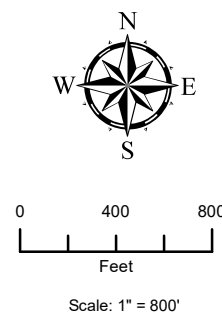


**MODEL RESULTS WITH MEAN ANNUAL FLOODPLAIN COMPARISON
AND DIFFERENCE IN MAX STAGES
MYAKKAHATCHEE CREEK AT 1-75 BMP EVALUATION**

Project: 03-065	Projection: State Plane Florida West
Prepared: 9/10/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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FIGURE 3-10



- Network Nodes
- ▭ Basins
- Floodplain Change**
- ▭ Decrease
- ▭ Increase
- ▭ No Change

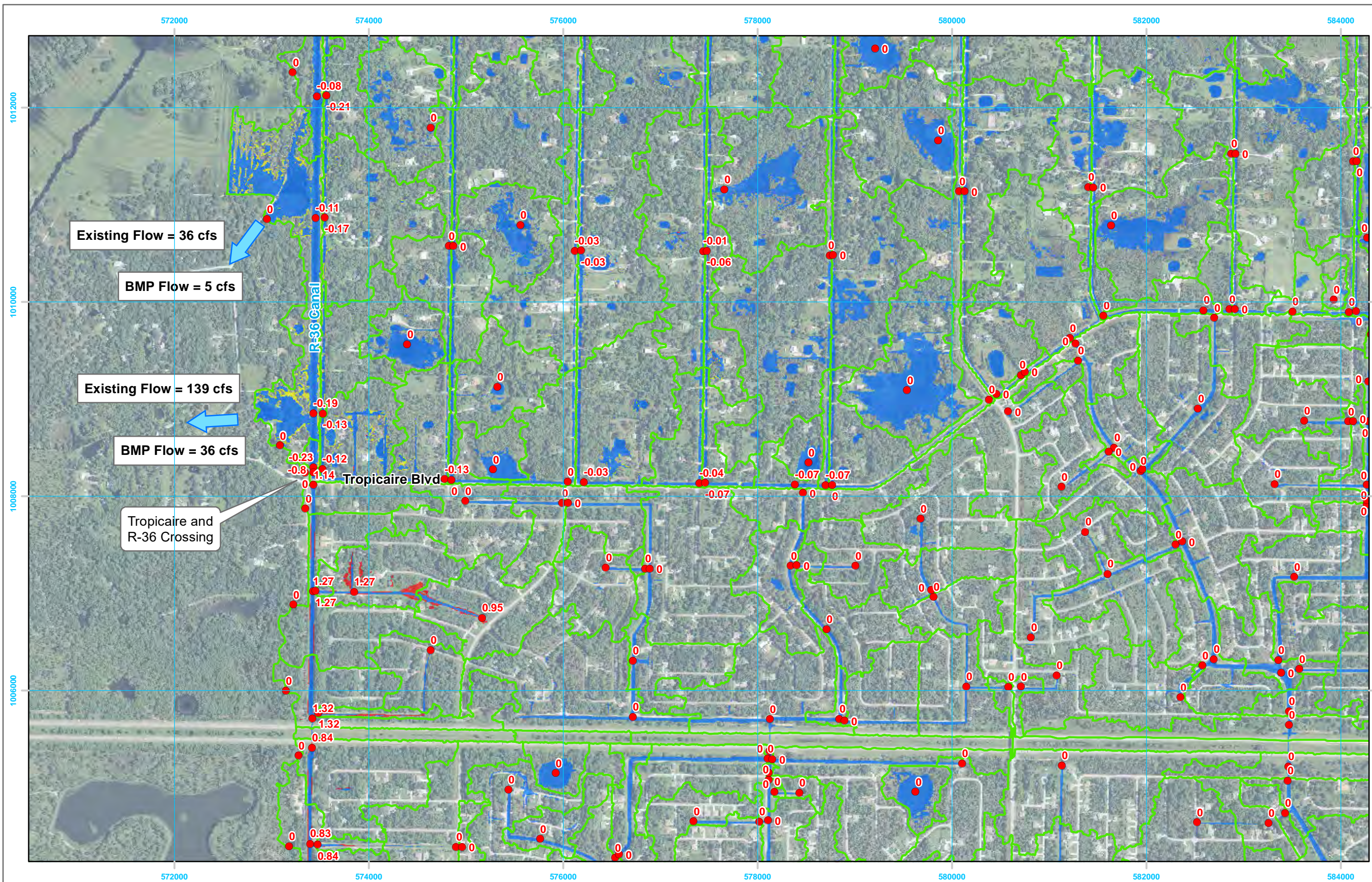
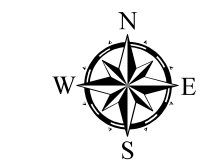


**MODEL RESULTS WITH 1-DAY 100-YEAR FLOODPLAIN COMPARISON
AND DIFFERENCE IN MAX STAGES
MYAKKAHATCHEE CREEK AT I-75 BMP EVALUATION**

Project: 03-065	Projection: State Plane Florida West	
Prepared: 9/10/2014	Horizontal Datum: NAD83	Vertical Datum: N/A
Prepared by: CGG	Modified by:	Modified:
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FIGURE 3-11



- Network Nodes
- ▭ Basins
- Floodplain Change**
- ▭ Decrease
- ▭ Increase
- ▭ No Change



**MODEL RESULTS WITH MEAN ANNUAL FLOODPLAIN COMPARISON
AND DIFFERENCE IN MAX STAGES
R-36 CANAL AT TROPICAIRE BOULEVARD BMP EVALUATION**

Project: 03-065	Projection: State Plane Florida West
Prepared: 9/10/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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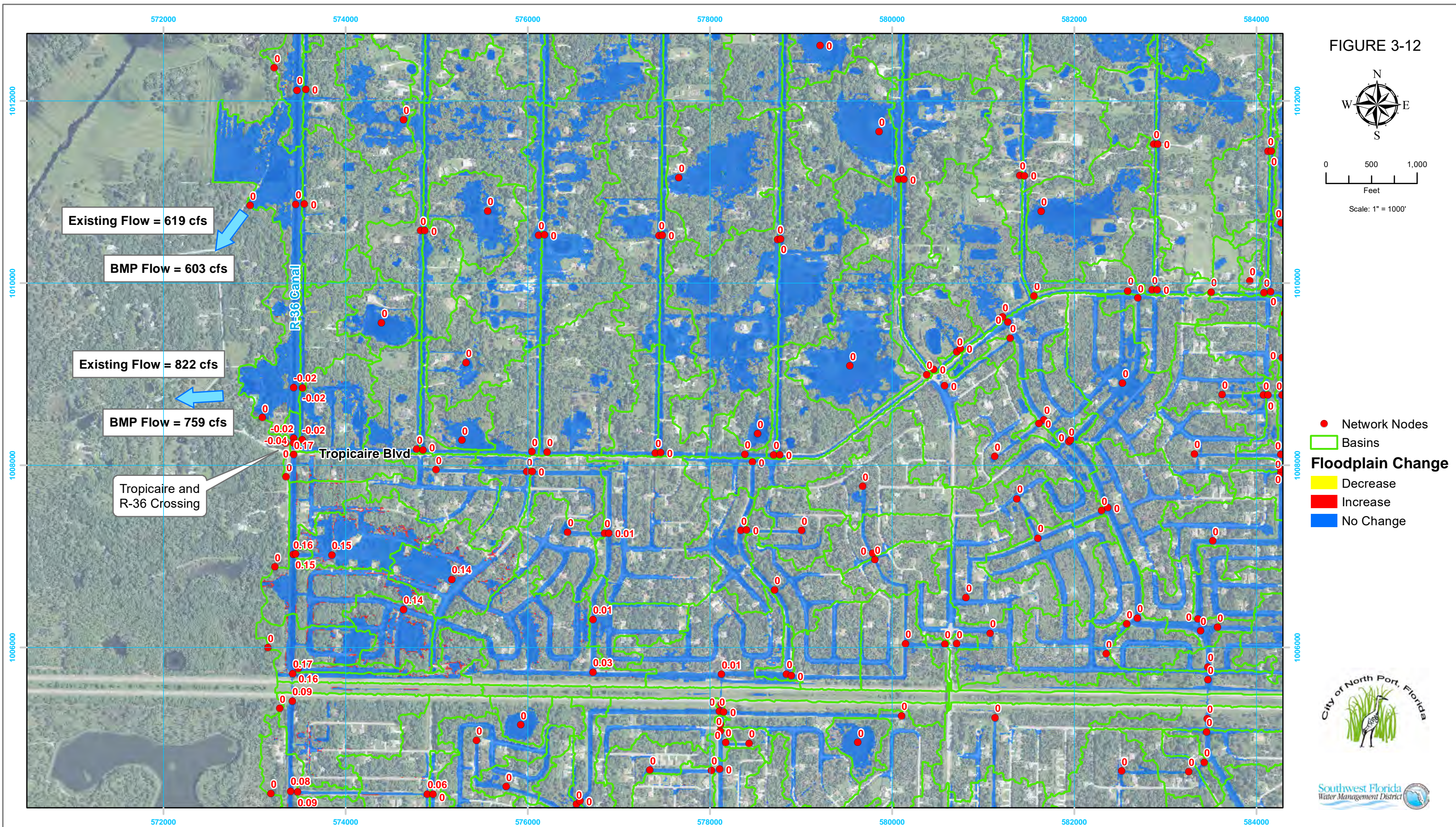
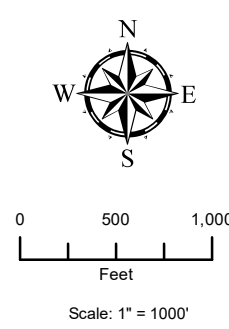


FIGURE 3-12



**MODEL RESULTS WITH 1-DAY 100-YEAR FLOODPLAIN COMPARISON
 AND DIFFERENCE IN MAX STAGES**
R-36 CANAL AT TROPICAIRE BOULEVARD BMP EVALUATION

Project: 03-065	Projection: State Plane Florida West
Prepared: 9/10/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
File: \\20140909 - Final BMP Figures\BMP3 Crossing 1D100Yr.mxd	

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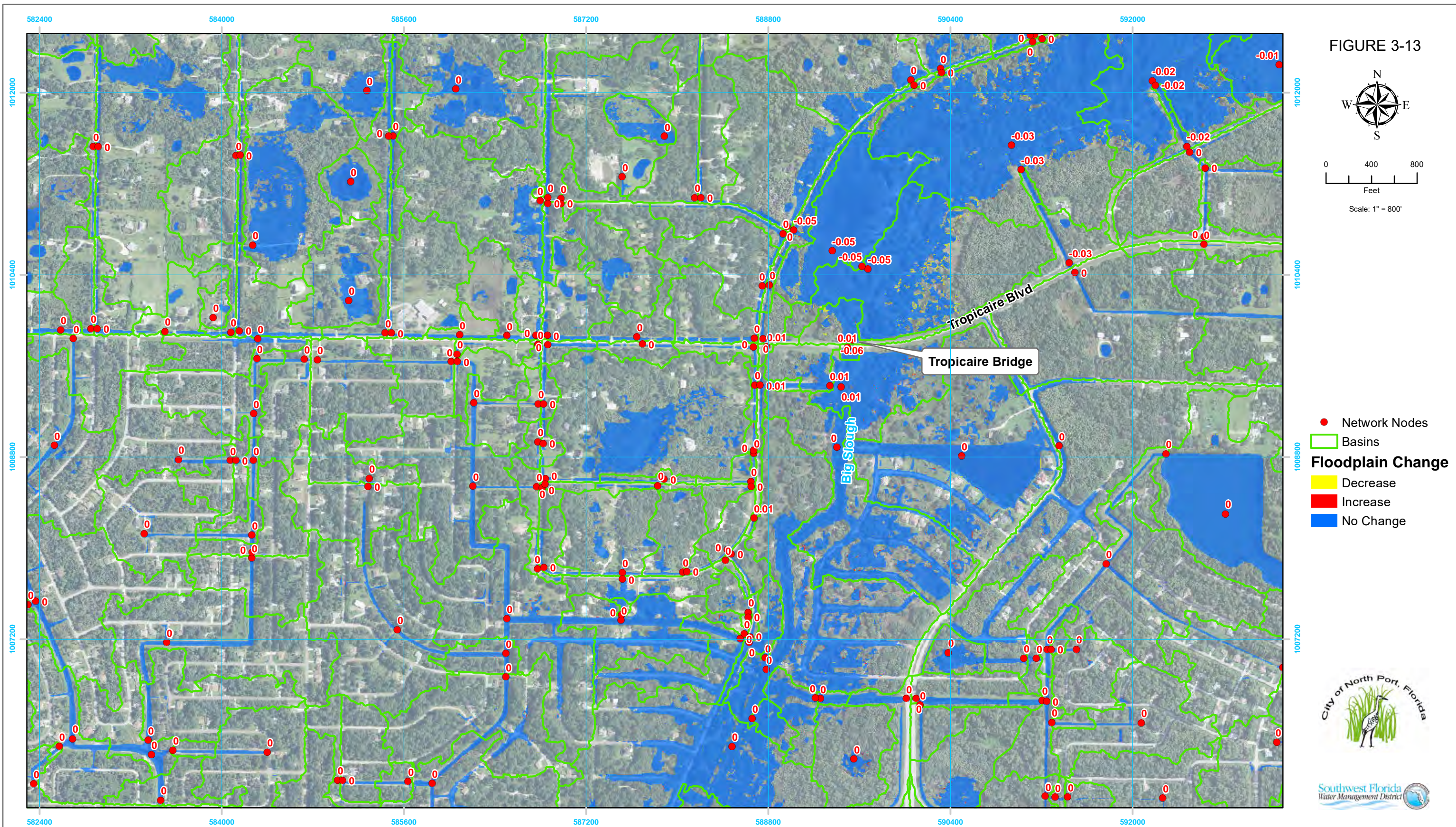
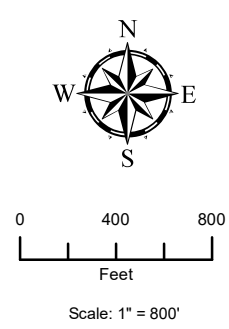


FIGURE 3-13



- Network Nodes
- ▭ Basins
- Floodplain Change**
- Decrease
- Increase
- No Change



MODEL RESULTS WITH MEAN ANNUAL FLOODPLAIN COMPARISON AND DIFFERENCE IN MAX STAGES
MYAKKAHATCHEE CREEK AT TROPICAIRE BOULEVARD BMP EVALUATION

Project: 03-065	Projection: State Plane Florida West
Prepared: 9/10/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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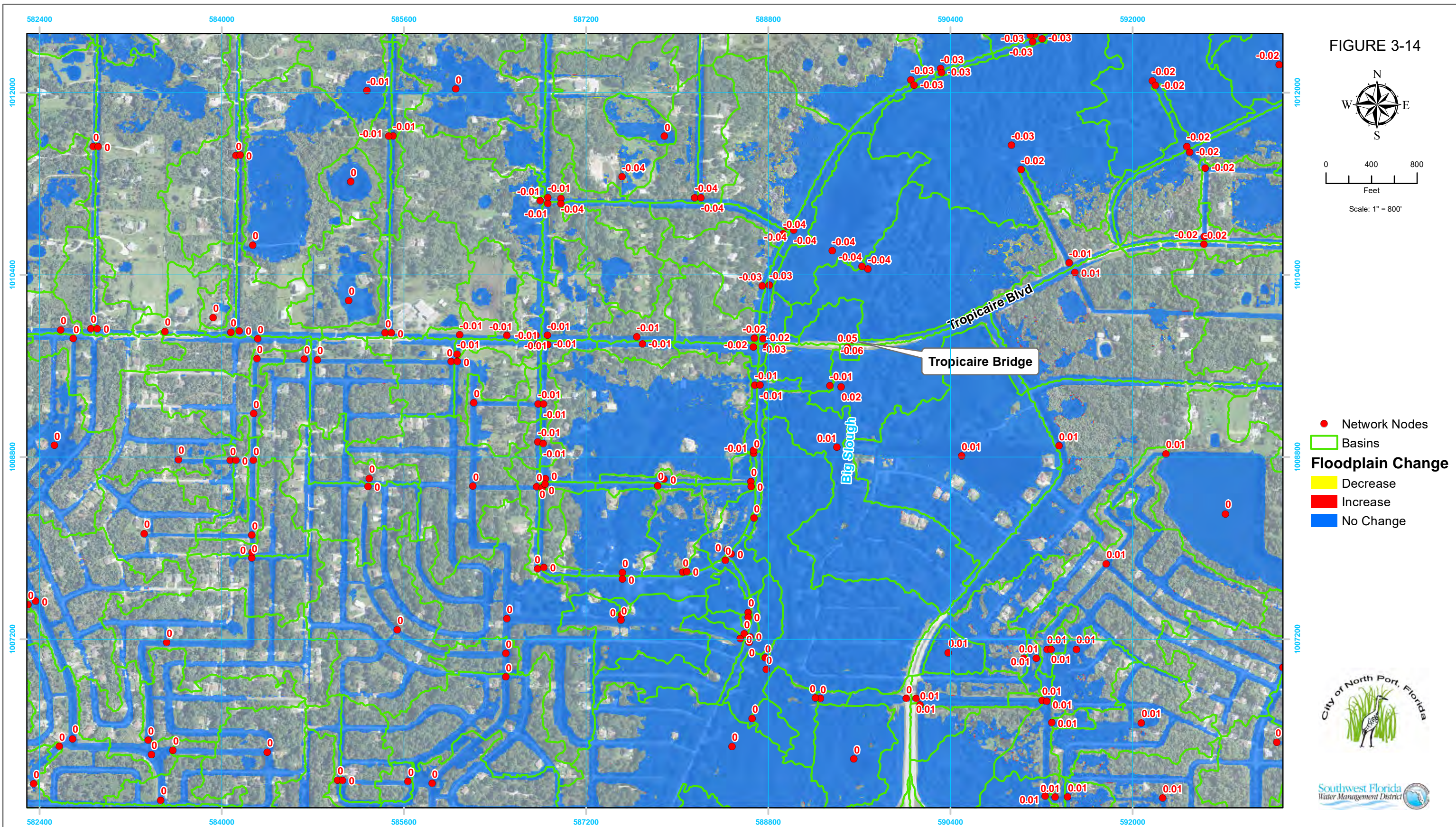
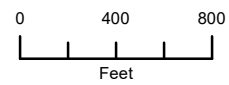


FIGURE 3-14



Scale: 1" = 80'

- Network Nodes
- ▭ Basins
- Floodplain Change**
- ▭ Decrease
- ▭ Increase
- ▭ No Change



MODEL RESULTS WITH 1-DAY 100-YEAR FLOODPLAIN COMPARISON AND DIFFERENCE IN MAX STAGES
MYAKKAHATCHEE CREEK AT TROPICAIRE BOULEVARD BMP EVALUATION

Project: 03-065	Projection: State Plane Florida West
Prepared: 9/10/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
File: \\20140909 - Final BMP Figures\BMP4 Crossing 1D100Yr.mxd	

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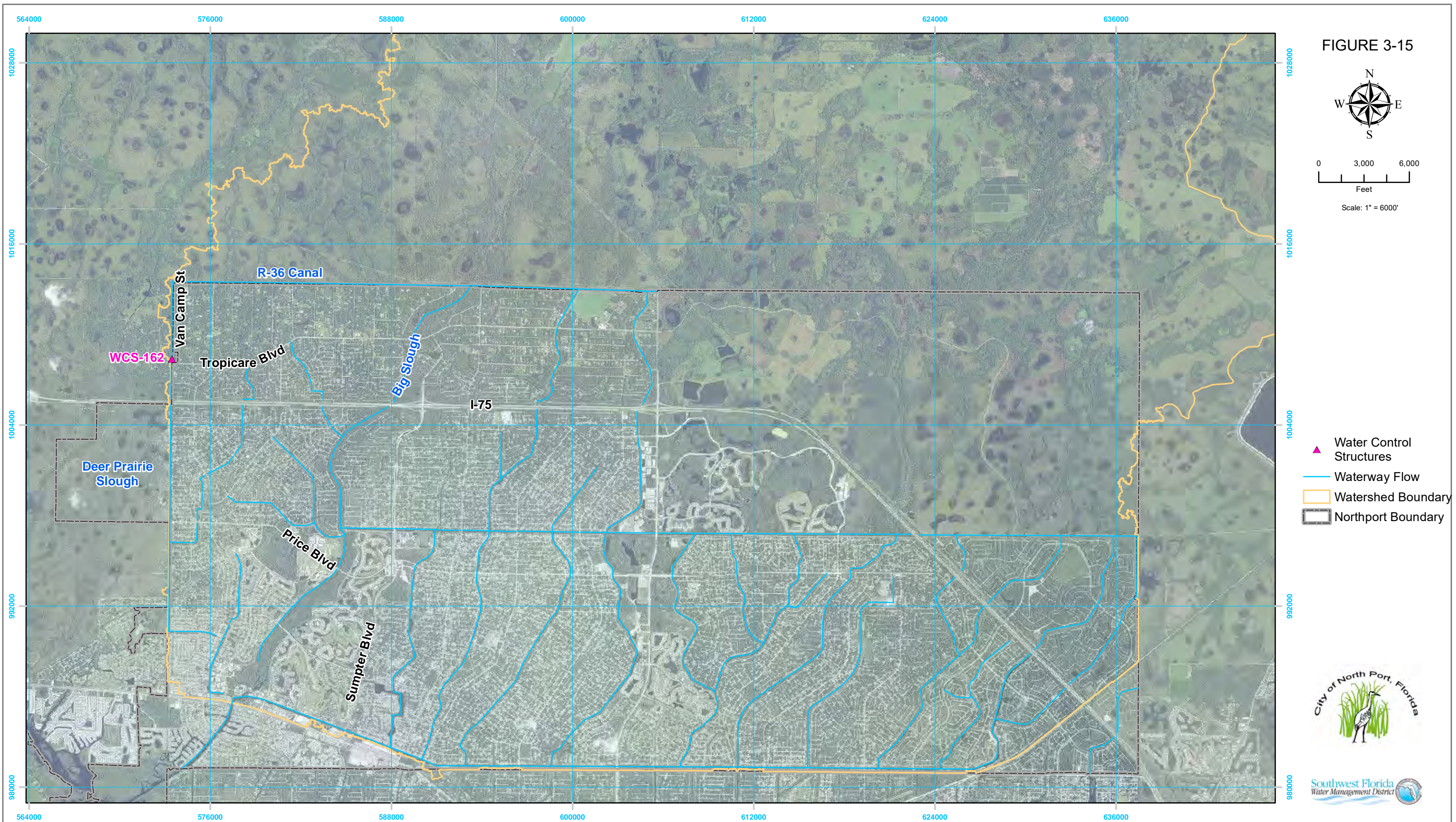
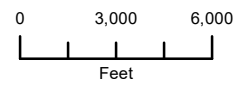
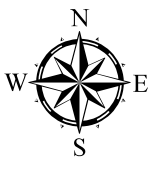






FIGURE 3-15



Scale: 1" = 6000'

-  Water Control Structures
-  Waterway Flow
-  Watershed Boundary
-  Northport Boundary



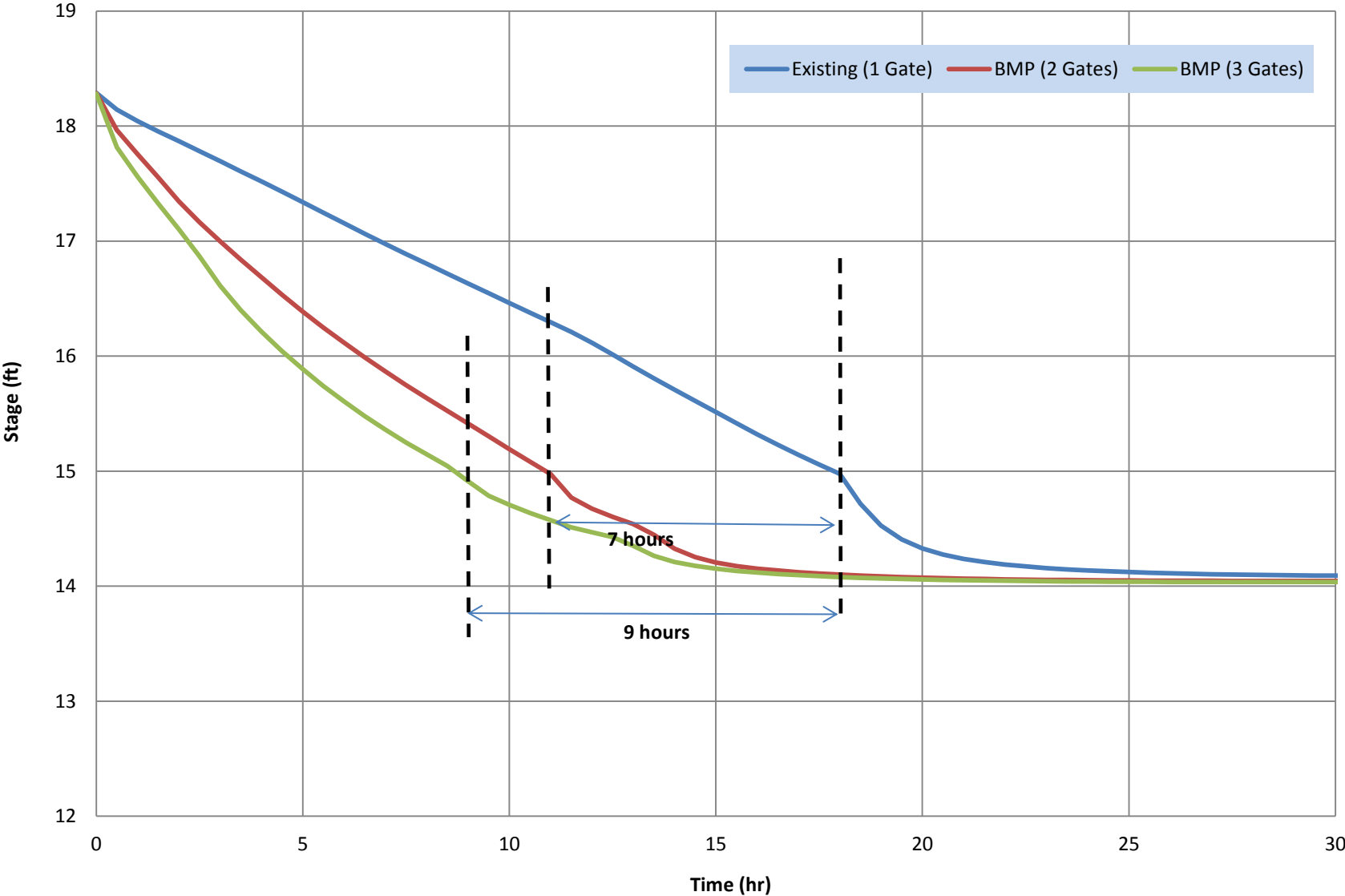
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Prepared: 9/9/2014	Horizontal Datum: NAD83 Vertical Datum: N/A
Prepared by: CGG	Modified by: Modified:
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LOCATION OF WCS-162

CITY OF NORTH PORT, SARASOTA COUNTY, FL

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Figure 3-16. Stage at R-36 Canal Upstream of WCS-162



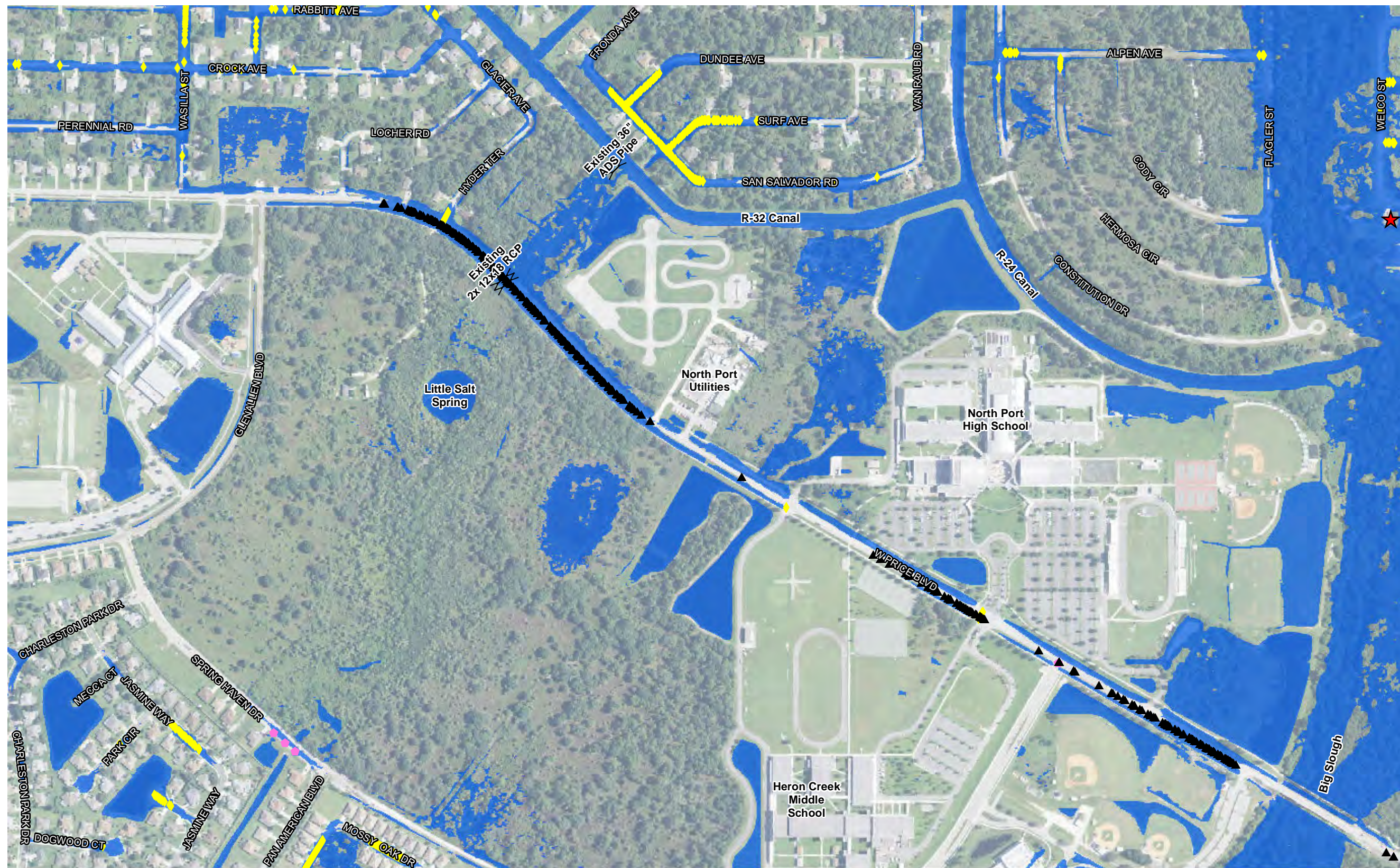
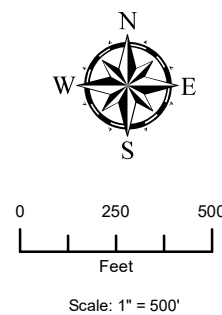







FIGURE 3-17



-  Habitable Structure Floods in 100 Year Event
-  Arterial Street Floods in 100 Year Event
-  Evacuation Route Floods in 100 Year Event
-  Collector Street Floods in 25 Year Event
-  Local Street Floods in 25 Year Event



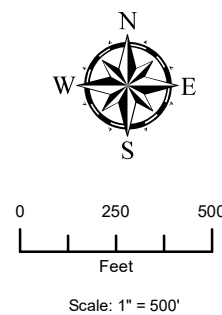
EXISTING CONDITION LOS AND 100-YEAR FLOODPLAIN NORTH PORT/BIG SLOUGH WMP





Project: 03-065	Projection: State Plane Florida West
Prepared: 08-05-14	Horizontal Datum: HARN Vertical Datum: N/A
Prepared by: TJC	Modified by:
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FIGURE 3-18



-  Habitable Structure Floods in 100 Year Event
-  Arterial Street Floods in 100 Year Event
-  Evacuation Route Floods in 100 Year Event
-  Collector Street Floods in 25 Year Event
-  Local Street Floods in 25 Year Event



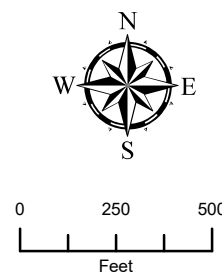
UPDATED EXISTING CONDITION 100-YEAR FLOODPLAIN NORTH PORT/BIG SLOUGH WMP

Project: 03-065	Projection: State Plane Florida West
Prepared: 08-05-14	Horizontal Datum: HARN Vertical Datum: N/A
Prepared by: TJC	Modified by:
File: _ArcLayouts\20140909 - Final BMP Figures\Price Blvd Existing_1D100Y.mxd	

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FIGURE 3-19



- Node (Maxstage Change)
- - - BMP_1
- Decrease
- Increase
- No Change



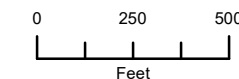
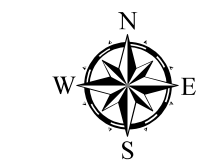
BMP_1 25-YEAR FLOODPLAIN COMPARISON NORTH PORT/BIG SLOUGH WMP

Project: 03-065	Projection: State Plane Florida West
Prepared: 08-05-14	Horizontal Datum: HARN Vertical Datum: N/A
Prepared by: TJC	Modified by:
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FIGURE 3-20



Scale: 1" = 500'

- Node (Maxstage Change)
- - - BMP_1
- Decrease
- Increase
- No Change



BMP_1 100-YEAR FLOODPLAIN COMPARISON NORTH PORT/BIG SLOUGH WMP

Project: 03-065	Projection: State Plane Florida West
Prepared: 08-05-14	Horizontal Datum: HARN Vertical Datum: N/A
Prepared by: TJC	Modified by:
File: _ArcLayouts\20140909 - Final BMP Figures\Price Blvd BMP_1_1D100Y.mxd	

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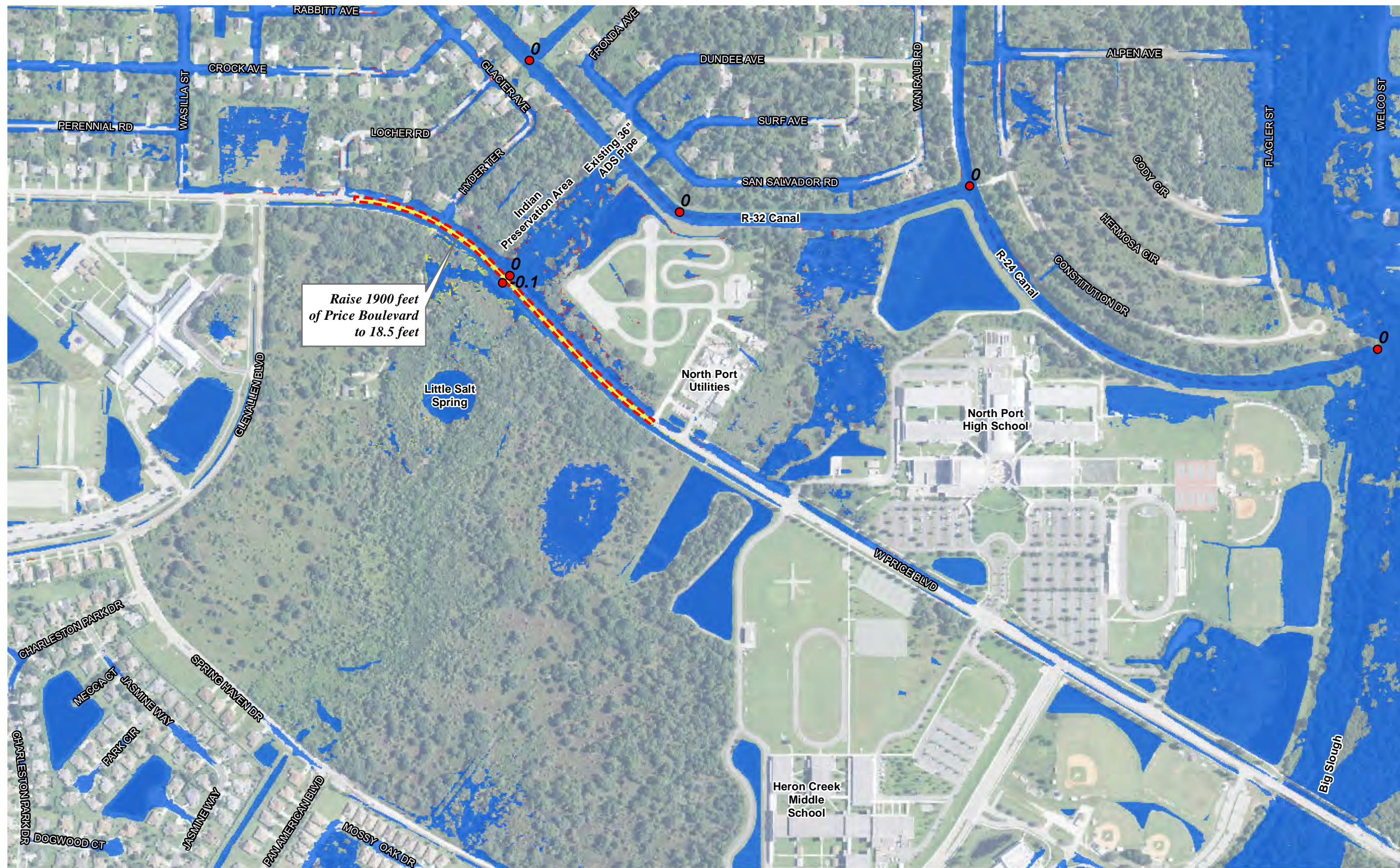
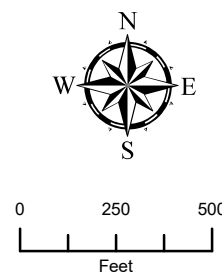


FIGURE 3-21



- Node (Maxstage Change)
- - - BMP_2
- Decrease
- Increase
- No Change



BMP_2 100-YEAR FLOODPLAIN COMPARISON NORTH PORT/BIG SLOUGH WMP

Project: 03-065	Projection: State Plane Florida West
Prepared: 08-05-14	Horizontal Datum: HARN Vertical Datum: N/A
Prepared by: TJC	Modified by:
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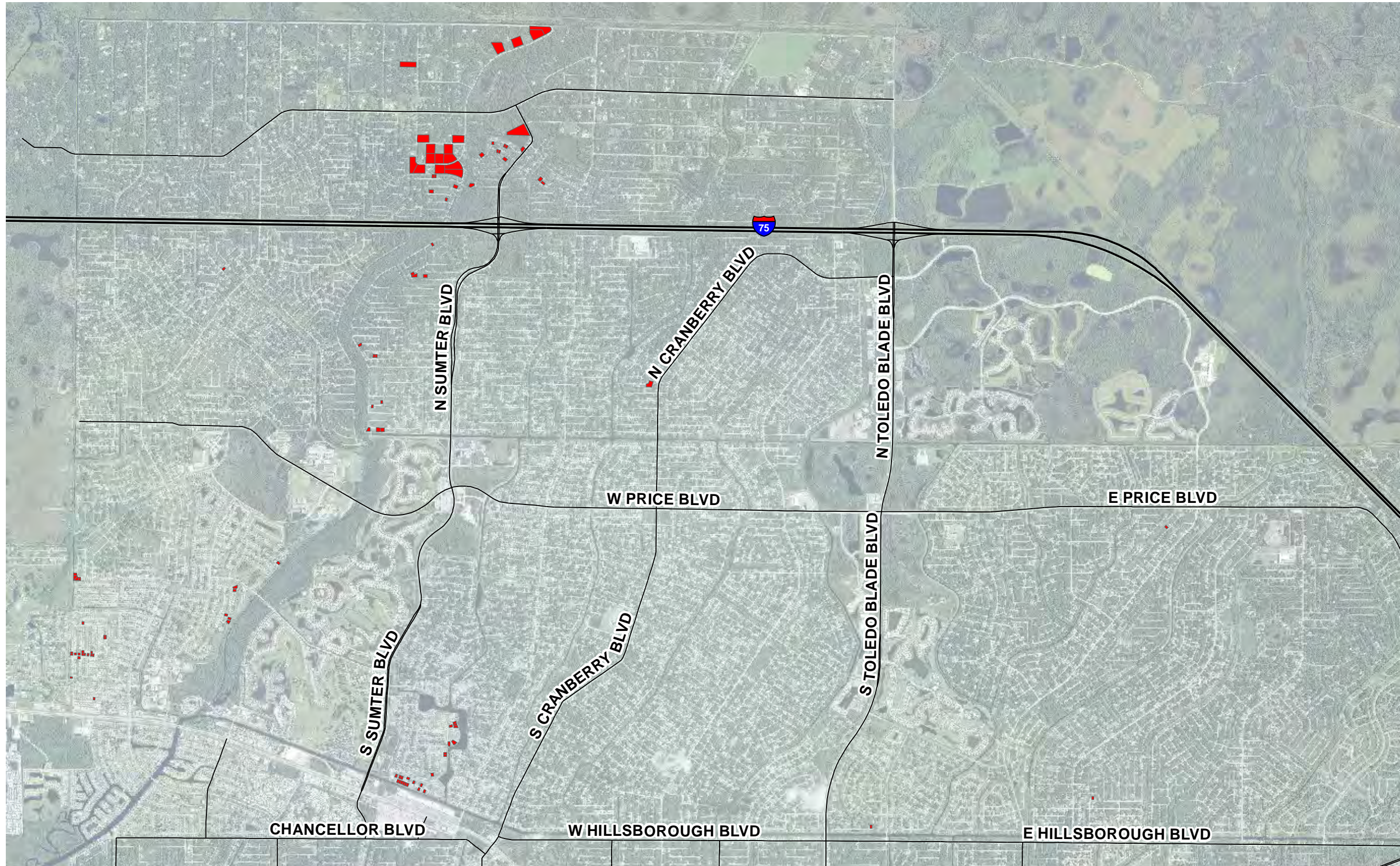
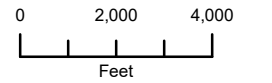
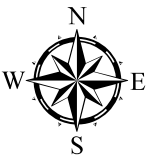


FIGURE 5-1



Project: 03-065	Projection: State Plane Florida West
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Prepared by: TJC	Modified by:
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FLOODED PARCELS TO SURVEY NORTH PORT/BIG SLOUGH WMP

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APPENDIX A

2014 Survey Data of WCS-162

REVISIONS:	BY:

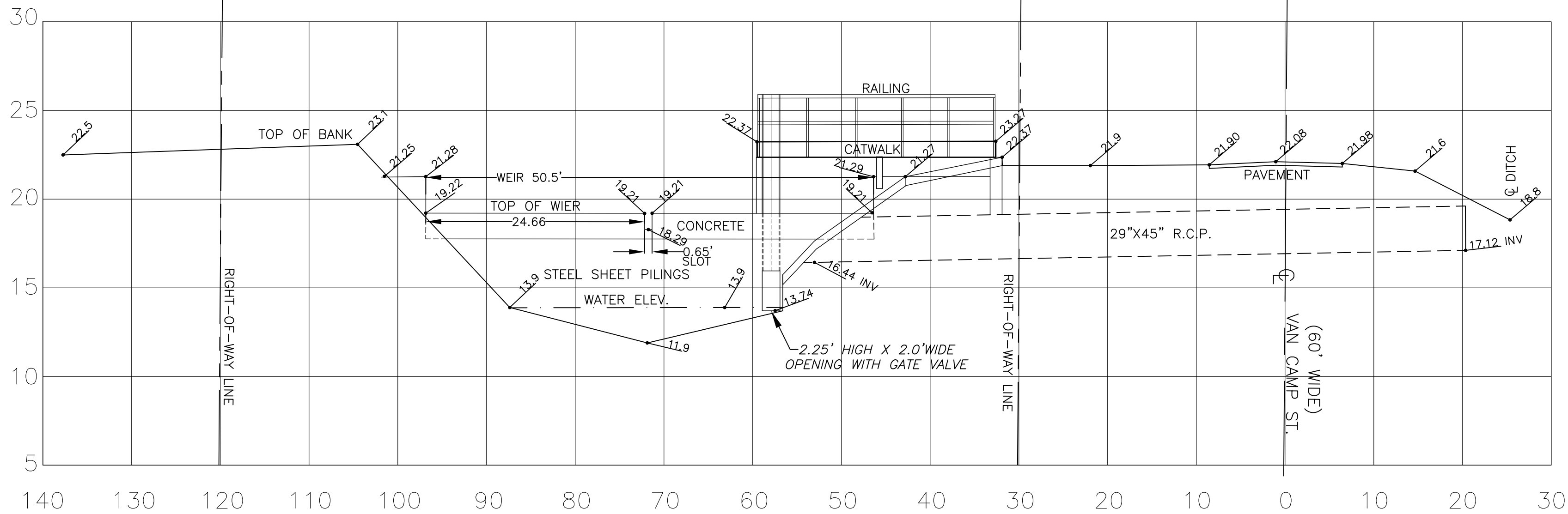
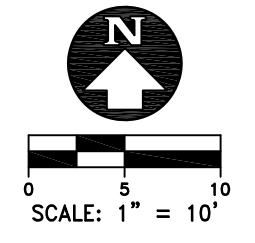
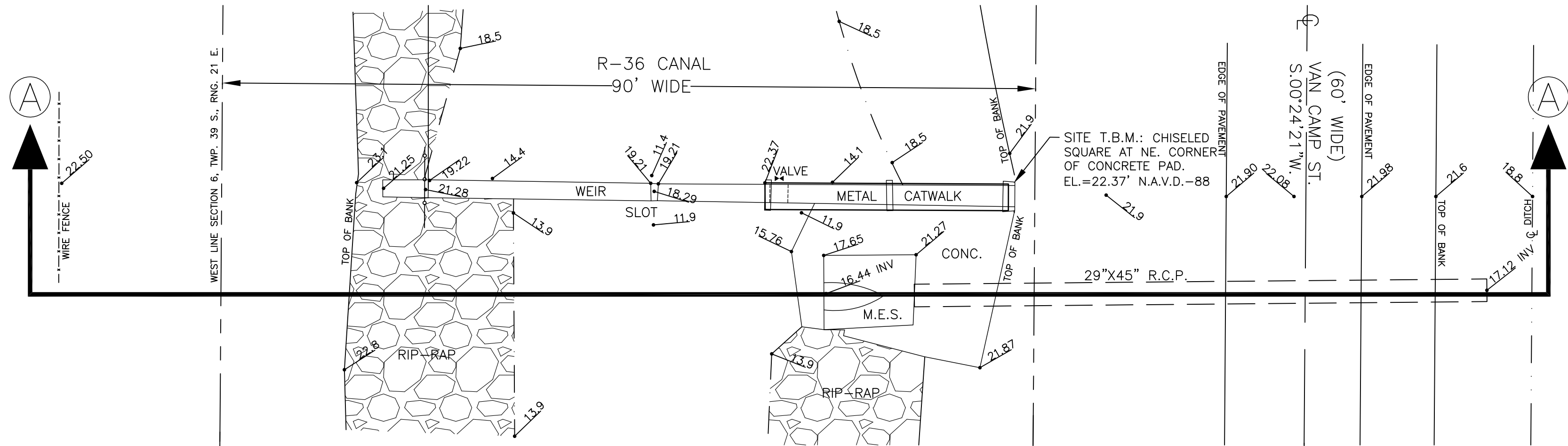
MAP OF "SPECIFIC PURPOSE SURVEY,
OF WATER CONTROL STRUCTURE # 162
IN NORTH PORT CHARLOTTE ESTATES
CITY OF NORTH PORT, SARASOTA COUNTY, FLORIDA

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SURVEYORS - MAPPERS -
DEVELOPMENT CONSULTANTS

12450 Unit C Tamiami Trail - North Port, FL 34287 - (941) 426-0681

DATE:	6-19-2014
SCALE:	AS NOTED
DRAWN:	GC
PROJECT NO.	14-1087
SHEET	1



SCALE:
1" = 10' HORIZ.
1" = 5' VERT.

SECTION "A" - "A"

WATER CONTROL STRUCTURE #162

LEGEND

T.B.M.	TEMPORARY BENCH MARK
E.O.P.	EDGE OF PAVEMENT
⊕	CENTERLINE
7.7	TYPICAL SPOT ELEVATION
R.C.P.	REINFORCED CONCRETE PIPE
M.E.S.	MITERED END SECTION

SURVEYOR'S NOTES/REPORT:

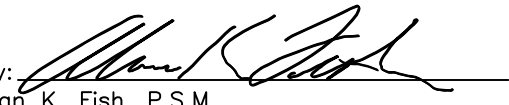
- 1) BEARINGS ARE BASED ON AN ASSUMED MERIDIAN. A BEARING OF S.00°24'21"W. WAS ASSIGNED TO THE CENTERLINE OF VAN CAMP STREET PER RECORD PLAT OF NORTH PORT CHARLOTTE ESTATES.
- 2) ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988. F.D.E.P. BENCH MARK N-698-2007.
- 3) THE ACCURACY OF THIS MAP OF SURVEY IS BASED ON CONTROL MEASUREMENTS THAT MEET OR EXCEED THE MINIMUM ACCURACY REQUIREMENTS FOR THIS TYPE OF SURVEY AS SPECIFIED IN CHAPTER 5J-17, FAC. THIS MAP'S DIGITAL DATA IS INTENDED TO BE DISPLAYED AT A SCALE OF 1"=20' OR SMALLER.
- 4) SURVEY PERFORMED FOR THE "SPECIFIC PURPOSE" OF PROVIDING ELEVATION AND DIMENSION DETAILS OF THE WATER CONTROL STRUCTURE FOR USE BY THE CITY OF NORTH PORT DEPARTMENT OF ENGINEERING.

FOR: CITY OF NORTH PORT
DEPARTMENT OF ENGINEERING

CERTIFICATE

I, hereby certify that this Map/Report of Survey as shown and/or described herein represents the results of Field Surveys performed under my supervision, that it is true and correct to the best of my knowledge, information and belief and meets the requirements of Chapter 5J-17, F.A.C. pursuant to Section 472.027, F.S. Subject to all notations as shown herein.

Van Buskirk / Fish & Associates, Inc., LB#3739

By: 
Alan K. Fish, P.S.M.
Registered Professional Surveyor & Mapper
Florida Certificate No. 3941

Date of Survey: JUNE 19TH, 2014
"Not valid without the signature and the original raised seal of a Florida licensed surveyor and mapper."

APPENDIX B

WCS-162 Pictures



Looking North-West from the downstream of WCS-162



Looking South-West from the upstream of WCS-162

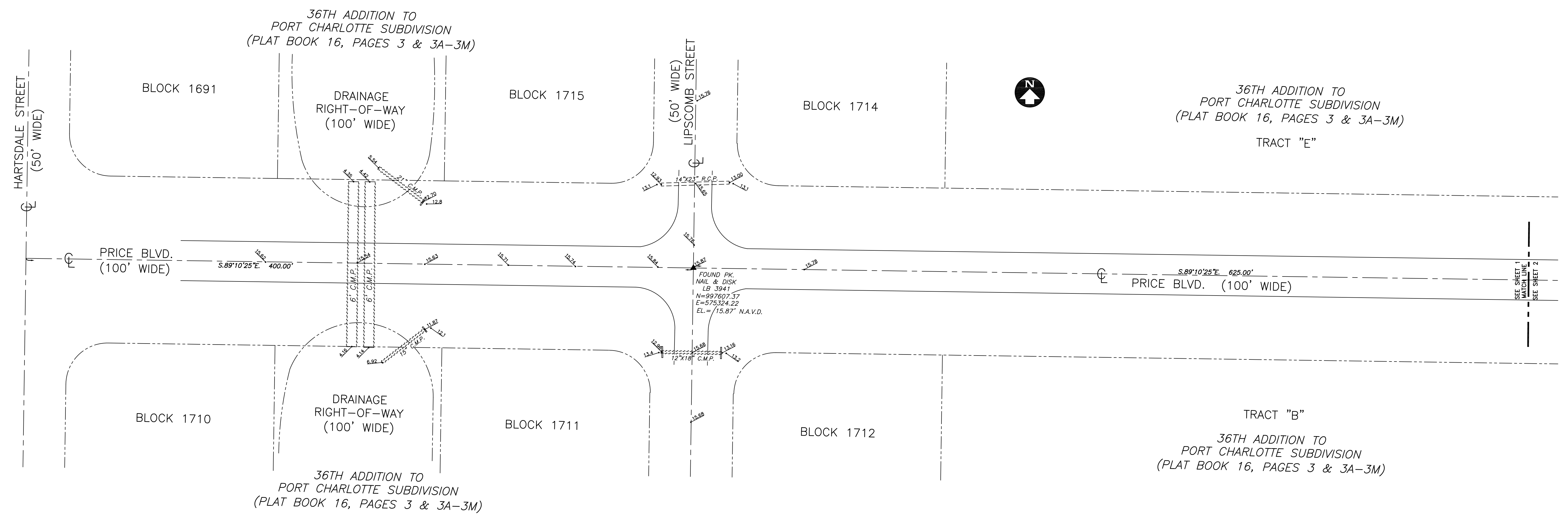


Looking South-West from the upstream of WCS-162

APPENDIX C

2014 Survey Data of West Price Boulevard

REVISIONS:	BY:



MAP OF "SPECIFIC PURPOSE SURVEY" SHOWING FIELD SURVEY DATA COLLECTED FOR A DRAINAGE STUDY ALONG A PORTION OF PRICE BLVD. IN THE CITY OF NORTH PORT, FLORIDA

© 2014 VAN BUSKIRK / FISH & ASSOCIATES, INC.

LEGEND

<ul style="list-style-type: none"> ■ FOUND 4" X 4" CONCRETE MONUMENT (DISK NUMBER NOTED, IF ANY) □ SET 4" X 4" CONCRETE MONUMENT WITH L.S. 3941 DISK ● FOUND #4 OR #5 IRON ROD (CAP NUMBER NOTED, IF ANY) ○ SET #4 IRON ROD WITH L.B. 3739 CAP. ◐ FOUND 1/2" TO 1" IRON PIPE (NUMBER NOTED, IF ANY) ◑ FOUND NAIL OR NAIL & DISC (NUMBER NOTED, IF ANY) ▽ SET NAIL & DISC, L.S. #3941 () PARENTHESES INDICATE RECORD BEARING OR DISTANCE IF DIFFERENT THAN MEASURED ⊕ UTILITY POLE & GUY ANCHOR ⊙ LIGHT POLE ⊙ MAIL BOX ⊙ STREET SIGN ⊙ WATER VALVE ⊙ BACK FLOW PREVENTION DEVICE ⊙ SANITARY CLEAN OUT ⊙ ELECTRICAL BOX ⊙ OTE GANISTER ⊙ PHONE RISER ⊙ WATER METER ⊙ HYDRANT ⊙ SANITARY SEWER MANHOLE ⊙ PHONE BOX ⊙ TYPICAL SPOT ELEVATION ⊙ SPOT ELEVATION (POST CONSTRUCTION) ==== RE-ENFORCED CONCRETE PIPE (R.C.P.) ----- CORRUGATED METAL PIPE (C.M.P.) ----- CORRUGATED PLASTIC PIPE (C.P.P.) 	<ul style="list-style-type: none"> --- OVERHEAD UTILITY LINES --- UNDER GROUND TELEPHONE LINES --- WATER MAIN --- WATER SERVICE --- UNDER GROUND GAS LINE --- CHAIN LINK FENCE --- WIRE FENCE --- WOOD FENCE P.C. POINT OF CURVATURE P.T. POINT OF TANGENCY P.O.B. POINT OF BEGINNING P.O.C. POINT OF COMMENCEMENT P.R.M. PERMANENT REFERENCE MONUMENT P.C.P. PERMANENT CONTROL POINT T.B.M. TEMPORARY BENCH MARK E.O.P. EDGE OF PAVEMENT CL CENTERLINE BL BASELINE FND FOUND I.P. IRON PIPE I.R. IRON ROD C.M.P. CORRUGATED METAL PIPE R.C.P. REINFORCED CONCRETE PIPE C.M. CONCRETE MONUMENT EL. ELEVATION F.F. FINISH FLOOR H.W. HEAD WALL B.O.C. BACK OF CURB P.R.C. POINT OF REVERSE CURVATURE B.F.P. BACK FLOW PREVENTION DEVICE M.A.F.L. MEAN ANNUAL FLOOD LINE F.S.P.C.S. FLORIDA STATE PLANE COORDINATE SYSTEM ○ PINE TREE (TYP) ○ OAK TREE (TYP) ○ PALM TREE 10" DIAMETER (TYP)
--	--

SURVEYOR'S NOTES/REPORT:

- BEARINGS ARE BASED ON "GRID NORTH" FLORIDA STATE PLANE COORDINATE SYSTEM, "WEST ZONE". COORDINATES ARE NAD 1983/2007.
- ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
- THIS SURVEY WAS PERFORMED FOR THE "SPECIFIC PURPOSE" OF PROVIDING TOPOGRAPHIC SPOT ELEVATIONS, CULVERT AND STORM DRAIN PIPE SIZES AND ELEVATIONS, CULVERT MATERIAL TYPES AND OTHER SELECTED ELEVATION DATA FOR USE IN A DRAINAGE STUDY OF THE PORTIONS OF PRICE BLVD. SHOWN ON THIS MAP OF SURVEY.
- EASEMENTS SHOWN IF ANY, ARE INTERPRETED FROM RECORD PLAT DEDICATIONS OR TITLE INFORMATION SUPPLIED TO OR ACQUIRED BY THE SURVEYOR AT TIME OF SURVEY. THE SURVEYED PROPERTY MAY BE SUBJECT TO OTHER RESERVATIONS, RESTRICTIONS, COVENANTS, EASEMENTS OR AGREEMENTS AFFECTING THE PROPERTIES NOT DEPICTED ON THIS SURVEY. UNDERGROUND UTILITIES HAVE NOT BEEN LOCATED. IF UTILITY LINES ARE SHOWN, THEY WERE LOCATED AS MARKED BY OTHERS AND THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR THE COMPLETENESS OF SAID UTILITY LOCATIONS.
- THE ACCURACY OF THIS MAP OF SURVEY IS BASED ON CONTROL MEASUREMENTS THAT MEET OR EXCEED THE MINIMUM ACCURACY REQUIREMENTS FOR THIS TYPE OF SURVEY AS SPECIFIED IN CHAPTER SJ-17, FAC. THIS MAP'S DIGITAL DATA IS INTENDED TO BE DISPLAYED AT A SCALE OF 1"=20' OR SMALLER.

FOR: THE CITY OF NORTH PORT, FLORIDA

CERTIFICATE

I, hereby certify that this Map/Report of Survey Sheets 1 through 8, as shown herein represents the results of Field Surveys performed under my supervision, that it is true and accurate to the best of my knowledge, information and belief and meets the requirements of Chapter SJ-17, F.A.C. pursuant to Section 472.027, F.S. Subject to all notations as shown herein.

Alan K. Fish
Registered Professional Surveyor & Mapper
Florida Certificate No. 3941

Date of Survey: JUNE 17, 2014

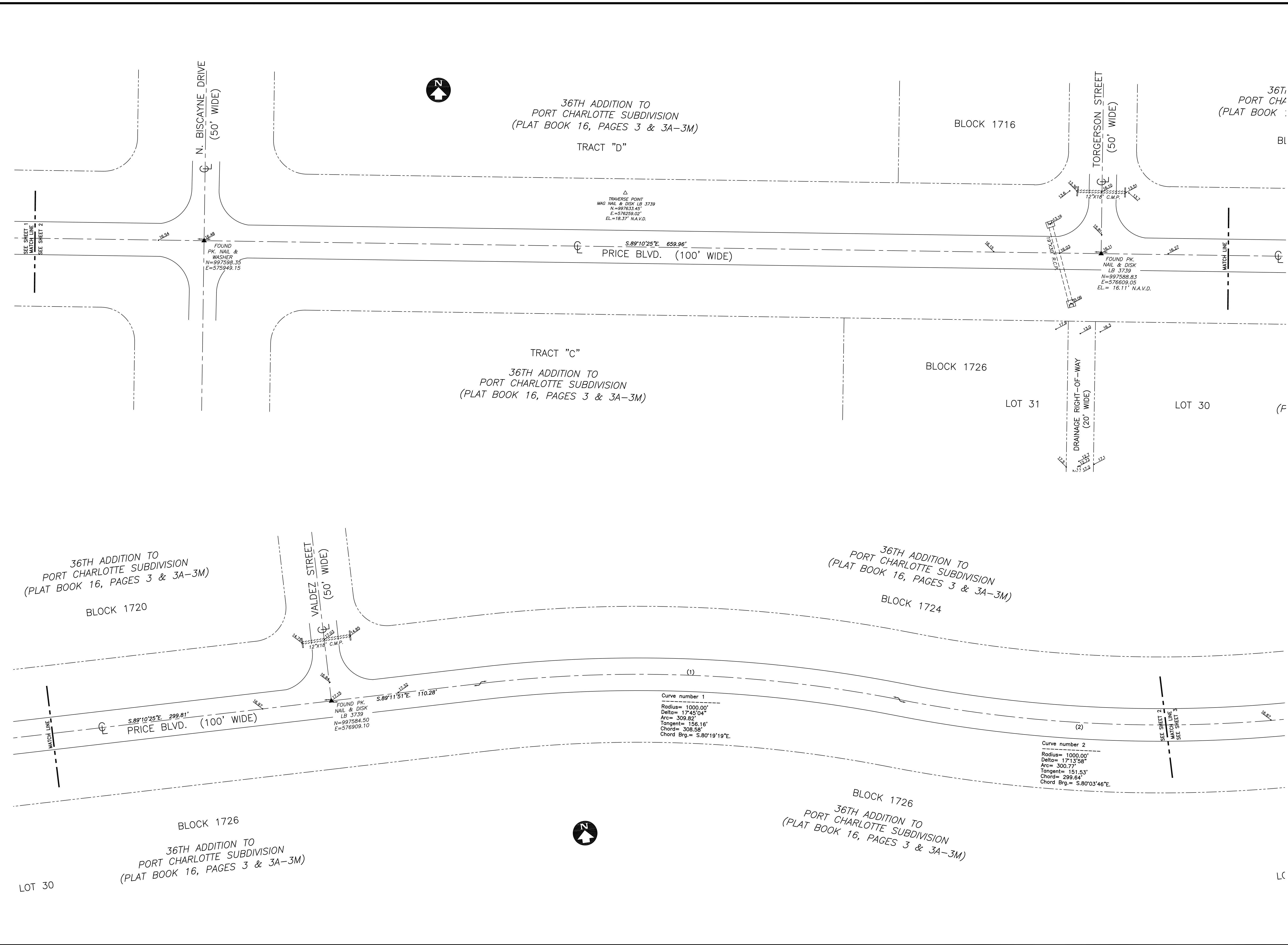
"Not valid without the signature and the original raised seal of a Florida licensed surveyor and mapper."

Van Buskirk / Fish & Associates, Inc.
SURVEYORS - MAPPERS - DEVELOPMENT CONSULTANTS

12450 Unit C Tamiami Trail - North Port, FL 34287 - (941) 426-0681

DATE: 6-17-2014
SCALE: 1" = 30'
DRAWN: GC
PROJECT NO. 14-1088
SHEET 1 OF 7 SHEETS

REVISIONS:	BY:



MAP OF "SPECIFIC PURPOSE SURVEY" SHOWING FIELD SURVEY DATA COLLECTED FOR A DRAINAGE STUDY ALONG A PORTION OF PRICE BLVD. IN THE CITY OF NORTH PORT, FLORIDA

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SURVEYORS - MAPPERS - DEVELOPMENT CONSULTANTS
VBAF
 12450 Unit C Tamiami Trail - North Port, FL 34287 - (941) 426-0681

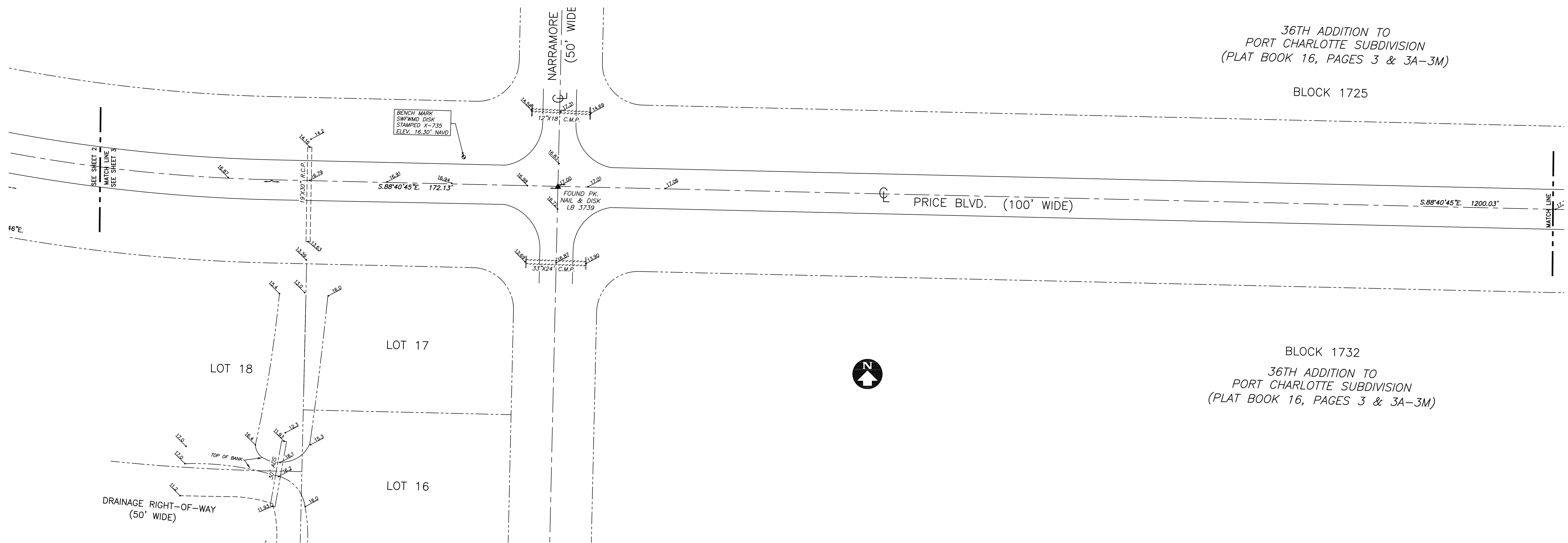
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DRAWN:	GC
PROJECT NO.	14-1088
SHEET	2
OF 7 SHEETS	

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REVISIONS:	BY:

36TH ADDITION TO
PORT CHARLOTTE SUBDIVISION
(PLAT BOOK 16, PAGES 3 & 3A-3M)

BLOCK 1725

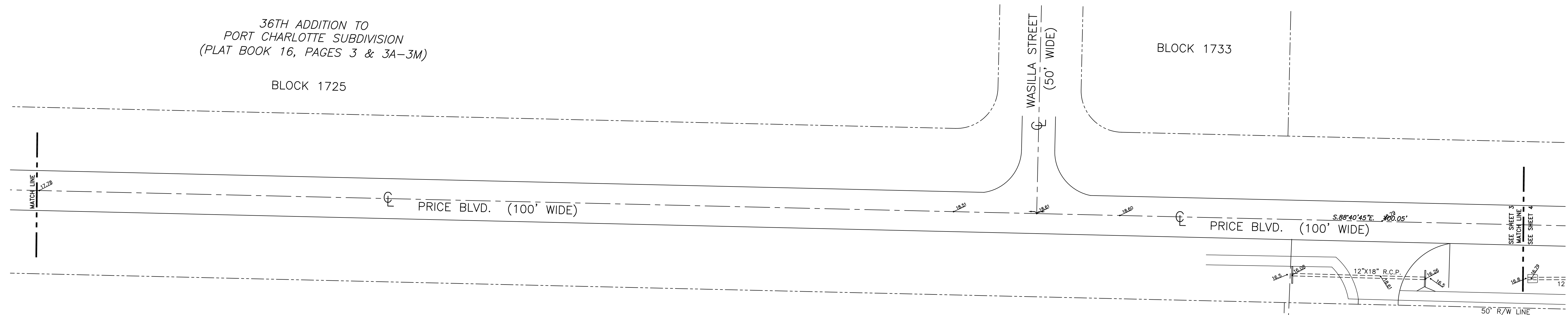


BLOCK 1732
36TH ADDITION TO
PORT CHARLOTTE SUBDIVISION
(PLAT BOOK 16, PAGES 3 & 3A-3M)

36TH ADDITION TO
PORT CHARLOTTE SUBDIVISION
(PLAT BOOK 16, PAGES 3 & 3A-3M)

BLOCK 1725

BLOCK 1733



BLOCK 1732
36TH ADDITION TO
PORT CHARLOTTE SUBDIVISION
(PLAT BOOK 16, PAGES 3 & 3A-3M)

TRACT "H"
36TH ADDITION TO
PORT CHARLOTTE SUBDIVISION
(PLAT BOOK 16, PAGES 3 & 3A-3M)

Van Buskirk / Fish & Associates, Inc.
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DEVELOPMENT CONSULTANTS
12450 Unit C Tamiami Trail - North Port, FL 34287 - (941) 426-0681

DATE: 6-17-2014
SCALE: 1" = 30'
DRAWN: AKF
PROJECT NO. 14-1088
SHEET 3
OF 7 SHEETS

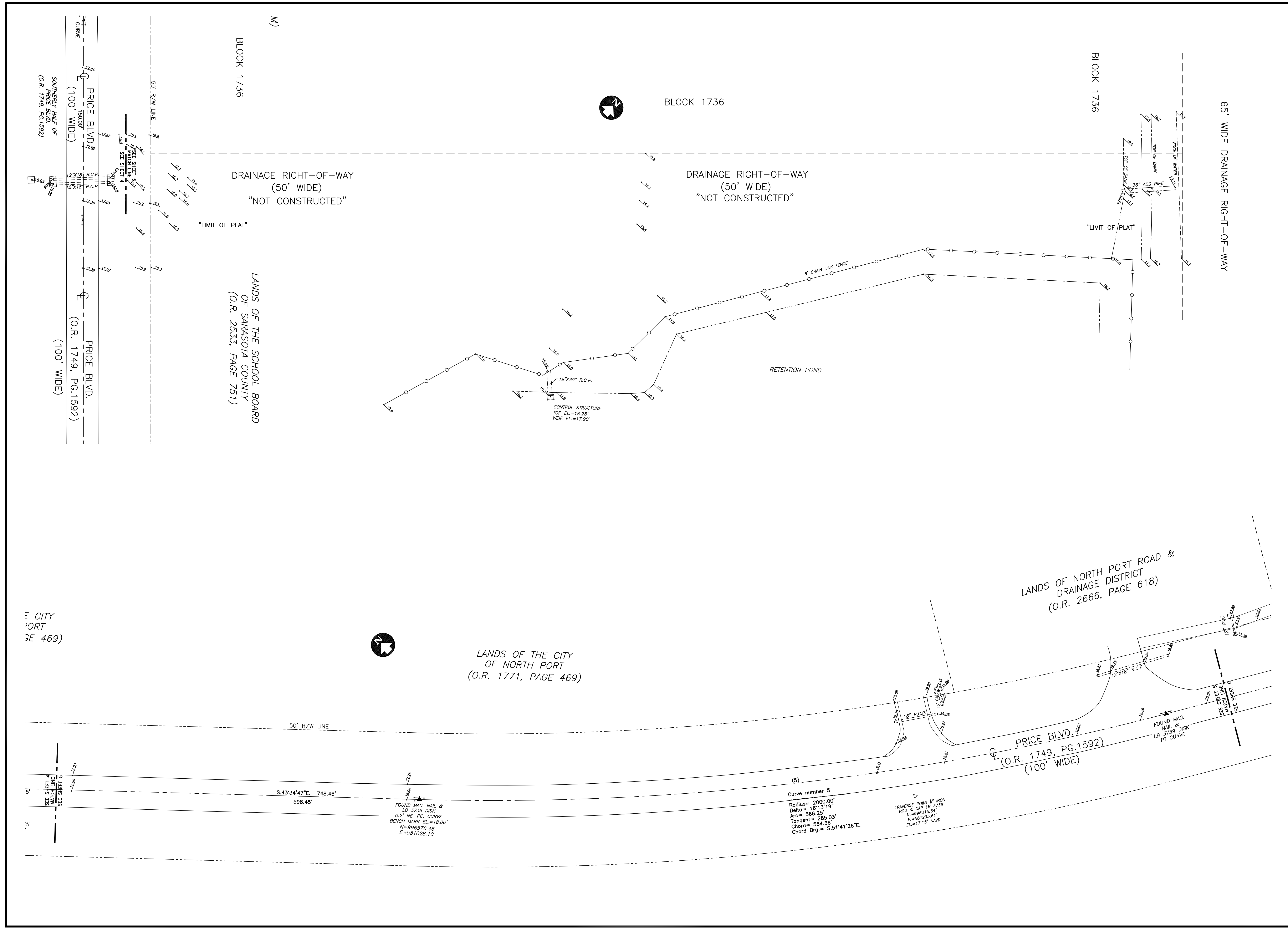
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REVISIONS:	BY:

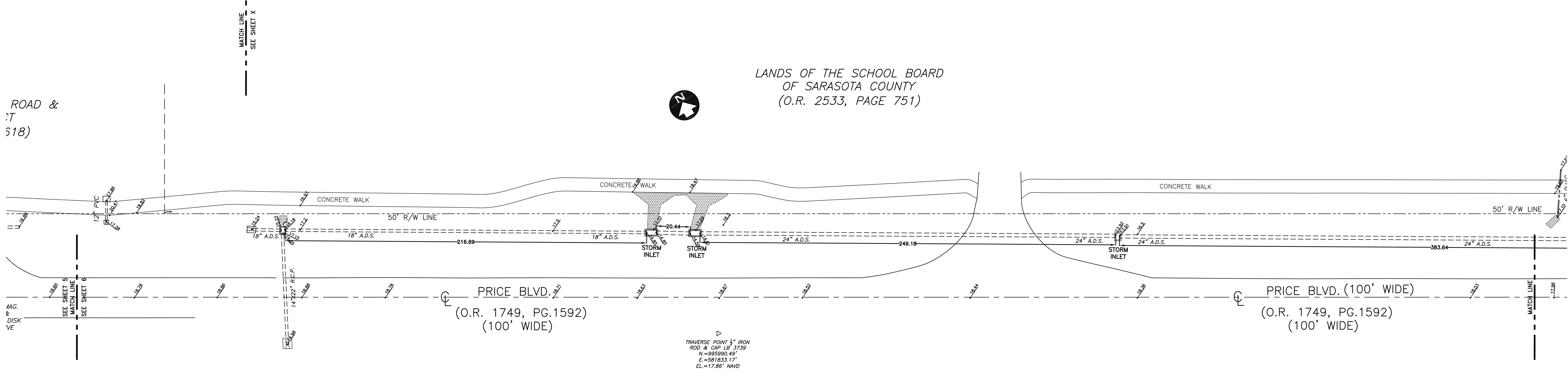
MAP OF "SPECIFIC PURPOSE SURVEY" SHOWING FIELD SURVEY DATA COLLECTED FOR A DRAINAGE STUDY ALONG A PORTION OF PRICE BLVD. IN THE CITY OF NORTH PORT, FLORIDA

Van Buskirk / Fish & Associates, Inc.
 SURVEYORS - MAPPERS - DEVELOPMENT CONSULTANTS
VBAF
 12450 Unit C Tamiami Trail - North Port, FL 34287 - (941) 426-0681

DATE: 6-17-2014
 SCALE: 1" = 30'
 DRAWN: AKF
 PROJECT NO. 14-1088
 SHEET 5
 OF 7 SHEETS



ROAD &
:T
518)

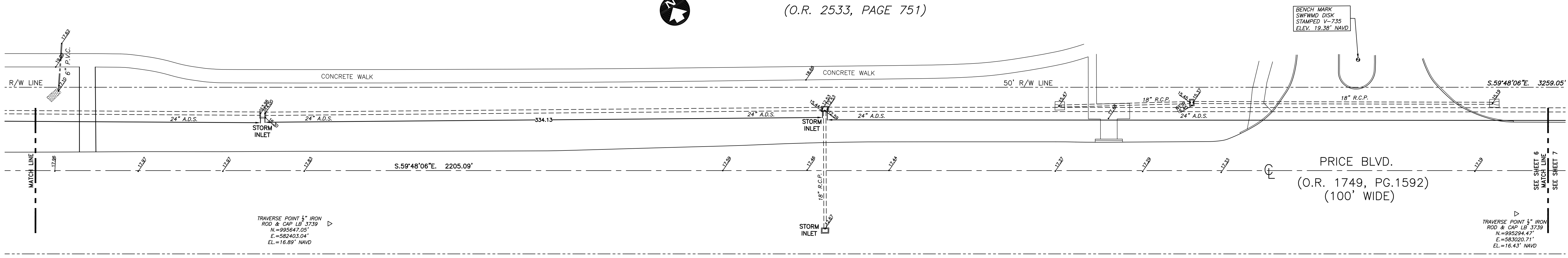


LANDS OF THE SCHOOL BOARD
OF SARASOTA COUNTY
(O.R. 2533, PAGE 751)



TRAVERSE POINT 1" IRON
ROD & CAP LB 3739
N=995960.49'
E=961833.17'
EL.=17.86' NAVD

LANDS OF THE SCHOOL BOARD
OF SARASOTA COUNTY
(O.R. 2533, PAGE 751)



BENCH MARK
SWIFWAD DISK
STAMPED V-725
ELEV. 19.38' NAVD

TRAVERSE POINT 1" IRON
ROD & CAP LB 3739
N=995647.05'
E=982403.04'
EL.=16.89' NAVD

TRAVERSE POINT 1" IRON
ROD & CAP LB 3739
N=995294.47'
E=983020.71'
EL.=16.43' NAVD

REVISIONS:	BY:

MAP OF "SPECIFIC PURPOSE SURVEY" SHOWING FIELD SURVEY DATA COLLECTED FOR A DRAINAGE STUDY ALONG A PORTION OF PRICE BLVD. IN THE CITY OF NORTH PORT, FLORIDA

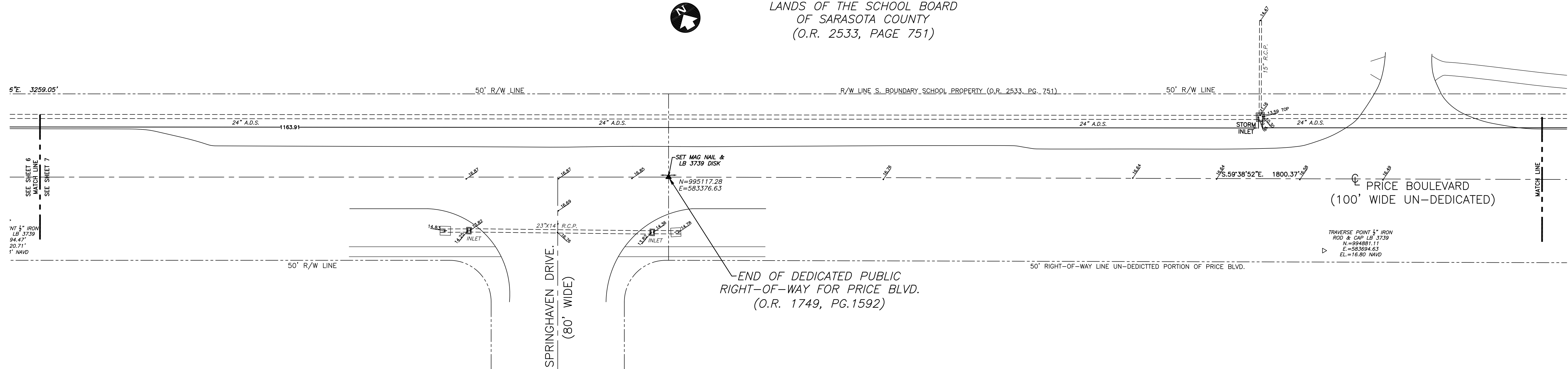
Van Buskirk / Fish & Associates, Inc.
SURVEYORS - MAPPERS -
DEVELOPMENT CONSULTANTS
12450 Unit C Tamiami Trail - North Port, FL 34287 - (941) 426-0681

DATE:
6-17-2014
SCALE:
1" = 30'
DRAWN:
AKF
PROJECT NO.
14-1088
SHEET
6
OF 7 SHEETS

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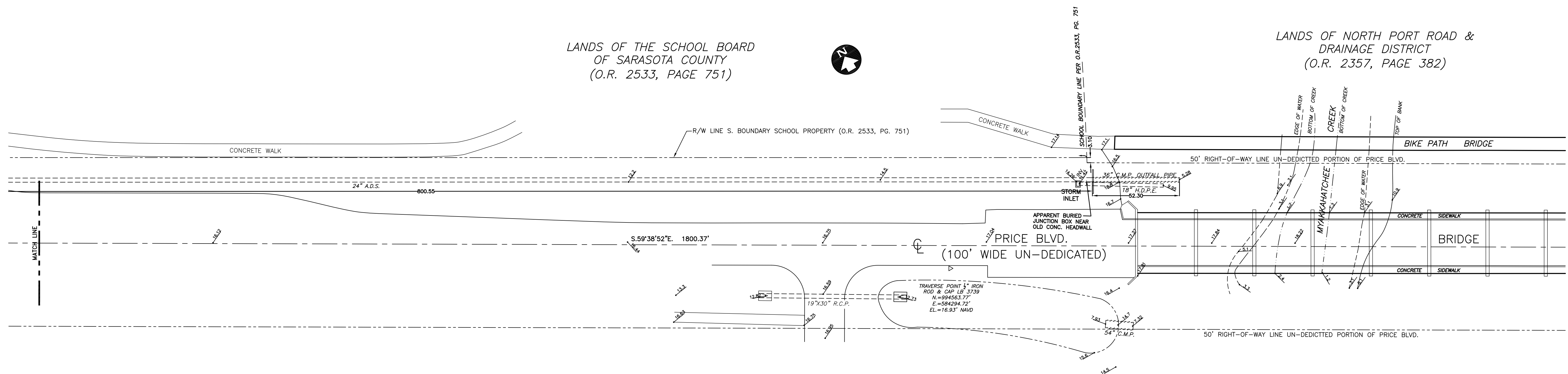
REVISIONS:	BY:

LANDS OF THE SCHOOL BOARD
OF SARASOTA COUNTY
(O.R. 2533, PAGE 751)



LANDS OF THE SCHOOL BOARD
OF SARASOTA COUNTY
(O.R. 2533, PAGE 751)

LANDS OF NORTH PORT ROAD &
DRAINAGE DISTRICT
(O.R. 2357, PAGE 382)



MAP OF "SPECIFIC PURPOSE SURVEY" SHOWING FIELD SURVEY DATA COLLECTED FOR A DRAINAGE STUDY ALONG A PORTION OF PRICE BLVD. IN THE CITY OF NORTH PORT, FLORIDA

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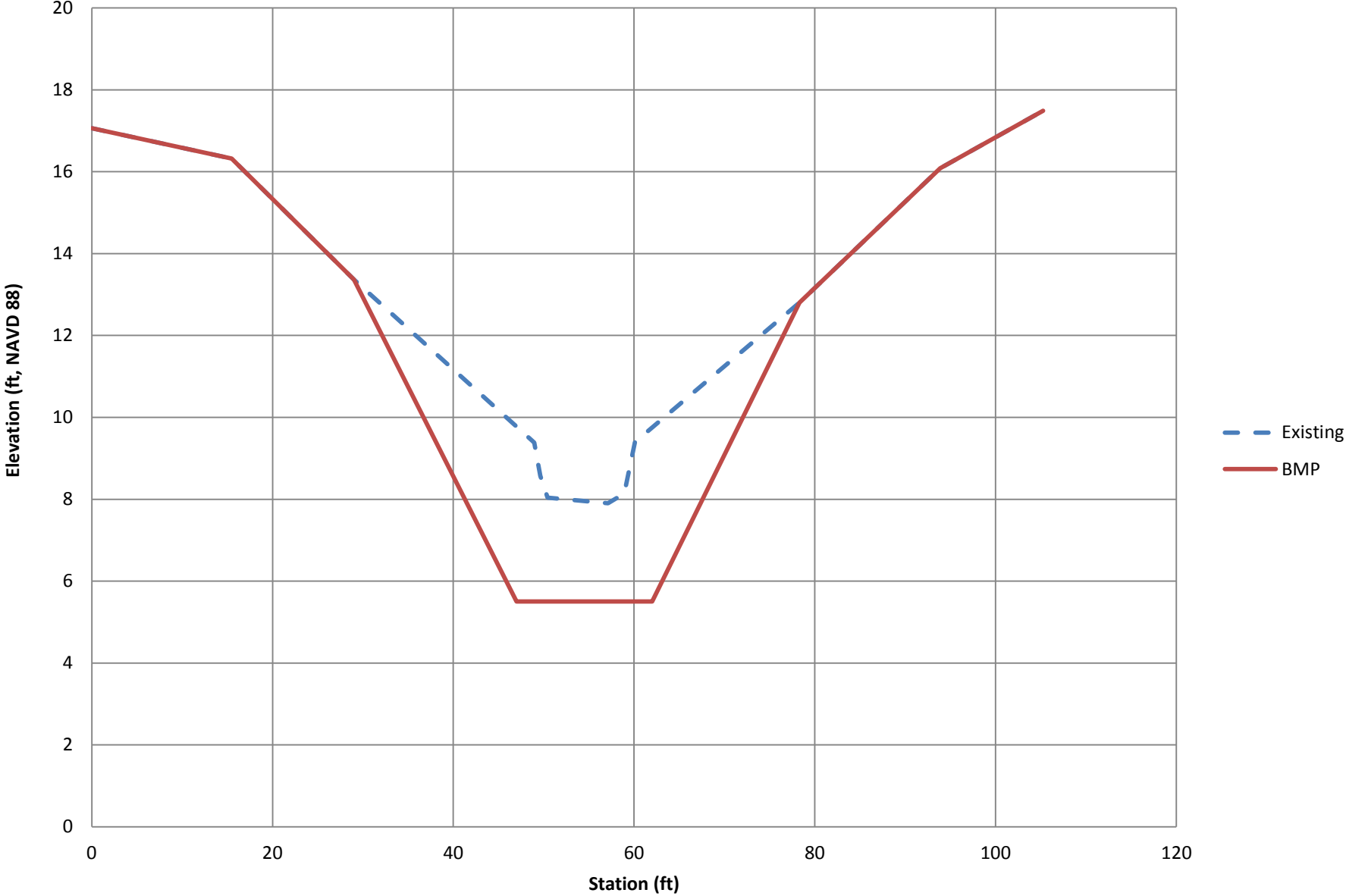
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SURVEYORS - MAPPERS -
DEVELOPMENT CONSULTANTS
12450 Unit C Tamiami Trail - North Port, FL 34287 - (941) 426-0681

DATE:
6-17-2014
SCALE:
1" = 30'
DRAWN:
AKF
PROJECT NO.
14-1088
SHEET
7
OF 7 SHEETS

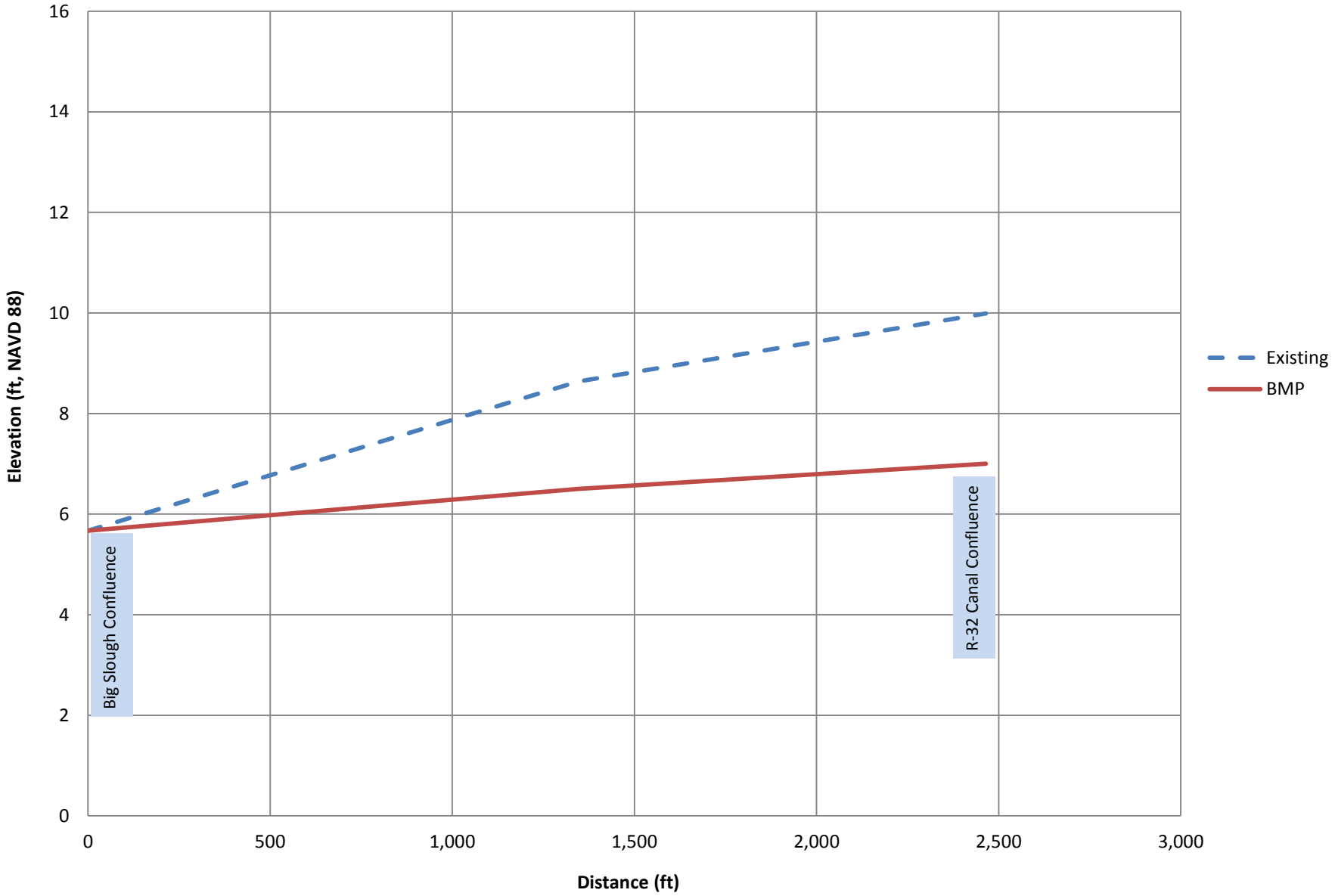
APPENDIX D

Canal Cross-sections and Profiles

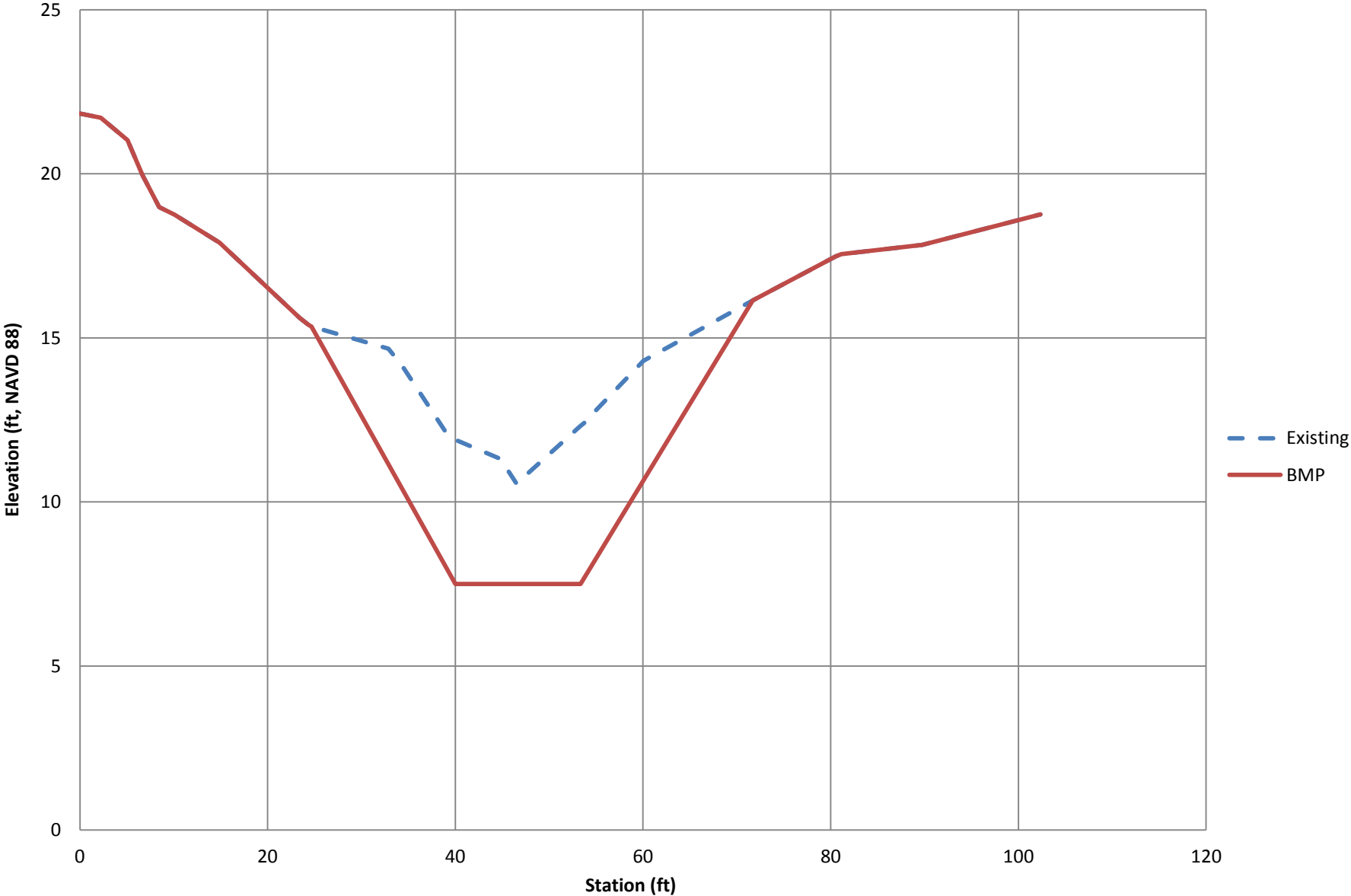
Existing and BMP Sections R-24 Canal



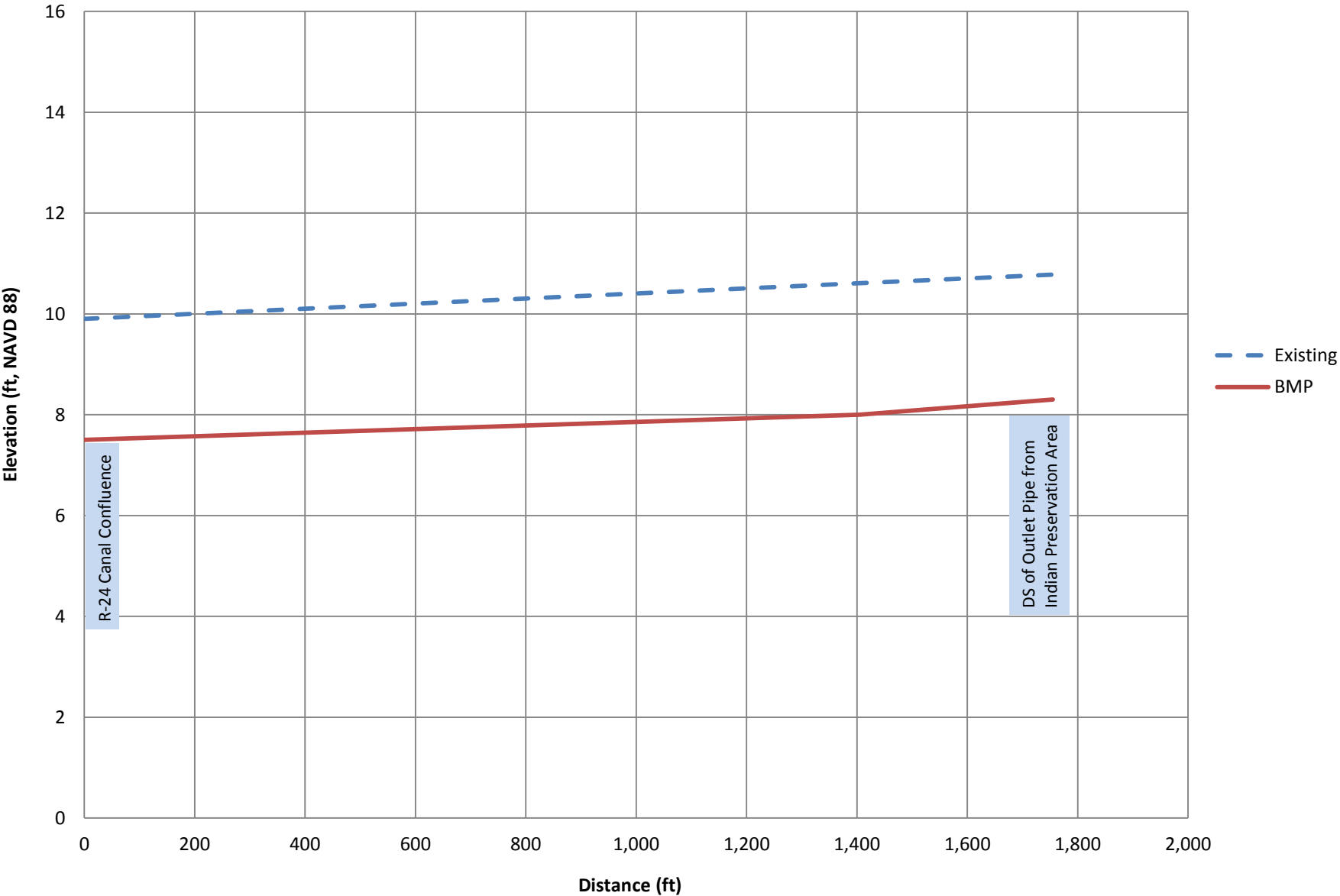
R-24 Canal Bottom Profile



Existing and BMP Sections R-32 Canal



R-32 Canal Bottom Profile



APPENDIX E

Preliminary Cost Estimates

BMP No. 1 (Dredging R-24 and R-32 Canals) Preliminary Cost Estimates

Item	Length (ft)	Width (ft)	Cross Section area	Quantity	Unit	Unit Cost *	Estimated Cost	Comments
Dredging and removal of dredgings - 1,800 ft of R-32 Canal	1800		144.5	9633	CY	\$ 25	\$ 240,833	
Dredging and removal of dredgings - 2,300 ft of R-24 Canal	2300		118.3	10077	CY	\$ 25	\$ 251,935	
Bank Stabilization R-32 Canal Assume 1, 800ft long 20 feet wide on each side	1800	38		7600	SY	\$ 2	\$ 15,200	
Bank Stabilization R-24 Canal Assume 2,300 ft long 20 feet wide on each side	2300	38		9711	SY	\$ 2	\$ 19,422	
36-inch Pipe Crossing				40	LF	\$ 50	\$ 2,000	
Erosion and Sediment Control							\$ -	
MOT				1	LS	\$ 5,000	\$ 5,000	
Mobilization and Demobilization				1	LS	\$ 5,000	\$ 5,000	
Other Project Costs				1	LS	\$ 5,000	\$ 5,000	
Subtotal							\$ 544,391	
Design and Permitting Consultant Services (15%)							\$ 81,659	
Construction and Inspection Consultant Services (5%)							\$ 27,220	
Contingency (10%)							\$ 65,327	
Total FY 2014 cost							\$ 718,596	
Total FY 2017 Inflated Cost (5% per year)							\$ 831,864	

* Estimated Costs from Thomas Marine Construction

BMP No. 2 (Raising 1,900 ft of Price Boulevard) Preliminary Cost Estimates

Item	Length (ft) *	Width (ft)	Depth (in)	Quantity	Unit	Unit Cost	Estimated Cost **	Comments
Detail Topographic Survey				1	ea	\$ 5,000	\$ 5,000	
Mill Existing Asphalt	2100	24		5600	SY	\$ 15	\$ 84,000	
Add road base to elevate road 1.2'	2100	26	15	6067	SY	\$ 30	\$ 182,000	\$15 per SY per 8" thickness. Double cost for 15" thickness.
Type SP Structural Course 1.5"	2100	26	1.5	455	TON	\$ 100	\$ 45,500	100lb per SY per inch thickness / 2000lb per ton
Friction Course 1.5"	2100	26	1.5	455	TON	\$ 120	\$ 54,600	
Swale Regrading and sodding (assume 20 ft wide each side of Price Blvd)	2100	20		9333	SY	\$ 5	\$ 46,667	
Surveying (Construction staking, surveying, as-builts)				1	LS	\$ 7,500	\$ 7,500	
Erosion and Sediment Control				1	LS	\$ 5,000	\$ 5,000	
MOT				1	LS	\$100,000	\$ 100,000	Need bypass lanes
Mobilization and Demobilization (6%)				1	LS	\$ 31,816	\$ 31,816	
Subtotal							\$ 562,083	
Design and Permitting Consultant Services (15%)							\$ 84,312	
Construction and Inspection Consultant Services (5%)							\$ 28,104	
Contingency (10%)							\$ 67,450	
Total FY 2014 cost							\$ 741,949	
Total FY 2017 Inflated Cost (5% per year)							\$ 858,899	

* Add 100 feet on each for transition to existing road pavement elevation

** Cost inflated about 15% from 2014 Sumter/Price Intersection improvements cost from Ben Newman

BMP No. 3 (Raising 950 ft of Price Boulevard and Dredging R-24 and R-32 Canals) Preliminary Cost Estimates

Item	Length (ft) *	Width (ft)	Depth (in)	Quantity	Unit	Unit Cost	Estimated Cost **	Comments
Detail Topographic Survey				1	ea	\$ 5,000	\$ 5,000	
Mill Existing Asphalt	1150	24		3067	SY	\$ 15	\$ 46,000	
Add road base to elevate road 8"	1150	26	8	3322	SY	\$ 15	\$ 49,833	\$15 per SY per 8" thickness.
Type SP Structural Course 1.5"	1150	26	1.5	249	TON	\$ 100	\$ 24,917	100lb per SY per inch thickness / 2000lb per ton
Friction Course 1.5"	1150	26	1.5	249	TON	\$ 120	\$ 29,900	
Swale Regrading and sodding (assume 20 ft wide each side of Price Blvd)	1150	20		5111	SY	\$ 5	\$ 25,556	
Surveying (Construction staking, surveying, as-builts)				1	LS	\$ 7,500	\$ 7,500	
Erosion and Sediment Control				1	LS	\$ 5,000	\$ 5,000	
MOT				1	LS	\$100,000	\$ 100,000	Need bypass lanes
Mobilization and Demobilization (6%)				1	LS	\$ 17,622	\$ 17,622.33	
Dredging R-24 and R-34 Canals (see BMP 1 cost estimate for detailed cost breakdown)							\$ 544,391	
Subtotal							\$ 855,719	
Design and Permitting Consultant Services (15%)							\$ 128,358	
Construction and Inspection Consultant Services (5%)							\$ 42,786	
Contingency (10%)							\$ 102,686	
Total FY 2014 cost							\$ 1,129,549	
Total FY 2017 Inflated Cost (5% per year)							\$ 1,307,594	

* Add 100 feet on each for transition to existing road pavement elevation

** Cost inflated about 15% from 2014 Sumter/Price Intersection improvements cost from Ben Newman



David A. DeLoach, State of Florida, Professional Engineer, License No. 47761
This item has been electronically signed and sealed by David A. DeLoach, P.E.
on May 9, 2019 using a SHA authentication code.

Printed copies of this document are not considered signed and sealed and the
SHA authentication code must be verified on any electronic copies.

City of North Port

Professional Engineering Services for the Big Slough Flood Reduction Study

Agreement #2016-48
Department of Public Works

STORMWATER MANAGEMENT PLAN



May 2019

DeLoach Engineering Science, PLLC
1845 Ivanhoe Road | Orlando, FL 32804

DeLoach Engineering Science
water resources and civil engineering

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 Flood Area Reduction for 1-Day 50-Year Event in the Dorothy Avenue Area 35

 Flood Area Reduction for 1-Day 100-Year Event in the Dorothy Avenue Area 36

**City of North Port
Big Slough Flood Reduction Study**

STORMWATER MANAGEMENT PLAN REPORT

The purpose of this report is to present a conceptual stormwater management master plan for drainage system improvements covering flood-prone areas in the Big Slough Watershed within the City of North Port. This report expands upon the North Port/Big Slough Watershed Management Program project (Ardaman & Associates, Inc., 2003-2014) and includes, as appendices, copies of selected reports including interim project reports by DeLoach Engineering Science, PLLC (DES) that have documented progress toward development of a viable stormwater management plan. Elements carried over from prior reports, including text, figures, and tables, have been updated to include new and better information and, where different, supersede information contained in those prior reports. A set of project deliverables, including updated geodatabase, collected field data, model input and output data, and digital library of prior reports and presentations, accompanies this report. These materials provide information in support of a request for conceptual approval of a Statewide Environmental Resource Permit (SWERP) application.

INTRODUCTION

The Big Slough Flood Reduction Study, which was cooperatively funded by and between the City of North Port and the Southwest Florida Water Management District (SWFWMD), was performed for the Department of Public Works under City of North Port Agreement #2016-48. Notice to Proceed to conduct the flood study was issued to DES on October 13, 2016. Per the Project Plan (Appendix A), DES evaluated feasibility and cost effectiveness of various solutions intended to reduce flooding in the City within the Big Slough Watershed. The Big Slough Flood Reduction Feasibility Study was comprised of two distinct parts:

- Part 1 was to evaluate localized flooding along Myakkahatchee Creek in two specific flood-prone areas and recommend construction projects or other methods to mitigate flooding. The I-75 and Jockey Club areas along Myakkahatchee Creek were initially designated for this work. However, collection and conveyance system improvements conceived and performed by the City of North Port stormwater department proved effective at reducing flooding within the Jockey Club area prior to this project getting underway. Consequently, the nearby flood-prone Dorothy Avenue area was instead targeted along with the I-75 area for Part 1 analysis and stormwater planning.
- Part 2 was to evaluate preliminary regional concepts including, but not limited to, those previously developed by others, with the intent to advance large scale conceptual solutions to mitigate flooding throughout the City of North Port.

Localized solutions to recurrent flooding were found to be ineffective in the selected Part 1 project areas. Larger-scale solutions thus became the focus of all flood reduction planning. To the extent that the proposed improvements can be implemented by the City independent of adjacent landowners, the stormwater plan meets Part 1 objectives. Plan components which require authorizations from adjacent land owners/managers will be implemented over a longer period of time and satisfy Part 2 objectives.

Prior Work Completed

The Big Slough watershed and City of North Port stormwater management system have been the subjects of prior investigations. Reference has been made by DES to the following reports:

- North Port Water Control District Phase I Report, Inventory and Approach to Analysis, for General Development Utilities, Inc., by R. D. Ghioto & Associates, Inc. (1984) presents data and information that describes NPWCD facilities, their function and condition.
- City of North Port Big Slough Watershed Study Phase III Task 2 Final Report, Stormwater Management Master Plan, by Camp, Dresser & McKee, Inc. (1993) presents conceptual solutions for flooding as well as assessments of potential water supplies and of nonpoint source pollution and describes a stormwater management plan to reduce flooding during extreme storm events.
- Watershed Management Program (WMP) Consulting Services in the Big Slough Watershed (K883), Best Management Practices (BMP) Analysis Final Report, for Southwest Florida Water Management District and City of North Port, by Ardaman & Associates, Inc. (2014) evaluates BMP alternatives to address flooding based on effectiveness, permissibility, and economic viability.

The 1993 Stormwater Management Master Plan by CDM was partially implemented, providing increased local conveyance through replacement of culvert structures at four locations. Those improvements are accounted for in more recent model development. Other plan components were not completed including those for storage and flow diversion, apparently due to regulatory and financial constraints of that time.

Two important reports from the Ardaman WMP project are reproduced in Appendix B and Appendix C. Under the WMP project, an “existing condition” (2004 land use) model was developed and six regional BMP alternatives evaluated that could potentially reduce flooding through combinations of conveyance improvements, stormwater management storage areas, flood proofing, and flow diversion. Although the regional alternatives developed under the WMP project were not incorporated into a specific plan for implementation, the work provided insight to the system’s hydraulic response and BMP limitations.

Additionally, hydraulic performance and effects of potential local conveyance improvements were analyzed under the WMP project at the following sites:

- R-36 Canal at I-75
- Myakkahatchee Creek at I-75
- R-36 Canal at Tropicaire Boulevard
- Myakkahatchee Creek at Tropicaire Boulevard
- WCS-162 location on the R-36 Canal (possibility of adding gates to the existing structure)
- Price Boulevard drainage system (five alternative sets of improvements)

Importantly, BMP evaluation results were compared to the 1-Day 100-Year existing condition model only.

The current Big Slough Flood Reduction Study builds upon all prior work to advance previously developed and new concepts to achieve flood mitigation in areas where residential structures are shown as flooding in the recently updated Flood Insurance Rate Maps (FIRMs). Performance of proposed improvements will be considered relative to lesser storm events from mean annual up to and including the 100-year storm event to evaluate cost and benefit relationships across a broader range of conditions.

PROJECT AREA DESCRIPTION

The Big Slough Watershed (Figure 1) is located in southeastern Sarasota County and is tributary to the Myakka River. Portions of the City of North Port located east of the Myakka River are within the southern portion of the Big Slough Watershed. The Big Slough Canal (also called Myakkahatchee Creek in its lower reaches) passes from north to south and receives inflows from numerous waterways within the City.

Discharge of waters from the City and upstream offsite areas occurs primarily via Myakkahatchee Creek as it passes beneath US 41. Lesser discharges occur southward through several open weirs, drop structures, and culverts along Hillsborough Boulevard into waterways which continue through Port Charlotte. Several of those downstream waterways are controlled by structures while others are tidally influenced.

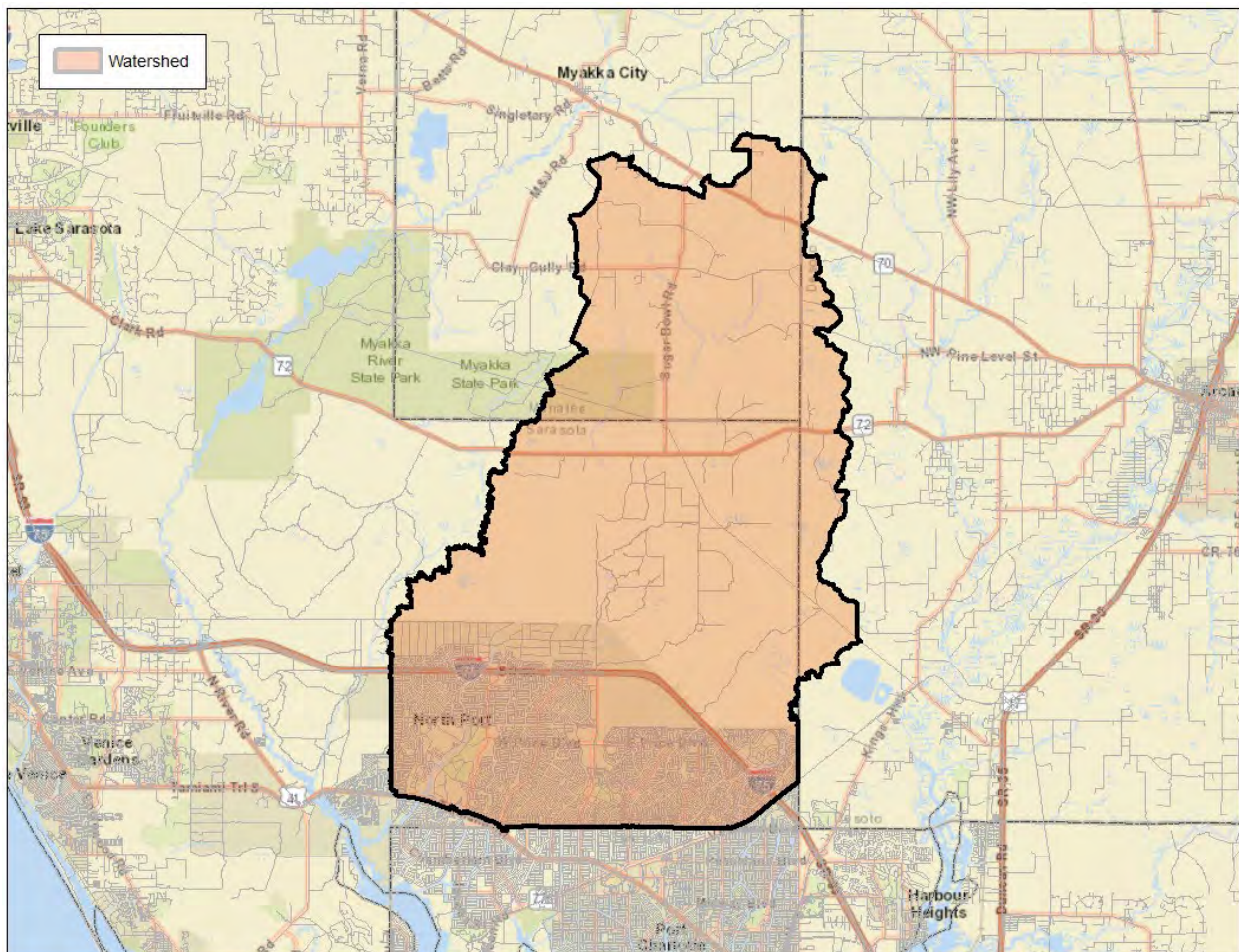


Figure 1: The Big Slough Watershed

Soil Conditions

Figure 2 and Figure 3 illustrate the spatial distribution of hydrologic soil groups in the I-75 and Dorothy Avenue project areas, respectively, based upon Soil Surveys published by the U.S. Department of Agriculture, Natural Resource Conservation Service (USDA-NRCS).

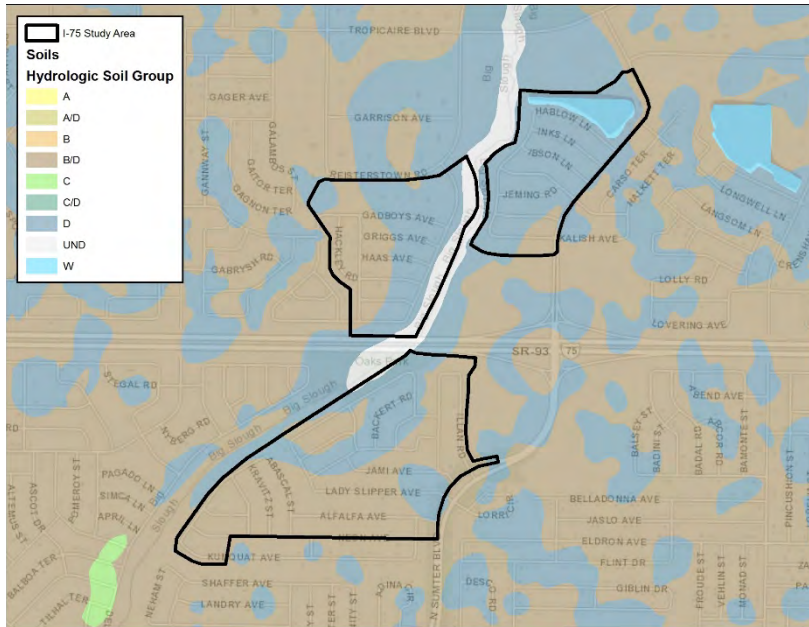


Figure 2: Hydrologic Soil Groups, I-75 Area

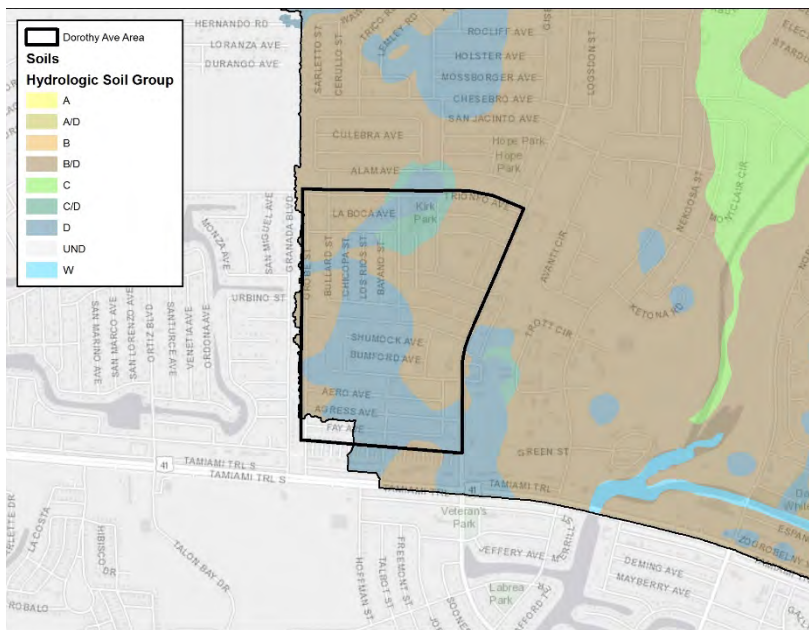


Figure 3: Hydrologic Soil Groups, Dorothy Avenue Area

Low permeability, hydric soils associated with depressional areas and floodplains are predominant in areas immediately adjacent to Myakkahatchee Creek and the Big Slough canal and throughout much of the Dorothy Avenue area. These soils are classified as being in Hydrologic Soil Group (HSG) “D”, exhibiting low infiltration rates and available storage capacity. These soils are located in areas that have historically been prone to flooding.

Soils throughout much of the watershed fall into the dual HSG A/D, B/D, and C/D categories. In developed areas where extensive ditching may keep surficial aquifer water levels low, these soils may provide higher infiltration rates and maintain greater soil storage capacity than occur naturally. Water level control structures which maintain higher water level in canals, however, may reverse this effect, resulting in significantly higher runoff potential in these soils. While North Port contains an extensive ditch system, water level control structures maintain higher normal water levels to meet local or regional water supply purposes and/or to mitigate environmental impacts of dewatering.

Land Use Conditions

Figure 4 and Figure 5 illustrate conditions in the I-75 and Dorothy Avenue areas, respectively. Both are comprised primarily of single-family residential land use, ranging from low to high density, with some commercial areas. Much of the I-75 area is undeveloped, primarily due to frequent and severe flooding.

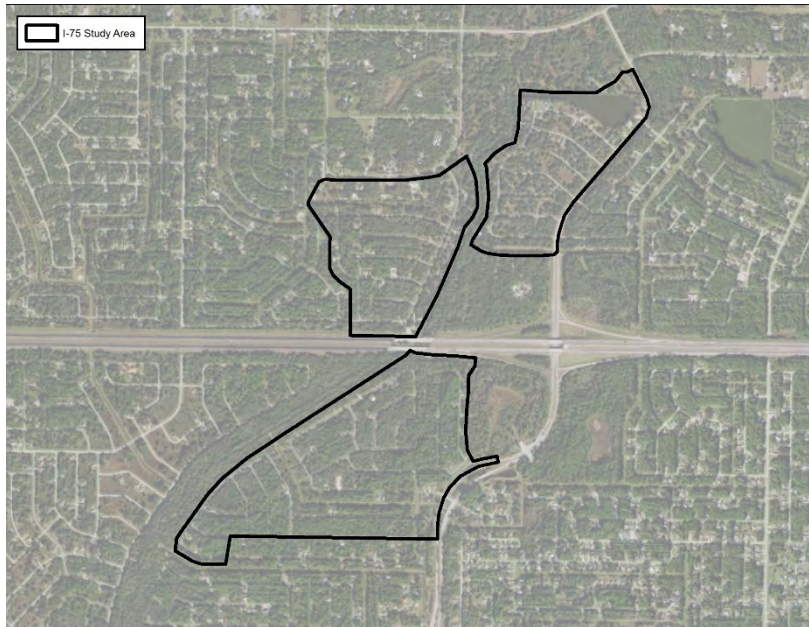


Figure 4: Land Use (Aerial), I-75 Area

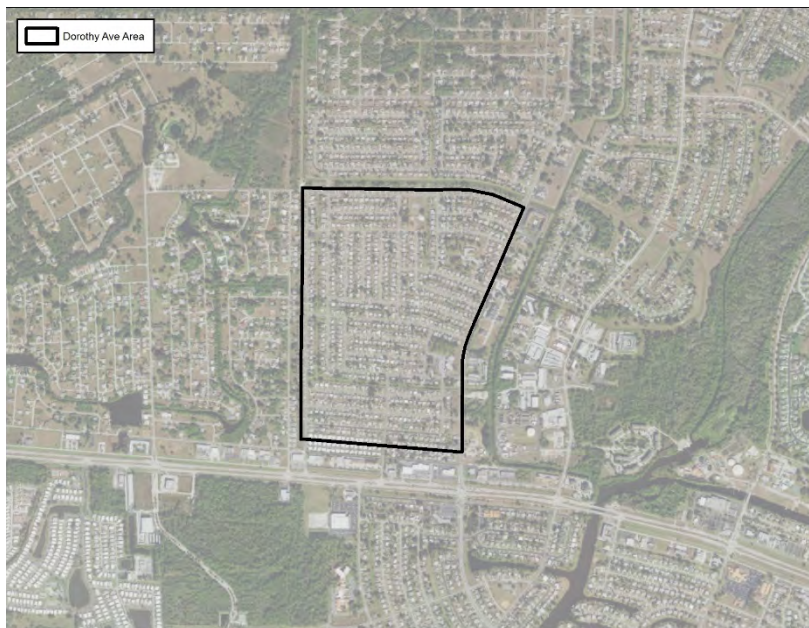


Figure 5: Land Use (Aerial), Dorothy Avenue Area

Boundaries of various land use categories were provided by the SWFWMD in GIS format for use in hydrologic model development and are based upon the Florida Land Use Cover and Forms Classification (FLUCCCS) system. Impervious values are derived for various land use categories and are an important factor in determining runoff generation from rainfall.

There is a wide variety of land use and land cover in the Big Slough watershed, including a significant amount of urban land (nearly 40%) which occurs primarily in the lower half of the watershed. A large amount of agricultural land, open range, and conservation lands are in the upper half of the watershed.

The Dorothy Avenue area is one of the earliest constructed residential communities in North Port and is comprised of high-density single family residential land use. The large amount of imperviousness (roads, driveways, and rooftops) generates high runoff rates and volumes, and local flooding results from inadequate collection and conveyance systems. Flooding during large events is exacerbated by overflows from the R-36 canal into R-231 at Trionfo Avenue.

Historical Flooding

Figure 6 and Figure 7 illustrate the extents of flood inundation in the I-75 and Dorothy Avenue areas, respectively, for the mean annual, 10-year, and 100-year storm events. Flood areas are based on storm event modeling results using the updated existing condition model and mapping on a LiDAR-based terrain.

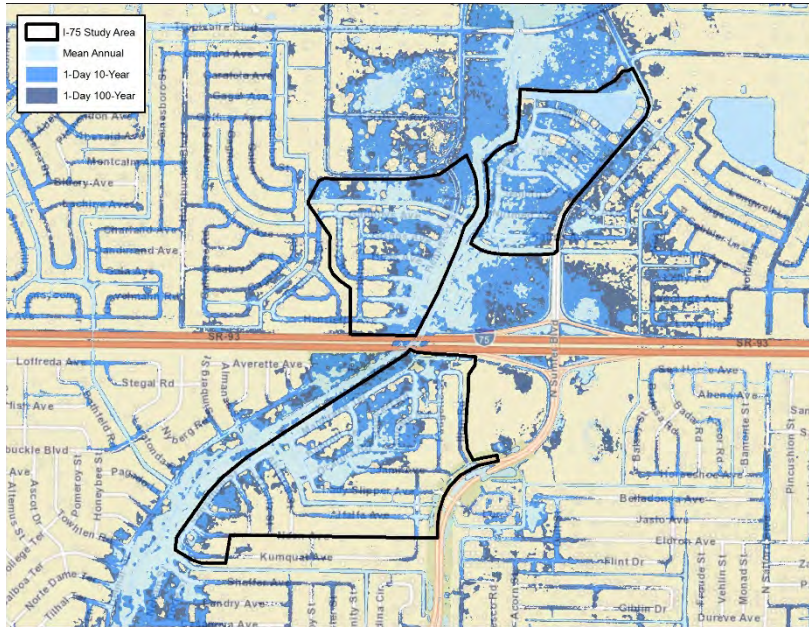


Figure 6: Flood Inundation Areas, I-75 Area



Figure 7: Flood Inundation Areas, Dorothy Avenue Area

The City of North Port has often experienced flooding in the Big Slough Watershed, including in the areas near Myakkahatchee Creek north and south of I-75, where the depth and very long duration of flooding has required emergency evacuation of many residents. Moderate to extreme flooding of streets occurs throughout older portions of the City in the vicinity of Dorothy Avenue. The nature of flooding in both of these areas, and particularly around I-75, is such that regional improvements are required to achieve significant and cost-effective flood reduction.

DES and City of North Port staff had opportunities to observe and record flooding conditions on several occasions over the past decade. The mapped inundation areas shown here accurately portray observed flooding under similar historic rainfall conditions.

Simulation results were validated and peer review performed prior to Governing Board approval of the model and flood mapping. The model represents best available information upon which to develop baseline information for design and permitting of drainage improvements in North Port.

PREVIOUS BMP EVALUATIONS AND FINDINGS

The Big Slough watershed and City of North Port stormwater management system have been subjects of several prior investigations (Appendix D). Two projects of the past 25 years, in which rigorous evaluations were undertaken to solve recurrent, large-scale flooding problems in the City, are briefly described here.

Stormwater Management Master Plan (1993)

As part of the City of North Port's stormwater improvement program, Camp Dresser & McKee, Inc. (CDM) developed a Stormwater Management Master Plan for the Big Slough watershed. The plan, which was conducted in three phases, sought to evaluate flooding problems and determine engineering solutions. The third phase included analyses of various alternatives for flood reduction. Detailed modeling was conducted to assess potential flood reduction afforded by those alternatives. A cost/benefit analysis was also conducted to evaluate and recommend a plan for detailed design.

The Phase III Task 1 interim report (CDM, 1992) outlined conceptual solutions to identified flooding problems. Preliminary stormwater model runs were conducted to provide an initial assessment of each solution's effectiveness in reducing flooding. Results and preliminary cost estimates were presented for each solution. The costs and benefits of each conceptual solution were compared in a matrix. Solutions considered in the preliminary evaluation included the following:

- Acquisition: Purchase of flooded lands would preclude flooding damage by preventing the development of the property but would not prevent roadway flooding.
- Storage: Construction of stormwater detention basins would detain flow from the agricultural areas north of the city and would reduce and attenuate peak inflow rates.
- Diversion: Stormwater flows would be diverted into an adjacent watershed to the west (Deer Prairie Slough), thus reducing flow through the city.
- Conveyance: Increased conveyance capacity of the city's hydraulic system would include excavating existing channels, resizing culverts at stream crossings, cleaning existing channels, and constructing relief channels parallel to existing channels.

Based upon preliminary analyses, purchase of flooded lands was removed from consideration and the three remaining alternatives, and combinations of those alternatives, were examined in more detail.

The Phase III Task 2 Final Report, Stormwater Management Master Plan (CDM, 1993) presents conceptual solutions for flooding as well as assessments of potential water supplies and nonpoint source pollution and describes a stormwater management plan to reduce flooding during extreme events. The set of alternatives evaluated in greater detail included: culvert improvements; stormwater diversion by pumping; stormwater diversion by channel; upstream detention; and relief channel construction. The recommended plan included diversion pumping to the Futrell tract, located west of R-36 and south of I-75, coupled with culvert improvements and construction of a relief channel adjacent to Myakkahatchee Creek. This plan provided the greatest flood protection benefit and could be phased. The 1993 Stormwater Management Master Plan was partially implemented, providing increased local conveyance through replacement of culvert structures at four locations. Those improvements are accounted for in the current Existing Conditions model. Other plan components were not completed including those for storage and flow diversion, apparently due to regulatory and financial constraints.

Watershed Management Program Consulting Services in the Big Slough Watershed (2014)

Ardaman & Associates, Inc. evaluated various BMP alternatives to address flooding conditions based on effectiveness, permissibility, and economic viability. Under the WMP project, an Existing Conditions model was developed and regional BMP alternatives evaluated to reduce flooding through combinations of conveyance improvements, stormwater management storage areas, flood proofing, and flow diversion.

Simulations were performed of six regional BMP scenarios to evaluate the impact of various large-scale flood mitigation concepts. The benchmark scenario for comparison and performance evaluation was the SWFWMD Governing Board-approved 100-year 24-hour existing condition model.

- Remove structures throughout City of North Port waterways. The objective of evaluating this BMP was to understand primary drainage system capacity assuming no losses due to water control structures or drop structures. Additional connectivity was provided among a few R canals southwest of the I-75 corridor to transferring some of the existing load to less compromised areas. Results indicate flood stage reduction immediately north of Price Blvd and along Bass Point waterway while increasing flooding between S Toledo Blvd and S Sumter Blvd. Also, improvements are observed southwest of I-75 where new canal connectivity was provided. It was noted that structure removal is not feasible due to loss of potable water supply, fish and wildlife habitat, and wetlands.
- Constrain Flow Entering City of North Port at Big Slough Canal. The objective of this BMP was to constrain the volume of water coming from offsite areas through the Big Slough canal prior to entering the north section of the City in the Estates area. The BMP would involve real estate acquisition, maintenance activities, dam construction, and removal of existing hydraulic structures. Results indicate approximately 0.5 feet flood stage reduction near the Big Slough canal from the City's northern boundary to just south of I-75 while flood stages increase approximately 1.0 foot in offsite areas in Carlton Ranch north of the R-36 and R-580 waterways.
- Diversion Alternative. The purpose of this BMP is to divert flows from offsite areas via the existing R-36 canal, by increasing its capacity and improving its hydraulic connectivity with Deer Prairie Slough canal. This BMP would involve construction of new structures, maintenance activities, real estate acquisition, and detailed hydrologic and hydraulic evaluation of the western boundary (Deer Prairie Slough watershed). Results indicate flood reduction throughout the Estates area, along the Big Slough Canal between the R-36 canal and I-75 corridor as well as in the localized area along Big Slough south of I-75, with flood stage reductions between 0.1 foot and 1.0 foot throughout those areas. Impacts of additional flow into Deer Prairie Slough were not considered.
- R-580 Improvements. The purpose of this BMP is to induce additional flows through Creighton waterway by improving conveyance capacity in the R-580 waterway. Results indicate small improvements near Big Slough. However, inducing additional flow through Creighton Waterway causes additional flooding near I-75.
- Increase Capacity on Southern Boundary. The objective of this alternative was to evaluate system response when doubling the southern boundary discharge capacity along the County line into Port Charlotte. The BMP would involve conveyance improvements, construction of new

structures and/ or reconditioning of existing structures, maintenance activities, real estate acquisition, and evaluation of the receiving waters through hydrologic and hydraulic modeling. Results indicate that improvements relative to house flooding were not significant. However, roads experienced a considerable flood reduction between S Sumter Blvd and Atwater Drive. This alternative was evaluated for information purposes only, as it is understood that allowing additional flows into Port Charlotte may not be desirable.

- Upstream Detention Alternative. The objective of this analysis is to examine the effects when attenuating peak flow rates in agricultural areas along the Big Slough canal with a series of new detention facilities. This BMP would involve construction of stormwater management storage areas, maintenance activities, and real estate acquisition. Results indicate relatively small reduction in peak water surface elevations on the order of 0.1 to 0.6 feet along Big Slough. The extent of flooding for this BMP is essentially the same as the existing scenario with few flood reduction areas along the Big Slough canal.

Although the regional alternatives developed under the WMP project were not incorporated into a specific plan for implementation, the work provides valuable insight to the system's hydraulic response and BMP limitations.

Performance of several additional, site-specific BMPs were also evaluated and discussed.

- BMP Evaluation of Four Road Crossings. Simulations were performed to assess hydraulic performance and effects of potential conveyance improvements at: R-36 Canal at I-75, Myakkahatchee Creek at I-75, R-36 Canal at Tropicaire Boulevard, and Myakkahatchee Creek at Tropicaire Boulevard. A systematic evaluation was conducted to understand existing hydraulic behavior at each of the four crossings under various synthetic storm events.
- WCS-162 Evaluation. WCS-162 is located on the R-36 Canal, north of Interstate 75, and immediately upstream of Tropicaire Boulevard. The City opens the gate in anticipation of a storm event to lower the water level in the R-36 canal to minimize potential upstream flooding; otherwise, the gate remains closed. This investigation was performed to determine if adding gates would help draw down the canal more quickly and increase conveyance capacity.
- Price Boulevard LOS Improvements. The objective of this series of BMPs is to mitigate flooding along the stretch of West Price Boulevard near the Indian burial ground to meet the existing City of North Port LOS criteria. Five different BMP alternatives were considered.

The WMP project did not result in a plan for improvements. It was recommended that the City of North Port purchase the small number of habitable structures in which flooding is predicted for the 100-year event. Purchasing the affected properties may be more cost effective than implementing BMPs evaluated under the WMP project.

BIG SLOUGH WATERSHED MODEL DESCRIPTION

As previously discussed, this current project builds upon prior work performed. The SWFWMD Governing Board-Approved North Port / Big Slough WMP Watershed Model (Ardaman & Associates, Inc.) was used, with minor updates, to develop a stormwater management plan for flood reduction in the I-75 and Dorothy Avenue areas and to demonstrate that the proposed improvements will not result in adverse impacts to adjacent properties in response to mean annual, 10-, 25- and 100-year 24-hour storm events. The model was developed under a cooperative agreement between the City of North Port and SWFWMD.

Governing Board Approval (use as best available information)

The North Port / Big Slough WMP watershed model uses CHAN (Version 2.03, Aquarian Software, Inc.) to simulate the hydrologic and hydrodynamic response of the watershed to rainfall. Having been constructed over several years according to SWFWMD Guidelines and Specifications, the WMP model was validated using historical flood information. Approved by the Governing Board on May 22, 2012, it is considered best available information for local use in environmental resource permitting at the SWFWMD.

This same model has been used successfully for other design and permitting in the North Port/Big Slough watershed area. Most recently, the same model was used for design and permitting of the WCS-106 structure replacement.

Model Updates

While the base model for this project was originally planned to be the SWFWMD Governing Board-approved 2012 Version of 2004 Condition model, City of North Port staff requested, and DES agreed, that a specific set of model features reflecting existing conditions be updated in that 2012 Version of the watershed model (Appendix E). Specifically, those updates included:

- adding a single 24-inch PVC pipe from Public Works site to Creighton WW;
- utilizing available as-built survey data and adding two (2) gates at WCS 101;
- incorporating available survey and storm pipe data in Price Blvd area;
- changing a 30-inch ADS pipe, flowing from Price Blvd to R-32, to a 36-inch ADS; and
- adding three (3) 48-inch CMP culverts beneath Appomattox Blvd.

Upon review, some of those revisions were found to have been implemented by Ardaman over the period from 2012 through 2014, with the SWFWMD Governing Board-approved 2012 Version of 2004 Condition model as a base. For example, Ardaman had already incorporated field survey data that was collected at Water Control Structure WCS-162 and throughout the vicinity of Price Boulevard.

Therefore, to expedite the 2016 model update, Ardaman's 2014 version of the 2004 Condition model was used as a starting point. An added benefit to using this model as a starting point is that model element naming conventions are preserved and will match all references in reports, notes, and correspondence generated by Ardaman during the period from 2012 through 2014.

DES staff reviewed and supplemented the 2014 model revisions as discussed in the following.

- Add a single 24-inch PVC pipe from Public Works site to Creighton WW

The Ardaman 2014 model was found to contain the 24-inch PVC pipe. Specifically, model Reach RI0016 from Node NI0016 to Node NI0020 contains a 77-foot 24-inch pipe with upstream invert 20.21 feet, NAVD, and downstream invert 17.65 feet, NAVD. A Network_Arc feature was added to the geodatabase as the pipe was not included in the Ardaman geodatabase.

- Utilize available as-built survey data and add two (2) gates at WCS 101

The Ardaman 2014 model does not contain up to date control structure data for the additional gates. As-built drawings provided to DES by the City of North Port were used to update model reach data for the gates as well as to correct adjacent weir lengths. No changes were made to RB1060A representing the four original gates, RB1060B was added to represent two new gates, and weir reaches RB1060E, F, and G were replaced with RB1060C. Network_Arcs were edited in the Geodatabase to reflect these changes.

- Incorporate available survey and storm pipe data in Price Blvd area

The Ardaman 2014 model was found to incorporate site-specific field survey data collected in the Price Boulevard area. Model input was compared to survey drawings (Van Buskirk / Fish & Associates, June 17, 2014) for consistency, and no revisions were deemed necessary.

- Change 30-inch ADS pipe, flowing from Price Blvd to R-32, to 36-inch ADS

The Ardaman 2014 model was found to correctly reflect a 36-inch diameter pipe with inverts as indicated on field survey Sheet 5 of 7 Van Buskirk / Fish & Associates dated June 17, 2014.

- Add three (3) 48-inch CMP beneath Appomattox Blvd (Stantec plans available)

The Ardaman 2014 model does not include these conveyance features. Three (3) 48-inch CMP were added at model Reach RH0110A from Node NH0110 to Node NH0130, with upstream inverts 3.09, 2.92, and 2.87 feet, NAVD, and downstream inverts 2.51, 2.79, and 2.76 feet, NAVD. Information was taken from Stantec design drawings for Phase 3 Reclaimed Water Main Extension Appomattox Drive (2014), assuming NAVD as the vertical datum and estimating 100-ft pipe lengths. One Network_Arc was added to the Geodatabase to reflect pipe connectivity.

FLOOD REDUCTION CONCEPTS AND CANDIDATE PLANS

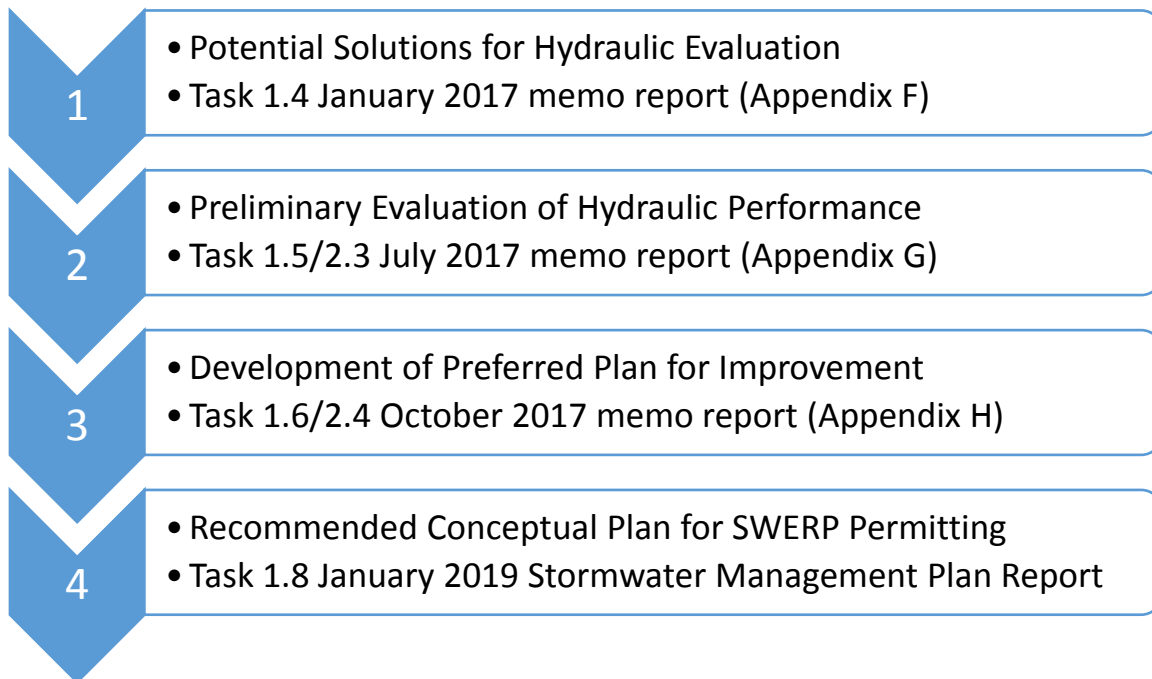
Development of a stormwater management plan to achieve flood reduction in the Big Slough watershed included:

- identification and discussion of potential solutions or plan components;
- preliminary evaluation of alternative solutions;
- assembly of promising solutions into candidate plans for testing;
- identification of a preferred plan;
- and development of the preferred plan into a stormwater management master plan.

Flood reduction solutions that were considered and discussed by the project team included internal flow diversion and increased conveyance capacity; external flow diversion; off-site storage; gate operations; flood-proofing; property acquisition; and elevation of roadways. As potential solutions were considered, a set of alternatives were selected for hydraulic evaluation as stand-alone or combined improvements.

Note: Team meeting notes are reproduced in the following section(s) to generally describe the plan development process. Not all discussion points, comments, and considerations contained in these notes are fully addressed in this Stormwater Management Plan report. The reader is directed to prior reports, memoranda, and presentations for discussion of relevant plan development and evaluation topics.

Development of the Stormwater Management Plan and Related Reports



Potential Solutions for Hydraulic Evaluation

A set of alternatives were selected for preliminary hydraulic evaluation to determine effectiveness of the individual solutions and point the way toward a cost-effective plan for flood reduction. Specifically, the following set of alternatives were selected by the project team for preliminary hydraulic evaluation.

Internal Flow Diversion and Increased Conveyance Capacity

- **Parallel Relief Channel Construction**
A new, parallel canal could be constructed from the northern City boundary to Price Boulevard within Tier 1 and/or Tier 2 lots along either side of the Myakkahatchee Creek. The additional conveyance may reduce flow rate and peak stages along the main channel from start to end of the parallel relief channel.
- **Channel Improvements along R-580**
The R-580 waterway's bottom profile could be reconfigured, creating a more uniform and hydraulically efficient conveyance way. Improvement of the R-580 Waterway would induce more flow eastward from Big Slough along the City's northern boundary toward Creighton Waterway, resulting in reduced flows and flood stages in Myakkahatchee Creek.
- **R-36 Improvements to South of WCS-101**
A whole series of improvements could be made to canal segments and structures to enhance the overall conveyance capacity of the R-36 waterway system. The additional stormwater conveyance capacity may induce higher westward flow out of Big Slough at the north boundary of the City. Diverting those higher flows southward to WCS-101 would reduce flow and stages along the more flood prone segments of Myakkahatchee Creek.
- **Snover Waterway to Cocoplum Waterway**
Improvements could be made to existing structures along Snover Waterway and beneath Price Boulevard to increase flow through canals that connect with Cocoplum Waterway. The additional conveyance capacity may induce higher eastward flow out of Big Slough into Snover Waterway. Diverting those higher flows southward to Cocoplum Waterway would reduce flow and stages along the more flood prone segments of Myakkahatchee Creek.
- **Other Miscellaneous Improvements**
Evaluations of canals and structures throughout the area for opportunities to increase conveyance.

External Flow Diversion

- **Connection to Deer Prairie Slough**
Stormwater flows could be diverted westward to the adjacent Deer Prairie Slough watershed, reducing flow through the City. Several variations could be considered, including gravity and pumped diversions both with and without added storage facilities.
- **Enhanced Discharges Along Southern Boundary to Port Charlotte – Tidal Outfalls Only**
Structures located within the Cocoplum Waterway and discharging beneath Hillsborough Boulevard could be improved to increase discharges into the Port Charlotte conveyance system. Additional conveyance capacity would divert stormwater southward and reduce flooding in the southern portion of the City.

Offsite Storage

- **Constrain Inflows to City with Increased Upstream Floodplain Storage**
Raise existing earthen berms on the northwest City boundary at the intersection of Big Slough canal with R-36 and R- 580 waterways. Also, raise earthen weirs farther north at the intersection of Big Slough canal and Power Line Road. Improvements would leave the Big Slough canal as the only conveyance system into the western portion of the City. Inflows would be reduced, dropping stages along Myakkahatchee Creek.
- **Creation of Upstream Detention, Reservoirs, or Joint Use Facilities**
One or more detention ponds, reservoirs, or joint-use facilities could be constructed to provide offsite stormwater detention. The facilities would reduce inflow rates and stages along Myakkahatchee Creek.

Acquisition

- **Purchase of Flood Prone Lands and/or Flood Prone Structures**
Some communities turn to property acquisition to mitigate flood risk by establishing permanent, public open space and to get homeowners in flood-prone areas permanently out of harm's way. In North Port, many lots have been acquired on the west side of the Myakkahatchee Creek to serve as a linear park. Additional acquisition may be considered to remove other lands from the 100-year floodplain. Removal of those properties would reduce future flood-related damages but would not impact flood levels.

Preliminary Evaluation of Hydraulic Performance

The above selected alternatives were combined and incorporated into the Big Slough watershed model in various configurations to allow for an initial screening-level review of hydraulic performance. Proposed condition simulations were performed for the mean annual, 10-year, and 100-year 24-hour storm events, with stages and flows compared to the existing condition. Flood inundation areas for each simulation were also mapped and used to depict areas removed from, or added to, the existing condition floodplain.

Flood reduction concepts were effective to varying degrees at reducing flood levels in the watershed, particularly in the I-75 study area, given assumptions and simplifications made while developing the screening-level models. Potential adverse impacts could also be seen in mapping the simulation results. These preliminary simulation results provided general information on potential performance characteristics of each of the tested flood reduction concepts for comparison and discussion.

A Team Meeting was held to discuss concepts and preliminary hydraulic performance. The following summarizes notable points that were raised during the team meeting and the important issues that were subsequently addressed as the project moved forward.

- Refinement and future performance evaluations of structure modifications at the upstream inflow point (to constrain and reduce inflows to the City of North Port) should consider a wider range of control elevations and results used by the District for decision-making on allowable changes to area, depth, and duration of inundation in upstream District lands.
- Refinement and future performance evaluations of the R-36 conceptual plan for improvements should consider channel widening with and without culvert structure improvements providing additional conveyance beneath Tropicaire and I-75.
- Refinement of the R-36 conceptual plan for improvements should include matching pre/post discharge rates westward into the Deer Prairie system, so as to minimize increased flows

downstream in the City of North Port. Preliminary modeling did not make full use of available discharge capacity to the west. No increase in rate of discharge to the Deer Prairie system should be considered, at this time.

- Refinement of the R-36 conceptual plan for improvements should consider (and preferably conform to) existing rights-of-way and drainage easements. City of North Port can provide existing ROW information as depicted on drainage system as-builts. However, acquisition of additional drainage easements along the western boundary from Sarasota County is not out of the question.
- Refinement of the R-36 conceptual plan for improvements should look more closely at existing bridge crossings and available right-of-way for channel enlargement to its confluence with R-226 and further downstream to Myakkahatchee Creek.
- Two culvert locations on the west boundary of Jockey Club should be evaluated and recommendations made regarding sufficiency and/or modifications needed to reduce flooding in the Jockey Club area (considering any increase in water levels that may result from the R-36 improvements and associated re-routing of flows).
- Refinement and future performance evaluations of the parallel bypass canal should include a more accurate representation of the combined conveyance and should eliminate double accounting of conveyance as a result of overlapping open channel cross sections. A request has been made to the District for cross section source data, cross section extents, surveyed point locations, conveyance way boundaries, etc., from the District's North Port/Big Slough WMP project files (including intermediate deliverables).
- Only two Price Boulevard drop structures are scheduled to be replaced with the widening project. City of North Port will identify those structures and the other remaining structures will be revised to again match the existing condition model configuration. Future performance evaluations will include the two identified structures as operable gates.

Team input in review and discussion of the screening-level model results contributed greatly to model development and the subsequent assembly and testing of candidate plans for drainage improvement.

Development of a Preferred Plan for Improvement

Through the preliminary evaluation of hydraulic performance it was determined that the Big Slough Flood Reduction Study preferred plan for improvement would be comprised of: internal flow diversion and increased conveyance capacity; external flow diversion; offsite storage; and/or property acquisition. Those basic plan components were considered by the Project Team to be most promising, based on review of preliminary hydraulic evaluations, and were merged into a small number of Candidate Plans for more rigorous consideration.

Plan Components and Candidate Plan Development

More specifically, the following alternatives were considered by the team for detailed evaluation.

- *Offsite Storage.* Flood reduction would be achieved in part by construction of a gated water control structure located at the FPL easement just north of the northern City boundary to limit high flows entering the City. Low flows will remain unchanged as a four-foot opening in the upstream face of the structure would extend fully to the existing channel bottom.

- *Internal Flow Diversion and Increased Conveyance Capacity.* Flood reduction would be achieved in part by construction of a parallel relief (bypass) channel alongside Myakkahatchee Creek within Tier 1 lots that have been acquired by the City of North Port, and through widening of the R-36 canal. Wide and Narrow options were considered for each channel improvement concept.
- *External Flow Diversion.* Flood reduction would be achieved in part through higher discharges westward to Deer Prairie Slough. Large increases are considered infeasible as SWFWMD has already restored the slough system and likely will not permit higher inflows to the slough. Therefore, the Preferred Plan will be adjusted to meet pre/post discharge rates and District staff will be asked at an upcoming coordination meeting if those rates can be increased.
- *Additional drainage improvements* may be achieved through upsizing R-36 culverts at Tropicaire, water control structure replacement during the widening of Price Boulevard, and improvements to the R-580 canal. The effect of Price Boulevard improvements will be localized. Widening of the R-36 and R-580 canals is expected to require additional and perhaps extensive downstream drainage system improvements to eliminate bottlenecks in other flood prone areas of the City.
- *Acquisition* would reduce losses through purchase of flood prone lands and/or building structures.

Numerous configurations were developed which incorporated various versions and combinations of the “Offsite Storage” and the “Internal Flow Diversion and Increased Conveyance Capacity” concepts described above. While a large number of configurations were evaluated (e.g., offsite storage with flow control set at a lower, 10-year event peak, stage), if performance was not superior to other configurations then they were not advanced as Candidate Plans.

After a Preferred Plan is selected from among the Candidate Plans, other alternative components can again be considered during finalization of the stormwater plan. For example, discussion with District land management staff may allow for adjustments to the offsite inflow control as well as external flow diversions to Deer Prairie Slough. These final plan modifications may have a small (but not insignificant) impact on performance which will be accounted for in final performance and benefit/cost evaluations.

Candidate Plan Descriptions and Performance

While a large number of configurations were assembled and tested in a preliminary fashion, a total of eight candidate plans were deemed most promising and carried forward through rigorous evaluation. Each of the eight candidate plans was comprised of one or more of the following components:

- *Offsite Storage/Control of Inflow in Myakkahatchee Creek*
 - Existing: No hydraulic control of inflow in Myakkahatchee Creek from upstream offsite areas.
 - Low Control: 150-foot concrete weir with crest at elevation 24.0 feet for overtopping of high flows. 4-foot wide slot open to existing channel bottom to allow normal low flows.
 - High Control: 150-foot concrete weir with crest at elevation 25.5 feet for overtopping of high flows. 4-foot wide slot open to existing channel bottom to allow normal low flows.
- *Internal flow diversion via R-36*
 - Existing: No improvements to existing ditch along northwestern and western city boundary.
 - Narrow: Widen ditch to maximum extent within existing drainage easement/right of way.
 - Wide: Widen ditch to 60-foot bottom with 4:1 side slopes, easement acquisition as-needed.

- *Internal flow diversion via R-580*
 - Existing: No improvements to existing ditch along northern city boundary east of Big Slough.
 - Narrow: Widen ditch to maximum extent within existing drainage easement/right of way.
 - Wide: Widen ditch to 60-foot bottom with 4:1 side slopes, easement acquisition as-needed.
- *Internal flow diversion via Bypass*
 - Existing: No bypass. All flow within Big Slough Canal/Myakkahatchee Creek and floodplain.
 - Narrow: Excavate bypass ditch with 20- to 50-foot bottom 4:1 side slopes for flow diversion.
 - Wide: Excavate bypass ditch with 50-foot bottom 4:1 side slopes for flow diversion.

Proposed condition simulations were performed for the mean annual, 10-year, and 100-year 24-hour storm events. Flood reduction performance of each plan was compared to the existing condition.

- The “wide” Internal Flow Diversion via Bypass component, comprised of excavating a bypass ditch within Tier 1 lots along the Myakkahatchee Creek with 50-foot bottom width and 4:1 side slopes, provided the majority of flood reduction benefits in each of the four best-performing Plans, with added improvement resulting from configurations of R-36 improvements and inflow control.
- Widening of R-36 provided benefits in terms of flood reduction in the I-75 area, but additional improvements (culvert pipe upsizing and modification of some secondary collection systems) would be required to mitigate increased water levels along R-36 south of Tropicaire Boulevard. Furthermore, acquisition of additional easement would be difficult along R-36 and it would therefore be desirable to keep within the existing easement with any improvements.
- Restriction of inflows from the north also reduced flood levels in the I-75 area, although to a lesser extent than the bypass construction and R-36 widening concepts, while improvements to R-580 provided very little flood reduction benefit.

Benefit and Cost Comparison of Candidate Plans

Screening-level estimates of project benefits (flood damage reduction) were developed to allow initial comparisons of rough Benefit to Cost Ratio (BCR) values across Candidate Plans. Benefits considered cost avoidance for road repair and for residential structure damages for mean annual, 10-year, and 100-year storms. Cost calculations were also performed to develop preliminary order of magnitude estimates of probable construction costs, which could be compared across Candidate Plans to aid in selecting a Preferred Plan. A ratio of annualized benefits to annualized costs was calculated and that BCR assigned to each Candidate Plan for rough comparison to aid in selecting a Preferred Plan. Based on the screening-level estimates of Candidate Plan benefits, several plans are recommended for consideration.

Flood Reduction Comparison of Candidate Plans

Flood inundation areas for each simulation were mapped to depict areas removed from the floodplain. Flood reduction scenarios incorporating the wide bypass component were more effective in reducing flood levels in the watershed, particularly in the I-75 study area, than other Candidate Plans. Candidate Plans, as initially configured, may also result in increased flooding in downstream areas. Plan refinements and additional improvements were developed for the selected plan to relieve downstream bottlenecks and accommodate increased flows that result from the wider R-36 or addition of the Bypass.

Evaluation of Cost for Acquisition

A summary of combined “just value” for flood-prone parcels in the I-75 area (Figure 8) was presented to the Project Team. Flood risk was based on Existing Condition simulation of the 10-year storm event, with inundation areas mapped on a LiDAR-based terrain model. Parcels inundated 50% or more were selected.

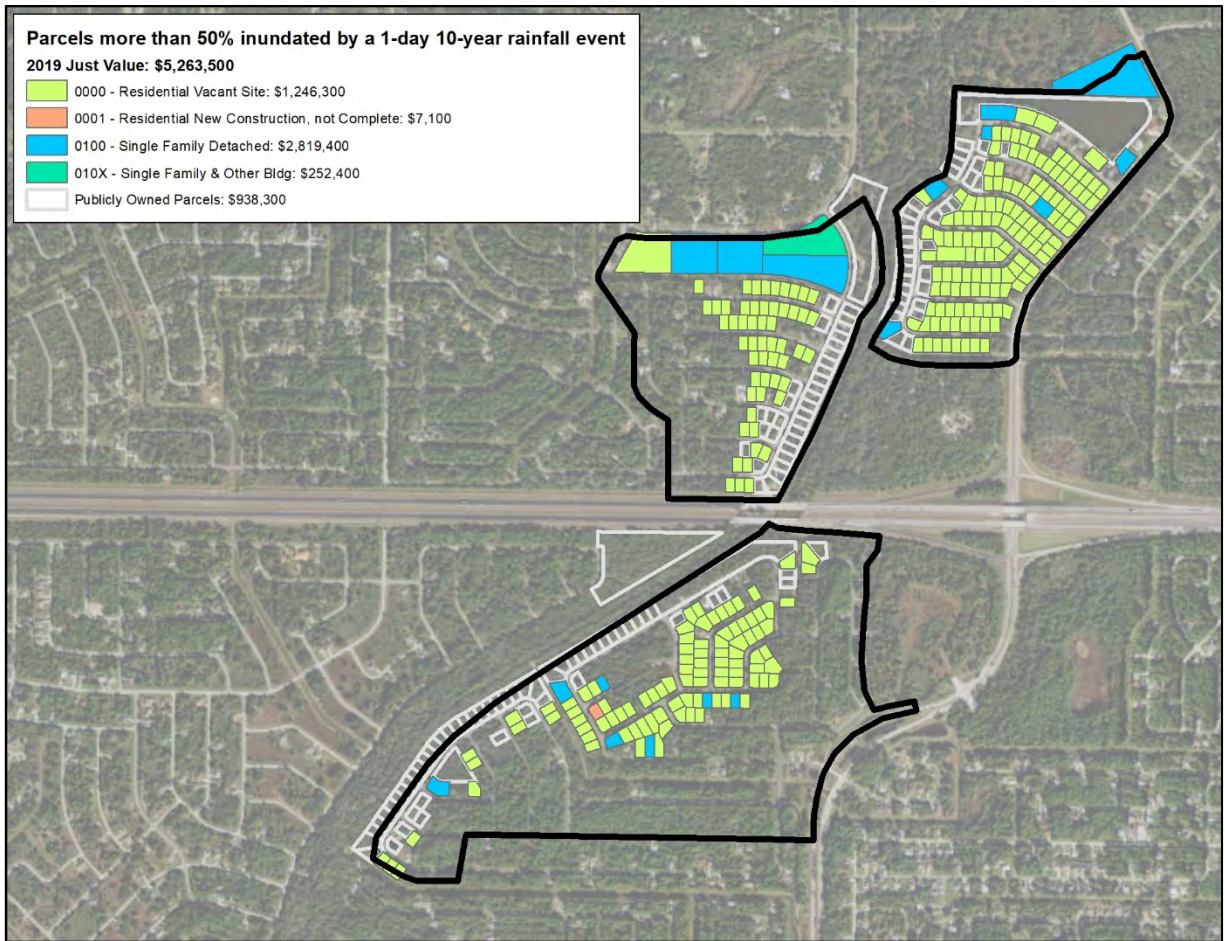


Figure 8

While it is understood that a land purchase option would be developed based on a more rigorous protocol, the cost assessment summarized below provides order of magnitude information for consideration.

	Preliminary Estimate of Acquisition Cost (Based on Sarasota County Property Appraiser 2019, projected at 4% inflation)				
	<u>2019</u>	<u>2020</u>	<u>2025</u>	<u>2030</u>	<u>2035</u>
Estimated Property Value*	\$ 4,325,200	\$ 4,498,208	\$ 5,472,758	\$ 6,658,447	\$ 8,101,018
Estimated Annualized Cost**	\$ 313,403	\$ 325,939	\$ 396,555	\$ 482,470	\$ 586,999
* Combined "Just Value" of properties inundated 50% or more by flooding from a 10-year Storm Event; Excludes publicly owned parcels					
** Cost annualized over 50 years at 7%, 13.8 PV Annuity Factor (estimated acquisition cost only)					

Identification of the Preferred Plan for Flood Reduction

Based upon the Project Team's review and discussion of preliminary hydraulic evaluation results, a set of alternatives were advanced for development of improvements to achieve flood reduction through internal flow diversion and increased conveyance capacity, external flow diversion, offsite storage, and acquisition. Those concepts were refined and combined into a small number of Candidate Plans for evaluation of hydraulic performance, preliminary cost estimates, and screening-level benefit estimates.

This interim report, meetings, and team discussion provides a basis for evaluation of the Candidate Plans. The Project Team selected from among these Candidate Plans and the Preferred Plan was evaluated more rigorously for permissibility, costs, and benefits, resulting in a recommended plan for SWERP permitting.

Plan Coordination with Offsite Property Owners/Managers

The City of North Port is coordinating with both Sarasota County and SWFWMD regarding planned improvements for flood reduction. Coordination with those agencies, being responsible for management of the affected adjacent properties, is required to demonstrate that the proposed stormwater system modifications would not have an adverse impact and to seek authorizations and/or easements required for permit approval and project implementation.

- Regarding the restriction of inflows, it can be shown that normal flows will not be impacted by the proposed water control structure and that peak stage increases will be inconsequential in terms of environmental or other offsite impacts.
- Regarding the increase of outflows, historical flow patterns toward the Deer Prairie Slough/Creek system were interrupted decades ago by construction of R-36. While significant amounts of stormwater are currently discharged westward from the R-36 canal when it exceeds its bank, it may be allowable or even desirable to increase and/or redistribute those flows without causing adverse impacts.

In a joint meeting it was determined that additional time was needed to fully address existing conservation easements, offsite storage and discharge requirements, and potential impacts. Some options would require revisions to be made to the District's existing model of the Deer Prairie Slough area for proper evaluation. Because discussions are expected to continue for some time, those plan elements requiring offsite easements should be scheduled for later phases of implementation.

SWERP Pre-application Meeting with SWFWMD

City of North Port staff attended a pre-application meeting with staff of the SWFWMD in November 2018, during which a description of flood problems, the preferred plan of improvements, and flood reduction performance was provided. Comments and input were solicited regarding permitting requirements and other matters. It was agreed that requesting Conceptual Approval of the Stormwater Management Master Plan through submittal of a SWERP application for the entire project, followed by timely submittals of applications for construction of project components in a phased manner, would be the appropriate approach to permitting. Summary notes of the pre-application meeting are provided in Appendix I.

RECOMMENDED STORMWATER MANAGEMENT MASTER PLAN

The recommended Stormwater Management Master Plan, as presented by DES staff to the North Port City Commission on December 6, 2018 (Appendix J), has the following major components:

- Improvements to the existing retention ditch/conveyance system and upsizing road crossing culverts in the Dorothy Avenue area.
- Construction of a new bypass canal parallel to the Myakkahatchee Creek within a portion of the City's Tier 1 lots from south of Tropicaire Boulevard to north of Price Boulevard.
- Increasing conveyance capacity through canal widening and upsizing pipe culverts in the R-36 retention ditch/conveyance system along the northern and western boundary of the city.
- Restriction/reduction of high flow into Myakkahatchee Creek near the north City Boundary.

Dorothy Avenue Improvements

Purpose: Improvements in the Dorothy Avenue area are proposed to serve two purposes:

- Under an initial phase, the extent and duration of localized flooding could be reduced by providing additional storage and conveyance capacity in the existing R-231, R-70, and R-69 canal systems. In this instance, a single box culvert should suffice to replace culverts at Trionfo Avenue, Porto Bello Avenue, Herbison Avenue, Eager Street, Allen Road, and South Biscayne Drive.
- Under the full plan, this conveyance system also serves to receive and convey higher flows passed southward via the improved R-36 ditch system. In order to handle higher flows from the north, three (3) box culverts will be required at each of the above road crossings.

Models were tested for both conditions to ensure suitable performance under phased implementation.

Configuration: For conceptual permitting purposes, the stormwater management plan includes:

- widening the existing ditches passing through the area, with bottoms ranging between fourteen and twenty feet in width and relatively steep (2:1) side slopes consistent with other stable ditches in the area, while lowering the ditch bottoms to elevation 1.5 feet, NAVD, and
- replacing existing culverts with triple 6'x4' box culverts at each road crossing.

Bypass Canal Construction

Purpose: Construction of a bypass canal is proposed to provide regional storage and conveyance capacity to reduce flooding in the I-75 project area and other portions of the City. This can be accomplished through excavation of a wide trapezoidal bypass channel within the extents of Tier 1 lots already acquired by the City between Tropicaire Boulevard and Price Boulevard. The bypass canal would be constructed on either the east or west set of Tier 1 lots. Alternate configurations may address or include the following:

- A simple, trapezoidal cross section that is sodded for erosion protection is preferred as it would allow for maximum storage and conveyance capacity with reduced construction cost and minimal maintenance requirements. Some portions of the bypass canal may have other characteristics to

meet various goals. For example, segments may contain wet pools, some types and amounts of wetland vegetation, etc., as required to achieve water quality improvement, mitigate for wetland encroachments, or mitigate/avoid surficial aquifer impacts (dewatering) in adjacent areas.

- Existing lateral ditches (R-23, R-5, R-1, and unnamed interconnections), which currently discharge to the Myakkahatchee Creek may be intercepted by the bypass, piped beneath the bypass, or allowed to flow through breaks in the bypass ditch. The latter configuration would require additional structural connections be constructed between the bypass and Myakkahatchee Creek at points upstream and downstream of the existing lateral inflows. It is recommended (and proposed condition model construction assumes) that those inflows be intercepted by the bypass
- Exchange of flow between the Myakkahatchee Creek and the bypass canal will be limited to higher flows in order to maintain minimum flows and levels. Exchange may either be limited to discrete points, with a berm constructed along the creek-side bank of the bypass to prevent overflows, or overtopping may be allowed at existing overflows located between the creek and bypass canal. Detailed topographic ground survey is required to establish existing overflow elevations.
- There are no structural weirs being proposed at this time. Conveyance between the bypass channel and existing creek will be via large openings in the bank that runs between the two. These connector features are easily located at the endpoints of each bypass segment in the plan and profile and depicted in the typical sections provided in the accompanying Conceptual Plan set. Sheet D-3 provides a conceptual-level details of the bypass channel and bypass weir configurations in plan and section views.
- Elevations shown in the Conceptual Plan set (Sheets S-2 and S-3) are approximate as they are based on LiDAR-based terrain information and will change when more-detailed survey is collected to support design of the system. For modeling and future design purposes, the bypass channel is placed approximately one foot above the adjacent creek bottom and the connecting weirs (located at bypass segment endpoints) is placed one foot above the bypass channel bottom (two feet above the creek bottom). This configuration allows the creek to carry two feet of normal flow before any flow exchange occurs into the bypass.
- The bypass canal alignment is to be determined during detailed design and may be relocated from the Tier 1 lots to over the adjacent road right of way with some encroachment on adjacent Tier 1 and Tier 2 lots. The bypass canal alignment may also shift from one side of the Myakkahatchee Creek to the other for various reasons, such as to accommodate other Tier 1 lot uses (parks, etc.), avoid local impacts (such as archaeological or wetland conditions), or reduce cost and/or complexity of construction (such as in some large meanders of the Myakkahatchee Creek).

Models were tested for all of the above conditions to ensure suitable performance under a range of implementation conditions. For example, Manning's roughness values were varied from 0.040 to 0.150 to reflect changes in vegetation cover in the bypass channel (sodded versus wetland vegetation), all three interconnectivity options for lateral ditches were evaluated, exchange between the creek and canal was allowed across topographic saddles (from LiDAR-based terrain) and restricted with a constructed berm, and the final (downstream) segment of the bypass canal was tested on both the east and west side of the Myakkahatchee Creek in anticipation of possible construction issues just upstream of Price Boulevard.

These alternatives were generally discussed during pre-application meetings held with SWFWMD for the Statewide Environmental Resource Permit (SWERP) application and details will be worked out during subsequent design and permitting (i.e., in phased SWERP applications for construction approval)

Configuration: For conceptual permitting purposes, the stormwater management plan includes:

- construction of a sodded trapezoidal bypass canal on the west side (switching to the east side in the lower segment to avoid meanders of the Myakkahatchee Creek), utilizing the full width of Tier 1 lots from Tropicaire Boulevard to north of Price Boulevard, with bottoms ranging between fifty and eighty feet in width and moderate (4:1) side slopes, excavated to elevations one foot above the existing Creek bottom, and intercepting lateral surface inflows (from R-23, R-5, R-1, etc.).
- exchange between Myakkahatchee Creek and the bypass is allowed only at discrete flow diversion points, where 150-foot wide broad-crested weirs allow high flows to move out of and back into the Creek at elevations two feet above the Creek bottom, with the diversion structures to be comprised of either earthen or structural berms, with structure design and erosion protection to be determined based on flow conditions, site characteristics, and geotechnical recommendations.

R-36 Improvements

Purpose: Improvements to the existing R-36 canal and culvert structures are proposed to increase storage and conveyance capacity of that system, allowing diversion of higher flows from north of the City around its western perimeter and thereby reducing flooding near I-75 and in other flood prone areas. This is the “narrow” improvement option, which constrains canal widening to existing drainage easements.

Changes to flow rate and/or volume at existing overflows westward to Deer Prairie Slough require agency coordination between the City of North Port, SWFWMD, and Sarasota County. While the current conceptual design does not increase peak flows to the west, the conceptual approval of the SWERP should recognize and allow for this future improvement. Changes in the design configuration from the current plan will require detailed topographic survey of the western bank and natural grade outside (west) of the R-36 canal, detailed modeling of both the Big Slough and Deer Prairie watersheds, and a modification of the North Port/Big Slough Stormwater Management Master Plan and SWERP.

Configuration: For conceptual permitting purposes, the stormwater management plan includes:

- Widening the existing R-36 canal section to the maximum extent possible while remaining within the existing drainage easement, with bottom widths ranging from 30 to 65 feet and relatively steep (2:1) side slopes consistent with existing bank conditions along R-36, while maintaining the ditch bottoms at their current elevations. Assume 20% of total length of improved (widened) channel will require rip-rap erosion protection, for cost estimating purposes.
- Enlarging WCS-162 and installing two additional 60” culverts at Tropicaire Boulevard
- Installing two additional 48” culverts at I-75

Proposed features are depicted in plan and profile, cross section, and detail sheets in the accompanying Conceptual Plan set.

To develop cross section data for the R-36 canal system, the SWFWMD LiDAR-based terrain model was first adjusted using available bottom elevation information in order to better describe existing geometry. A proposed condition terrain model was then developed by applying proposed channel geometry for various design configurations (e.g., combinations of bottom width and side slope). Using the terrain models and other available information, such as aerial photos and property boundaries downloaded from the Sarasota County property appraiser, aided in the development of proposed condition channel geometry by confirming that the proposed system could be constructed within site constraints.

The hydraulic model and conceptual plan set depictions of channel sections are in close agreement, given that geometry for both was taken from the same set of terrain models. For model development, cross sections were cut from existing and proposed condition terrain models at the reach midpoint for each modeled channel segment. Cross sections shown in the conceptual plan drawings Sheets S-1 to S-4 were taken from the existing and proposed condition terrain models at various locations for general depiction and cost evaluation (used for quantity takeoffs, etc.) of the proposed work.

Because the model is constructed with cross sections cut from the terrain model at discrete points, there will be some small variation in storage between the two. This level of accuracy is adequate and appropriate for conceptual-level plan development, modeling, performance evaluation, and cost estimating. Construction-level design and permitting will be based on thorough site-specific survey of channel features with model updates being performed in order to confirm existing and proposed condition performance.

Inflow Control Structure

Purpose: Improvements at the inflow point north of the City are proposed to reduce flows and thereby drop peak stages along the Myakkahatchee Creek. A gated control structure will be installed at the FPL Power Line Road with an open bay at the creek bottom to allow low flows to pass unimpeded. The gated structure will cause higher flows to be attenuated with increased upstream storage on undeveloped lands. While a “high” control option is currently recommended, with overtop at elevation 25.5 feet NAVD, the degree to which inflows are restricted, upstream flood storage is increased, and downstream stages are reduced will depend on the outcome of ongoing agency coordination regarding storage on those lands.

Models were tested for a range of configurations to ensure suitable performance. The current stormwater management plan is conservative and results in a relatively small increase in upstream inundation.

Configuration: For conceptual permitting purposes, the stormwater management plan includes:

- construction of a gated water control structure on the upstream side of Power Line Road with a four-foot opening at existing channel bottom at 17.5 feet, NAVD, and with gates closed overflow and adjacent structure overtop elevations at 25.5 feet, NAVD.
- Existing culverts at Power Line Road converted to risers with control elevation 25.5 feet, NAVD.
- Power Line Road surface smoothed and low points filled to elevation 26.0 feet, NAVD.

The control structure may be located immediately upstream or downstream of the FPL roadway, and the number and size of gates are to be determined, with the single open gate for unimpeded low flows.

Engineer’s Opinion of Probable Cost

Estimated project costs including engineering design, permitting, and construction are based on RS Means 2017 Heavy Construction Costs with national average values adjusted to the Ft Myers/Sarasota County area. Estimates include a 30% contingency and were projected to future years (up to 2035) assuming 4% inflation. Combined costs for each of those projections were annualized over 50 years at 7%.

	Engineer's Estimate of Probable Construction Cost (Based on RS Means 2017, with costs projected at 4% inflation)				
	2017	2020	2025	2030	2035
Dorothy (Triple Box Culvert)	\$ 5,628,495	\$ 6,331,291	\$ 7,702,984	\$ 9,371,858	\$ 11,402,298
R-36 Improvements	\$ 15,379,020	\$ 17,299,306	\$ 21,047,251	\$ 25,607,199	\$ 31,155,073
Bypass (flowway, n = 0.040)	\$ 17,121,876	\$ 19,259,782	\$ 23,432,470	\$ 28,509,182	\$ 34,685,779
Reduce Northern Inflows	\$ 2,575,105	\$ 2,896,643	\$ 3,524,209	\$ 4,287,739	\$ 5,216,690
Estimated Combined Cost	\$ 40,704,496	\$ 45,787,022	\$ 55,706,913	\$ 67,775,978	\$ 82,459,840
Estimated Annualized Cost*	\$ 2,949,442	\$ 3,317,721	\$ 4,036,515	\$ 4,911,037	\$ 5,975,028

** Combined construction cost annualized over 50 years at 7%, 13.8 PV Annuity Factor (capital cost only, excludes O&M)*

Benefits and Benefit to Cost Ratio (BCR)

Benefits are based upon flood reduction achieved across a range of simulated storm events compared to the existing condition. For roadway removed from floodplain, benefits reflect avoidance of repair costs at a rate of \$50,000 per mile. For parcels removed from the floodplain, benefits reflect avoidance of \$6,300 per occurrence, based on historical NFIP claims statistics reduced by 85 percent to account for lot vacancy.

	Flood Reduction (acres)	Road Flood Reduction (miles)	Parcels Reduction (centroid)
2.33-year	244	7.8	234
5-year	359	12.9	405
10-year	460	18.3	538
25-year	495	20.7	542
50-year	518	21.1	562
100-year	557	24.5	558

Annual benefit is calculated by multiplying total project benefits for a storm event simulation by the event probability then summing across events simulated. In the case of the full stormwater management plan, annualized benefits accrue to \$1,977,742 with a BCR of 67 percent. Future enhancements (e.g., allowing greater inflow restriction or diversions to Deer Prairie) may increase the flood reduction performance and BCR of the full plan. In the meantime, a much higher BCR can be achieved through partial (Phase I) implementation of the master plan to include the Dorothy Avenue and Bypass components, only, where annualized project benefits would accrue to \$1,842,132 for an excellent BCR of 138 percent.

Flood Area Reduction for 1-Day Mean Annual Event in the I-75 Area

Figure 8 illustrates reduced extents of inundation in the I-75 area for the Mean Annual storm event for the full stormwater management master plan model.

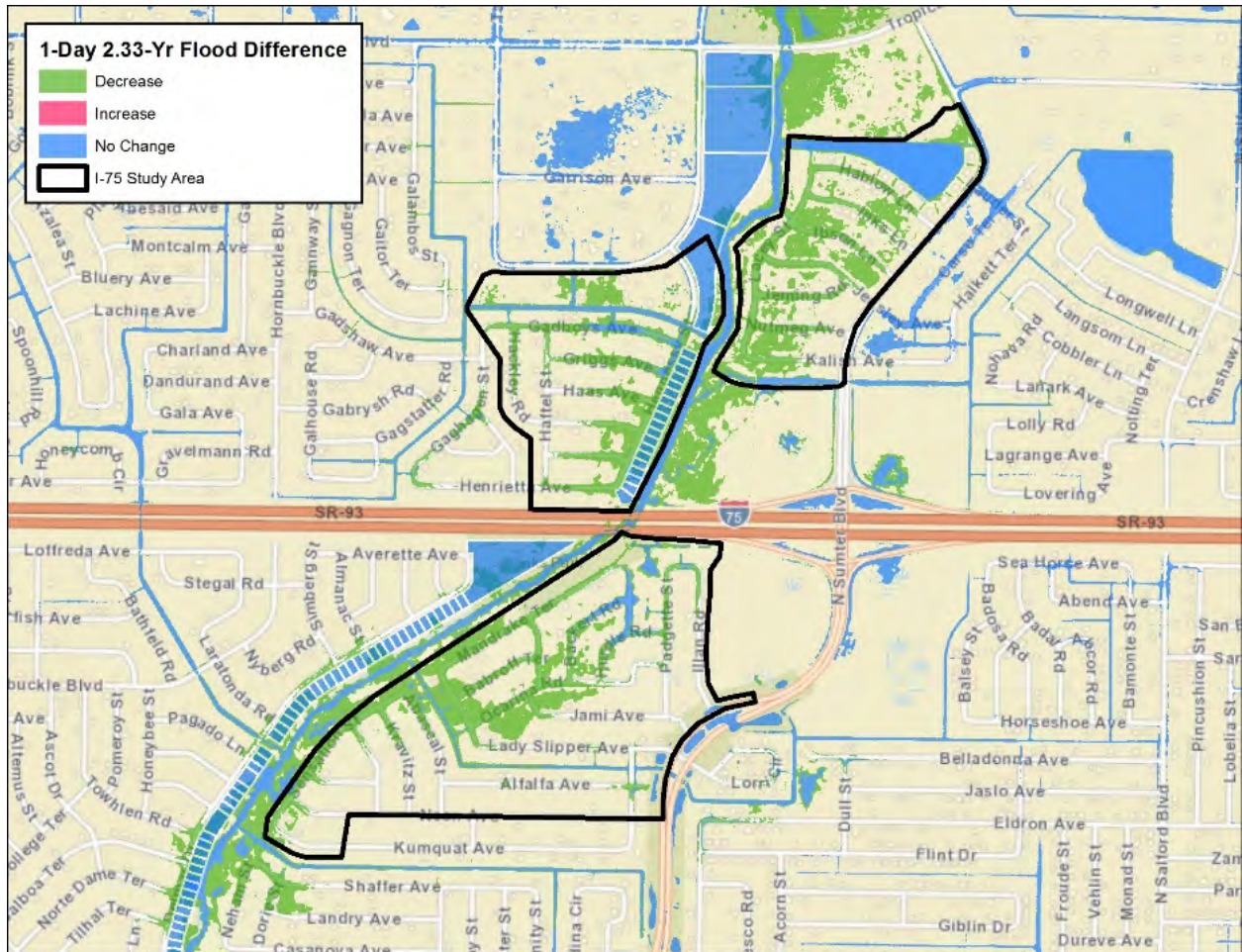


Figure 9: 1-Day 2.33-Year Flood Difference Map, I-75 Area

Flood Area Reduction for 1-Day 5-Year Event in the I-75 Area

Figure 9 illustrates reduced extents of inundation in the I-75 area for the 1-Day 5-Year storm event for the full stormwater management master plan model.

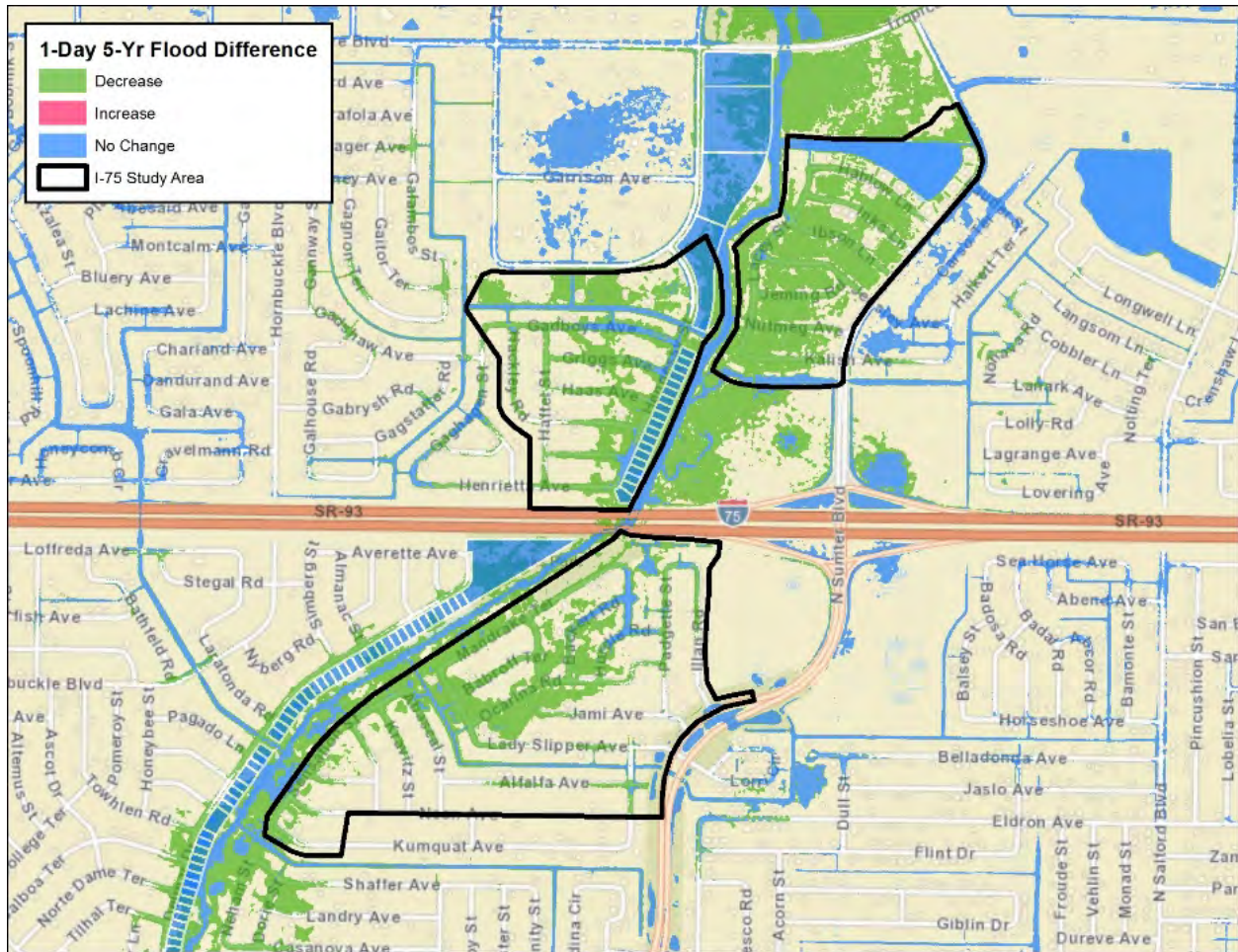


Figure 10: 1-Day 5-Year Flood Difference Map, I-75 Area

Flood Area Reduction for 1-Day 10-Year Event in the I-75 Area

Figure 10 illustrates reduced extents of inundation in the I-75 area for the 1-Day 10-Year storm event for the full stormwater management master plan model.

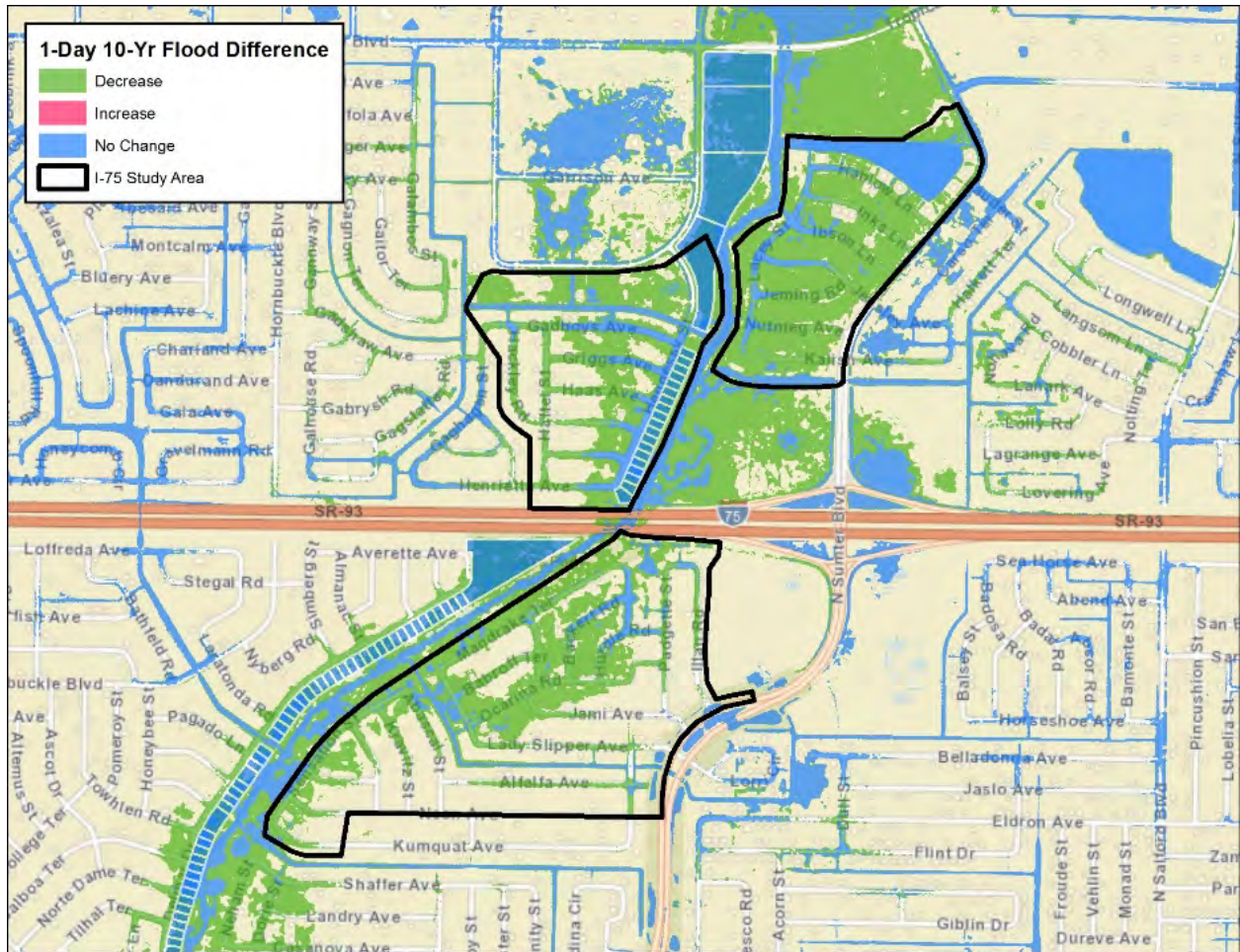


Figure 11: 1-Day 10-Year Flood Difference Map, I-75 Area

Flood Area Reduction for 1-Day 25-Year Event in the I-75 Area

Figure 11 illustrates reduced extents of inundation in the I-75 area for the 1-Day 25-Year storm event for the full stormwater management master plan model.

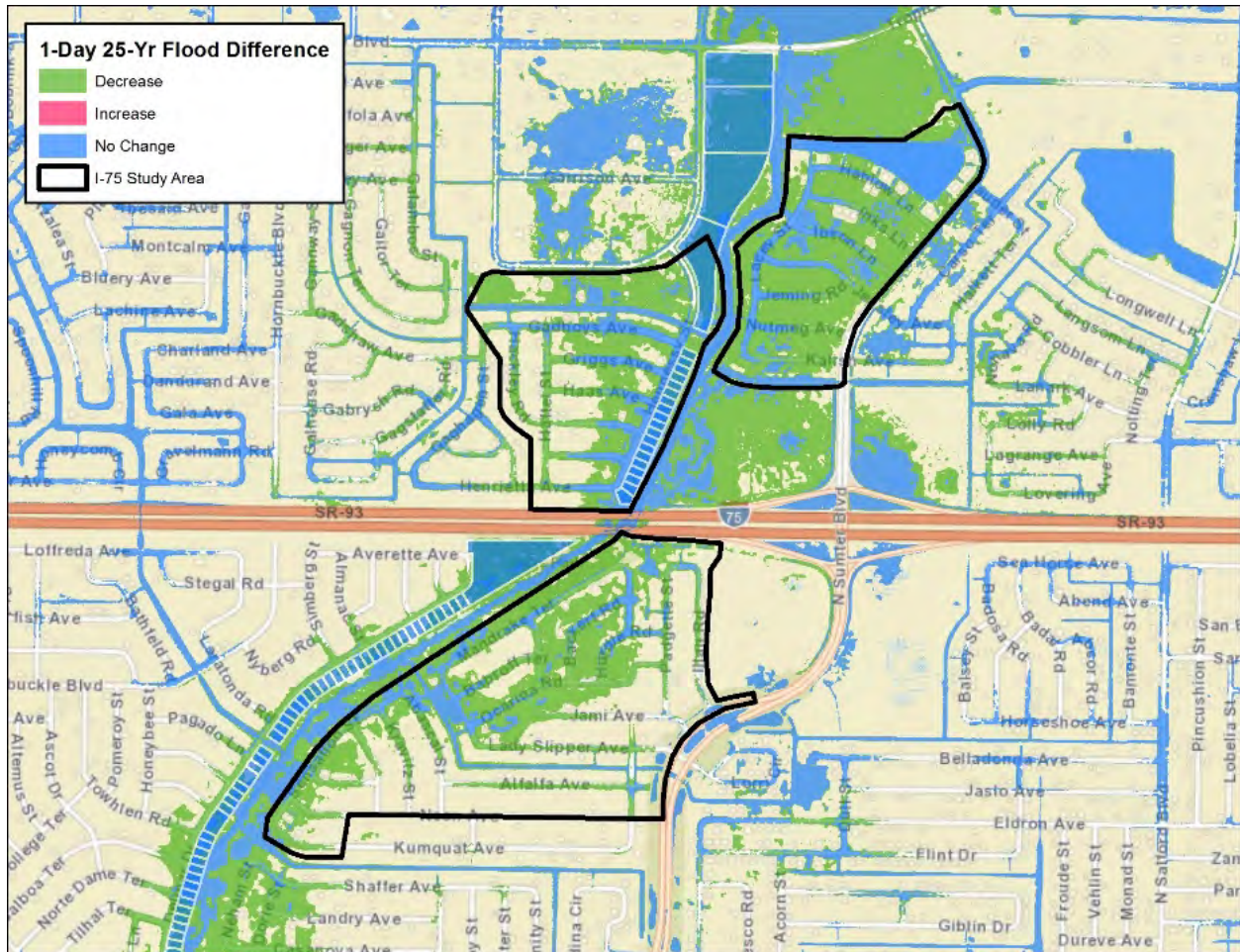


Figure 12: 1-Day 25-Year Flood Difference Map, I-75 Area

Flood Area Reduction for 1-Day 50-Year Event in the I-75 Area

Figure 12 illustrates reduced extents of inundation in the I-75 area for the 1-Day 50-year storm event for the full stormwater management master plan model.

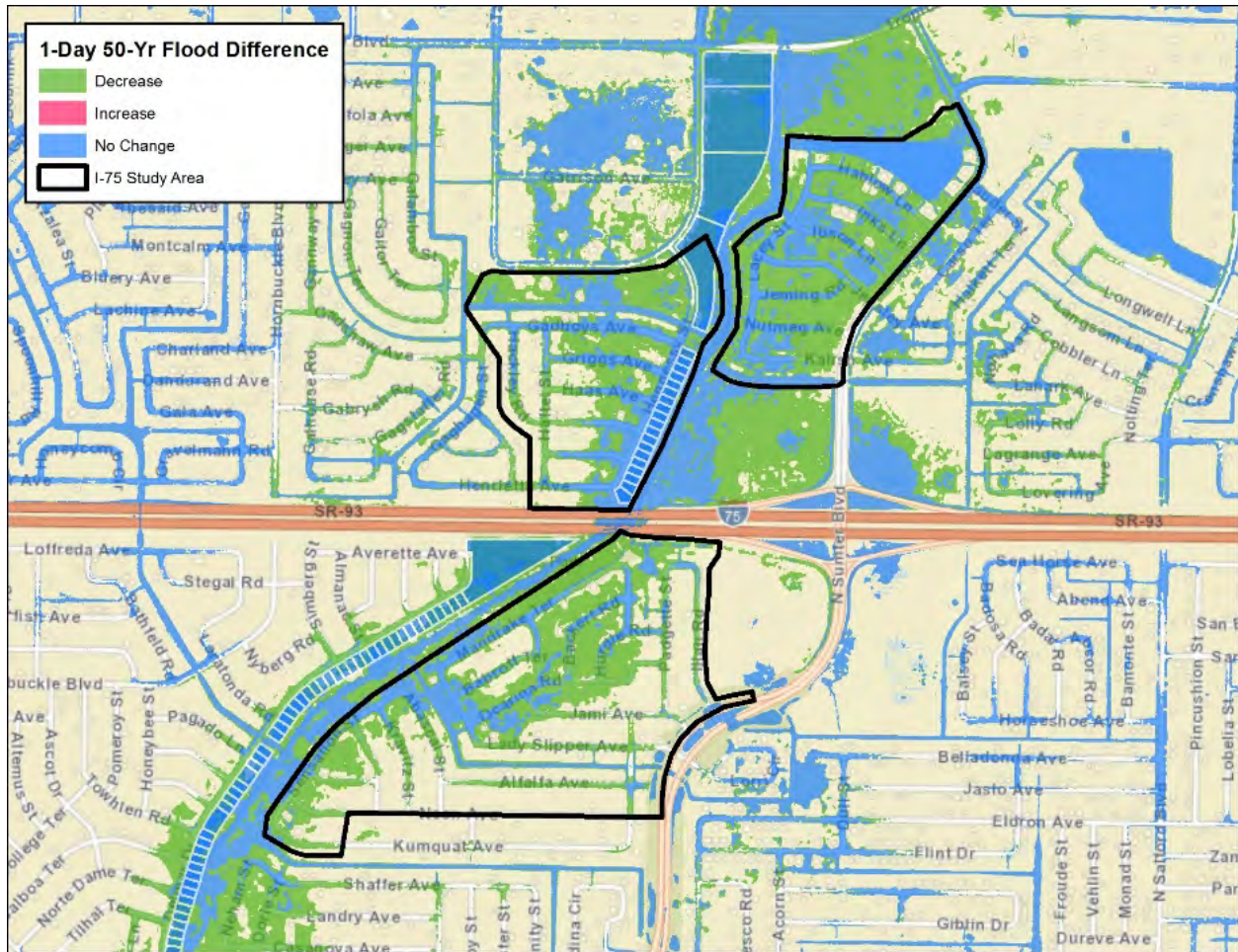


Figure 13: 1-Day 50-Year Flood Difference Map, I-75 Area

Flood Area Reduction for 1-Day 100-Year Event in the I-75 Area

Figure 13 illustrates reduced extents of inundation in the I-75 area for the 1-Day 100-Year storm event for the full stormwater management master plan model.

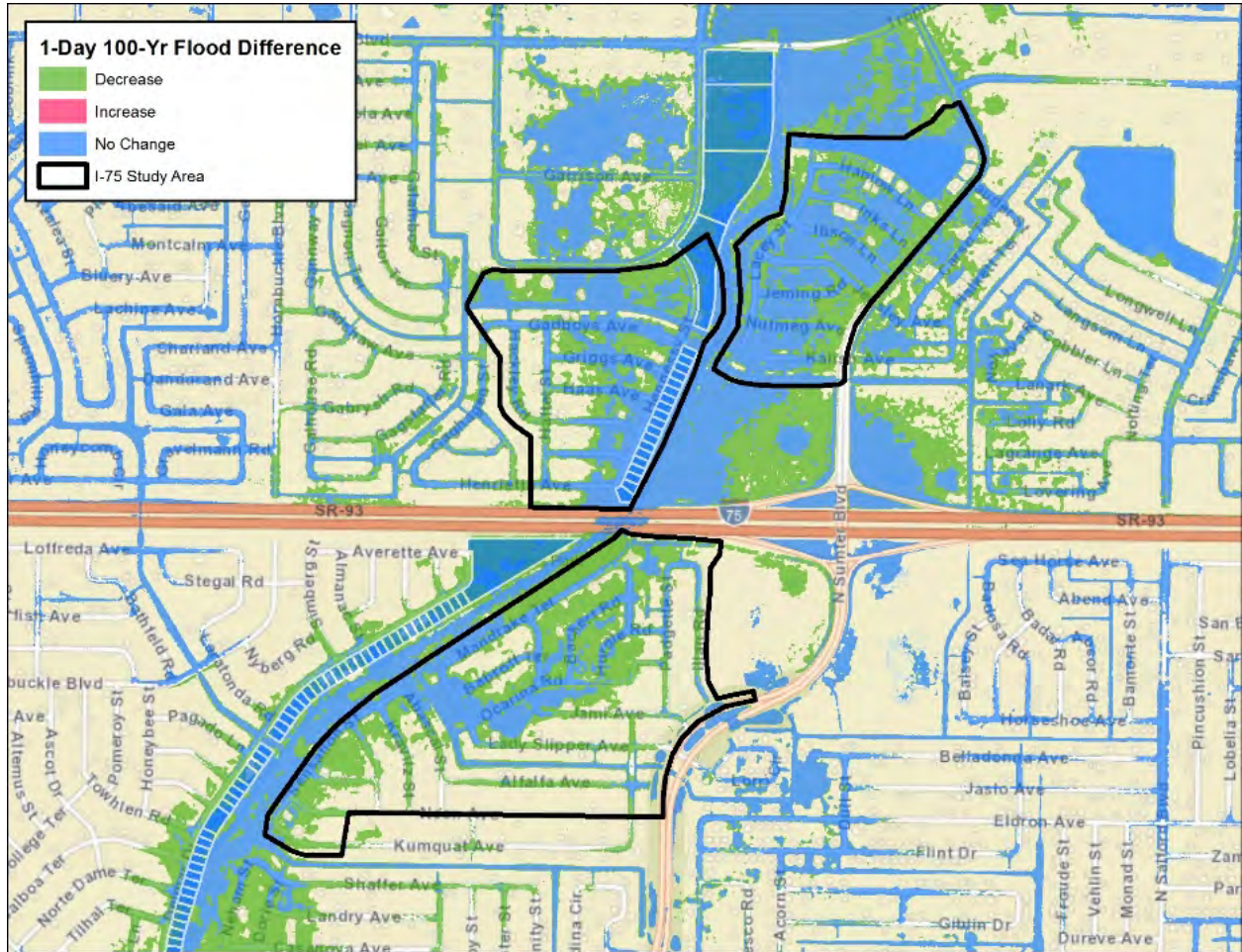


Figure 14: 1-Day 100-Year Flood Difference Map, I-75 Area

Flood Area Reduction for 1-Day Mean Annual Event in the Dorothy Avenue Area

Figure 14 illustrates reduced extents of inundation in the Dorothy Avenue area for the Mean Annual storm event for the full stormwater management master plan model.

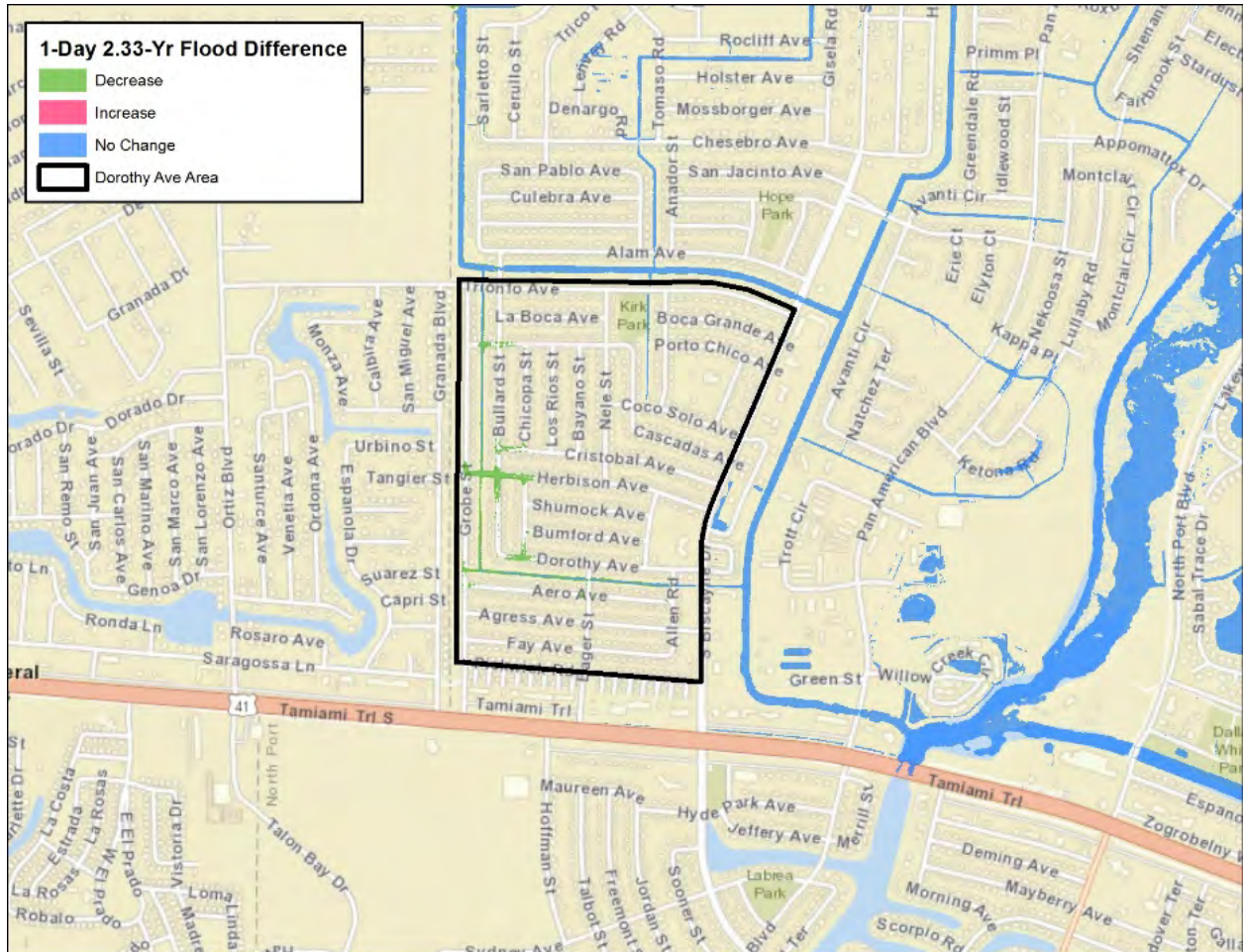


Figure 15: 1-Day 2.33-Year Flood Difference Map, Dorothy Avenue Area

Flood Area Reduction for 1-Day 5-Year Event in the Dorothy Avenue Area

Figure 15 illustrates reduced extents of inundation in the Dorothy Avenue area for the 1-Day 5-Year storm event for the full stormwater management master plan model.

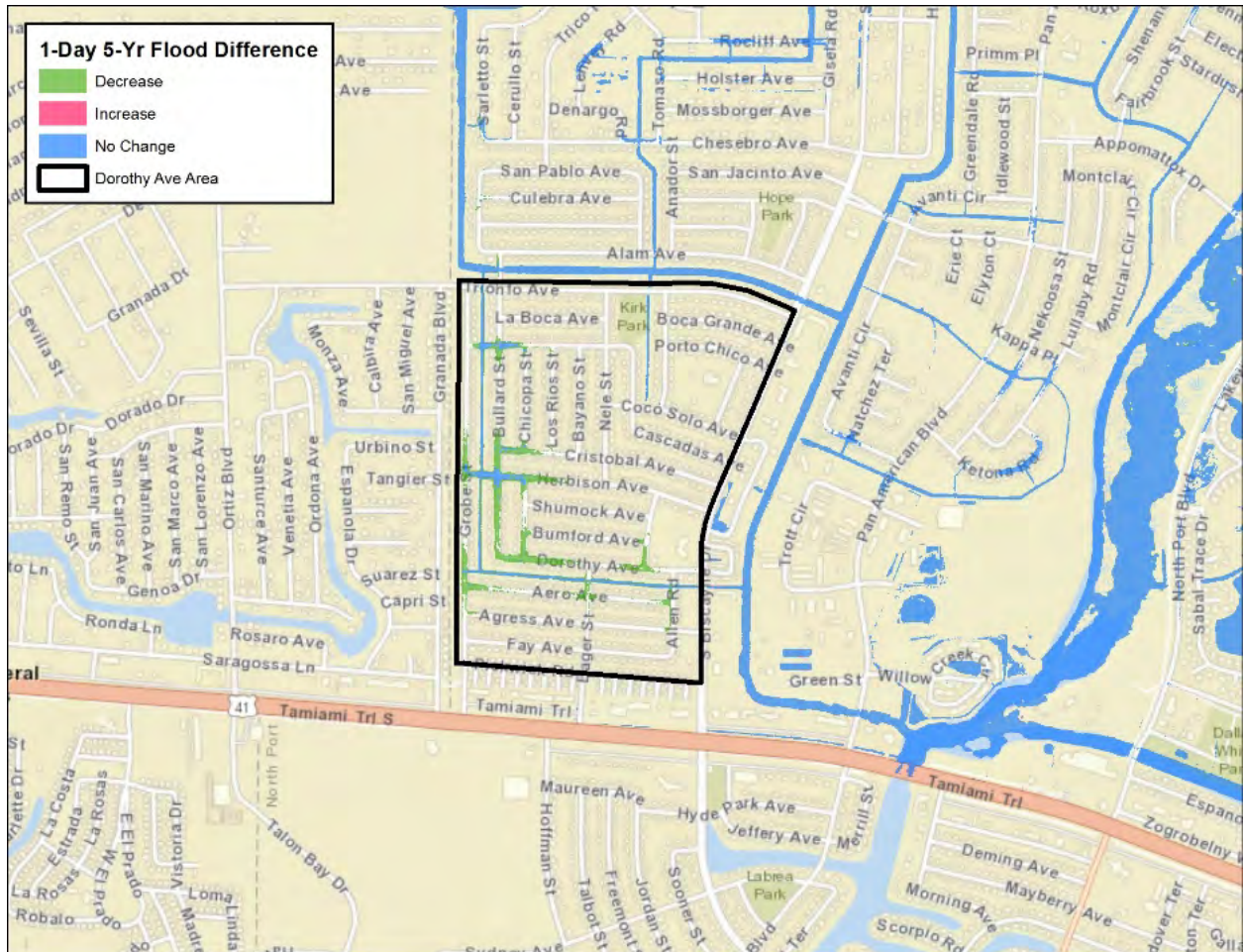


Figure 16: 1-Day 5-Year Flood Difference Map, Dorothy Avenue Area

Flood Area Reduction for 1-Day 10-Year Event in the Dorothy Avenue Area

Figure 16 illustrates reduced extents of inundation in the Dorothy Avenue area for the 1-Day 10-Year storm event for the full stormwater management master plan model.

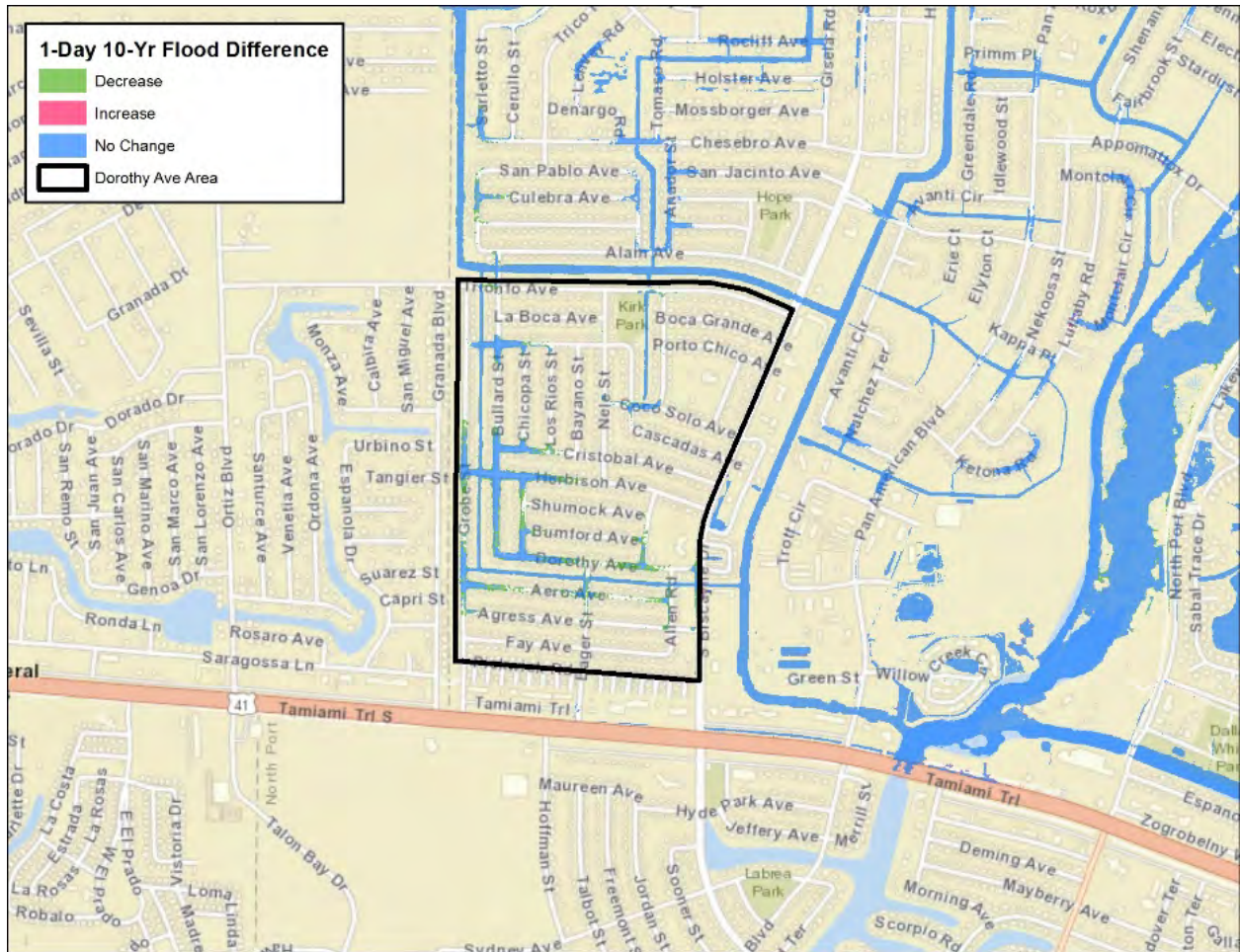


Figure 17: 1-Day 10-Year Flood Difference Map, Dorothy Avenue Area

Flood Area Reduction for 1-Day 25-Year Event in the Dorothy Avenue Area

Figure 17 illustrates reduced extents of inundation in the Dorothy Avenue area for the 1-Day 25-Year storm event for the full stormwater management master plan model.

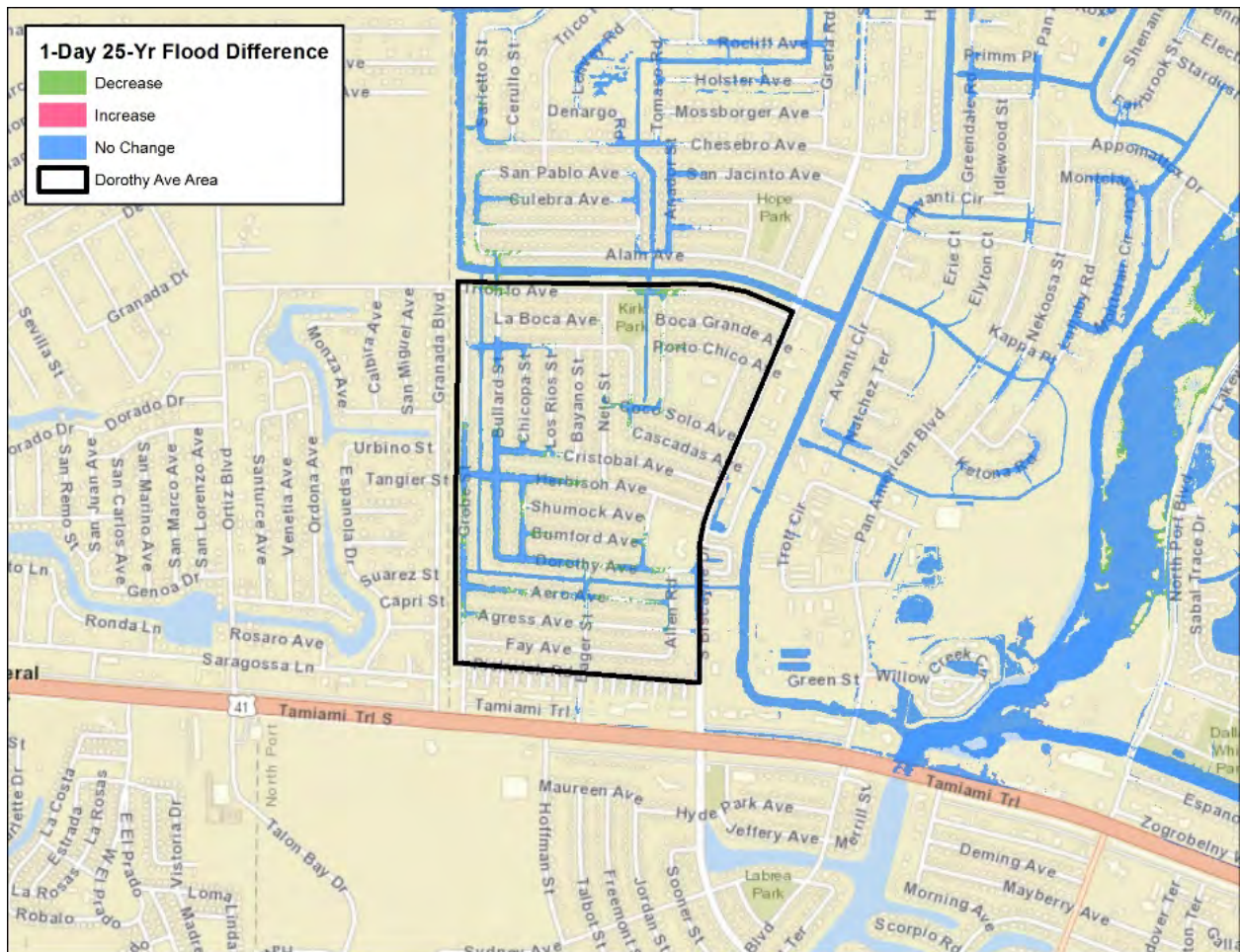


Figure 18: 1-Day 25-Year Flood Difference Map, Dorothy Avenue Area

Flood Area Reduction for 1-Day 50-Year Event in the Dorothy Avenue Area

Figure 18 illustrates reduced extents of inundation in the Dorothy Avenue area for the 1-Day 50-year storm event for the full stormwater management master plan model.

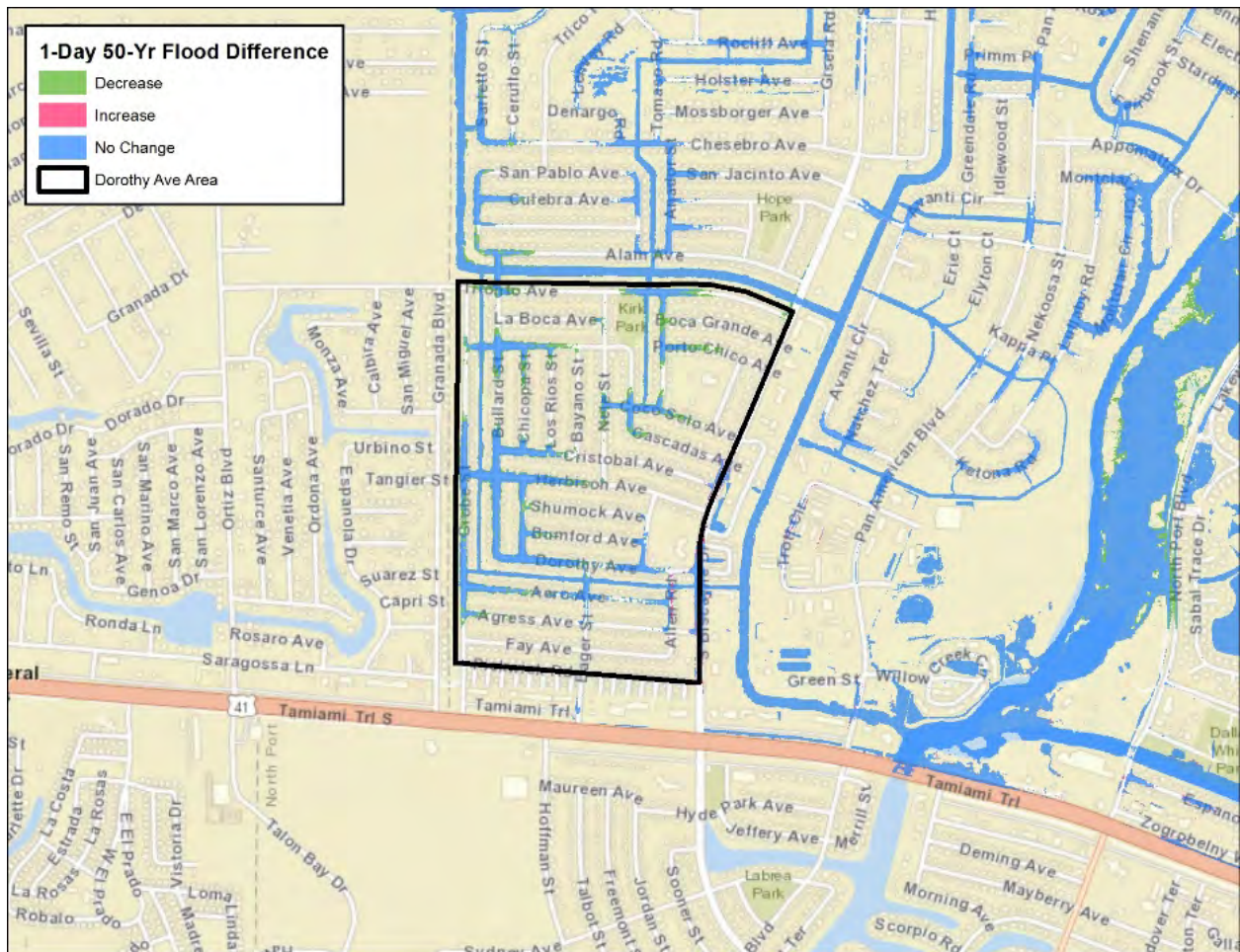


Figure 19: 1-Day 50-Year Flood Difference Map, Dorothy Avenue Area

Flood Area Reduction for 1-Day 100-Year Event in the Dorothy Avenue Area

Figure 19 illustrates reduced extents of inundation in the Dorothy Avenue areas for the 1-Day 100-Year storm event for the full stormwater management master plan model.

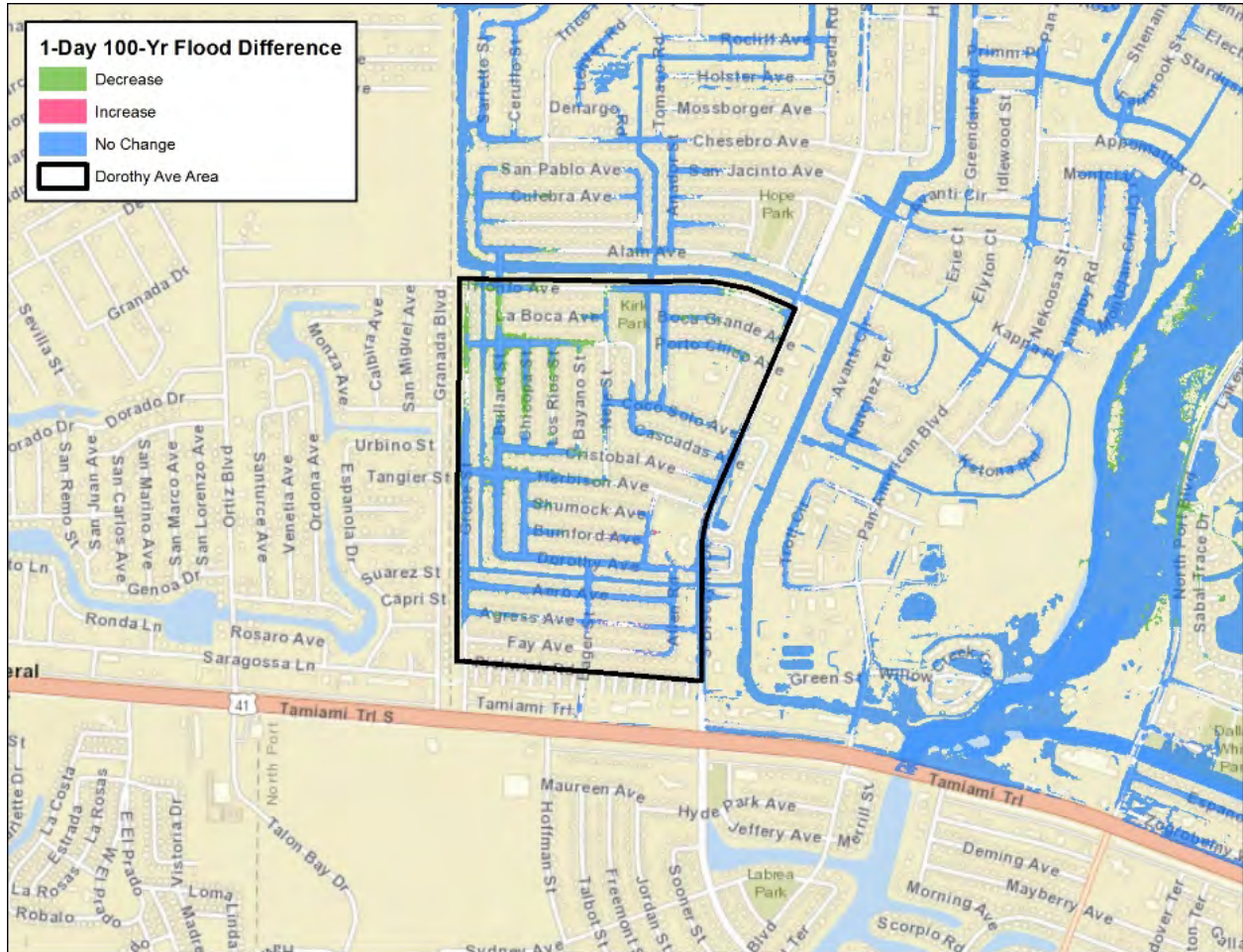


Figure 20: 1-Day 100-Year Flood Difference Map, Dorothy Avenue Area

It should be noted that the set of improvements proposed for the Dorothy Avenue area were conceived to carry higher inflows that would result from R-36 widening, with the primary objective being to carry those inflows without increasing localized flooding. As designed, the Dorothy Avenue area will also see flood reduction benefits. Those local flood reduction benefits are more noticeable for smaller storms. If R-36 widening is not performed, the Dorothy Avenue improvements could be adjusted to provide for local improvement only at lower cost and perhaps improved local flood reduction performance. Additionally, the local collection system was not evaluated for improvement. It is possible that additional flood reduction benefits could be achieved through local collection system improvements in this and other areas affected by the proposed primary conveyance system improvements.

Appendix A

Professional Engineering Services for the Big Slough Flood Reduction Study - Project Plan

DeLoach Engineering Science, PLLC., November 2016



City of North Port

**Professional Engineering Services for the
Big Slough Flood Reduction Study**

**Agreement #2016-48
Department of Public Works**

PROJECT PLAN



November 2016

**DeLoach Engineering Science, PLLC
1845 Ivanhoe Road | Orlando, FL 32804**

DeLoach Engineering Science
water resources and civil engineering

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Professional Engineering Services for the Big Slough Flood Reduction Study

PROJECT PLAN

The purpose of this project plan is to document the approach to executing pending project tasks and to identify outstanding project-related issues. This is the first draft of project development for the Big Slough Flood Reduction Study. *This document will periodically be revisited to assess overall progress, describe upcoming tasks and deliverables, evaluate staff allocations, and describe deficiencies and recovery actions completed and/or planned.*

Introduction

The Big Slough Flood Reduction Study, cooperatively funded by and between the City of North Port and the Southwest Florida Water Management District (SWFWMD), is being performed for the Department of Public Works under City of North Port Agreement #2016-48. Notice to Proceed to conduct the flood study was issued to DeLoach Engineering Science, PLLC (DES) on October 13, 2016. Per the agreement, DES will evaluate feasibility and cost effectiveness of various solutions intended to reduce flooding in the City of North Port within the Big Slough Watershed.

More specifically, the Big Slough Flood Reduction Feasibility Study is comprised of two distinct parts:

- Part 1 is to evaluate localized flooding along Myakkahatchee Creek within the I-75 and Jockey Club Study Areas and recommend construction projects or other methods to mitigate flooding.
- Part 2 is to evaluate preliminary regional concepts including, but not limited to, those previously developed by others, with the intent to advance large scale solutions to mitigate flooding throughout the City of North Port.

Stormwater evaluations performed by DES will employ data and a watershed model previously developed by Ardaman & Associates, Inc. (Ardaman) for the North Port/Big Slough Watershed Management Program (WMP) project. That prior project was also cooperatively funded by the City of North Port and the SWFWMD and was completed in 2014. The existing watershed model was developed by Ardaman using CHAN Version 2.03 (Aquarian Software, Inc.). All data collected, work products generated, and reports submitted under the prior North Port/Big Slough WMP project will be obtained by the City and provided to DES for use in performing this flood reduction study.

Basic Watershed Information

The Big Slough Watershed is in southeastern Sarasota County and is tributary to the Myakka River. Portions of the City of North Port located east of the Myakka River are within the southern portion of the Big Slough Watershed. The Big Slough Canal (also called Myakkahatchee Creek in its lower reaches) passes from north to south and receives inflows from numerous waterways within the City. Discharge of waters from the City and upstream offsite areas occurs primarily via Myakkahatchee Creek as it passes beneath US 41. Lesser discharges occur southward through several open weirs, drop structures, and culverts along Hillsborough Boulevard into waterways which continue through Port Charlotte. Several of those downstream waterways are controlled by structures while others are tidally influenced.

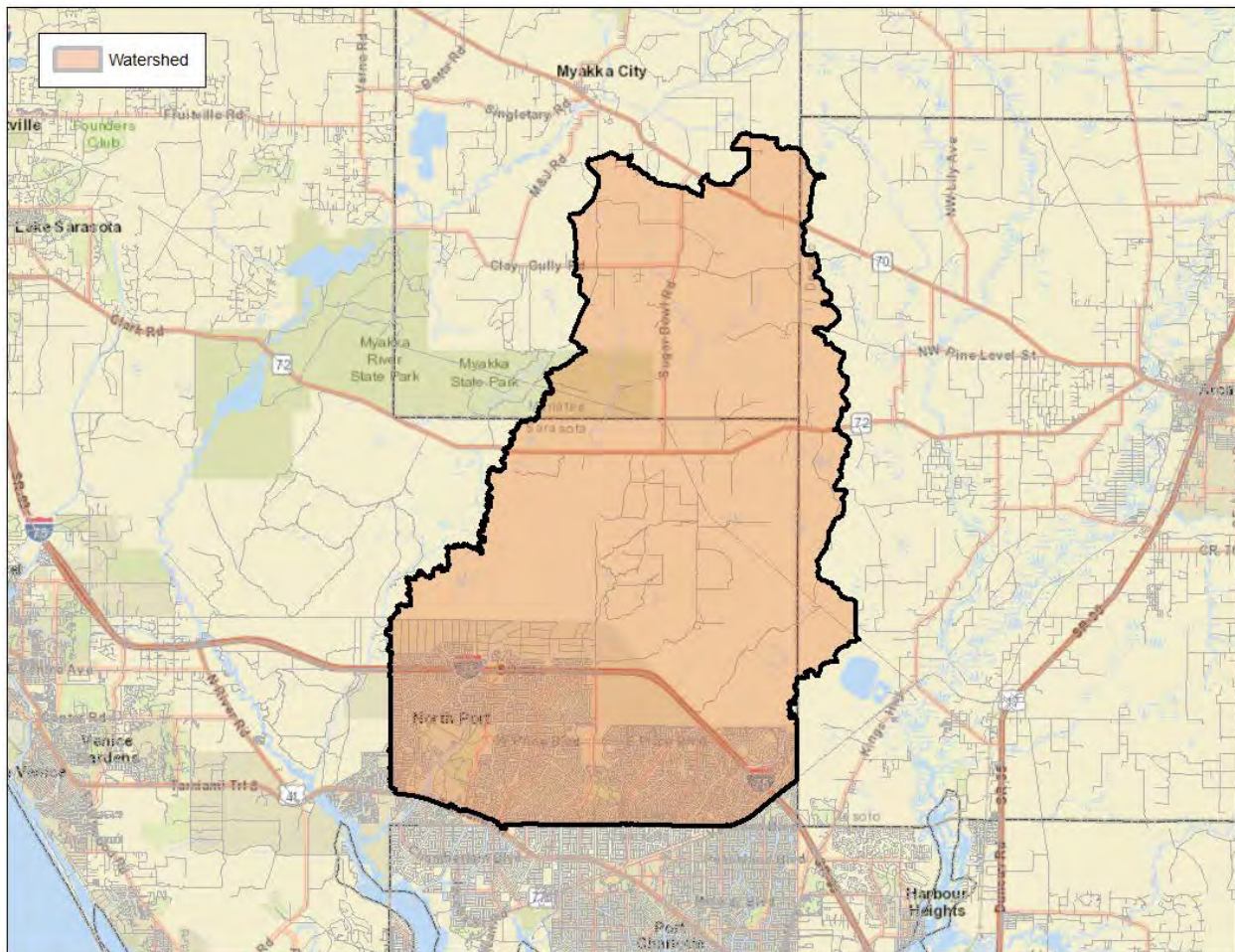


Figure 1: The Big Slough Watershed Area

The City has routinely experienced flooding in the Big Slough Watershed. Two such flood zones are the areas near Myakkahatchee Creek at I-75 and the areas in and around the Jockey Club.

- The Myakkahatchee Creek at I-75 Study Area covers approximately 335 acres adjacent to the Myakkahatchee Creek. The area is bounded on the east by Sumter Boulevard and traversed from east to west by Interstate Highway 75.
- The northern section of the Jockey Club Study Area covers approximately 62 acres and is bounded on the north by Appomattox Drive, on the west by Pan American Boulevard, and on the east by Myakkahatchee Creek. The southern section of the Jockey Club Study Area near Ketona Road is also included and is approximately 82 acres in size.

Figure 2a depicts existing mean annual and 10-year floodplains within the I-75 study area adjacent to Myakkahatchee Creek, both north and south of the interstate, as developed during the North Port/Big Slough WMP project. Figure 2b shows sub-basin delineations and the model network features used to simulate response to rainfall during the WMP project. Figure 2c depicts hydrologic soils groups. Figures 3a, 3b, and 3c illustrate the same information within and surrounding the Jockey Club study area.

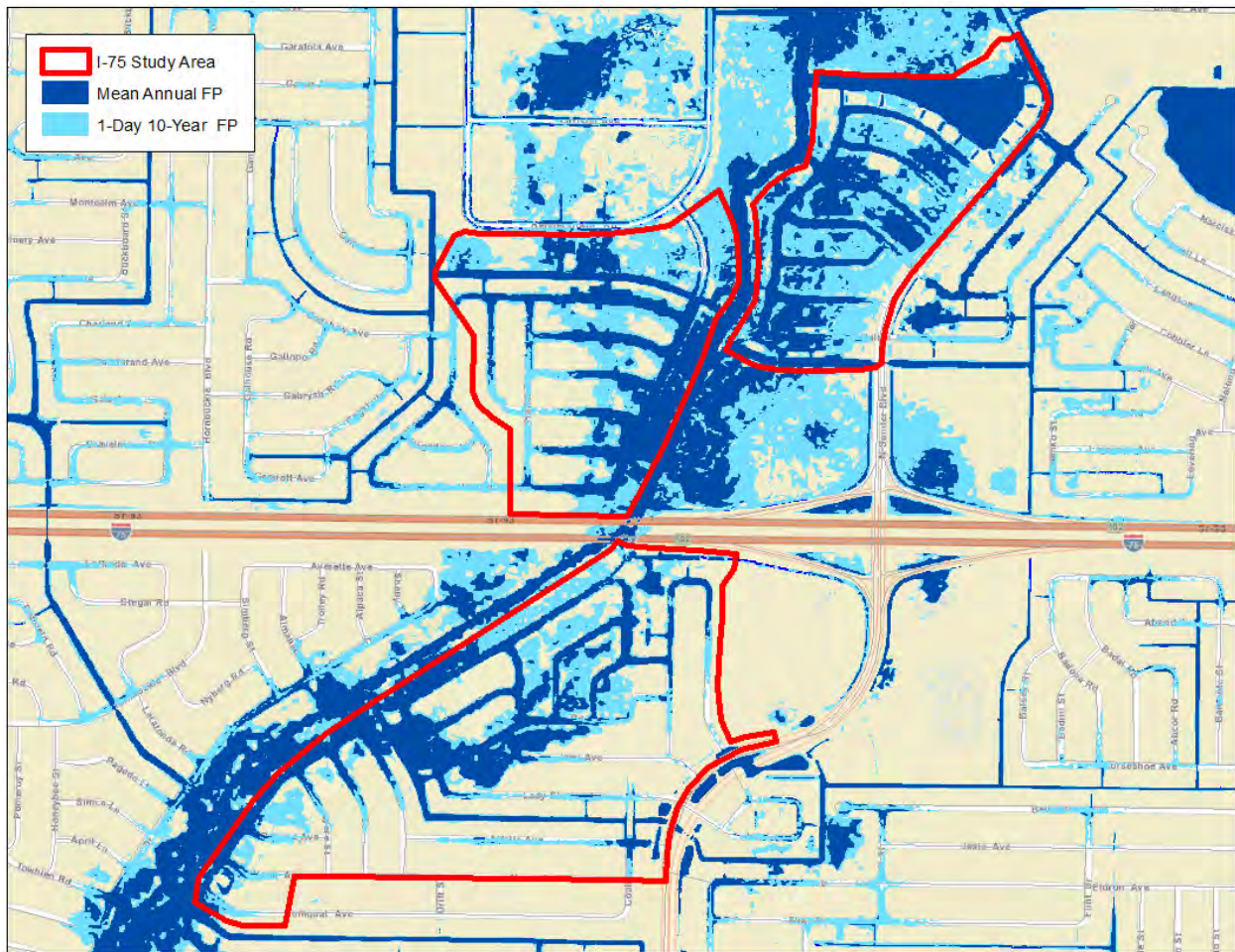


Figure 2a: I-75 Study Area, Mean Annual and 10-Year Floodplains

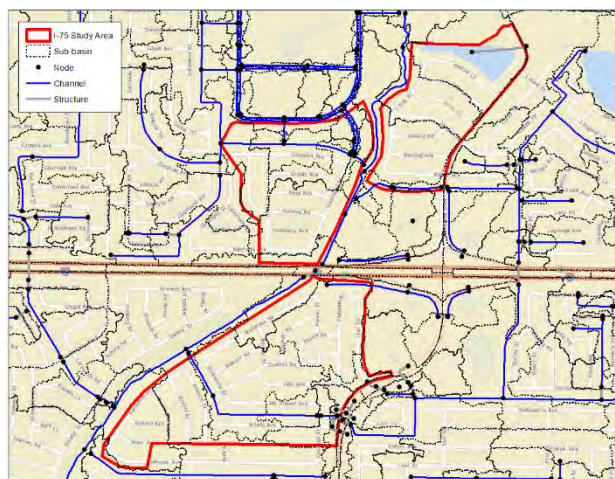


Figure 2b: I-75 Study Area, Model Network

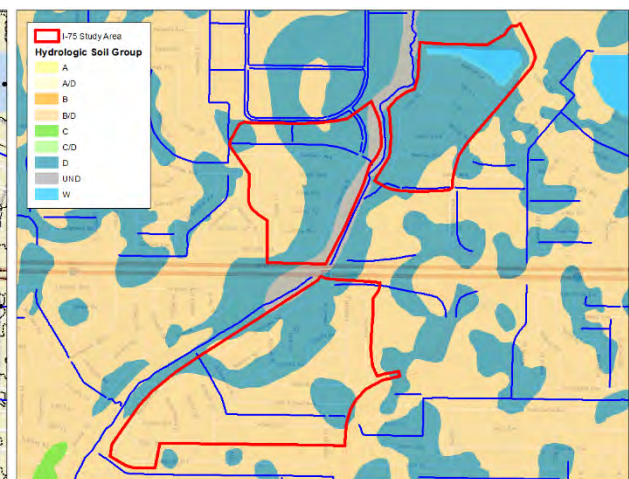


Figure 2c: I-75 Study Area, Hydrologic Soil Groups

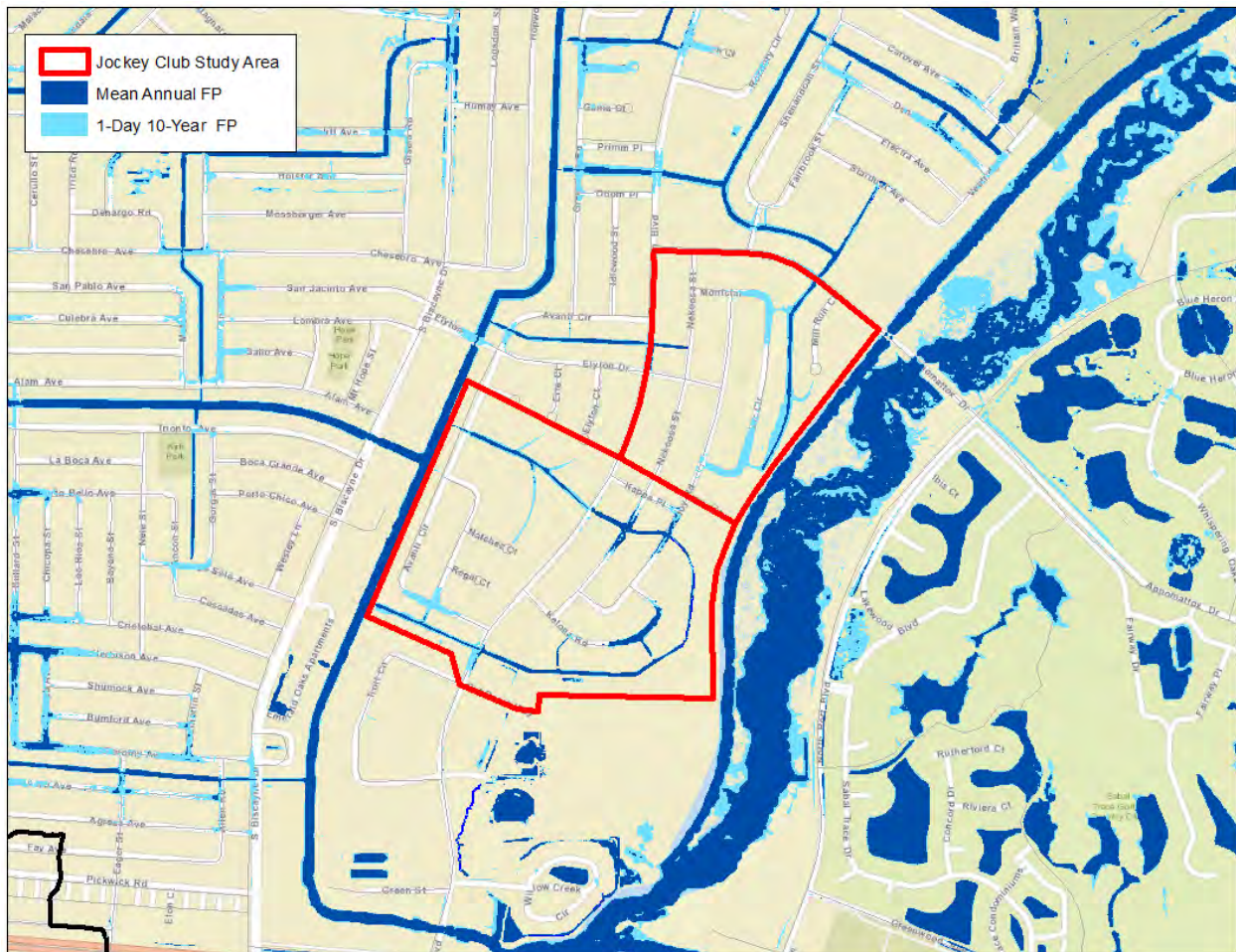


Figure 3a: Jockey Club Study Area, Mean Annual and 10-Year Floodplains

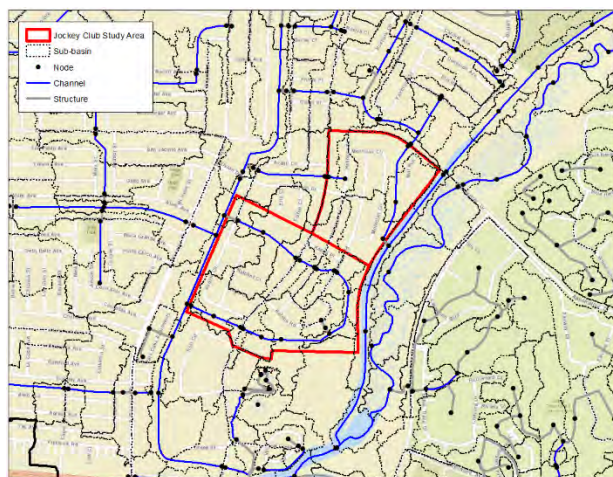


Figure 3b: Jockey Club Study Area, Model Network

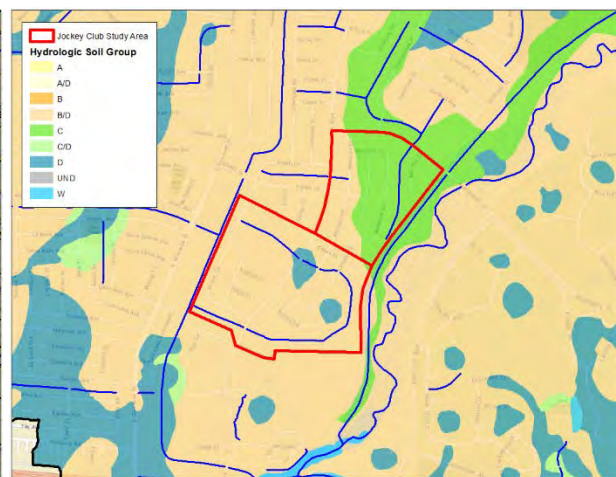


Figure 3c: Jockey Club Study Area, Hydrologic Soil Groups

Previous Work Completed

The Big Slough watershed and City of North Port stormwater management system have been the subjects of prior investigations. Reference will be made to the following reports:

- North Port Water Control District Phase I Report, Inventory and Approach to Analysis, for General Development Utilities, Inc., by R. D. Ghioto & Associates, Inc. (1984) presents data and information that describes NPWCD facilities, their function and condition.
- City of North Port Big Slough Watershed Study Phase III Task 2 Final Report, Stormwater Management Master Plan, by Camp, Dresser & McKee, Inc. (1993) presents conceptual solutions for flooding as well as assessments of potential water supplies and of nonpoint source pollution and describes a stormwater management plan to reduce flooding during extreme storm events.
- Watershed Management Program Consulting Services in the Big Slough Watershed (K883), Best Management Practices (BMP) Analysis Final Report, for Southwest Florida Water Management District and City of North Port, by Ardaman & Associates, Inc. (2014) evaluates BMP alternatives to address flooding conditions based on effectiveness, permissibility, and economic viability.

The 1993 Stormwater Management Master Plan was partially implemented, providing increased local conveyance through replacement of culvert structures at four locations. Those improvements are accounted for in more recent model development. Other plan components were not completed including those for storage and flow diversion, apparently due to regulatory and financial constraints.

Under the WMP project, the 2012 Version of 2004 Condition model was developed and six regional BMP alternatives were evaluated that could potentially reduce flooding through combinations of conveyance improvements, stormwater management storage areas, flood proofing, and flow diversion. Although the regional alternatives developed under the WMP project were not incorporated into a specific plan for implementation, the work provides insight to the system's hydraulic response and BMP limitations.

Additionally, hydraulic performance and effects of potential local conveyance improvements were analyzed at the following sites:

- R-36 Canal at I-75
- Myakkahatchee Creek at I-75
- R-36 Canal at Tropicaire Boulevard
- Myakkahatchee Creek at Tropicaire Boulevard
- WCS-162 location on the R-36 Canal (possibility of adding gates to the existing structure)
- Price Boulevard drainage system (five alternative sets of improvements)

Results from each BMP evaluation were compared the 24-hour 100-year existing condition model.

The Big Slough Flood Reduction Study will build upon all prior work to advance previously developed and new concepts to achieve flood mitigation in areas where residential structures are shown as flooding in the recently updated Flood Insurance Rate Maps (FIRMs). Performance of proposed improvements will be considered relative to lesser storm events from mean annual up to and including the 100-year storm event to evaluate cost and benefit relationships across a broader range of conditions.

Potential Issues

There are currently no technical issues which would prevent moving forward with the flood reduction study per the project scope of work. When issues do arise, discussion will occur with the City project manager. The project plan will be updated to reflect discussions, corrective actions, and outcomes.

Outline of This Document

This document:

- provides an overview of the Big Slough Flood Reduction Study and includes the following:
 - Goals and Objectives
 - Work Breakdown Structure
 - Project Schedule
 - Project Costs
 - Staff Allocations
- describes the scope of work for all project activities (Task List, Deliverables, and Approach)
- includes a brief narrative describing current assumptions, issues, and issue management
- presents updated plans for Quality Assurance, Quality Control, and Communications

Goals and Objectives

The City of North Port has partnered with SWFWMD through the District's Cooperative Funding Initiative (CFI) to oversee completion of the Big Slough Flood Reduction Study. The CFI allows local governments to share costs for projects that assist in creating sustainable water resources, provide flood protection, and enhance conservation efforts. As such, cooperatively funded WMP projects must meet various goals and objectives of both the District and the local partners.

Agency Goals

Local governments often partner in the District's CFI program because they need better floodplain information to make good land use (building and zoning) decisions. The program also routinely develops recommendations to improve deficiencies in flood protection level of service and to implement BMPs for water quality improvement. The goal of the Big Slough Flood Reduction Study is to develop BMPs to address existing recurrent flooding.

Study Objectives

The flood reduction study will be performed in two distinct parts.

Part 1 is a concentrated effort which considers solutions to reduce flooding through implementing localized improvements within certain identified neighborhoods that are adjacent to Myakkahatchee Creek at I-75 and at the Jockey Club while Part 2 is a broader study which considers a regional approach to reduce flooding in other portions of the City.

More specifically, this study will:

- Develop projects to reduce flooding along Myakkahatchee Creek near I-75 and the Jockey Club

- Produce a conceptual plan for improvements covering multiple sites and facilities serving those two areas and submit a State-wide Environmental Resource Permit (SWERP) for Conceptual Approval of the plan for flood reduction
- Evaluate & advance a set of BMP concepts to reduce flood risk in North Port on a regional scale
- Produce a planning-level document describing a small number of regional projects which exhibit potential flood reduction benefits based upon screening-level hydraulic evaluations
- Produce a planning-level cost estimate that addresses additional (i.e., future) analyses as well as engineering design, environmental permitting, land acquisition, construction, and other costs

Work Breakdown Structure

The Big Slough Flood Reduction Study includes the following major elements:

- Big Slough Flood Reduction Study
 - Project Development
 - Part 1 - Problem Definition, Field Visits, and Team Coordination
 - Part 1 - Alternatives Formulation and Community Outreach
 - Part 1 - Plan Development, Reporting, and Conceptual Permitting
 - Part 2 - Regional Flood Reduction Concept Formulation
 - Part 2 - Performance Evaluation and Agency Outreach
 - Part 2 - Planning Level Report on Regional Improvement Projects

Key project milestones for the Big Slough Flood Reduction Study are as follows:

- 1.1 Project Development
 - 1.1.1 Kickoff Meeting and Initial Field Visit
 - 1.1.2 Data Collection and Assembly
 - 1.1.2.1 CHAN Model from North Port/Big Slough WMP Project
 - 1.1.2.2 Geodatabase from North Port/Big Slough WMP Project
 - 1.1.2.3 Terrain from North Port/Big Slough WMP Project
 - 1.1.2.4 PLS Survey from North Port/Big Slough WMP Project
 - 1.1.2.5 Land Use from North Port/Big Slough WMP Project
 - 1.1.2.6 Parcels from Sarasota County Property Appraiser
 - 1.1.2.7 Utilities from City of North Port (for specific areas)
 - 1.1.3 Summary of Prior Work Performed
 - 1.1.3.1 Ardaman
 - 1.1.3.2 CDM
 - 1.1.4 Project Plan Formulation
- 1.2 Define Existing Flooding Problems
 - 1.2.1 Confirm Ability to Reproduce WMP Project Model Results
 - 1.2.1.1 Simulations of Mean Annual to 100-Year Events
 - 1.2.1.2 Flood Mapping and Comparison to Ardaman Results
 - 1.2.1.3 Update Model to include a Small Number of Prior Conveyance Improvements
 - 1.2.1.4 Flood Mapping and Comparison of Updated Model to Ardaman Results
 - 1.2.2 Characterize Local Flooding Conditions
 - 1.2.2.1 Myakkahatchee Creek at I-75
 - 1.2.2.2 Jockey Club
- 1.3 Operations Staff Meeting and Team Field Visit
 - 1.3.1 Meeting Topics

- 1.3.1.1 Prior Work and Project Plan
- 1.3.1.2 Existing Flooding Problems and Potential Solutions – with Operations Staff Input
- 1.3.1.3 Approach to Evaluation of Hydraulic Performance of Potential Solutions
- 1.3.1.4 Cost-Benefit and Other Project Considerations and Constraints
- 1.3.1.5 Refinements and Development of a Recommended Plan
- 1.3.1.6 Remaining Project Schedule and Upcoming Community Meeting
- 1.4 Formulate List of Potential Solutions for Hydraulic Evaluation
 - 1.4.1 Describe Each Potential Solution and Any Known or Expected Obstacles to Success
 - 1.4.2 Identify Additional Data Needs to Support Hydraulic Evaluation
 - 1.4.3 Meeting to Review and Discuss List of Potential Solutions
 - 1.4.4 Select a Set of Alternatives from Among Potential Solutions for Hydraulic Evaluation
- 1.5 Evaluate Hydraulic Performance of Selected Set of Alternatives
 - 1.5.1 Perform Hydraulic Analyses
 - 1.5.2 Summarize Hydraulic Performance
 - 1.5.3 Meeting to Review and Discuss Performance of Alternatives
 - 1.5.4 Identify Preferred Plan(s) of Improvements
- 1.6 Refine Preferred Plan(s) of Improvements
 - 1.6.1 Evaluate Site Conditions and Design/Permitting Constraints of Preferred Plan(s)
 - 1.6.2 Refine Preferred Plan(s) to Address Site Conditions and Design/Permitting Constraints
 - 1.6.3 Perform Hydraulic Analyses of Refined Plan(s)
 - 1.6.4 Perform Cost-Benefit Analysis of Refined Plan(s)
 - 1.6.5 Meeting to Review and Discuss Refined Plan(s)
 - 1.6.6 Select Recommended Plan
- 1.7 Community Outreach Meeting
 - 1.7.1 Meeting Topics
 - 1.7.1.1 Project Update
 - 1.7.1.2 Summary of Plan Development
 - 1.7.1.3 Description of Recommended Plan
 - 1.7.1.4 Performance of Recommended Plan
 - 1.7.1.5 Cost-Benefit
 - 1.7.1.6 Public Input
 - 1.7.1.7 Remaining Project Schedule and Upcoming Presentation to City
- 1.8 Summarize and Present Recommended Plan of Improvements
 - 1.8.1 Finalize Recommended Plan and Project Deliverables
 - 1.8.1.1 Pre/Post Models and Result Tabulations
 - 1.8.1.2 Conceptual-Level Design Drawings
 - 1.8.1.3 Opinion of Probable Cost (incl. detailed design, permitting, land, and construction)
 - 1.8.1.4 Cost-Benefit
 - 1.8.1.5 Report and Mapping
 - 1.8.1.6 Training City staff in use of CHAN Modeling Software
 - 1.8.2 Meeting with City Administrative Staff
 - 1.8.3 Statewide Environmental Resource Permitting
 - 1.8.3.1 SWFWMD Pre-App Meeting for Statewide Conceptual (or simple Standard) ERP
 - 1.8.3.2 Application Preparation/Submittal and Response to Two (2) Requests for Additional Information (RAIs)
- 2.1 Formulate List of Regional Flood Reduction Concepts
 - 2.1.1 Describe Each Potential Solution and Known or Expected Obstacles to Success
 - 2.1.2 Identify Additional Data Needs to Support Hydraulic Evaluation
 - 2.1.3 Meeting to Review and Discuss List of Potential Solutions
 - 2.1.4 Select a Set of Alternatives for Further Evaluation

- 2.2 Landowner & Regulatory Outreach Meeting(s)
- 2.3 Evaluate Hydraulic Performance of Selected Set of Alternatives
 - 2.3.1 Perform Screening-Level Hydraulic Analyses
 - 2.3.2 Summarize Hydraulic Performance
 - 2.3.3 Meeting to Review and Discuss Performance of Alternatives
 - 2.3.4 Identify Preferred Plans for Regional Improvements
- 2.4 Summarize and Present Preferred Plan(s) for Regional Improvements
 - 2.4.1 Screening-Level Hydraulic Model Pre/Post and Result Tabulations
 - 2.4.2 Conceptual-Level Drawings and Plan Descriptions
 - 2.4.3 Site Conditions and Design Constraints
 - 2.4.4 Relevant Permitting Requirements
 - 2.4.5 Opinion of Probable Cost (for detailed analysis, design, permitting, land, and construction)
 - 2.4.6 Planning-Level Report and Mapping

Project Schedule

An accelerated schedule for the Big Slough Flood Reduction Study dictates completion of all Part 1 and Part 2 tasks within about nine (9) months of receiving Notice to Proceed. Table 1 presents the agreed upon performance schedule for the project. The performance schedule is also depicted in a project Gantt chart, provided in Appendix A.

Generally, the following task durations are expected (Part 1 and Part 2 tasks completed concurrently):

- Project Plan, 1 month
- Part 1 - Problem Definition, Field Visits, and Initial Team Coordination, 1 month
- Part 1 - Alternatives Formulation and Community Outreach, 3 months
- Part 1 - Plan Development, Reporting, and Conceptual Permitting, 4 months
- Part 2 - Regional Flood Reduction Concept Formulation, 2 months
- Part 2 - Performance Evaluation and Agency Outreach, 2 months
- Part 2 - Planning Level Report on Plan(s) for Regional Improvements, 4 months

Critical Path

All project tasks are to be performed expeditiously and in the sequence depicted in the project Gantt chart. Note that Part 1 and Part 2 project tasks are to be performed concurrently. A critical component of the project timeline is the identification and collection of field survey data by a Professional Land Surveyor to support model evaluations of Part 1 flood reduction alternatives. A qualified local PLS firm is to be identified during the second month and field work is to be performed early in the third month of the project. Field survey by a PLS should be completed within 2 weeks.

Project Invoice Schedule

Invoicing for the Big Slough Flood Reduction Study is progress-based with monthly lump sum fee amounts generally aligned with scheduled work product submittals. The lump sum fees are based upon labor estimates and other costs to produce those work products. A projected monthly invoice schedule is presented in Table 2.

Project Cost

The budget for the Big Slough Flood Reduction Study is \$300,000, allocating approximately \$250K for Part 1 activities and \$50K for Part 2 activities.

Itemized Cost of Services Performed

An itemized project cost spreadsheet for all tasks that have been authorized by the City of North Port under Agreement #2016-48 is provided in Appendix B.

The itemized project cost spreadsheet reflects expected staff assignments and man-hour requirements to successfully provide the contracted services, and applies labor rates from the Agreement Consultant Fee Schedule to arrive at cost, by task, to perform the work. Staffing, man-hour requirements, and associated costs contained in the itemized project cost spreadsheet reflect the considered agreement between the City of North Port and DES, attained through discussion and negotiation, as to the level of detail desired and the effort required to satisfactorily complete the Big Slough Flood Reduction Study.

Staff Allocation

Project team members and their roles are summarized in the following:

Agreement #2016-48 identifies **Ms. Elizabeth Wong, PE** and **Mr. David DeLoach, PE** as project managers and prime contacts for the City and DES, respectively. **Ms. Jezabel Pagan Garcia** will serve as the project manager and lead point of contact for the SWFWMD. Ms. Wong, Mr. DeLoach, and Ms. Garcia will collaborate over the course of the project to update the project timeline, resource allocations, and budget in response to circumstances that may arise over the course of completing the project. Project deliverables, technical reviews, and related invoicing will also be managed by these individuals.

DES has assigned **Ms. Trillian Baldassari, PE** as the team's Lead Project Engineer, responsible for technical execution and oversight of project-related activities, as well as for supporting Mr. DeLoach on certain duties related to project management. Ms. Baldassari will serve as Deputy Project Manager, will be knowledgeable in all technical aspects of the project, and will remain cognizant of the project's status, providing the City and District with access to a second, high-level point of contact at DES.

Mr. Christopher Hardin, PE will serve as Project Engineer, responsible for technical execution of select project tasks, and, along with Mr. DeLoach and Ms. Baldassari, will contribute to the performance and timely completion of the project. **Mr. Chris Gilhooley** will serve as GIS Analyst, taking the lead role in geodatabase development, geoprocessing, and GIS deliverables production. **Mr. Rod Ghioto, PE** will serve as a Senior Consultant, also contributing to the performance of project tasks.

Projected staff utilization is provided in Table 3. Generally, utilization is expected to be within desirable levels across all project tasks. Actual utilization and work progress will be closely monitored by Mr. DeLoach to ensure that the schedule is adhered to. As Principal of the company, Mr. DeLoach can make and act upon staffing decisions quickly. He will shift project team member responsibilities or bring additional resources to assist with the project as needed.

Description of Project Activities

Scope of Work

City of North Port Agreement #2016-48 was issued to DES on October 13, 2016 to evaluate feasibility and cost effectiveness of various solutions intended to reduce flooding in the City of North Port within the Big Slough Watershed. The work includes minor model updates, conceptualization and performance evaluation of various BMP alternatives, agency and public outreach, development of plans for improvements, conceptual permitting, and reporting.

Project Startup

Key points about project startup and model preparation are provided in the following:

Project development. DES will meet and coordinate with staff of the City of North Port and SWFWMD to discuss project goals and objectives. The Scope of Work, schedule, and list of deliverables for Agreement #2016-48 will be reviewed during the meeting, with opportunities for all team members to offer input and share concerns regarding any aspect of the project. Based upon those discussions, the Project Plan (this document) will be updated and submitted to the City for approval.

Update of Selected Model Parameters. This project builds upon prior work performed, and utilizes modeling tools previously developed, by others under the SWFWMD WMP. The base model is the SWFWMD Governing Board-approved 2012 Version of 2004 Condition model. DES will utilize field survey data and other information provided by the City to add and/or update a small number of hydraulic features. The resulting model will be called the 2016 Version of 2004 Condition model. It should be noted that this model will not include any other revisions beyond those items listed here:

- For model refinements in the Myakkahatchee at I-75 and at Jockey club areas, DES will:
 - perform engineering-level field visits to review and verify site conditions to be modeled
 - develop local field survey requirements for collection by a third party PLS
 - incorporate collected field survey data into the model to reflect local site conditions
- For model revisions to more accurately reflect current conditions at several sites, DES will:
 - add a single 24-inch PVC pipe from Public Works site to Creighton WW (check)
 - utilize available as-built survey data and add two (2) gates at WCS 101
 - incorporate available survey and storm pipe data in Price Blvd area
 - change 30-inch ADS pipe, flowing from Price Blvd to R-32, to 36-inch ADS
 - add three (3) 48-inch CMP beneath Appomattox Blvd (Stantec plans available)

Update Model Specific Geodatabase. DES will update parameters in the project geodatabase to reflect changes made to selected model parameters (above).

Model Replication and Design Storm Simulations. Simulations will be performed to predict the response of the Big Slough Watershed to a range of synthetic rainfall events with 1-day and 5-day durations and recurrence intervals from 2.33 to 100 years. Depth of rainfall, in inches, for each rainfall event will match those used for the prior WMP work. The Florida Type II Modified Rainfall Distribution provided in the SWFWMD ERP Information Manual will be used to distribute rainfall over 24-hours. Distribution of the rainfall over the 5-day period will be based on a 5-day dimensionless curve also provided by the District.

DES will first confirm that prior simulation results can be replicated within a reasonable tolerance (generally on the order of 0.01 feet) for all design storms using the 2012 Version of 2004 Condition model. The 2016 Version of 2004 Condition model will then be used to simulate response to the same suite of design storms. A table of elevation differences will be developed summarizing computed peak water surface elevations for the original 2012 Version of 2004 Condition model (by Ardaman), the replicated 2012 Version of 2004 Condition model (by DES), and the updated 2016 Version of 2004 Condition model (by DES).

Floodplain Delineation. DES will delineate floodplains without transition zone extents based on digital topographic information and model-predicted peak stages of each storm event. The delineated floodplain area will be compared across the original 2012 Version of 2004 Condition, replicated 2012 Version of 2004 Condition, and updated 2016 Version of 2004 Condition models.

Project Approach

The Big Slough Flood Reduction Feasibility Study will be performed per the project scope of work contained in Agreement #2016-48.

Part 1 activities shall include field surveying, hydraulic modeling, alternatives analyses, and cost benefit assessments needed to evaluate feasibility of options to alleviate flooding in the local neighborhoods. The project shall include community outreach meetings to receive input of concerns from residents. The study shall include a determination of the reasons for flooding, either from conditions within the neighborhoods or from backwater of the Myakkahatchee Creek and interconnected waterways and retention ditches. Solutions may include, but not be limited to: storm sewer construction, pump stations, raised road elevations, flood walls, flood gates, land acquisition, and any combination thereof. The study shall include, but not be limited to, evaluating mean annual, 10-, 25-, and 100-year 1-day and 100-year 5-day storm events.

The CONSULTANT shall determine which solution for these storm events provides the best cost/benefit. In assessing feasibility of various solutions, it should be noted that drainage improvements may not eliminate flooding entirely but instead may reduce the depth, duration, and/or frequency of flooding to levels that still result in reduced annualized damages and a substantial benefit to the community.

The study will focus principally on quantifying hydraulic performance, cost of implementation, and value of benefits derived from reduced flooding and will address other equally important issues qualitatively. For example, hydraulic performance will be summarized with simulation pre vs post peak stage and peak discharge tables for use in demonstrating no adverse impacts in a Statewide Environmental Resource permit (SWERP) application. On the other hand, wetland impacts associated with implementing the various solutions will be addressed qualitatively. For example, while no formal wetland jurisdictional boundary will be developed, potential wetland impacts will be identified based on engineering-level site visits, review of aerial photography, National Wetlands Inventory (NWI), and hydric soil mapping, etc., to estimate potential mitigation requirements and associated costs. Wetland impacts and other factors that are addressed qualitatively during this study would need to be deferred in any Statewide Conceptual ERP application and later resolved during subsequent construction permitting (when final design of the improvements has been completed, wetland jurisdiction has been properly established, wetland impacts and mitigation have been quantified, etc.).

It is anticipated that Part 1 will result in a conceptual plan for improvements covering multiple sites and facilities and that a Statewide Environmental Resource Permit (SWERP) will be submitted for Conceptual Approval of the plan for flood reduction in these areas. The SWERP application would include: conceptual-level drawings and/or diagrams describing the plan for improvements in general terms; a narrative including summary of project purpose, proposed facilities, and pre/post hydraulic performance; and calculations (pre/post storm event simulation results) to demonstrate no adverse impacts with respect to water quantity. Site-specific design and environmental matters (including wetland impacts and mitigation) would be deferred to one or more future SWERP construction applications for implementation of the proposed improvements.

The CONSULTANT shall review and provide a timely response to up to two (2) Requests for Additional Information (RAIs) from SWFWMD. It is expected that District review times will be on the order of one (1) month each and that CONSULTANT response times will be on the order of two (2) weeks each.

Part 2 activities shall include field investigations, hydraulic modeling, alternatives analyses, and cost benefit assessments needed to advance preliminary concepts to achieve flood mitigation in areas where residential structures are shown as flooding in the recently updated Flood Insurance Rate Maps (FIRMs) including, but not limited to, those previously suggested in the North Port/Big Slough WMP project by Ardaman & Associates, Inc. and/or in the Big Slough Watershed Study by Camp Dresser & McKee, Inc. The work will include identification of candidate site(s), citing of relevant permitting requirements for construction and operation of facilities, and providing cost estimates for detailed design, permitting, land acquisition, and construction. The CONSULTANT shall consider mixed use of regional facilities such as, but not limited to, storage for water supply to the City's water treatment plant, recreational activities, and environmental opportunities such as preserves and water quality improvement.

Using the previously developed CHAN model, the CONSULTANT shall perform a limited number of screening-level simulations to evaluate feasibility of regional concepts to achieve flood reduction. In assessing feasibility of various solutions, it should be noted that improvements may not eliminate flooding entirely but instead may reduce the depth, duration, and/or frequency of flooding to levels that nevertheless result in reduced annualized damages and a substantial benefit to the community.

It is anticipated that Part 2 will result in a detailed planning-level document describing a small number of regional projects which exhibit potential flood reduction benefits based upon screening-level hydraulic evaluations performed as part of this project. The planning document would include: conceptual-level drawings and/or diagrams describing the regional plan(s) for improvements in general terms; a narrative including summary of project purpose, proposed facilities, environmental and other constraints, and expected hydraulic performance; and calculations (screening-level pre/post storm event simulation results) to demonstrate anticipated flood reduction and identify potential adverse impacts with respect to water quantity. A project plan and cost estimate for each regional flood reduction concept would be provided along with a discussion on future SWERP application(s) for implementation of the proposed improvements.

Due to the size and scope of those solutions, additional funding would be required to fully develop and implement the regional projects. It should also be noted that additional analyses required to support design and permitting of mixed-use regional solutions may include additional storm event hydraulic modeling as well as continuous simulations, water quality evaluations, hydroperiod analyses, water

quality studies, water supply evaluations, etc. Planning-level cost estimates will address those additional analyses as well as engineering design, environmental permitting, land acquisition, construction, and other costs.

Assumptions and Issue Management

Several assumptions were made in developing this project plan. Key assumptions were related to the magnitude (level of detail) of the work effort, accuracy of available as-built drawings and other supporting data, availability of staff resources, and reliance on a third-party survey firm for performance of certain field data collection tasks.

It is expected that the current level of detail of the model is sufficient to evaluate regional alternatives at a conceptual level, sufficient to develop plans for future, more detailed work. It was also assumed that the amount of additional model detail to be provided in the Myakkahatchee at I-75 and Jockey Club areas is moderate and a \$10,000 estimate was used to allow for supplemental field survey to support model refinement in those areas.

It is assumed that model results will be replicated easily from the prior WMP work. If, for some reason, DES is unable to replicate prior results, then we would rely upon City and District staff to assist in coordination with the prior contractor to resolve the matter quickly.

Staffing and assignment of key personnel to the project is considered appropriate for this project. Any staffing deficiencies that could impact the project timeline or quality of work will be identified quickly and effectively mitigated by shifting of responsibilities and addition of staff, if needed, with City approval. Progress of third-party firms in performing support activities (i.e., for field survey by a PLS) will be monitored and adjustments will be made, if necessary, to adhere to the project schedule.

This Project Plan will be updated periodically. Revisions may include minor editorial changes to clarify project background and goals, changes to better define task objectives and approach to performing the work, and/or updates to Quality Assurance, Quality Control, and Communications.

Quality Assurance Plan

DES is committed to the concept of Total Quality Management (TQM), where everyone involved with development and delivery of our work product is responsible for its quality. TQM requires effort and accountability from management, staff, and all other project participants, and it is the Project Manager's responsibility to ensure that all are capable and eager to deliver a high-quality product.

Quality Assurance

Quality Assurance (QA) is achieved through appropriate assignment of project tasks and responsibilities to team members, staff training, development of and adherence to protocols (including protocols for quality control), adherence to the baseline schedule and budget, and daily task oversight.

Assignment of Team Members. The Big Slough Flood Reduction Feasibility Study consists of a set of discrete project tasks. DES staff members will be assigned to each task team by the Project Manager, taking into consideration capabilities and experience. A Task Leader will be assigned to direct the work

of each task team. In most cases, Ms. Baldassari will serve as Task Leader, and will see that all work is performed in accordance with established protocols.

Development and Adherence to Protocols. Where appropriate, task-specific DES Protocols will be developed and serve as a supplement to the District’s WMP Guidance documents, and would include procedures for documentation of work, frequent communication, and quality control checks throughout task completion. Task Protocols indicate team member assignments and encourage acceptance of individual responsibilities. Each protocol includes the following elements:

- Task Name
- Task Description
- Prerequisite Tasks
- Required Data Resources
- Initial Quality Control Procedures
- Approach to Task Completion
- Schedule for Task Completion
- Estimated Cost for Task Completion
- Anticipated Correspondence
- Approach to Quality Assurance
- Task Completion QC Procedures
- Task Reporting, Mapping & Deliverables
- Summary and Sign-off Responsibilities
- Project Debrief Checklist

Prior to initiating work, the associated task protocol document(s) are reviewed by and discussed among assigned team members in a task kickoff meeting. Based on team discussion, a determination is made whether the standard protocols can be applied to the project. Deviations from the standard protocols will be identified and a description provided of the special conditions necessitating those deviations.

Adherence to Baseline Schedule and Budget. An initial project timeline, extending approximately nine (9) months from Notice to Proceed (NTP), was developed and incorporated into Agreement #2016-48. Support documents contain initial staff allocations, man-hour estimates, and associated costs for each discrete task that makes up the overall project. Both the project schedule and the budget contained in the agreement are judged to be accurate, and staff allocations appear sufficient.

DES management and staff fully understand the critical importance of the expeditious completion of the project and are committed to meeting the timeline as it has been developed and within the allocated budget. As work proceeds, DES will provide monthly updates to the City regarding both the schedule and the budget. As project tasks are completed and project needs and data limitations (if any) are better understood, recommendations may be made to the City’s Project Manager for changes to staffing allocations and/or project approach, including potential adjustments to the timeline and costs.

Daily Task Oversight. As discussed above, DES has assigned Ms. Trillian Baldassari, PE as the team’s Lead Project Engineer. Ms. Baldassari will be responsible for daily oversight of project-related activities. Mr. DeLoach will also be fully engaged in the management of all aspects of the work, and will be intimately involved in the day-to-day operation. As such, two experienced professional engineers will be performing the oversight needed to provide for quality assurance on this important project.

Quality Control

Quality Control (QC) is the process where raw data, data manipulation, and calculations; parameter selection, processing, and computations; reporting, mapping, and deliverables production are subject to verification checks and validation. QC is performed according to well-designed protocols to check for

errors and omissions, to verify that staff are using tools and following procedures correctly and effectively, and to fully understand why certain processes result in certain outcomes.

Project Task Protocols include the District's Guidelines and Specifications and other task-specific procedures for performance and documentation of work performed and results achieved. The protocols also outline task-specific procedures for team communication and for quality control checks at multiple steps through project completion and acceptance.

A rigorous internal peer review will be performed as part of our standard QA/QC protocol for all tasks, consisting of:

- protocol review by Task Leader and team member(s) assigned to a task, prior to start of work
- self-check of work by team members while performing project tasks
- handoff of task materials to QA/QC Team Leader (DeLoach)
- QA review and QC checks by QA/QC Team (Baldassari and/or Hardin)
- return of task materials, comments and QA/QC report from QA/QC Team Leader (DeLoach)
- review of third-party findings by DES Project Manager and DES Task Manager for resolution
- incorporation of QA/QC work products and reports into project deliverables for City review

Communication Plan

Frequent and effective communication, whether internal between project team members or external with City or District staff, will carry a high priority throughout the project. Protocols for each distinct task will include a description of the purpose, frequency, method and participants to be involved, and the DES Project Manager will see that communications requirements are met, documented, and fulfill their intended purpose. Communication responsibilities that are unique to a specific task, if needed, will become part of the protocol for that task, and will be documented in memorandum form.

Internal Communication

Internal communication regarding project work assignments will be conducted by and between the Project Manager, Lead Project Engineer and/or Task Leader, and will primarily be in the form of email exchange. Internal staff meetings will be held for kickoff of each discrete project task, regularly thereafter for team updates to the Project Manager, prior to and following exchanges with the third-party QA/QC consultant, and prior to the delivery of task deliverables to the City.

External Communication

At the onset of the project, the DES Project Manager will communicate with the City Project Manager and others to understand expectations of all involved parties, including City and District staff, other agency officials, and the affected public. The DES Project Manager and Lead Project Engineer will, at a minimum, talk directly with the City Project Manager once each week to discuss progress on current activities, resolve outstanding issues, and coordinate future tasks, and will employ methods and measures to track and report monthly progress relative to scope, schedule, resource allocations, and budget.

External project communications may be in person or via phone/internet (using collaboration software such as GoTo Meeting) at the City's discretion. Routine exchange of written messages and accompanying data will be by email, while exchange of larger documents and data will be accomplished using the City and/or DES FTP sites. Very large data exchanges, as in the transfer of project deliverables, will be made using portable hard drives.

Meetings

The DES Project Manager and Lead Project Engineer will attend regularly-scheduled project status meetings with representatives of the City of North Port and SWFWMD to discuss project goals and objectives and the team's progress toward completing current project tasks. The DES Project Manager, Lead Project Engineer, and other DES staff will attend other task-related meetings as may be deemed necessary by the project team. A brief agenda will be provided for all meetings, and a recap memorandum will be developed by DES staff to document the meeting, ensuing discussion, and resulting action items. Meetings may be in person or via phone/internet (using collaboration software such as GoTo Meeting) at the City's discretion.

Tables

Table 1. Project Schedule		
PART 1		
<u>Task</u>	<u>Start Date</u>	<u>Completion Date</u>
Project Development	October 13, 2016	November 4, 2016
Define Existing Flooding Problems	October 31, 2016	November 18, 2016
Operations Staff Meeting and Team Field Visit	November 14, 2016	November 18, 2016
Formulate Potential Solutions for Hydraulic Evaluation	November 14, 2016	December 9, 2016
Evaluate Performance of Selected Set of Alternatives	December 5, 2016	January 27, 2017
Refine Preferred Plan(s) of Improvements	January 30, 2017	March 31, 2017
Community Outreach Meeting	March 27, 2017	March 31, 2017
Present Recommended Plan of Improvements	April 3, 2017	July 31, 2017
<i>Project Management and QA/QC</i>	<i>October 13, 2016</i>	<i>July 31, 2017</i>
PART 2		
<u>Task</u>	<u>Start Date</u>	<u>Completion Date</u>
Formulate List of Regional Flood Reduction Concepts	December 5, 2016	January 13, 2017
Landowner Outreach (including State agencies)	December 5, 2016	January 13, 2017
Evaluate Performance of Selected Set of Alternatives	January 16, 2017	March 31, 2017
Present Preferred Plan(s) for Regional Improvements	April 3, 2017	May 26, 2017
<i>Project Management and QA/QC</i>	<i>December 5, 2016</i>	<i>May 26, 2017</i>

Table 2. Projected Invoice Schedule, by Month							
	Part 1		Part 2		Project		
Month	% Complete	Invoice Amount	% Complete	Invoice Amount	% Complete	Invoice Amount	Cumulative Fees
1	11%	\$28,110	0%	\$0	9%	\$28,110	\$28,110
2	19%	\$18,300	0%	\$0	15%	\$18,300	\$46,410
3	30%	\$29,520	32%	\$15,870	31%	\$45,390	\$91,800
4	36%	\$15,300	32%	\$0	36%	\$15,300	\$107,100
5	54%	\$43,240	63%	\$15,540	55%	\$58,780	\$165,880
6	65%	\$28,860	63%	\$0	65%	\$28,860	\$194,740
7	80%	\$36,040	63%	\$0	77%	\$36,040	\$230,780
8	91%	\$28,760	100%	\$18,620	93%	\$47,380	\$278,160
9	100%	\$21,840	100%	\$0	100%	\$21,840	\$300,000

Table 3. Projected Staff Utilization, by Month					
Month	DeLoach	Baldassari	Hardin	Gilhooley	Ghioto
1	26%	26%	13%	26%	26%
2	23%	16%	09%	2%	20%
3	20%	48%	24%	4%	46%
4	13%	15%	8%	10%	18%
5	28%	85%	43%	35%	60%
6	23%	45%	23%	15%	18%
7	13%	60%	30%	35%	25%
8	45%	55%	28%	48%	29%
9	31%	25%	13%	18%	5%
Average	24%	42%	21%	21%	27%

Appendices

Project Plan attachments and appendices, to be added over the course of the project, include progress reports, meeting minutes, memoranda, and other related documents. Project Plan appendices and documents that have been attached to date include the following:

Appendix A

Project Gantt Chart

Appendix B

Itemized Project Cost Spreadsheet

Appendix A

Project Gantt Chart

BIG SLOUGH FLOOD REDUCTION FEASIBILITY STUDY for CITY OF NORTH PORT

DeLoach Engineering Science, PLLC - Project Timeline

Task Descriptions

- 1.1 Project Development
- 1.2 Define Existing Flooding Problems
- 1.3 Operations Staff Meeting and Team Field Visit
- 1.4 Formulate List of Potential Solutions for Hydraulic Evaluation
- 1.5 Evaluate Hydraulic Performance of Selected Set of Alternatives
- 1.6 Refine Preferred Plan(s) of Improvements
- 1.7 Community Outreach Meeting
- 1.8 Summarize and Present Recommended Plan of Improvements
- 2.1 Formulate List of Regional Flood Reduction Concepts
- 2.2 Landowner Outreach Meeting(s) (including State agencies)
- 2.3 Evaluate Hydraulic Performance of Selected Set of Alternatives
- 2.4 Summarize and Present Preferred Plan(s) for Regional Improvements

Month	1	2	3	4	5	6	7	8	9	10																																
Date	10/13/16	10/20/16	10/27/16	11/3/16	11/10/16	11/17/16	11/24/16	12/1/16	12/8/16	12/15/16	12/22/16	12/29/16	1/5/17	1/12/17	1/19/17	1/26/17	2/2/17	2/9/17	2/16/17	2/23/17	3/2/17	3/9/17	3/16/17	3/23/17	3/30/17	4/6/17	4/13/17	4/20/17	4/27/17	5/4/17	5/11/17	5/18/17	5/25/17	6/1/17	6/8/17	6/15/17	6/22/17	6/29/17	7/6/17	7/13/17	7/20/17	7/27/17
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42



Appendix B

Itemized Project Cost Spreadsheet

BIG SLOUGH FLOOD REDUCTION FEASIBILITY STUDY for CITY OF NORTH PORT
DeLoach Engineering Science, PLLC - Project Plan with Timeline, Manhour and Fee Estimate

Task Descriptions	Principal Engineer	Project Engineer	GIS Analyst	Sub-Consultant	Reimb. Expenses	Estimated Fee	Start Date	End Date	Task Duration	Project Duration
1.1 Project Development						\$13,290.00				
1.1.1 Kickoff Meeting and Initial Field Visit	8	8	0	8	\$0.00	\$4,040.00	13-Oct-16	14-Oct-16	2	2
1.1.2 Data Collection and Assembly	4	6	10	4	\$0.00	\$3,290.00	13-Oct-16	21-Oct-16	9	9
1.1.3 Summary of Prior Work Performed, Alternatives and Findings	8	0	0	8	\$0.00	\$2,960.00	13-Oct-16	28-Oct-16	16	16
1.1.4 Project Plan Formulation	12	0	0	4	\$0.00	\$3,000.00	13-Oct-16	4-Nov-16	23	23
1.2 Define Existing Flooding Problems						\$14,820.00				
1.2.1 Confirm Ability to Reproduce WMP Project Model Results	2	32	16	2	\$0.00	\$6,660.00	31-Oct-16	11-Nov-16	12	30
1.2.2 Characterize Local Flooding Conditions	8	16	16	16	\$0.00	\$8,160.00	7-Nov-16	18-Nov-16	12	37
1.3 Operations Staff Meeting and Team Field Visit						\$5,340.00				
1.3.1 Meeting Topics (Preparation, Attendance, and Field Visit)	12	12	0	8	\$0.00	\$5,340.00	14-Nov-16	18-Nov-16	5	37
1.4 Formulate List of Potential Solutions for Hydraulic Evaluation						\$12,960.00				
1.4.1 Describe Each Potential Solution and Any Known or Expected Obstacles to Success	8	8	0	8	\$0.00	\$4,040.00	14-Nov-16	25-Nov-16	12	44
1.4.2 Identify Additional Data Needs to Support Hydraulic Evaluation	4	8	3	4	\$0.00	\$2,860.00	21-Nov-16	25-Nov-16	5	44
1.4.3 Meeting to Review and Discuss List of Potential Solutions	8	8	0	8	\$0.00	\$4,040.00	28-Nov-16	2-Dec-16	5	51
1.4.4 Select a Set of Alternatives from Among Potential Solutions for Hydraulic Evaluation	4	4	0	4	\$0.00	\$2,020.00	28-Nov-16	9-Dec-16	12	58
1.5 Evaluate Hydraulic Performance of Selected Set of Alternatives						\$44,820.00				
1.5.1 Perform Hydraulic Analyses (w/ estimated \$10,000 Field Survey by PLS)	8	80	0	40	\$10,000.00	\$29,520.00	5-Dec-16	30-Dec-16	26	79
1.5.2 Summarize Hydraulic Performance	8	24	16	16	\$0.00	\$9,240.00	2-Jan-17	13-Jan-17	12	93
1.5.3 Meeting to Review and Discuss Performance of Alternatives	8	8	0	8	\$0.00	\$4,040.00	16-Jan-17	20-Jan-17	5	100
1.5.4 Identify Preferred Plan(s) of Improvements	4	4	0	4	\$0.00	\$2,020.00	23-Jan-17	27-Jan-17	5	107
1.6 Refine Preferred Plan(s) of Improvements						\$66,220.00				
1.6.1 Evaluate Site Conditions and Design/Permitting Constraints of Preferred Plan(s)	8	40	16	16	\$0.00	\$11,400.00	30-Jan-17	3-Feb-17	5	114
1.6.2 Refine Preferred Plan(s) to Address Site Conditions and Design/Permitting Constraints	12	40	16	24	\$0.00	\$13,600.00	6-Feb-17	10-Feb-17	5	121
1.6.3 Perform Hydraulic Analyses of Refined Plan(s)	8	80	16	24	\$0.00	\$18,240.00	13-Feb-17	3-Mar-17	19	142
1.6.4 Perform Cost-Benefit Analysis of Refined Plan(s)	12	80	24	8	\$0.00	\$16,920.00	6-Mar-17	17-Mar-17	12	156
1.6.5 Meeting to Review and Discuss Refined Plan(s)	8	8	0	8	\$0.00	\$4,040.00	20-Mar-17	24-Mar-17	5	163
1.6.6 Select Recommended Plan	4	4	0	4	\$0.00	\$2,020.00	27-Mar-17	31-Mar-17	5	170
1.7 Community Outreach Meeting						\$5,880.00				
1.7.1 Meeting Topics	12	16	0	8	\$0.00	\$5,880.00	27-Mar-17	31-Mar-17	5	170
1.8 Summarize and Present Recommended Plan of Improvements						\$86,640.00				
1.8.1 Finalize Recommended Plan and Project Deliverables	0	0	0	0	\$0.00	\$0.00	3-Apr-17	2-Jun-17	61	233
1.8.1.1 Pre/Post Models and Result Tabulations	8	24	0	8	\$0.00	\$6,200.00	3-Apr-17	14-Apr-17	12	184
1.8.1.2 Conceptual-Level Design Drawings	4	60	40	16	\$0.00	\$15,740.00	3-Apr-17	28-Apr-17	26	198
1.8.1.3 Opinion of Probable Cost (incl. detailed design, permitting, land, and construction)	8	60	16	16	\$0.00	\$14,100.00	3-Apr-17	28-Apr-17	26	198
1.8.1.4 Cost-Benefit	8	40	0	8	\$0.00	\$8,360.00	1-May-17	12-May-17	12	212
1.8.1.5 Report and Mapping	32	16	40	16	\$0.00	\$15,120.00	1-May-17	26-May-17	26	226
1.8.1.6 Training City staff in use of CHAN Modeling Software	0	8	0	0	\$0.00	\$1,080.00	1-May-17	26-May-17	26	226
1.8.2 Meeting with City Administrative Staff	8	8	16	0	\$0.00	\$4,200.00	29-May-17	2-Jun-17	5	233
1.8.3 Statewide Environmental Resource Permitting (with Response to 2 RAIs)	50	60	28	8	\$0.00	\$21,840.00	29-May-17	31-Jul-17	64	292
2.1 Formulate List of Regional Flood Reduction Concepts						\$7,790.00				
2.1.1 Describe Each Potential Solution and Known or Expected Obstacles to Success	2	4	2	4	\$0.00	\$1,840.00	5-Dec-16	30-Dec-16	26	79
2.1.2 Identify Additional Data Needs to Support Hydraulic Evaluation	2	8	2	8	\$0.00	\$3,100.00	5-Dec-16	30-Dec-16	26	79
2.1.3 Meeting to Review and Discuss List of Potential Solutions	2	4	2	4	\$0.00	\$1,840.00	5-Dec-16	30-Dec-16	26	79
2.1.4 Select a Set of Alternatives for Further Evaluation	2	2	0	2	\$0.00	\$1,010.00	2-Jan-17	13-Jan-17	12	93
2.2 Landowner Outreach Meeting(s) (including State agencies)						\$8,080.00				
2.2.1 Meeting Topics	16	16	0	16	\$0.00	\$8,080.00	5-Dec-16	13-Jan-17	40	93
2.3 Evaluate Hydraulic Performance of Selected Set of Alternatives						\$15,540.00				
2.3.1 Perform screening-level Hydraulic Analyses	8	24	0	16	\$0.00	\$7,640.00	16-Jan-17	10-Feb-17	26	121
2.3.2 Summarize Hydraulic Performance	2	12	8	8	\$0.00	\$4,240.00	13-Feb-17	24-Feb-17	12	135
2.3.3 Meeting to Review and Discuss Performance of Alternatives	4	4	0	4	\$0.00	\$2,020.00	27-Feb-17	10-Mar-17	12	149
2.3.4 Identify Preferred Plan(s) for Regional Improvements	2	4	0	4	\$0.00	\$1,640.00	13-Mar-17	31-Mar-17	19	170
2.4 Summarize and Present Preferred Plan(s) for Regional Improvements						\$18,620.00				
2.4.1 Screening-Level Hydraulic Model Pre/Post and Result Tabulations	2	12	0	8	\$0.00	\$3,440.00	3-Apr-17	26-May-17	54	226
2.4.2 Conceptual-Level Drawings and Plan Descriptions	2	12	8	2	\$0.00	\$3,160.00	3-Apr-17	28-Apr-17	26	198
2.4.3 Site Conditions and Design Constraints	2	8	8	4	\$0.00	\$2,980.00	3-Apr-17	28-Apr-17	26	198
2.4.4 Relevant Permitting Requirements	2	8	0	4	\$0.00	\$2,180.00	3-Apr-17	28-Apr-17	26	198
2.4.5 Opinion of Probable Cost (for detailed analysis, design, permitting, land, and construction)	8	16	0	0	\$0.00	\$3,680.00	1-May-17	12-May-17	12	212
2.4.6 Planning-Level Report and Mapping	8	4	4	4	\$0.00	\$3,180.00	1-May-17	26-May-17	26	226
Task 4 - Survey (future task)			0	0						
Task 5 - Geotechnical (future task)			0	0						
Task 6 - Design (future task)			0	0						
Task 7 - Permitting (future task)			0	0						
Labor Hours	352	900	307	394						
Hourly Rate	\$190.00	\$135.00	\$100.00	\$180.00						
Labor Fee	\$66,880.00	\$121,500.00	\$30,700.00	\$70,920.00	\$10,000.00					
Total Estimated Fees	Part 1 :	\$249,970.00	Part 2 :	\$50,030.00		\$300,000.00			Total Duration	292

Appendix B

Floodplain Justification Report for Big Slough/City of North Port

Sarasota County, Florida

Ardaman & Associates, Inc., January 2011

**Floodplain Justification Report for
Big Slough/City of North Port
Sarasota County, Florida**

**Prepared for:
Southwest Florida Water Management District
2379 Broad Street
Brooksville, FL 34604-6899**

**Prepared by:
Ardaman & Associates, Inc.
8008 South Orange Avenue
Orlando, FL 32809-6712**

January 24, 2011
Project No. 08-189G

David Arnold, P.E.
Southwest Florida Water Management District
2379 Broad Street
Brooksville, Florida 34604-6899

Subject: Watershed Management Program Consulting Services for Maintenance of Watershed Parameters and Models in the Big Slough Watershed (B206), SWFWMD Agreement No. 06CC0000044, Work Order No. 7

Dear Mr. Arnold:

Ardaman & Associates, Inc. staff has completed storm event modeling and floodplain delineations for the Big Slough/City of North Port Watershed in Sarasota County, as specified in the subject Work Order. The attached Floodplain Justification Report is accompanied with a copy of our PowerPoint presentation for the Peer Review Consultant.

We trust that this report satisfies your expectations and appreciate the opportunity to work with you on this important project. If you have any questions, or if we can be of further service to you, please do not hesitate to call.

Very Truly Yours,
ARDAMAN & ASSOCIATES, INC.

Nestor Aceituno, P.E.
Project Engineer

David A. DeLoach, P.E.
V.P, Director of Water Resources
Florida License Number 47761

DAD/dad

cc: Elizabeth Wong, City of North Port

TABLE OF CONTENTS

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Watershed Description	1
Floodplain Model Development and Methodology	2
Verification and Validation Data	3
Modeled Floodplains	4
Floodplain Justification	6
Conclusion	7
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Floodplain Justification Report Big Slough/City of North Port Watershed Management Program Sarasota County, Florida

Introduction

Ardaman & Associates, Inc. was contracted by the Southwest Florida Water Management District (SWFWMD) to perform Watershed Management Program (WMP) Consulting Services in the Big Slough/City of North Port Watershed. This work was conducted from August, 2003 through November 2010, and involved: development of a LiDAR-based digital terrain model (DTM); performance of a watershed evaluation; and watershed planning, where a storm event hydrologic and hydraulic model was constructed and utilized to identify areas of rainfall-induced flood risk in the watershed. Subsequent to completion of this work, District staff performed an internal review that resulted in minor model and floodplain revisions.

In December 2008, Ardaman staff commenced model maintenance and an overall WMP update at the District's request. The update consisted of the following major tasks:

- 2007 LiDAR QA/QC performed by an Independent Florida Licensed Surveyor and Mapper - Aerial Cartographics of America, Inc (ACA), delivered on May 14, 2009.
- Use of 2007 LiDAR elevation data at select sites (developed parcels in 10 general areas).
- Further sub-basin delineations, with node storage and overflow revisions.
- Creation of Hybrid Terrain (2004-2007)
- Flood risk identification and justification of flood mapping changes.

This report has been submitted along with a complete set of digital WMP deliverables which provide detailed information regarding the model development and delineation of floodplains for the Big Slough/City of North Port Watershed within Sarasota County.

Guidelines and Specifications

WMP activities were conducted in accordance with the 2003 SWFWMD Guidelines and Specifications (G&S) and addendums provided by District staff. In addition, the documentation of supporting technical information conforms to the Federal Emergency Management Agency (FEMA) Guidelines and Specifications for Flood Mapping Partners (2003). Additional information (including white papers, presentations, and technical email correspondence) provided by the District and its subcontractors was utilized, as appropriate, in completing project tasks.

Watershed Description

The Big Slough Watershed is located in southeastern Sarasota County, and is tributary to the Myakka River. Portions of the incorporated City of North Port (those areas east of the Myakka) are located within the southern portion of the watershed. The 195.5 square mile watershed encompasses numerous depressional features, including wetlands and

water bodies, the most prominent of which is the Big Slough Canal (also called Myakkahatchee Creek in its lower reaches). The Big Slough Canal passes from north to south through the City of North Port, and receives inflows from an internal system of waterways which provide surface drainage throughout the City, before discharging beneath U.S. Highway 41 toward its confluence with the Myakka River.

The Big Slough Watershed and portions of the City of North Port are traversed from east to west by Interstate Highway 75. It is generally characterized by flat topography and sandy, shelly and silty sand soils with little organic matter. Its headwaters are rural, consisting primarily of agricultural and undeveloped lands. A vast majority of urban and built up lands occur in the southern portion of the watershed, within the City of North Port. Commercial development is generally limited to main thoroughfares within the city, especially along the US 41 corridor.

Big Slough Canal/ Myakkahatchee Creek begins in the southeastern part of Manatee County (near Edgeville) and flows approximately 21 miles through the City of North Port where it empties to the estuarine portion of the Myakka River. Surface drainage within the City of North Port is provided by an extensive canal system, which discharges primarily to the Big Slough Canal. Some surface drainage occurs via conveyance structures southward into the Port Charlotte conveyance system. Two surface water features unique to the area are Warm Mineral Springs and Little Salt Spring in North Port that are the southernmost springs in the SWFWMD; Refer to Map 1 below.

Floodplain Model Development and Methodology

Activities conducted toward the generation of preliminary floodplains included elements of the Digital Topographic Information, Watershed Evaluation and Watershed Management Plan tasks, according to procedures described in the G&S and as previously reported in project documentation and deliverables. In December 2008, Ardaman staff commenced model maintenance and an overall WMP update. The following briefly describes changes that resulted from that model update.

The model update incorporates Light Detection and Ranging (LiDAR) elevation data that was obtained in late 2007. It also incorporates information extracted from Environmental Resource Permits (ERPs) for recent development projects (constructed between 2004 and 2007). Map 2 illustrates changes in the modified terrain from the original 2004 LiDAR. Using the new terrain and construction data, Ardaman staff updated catchment boundaries, network connectivity, node surface storage, DTM derived cross sections, and natural overflows. Catchments, nodes, and reaches were added to the existing model wherever land use changes occurred or additional model resolution was required to account for storage.

The Big Slough/City of North Port and Watershed model was originally assembled in CHAN and updated using the same hydrodynamic model during this maintenance effort, as requested by District staff. Hydrologic and hydraulic parameters were updated and revised using LiDAR terrain data, land use updates, recent field reconnaissance, a selection of storage areas for modeling, and ERPs for new developments. Below is a summary of elements relative to this watershed model.

Table 1. Summary of Model Elements

Total Area	195.5 Square Miles
Sub-catchments	5015
Nodes	5171
Total Hydraulic Connections	17,872
* Weirs	14,443
* Bridges	55
* Channels	1624
* Riser Culverts	630
* Culverts	1019
* Gates	81
* Orifices	20

The methodology and procedures followed in both initial model development and in the subsequent model update are based on standard engineering practices, SWFWMD and FEMA guidelines and specifications, and best available information describing site conditions. They are considered reasonable for use in estimating the extent of flooding that would result from storm event conditions, and for estimating rainfall-induced flood risk throughout the Big Slough/City of North Port Watershed.

Verification and Validation Data

Limited historical data exists to describe flood conditions that have occurred within the Big Slough/City of North Port Watershed in Sarasota County. The following summarizes available verification and validation data:

High Water Marks: Recorded water level (1992 flood) was provided by the District for a single site within the Big Slough/City of North Port Watershed. This historical high water mark was located in the Big Slough canal immediately north of I-75. The 1992 multi-day event had a total volume of 21.1 inches over a time period of seven days at that location. This was compared to the storm event rainfall-induced flooding predicted by the model, and lends a reasonable level of validation to the model results. The following table shows a comparison of high water marks corresponding to the 1992 flood event compared to the simulation results for the various evaluated (single and multiday) events 100-year and 500-year storm events:

Table 2. Comparison of High Water Marks in Big Slough/City of North Port Watershed

Flood (1992)	HWL Type	HWL Elev	1D 100Y (10.1 in)	5D 100Y (18.5 in)	5D 500Yr (22.7 in)
Big Slough at I-75	Peak	25.05 (NAVD88)	22.8 (NAVD88)	23.94 (NAVD88)	24.52 (NAVD88)

Documented Flooding Areas: Specific areas within the Big Slough/City of North Port Watershed have been identified by local government staff as being prone to flooding. Of those that were identified, model results have been qualitatively reviewed by the City of

North Port to confirm a level of reasonableness and to support the validity of the model as an indicator of flood risk.

Simulated Rainfall: Simulation of a historical event using recorded rainfall data (2003) was performed, and results were compared to field observations following that rainfall event. Model results were found to produce peak elevations concurrent with those observed, and provide a good level of model validation.

Hydrologic Gauge Data: Only three gauges with sufficient stream elevation data exist for verification or validation of model results for rainfall-induced flooding conditions. The results of the 2003 simulation compared to gage data at the various locations are presented in Table 3.

In addition to the 2003 calibration event result comparison, the 5-day 100-year and the 1-day 100-year storm event simulated maximum stages were compared to the observed peak stages during 1992 storm event at various locations within the watershed. Table 4 presents a summary of observed and simulated maximum stages during the event. As shown in the table, observed stages are closer to the multiday maximum stages.

Table. 3. Simulated Peaks Compared to Recorded Levels

USGS 02299410 Big Slough Canal near Myakka City	
Observed Max. Stage 06/25/03	32.57 ft, NAVD88
Modeled Max. Stage	32.20 ft NAVD88
USGS 02299450 Big Slough at Tropicare	
Observed Max. Stage 06/23/03	25.80 ft, NAVD88
Modeled Max. Stage	26.26 ft, NADV88
USGS 02299360 Snover Waterway Canal near Murdock	
Observed Max. Stage 06/24/03	18.80 ft, NAVD88
Modeled Max. Stage	19.66 ft, NADV88

Modeled Floodplains

A variety of synthetic storm events, with durations ranging from one to five days, was used to simulate the response of the watershed and to delineate areas at risk to rainfall-induced flooding. These storm events, each assigned an associated rainfall volume with a 1% annual probability of recurrence, are commonly used for floodplain analysis applications. It is assumed by this application of the storm event for flood risk determination that the recurrence frequency of the flooding is the same as that of the rainfall event, and it is understood that the computed flood elevations and extents are dependent not only on the storm event rainfall volume but also a number of other factors including initial water levels and related surface storage availability at the onset of the storm event.

For the portion of the area defined by the Big Slough conveyance system, the 5-day 100-year storm event is considered as most reasonable to use to delineate areas at risk to rainfall-induced flooding due to the multiday peak recorded stage in high water mark database. For the rest of the watershed, results from the 1-day 100-year storm event

Table 4. Observed Maximum Stages during 1992 Storm Event compared to 5-day 100-year and 1-day 100-year Storm Events Simulated Maximum Stages.

Id	Location	Observed Peak Stage	Simulated Storm Event (Ardaman)	
		1992 Storm Event (ft, NGVD29)	5-Day 100-Year (ft, NGVD29)	1-Day 100-Year (ft, NGVD29)
1	Tropicaire Blvd and Chamberlain Blvd	27.6	28.01	26.16
2	Tropicaire Blvd and Imbe St	28.8	N/A	N/A
3	Tropicaire Blvd and Cosmic Waterway	26.9	28	26.16
4	Albin Ave	27.7	27.32	25.48
5	North Salford Blvd and Albin Ave	26.7	27.27	25.22
6	Lovering Ave and Salford Blvd	25.8	27.12	25.61
7	Sumter Blvd and Ulman St	26.7	27.12	25.61
8	Sumter Blvd and Tropicaire Blvd	26.3	27.22	25.24
9	Coldspring Ln and Reisterstown Rd	26.5	27.5	26.43
10	Reisterstown Rd and Estates Dr	27.4	28.11	27.00
11	Estates Dr and Taneytown Rd	27.7	26.94	26.38
12	Estates Dr and Adbella Ln	27.4	26.32	25.86
13	Adbella Ln and Old Court St	26.4	26.2	25.69
14	Van Camp Street and Olster Dr	27.1	23.55	22.94
15	North Biscayne Dr and Tropicaire Blvd	23.7, 23.9	24.19	24.10
16	Cheseboro Ave and Trico Rd	13.6	N/A	N/A
17	Sarletto Street	13.3	N/A	N/A
18	Gatun St	11.7	N/A	N/A
19	Bullard St at R-36 Canal	11.6	11.44	10.84
20	Bullard St and Herbison Ave	9.8	10.98	10.69
21	Dorothy Ave	10.4	10.97	10.45
22	Sutherlin St	10.5	10.98	10.19
23	Trianfo St	11.2	11.37	10.24
24	Eager St and Tamiami Trl	9.8	N/A	N/A
25	Postma St between McKibben Dr and Maraldo Ave	11.6, 11.8	12.59	11.41
26	Mongite Rd	11.7	12.62	11.82
27	Lingle St and McKibben Dr	11.7	12.72	11.82
28	Sumter and Sylvania Ave	23.1	N/A	N/A

simulation were used since no evidence (elsewhere) of high watermarks were recorded within the historical high water mark data base.

Using GIS mapping techniques in combination with the DEM, floodplains were automatically generated for each sub-basin delineated within this watershed. Due to the variability of the terrain, sometimes this resulted in the inadvertent creation of floodplain polygons that were detached from the primary floodplain. These polygons were termed “spackle” and were generally removed when the footprint they occupied was less than 0.1 acres. Spackle was not removed, however, when a stormwater drainage system connected the spackle to a primary floodplain. In addition to spackle, sometimes gaps were unintentionally generated within the floodplains. These voids were filled whenever the gap was less than 0.1 acres.

The results of floodplain modeling and delineation in comparison to the areas currently designated by FEMA as Special Flood Hazard Areas are shown in Maps 3, 4, 5, 6, and 7. Map 3 illustrates the 100-year floodplain resulting from current modeling efforts. Map 4 illustrates acreage change between FEMA’s floodplain and the modeled floodplain. Map 5 illustrates the percent change and Map 6 illustrates the percent change by basin area. Map 7 displays the two floodplains overlain onto the aerial which illustrates the floodplain resulting from a 100-year shows more area of flood risk than is currently designated by FEMA as Special Flood Hazard Areas. FEMA flood risk map were not developed for the eastern portion of the watershed. Refer to table 5 below for FEMA and updated floodplain comparison. Both the FEMA and North Port/Big Slough WMP floodplain layers were intersected with a parcels layer, provided by the City, to generate a count of the number of inundated parcels. This count is not necessarily indicative of structural flooding, as the great majority of homes are constructed on fill.

Table 5. Floodplain Area and Parcel Inundation Comparisons:100-year Recurrence

Data Source	Floodplain Area (ac)	Parcels that Touch Floodplain	Parcels Inundated 25%	Parcels Inundated 50%
FEMA	1,825	2,527	2,433	2,370
City of North Port WMP	13,544	23,715	4,171	2,630

Floodplain Justification

This report is provided to describe engineering practices employed and data available to provide reasonable assurance that those areas of rainfall-induced flood risk have been identified and can be justified. Appendix A contains a table summarizing information on a basin-by-basin basis that includes the peak stages resulting from the model simulations, which storm event was used to generate the floodplain, FEMA Zone, Preliminary Modeled Flood zone, and High Water Mark Elevation (ft, NAVD 88)

Where existing flood risk areas have been identified by FEMA, the results of this study result in a more refined delineation of those areas. However, some of the areas in which rainfall-induced floodplains have been delineated are in areas where no previous FEMA floodplain exists. This is related to the more detailed methodology used in performing this modeling and mapping evaluation as compared to the prior efforts by FEMA to delineate flood risk areas. The newly identified floodplain areas result from the availability of detailed topographic information and from the application of more rigorous engineering analysis, providing a more accurate assessment of flood risk.

Ardaman staff performed an analysis to determine the root cause of differences (horizontal and vertical extents) between the proposed floodplains and currently adopted FEMA floodplain. Based upon the results of this analysis, it was determined that there are four general categories these discrepancies fit into: 1) terrain differences resulting from using more recent and accurate terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail. Map 8 illustrates the basins color coded according to these categories.

About 90% of sub-basins where floodplains have been delineated during this modeling effort have no FEMA floodplains. This is related to the more rigorous approach used to identify storage areas and natural depressions for modeling. No change occurred in the floodplain area for 1% of the sub-basins. Appendix B identifies which of the above categories each falls into as well as the acreage and percent change between the modeled and FEMA flood risk areas

Conclusion

While there was limited historical data with which to assess the accuracy of model results, this modeling effort was confirmed with City of North Port staff who strongly corroborated results of simulation for the 2003 flood event. Also, Ardaman staff visited the area in 2004 (immediately after Hurricane Charley) to gain first hand knowledge and to record findings of flooding issues for later model verifications.

Based on the information provided herein, describing the data, methodology, and procedures employed, and upon review of the accompanying project deliverables, the estimation of flood prone areas is considered reasonable. Based on the reasonableness of the simulation and mapping results, and given the lack of compelling evidence to dictate the use of longer duration storm events, the 100-year 24-hour storm and floodplain maps delineated as described above are to be used for estimation of flood risk in most portions of the watershed, excluding the Big Slough canal stretch. Historical water level data exists to support and justify the use of multi-day storms for the Big Slough Canal within the City of North Port.

References

Federal Emergency Management Agency. (2003). *Guidelines and Specifications for Flood Hazard Mapping Partners – Appendix M: Guidance for Preparing and Maintaining Technical and Administrative Support Data*. Retrieved September 29, 2003, from the Federal Emergency Management Agency website: <http://www.fema.gov/library>.

Southwest Florida Water Management District. (2002). *Watershed Management Program Guidelines and Specifications for Digital Topographic Information, Watershed Evaluation, Watershed Management Plan, and Watershed Management Plan Database Maintenance and Watershed Model Updates*. Retrieved November 22, 2002, from the Southwest Florida Water Management District's website: <http://www.swfwmd.state.fl.us>.

Appendix A

Basin Summary Table

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
A0020	NA0020	100 YR - 1 Day		AE	20.07	22.43	
A0021	NA0021	100 YR - 1 Day		AE	19.51	22.43	
A0022	NA0022	100 YR - 1 Day		AE	19.26	19.55	
A0023	NA0023	100 YR - 1 Day		AE	19.34	20.66	
A0024	NA0024	100 YR - 1 Day		AE	20.11	23.38	
A0026	NA0026	100 YR - 1 Day		AE	19.94	23.38	
A0028	NA0028	100 YR - 1 Day		AE	20.75	22.96	
A0030	NA0030	100 YR - 1 Day		AE	19.26	19.55	
A0035	NA0035	100 YR - 1 Day		AE	20.64	20.50	
A0040	NA0040	100 YR - 1 Day		AE	19.25	19.54	
A0050	NA0050	100 YR - 1 Day			19.23	19.53	
A0055	NA0055	100 YR - 1 Day		AE	20.17	22.35	
A0060	NA0060	100 YR - 1 Day		AE	19.23	19.52	
A0063	NA0063	100 YR - 1 Day		AE	19.76	19.74	
A0066	NA0066	100 YR - 1 Day		AE	20.31	21.85	
A0070	NA0070	100 YR - 1 Day		AE	19.22	19.52	
A0073	NA0073	100 YR - 1 Day		AE	20.26	21.85	
A0077	NA0077	100 YR - 1 Day		AE	20.25	21.69	
A0080	NA0080	100 YR - 1 Day		AE	19.21	19.52	
A0085	NA0085	100 YR - 1 Day		AE	20.22	20.12	
A0090	NA0090	100 YR - 1 Day		AE	19.20	19.51	
A0092	NA0092	100 YR - 1 Day			20.84	20.83	
A0097	NA0097	100 YR - 1 Day		AE	20.04	19.97	
A0098	NA0098	100 YR - 1 Day		AE	20.84	20.83	
A0100	NA0100	100 YR - 1 Day		AE	19.18	19.50	
A0102	NA0102	100 YR - 1 Day		AE	19.82	19.61	
A0103	NA0103	100 YR - 1 Day			20.45	20.44	
A0106	NA0106	100 YR - 1 Day		AE	19.72	19.82	
A0107	NA0107	100 YR - 1 Day		AE	20.45	20.44	
A0108	NA0108	100 YR - 1 Day		AE	19.63	19.60	
A0110	NA0110	100 YR - 1 Day		AE	19.12	19.47	
A0113	NA0113	100 YR - 1 Day		AE	19.16	19.47	
A0116	NA0116	100 YR - 1 Day		AE	19.45	19.55	
A0120	NA0120	100 YR - 1 Day		AE	19.03	19.43	
A0125	NA0125	100 YR - 1 Day		AE	19.07	19.45	
A0130	NA0130	100 YR - 1 Day		AE	18.81	19.33	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
A0132	NA0132	100 YR - 1 Day		AE	20.02	20.06	
A0135	NA0135	100 YR - 1 Day		AE	18.46	19.69	
A0139	NA0139	100 YR - 1 Day		AE	17.95	19.04	
A0140	NA0140	100 YR - 1 Day		AE	17.95	19.01	
A1010	NA1010	100 YR - 1 Day		AE	21.48	21.34	
A1020	NA1020	100 YR - 1 Day		AE	21.48	21.34	
A1030	NA1030	100 YR - 1 Day		AE	21.48	21.34	
A1040	NA1040	100 YR - 1 Day		AE	21.48	21.33	
A1050	NA1050	100 YR - 1 Day		AE	20.16	20.23	
A2010	NA2010	100 YR - 1 Day		AE	20.59	21.61	
A2020	NA2020	100 YR - 1 Day		AE	20.59	21.61	
A2023	NA2023	100 YR - 1 Day		AE	20.59	21.62	
A2027	NA2027	100 YR - 1 Day		AE	20.59	21.61	
A2028	NA2028	100 YR - 1 Day		AE	20.59	21.61	
A2030	NA2030	100 YR - 1 Day		AE	20.59	21.61	
A2040	NA2040	100 YR - 1 Day		AE	20.57	21.60	
A2050	NA2050	100 YR - 1 Day		AE	20.54	21.60	
A2060	NA2060	100 YR - 1 Day		AE	20.53	21.60	
A3010	NA3010	100 YR - 1 Day		AE	20.38	20.28	
A3020	NA3020	100 YR - 1 Day		AE	20.38	20.27	
A3030	NA3030	100 YR - 1 Day		AE	20.34	20.25	
A3040	NA3040	100 YR - 1 Day		AE	20.33	20.23	
A3050	NA3050	100 YR - 1 Day		AE	20.27	20.15	
A3060	NA3060	100 YR - 1 Day		AE	20.26	20.15	
B0630	NB0630	100 YR - 5 Day	AO		26.30	27.50	
B0640	NB0640	100 YR - 5 Day	AO	AE	25.84	26.87	
B0650	NB0650	100 YR - 5 Day	AO	AE	25.80	26.83	
B0660	NB0660	100 YR - 5 Day	AO	AE	25.82	26.85	
B0664	NB0664	100 YR - 5 Day	AO	AE	25.77	26.73	
B0670	NB0670	100 YR - 5 Day	AO	AE	25.63	26.65	
B0680	NB0680	100 YR - 5 Day	AO	AE	25.48	26.52	
B0681	NB0681	100 YR - 1 Day		AE	25.31	26.37	
B0682	NB0682	100 YR - 5 Day		AE	25.31	26.37	
B0685	NB0685	100 YR - 5 Day	AO	AE	25.31	26.38	
B0688	NB0688	100 YR - 5 Day	AO	AE	25.27	26.34	
B0689	NB0689	100 YR - 5 Day	AO	AE	25.27	26.34	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B0690	NB0690	100 YR - 5 Day	AO	AE	25.25	26.34	
B0700	NB0700	100 YR - 5 Day	AO	AE	24.96	26.16	
B0710	NB0710	100 YR - 5 Day	AO	AE	24.83	26.13	
B0720	NB0720	100 YR - 5 Day	AO	AE	24.73	26.10	
B0722	NB0722	100 YR - 5 Day	AO	AE	24.49	26.00	
B0724	NB0724	100 YR - 5 Day	AO	AE	24.49	26.00	
B0730	NB0730	100 YR - 5 Day	AO	AE	24.28	25.64	
B0740	NB0740	100 YR - 5 Day	AO	AE	24.01	25.39	
B0745	NB0745	100 YR - 5 Day	AO	AE	23.58	24.98	
B0746	NB0746	100 YR - 5 Day	AO	AE	23.84	25.68	
B0747	NB0747	100 YR - 5 Day	AO	AE	23.65	25.04	
B0748	NB0748	100 YR - 5 Day	AO	AE	23.13	24.44	
B0750	NB0750	100 YR - 5 Day	AO		22.80	23.94	25.05 (1992)
B0765	NB0790	100 YR - 5 Day	AO		21.02	21.86	
B0770	NB0770	100 YR - 5 Day	AO	AE	22.25	23.32	
B0775	NB1160	100 YR - 5 Day	AO		21.51	22.50	
B0780	NB0780	100 YR - 5 Day	AO		21.78	22.87	
B0790	NB0790	100 YR - 5 Day	AO	AE	21.02	21.86	
B0800	NB0800	100 YR - 5 Day	AO	AE	20.80	21.64	
B0810	NB0810	100 YR - 5 Day	AO	AE	20.30	21.17	
B0813	NB0813	100 YR - 5 Day	AO	AE	19.94	20.89	
B0817	NB0817	100 YR - 5 Day	AO	AE	19.56	20.46	
B0820	NB0820	100 YR - 5 Day	AO	AE	19.54	20.44	
B0830	NB0830	100 YR - 5 Day	AO	AE	18.21	19.60	
B0835	NB0835	100 YR - 5 Day	AO	AE	17.68	19.36	
B0837	NB0837	100 YR - 5 Day	AO	AE	17.68	19.36	
B0840	NB0840	100 YR - 5 Day	AO	AE	17.68	19.12	
B0860	NB0860	100 YR - 5 Day	A0	AE	17.22	18.71	
B0870	NB0870	100 YR - 5 Day	A0	AE	16.64	18.30	
B0880	NB0880	100 YR - 5 Day	A0	AE	16.58	18.26	
B0886	NB0886	100 YR - 5 Day	A0	AE	16.46	18.14	
B0888	NB0888	100 YR - 5 Day	A3 F	AE	15.59	17.22	
B0890	NB0890	100 YR - 5 Day	A3 F	AE	15.57	17.20	
B0905	NB0905	100 YR - 1 Day		AE	16.84	16.92	
B0907	NB0907	100 YR - 1 Day		AE	16.88	16.98	
B0910	NB0910	100 YR - 5 Day	A3 F	AE	15.41	16.99	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B0920	NB0920	100 YR - 5 Day	A3 F	AE	15.27	16.82	
B0930	NB0930	100 YR - 5 Day	A3 F		15.10	16.61	
B0931	NB0931	100 YR - 1 Day		AE	14.82	16.24	
B0934	NB0934	100 YR - 1 Day		AE	16.10	16.40	
B0935	NB0935	100 YR - 1 Day		AE	16.03	16.35	
B0936	NB0936	100 YR - 1 Day		AE	16.34	16.44	
B0938	NB0938	100 YR - 1 Day		AE	16.54	16.57	
B0940	NB0940	100 YR - 5 Day	A3 F	AE	14.82	16.23	
B0943	NB0943	100 YR - 1 Day		AE	15.84	16.34	
B0945	NB0945	100 YR - 1 Day		AE	15.92	16.35	
B0950	NB0950	100 YR - 5 Day	A3 F	AE	14.65	16.00	
B0960	NB0960	100 YR - 5 Day	A3 F	AE	14.02	15.29	
B0963	NB0963	100 YR - 5 Day	A3 F	AE	13.72	14.91	
B0965	NB0965	100 YR - 1 Day		AE	15.65	15.57	
B0970	NB0970	100 YR - 5 Day	A3 F	AE	13.45	14.55	
B0980	NB0980	100 YR - 5 Day	A3 F	AE	13.17	14.16	
B0985	NB0985	100 YR - 1 Day	A0	AE	18.00	18.01	
B0990	NB0990	100 YR - 5 Day	A3 F	AE	12.86	13.82	
B1000	NB1000	100 YR - 5 Day	A3 F	AE	12.54	13.59	
B1010	NB1010	100 YR - 5 Day	A3 F	AE	12.21	13.24	
B1020	NB1020	100 YR - 5 Day	A3 F	AE	11.58	12.62	
B1030	NB1030	100 YR - 5 Day	A4 F	AE	10.90	12.33	
B1060	NB1060	100 YR - 5 Day	A8	AE	9.66	11.36	
B1065	NB1065	100 YR - 1 Day		AE	9.78	9.96	
B1070	NB1070	100 YR - 5 Day	A8	AE	8.08	10.02	
B1110	NB1110	100 YR - 5 Day	AO	AE	21.74	23.41	
B1120	NB1120	100 YR - 5 Day	AO	AE	21.41	22.11	
B1130	NB1130	100 YR - 5 Day	AO	AE	21.38	22.05	
B1140	NB1140	100 YR - 5 Day	AO	AE	21.50	22.50	
B1145	NB1145	100 YR - 5 Day	AO	AE	22.55	23.80	
B1150	NB1150	100 YR - 5 Day	AO	AE	21.50	22.50	
B1160	NB1160	100 YR - 5 Day	AO	AE	21.51	22.50	
B3004	NB3004	100 YR - 5 Day	AO	AE	25.50	26.53	
B3006	NB3006	100 YR - 5 Day	AO	AE	25.51	26.54	
B3007	NB3007	100 YR - 5 Day	AO	AE	25.63	26.62	
B3510	NB3510	100 YR - 5 Day	AO	AE	25.82	26.66	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B3520	NB3520	100 YR - 5 Day	AO	AE	25.82	26.66	
B3523	NB3523	100 YR - 5 Day	AO	AE	25.75	26.44	
B3527	NB3527	100 YR - 5 Day	AO	AE	25.78	26.44	
B3530	NB3530	100 YR - 5 Day	AO	AE	25.79	26.64	
B3540	NB3540	100 YR - 5 Day	AO	AE	25.78	26.64	
B3550	NB3550	100 YR - 5 Day	AO	AE	25.75	26.66	
B3560	NB3560	100 YR - 5 Day	AO	AE	25.72	26.66	
B3610	NB3610	100 YR - 5 Day	AO	AE	24.40	26.22	
B3620	NB3620	100 YR - 5 Day	AO	AE	24.66	26.10	
B3630	NB3630	100 YR - 5 Day	AO	AE	24.88	26.18	
B3640	NB3640	100 YR - 5 Day	AO	AE	25.17	26.31	
B3708	NB3708	100 YR - 5 Day	AO	AE	25.49	26.52	
B3709	NB3709	100 YR - 5 Day	AO	AE	25.36	26.42	
B3710	NB3710	100 YR - 5 Day	AO	AE	25.48	26.51	
B3718	NB3718	100 YR - 5 Day	AO	AE	25.49	26.54	
B3719	NB3719	100 YR - 5 Day	AO	AE	25.42	26.46	
B3720	NB3720	100 YR - 5 Day	AO	AE	25.48	26.49	
B3805	NB3805	100 YR - 1 Day		AE	24.43	25.55	
B3809	NB3809	100 YR - 5 Day		AE	25.15	26.22	
B3810	NB3810	100 YR - 1 Day		AE	24.78	25.78	
B3815	NB3815	100 YR - 1 Day		AE	25.16	26.22	
B3820	NB3820	100 YR - 5 Day	AO	AE	24.94	25.97	
B3905	NB3905	100 YR - 1 Day		AE	24.43	25.54	
B3910	NB3910	100 YR - 1 Day		AE	24.71	25.73	
B3912	NB3912	100 YR - 5 Day		AE	24.50	25.54	
B3920	NB3920	100 YR - 5 Day		AE	24.51	25.56	
B3930	NB3930	100 YR - 5 Day	AO	AE	24.50	25.56	
B3931	NB3931	100 YR - 1 Day		AE	24.67	25.73	
B3940	NB3940	100 YR - 5 Day	AO	AE	24.63	25.73	
B4010	NB4010	100 YR - 1 Day		AE	24.12	26.11	
B4020	NB4020	100 YR - 1 Day		AE	24.12	26.02	
B4023	NB4023	100 YR - 1 Day		AE	24.00	26.03	
B4027	NB4027	100 YR - 1 Day		AE	24.00	26.02	
B4030	NB4030	100 YR - 5 Day	AO	AE	24.11	26.02	
B4031	NB4031	100 YR - 5 Day	AO	AE	24.12	26.00	
B4032	NB4032	100 YR - 5 Day	AO	AE	24.12	26.00	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B4033	NB4033	100 YR - 5 Day	AO	AE	24.12	26.02	
B4035	NB4035	100 YR - 5 Day	AO	AE	24.11	26.02	
B4039	NB4039	100 YR - 5 Day	AO	AE	24.11	26.02	
B4040	NB4040	100 YR - 5 Day	AO	AE	24.11	26.02	
B4115	NB4115	100 YR - 5 Day	AO	AE	24.11	26.02	
B4117	NB4117	100 YR - 5 Day	AO	AE	24.11	26.02	
B4120	NB4120	100 YR - 5 Day	AO	AE	24.11	26.01	
B4121	NB4121	100 YR - 5 Day	AO	AE	24.11	26.02	
B4122	NB4122	100 YR - 5 Day	AO	AE	24.11	26.02	
B4123	NB4123	100 YR - 5 Day	AO	AE	24.11	26.00	
B4125	NB4125	100 YR - 5 Day	AO	AE	24.11	26.01	
B4130	NB4130	100 YR - 5 Day	AO	AE	24.11	26.01	
B4131	NB4130	100 YR - 5 Day	AO		24.11	26.01	
B4132	NB4121	100 YR - 1 Day			24.11	26.02	
B4211	NB4211	100 YR - 5 Day	AO	AE	24.10	26.00	
B4213	NB4213	100 YR - 5 Day	AO	AE	24.11	26.01	
B4214	NB4214	100 YR - 5 Day	AO	AE	24.11	26.01	
B4217	NB4217	100 YR - 5 Day	AO	AE	24.11	26.01	
B4220	NB4220	100 YR - 5 Day	AO		24.10	26.00	
B4230	NB4230	100 YR - 5 Day	AO		23.80	25.14	
B4235	NB4235	100 YR - 5 Day	AO	AE	23.73	25.06	
B4240	NB4240	100 YR - 5 Day	AO	AE	23.81	25.15	
B4243	NB4243	100 YR - 5 Day	AO	AE	23.73	25.06	
B4250	NB4250	100 YR - 5 Day	AO	AE	23.73	25.07	
B4310	NB4310	100 YR - 1 Day		AE	23.98	25.27	
B4320	NB4320	100 YR - 1 Day		AE	24.01	25.31	
B4325	NB4325	100 YR - 1 Day		AE	24.05	25.33	
B4327	NB4327	100 YR - 1 Day		AE	24.17	25.51	
B4330	NB4330	100 YR - 1 Day		AE	24.01	25.32	
B4332	NB4332	100 YR - 1 Day		AE	24.21	25.51	
B4334	NB4334	100 YR - 1 Day		AE	24.06	25.47	
B4336	NB4336	100 YR - 1 Day		AE	24.06	25.46	
B4338	NB4338	100 YR - 1 Day		AE	24.06	25.44	
B4339	NB4339	100 YR - 1 Day		AE	24.06	25.45	
B4340	NB4340	100 YR - 1 Day		AE	24.01	25.33	
B4344	NB4344	100 YR - 5 Day	AO	AE	24.08	25.50	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B4345	NB4345	100 YR - 1 Day		AE	24.05	25.48	
B4346	NB4346	100 YR - 1 Day		AE	24.00	25.38	
B4350	NB4350	100 YR - 1 Day		AE	24.00	25.38	
B4355	NB4355	100 YR - 1 Day		AE	23.99	25.31	
B4410	NB4410	100 YR - 1 Day		AE	23.77	25.05	
B4422	NB4422	100 YR - 1 Day		AE	23.80	25.06	
B4424	NB4424	100 YR - 1 Day		AE	23.80	25.06	
B4426	NB4426	100 YR - 1 Day		AE	23.80	25.06	
B4430	NB4430	100 YR - 1 Day		AE	23.80	25.06	
B4440	NB4440	100 YR - 1 Day		AE	23.81	25.08	
B4452	NB4452	100 YR - 1 Day			23.98	25.28	
B4454	NB4454	100 YR - 1 Day		AE	23.98	25.28	
B4458	NB4458	100 YR - 1 Day		AE	23.90	25.16	
B4460	NB4460	100 YR - 1 Day		AE	23.90	25.18	
B4510	NB4510	100 YR - 1 Day		AE	23.92	25.27	
B4524	NB4524	100 YR - 5 Day	AO	AE	23.98	25.37	
B4525	NB4525	100 YR - 1 Day		AE	23.97	25.36	
B4526	NB4526	100 YR - 5 Day	AO	AE	23.98	25.37	
B4527	NB4527	100 YR - 1 Day		AE	23.97	25.34	
B4529	NB4529	100 YR - 5 Day	AO	AE	23.95	25.36	
B4530	NB4530	100 YR - 5 Day	AO	AE	23.95	25.37	
B4531	NB4531	100 YR - 5 Day	AO	AE	23.94	25.32	
B4533	NB4533	100 YR - 5 Day	AO	AE	23.96	25.38	
B4535	NB4535	100 YR - 5 Day	AO	AE	23.95	25.36	
B4537	NB4537	100 YR - 5 Day	AO	AE	23.95	25.33	
B4539	NB4539	100 YR - 5 Day	AO	AE	23.95	25.36	
B4540	NB4540	100 YR - 5 Day	AO	AE	23.95	25.33	
B4541	NB4541	100 YR - 5 Day	AO	AE	24.05	25.43	
B4542	NB4542	100 YR - 5 Day	AO	AE	24.14	25.41	
B4543	NB4543	100 YR - 5 Day	AO	AE	24.05	25.43	
B4544	NB4544	100 YR - 5 Day	AO	AE	24.08	25.41	
B4545	NB4545	100 YR - 5 Day	AO	AE	24.05	25.40	
B4546	NB4546	100 YR - 5 Day	AO	AE	24.04	25.39	
B4547	NB4547	100 YR - 5 Day	AO	AE	24.03	25.37	
B4548	NB4548	100 YR - 5 Day	AO	AE	23.99	25.38	
B4549	NB4549	100 YR - 5 Day	AO	AE	24.05	25.40	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B4550	NB4550	100 YR - 5 Day	AO	AE	23.97	25.36	
B4551	NB4551	100 YR - 5 Day	AO	AE	23.96	25.34	
B4560	NB4560	100 YR - 5 Day	AO	AE	23.96	25.35	
B4702	NB4702	100 YR - 1 Day	AO	AE	21.89	21.86	
B4703	NB4703	100 YR - 1 Day	AO	AE	21.89	21.86	
B4706	NB4706	100 YR - 1 Day		AE	22.00	21.94	
B4707	NB4707	100 YR - 1 Day		AE	22.00	21.93	
B4708	NB4708	100 YR - 1 Day		AE	21.95	21.90	
B4709	NB4709	100 YR - 1 Day		AE	21.93	21.88	
B4720	NB4720	100 YR - 1 Day		AE	21.88	21.83	
B4735	NB4735	100 YR - 1 Day		AE	21.89	21.83	
B4740	NB4740	100 YR - 1 Day		AE	21.88	21.83	
B4750	NB4750	100 YR - 1 Day		AE	21.75	21.75	
B4810	NB4810	100 YR - 1 Day		AE	21.71	21.72	
B4820	NB4820	100 YR - 1 Day		AE	21.71	21.72	
B4830	NB4830	100 YR - 1 Day		AE	21.70	21.71	
B4845	NB4845	100 YR - 1 Day	AO	AE	21.65	21.63	
B4850	NB4850	100 YR - 1 Day	AO	AE	21.22	21.30	
B4851	NB4851	100 YR - 5 Day	AO	AE	21.39	22.03	
B4852	NB4852	100 YR - 5 Day	AO	AE	21.35	22.02	
B4853	NB4853	100 YR - 1 Day		AE	21.05	21.65	
B4854	NB4854	100 YR - 5 Day	AO	AE	21.29	22.01	
B4855	NB4855	100 YR - 1 Day	AO	AE	21.28	22.01	
B4856	NB4856	100 YR - 1 Day	AO	AE	21.28	21.97	
B4857	NB4857	100 YR - 1 Day		AE	20.91	21.27	
B4858	NB4858	100 YR - 1 Day	AO	AE	21.28	21.99	
B4859	NB4859	100 YR - 1 Day		AE	20.90	21.25	
B4860	NB4860	100 YR - 1 Day		AE	20.74	21.15	
B4870	NB4870	100 YR - 1 Day	AO		20.75	21.13	
B4880	NB4880	100 YR - 1 Day	AO	AE	21.00	21.47	
B4882	NB4882	100 YR - 1 Day	AO	AE	21.75	22.00	
B4883	NB4883	100 YR - 1 Day	AO	AE	20.74	21.15	
B4884	NB4884	100 YR - 1 Day	AO		20.74	21.15	
B4885	NB4885	100 YR - 5 Day	AO	AE	21.29	22.01	
B4890	NB4890	100 YR - 5 Day	AO	AE	21.22	21.84	
B4895	NB4895	100 YR - 1 Day		AE	22.11	22.08	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B4896	NB4896	100 YR - 1 Day	AO		22.11	22.08	
B4897	NB4897	100 YR - 5 Day	AO	AE	21.22	21.85	
B4900	NB4900	100 YR - 5 Day	AO	AE	21.27	21.89	
B4910	NB4910	100 YR - 5 Day	AO	AE	21.28	21.91	
B4920	NB4920	100 YR - 5 Day	AO	AE	21.46	22.30	
B4930	NB4930	100 YR - 5 Day	AO	AE	21.23	22.05	
B5010	NB5010	100 YR - 1 Day		AE	23.59	24.56	
B5025	NB5025	100 YR - 1 Day		AE	23.70	24.82	
B5030	NB5030	100 YR - 1 Day		AE	23.70	24.83	
B5040	NB5040	100 YR - 1 Day		AE	23.73	24.87	
B5110	NB5110	100 YR - 1 Day		AE	23.98	25.26	
B5115	NB5115	100 YR - 1 Day		AE	24.21	25.17	
B5120	NB5120	100 YR - 1 Day		AE	23.97	25.19	
B5130	NB5130	100 YR - 1 Day		AE	23.95	25.15	
B5132	NB5132	100 YR - 1 Day		AE	23.94	25.06	
B5135	NB5135	100 YR - 1 Day		AE	23.94	25.07	
B5138	NB5138	100 YR - 1 Day		AE	23.94	25.07	
B5140	NB5140	100 YR - 1 Day		AE	23.94	25.11	
B5145	NB5145	100 YR - 1 Day		AE	23.92	25.02	
B5150	NB5150	100 YR - 1 Day		AE	23.92	25.08	
B5160	NB5160	100 YR - 1 Day		AE	23.66	25.07	
B5170	NB5170	100 YR - 1 Day		AE	23.66	25.07	
B5190	NB5190	100 YR - 1 Day		AE	23.66	25.05	
B5195	NB5195	100 YR - 1 Day		AE	23.66	25.02	
B5210	NB5210	100 YR - 1 Day		AE	23.64	25.01	
B5212	NB5212	100 YR - 1 Day		AE	23.64	25.00	
B5315	NB5315	100 YR - 1 Day		AE	23.98	24.79	
B5317	NB5317	100 YR - 1 Day		AE	23.98	24.83	
B5320	NB5320	100 YR - 1 Day		AE	23.98	24.92	
B5325	NB5325	100 YR - 1 Day		AE	23.91	24.92	
B5327	NB5327	100 YR - 1 Day		AE	23.91	24.93	
B5330	NB5330	100 YR - 1 Day		AE	23.91	24.93	
B5332	NB5332	100 YR - 1 Day		AE	23.95	24.99	
B5338	NB5338	100 YR - 1 Day		AE	23.91	24.94	
B5339	NB5339	100 YR - 1 Day		AE	23.90	24.93	
B5340	NB5340	100 YR - 1 Day		AE	23.88	24.93	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B5360	NB5360	100 YR - 1 Day		AE	23.76	24.93	
B5375	NB5375	100 YR - 1 Day		AE	23.68	24.87	
B5377	NB5377	100 YR - 1 Day		AE	23.68	24.87	
B5380	NB5380	100 YR - 1 Day		AE	23.68	24.88	
B5390	NB5390	100 YR - 1 Day		AE	23.65	24.89	
B5400	NB5400	100 YR - 1 Day		AE	23.64	24.88	
B5410	NB5410	100 YR - 1 Day		AE	23.40	24.77	
B5420	NB5410	100 YR - 1 Day			23.40	24.77	
B5440	NB5440	100 YR - 1 Day		AE	22.06	22.29	
B5450	NB5450	100 YR - 1 Day			21.92	22.13	
B5453	NB5453	100 YR - 1 Day		AE	22.23	22.18	
B5455	NB5455	100 YR - 1 Day		AE	22.05	22.13	
B5457	NB5457	100 YR - 1 Day		AE	21.94	22.13	
B5470	NB5470	100 YR - 1 Day		AE	21.79	21.97	
B5480	NB5480	100 YR - 1 Day	AO	AE	20.88	21.77	
B5490	NB5490	100 YR - 5 Day	AO	AE	20.84	21.70	
B5510	NB5510	100 YR - 5 Day	AO	AE	20.84	21.70	
B5590	NB5590	100 YR - 5 Day			26.15	27.25	
B5610	NB5610	100 YR - 1 Day		X	21.78	21.73	
B5613	NB5613	100 YR - 1 Day		AE	22.14	22.10	
B5617	NB5617	100 YR - 1 Day			21.89	21.79	
B5620	NB5620	100 YR - 1 Day		AE	21.78	21.73	
B5630	NB5630	100 YR - 1 Day		AE	21.78	21.73	
B5635	NB5635	100 YR - 1 Day		AE	21.77	21.71	
B5640	NB5640	100 YR - 1 Day		AE	20.42	20.98	
B5642	NB5642	100 YR - 1 Day		AE	20.58	21.03	
B5644	NB5644	100 YR - 1 Day			20.57	21.62	
B5646	NB5646	100 YR - 1 Day			20.57	21.62	
B5650	NB5650	100 YR - 1 Day		AE	20.43	21.46	
B5655	NB5655	100 YR - 1 Day		AE	20.43	21.47	
B5660	NB5660	100 YR - 1 Day		AE	20.43	21.61	
B5663	NB5663	100 YR - 1 Day		X	24.19	24.12	
B5667	NB5667	100 YR - 1 Day		AE	20.43	21.61	
B5670	NB5670	100 YR - 1 Day		AE	20.43	21.62	
B5675	NB5675	100 YR - 1 Day	AO	AE	20.43	21.62	
B5676	NB5676	100 YR - 5 Day	AO	AE	20.43	21.62	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B5680	NB5680	100 YR - 5 Day	AO	AE	20.43	21.63	
B5690	NB5690	100 YR - 5 Day	AO	AE	20.29	21.15	
B5695	NB5695	100 YR - 5 Day	AO	AE	25.80	26.83	
B6010	NB6010	100 YR - 1 Day		AE	21.02	20.89	
B6015	NB6015	100 YR - 1 Day		AE	20.99	20.87	
B6020	NB6020	100 YR - 1 Day		AE	20.99	20.87	
B6030	NB6030	100 YR - 1 Day		AE	20.96	20.85	
B6110	NB6110	100 YR - 1 Day		AE	19.62	19.57	
B6116	NB6116	100 YR - 1 Day		AE	19.53	19.40	
B6118	NB6118	100 YR - 1 Day		AE	19.03	18.93	
B6119	NB6119	100 YR - 1 Day		AE	19.01	18.91	
B6120	NB6120	100 YR - 1 Day		AE	18.92	18.86	
B6130	NB6130	100 YR - 1 Day		AE	18.81	18.75	
B6210	NB6210	100 YR - 1 Day		AE	18.33	18.33	
B6220	NB6220	100 YR - 1 Day		AE	18.36	18.35	
B6310	NB6310	100 YR - 1 Day		AE	18.47	18.36	
B6320	NB6320	100 YR - 1 Day		AE	18.44	18.34	
B6330	NB6330	100 YR - 1 Day			18.32	18.28	
B6340	NB6340	100 YR - 1 Day		AE	18.29	18.26	
B6355	NB6355	100 YR - 1 Day		AE	18.07	18.04	
B6359	NB6359	100 YR - 1 Day		AE	18.23	18.19	
B6360	NB6360	100 YR - 1 Day		AE	18.33	18.29	
B6370	NB6370	100 YR - 1 Day		AE	18.42	18.41	
B6385	NB6385	100 YR - 1 Day		AE	18.25	18.52	
B6387	NB6387	100 YR - 1 Day		AE	18.25	18.52	
B6390	NB6390	100 YR - 1 Day		AE	18.25	18.52	
B6393	NB6393	100 YR - 1 Day		AE	18.15	18.15	
B6395	NB6395	100 YR - 1 Day		AE	18.15	18.15	
B6400	NB6400	100 YR - 1 Day		AE	18.23	18.53	
B6403	NB6403	100 YR - 1 Day		AE	18.89	18.89	
B6405	NB6405	100 YR - 1 Day		AE	18.18	18.53	
B6410	NB6410	100 YR - 1 Day		AE	18.12	18.57	
B6510	NB6510	100 YR - 1 Day		AE	21.23	21.15	
B6520	NB6520	100 YR - 1 Day		AE	21.22	21.15	
B6540	NB6540	100 YR - 1 Day		AE	21.21	21.13	
B6550	NB6550	100 YR - 1 Day		AE	21.21	21.12	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B6552	NB6552	100 YR - 1 Day		AE	21.80	21.77	
B6555	NB6555	100 YR - 1 Day		AE	21.77	21.74	
B6558	NB6558	100 YR - 1 Day		AE	21.40	21.28	
B6559	NB6559	100 YR - 1 Day		AE	21.31	21.20	
B6560	NB6560	100 YR - 1 Day		AE	21.19	21.11	
B6565	NB6565	100 YR - 1 Day		AE	20.91	20.86	
B6568	NB6568	100 YR - 1 Day		AE	20.93	20.88	
B6570	NB6570	100 YR - 1 Day		AE	20.97	20.90	
B6580	NB6580	100 YR - 1 Day		AE	20.88	20.80	
B6585	NB6585	100 YR - 1 Day		AE	20.55	20.46	
B6590	NB6590	100 YR - 1 Day	AO	AE	20.02	19.95	
B6595	NB6595	100 YR - 1 Day		AE	19.28	19.42	
B6598	NB6598	100 YR - 1 Day		AE	19.26	19.42	
B6600	NB6600	100 YR - 1 Day	AO	AE	19.23	19.42	
B6610	NB6610	100 YR - 1 Day	AO	AE	18.74	19.07	
B6620	NB6620	100 YR - 1 Day		AE	17.94	18.58	
B6623	NB6623	100 YR - 1 Day		AE	18.86	18.87	
B6625	NB6625	100 YR - 1 Day			18.86	18.87	
B6630	NB6630	100 YR - 1 Day	A0	AE	16.59	18.45	
B6640	NB6640	100 YR - 5 Day	A0	AE	16.58	18.28	
B7002	NB7002	100 YR - 1 Day		AE	17.62	17.53	
B7004	NB7004	100 YR - 1 Day		AE	16.82	16.81	
B7005	NB7005	100 YR - 1 Day		AE	16.08	16.09	
B7010	NB7010	100 YR - 1 Day		AE	14.18	14.16	
B7110	NB7110	100 YR - 1 Day		AE	14.09	14.07	
B7210	NB7210	100 YR - 1 Day		AE	12.51	12.72	
B7223	NB7223	100 YR - 1 Day		AE	14.06	14.05	
B7227	NB7227	100 YR - 1 Day		AE	13.09	13.74	
B7230	NB7230	100 YR - 1 Day		AE	12.51	12.73	
B7240	NB7240	100 YR - 1 Day		AE	12.51	12.70	
B7250	NB7250	100 YR - 1 Day		AE	12.49	12.66	
B7260	NB7260	100 YR - 1 Day		AE	12.46	12.64	
B7320	NB7320	100 YR - 1 Day		AE	12.33	12.49	
B7330	NB7330	100 YR - 1 Day		AE	12.07	12.23	
B7335	NB7335	100 YR - 1 Day		AE	11.62	11.77	
B7340	NB7340	100 YR - 1 Day		AE	11.60	11.76	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B7350	NB7350	100 YR - 1 Day		AE	11.60	11.78	
B7360	NB7360	100 YR - 1 Day		AE	11.59	11.78	
B7410	NB7410	100 YR - 1 Day		AE	11.58	11.83	
B7420	NB7420	100 YR - 1 Day		AE	11.58	11.82	
B7430	NB7430	100 YR - 1 Day		AE	11.58	11.79	
B7440	NB7440	100 YR - 1 Day			11.57	11.79	
B7450	NB7450	100 YR - 1 Day			11.53	11.79	
B7460	NB7460	100 YR - 1 Day		AE	11.37	11.79	
B7470	NB7470	100 YR - 1 Day		AE	11.31	11.77	
B7510	NB7510	100 YR - 1 Day		AE	17.71	17.63	
B7512	NB7512	100 YR - 1 Day		AE	17.03	17.01	
B7520	NB7520	100 YR - 1 Day		AE	14.78	14.78	
B8005	NB8005	100 YR - 1 Day		AE	12.23	12.18	
B8010	NB8010	100 YR - 1 Day		AE	12.22	12.19	
B8011	NB8011	100 YR - 1 Day		AE	17.27	17.22	
B8012	NB8012	100 YR - 1 Day			14.44	14.41	
B8014	NB8014	100 YR - 1 Day		AE	13.06	13.02	
B8015	NB8015	100 YR - 1 Day		AE	12.94	12.80	
B8018	NB8018	100 YR - 1 Day		AE	12.56	12.47	
B8020	NB8020	100 YR - 1 Day		AE	12.22	12.18	
B8030	NB8030	100 YR - 1 Day		AE	12.11	12.10	
B8040	NB8040	100 YR - 1 Day		AE	12.11	12.09	
B8110	NB8110	100 YR - 1 Day		AE	10.98	11.24	
B8120	NB8120	100 YR - 1 Day		AE	10.98	11.24	
B8130	NB8130	100 YR - 1 Day		AE	10.94	11.20	
B8140	NB8140	100 YR - 1 Day		AE	10.76	10.87	
B8150	NB8150	100 YR - 1 Day		AE	10.77	10.87	
B8210	NB8210	100 YR - 1 Day		AE	10.42	11.24	
B8220	NB8220	100 YR - 1 Day		AE	10.32	11.19	
B8230	NB8230	100 YR - 1 Day		AE	10.32	11.19	
B8240	NB8240	100 YR - 1 Day		AE	10.28	10.94	
B8250	NB8250	100 YR - 1 Day		AE	10.21	10.83	
B8260	NB8260	100 YR - 1 Day		AE	10.18	10.54	
B8270	NB8270	100 YR - 1 Day		AE	10.18	10.53	
B8310	NB8310	100 YR - 1 Day		AE	10.43	11.25	
B8320	NB8320	100 YR - 1 Day		AE	10.24	11.00	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B8323	NB8323	100 YR - 1 Day		AE	10.40	10.72	
B8327	NB8327	100 YR - 1 Day		AE	10.41	10.72	
B8330	NB8330	100 YR - 1 Day		AE	10.17	10.72	
B8340	NB8340	100 YR - 1 Day		AE	10.15	10.61	
B8350	NB8350	100 YR - 1 Day		AE	10.09	10.51	
B8360	NB8360	100 YR - 1 Day		AE	10.05	10.43	
B8370	NB8370	100 YR - 1 Day		AE	10.05	10.41	
B8380	NB8380	100 YR - 1 Day		AE	10.04	10.42	
B8390	NB8390	100 YR - 1 Day		AE	10.03	10.41	
B8410	NB8410	100 YR - 1 Day		AE	9.56	9.86	
B8420	NB8420	100 YR - 1 Day		AE	9.52	9.85	
B8430	NB8430	100 YR - 1 Day		AE	9.33	9.85	
B8440	NB8440	100 YR - 1 Day		AE	9.17	9.85	
B8450	NB8450	100 YR - 1 Day			9.07	9.86	
B8460	NB8460	100 YR - 1 Day		AE	8.67	9.86	
B8480	NB8480	100 YR - 1 Day			8.60	9.85	
B8490	NB8490	100 YR - 1 Day		AE	8.54	9.86	
B8502	NB8502	100 YR - 1 Day		AE	15.87	15.82	
B8503	NB8503	100 YR - 1 Day		AE	17.31	17.20	
B8504	NB8504	100 YR - 1 Day		AE	15.71	15.53	
B8505	NB8505	100 YR - 1 Day			14.01	13.99	
B8506	NB8506	100 YR - 1 Day		AE	13.68	13.60	
B8507	NB8507	100 YR - 1 Day			14.78	14.77	
B8508	NB8508	100 YR - 1 Day		AE	13.04	13.02	
B8520	NB8520	100 YR - 1 Day		AE	12.31	12.30	
B8521	NB8521	100 YR - 1 Day		AE	14.40	14.44	
B8522	NB8522	100 YR - 1 Day			13.74	13.81	
B8523	NB8523	100 YR - 1 Day			13.74	13.81	
B8525	NB8525	100 YR - 1 Day		AE	13.36	13.77	
B8530	NB8530	100 YR - 1 Day		AE	11.52	11.62	
B8545	NB8545	100 YR - 1 Day		AE	12.72	12.49	
B8550	NB8550	100 YR - 1 Day		AE	11.10	11.24	
B8552	NB8552	100 YR - 1 Day		AE	11.59	11.71	
B8554	NB8554	100 YR - 1 Day		AE	11.54	11.62	
B8556	NB8556	100 YR - 1 Day		AE	11.54	11.62	
B8558	NB8558	100 YR - 1 Day		AE	11.53	11.61	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B8560	NB8560	100 YR - 1 Day		AE	11.00	11.14	
B8570	NB8570	100 YR - 1 Day		AE	10.91	11.06	
B8590	NB8590	100 YR - 1 Day		AE	8.41	10.03	
B8600	NB8600	100 YR - 1 Day		AE	8.36	10.01	
B8610	NB8610	100 YR - 1 Day		AE	8.33	10.00	
B8620	NB8620	100 YR - 1 Day		AE	8.04	9.95	
B8630	NB8630	100 YR - 1 Day		AE	7.95	9.93	
B8640	NB8640	100 YR - 1 Day		AE	7.92	9.88	
B8650	NB8650	100 YR - 1 Day		AE	7.86	9.83	
B8660	NB8660	100 YR - 1 Day	A0		7.84	9.79	
B8673	NB8673	100 YR - 1 Day	A0	AE	9.54	9.95	
B8674	NB8674	100 YR - 1 Day	A0	AE	9.54	9.96	
B8675	NB8675	100 YR - 1 Day	A8	AE	8.93	9.96	
B8676	NB8676	100 YR - 1 Day	A8	AE	8.84	9.88	
B8677	NB8677	100 YR - 1 Day	A0	AE	8.83	9.84	
B8910	NB8910	100 YR - 1 Day			7.88	8.05	
B8920	NB8920	100 YR - 1 Day		AE	7.81	9.85	
B8930	NB8930	100 YR - 1 Day		AE	7.81	9.85	
B8940	NB8940	100 YR - 1 Day		AE	7.82	9.81	
B8950	NB8950	100 YR - 5 Day	A8	AE	7.82	9.81	
B9000	NB9000	100 YR - 1 Day		AE	17.63	17.51	
B9004	NB9004	100 YR - 1 Day			17.60	17.52	
B9005	NB9005	100 YR - 1 Day			17.46	17.35	
B9010	NB9010	100 YR - 1 Day		AE	17.38	17.31	
B9015	NB9015	100 YR - 1 Day		AE	18.15	18.15	
B9020	NB9020	100 YR - 1 Day		AE	16.98	16.86	
B9035	NB9035	100 YR - 1 Day		X	18.15	18.15	
B9040	NB9040	100 YR - 1 Day		AE	18.15	18.15	
B9043	NB9043	100 YR - 1 Day		AE	18.15	18.15	
B9045	NB9045	100 YR - 1 Day			18.08	18.09	
B9050	NB9050	100 YR - 1 Day		AE	18.12	18.14	
B9053	NB9053	100 YR - 1 Day		AE	18.26	18.50	
B9055	NB9055	100 YR - 1 Day		AE	18.21	18.50	
B9060	NB9060	100 YR - 1 Day		AE	18.12	18.14	
B9070	NB9070	100 YR - 1 Day		AE	17.33	17.36	
B9073	NB9073	100 YR - 1 Day		AE	17.17	17.18	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
B9075	NB9075	100 YR - 1 Day		AE	17.41	17.29	
B9080	NB9080	100 YR - 1 Day			17.17	17.18	
B9090	NB9090	100 YR - 1 Day		AE	16.48	16.53	
B9095	NB9095	100 YR - 1 Day		AE	16.51	16.64	
B9100	NB9100	100 YR - 1 Day		AE	16.35	16.44	
B9110	NB9110	100 YR - 1 Day			16.10	16.40	
B9120	NB9120	100 YR - 1 Day			16.10	16.40	
B9130	NB9130	100 YR - 1 Day		AE	15.00	14.99	
B9140	NB9140	100 YR - 1 Day		AE	14.84	14.90	
B9145	NB9145	100 YR - 1 Day			12.73	12.76	
B9150	NB9150	100 YR - 1 Day		AE	14.59	14.53	
B9160	NB9160	100 YR - 1 Day		AE	11.25	11.20	
B9170	NB9170	100 YR - 1 Day		AE	11.47	11.37	
B9180	NB9180	100 YR - 1 Day		AE	11.62	11.48	
B9185	NB9185	100 YR - 1 Day			10.24	10.27	
B9200	NB9200	100 YR - 1 Day		AE	11.12	11.08	
B9300	NB9300	100 YR - 1 Day		AE	9.55	9.92	
B9310	NB9310	100 YR - 1 Day		AE	8.17	9.86	
B9400	NB9400	100 YR - 1 Day		X	8.90	9.84	
B9500	NB9500	100 YR - 1 Day		AE	8.83	9.83	
C0006	NC0006	100 YR - 1 Day		AE	23.75	25.34	
C0008	NC0008	100 YR - 1 Day		AE	23.71	25.34	
C0010	NC0010	100 YR - 1 Day		AE	23.71	25.34	
C0012	NC0012	100 YR - 1 Day		AE	24.54	25.30	
C0014	NC0014	100 YR - 1 Day		AE	24.50	25.31	
C0015	NC0015	100 YR - 1 Day		AE	23.70	25.34	
C0016	NC0016	100 YR - 1 Day		AE	24.46	25.31	
C0018	NC0018	100 YR - 1 Day		AE	23.70	25.31	
C0020	NC0020	100 YR - 1 Day		AE	23.69	25.31	
C0023	NC0023	100 YR - 1 Day		AE	23.69	25.29	
C0026	NC0026	100 YR - 1 Day		AE	23.70	25.14	
C0030	NC0030	100 YR - 1 Day			23.69	25.29	
C0037	NC0037	100 YR - 1 Day		AE	23.68	25.27	
C0040	NC0040	100 YR - 1 Day			23.67	25.28	
C0052	NC0052	100 YR - 1 Day		AE	23.67	25.13	
C0056	NC0056	100 YR - 1 Day		AE	23.67	25.07	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C0058	NC0058	100 YR - 1 Day		AE	23.66	25.10	
C0060	NC0060	100 YR - 1 Day		AE	23.66	25.25	
C0062	NC0062	100 YR - 1 Day		AE	24.28	25.11	
C0064	NC0064	100 YR - 1 Day		AE	24.27	25.11	
C0065	NC0065	100 YR - 1 Day		AE	23.66	25.26	
C0066	NC0066	100 YR - 1 Day		AE	24.24	25.12	
C0068	NC0068	100 YR - 1 Day		AE	23.66	25.11	
C0070	NC0070	100 YR - 1 Day		AE	23.65	25.22	
C0077	NC0077	100 YR - 1 Day		AE	23.65	25.12	
C0080	NC0080	100 YR - 1 Day		AE	23.65	25.22	
C0082	NC0082	100 YR - 1 Day		AE	23.89	25.21	
C0083	NC0083	100 YR - 1 Day		AE	24.05	25.21	
C0085	NC0085	100 YR - 1 Day		AE	23.64	25.22	
C0087	NC0087	100 YR - 1 Day		AE	23.65	25.12	
C0090	NC0090	100 YR - 1 Day		AE	23.64	25.21	
C0092	NC0092	100 YR - 1 Day			23.87	25.02	
C0093	NC0093	100 YR - 1 Day		X	23.86	25.09	
C0094	NC0094	100 YR - 1 Day			23.56	25.10	
C0095	NC0095	100 YR - 1 Day		AE	22.74	25.13	
C0096	NC0096	100 YR - 1 Day			24.40	24.38	
C0097	NC0097	100 YR - 1 Day			23.45	23.42	
C0098	NC0098	100 YR - 1 Day			23.01	22.98	
C0099	NC0099	100 YR - 1 Day		AE	21.90	21.60	
C0100	NC0100	100 YR - 1 Day		AE	21.53	21.29	
C0101	NC0094	100 YR - 1 Day			23.56	25.10	
C0102	NC0105	100 YR - 1 Day			19.57	21.51	
C0103	NC0103	100 YR - 1 Day		AE	22.99	24.74	
C0104	NC0104	100 YR - 1 Day		AE	19.36	20.61	
C0105	NC0105	100 YR - 1 Day		AE	19.57	21.51	
C0106	NC0106	100 YR - 1 Day			19.58	21.01	
C0107	NC0107	100 YR - 1 Day		X	20.54	21.03	
C0108	NC0108	100 YR - 1 Day		AE	21.36	21.33	
C0109	NC0109	100 YR - 1 Day		AE	21.55	21.48	
C0110	NC0110	100 YR - 1 Day			19.13	20.24	
C0111	NC0099	100 YR - 1 Day			21.90	21.60	
C0120	NC0120	100 YR - 1 Day		AE	19.12	20.22	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C0124	NC0124	100 YR - 1 Day		AE	19.27	20.24	
C0127	NC0127	100 YR - 1 Day		X	19.88	20.27	
C0130	NC0130	100 YR - 1 Day			19.11	20.20	
C0140	NC0140	100 YR - 1 Day			19.09	20.18	
C0147	NC0147	100 YR - 1 Day		AE	19.12	20.25	
C0160	NC0160	100 YR - 1 Day		AE	19.08	20.16	
C0168	NC0168	100 YR - 1 Day		AE	19.09	20.20	
C0170	NC0170	100 YR - 1 Day		AE	19.07	20.16	
C0180	NC0180	100 YR - 1 Day		AE	19.06	20.14	
C0190	NC0190	100 YR - 1 Day		AE	18.25	19.33	
C0193	NC0193	100 YR - 1 Day		AE	18.79	19.48	
C0196	NC0196	100 YR - 1 Day		AE	19.14	19.42	
C0197	NC0197	100 YR - 1 Day		AE	18.78	19.48	
C0210	NC0210	100 YR - 1 Day		AE	18.22	19.30	
C0214	NC0214	100 YR - 1 Day		AE	18.36	19.77	
C0217	NC0217	100 YR - 1 Day		AE	18.31	19.37	
C0218	NC0218	100 YR - 1 Day		AE	18.42	19.32	
C0220	NC0220	100 YR - 1 Day		AE	18.17	19.25	
C0223	NC0223	100 YR - 1 Day		AE	18.15	19.23	
C0226	NC0226	100 YR - 1 Day		AE	18.22	19.43	
C0230	NC0230	100 YR - 1 Day		AE	18.15	19.22	
C0240	NC0240	100 YR - 1 Day		AE	18.11	19.18	
C0243	NC0243	100 YR - 1 Day		AE	18.87	19.53	
C0246	NC0246	100 YR - 1 Day		AE	18.05	19.14	
C0250	NC0250	100 YR - 1 Day		AE	18.05	19.11	
C0260	NC0260	100 YR - 1 Day		AE	17.95	19.01	
C0265	NC0265	100 YR - 1 Day		AE	17.78	18.93	
C0273	NC0273	100 YR - 1 Day		AE	18.76	18.97	
C0275	NC0275	100 YR - 1 Day		AE	17.67	18.78	
C0280	NC0280	100 YR - 1 Day			17.77	18.84	
C0290	NC0290	100 YR - 1 Day		AE	17.71	18.78	
C0300	NC0300	100 YR - 1 Day		AE	17.13	18.18	
C0303	NC0303	100 YR - 1 Day		AE	20.52	20.46	
C0304	NC0304	100 YR - 1 Day		AE	18.57	18.93	
C0305	NC0305	100 YR - 1 Day		AE	18.57	18.92	
C0308	NC0308	100 YR - 1 Day		AE	18.46	18.90	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C0309	NC0309	100 YR - 1 Day		AE	17.64	18.76	
C0310	NC0310	100 YR - 1 Day		AE	17.07	18.13	
C0320	NC0320	100 YR - 1 Day		AE	17.05	18.11	
C0323	NC0323	100 YR - 1 Day		AE	15.50	17.41	
C0330	NC0330	100 YR - 1 Day		AE	17.05	18.10	
C0340	NC0340	100 YR - 1 Day			16.98	18.03	
C0350	NC0350	100 YR - 1 Day			16.89	17.91	
C0360	NC0360	100 YR - 1 Day		AE	16.72	17.70	
C0363	NC0363	100 YR - 1 Day		AE	16.46	17.58	
C0370	NC0370	100 YR - 1 Day		AE	16.65	17.62	
C0373	NC0373	100 YR - 1 Day		AE	16.04	16.86	
C0380	NC0380	100 YR - 1 Day		AE	16.64	17.60	
C0400	NC0400	100 YR - 1 Day		AE	15.16	16.74	
C0410	NC0410	100 YR - 1 Day		AE	15.03	16.65	
C0420	NC0420	100 YR - 1 Day		AE	15.03	16.66	
C0430	NC0430	100 YR - 1 Day			15.02	16.65	
C0440	NC0440	100 YR - 1 Day		AE	15.00	16.64	
C0450	NC0450	100 YR - 1 Day		AE	14.99	16.62	
C0460	NC0460	100 YR - 1 Day		AE	14.97	16.58	
C0465	NC0465	100 YR - 1 Day		AE	14.93	16.31	
C0470	NC0470	100 YR - 1 Day		AE	14.92	16.45	
C0478	NC0478	100 YR - 1 Day		AE	14.79	16.30	
C0480	NC0480	100 YR - 1 Day		AE	14.78	16.05	
C0495	NC0495	100 YR - 1 Day		AE	16.12	16.44	
C0500	NC0500	100 YR - 1 Day		AE	14.68	15.64	
C0510	NC0510	100 YR - 1 Day		AE	14.61	15.53	
C0515	NC0515	100 YR - 1 Day		AE	15.03	15.51	
C0520	NC0520	100 YR - 1 Day		AE	14.20	14.98	
C0540	NC0540	100 YR - 1 Day		AE	14.08	14.81	
C0560	NC0560	100 YR - 1 Day		AE	13.98	14.71	
C0565	NC0565	100 YR - 1 Day		AE	14.84	15.15	
C0570	NC0570	100 YR - 1 Day		AE	12.76	13.56	
C0580	NC0580	100 YR - 1 Day		AE	12.47	13.30	
C0585	NC0585	100 YR - 1 Day		AE	14.84	15.15	
C0590	NC0590	100 YR - 1 Day		AE	12.29	13.10	
C0597	NC0597	100 YR - 1 Day		AE	12.39	13.32	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C0600	NC0600	100 YR - 1 Day		AE	12.15	12.92	
C0603	NC0603	100 YR - 1 Day		AE	12.76	13.32	
C0604	NC0604	100 YR - 1 Day		AE	12.44	13.32	
C0606	NC0606	100 YR - 1 Day		AE	12.44	13.32	
C0607	NC0607	100 YR - 1 Day		AE	12.44	13.32	
C0608	NC0608	100 YR - 1 Day		AE	12.43	13.31	
C0609	NC0609	100 YR - 1 Day		AE	11.65	11.70	
C0610	NC0610	100 YR - 1 Day		AE	11.97	12.73	
C0615	NC0615	100 YR - 1 Day		AE	12.46	13.32	
C0617	NC0617	100 YR - 1 Day		AE	11.80	12.54	
C0618	NC0618	100 YR - 1 Day		AE	12.47	13.32	
C0620	NC0620	100 YR - 1 Day		AE	11.80	12.54	
C0623	NC0623	100 YR - 1 Day		AE	11.49	12.00	
C0630	NC0630	100 YR - 1 Day		AE	11.71	12.46	
C0633	NC0633	100 YR - 1 Day		AE	10.90	11.76	
C0640	NC0640	100 YR - 1 Day		AE	11.57	12.30	
C0645	NC0645	100 YR - 1 Day		AE	11.54	12.27	
C0660	NC0660	100 YR - 1 Day		AE	11.17	12.00	
C0665	NC0665	100 YR - 1 Day		AE	11.12	11.95	
C0667	NC0667	100 YR - 1 Day		AE	11.12	11.95	
C0670	NC0670	100 YR - 1 Day		AE	11.12	11.95	
C0675	NC0675	100 YR - 1 Day		AE	10.34	10.64	
C0680	NC0680	100 YR - 1 Day		AE	11.06	11.87	
C0681	NC0681	100 YR - 1 Day		AE	6.44	8.92	
C0685	NC0685	100 YR - 1 Day		AE	10.37	10.55	
C0690	NC0690	100 YR - 1 Day		AE	10.93	11.78	
C0700	NC0700	100 YR - 1 Day		AE	10.84	11.72	
C0730	NC0730	100 YR - 1 Day		AE	10.75	11.68	
C0740	NC0740	100 YR - 1 Day			10.52	11.54	
C0760	NC0760	100 YR - 1 Day			10.49	11.52	
C0770	NC0770	100 YR - 1 Day		AE	10.45	11.50	
C0780	NC0780	100 YR - 1 Day		AE	10.26	11.45	
C0790	NC0790	100 YR - 1 Day			10.22	11.44	
C0810	NC0810	100 YR - 1 Day			10.13	11.42	
C0820	NC0820	100 YR - 1 Day		AE	10.09	11.41	
C0825	NC0825	100 YR - 1 Day		AE	10.11	11.41	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C0830	NC0830	100 YR - 1 Day		AE	10.06	11.41	
C0840	NC0840	100 YR - 1 Day		AE	10.02	11.40	
C0845	NC0845	100 YR - 1 Day		AE	11.46	11.42	
C0850	NC0850	100 YR - 1 Day		AE	9.85	11.34	
C0860	NC0860	100 YR - 1 Day		AE	9.79	11.32	
C0870	NC0870	100 YR - 1 Day			9.54	11.27	
C0873	NC0873	100 YR - 1 Day		AE	9.54	11.27	
C0900	NC0900	100 YR - 5 Day		AE	9.43	11.24	
C0910	NC0910	100 YR - 5 Day	A8	AE	8.22	10.12	
C0915	NC0915	100 YR - 5 Day	A0	AE	8.06	10.11	
C0920	NC0920	100 YR - 5 Day	A8	AE	8.02	9.95	
C0930	NC0930	100 YR - 5 Day	A8	AE	7.83	9.78	
C0940	NC0940	100 YR - 5 Day	A8	AE	7.82	9.78	
C1010	NC1010	100 YR - 1 Day		AE	24.80	25.35	
C1020	NC1020	100 YR - 1 Day		AE	24.80	25.35	
C1025	NC1025	100 YR - 1 Day		AE	24.45	25.28	
C1030	NC1030	100 YR - 1 Day		AE	24.49	25.28	
C1040	NC1040	100 YR - 1 Day		AE	24.48	25.28	
C1042	NC1042	100 YR - 1 Day			24.48	25.27	
C1043	NC1043	100 YR - 1 Day		AE	24.48	25.27	
C1045	NC1045	100 YR - 1 Day		AE	24.48	25.27	
C1050	NC1050	100 YR - 1 Day		AE	24.46	25.27	
C1060	NC1060	100 YR - 1 Day		AE	24.42	25.27	
C1070	NC1070	100 YR - 1 Day		AE	23.97	25.27	
C1080	NC1080	100 YR - 1 Day		AE	23.68	25.27	
C1510	NC1510	100 YR - 1 Day		AE	21.14	21.27	
C1520	NC1520	100 YR - 1 Day		AE	21.14	21.27	
C1530	NC1530	100 YR - 1 Day		AE	21.13	21.27	
C1540	NC1540	100 YR - 1 Day			21.13	21.27	
C1550	NC1550	100 YR - 1 Day		AE	19.33	20.37	
C2020	NC2020	100 YR - 1 Day		AE	20.64	20.40	
C2040	NC2040	100 YR - 1 Day		AE	20.15	20.29	
C2060	NC2060	100 YR - 1 Day		AE	19.13	20.28	
C2520	NC2520	100 YR - 1 Day			20.48	20.42	
C2530	NC2530	100 YR - 1 Day			20.31	20.33	
C2550	NC2550	100 YR - 1 Day		AE	20.31	20.33	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C2560	NC2560	100 YR - 1 Day			19.49	20.32	
C3010	NC3010	100 YR - 1 Day		AE	21.52	21.52	
C3023	NC3023	100 YR - 1 Day		AE	21.52	21.52	
C3030	NC3030	100 YR - 1 Day		AE	18.89	19.85	
C3510	NC3510	100 YR - 1 Day			21.33	20.98	
C3520	NC3520	100 YR - 1 Day		AE	21.33	20.98	
C3530	NC3530	100 YR - 1 Day		AE	21.29	20.95	
C4010	NC4010	100 YR - 1 Day			19.44	19.42	
C4020	NC4020	100 YR - 1 Day		AE	18.91	18.67	
C4030	NC4030	100 YR - 1 Day		AE	18.54	18.46	
C4040	NC4040	100 YR - 1 Day		AE	18.42	18.40	
C4050	NC4050	100 YR - 1 Day		AE	18.39	18.38	
C4060	NC4060	100 YR - 1 Day		AE	18.26	18.31	
C4070	NC4070	100 YR - 1 Day		AE	18.26	18.31	
C5010	NC5010	100 YR - 1 Day		AE	20.11	19.99	
C5020	NC5020	100 YR - 1 Day		AE	20.11	19.98	
C5030	NC5030	100 YR - 1 Day		AE	19.96	19.79	
C5040	NC5040	100 YR - 1 Day		AE	19.75	19.62	
C5050	NC5050	100 YR - 1 Day		AE	19.68	19.54	
C5060	NC5060	100 YR - 1 Day		AE	19.46	19.38	
C5070	NC5070	100 YR - 1 Day			18.79	18.63	
C5080	NC5080	100 YR - 1 Day		AE	18.46	18.35	
C5090	NC5090	100 YR - 1 Day		AE	18.25	18.18	
C5100	NC5100	100 YR - 1 Day		AE	17.93	17.90	
C5110	NC5110	100 YR - 1 Day		AE	17.88	17.87	
C5112	NC5112	100 YR - 1 Day		AE	19.14	19.12	
C5115	NC5115	100 YR - 1 Day		AE	17.94	17.90	
C5118	NC5118	100 YR - 1 Day		AE	17.92	17.89	
C5120	NC5120	100 YR - 1 Day		AE	17.88	17.87	
C5130	NC5130	100 YR - 1 Day		AE	17.78	17.83	
C5140	NC5140	100 YR - 1 Day		AE	17.36	17.69	
C5150	NC5150	100 YR - 1 Day		AE	16.93	17.65	
C6010	NC6010	100 YR - 1 Day		AE	17.12	17.17	
C6020	NC6020	100 YR - 1 Day		AE	17.02	17.16	
C6030	NC6030	100 YR - 1 Day		AE	15.90	17.15	
C6040	NC6040	100 YR - 1 Day		AE	15.89	17.15	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C6050	NC6050	100 YR - 1 Day		AE	15.59	17.22	
C6060	NC6060	100 YR - 1 Day		AE	15.04	16.98	
C6503	NC6503	100 YR - 1 Day		AE	14.85	16.34	
C6505	NC6505	100 YR - 1 Day		AE	16.28	18.00	
C6510	NC6510	100 YR - 1 Day		AE	14.84	16.36	
C6513	NC6513	100 YR - 1 Day		AE	16.04	16.52	
C6518	NC6518	100 YR - 1 Day		AE	14.85	16.35	
C6520	NC6520	100 YR - 1 Day		AE	14.84	16.36	
C6522	NC6522	100 YR - 1 Day		AE	15.31	16.30	
C6523	NC6523	100 YR - 1 Day		AE	16.14	16.55	
C6524	NC6524	100 YR - 1 Day		AE	15.31	16.30	
C6526	NC6526	100 YR - 1 Day		AE	15.31	16.30	
C6527	NC6527	100 YR - 1 Day		AE	16.12	16.52	
C6528	NC6528	100 YR - 1 Day		AE	15.26	16.30	
C6530	NC6530	100 YR - 1 Day		AE	14.84	16.35	
C6540	NC6540	100 YR - 1 Day		AE	14.82	16.33	
C6545	NC6545	100 YR - 1 Day		AE	16.12	16.50	
C6550	NC6550	100 YR - 1 Day		AE	14.82	16.32	
C7010	NC7010	100 YR - 1 Day			15.43	16.27	
C7020	NC7020	100 YR - 1 Day		AE	15.43	16.27	
C7030	NC7030	100 YR - 1 Day		AE	15.44	16.31	
C7040	NC7040	100 YR - 1 Day		AE	15.44	16.41	
C7053	NC7053	100 YR - 1 Day		AE	15.32	16.06	
C7059	NC7059	100 YR - 1 Day		AE	15.32	16.07	
C7062	NC7062	100 YR - 1 Day		AE	15.35	16.25	
C7065	NC7065	100 YR - 1 Day		AE	15.35	16.25	
C7068	NC7068	100 YR - 1 Day		AE	15.35	16.24	
C7070	NC7070	100 YR - 1 Day		AE	15.35	16.21	
C7080	NC7080	100 YR - 1 Day		AE	15.29	16.02	
C7093	NC7093	100 YR - 1 Day		AE	14.89	15.33	
C7097	NC7097	100 YR - 1 Day		AE	14.94	15.43	
C7098	NC7098	100 YR - 1 Day		AE	14.99	15.52	
C7100	NC7100	100 YR - 1 Day		AE	15.01	15.61	
C7110	NC7110	100 YR - 1 Day		AE	14.97	15.46	
C7120	NC7120	100 YR - 1 Day		AE	14.97	15.46	
C8005	NC8005	100 YR - 1 Day		AE	16.34	16.43	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C8010	NC8010	100 YR - 1 Day		AE	15.30	15.41	
C8012	NC8012	100 YR - 1 Day		AE	15.12	15.35	
C8013	NC8013	100 YR - 1 Day		AE	14.89	15.33	
C8018	NC8018	100 YR - 1 Day		AE	14.88	15.29	
C8020	NC8020	100 YR - 1 Day		AE	14.88	15.29	
C8025	NC8025	100 YR - 1 Day		AE	14.95	15.30	
C8030	NC8030	100 YR - 1 Day		AE	14.88	15.27	
C8040	NC8040	100 YR - 1 Day		AE	14.88	15.26	
C8043	NC8043	100 YR - 1 Day		AE	14.85	15.23	
C8045	NC8045	100 YR - 1 Day		AE	14.85	15.18	
C8046	NC8046	100 YR - 1 Day		AE	14.85	15.18	
C8047	NC8047	100 YR - 1 Day		AE	14.85	15.17	
C8048	NC8048	100 YR - 1 Day		AE	14.85	15.16	
C8050	NC8050	100 YR - 1 Day		AE	14.88	15.27	
C8060	NC8060	100 YR - 1 Day		AE	14.88	15.29	
C8065	NC8065	100 YR - 1 Day		AE	14.88	15.30	
C8070	NC8070	100 YR - 1 Day		AE	14.88	15.29	
C8080	NC8080	100 YR - 1 Day		AE	14.87	15.28	
C8090	NC8090	100 YR - 1 Day		AE	14.87	15.28	
C8100	NC8100	100 YR - 1 Day		AE	14.87	15.28	
C8110	NC8110	100 YR - 1 Day			14.87	15.28	
C8120	NC8120	100 YR - 1 Day		AE	14.86	15.26	
C8140	NC8140	100 YR - 1 Day		AE	14.85	15.16	
C8150	NC8150	100 YR - 1 Day		AE	14.85	15.15	
C8160	NC8160	100 YR - 1 Day		AE	14.84	15.15	
C8170	NC8170	100 YR - 1 Day		AE	14.84	15.13	
C8510	NC8510	100 YR - 1 Day		AE	22.93	22.94	
C8520	NC8520	100 YR - 1 Day		AE	22.64	22.62	
C8530	NC8530	100 YR - 1 Day		AE	22.20	22.30	
C8540	NC8540	100 YR - 1 Day		AE	22.11	22.18	
C8550	NC8550	100 YR - 1 Day		AE	21.01	21.28	
C8560	NC8560	100 YR - 1 Day		AE	21.18	21.27	
C8570	NC8570	100 YR - 1 Day			19.80	19.78	
C8580	NC8580	100 YR - 1 Day		AE	16.34	16.50	
C8590	NC8590	100 YR - 1 Day			15.58	15.64	
C8600	NC8600	100 YR - 1 Day		AE	15.11	15.23	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
C8610	NC8610	100 YR - 1 Day		AE	14.85	15.16	
C8620	NC8620	100 YR - 1 Day		AE	14.84	15.16	
C8630	NC8630	100 YR - 1 Day		AE	14.30	15.04	
C8640	NC8640	100 YR - 1 Day		AE	14.28	15.03	
C9010	NC9010	100 YR - 1 Day			22.08	22.25	
C9020	NC9020	100 YR - 1 Day		AE	22.18	21.97	
C9022	NC9022	100 YR - 1 Day		AE	22.18	21.96	
C9024	NC9024	100 YR - 1 Day		AE	21.58	21.37	
C9030	NC9030	100 YR - 1 Day		AE	21.04	21.05	
C9032	NC9032	100 YR - 1 Day		AE	20.93	20.84	
C9040	NC9040	100 YR - 1 Day		AE	20.92	20.83	
C9050	NC9050	100 YR - 1 Day		AE	20.46	20.46	
C9052	NC9052	100 YR - 1 Day		AE	20.43	20.42	
C9054	NC9054	100 YR - 1 Day			20.43	20.42	
C9056	NC9056	100 YR - 1 Day			19.62	19.60	
C9058	NC9058	100 YR - 1 Day		AE	18.93	19.24	
C9060	NC9060	100 YR - 1 Day		AE	20.42	20.41	
C9070	NC9070	100 YR - 1 Day		AE	18.40	18.39	
C9080	NC9080	100 YR - 1 Day		AE	16.28	16.28	
C9090	NC9090	100 YR - 1 Day			15.03	14.92	
C9100	NC9100	100 YR - 1 Day		AE	14.44	14.42	
C9110	NC9110	100 YR - 1 Day		AE	13.72	13.98	
C9120	NC9120	100 YR - 1 Day		AE	13.70	13.97	
C9130	NC9130	100 YR - 1 Day		AE	15.44	15.37	
C9510	NC9510	100 YR - 1 Day		AE	12.78	13.32	
C9520	NC9520	100 YR - 1 Day		AE	12.54	13.32	
C9530	NC9530	100 YR - 1 Day		AE	12.54	13.33	
C9540	NC9540	100 YR - 1 Day		AE	12.47	13.32	
C9550	NC9550	100 YR - 1 Day		AE	12.47	13.32	
C9560	NC9560	100 YR - 1 Day		AE	12.47	13.32	
C9570	NC9570	100 YR - 1 Day			12.47	13.32	
C9580	NC9580	100 YR - 1 Day		AE	12.47	13.32	
C9600	NC9600	100 YR - 1 Day		AE	10.42	11.40	
C9700	NC9700	100 YR - 1 Day		AE	10.02	11.40	
C9800	NC9800	100 YR - 1 Day		AE	10.28	11.40	
D0004	ND0004	100 YR - 1 Day		AE	20.21	21.02	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
D0006	ND0006	100 YR - 1 Day		AE	20.21	21.02	
D0010	ND0010	100 YR - 1 Day		AE	20.21	21.02	
D0020	ND0020	100 YR - 1 Day		AE	20.18	20.97	
D0030	ND0030	100 YR - 1 Day		AE	20.17	20.95	
D0040	ND0040	100 YR - 1 Day		AE	15.96	16.78	
D0045	ND0045	100 YR - 1 Day		AE	19.83	20.31	
D0050	ND0050	100 YR - 1 Day		AE	19.70	20.26	
D0053	ND0053	100 YR - 1 Day		AE	19.40	20.26	
D0055	ND0055	100 YR - 1 Day		AE	15.95	16.76	
D0057	ND0057	100 YR - 1 Day			16.45	17.02	
D0059	ND0059	100 YR - 1 Day		AE	15.99	16.91	
D0060	ND0060	100 YR - 1 Day		AE	15.93	16.74	
D0063	ND0063	100 YR - 1 Day		AE	15.81	16.56	
D0070	ND0070	100 YR - 1 Day		AE	15.81	16.56	
D0080	ND0080	100 YR - 1 Day		AE	15.76	16.49	
D0082	ND0082	100 YR - 1 Day			16.26	16.41	
D0085	ND0085	100 YR - 1 Day		AE	15.72	16.41	
D0088	ND0088	100 YR - 1 Day		AE	15.72	16.40	
D0090	ND0090	100 YR - 1 Day		AE	15.70	16.40	
D0092	ND0092	100 YR - 1 Day			17.47	17.46	
D0094	ND0094	100 YR - 1 Day		AE	16.77	16.51	
D0096	ND0096	100 YR - 1 Day		AE	15.73	16.41	
D0098	ND0098	100 YR - 1 Day		AE	15.72	16.41	
D0100	ND0100	100 YR - 1 Day		AE	15.70	16.40	
D0103	ND0103	100 YR - 1 Day		AE	15.25	15.37	
D0107	ND0107	100 YR - 1 Day		AE	15.39	15.82	
D0110	ND0110	100 YR - 1 Day		AE	15.44	16.05	
D0112	ND0112	100 YR - 1 Day		AE	15.10	15.19	
D0114	ND0114	100 YR - 1 Day		AE	15.10	15.19	
D0116	ND0116	100 YR - 1 Day		AE	15.32	15.86	
D0118	ND0118	100 YR - 1 Day		AE	15.37	15.95	
D0130	ND0130	100 YR - 1 Day		AE	15.39	15.99	
D0140	ND0140	100 YR - 1 Day		AE	13.91	14.23	
D0152	ND0152	100 YR - 1 Day		AE	13.96	14.26	
D0155	ND0155	100 YR - 1 Day		AE	13.96	14.26	
D0158	ND0158	100 YR - 1 Day		AE	13.77	14.08	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
D0160	ND0160	100 YR - 1 Day		AE	13.68	14.04	
D0162	ND0162	100 YR - 1 Day		AE	13.05	13.25	
D0164	ND0164	100 YR - 1 Day		AE	13.05	13.25	
D0166	ND0166	100 YR - 1 Day		AE	13.17	13.34	
D0168	ND0168	100 YR - 1 Day		AE	13.21	13.36	
D0170	ND0170	100 YR - 1 Day		AE	13.39	13.79	
D0180	ND0180	100 YR - 1 Day		AE	13.16	13.57	
D0190	ND0190	100 YR - 1 Day		AE	12.06	12.63	
D0192	ND0192	100 YR - 1 Day		AE	12.01	12.54	
D0194	ND0194	100 YR - 1 Day		AE	12.01	12.54	
D0196	ND0196	100 YR - 1 Day		AE	12.00	12.54	
D0198	ND0198	100 YR - 1 Day		AE	11.99	12.56	
D0200	ND0200	100 YR - 1 Day		AE	11.97	12.56	
D0202	ND0202	100 YR - 1 Day		AE	11.96	12.38	
D0204	ND0204	100 YR - 1 Day		AE	11.94	12.38	
D0206	ND0206	100 YR - 1 Day		AE	11.91	12.38	
D0208	ND0208	100 YR - 1 Day		AE	11.91	12.43	
D0210	ND0210	100 YR - 1 Day		AE	11.91	12.50	
D0220	ND0220	100 YR - 1 Day		AE	11.58	12.28	
D0230	ND0230	100 YR - 1 Day		AE	11.20	11.94	
D0240	ND0240	100 YR - 1 Day		AE	11.10	11.89	
D1010	ND1010	100 YR - 1 Day		AE	20.18	20.96	
D1020	ND1020	100 YR - 1 Day		AE	20.18	20.96	
D1025	ND1025	100 YR - 1 Day		AE	20.18	20.96	
D1030	ND1030	100 YR - 1 Day		AE	20.18	20.96	
D2010	ND2010	100 YR - 1 Day			18.56	18.54	
D2020	ND2020	100 YR - 1 Day		AE	17.90	17.39	
D2025	ND2025	100 YR - 1 Day			16.53	17.57	
D2030	ND2030	100 YR - 1 Day		AE	15.82	16.66	
D2040	ND2040	100 YR - 1 Day		AE	15.78	16.56	
E0010	NE0010	100 YR - 1 Day		AE	17.79	19.53	
E0020	NE0020	100 YR - 1 Day		AE	16.02	17.80	
E0023	NE0023	100 YR - 1 Day		AE	16.60	17.70	
E0027	NE0027	100 YR - 1 Day			16.61	17.70	
E0030	NE0030	100 YR - 1 Day		AE	15.97	17.72	
E0040	NE0040	100 YR - 1 Day		AE	15.95	17.70	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
E0050	NE0050	100 YR - 1 Day		AE	13.71	14.72	
E0052	NE0052	100 YR - 1 Day		AE	15.56	15.13	
E0054	NE0054	100 YR - 1 Day		AE	13.89	14.62	
E0059	NE0059	100 YR - 1 Day		AE	13.81	14.61	
E0060	NE0060	100 YR - 1 Day		AE	13.65	14.58	
E0061	NE0061	100 YR - 1 Day		AE	13.64	14.37	
E0062	NE0062	100 YR - 1 Day		AE	13.65	14.30	
E0063	NE0063	100 YR - 1 Day		AE	13.64	14.34	
E0064	NE0064	100 YR - 1 Day		AE	16.41	16.29	
E0065	NE0065	100 YR - 1 Day		AE	13.64	14.37	
E0069	NE0069	100 YR - 1 Day		AE	13.60	14.43	
E0070	NE0070	100 YR - 1 Day		AE	13.59	14.46	
E0071	NE0071	100 YR - 1 Day		AE	14.20	14.60	
E0072	NE0072	100 YR - 1 Day			14.10	14.50	
E0074	NE0074	100 YR - 1 Day		AE	13.94	14.46	
E0075	NE0075	100 YR - 1 Day		AE	13.81	14.45	
E0077	NE0077	100 YR - 1 Day		AE	13.53	14.37	
E0079	NE0079	100 YR - 1 Day		AE	13.71	14.43	
E0080	NE0080	100 YR - 1 Day		AE	13.53	14.39	
E0090	NE0090	100 YR - 1 Day		AE	13.49	14.36	
E0100	NE0100	100 YR - 1 Day		AE	11.87	12.80	
E0110	NE0110	100 YR - 1 Day		AE	11.73	12.67	
E0120	NE0120	100 YR - 1 Day		AE	11.55	12.52	
E0125	NE0125	100 YR - 1 Day		AE	11.37	12.39	
E0127	NE0127	100 YR - 1 Day		AE	11.40	12.45	
E0128	NE0128	100 YR - 1 Day		AE	11.40	12.45	
E0129	NE0129	100 YR - 1 Day		AE	11.36	12.37	
E0130	NE0130	100 YR - 1 Day		AE	11.35	12.34	
E0140	NE0140	100 YR - 1 Day		AE	11.21	12.17	
E0145	NE0145	100 YR - 1 Day		AE	11.02	11.88	
E0150	NE0150	100 YR - 1 Day		AE	11.02	11.92	
E0160	NE0160	100 YR - 1 Day		AE	10.99	11.86	
E0165	NE0165	100 YR - 1 Day		AE	11.17	11.94	
E0166	NE0166	100 YR - 1 Day		AE	11.74	11.91	
E0167	NE0167	100 YR - 1 Day		AE	11.74	11.90	
E0168	NE0168	100 YR - 1 Day		AE	11.75	11.91	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
E0170	NE0170	100 YR - 1 Day		AE	10.92	11.76	
E0180	NE0180	100 YR - 1 Day		AE	10.71	11.59	
E0510	NE0510	100 YR - 1 Day		AE	12.77	12.76	
E0520	NE0520	100 YR - 1 Day		AE	12.77	12.76	
E0530	NE0530	100 YR - 1 Day		AE	12.74	12.75	
E0540	NE0540	100 YR - 1 Day		AE	12.74	12.74	
E0555	NE0555	100 YR - 1 Day		AE	11.48	12.77	
E0560	NE0560	100 YR - 1 Day		AE	11.47	12.60	
E0570	NE0570	100 YR - 1 Day		AE	11.44	12.49	
E0580	NE0580	100 YR - 1 Day		AE	11.42	12.44	
E0890	NE0890	100 YR - 1 Day		AE	11.42	12.45	
E2010	NE2010	100 YR - 1 Day		AE	11.19	11.62	
E2020	NE2020	100 YR - 1 Day		AE	10.28	11.56	
E2030	NE2030	100 YR - 1 Day		AE	10.27	11.47	
E2041	NE2041	100 YR - 1 Day		AE	10.70	11.59	
E2043	NE2043	100 YR - 1 Day		AE	10.34	11.47	
E2045	NE2045	100 YR - 1 Day		AE	10.28	11.46	
E2049	NE2049	100 YR - 1 Day		AE	10.27	11.46	
E2050	NE2050	100 YR - 1 Day		AE	10.27	11.46	
E2060	NE2060	100 YR - 1 Day		AE	10.27	11.46	
E2510	NE2510	100 YR - 1 Day		AE	10.23	11.41	
E2530	NE2530	100 YR - 1 Day		AE	10.23	11.41	
E2540	NE2540	100 YR - 1 Day		AE	10.23	11.41	
E3010	NE3010	100 YR - 1 Day		AE	13.35	13.33	
E3015	NE3015	100 YR - 1 Day		AE	13.35	13.33	
E3020	NE3020	100 YR - 1 Day		AE	12.66	12.68	
E3051	NE3051	100 YR - 1 Day		AE	12.17	12.16	
E3053	NE3053	100 YR - 1 Day		AE	12.31	12.32	
E3060	NE3060	100 YR - 1 Day		AE	12.42	12.45	
E3080	NE3080	100 YR - 1 Day		AE	11.93	12.07	
E3090	NE3090	100 YR - 1 Day		AE	11.93	12.07	
E3095	NE3095	100 YR - 1 Day		AE	11.78	11.94	
E3112	NE3112	100 YR - 1 Day		AE	11.80	11.90	
E3113	NE3113	100 YR - 1 Day		AE	11.87	11.91	
E3115	NE3115	100 YR - 1 Day		AE	11.86	11.91	
E3118	NE3118	100 YR - 1 Day		AE	11.86	11.91	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
E3120	NE3120	100 YR - 1 Day		AE	11.65	11.81	
E3125	NE3125	100 YR - 1 Day		AE	11.43	11.59	
E3130	NE3130	100 YR - 1 Day		AE	11.43	11.59	
E3140	NE3140	100 YR - 1 Day		AE	11.05	11.43	
E3150	NE3150	100 YR - 1 Day		AE	11.04	11.43	
E3160	NE3160	100 YR - 1 Day		AE	10.96	11.41	
E3170	NE3170	100 YR - 1 Day		AE	10.94	11.41	
E5010	NE5010	100 YR - 1 Day		AE	17.91	18.20	
E5020	NE5020	100 YR - 1 Day		AE	17.91	18.20	
E5025	NE5025	100 YR - 1 Day		AE	17.22	17.50	
E5030	NE5030	100 YR - 1 Day		AE	17.22	17.37	
E5040	NE5040	100 YR - 1 Day		AE	17.06	17.29	
E5050	NE5050	100 YR - 1 Day		AE	16.96	17.14	
E5053	NE5053	100 YR - 1 Day		AE	17.49	17.64	
E5054	NE5054	100 YR - 1 Day		AE	17.42	17.60	
E5055	NE5055	100 YR - 1 Day			16.97	17.31	
E5056	NE5056	100 YR - 1 Day		AE	16.85	17.30	
E5057	NE5057	100 YR - 1 Day		AE	16.49	17.02	
E5058	NE5058	100 YR - 1 Day		AE	16.46	17.02	
E5059	NE5059	100 YR - 1 Day		AE	16.46	17.02	
E5061	NE5061	100 YR - 1 Day		AE	17.02	17.24	
E5063	NE5063	100 YR - 1 Day		AE	16.81	17.17	
E5069	NE5069	100 YR - 1 Day		AE	16.47	16.48	
E5070	NE5070	100 YR - 1 Day		AE	15.83	16.00	
E5080	NE5080	100 YR - 1 Day		AE	15.81	16.00	
E5085	NE5085	100 YR - 1 Day		AE	15.10	15.18	
E5510	NE5510	100 YR - 1 Day		AE	15.48	15.50	
E5512	NE5512	100 YR - 1 Day		AE	16.47	16.48	
E5515	NE5515	100 YR - 1 Day		AE	16.29	16.30	
E5520	NE5520	100 YR - 1 Day			15.34	15.35	
E5525	NE5525	100 YR - 1 Day		AE	14.88	14.91	
E5527	NE5527	100 YR - 1 Day		AE	14.93	14.97	
E5530	NE5530	100 YR - 1 Day		AE	14.67	14.69	
E5540	NE5540	100 YR - 1 Day		AE	14.64	14.67	
E6010	NE6010	100 YR - 1 Day		AE	16.41	16.76	
E6020	NE6020	100 YR - 1 Day	A3	AE	15.74	16.67	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
E6030	NE6030	100 YR - 1 Day	A3	AE	15.45	15.96	
E6031	NE6031	100 YR - 1 Day		AE	14.84	14.80	
E6032	NE6032	100 YR - 1 Day	A3	AE	13.94	14.33	
E6033	NE6033	100 YR - 1 Day	A3	AE	13.93	14.33	
E6034	NE6034	100 YR - 1 Day		AE	13.91	14.33	
E6035	NE6035	100 YR - 1 Day	A3	AE	13.91	14.33	
E6036	NE6036	100 YR - 1 Day	A3	AE	13.91	14.32	
E6037	NE6037	100 YR - 1 Day		AE	14.67	15.09	
E6038	NE6038	100 YR - 1 Day	A3	AE	14.67	15.09	
E6039	NE6039	100 YR - 1 Day		AE	14.67	15.09	
E6040	NE6040	100 YR - 1 Day		X	13.40	13.37	
E6041	NE6041	100 YR - 1 Day		AE	13.40	13.38	
E6042	NE6042	100 YR - 1 Day		AE	13.40	13.37	
E6043	NE6043	100 YR - 1 Day		AE	13.53	13.45	
E6046	NE6046	100 YR - 1 Day		AE	12.63	12.58	
E6047	NE6047	100 YR - 1 Day		AE	14.55	14.56	
E6048	NE6048	100 YR - 1 Day		AE	13.18	13.58	
E6051	NE6051	100 YR - 1 Day		AE	14.75	15.09	
E6052	NE6052	100 YR - 1 Day		AE	14.75	15.08	
E6053	NE6053	100 YR - 1 Day		X	13.61	13.61	
E6054	NE6054	100 YR - 1 Day		X	13.43	13.41	
E6055	NE6055	100 YR - 1 Day		AE	13.18	13.58	
E6060	NE6060	100 YR - 1 Day		AE	12.64	12.90	
E7010	NE7010	100 YR - 1 Day			16.95	16.95	
E7020	NE7020	100 YR - 1 Day			14.35	14.45	
E7030	NE7030	100 YR - 1 Day		AE	13.80	14.40	
E7040	NE7040	100 YR - 1 Day			13.80	14.40	
E7050	NE7050	100 YR - 1 Day			14.68	14.66	
E7053	NE7053	100 YR - 1 Day		AE	13.67	14.29	
E7055	NE7055	100 YR - 1 Day		AE	13.66	14.28	
E7080	NE7080	100 YR - 1 Day		AE	13.65	14.28	
E7090	NE7090	100 YR - 1 Day		AE	13.57	14.18	
E7100	NE7100	100 YR - 1 Day		AE	13.57	14.03	
E7102	NE7102	100 YR - 1 Day		AE	12.22	12.99	
E7103	NE7103	100 YR - 1 Day		AE	12.22	12.92	
E7104	NE7104	100 YR - 1 Day		AE	12.04	12.80	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
E7105	NE7105	100 YR - 1 Day			12.04	12.80	
E7107	NE7107	100 YR - 1 Day		AE	12.12	12.86	
E7110	NE7110	100 YR - 1 Day		AE	12.04	12.81	
E7120	NE7120	100 YR - 1 Day		AE	12.02	12.77	
E7130	NE7130	100 YR - 1 Day		AE	11.81	12.76	
E7135	NE7135	100 YR - 1 Day		AE	12.49	12.44	
E7138	NE7138	100 YR - 1 Day		AE	11.80	12.74	
E7140	NE7140	100 YR - 1 Day		AE	11.59	12.05	
E7150	NE7150	100 YR - 1 Day			11.54	12.00	
E7505	NE7505	100 YR - 1 Day		AE	17.17	16.85	
E7507	NE7507	100 YR - 1 Day		AE	16.18	16.13	
E7509	NE7509	100 YR - 1 Day			15.33	14.95	
E7510	NE7510	100 YR - 1 Day			13.74	14.31	
E7512	NE7512	100 YR - 1 Day		AE	19.17	19.15	
E7514	NE7514	100 YR - 1 Day		AE	18.87	19.06	
E7516	NE7516	100 YR - 1 Day		AE	18.87	19.05	
E7517	NE7517	100 YR - 1 Day		AE	18.86	19.03	
E7518	NE7518	100 YR - 1 Day		AE	18.49	18.49	
E7519	NE7519	100 YR - 1 Day		AE	16.75	16.69	
E7520	NE7520	100 YR - 1 Day		AE	13.70	14.31	
E7525	NE7525	100 YR - 1 Day		X	17.53	17.37	
E7530	NE7530	100 YR - 1 Day		AE	13.66	14.29	
E7540	NE7540	100 YR - 1 Day		AE	13.66	14.28	
E7545	NE7545	100 YR - 1 Day			14.13	14.55	
E7547	NE7547	100 YR - 1 Day			12.93	13.04	
E7550	NE7550	100 YR - 1 Day		AE	12.67	12.73	
E7560	NE7560	100 YR - 1 Day			12.52	12.51	
E7580	NE7580	100 YR - 1 Day		AE	11.84	12.15	
E9008	NE9008	100 YR - 1 Day		AE	10.94	11.67	
E9009	NE9009	100 YR - 1 Day		AE	10.88	11.80	
E9010	NE9010	100 YR - 1 Day		AE	10.86	11.80	
E9020	NE9020	100 YR - 1 Day		AE	10.89	11.64	
E9025	NE9025	100 YR - 1 Day		AE	10.77	11.64	
E9030	NE9030	100 YR - 1 Day		AE	10.89	11.64	
E9040	NE9040	100 YR - 1 Day		AE	10.89	11.64	
E9045	NE9045	100 YR - 1 Day		AE	11.02	11.64	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
E9047	NE9047	100 YR - 1 Day		AE	11.38	12.07	
E9050	NE9050	100 YR - 1 Day		AE	10.76	11.63	
E9060	NE9060	100 YR - 1 Day		AE	10.76	11.63	
E9065	NE9065	100 YR - 1 Day		AE	10.71	11.63	
E9070	NE9070	100 YR - 1 Day		AE	10.71	11.63	
E9080	NE9080	100 YR - 1 Day		AE	10.44	11.39	
E9090	NE9090	100 YR - 1 Day		AE	10.43	11.39	
E9100	NE9100	100 YR - 1 Day		AE	10.23	11.35	
E9110	NE9110	100 YR - 1 Day		AE	10.23	11.35	
E9510	NE9510	100 YR - 1 Day			10.10	11.24	
E9520	NE9520	100 YR - 1 Day			9.94	11.24	
E9602	NE9602	100 YR - 1 Day		X	12.03	11.99	
E9604	NE9604	100 YR - 1 Day		AE	12.64	12.56	
E9606	NE9606	100 YR - 1 Day		X	12.46	12.22	
E9608	NE9608	100 YR - 1 Day			12.44	12.20	
E9610	NE9610	100 YR - 1 Day		X	12.52	12.24	
E9611	NE9611	100 YR - 1 Day		X	12.55	12.25	
E9612	NE9612	100 YR - 1 Day		AE	12.53	12.22	
E9620	NE9620	100 YR - 1 Day		X	12.55	12.25	
E9626	NE9626	100 YR - 1 Day		X	12.48	12.24	
E9630	NE9630	100 YR - 1 Day		AE	11.96	11.92	
E9700	NE9700	100 YR - 1 Day		AE	12.36	12.38	
F0010	NF0010	100 YR - 1 Day		AE	20.16	20.93	
F0020	NF0020	100 YR - 1 Day		AE	17.50	18.63	
F0022	NF0022	100 YR - 1 Day		AE	18.75	18.86	
F0025	NF0025	100 YR - 1 Day		AE	18.75	18.85	
F0030	NF0030	100 YR - 1 Day		AE	17.47	18.58	
F0032	NF0032	100 YR - 1 Day			19.18	19.48	
F0034	NF0034	100 YR - 1 Day		AE	18.26	18.77	
F0036	NF0036	100 YR - 1 Day		AE	17.69	18.59	
F0038	NF0038	100 YR - 1 Day		AE	17.51	18.59	
F0040	NF0040	100 YR - 1 Day		AE	17.45	18.56	
F0070	NF0070	100 YR - 1 Day		AE	14.58	16.11	
F0082	NF0082	100 YR - 1 Day		AE	17.44	17.27	
F0085	NF0085	100 YR - 1 Day		AE	17.13	16.58	
F0088	NF0088	100 YR - 1 Day		AE	17.07	16.51	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
F0090	NF0090	100 YR - 1 Day		AE	14.23	15.43	
F0092	NF0092	100 YR - 1 Day		AE	18.85	18.71	
F0094	NF0094	100 YR - 1 Day		AE	18.85	18.62	
F0096	NF0096	100 YR - 1 Day		AE	17.73	16.87	
F0098	NF0098	100 YR - 1 Day		AE	14.16	15.32	
F0100	NF0100	100 YR - 1 Day		AE	14.15	15.31	
F0110	NF0110	100 YR - 1 Day		AE	14.06	15.18	
F0120	NF0120	100 YR - 1 Day		AE	13.95	15.05	
F0122	NF0122	100 YR - 1 Day		AE	14.78	15.08	
F0124	NF0124	100 YR - 1 Day		AE	14.32	15.08	
F0126	NF0126	100 YR - 1 Day		AE	13.97	15.08	
F0128	NF0128	100 YR - 1 Day		AE	13.97	15.07	
F0140	NF0140	100 YR - 1 Day		AE	13.82	14.96	
F0150	NF0150	100 YR - 1 Day		AE	11.83	12.94	
F0152	NF0152	100 YR - 1 Day		AE	12.53	12.96	
F0153	NF0153	100 YR - 1 Day		AE	15.06	15.08	
F0154	NF0154	100 YR - 1 Day		AE	11.93	12.92	
F0155	NF0155	100 YR - 1 Day		AE	15.09	15.19	
F0156	NF0156	100 YR - 1 Day		AE	11.85	12.88	
F0158	NF0158	100 YR - 1 Day		AE	11.84	12.86	
F0160	NF0160	100 YR - 1 Day		AE	11.69	12.78	
F0170	NF0170	100 YR - 1 Day		AE	11.62	12.67	
F0180	NF0180	100 YR - 1 Day		AE	11.40	12.45	
F0187	NF0187	100 YR - 1 Day		AE	12.96	12.92	
F0188	NF0188	100 YR - 1 Day		AE	12.98	12.93	
F0190	NF0190	100 YR - 1 Day		AE	11.28	12.26	
F0210	NF0210	100 YR - 1 Day		AE	11.06	12.06	
F0220	NF0220	100 YR - 1 Day		AE	10.96	11.91	
F0229	NF0229	100 YR - 1 Day		AE	17.49	18.58	
F0230	NF0230	100 YR - 1 Day		AE	10.88	11.82	
F1010	NF1010	100 YR - 1 Day		AE	14.23	14.60	
F1020	NF1020	100 YR - 1 Day		AE	14.23	14.61	
F1030	NF1030	100 YR - 1 Day			14.23	14.62	
F1040	NF1040	100 YR - 1 Day		AE	13.95	15.04	
F2010	NF2010	100 YR - 1 Day		AE	12.28	12.87	
F2020	NF2020	100 YR - 1 Day		AE	12.28	12.87	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
F2025	NF2025	100 YR - 1 Day		AE	12.21	12.86	
F2030	NF2030	100 YR - 1 Day		AE	12.18	12.86	
F2040	NF2040	100 YR - 1 Day		AE	11.63	12.69	
F2050	NF2050	100 YR - 1 Day		AE	11.64	12.69	
G0003	NG0003	100 YR - 1 Day		AE	22.57	22.96	
G0008	NG0008	100 YR - 1 Day		AE	22.56	23.39	
G0010	NG0010	100 YR - 1 Day		AE	22.51	22.82	
G0020	NG0020	100 YR - 1 Day		AE	22.50	22.80	
G0030	NG0030	100 YR - 1 Day		AE	22.50	22.78	
G0040	NG0040	100 YR - 1 Day		AE	22.50	22.78	
G0050	NG0050	100 YR - 1 Day			20.64	21.45	
G0053	NG0053	100 YR - 1 Day		AE	21.54	21.68	
G0057	NG0057	100 YR - 1 Day		AE	21.49	21.62	
G0060	NG0060	100 YR - 1 Day		AE	20.63	21.43	
G0080	NG0080	100 YR - 1 Day		AE	20.63	21.38	
G0090	NG0090	100 YR - 1 Day		AE	20.63	21.33	
G0110	NG0110	100 YR - 1 Day		AE	20.61	21.24	
G0120	NG0120	100 YR - 1 Day		AE	19.75	20.99	
G0130	NG0130	100 YR - 1 Day		AE	19.73	20.92	
G0140	NG0140	100 YR - 1 Day		AE	19.68	20.78	
G0150	NG0150	100 YR - 1 Day		AE	19.65	20.70	
G0170	NG0170	100 YR - 1 Day		AE	19.37	20.47	
G0180	NG0180	100 YR - 1 Day		AE	19.34	20.41	
G0190	NG0190	100 YR - 1 Day		AE	19.31	20.31	
G0200	NG0200	100 YR - 1 Day		AE	19.27	20.27	
G0210	NG0210	100 YR - 1 Day		AE	17.53	18.60	
G0215	NG0215	100 YR - 1 Day		AE	17.41	18.48	
G0216	NG0216	100 YR - 1 Day		AE	17.30	18.26	
G0217	NG0217	100 YR - 1 Day		AE	17.18	18.05	
G0218	NG0218	100 YR - 1 Day		AE	18.45	18.45	
G0219	NG0219	100 YR - 1 Day		AE	18.45	18.50	
G0220	NG0220	100 YR - 1 Day		AE	18.16	18.20	
G0221	NG0221	100 YR - 1 Day		AE	18.04	18.08	
G0222	NG0222	100 YR - 1 Day		AE	16.74	16.78	
G0223	NG0223	100 YR - 1 Day		AE	17.16	17.54	
G0224	NG0224	100 YR - 1 Day		AE	17.11	17.53	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
G0226	NG0226	100 YR - 1 Day		AE	16.99	17.53	
G0227	NG0227	100 YR - 1 Day		AE	17.00	17.62	
G0229	NG0229	100 YR - 1 Day		AE	17.00	17.66	
G0230	NG0230	100 YR - 1 Day		AE	17.15	17.93	
G0240	NG0240	100 YR - 1 Day		AE	17.00	17.57	
G0245	NG0245	100 YR - 1 Day		AE	16.03	16.41	
G0250	NG0250	100 YR - 1 Day		AE	16.85	17.32	
G0252	NG0252	100 YR - 1 Day		AE	16.18	16.58	
G0254	NG0254	100 YR - 1 Day		AE	16.23	16.61	
G0256	NG0256	100 YR - 1 Day		AE	15.87	16.16	
G0260	NG0260	100 YR - 1 Day		AE	16.69	17.05	
G0263	NG0263	100 YR - 1 Day		AE	16.23	16.61	
G0266	NG0266	100 YR - 1 Day		AE	15.81	16.07	
G0270	NG0270	100 YR - 1 Day		AE	16.60	16.93	
G0280	NG0280	100 YR - 1 Day		AE	14.67	15.59	
G1010	NG1010	100 YR - 1 Day		AE	21.50	21.99	
G1020	NG1020	100 YR - 1 Day		AE	21.51	21.99	
G1030	NG1030	100 YR - 1 Day		AE	21.55	22.15	
G1040	NG1040	100 YR - 1 Day		AE	21.56	22.16	
G1050	NG1050	100 YR - 1 Day		AE	21.89	22.19	
G1060	NG1060	100 YR - 1 Day		AE	21.90	22.19	
G1510	NG1510	100 YR - 1 Day		AE	22.45	23.01	
G1520	NG1520	100 YR - 1 Day		AE	22.45	23.01	
G1530	NG1530	100 YR - 1 Day		AE	22.45	23.01	
G1540	NG1540	100 YR - 1 Day		AE	22.45	23.01	
G2020	NG2020	100 YR - 1 Day			22.62	22.59	
G2030	NG2030	100 YR - 1 Day		AE	21.96	22.12	
G2032	NG2032	100 YR - 1 Day		AE	22.52	22.52	
G2034	NG2034	100 YR - 1 Day		AE	22.01	22.14	
G2036	NG2036	100 YR - 1 Day		AE	21.99	22.12	
G2040	NG2040	100 YR - 1 Day		AE	21.96	22.12	
G2050	NG2050	100 YR - 1 Day		AE	21.93	22.10	
G2070	NG2070	100 YR - 1 Day		AE	21.38	21.91	
G2080	NG2080	100 YR - 1 Day		AE	21.06	21.90	
G2090	NG2090	100 YR - 1 Day		AE	21.04	21.88	
G2100	NG2100	100 YR - 1 Day		AE	20.99	21.70	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
G2103	NG2103	100 YR - 1 Day		AE	20.90	21.59	
G2107	NG2107	100 YR - 1 Day		AE	20.90	21.59	
G2109	NG2109	100 YR - 1 Day		AE	20.91	21.59	
G2110	NG2110	100 YR - 1 Day		AE	20.91	21.59	
G2130	NG2130	100 YR - 1 Day		AE	20.90	21.58	
G2150	NG2150	100 YR - 1 Day		AE	20.87	21.56	
G3010	NG3010	100 YR - 1 Day		AE	21.26	21.35	
G3020	NG3020	100 YR - 1 Day		AE	21.23	21.34	
G3030	NG3030	100 YR - 1 Day		AE	21.23	21.34	
G3040	NG3040	100 YR - 1 Day		AE	21.23	21.35	
G3050	NG3050	100 YR - 1 Day		AE	21.23	21.35	
G4010	NG4010	100 YR - 1 Day		AE	20.47	20.97	
G4020	NG4020	100 YR - 1 Day		AE	20.47	20.97	
G4023	NG4023	100 YR - 1 Day		AE	20.73	21.41	
G4027	NG4027	100 YR - 1 Day		AE	20.66	21.37	
G4030	NG4030	100 YR - 1 Day		AE	20.62	21.32	
G4040	NG4040	100 YR - 1 Day		AE	20.63	21.33	
G4050	NG4050	100 YR - 1 Day		AE	20.62	21.32	
G5210	NG5210	100 YR - 1 Day		AE	22.04	22.64	
G5220	NG5220	100 YR - 1 Day		AE	22.04	22.64	
G5230	NG5230	100 YR - 1 Day		AE	22.04	22.64	
G5240	NG5240	100 YR - 1 Day		AE	22.04	22.64	
G5510	NG5510	100 YR - 1 Day			22.25	22.90	
G5520	NG5520	100 YR - 1 Day		AE	22.41	22.97	
G5535	NG5535	100 YR - 1 Day		AE	22.41	23.01	
G5540	NG5540	100 YR - 1 Day		AE	22.41	23.01	
G5545	NG5545	100 YR - 1 Day		AE	22.41	23.01	
G5550	NG5550	100 YR - 1 Day		AE	22.41	23.01	
G5560	NG5560	100 YR - 1 Day		AE	22.40	23.01	
G5580	NG5580	100 YR - 1 Day		AE	22.38	23.01	
G5810	NG5810	100 YR - 1 Day		AE	22.03	22.51	
G5815	NG5815	100 YR - 1 Day		AE	22.40	23.24	
G5820	NG5820	100 YR - 1 Day		AE	22.02	22.49	
G5830	NG5830	100 YR - 1 Day		AE	22.02	22.48	
G5835	NG5835	100 YR - 1 Day		AE	22.07	22.63	
G5840	NG5840	100 YR - 1 Day		AE	22.01	22.47	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
G5850	NG5850	100 YR - 1 Day			21.94	22.27	
G5860	NG5860	100 YR - 1 Day			19.81	21.12	
G5863	NG5863	100 YR - 1 Day		X	20.45	21.10	
G5867	NG5867	100 YR - 1 Day		AE	19.81	21.10	
G5870	NG5870	100 YR - 1 Day		AE	19.81	21.10	
G5880	NG5880	100 YR - 1 Day		AE	19.78	21.02	
G5890	NG5890	100 YR - 1 Day		AE	19.75	20.95	
G6010	NG6010	100 YR - 1 Day			20.00	20.82	
G6020	NG6020	100 YR - 1 Day		AE	19.97	20.82	
G6030	NG6030	100 YR - 1 Day		AE	19.87	20.77	
G6050	NG6050	100 YR - 1 Day		AE	19.68	20.77	
G7010	NG7010	100 YR - 1 Day		AE	19.90	20.60	
G7012	NG7012	100 YR - 1 Day		AE	19.90	20.58	
G7015	NG7015	100 YR - 1 Day		AE	19.90	20.59	
G7020	NG7020	100 YR - 1 Day		AE	19.90	20.60	
G7030	NG7030	100 YR - 1 Day			19.89	20.60	
G7040	NG7040	100 YR - 1 Day			19.65	20.67	
G7050	NG7050	100 YR - 1 Day		AE	19.65	20.68	
G8005	NG8005	100 YR - 1 Day		AE	17.44	20.03	
G8010	NG8010	100 YR - 1 Day		AE	17.43	20.03	
G8040	NG8040	100 YR - 1 Day		AE	17.41	18.71	
G8042	NG8042	100 YR - 1 Day		AE	18.68	18.61	
G8044	NG8044	100 YR - 1 Day			17.26	18.14	
G8045	NG8045	100 YR - 1 Day			17.20	17.98	
G8048	NG8048	100 YR - 1 Day		AE	17.00	17.66	
G8050	NG8050	100 YR - 1 Day		AE	17.41	18.66	
H0002	NH0002	100 YR - 1 Day		AE	17.49	18.64	
H0004	NH0004	100 YR - 1 Day		AE	17.49	18.63	
H0006	NH0006	100 YR - 1 Day		AE	17.45	18.60	
H0008	NH0008	100 YR - 1 Day			17.40	18.25	
H0010	NH0010	100 YR - 5 Day	A3 F	AE	15.66	17.52	
H0020	NH0020	100 YR - 5 Day	A3 F	AE	15.43	17.21	
H0030	NH0030	100 YR - 5 Day	A3 F	AE	14.96	16.64	
H0040	NH0040	100 YR - 5 Day	A3 F	AE	14.94	16.61	
H0050	NH0050	100 YR - 5 Day	A3 F	AE	14.79	16.19	
H0060	NH0060	100 YR - 5 Day	A3 F	AE	14.46	15.82	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
H0070	NH0070	100 YR - 5 Day	A3 F	AE	13.78	15.11	
H0072	NH0072	100 YR - 5 Day	A3 F	AE	13.51	14.68	
H0074	NH0074	100 YR - 5 Day	A3 F	AE	13.76	15.10	
H0076	NH0076	100 YR - 5 Day	A3 F	AE	13.46	14.62	
H0080	NH0080	100 YR - 5 Day	A3 F	AE	13.35	14.50	
H0090	NH0090	100 YR - 5 Day	A3 F	AE	12.96	14.02	
H0100	NH0100	100 YR - 5 Day	A3 F	AE	12.81	13.82	
H0110	NH0110	100 YR - 5 Day	A3 F	AE	12.73	13.71	
H0120	NH0120	100 YR - 5 Day	A3 F	AE	12.55	13.51	
H0130	NH0130	100 YR - 5 Day	A3 F	AE	12.25	13.14	
H0140	NH0140	100 YR - 5 Day	A3 F	AE	11.55	12.55	
H0150	NH0150	100 YR - 5 Day	A4 F	AE	11.28	12.42	
H0160	NH0160	100 YR - 5 Day	A4 F	AE	10.89	12.22	
H6010	NH6010	100 YR - 1 Day		AE	11.77	12.40	
H6020	NH6020	100 YR - 1 Day		AE	11.77	12.39	
H6035	NH6035	100 YR - 1 Day		AE	11.77	12.39	
H6050	NH6050	100 YR - 1 Day		AE	11.18	12.39	
H6060	NH6060	100 YR - 1 Day		AE	10.97	12.39	
H6065	NH6065	100 YR - 1 Day		AE	10.97	12.37	
H6080	NH6080	100 YR - 1 Day		AE	10.97	12.39	
H6100	NH6100	100 YR - 1 Day		AE	10.90	12.38	
H6105	NH6105	100 YR - 5 Day	A3	AE	11.30	12.41	
H6110	NH6110	100 YR - 5 Day	A4	AE	10.90	12.42	
H8010	NH8010	100 YR - 1 Day		AE	19.89	19.98	
H8020	NH8020	100 YR - 1 Day		AE	19.82	19.86	
H8030	NH8030	100 YR - 1 Day		AE	19.69	19.71	
H8060	NH8060	100 YR - 1 Day		AE	18.72	18.94	
H8075	NH8075	100 YR - 1 Day		AE	19.40	19.71	
H8077	NH8077	100 YR - 1 Day		AE	19.44	19.72	
H8080	NH8080	100 YR - 1 Day		AE	18.60	18.81	
H8090	NH8090	100 YR - 1 Day	A3	AE	17.92	17.95	
H9000	NH9000	100 YR - 1 Day	A3	AE	12.43	12.67	
I0012	NI0012	100 YR - 1 Day		AE	21.07	21.93	
I0015	NI0015	100 YR - 1 Day		AE	21.07	21.92	
I0016	NI0016	100 YR - 1 Day		AE	22.52	22.58	
I0018	NI0018	100 YR - 1 Day		AE	21.06	21.92	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
I0020	NI0020	100 YR - 1 Day		AE	21.06	21.92	
I0025	NI0025	100 YR - 1 Day		AE	21.10	21.86	
I0030	NI0030	100 YR - 1 Day		AE	21.01	21.86	
I0040	NI0040	100 YR - 1 Day		AE	20.46	21.04	
I0050	NI0050	100 YR - 1 Day		AE	17.76	18.80	
I0055	NI0055	100 YR - 1 Day			18.10	18.77	
I0059	NI0059	100 YR - 1 Day		AE	18.02	18.77	
I0060	NI0060	100 YR - 1 Day		AE	17.73	18.76	
I0062	NI0062	100 YR - 1 Day		AE	20.82	20.93	
I0070	NI0070	100 YR - 1 Day		AE	17.67	18.65	
I0080	NI0080	100 YR - 1 Day		AE	17.63	18.58	
I0082	NI0082	100 YR - 1 Day		AE	20.97	21.05	
I0085	NI0085	100 YR - 1 Day		AE	19.38	19.82	
I0090	NI0090	100 YR - 1 Day		AE	17.57	18.49	
I0095	NI0095	100 YR - 1 Day		AE	18.52	18.81	
I0100	NI0100	100 YR - 1 Day		AE	17.50	18.36	
I0105	NI0105	100 YR - 1 Day		AE	18.39	18.51	
I0110	NI0110	100 YR - 1 Day		AE	17.36	18.07	
I0130	NI0130	100 YR - 1 Day		AE	14.02	14.83	
I0132	NI0132	100 YR - 1 Day		AE	14.56	14.56	
I0133	NI0133	100 YR - 1 Day		AE	17.25	17.42	
I0135	NI0135	100 YR - 1 Day		AE	13.96	14.51	
I0138	NI0138	100 YR - 1 Day		AE	13.86	14.44	
I0140	NI0140	100 YR - 1 Day		AE	13.82	14.37	
I0150	NI0150	100 YR - 1 Day		AE	13.74	14.19	
I0155	NI0155	100 YR - 1 Day		AE	13.26	13.39	
I0160	NI0160	100 YR - 1 Day		AE	13.62	14.08	
I0170	NI0170	100 YR - 1 Day		AE	12.23	13.23	
I0172	NI0172	100 YR - 1 Day		AE	13.05	13.37	
I0174	NI0174	100 YR - 1 Day		AE	13.04	13.36	
I0176	NI0176	100 YR - 1 Day		AE	12.78	13.32	
I0178	NI0178	100 YR - 1 Day		AE	12.47	13.28	
I0180	NI0180	100 YR - 1 Day		AE	12.19	13.17	
I0181	NI0181	100 YR - 1 Day		AE	12.47	13.32	
I0182	NI0182	100 YR - 1 Day		AE	12.06	12.97	
I0183	NI0183	100 YR - 1 Day			11.96	12.89	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
I0185	NI0185	100 YR - 1 Day		AE	11.88	12.64	
I0188	NI0188	100 YR - 1 Day		AE	11.88	12.64	
I0190	NI0190	100 YR - 1 Day		AE	11.93	12.78	
I0192	NI0192	100 YR - 1 Day		AE	12.45	13.31	
I0193	NI0193	100 YR - 1 Day		AE	11.82	12.60	
I0195	NI0195	100 YR - 1 Day		AE	12.45	13.32	
I1010	NI1010	100 YR - 1 Day			15.11	15.84	
I1015	NI1015	100 YR - 1 Day		AE	16.72	16.39	
I1020	NI1020	100 YR - 1 Day		AE	14.73	15.80	
I1030	NI1030	100 YR - 1 Day		AE	14.13	15.69	
I2010	NI2010	100 YR - 1 Day		AE	15.07	15.08	
I2020	NI2020	100 YR - 1 Day		AE	14.70	14.91	
I2030	NI2030	100 YR - 1 Day		AE	14.66	14.85	
I2040	NI2040	100 YR - 1 Day		AE	14.63	14.81	
I2050	NI2050	100 YR - 1 Day		AE	14.59	14.78	
I9020	NI9020	100 YR - 1 Day		AE	20.86	20.99	
I9022	NI9022	100 YR - 1 Day		AE	20.86	20.99	
I9024	NI9024	100 YR - 1 Day		AE	20.84	20.95	
J0005	NJ0005	100 YR - 1 Day		AE	25.29	27.09	
J0010	NJ0010	100 YR - 1 Day		AE	25.12	26.95	
J0020	NJ0020	100 YR - 1 Day		AE	25.04	26.88	
J0030	NJ0030	100 YR - 1 Day		AE	24.10	26.32	
J0040	NJ0040	100 YR - 1 Day		AE	24.01	26.25	
J0050	NJ0050	100 YR - 1 Day		AE	23.86	26.20	
J0070	NJ0070	100 YR - 1 Day		AE	23.75	26.14	
J0080	NJ0080	100 YR - 1 Day		AE	23.68	26.10	
J0090	NJ0090	100 YR - 1 Day		AE	23.60	26.03	
J0100	NJ0100	100 YR - 1 Day		AE	23.57	26.01	
J0103	NJ3520	100 YR - 1 Day			24.58	26.17	
J0104	NJ0080	100 YR - 1 Day			23.68	26.10	
J0105	NJ0100	100 YR - 1 Day			23.57	26.01	
J0110	NJ0110	100 YR - 1 Day		AE	21.89	22.73	
J0120	NJ0120	100 YR - 1 Day		AE	21.75	22.56	
J0130	NJ0130	100 YR - 1 Day		AE	21.58	22.36	
J0140	NJ0140	100 YR - 1 Day		AE	21.49	22.21	
J0142	NJ0142	100 YR - 1 Day		AE	20.97	21.56	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
J0143	NJ0143	100 YR - 1 Day		AE	20.97	21.54	
J0144	NJ0144	100 YR - 1 Day		AE	21.07	21.67	
J0145	NJ0145	100 YR - 1 Day		AE	21.27	21.90	
J0148	NJ0148	100 YR - 1 Day		AE	21.07	21.67	
J0150	NJ0150	100 YR - 1 Day		AE	21.07	21.67	
J0160	NJ0160	100 YR - 1 Day		AE	20.97	21.54	
J0162	NJ0162	100 YR - 1 Day		AE	20.68	21.11	
J0165	NJ0165	100 YR - 1 Day		AE	20.69	21.21	
J0168	NJ0168	100 YR - 1 Day		AE	20.71	21.23	
J0170	NJ0170	100 YR - 1 Day		AE	20.86	21.43	
J0172	NJ0172	100 YR - 1 Day		AE	20.98	21.55	
J0174	NJ0174	100 YR - 1 Day		AE	20.97	21.54	
J0176	NJ0176	100 YR - 1 Day		AE	20.97	21.54	
J0178	NJ0178	100 YR - 1 Day		AE	20.94	21.54	
J0180	NJ0180	100 YR - 1 Day		AE	20.69	21.26	
J0182	NJ0182	100 YR - 1 Day		AE	20.63	21.03	
J0184	NJ0184	100 YR - 1 Day		AE	20.63	21.02	
J0186	NJ0186	100 YR - 1 Day		AE	20.63	21.19	
J0188	NJ0188	100 YR - 1 Day		AE	20.61	21.19	
J0190	NJ0190	100 YR - 1 Day		AE	20.55	21.17	
J0192	NJ0192	100 YR - 1 Day		AE	20.67	21.44	
J0195	NJ0195	100 YR - 1 Day		AE	20.61	21.34	
J0198	NJ0198	100 YR - 1 Day		AE	20.61	21.34	
J0200	NJ0200	100 YR - 1 Day		AE	20.48	21.12	
J0210	NJ0210	100 YR - 1 Day		AE	20.37	21.06	
J1010	NJ1010	100 YR - 1 Day		AE	26.51	26.64	
J1020	NJ1020	100 YR - 1 Day		AE	26.51	26.64	
J1110	NJ1110	100 YR - 1 Day		AE	26.52	26.64	
J1120	NJ1120	100 YR - 1 Day		AE	26.52	26.64	
J1130	NJ1130	100 YR - 1 Day		AE	26.52	26.64	
J1210	NJ1210	100 YR - 1 Day		AE	26.81	26.90	
J1220	NJ1220	100 YR - 1 Day		AE	26.47	26.60	
J1310	NJ1310	100 YR - 1 Day		AE	26.52	26.64	
J1320	NJ1320	100 YR - 1 Day		AE	26.52	26.64	
J1330	NJ1330	100 YR - 1 Day		AE	26.49	26.61	
J1410	NJ1410	100 YR - 1 Day		AE	26.25	26.24	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
J1420	NJ1420	100 YR - 1 Day		AE	26.02	26.21	
J1501	NJ1501	100 YR - 1 Day		AE	26.93	26.95	
J1502	NJ1502	100 YR - 1 Day		AE	26.86	26.86	
J1503	NJ1503	100 YR - 1 Day		AE	26.92	26.93	
J1504	NJ1504	100 YR - 1 Day		AE	26.89	26.90	
J1505	NJ1505	100 YR - 1 Day		AE	26.86	26.86	
J1506	NJ1506	100 YR - 1 Day		AE	26.93	26.96	
J1510	NJ1510	100 YR - 1 Day		AE	26.86	26.86	
J1520	NJ1520	100 YR - 1 Day		AE	26.57	26.70	
J1530	NJ1530	100 YR - 1 Day		AE	26.51	26.64	
J1540	NJ1540	100 YR - 1 Day			26.50	26.62	
J1550	NJ1550	100 YR - 1 Day			26.50	26.62	
J1560	NJ1560	100 YR - 1 Day		AE	26.47	26.60	
J1570	NJ1570	100 YR - 1 Day		AE	26.35	26.46	
J1580	NJ1580	100 YR - 1 Day		AE	26.33	26.45	
J1590	NJ1590	100 YR - 1 Day		AE	26.00	26.21	
J1600	NJ1600	100 YR - 1 Day		AE	24.24	26.20	
J1610	NJ1610	100 YR - 1 Day		AE	23.86	26.20	
J2010	NJ2010	100 YR - 1 Day		AE	25.30	26.22	
J2020	NJ2020	100 YR - 1 Day		AE	25.09	26.22	
J2030	NJ2030	100 YR - 1 Day		AE	25.07	26.23	
J2110	NJ2110	100 YR - 1 Day		AE	24.40	26.22	
J2120	NJ2120	100 YR - 1 Day		AE	24.81	26.22	
J2210	NJ2210	100 YR - 1 Day		AE	24.60	26.18	
J2220	NJ2220	100 YR - 1 Day		AE	24.49	26.20	
J2230	NJ2230	100 YR - 1 Day		AE	24.37	26.20	
J2310	NJ2310	100 YR - 1 Day		AE	24.36	26.20	
J2320	NJ2320	100 YR - 1 Day		AE	24.36	26.20	
J2330	NJ2330	100 YR - 1 Day		AE	24.36	26.20	
J2410	NJ2410	100 YR - 1 Day		AE	25.03	26.26	
J2420	NJ2420	100 YR - 1 Day		AE	25.02	26.23	
J2430	NJ2430	100 YR - 1 Day		AE	25.02	26.21	
J2440	NJ2440	100 YR - 1 Day		AE	24.36	26.21	
J2450	NJ2450	100 YR - 1 Day		AE	24.36	26.20	
J2460	NJ2460	100 YR - 1 Day		AE	24.33	26.20	
J2470	NJ2470	100 YR - 1 Day		AE	24.04	26.15	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
J2480	NJ2480	100 YR - 1 Day		AE	24.03	26.15	
J2510	NJ2510	100 YR - 1 Day		AE	24.12	26.15	
J2520	NJ2520	100 YR - 1 Day		AE	24.12	26.15	
J2530	NJ2530	100 YR - 1 Day		AE	23.97	26.15	
J2540	NJ2540	100 YR - 1 Day		AE	23.94	26.15	
J2550	NJ2550	100 YR - 1 Day		AE	23.91	26.14	
J3010	NJ3010	100 YR - 1 Day		AE	25.17	26.21	
J3020	NJ3020	100 YR - 1 Day		AE	25.04	26.20	
J3030	NJ3030	100 YR - 1 Day		AE	24.82	26.20	
J3210	NJ3210	100 YR - 1 Day		AE	24.82	26.20	
J3520	NJ3520	100 YR - 1 Day		AE	24.58	26.17	
J3530	NJ3530	100 YR - 1 Day		AE	24.58	26.17	
J3540	NJ3540	100 YR - 1 Day		AE	24.55	26.17	
J3550	NJ3550	100 YR - 1 Day		AE	24.54	26.17	
J3810	NJ3810	100 YR - 1 Day		AE	24.97	26.41	
J3820	NJ3820	100 YR - 1 Day		AE	24.88	26.26	
J3830	NJ3830	100 YR - 1 Day		AE	24.87	26.26	
J3835	NJ3835	100 YR - 1 Day		AE	24.87	26.24	
J3838	NJ3838	100 YR - 1 Day		AE	24.87	26.24	
J3840	NJ3840	100 YR - 1 Day		AE	24.87	26.24	
J3850	NJ3850	100 YR - 1 Day		AE	24.82	26.20	
J3870	NJ3870	100 YR - 1 Day		AE	24.81	26.20	
J3880	NJ3880	100 YR - 1 Day		AE	24.71	26.19	
J3890	NJ3890	100 YR - 1 Day		AE	24.11	26.18	
J3900	NJ3900	100 YR - 1 Day		AE	23.75	26.17	
J3910	NJ3910	100 YR - 1 Day		AE	23.75	26.17	
J3920	NJ3920	100 YR - 1 Day		AE	23.75	26.16	
J4010	NJ4010	100 YR - 1 Day		AE	24.00	26.02	
J4020	NJ4020	100 YR - 1 Day		AE	23.91	26.02	
J4030	NJ4030	100 YR - 1 Day		AE	23.91	26.02	
J4040	NJ4040	100 YR - 1 Day		AE	23.84	26.02	
J4050	NJ4050	100 YR - 1 Day		AE	23.62	26.02	
J4060	NJ4060	100 YR - 1 Day		AE	23.61	26.02	
J4503	NJ4530	100 YR - 1 Day			23.83	26.02	
J4505	NB4121	100 YR - 1 Day			24.11	26.02	
J4510	NJ4510	100 YR - 1 Day		AE	24.00	26.02	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
J4520	NJ4520	100 YR - 1 Day		AE	23.84	26.02	
J4530	NJ4530	100 YR - 1 Day		AE	23.83	26.02	
J4540	NJ4540	100 YR - 1 Day		AE	23.71	26.02	
J4550	NJ4550	100 YR - 1 Day		AE	23.70	26.02	
J5005	NJ5005	100 YR - 1 Day			21.88	22.56	
J5015	NJ5015	100 YR - 1 Day		AE	21.81	22.56	
J5020	NJ5020	100 YR - 1 Day		AE	21.75	22.56	
J5022	NJ5022	100 YR - 1 Day		AE	23.12	23.02	
J5025	NJ5025	100 YR - 1 Day			23.08	23.00	
J5030	NJ5030	100 YR - 1 Day		AE	21.75	22.56	
J5040	NJ5040	100 YR - 1 Day		AE	21.75	22.56	
J6010	NJ6010	100 YR - 1 Day			21.71	22.25	
J6020	NJ6020	100 YR - 1 Day		AE	21.50	22.25	
J6030	NJ6030	100 YR - 1 Day		AE	21.50	22.25	
J6040	NJ6040	100 YR - 1 Day		AE	21.50	22.25	
J6050	NJ6050	100 YR - 1 Day		AE	21.50	22.24	
J7010	NJ7010	100 YR - 1 Day		AE	20.98	21.55	
J7013	NJ7013	100 YR - 1 Day		AE	21.55	21.74	
J7017	NJ7017	100 YR - 1 Day		AE	20.98	21.57	
J7020	NJ7020	100 YR - 1 Day		AE	20.98	21.55	
J7022	NJ7022	100 YR - 1 Day		AE	20.97	21.33	
J7025	NJ7025	100 YR - 1 Day		AE	20.97	21.48	
J7028	NJ7028	100 YR - 1 Day		AE	20.97	21.53	
J7030	NJ7030	100 YR - 1 Day		AE	20.97	21.55	
J9000	NJ9000	100 YR - 1 Day		AE	24.17	24.16	
J9100	NJ9100	100 YR - 1 Day		AE	24.17	24.19	
J9200	NJ9200	100 YR - 1 Day		AE	24.17	24.19	
K0005	NK0005	100 YR - 1 Day		AE	24.02	25.69	
K0010	NK0010	100 YR - 1 Day			24.02	25.87	
K0030	NK0030	100 YR - 1 Day			24.00	25.82	
K0035	NK0035	100 YR - 1 Day		AE	24.48	25.81	
K0040	NK0040	100 YR - 1 Day		AE	23.95	25.75	
K0050	NK0050	100 YR - 1 Day		AE	23.91	25.68	
K0070	NK0070	100 YR - 1 Day		AE	23.85	25.61	
K0077	NK0077	100 YR - 1 Day		AE	23.98	25.90	
K0080	NK0080	100 YR - 1 Day			23.83	25.59	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
K0088	NK0088	100 YR - 1 Day		AE	23.79	25.32	
K0090	NK0090	100 YR - 1 Day		AE	23.79	25.55	
K0095	NK0095	100 YR - 1 Day		AE	23.73	25.31	
K0100	NK0100	100 YR - 1 Day		AE	23.76	25.53	
K0110	NK0110	100 YR - 1 Day		AE	23.75	25.53	
K0118	NK0118	100 YR - 1 Day		AE	23.53	25.27	
K0119	NK0119	100 YR - 1 Day		AE	23.73	25.30	
K0120	NK0120	100 YR - 1 Day		AE	23.49	25.50	
K0123	NK0123	100 YR - 1 Day		AE	23.72	25.81	
K0135	NK0135	100 YR - 1 Day		AE	23.83	25.55	
K0140	NK0140	100 YR - 1 Day		AE	21.04	25.26	
K0141	NK0144	100 YR - 1 Day			23.13	25.25	
K0142	NK0142	100 YR - 1 Day		AE	21.44	23.63	
K0143	NK7882	100 YR - 1 Day			23.36	23.15	
K0144	NK0144	100 YR - 1 Day		AE	23.13	25.25	
K0145	NK0140	100 YR - 1 Day			21.04	25.26	
K0146	NK0146	100 YR - 1 Day			22.47	23.63	
K0148	NK0148	100 YR - 1 Day		AE	21.43	23.63	
K0150	NK0150	100 YR - 1 Day		AE	20.83	23.13	
K0158	NK0158	100 YR - 1 Day		AE	20.97	23.63	
K0160	NK0160	100 YR - 1 Day		AE	20.78	22.99	
K0170	NK0170	100 YR - 1 Day		AE	20.74	22.88	
K0174	NK0174	100 YR - 1 Day		AE	20.86	23.54	
K0175	NK0175	100 YR - 1 Day		AE	20.91	22.69	
K0180	NK0180	100 YR - 1 Day		AE	20.72	22.80	
K0185	NK0185	100 YR - 1 Day		AE	20.81	22.62	
K0190	NK0190	100 YR - 1 Day		AE	20.70	22.70	
K0200	NK0200	100 YR - 1 Day		AE	20.68	22.60	
K0210	NK0210	100 YR - 1 Day		AE	20.63	22.54	
K0226	NK0226	100 YR - 1 Day		AE	19.46	21.85	
K0230	NK0230	100 YR - 1 Day		AE	19.36	21.21	
K0233	NK0233	100 YR - 1 Day		AE	19.17	21.85	
K0237	NK0237	100 YR - 1 Day		AE	19.17	21.86	
K0242	NK0242	100 YR - 1 Day		AE	19.43	20.97	
K0245	NK0245	100 YR - 1 Day		AE	19.18	20.97	
K0246	NK0246	100 YR - 1 Day		AE	19.38	21.55	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
K0248	NK0248	100 YR - 1 Day		AE	19.17	20.97	
K0250	NK0250	100 YR - 1 Day		AE	19.17	20.97	
K0274	NK0274	100 YR - 1 Day		AE	18.89	20.62	
K0280	NK0280	100 YR - 1 Day		AE	18.89	20.62	
K0294	NK0294	100 YR - 1 Day		AE	18.59	20.64	
K0300	NK0300	100 YR - 1 Day		AE	18.45	20.00	
K0302	NK0302	100 YR - 1 Day		AE	20.33	20.36	
K0305	NK0305	100 YR - 1 Day		AE	20.32	20.35	
K0308	NK0308	100 YR - 1 Day		AE	20.24	20.31	
K0309	NK0309	100 YR - 1 Day		AE	19.67	20.06	
K0310	NK0310	100 YR - 1 Day		AE	18.02	19.29	
K0314	NK0314	100 YR - 1 Day		AE	17.52	18.68	
K0318	NK0318	100 YR - 1 Day		AE	17.49	18.61	
K0320	NK0320	100 YR - 1 Day		AE	17.49	18.59	
K0323	NK0323	100 YR - 1 Day		AE	18.59	18.71	
K0327	NK0327	100 YR - 1 Day		AE	18.56	18.71	
K0328	NK0328	100 YR - 1 Day		AE	17.22	18.28	
K0330	NK0330	100 YR - 1 Day		AE	17.19	18.27	
K1010	NK1010	100 YR - 1 Day		AE	24.58	25.68	
K1020	NK1020	100 YR - 1 Day		AE	24.58	25.69	
K1030	NK1030	100 YR - 1 Day		AE	24.53	25.69	
K1040	NK1040	100 YR - 1 Day		AE	24.41	25.69	
K1050	NK1050	100 YR - 1 Day		AE	24.37	25.69	
K1510	NK1510	100 YR - 1 Day		AE	24.01	25.81	
K2010	NK2010	100 YR - 1 Day		AE	24.45	25.28	
K2020	NK2020	100 YR - 1 Day		AE	24.27	25.31	
K2040	NK2040	100 YR - 1 Day		AE	24.26	25.31	
K2510	NK2510	100 YR - 1 Day			25.29	25.68	
K2520	NK2520	100 YR - 1 Day		AE	24.93	25.68	
K2530	NK2530	100 YR - 1 Day		AE	24.62	25.68	
K2540	NK2540	100 YR - 1 Day		AE	23.91	25.68	
K3010	NK3010	100 YR - 1 Day		AE	23.89	25.26	
K3020	NK3020	100 YR - 1 Day		AE	23.89	25.26	
K3030	NK3030	100 YR - 1 Day		AE	23.89	25.26	
K3040	NK3040	100 YR - 1 Day		AE	23.89	25.28	
K3050	NK3050	100 YR - 1 Day		AE	23.89	25.31	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
K3070	NK3070	100 YR - 1 Day		AE	23.85	25.31	
K4010	NK4010	100 YR - 1 Day		AE	24.22	25.85	
K4020	NK4020	100 YR - 1 Day		AE	24.22	25.86	
K4030	NK4030	100 YR - 1 Day		AE	24.10	25.86	
K4060	NK4060	100 YR - 1 Day		AE	23.91	25.86	
K4070	NK4070	100 YR - 1 Day		AE	23.80	25.86	
K5010	NK5010	100 YR - 1 Day		AE	21.55	22.64	
K5030	NK5030	100 YR - 1 Day		AE	21.55	22.64	
K5040	NK5040	100 YR - 1 Day		AE	21.54	22.64	
K5050	NK5050	100 YR - 1 Day		AE	21.53	22.64	
K5060	NK5060	100 YR - 1 Day		AE	21.39	22.64	
K6010	NK6010	100 YR - 1 Day		AE	21.93	23.65	
K6030	NK6030	100 YR - 1 Day		AE	21.92	23.64	
K6040	NK6040	100 YR - 1 Day		AE	21.92	23.63	
K6050	NK6050	100 YR - 1 Day		AE	21.91	23.56	
K6060	NK6060	100 YR - 1 Day		AE	21.90	23.56	
K6070	NK6070	100 YR - 1 Day		AE	21.88	23.54	
K6080	NK6080	100 YR - 1 Day		AE	21.85	23.54	
K7020	NK7020	100 YR - 1 Day		AE	20.58	22.35	
K7040	NK7040	100 YR - 1 Day		AE	20.76	21.96	
K7050	NK7050	100 YR - 1 Day		AE	20.76	21.96	
K7060	NK7060	100 YR - 1 Day		AE	20.76	21.96	
K7070	NK7070	100 YR - 1 Day		AE	20.70	21.96	
K7210	NK7210	100 YR - 1 Day		AE	21.57	22.64	
K7220	NK7220	100 YR - 1 Day		AE	21.57	22.64	
K7230	NK7230	100 YR - 1 Day		AE	21.55	22.65	
K7240	NK7240	100 YR - 1 Day		AE	21.58	22.75	
K7250	NK7250	100 YR - 1 Day		AE	21.58	22.75	
K7410	NK7410	100 YR - 1 Day			22.06	22.54	
K7420	NK7420	100 YR - 1 Day			22.06	22.54	
K7430	NK7430	100 YR - 1 Day		AE	22.05	22.55	
K7440	NK7440	100 YR - 1 Day		AE	22.04	22.59	
K7450	NK7450	100 YR - 1 Day		AE	22.04	22.59	
K7460	NK7460	100 YR - 1 Day		AE	22.04	22.59	
K7470	NK7470	100 YR - 1 Day		AE	21.61	22.61	
K7480	NK7480	100 YR - 1 Day		AE	21.21	22.61	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
K7490	NK7490	100 YR - 1 Day		AE	21.15	22.62	
K7610	NK7610	100 YR - 1 Day		AE	21.55	22.63	
K7630	NK7630	100 YR - 1 Day		AE	21.56	22.64	
K7640	NK7640	100 YR - 1 Day		AE	21.55	22.63	
K7650	NK7650	100 YR - 1 Day		AE	21.55	22.62	
K7660	NK7660	100 YR - 1 Day		AE	20.86	22.61	
K7805	NK7805	100 YR - 1 Day		AE	24.12	26.20	
K7810	NK7810	100 YR - 1 Day		AE	24.12	26.21	
K7812	NK7812	100 YR - 1 Day		AE	24.12	26.20	
K7814	NK7814	100 YR - 1 Day		AE	24.12	26.20	
K7816	NK7816	100 YR - 1 Day		AE	24.12	26.20	
K7818	NK7818	100 YR - 1 Day		AE	24.12	26.19	
K7820	NK7820	100 YR - 1 Day		AE	24.12	26.20	
K7830	NK7830	100 YR - 1 Day			24.10	26.14	
K7845	NK7845	100 YR - 1 Day		AE	24.09	26.06	
K7850	NK7850	100 YR - 1 Day		AE	24.09	26.09	
K7855	NK7855	100 YR - 1 Day		AE	24.08	26.09	
K7858	NK7858	100 YR - 1 Day		AE	24.09	25.96	
K7859	NK7859	100 YR - 1 Day		AE	24.08	26.06	
K7860	NK7860	100 YR - 1 Day		AE	24.08	26.06	
K7864	NK7864	100 YR - 1 Day		X	22.63	25.94	
K7865	NK7865	100 YR - 1 Day		AE	23.53	26.05	
K7872	NK7872	100 YR - 1 Day		AE	24.02	25.81	
K7873	NK7873	100 YR - 1 Day		AE	23.90	25.77	
K7874	NK7874	100 YR - 1 Day		AE	22.76	25.89	
K7875	NK7875	100 YR - 1 Day		AE	24.76	26.04	
K7880	NK7880	100 YR - 1 Day		AE	21.89	25.89	
K7881	NK7880	100 YR - 1 Day			21.89	25.89	
K7882	NK7882	100 YR - 1 Day		AE	23.36	23.15	
K7884	NK7884	100 YR - 1 Day		AE	23.53	23.52	
K7885	NK7885	100 YR - 1 Day		AE	22.91	23.15	
K7886	NK7886	100 YR - 1 Day			23.87	24.32	
K7890	NK7890	100 YR - 1 Day		AE	21.58	23.15	
K7893	NK7893	100 YR - 1 Day		AE	22.84	23.14	
K7900	NK7900	100 YR - 1 Day		AE	21.58	23.13	
K7910	NK7910	100 YR - 1 Day		AE	20.95	22.71	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
K7913	NK7913	100 YR - 1 Day		AE	22.11	22.68	
K7917	NK7917	100 YR - 1 Day		AE	22.11	22.68	
K7920	NK7920	100 YR - 1 Day		AE	20.94	22.68	
K7930	NK7930	100 YR - 1 Day		AE	20.93	22.63	
K7932	NK7932	100 YR - 1 Day		AE	21.57	22.64	
K7934	NK7934	100 YR - 1 Day		AE	21.57	22.64	
K7936	NK7936	100 YR - 1 Day		AE	21.56	22.64	
K7938	NK7938	100 YR - 1 Day		AE	21.53	22.64	
K7940	NK7940	100 YR - 1 Day		AE	20.86	22.61	
K7945	NK7945	100 YR - 1 Day		AE	20.83	22.45	
K7947	NK7947	100 YR - 1 Day		AE	20.82	22.57	
K7950	NK7950	100 YR - 1 Day		AE	20.82	22.60	
K7960	NK7960	100 YR - 1 Day		AE	20.71	22.60	
K8010	NK8010	100 YR - 1 Day			21.44	21.50	
K8020	NK8020	100 YR - 1 Day		AE	21.44	21.49	
K8030	NK8030	100 YR - 1 Day		AE	19.45	21.23	
K8040	NK8040	100 YR - 1 Day		AE	19.37	21.21	
K8050	NK8050	100 YR - 1 Day		AE	19.36	21.21	
K9010	NK9010	100 YR - 1 Day		AE	20.93	21.40	
K9020	NK9020	100 YR - 1 Day		AE	20.93	21.38	
K9030	NK9030	100 YR - 1 Day		AE	20.84	21.28	
K9040	NK9040	100 YR - 1 Day		AE	20.61	21.14	
K9050	NK9050	100 YR - 1 Day		AE	19.67	21.08	
K9052	NK9052	100 YR - 1 Day		AE	20.68	20.79	
K9055	NK9055	100 YR - 1 Day			19.57	20.78	
K9058	NK9058	100 YR - 1 Day		AE	19.56	20.79	
K9060	NK9060	100 YR - 1 Day		AE	19.35	20.79	
K9070	NK9070	100 YR - 1 Day		AE	19.13	20.73	
K9510	NK9510	100 YR - 1 Day		AE	20.68	20.99	
K9520	NK9520	100 YR - 1 Day		AE	20.68	20.99	
K9610	NK9610	100 YR - 1 Day		AE	20.68	20.99	
K9630	NK9630	100 YR - 1 Day		AE	20.68	20.99	
K9710	NK9710	100 YR - 1 Day		AE	20.68	20.99	
K9720	NK9720	100 YR - 1 Day		AE	20.68	20.99	
K9730	NK9730	100 YR - 1 Day		AE	20.62	20.98	
L0010	NL0010	100 YR - 1 Day		AE	21.79	21.91	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
L0020	NL0020	100 YR - 1 Day		AE	21.65	21.70	
L0030	NL0030	100 YR - 1 Day			17.95	19.67	
L0035	NL0035	100 YR - 1 Day		AE	17.72	19.54	
L0040	NL0040	100 YR - 1 Day		AE	17.71	19.53	
L0042	NL0042	100 YR - 1 Day		AE	21.10	21.08	
L0045	NL0045	100 YR - 1 Day		AE	20.44	20.37	
L0047	NL0047	100 YR - 1 Day		AE	20.28	20.12	
L0048	NL0048	100 YR - 1 Day		AE	17.73	19.52	
L0050	NL0050	100 YR - 1 Day		AE	17.70	19.52	
L0057	NL0057	100 YR - 1 Day		AE	17.67	19.49	
L0060	NL0060	100 YR - 1 Day		AE	17.67	19.48	
L0063	NL0063	100 YR - 1 Day		AE	17.79	20.31	
L0067	NL0067	100 YR - 1 Day		AE	17.46	20.25	
L0070	NL0070	100 YR - 1 Day		AE	17.45	19.28	
L0073	NL0073	100 YR - 1 Day		AE	20.01	20.05	
L0077	NL0077	100 YR - 1 Day		AE	19.99	20.04	
L0080	NL0080	100 YR - 1 Day		AE	17.27	18.96	
L0083	NL0083	100 YR - 1 Day		AE	19.55	19.64	
L0087	NL0087	100 YR - 1 Day		AE	19.54	19.64	
L0090	NL0090	100 YR - 1 Day		AE	17.05	18.57	
L0100	NL0100	100 YR - 1 Day		AE	16.93	18.32	
L0110	NL0110	100 YR - 1 Day		AE	16.71	17.82	
L1010	NL1010	100 YR - 1 Day		AE	19.87	19.83	
L1013	NL1013	100 YR - 1 Day		AE	21.79	21.76	
L1017	NL1017	100 YR - 1 Day		AE	21.79	21.76	
L1020	NL1020	100 YR - 1 Day		AE	19.08	19.76	
L1021	NL1021	100 YR - 1 Day		AE	18.73	19.73	
L1023	NL1023	100 YR - 1 Day		AE	21.33	21.34	
L1027	NL1027	100 YR - 1 Day		AE	21.32	21.32	
L1030	NL1030	100 YR - 1 Day		AE	18.73	19.73	
L1035	NL1035	100 YR - 1 Day		AE	20.08	20.01	
L1040	NL1040	100 YR - 1 Day		AE	17.98	19.58	
N0009	NN0009	100 YR - 1 Day		AE	27.92	27.93	
N0010	NN0010	100 YR - 1 Day		AE	23.60	25.37	
N0020	NN0020	100 YR - 1 Day		AE	23.25	25.15	
N0030	NN0030	100 YR - 1 Day		AE	23.24	25.14	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
N0035	NN0035	100 YR - 1 Day		AE	24.27	25.12	
N0040	NN0040	100 YR - 1 Day		AE	23.23	25.12	
N0042	NN0042	100 YR - 1 Day		AE	24.46	25.14	
N0045	NN0045	100 YR - 1 Day		AE	25.38	25.34	
N0047	NN0047	100 YR - 1 Day		AE	24.44	25.14	
N0048	NN0048	100 YR - 1 Day		AE	23.25	25.14	
N0049	NN0049	100 YR - 1 Day		AE	23.62	25.06	
N0050	NN0050	100 YR - 1 Day		AE	23.22	25.11	
N0055	NN0055	100 YR - 1 Day		AE	24.46	25.14	
N0060	NN0060	100 YR - 1 Day			23.22	25.10	
N0070	NN0070	100 YR - 1 Day		AE	23.20	25.08	
N0075	NN0075	100 YR - 1 Day		AE	23.24	25.14	
N0080	NN0080	100 YR - 1 Day		AE	23.19	25.07	
N0085	NN0085	100 YR - 1 Day		AE	23.63	25.05	
N0090	NN0090	100 YR - 1 Day		AE	23.18	25.06	
N0092	NN0092	100 YR - 1 Day		AE	23.18	25.04	
N0093	NN0093	100 YR - 1 Day		AE	23.20	25.06	
N0098	NN0098	100 YR - 1 Day		AE	23.18	25.04	
N0100	NN0100	100 YR - 1 Day		AE	23.17	25.04	
N0105	NN0105	100 YR - 1 Day		AE	23.17	25.04	
N0110	NN0110	100 YR - 1 Day		AE	23.16	25.04	
N0115	NN0115	100 YR - 1 Day		X	23.03	24.71	
N0120	NN0120	100 YR - 1 Day		AE	20.29	21.72	
N0121	NN0120	100 YR - 1 Day			20.29	21.72	
N0122	NN5016	100 YR - 1 Day			24.36	24.27	
N0123	NN0123	100 YR - 1 Day		AE	23.93	24.71	
N0124	NN0125	100 YR - 1 Day			23.04	22.76	
N0125	NN0125	100 YR - 1 Day		AE	23.04	22.76	
N0127	NN0127	100 YR - 1 Day		AE	22.60	22.01	
N0130	NN0130	100 YR - 1 Day			19.83	20.99	
N0144	NN0144	100 YR - 1 Day		AE	19.90	21.07	
N0147	NN0147	100 YR - 1 Day		AE	20.38	20.77	
N0150	NN0150	100 YR - 1 Day		AE	19.64	20.74	
N0160	NN0160	100 YR - 1 Day			19.52	20.60	
N0165	NN0165	100 YR - 1 Day		AE	19.49	20.56	
N0170	NN0170	100 YR - 1 Day			19.48	20.56	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
N0171	NN0171	100 YR - 1 Day		AE	19.31	20.57	
N0172	NN0172	100 YR - 1 Day		AE	21.82	21.87	
N0174	NN0174	100 YR - 1 Day		AE	21.82	21.87	
N0176	NN0176	100 YR - 1 Day		AE	21.80	21.85	
N0177	NN0177	100 YR - 1 Day		AE	19.29	20.39	
N0178	NN0178	100 YR - 1 Day		AE	19.78	20.88	
N0180	NN0180	100 YR - 1 Day		AE	19.25	20.31	
N0182	NN0182	100 YR - 1 Day		AE	22.27	22.40	
N0184	NN0184	100 YR - 1 Day		AE	22.27	22.40	
N0185	NN0185	100 YR - 1 Day		AE	19.21	20.38	
N0186	NN0186	100 YR - 1 Day		AE	22.26	22.40	
N0188	NN0188	100 YR - 1 Day		AE	20.29	21.13	
N0190	NN0190	100 YR - 1 Day		AE	19.18	20.25	
N0194	NN0194	100 YR - 1 Day		AE	19.18	20.29	
N0200	NN0200	100 YR - 1 Day		AE	19.11	20.20	
N1010	NN1010	100 YR - 1 Day			25.12	25.25	
N1020	NN1020	100 YR - 1 Day		AE	25.07	25.25	
N1030	NN1030	100 YR - 1 Day		AE	25.02	25.25	
N1040	NN1040	100 YR - 1 Day		AE	24.99	25.25	
N1050	NN1050	100 YR - 1 Day			24.45	25.25	
N1510	NN1510	100 YR - 1 Day		AE	24.41	25.25	
N1520	NN1520	100 YR - 1 Day		AE	24.41	25.25	
N1540	NN1540	100 YR - 1 Day		AE	24.00	25.24	
N2010	NN2010	100 YR - 1 Day		AE	24.16	25.06	
N2020	NN2020	100 YR - 1 Day		AE	24.16	25.05	
N2030	NN2030	100 YR - 1 Day		AE	24.14	25.06	
N2040	NN2040	100 YR - 1 Day		AE	24.14	25.05	
N2510	NN2510	100 YR - 1 Day			24.32	25.05	
N2520	NN2520	100 YR - 1 Day		AE	24.14	25.05	
N2530	NN2530	100 YR - 1 Day		AE	24.01	25.05	
N2540	NN2540	100 YR - 1 Day		AE	23.49	25.06	
N3020	NN3020	100 YR - 1 Day		AE	23.76	25.05	
N3030	NN3030	100 YR - 1 Day		AE	23.74	25.05	
N3040	NN3040	100 YR - 1 Day		AE	23.67	25.05	
N3050	NN3050	100 YR - 1 Day		AE	23.22	25.05	
N3510	NN3510	100 YR - 1 Day		AE	23.99	25.07	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
N3520	NN3520	100 YR - 1 Day		AE	23.99	25.07	
N3530	NN3530	100 YR - 1 Day		AE	23.99	25.07	
N3540	NN3540	100 YR - 1 Day		AE	23.99	25.07	
N3550	NN3550	100 YR - 1 Day		AE	23.25	25.07	
N4010	NN4010	100 YR - 1 Day		AE	24.60	25.04	
N4020	NN4020	100 YR - 1 Day		AE	24.08	25.05	
N4024	NN4024	100 YR - 1 Day		AE	24.78	25.04	
N4026	NN4026	100 YR - 1 Day		AE	24.78	25.04	
N4028	NN4028	100 YR - 1 Day		AE	24.77	25.04	
N4030	NN4030	100 YR - 1 Day		AE	24.02	25.04	
N4040	NN4040	100 YR - 1 Day		AE	23.25	25.04	
N4045	NN4045	100 YR - 1 Day		AE	23.23	25.04	
N4050	NN4050	100 YR - 1 Day		AE	23.20	25.04	
N4060	NN4060	100 YR - 1 Day		AE	23.16	25.04	
N4320	NN4320	100 YR - 1 Day		AE	23.17	25.05	
N4710	NN4710	100 YR - 1 Day		AE	23.20	25.05	
N4720	NN4720	100 YR - 1 Day		AE	23.16	25.05	
N5010	NN5010	100 YR - 1 Day		AE	21.04	23.12	
N5013	NN5013	100 YR - 1 Day			24.13	24.04	
N5015	NN5015	100 YR - 1 Day		AE	20.79	23.00	
N5016	NN5016	100 YR - 1 Day			24.36	24.27	
N5017	NN5017	100 YR - 1 Day		AE	20.65	22.98	
N5020	NN5020	100 YR - 1 Day			20.56	22.96	
N5520	NN5520	100 YR - 1 Day		AE	21.99	22.10	
N5530	NN5530	100 YR - 1 Day		AE	21.98	22.09	
N5540	NN5540	100 YR - 1 Day		AE	21.96	22.08	
N6010	NN6010	100 YR - 1 Day		AE	21.93	21.94	
N6020	NN6020	100 YR - 1 Day		AE	21.93	21.94	
N6030	NN6030	100 YR - 1 Day		AE	21.93	21.94	
N6040	NN6040	100 YR - 1 Day		AE	21.93	21.94	
N6050	NN6050	100 YR - 1 Day		AE	21.92	21.93	
N6060	NN6060	100 YR - 1 Day		AE	21.92	21.93	
N6080	NN6080	100 YR - 1 Day		AE	21.55	21.59	
N6100	NN6100	100 YR - 1 Day			20.17	21.22	
N6510	NN6510	100 YR - 1 Day		AE	21.62	21.59	
N6520	NN6520	100 YR - 1 Day		AE	21.60	21.58	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
N6530	NN6530	100 YR - 1 Day		AE	20.44	21.17	
N7020	NN7020	100 YR - 1 Day		AE	20.89	21.08	
N7030	NN7030	100 YR - 1 Day		AE	20.89	21.08	
N7040	NN7040	100 YR - 1 Day		AE	20.88	21.06	
N7045	NN7045	100 YR - 1 Day		AE	20.88	21.06	
N7050	NN7050	100 YR - 1 Day		AE	20.88	21.05	
N7060	NN7060	100 YR - 1 Day		AE	19.29	20.77	
O0010	NO0010	100 YR - 1 Day		AE	23.15	23.81	
O0012	NO0012	100 YR - 1 Day		AE	22.50	22.96	
O0015	NO0015	100 YR - 1 Day		AE	22.48	23.08	
O0017	NO0017	100 YR - 1 Day		AE	22.48	23.07	
O0020	NO0020	100 YR - 1 Day		AE	22.48	22.87	
O0030	NO0030	100 YR - 1 Day		AE	22.19	22.43	
O0035	NO0035	100 YR - 1 Day		AE	22.59	22.83	
O0040	NO0040	100 YR - 1 Day			22.13	22.33	
O0050	NO0050	100 YR - 1 Day		AE	21.67	22.01	
O0055	NO0055	100 YR - 1 Day		AE	22.33	22.28	
O0060	NO0060	100 YR - 1 Day		AE	21.63	21.96	
O0070	NO0070	100 YR - 1 Day		AE	21.45	21.78	
O0078	NO0078	100 YR - 1 Day		AE	21.36	21.69	
O0080	NO0080	100 YR - 1 Day		AE	21.36	21.69	
O0083	NO0083	100 YR - 1 Day		AE	21.12	21.30	
O0087	NO0087	100 YR - 1 Day		AE	21.15	21.41	
O0090	NO0090	100 YR - 1 Day		AE	21.15	21.49	
O0095	NO0095	100 YR - 1 Day		AE	20.69	20.79	
O0097	NO0097	100 YR - 1 Day		AE	20.83	20.99	
O0100	NO0100	100 YR - 1 Day		AE	21.07	21.40	
O0110	NO0110	100 YR - 1 Day		AE	21.05	21.38	
O0115	NO0115	100 YR - 1 Day		AE	20.83	20.96	
O0116	NO0116	100 YR - 1 Day		AE	20.83	20.96	
O0120	NO0120	100 YR - 1 Day		AE	18.71	19.78	
O0130	NO0130	100 YR - 1 Day		AE	18.54	19.64	
O0133	NO0133	100 YR - 1 Day		AE	18.25	19.42	
O0137	NO0137	100 YR - 1 Day		AE	18.25	19.42	
O0150	NO0150	100 YR - 1 Day		AE	18.25	19.41	
O0160	NO0160	100 YR - 1 Day		AE	17.83	18.88	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
O0170	NO0170	100 YR - 1 Day		AE	17.63	18.60	
O0172	NO0172	100 YR - 1 Day		AE	17.26	18.08	
O0174	NO0174	100 YR - 1 Day		AE	17.26	18.08	
O0176	NO0176	100 YR - 1 Day		AE	17.26	18.23	
O0178	NO0178	100 YR - 1 Day		AE	17.26	18.23	
O0180	NO0180	100 YR - 1 Day		AE	17.40	18.25	
O0190	NO0190	100 YR - 1 Day		AE	17.25	18.03	
O0200	NO0200	100 YR - 1 Day		AE	16.93	17.51	
O0210	NO0210	100 YR - 1 Day		AE	15.18	16.69	
O0213	NO0213	100 YR - 1 Day		AE	16.00	16.92	
O0217	NO0217	100 YR - 1 Day		AE	15.99	16.92	
O0220	NO0220	100 YR - 1 Day		AE	15.14	16.68	
O1010	NO1010	100 YR - 1 Day		AE	23.00	23.01	
O1020	NO1020	100 YR - 1 Day		AE	22.96	22.99	
O1030	NO1030	100 YR - 1 Day		AE	22.96	22.98	
O1040	NO1040	100 YR - 1 Day		AE	22.99	23.05	
O1050	NO1050	100 YR - 1 Day		AE	23.01	23.13	
O1070	NO1070	100 YR - 1 Day		AE	23.11	23.43	
O1510	NO1510	100 YR - 1 Day		AE	23.52	23.58	
O1520	NO1520	100 YR - 1 Day		AE	23.52	23.58	
O1530	NO1530	100 YR - 1 Day		AE	23.52	23.59	
O1540	NO1540	100 YR - 1 Day		AE	23.52	23.59	
O1550	NO1550	100 YR - 1 Day		AE	23.12	23.44	
O1560	NO1560	100 YR - 1 Day		AE	23.12	23.44	
O1570	NO1570	100 YR - 1 Day		AE	23.12	23.44	
O1580	NO1580	100 YR - 1 Day		AE	23.12	23.44	
O1600	NO1600	100 YR - 1 Day		AE	23.12	23.44	
O2010	NO2010	100 YR - 1 Day		AE	22.48	22.82	
O2020	NO2020	100 YR - 1 Day		AE	22.48	22.83	
O2030	NO2030	100 YR - 1 Day		AE	22.48	22.83	
O2050	NO2050	100 YR - 1 Day		AE	22.48	22.83	
O3010	NO3010	100 YR - 1 Day		AE	21.22	21.13	
O3020	NO3020	100 YR - 1 Day		AE	20.75	20.95	
O3030	NO3030	100 YR - 1 Day		AE	20.46	20.88	
O3040	NO3040	100 YR - 1 Day		AE	20.46	20.84	
O3050	NO3050	100 YR - 1 Day		AE	20.43	20.82	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
O4010	NO4010	100 YR - 1 Day		AE	20.38	20.72	
O4020	NO4020	100 YR - 1 Day		AE	20.38	20.72	
O4030	NO4030	100 YR - 1 Day		AE	20.37	20.68	
O4040	NO4040	100 YR - 1 Day		AE	19.44	20.56	
O4050	NO4050	100 YR - 1 Day		AE	19.44	20.54	
O4060	NO4060	100 YR - 1 Day			18.56	20.54	
O5010	NO5010	100 YR - 1 Day			17.64	18.08	
O5020	NO5020	100 YR - 1 Day		AE	17.64	18.08	
O5030	NO5030	100 YR - 1 Day		AE	17.55	18.02	
O5040	NO5040	100 YR - 1 Day		AE	16.65	18.02	
O5050	NO5050	100 YR - 1 Day		AE	16.62	18.02	
P0003	NP0003	100 YR - 1 Day		AE	25.33	26.93	
P0010	NP0010	100 YR - 1 Day		AE	25.33	26.93	
P0013	NP0013	100 YR - 1 Day		AE	28.56	28.52	
P0014	NP0014	100 YR - 1 Day		AE	28.56	28.52	
P0016	NP0016	100 YR - 1 Day		AE	25.63	27.19	
P0018	NP0018	100 YR - 1 Day		AE	28.56	28.52	
P0020	NP0020	100 YR - 1 Day		AE	25.84	27.46	
P0030	NP0030	100 YR - 1 Day		AE	25.87	27.51	
P0040	NP0040	100 YR - 1 Day		AE	25.56	27.38	
P0045	NP0045	100 YR - 1 Day		AE	26.56	27.36	
P0050	NP0050	100 YR - 1 Day		AE	25.58	27.36	
P0060	NP0060	100 YR - 1 Day		AE	25.67	27.34	
P0070	NP0070	100 YR - 5 Day	AO	AE	25.92	27.28	
P0072	NP0072	100 YR - 1 Day		AE	25.80	26.53	
P0074	NP0074	100 YR - 5 Day	AO	AE	25.82	26.66	
P0076	NP0076	100 YR - 5 Day	AO	AE	25.82	26.68	
P0078	NP0078	100 YR - 5 Day	AO	AE	25.89	26.98	
P0080	NP0080	100 YR - 5 Day	AO	AE	25.89	26.98	
P0085	NP0085	100 YR - 5 Day	AO	AE	25.87	26.88	
P0090	NP0090	100 YR - 5 Day	AO	AE	25.87	26.88	
P0100	NP0100	100 YR - 5 Day	AO	AE	25.87	26.89	
P1010	NP1010	100 YR - 1 Day		AE	21.38	23.08	
P1510	NP1510	100 YR - 1 Day		AE	25.56	27.38	
P2010	NP2010	100 YR - 1 Day		AE	26.26	26.93	
P2020	NP2020	100 YR - 1 Day		AE	26.26	26.93	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
P2030	NP2030	100 YR - 1 Day		AE	26.25	26.95	
P2210	NP2210	100 YR - 1 Day		AE	26.25	26.88	
P2220	NP2220	100 YR - 1 Day		AE	26.25	26.89	
P2410	NP2410	100 YR - 1 Day		X	26.83	27.06	
P2420	NP2420	100 YR - 1 Day		AE	26.23	27.06	
P2610	NP2610	100 YR - 5 Day	AO	AE	26.04	26.98	
P2620	NP2620	100 YR - 5 Day	AO	AE	26.04	26.99	
P2810	NP2810	100 YR - 1 Day		AE	26.26	26.80	
P2820	NP2820	100 YR - 5 Day		AE	26.25	26.95	
P2830	NP2830	100 YR - 5 Day		AE	26.24	27.00	
P2840	NP2840	100 YR - 5 Day		AE	26.24	27.00	
P2850	NP2850	100 YR - 5 Day	AO	AE	26.23	27.04	
P2860	NP2860	100 YR - 1 Day		AE	26.22	27.26	
Q0175	NQ0175	100 YR - 1 Day			26.21	27.62	
Q3022	NQ3022	100 YR - 1 Day		AE	27.61	28.46	
Q3024	NQ3024	100 YR - 1 Day		AE	27.61	28.50	
Q3026	NQ3026	100 YR - 1 Day		AE	27.62	28.50	
Q3040	NQ3040	100 YR - 1 Day			27.76	28.52	
Q3041	NQ3041	100 YR - 1 Day		AE	27.72	28.50	
Q3043	NQ3043	100 YR - 1 Day		AE	27.75	28.51	
Q3044	NQ3044	100 YR - 1 Day			27.76	28.52	
Q3048	NQ3048	100 YR - 1 Day			27.76	28.52	
R0170	NR0170	100 YR - 1 Day		AE	22.22	22.33	
R0270	NR0270	100 YR - 1 Day		AE	14.27	14.64	
R1043	NR1043	100 YR - 1 Day		AE	24.45	24.92	
R2560	NR2560	100 YR - 1 Day		AE	25.67	26.64	
R3008	NR3008	100 YR - 5 Day	AO	AE	25.63	26.64	
R3010	NR3010	100 YR - 5 Day	AO	AE	25.89	26.99	
R3020	NR3020	100 YR - 5 Day	AO	AE	25.72	26.69	
R3025	NR3025	100 YR - 5 Day	AO	AE	25.66	26.64	
R3030	NR3030	100 YR - 1 Day		AE	25.48	26.30	
R3036	NR3036	100 YR - 1 Day		AE	25.24	25.79	
R3038	NR3038	100 YR - 1 Day		AE	25.24	25.79	
R3039	NR3039	100 YR - 1 Day		AE	25.12	25.63	
R3040	NR3040	100 YR - 1 Day		AE	25.26	25.82	
R3041	NR3041	100 YR - 1 Day		AE	25.12	25.64	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
R3042	NR3042	100 YR - 1 Day		AE	25.14	25.71	
R3043	NR3043	100 YR - 1 Day		AE	25.17	25.67	
R3044	NR3044	100 YR - 1 Day		AE	25.24	25.79	
R3045	NR3045	100 YR - 1 Day		AE	25.12	25.63	
R3048	NR3048	100 YR - 1 Day		AE	25.19	25.70	
R3049	NR3049	100 YR - 1 Day		AE	25.19	25.71	
R3050	NR3050	100 YR - 1 Day		AE	25.19	25.71	
R3052	NR3052	100 YR - 1 Day		AE	24.68	25.18	
R3054	NR3054	100 YR - 1 Day		AE	24.68	25.18	
R3056	NR3056	100 YR - 1 Day		AE	24.79	25.17	
R3057	NR3057	100 YR - 1 Day		AE	24.88	25.16	
R3058	NR3058	100 YR - 1 Day		AE	24.79	25.17	
R3060	NR3060	100 YR - 1 Day		AE	24.74	25.20	
R3061	NR3061	100 YR - 1 Day		AE	24.88	25.16	
R3062	NR3062	100 YR - 1 Day		AE	24.62	25.17	
R3063	NR3063	100 YR - 1 Day		AE	24.39	24.92	
R3064	NR3064	100 YR - 1 Day		AE	24.55	25.08	
R3065	NR3065	100 YR - 1 Day		AE	24.55	25.09	
R3070	NR3070	100 YR - 1 Day		AE	24.57	25.08	
R3072	NR3072	100 YR - 1 Day			24.39	24.92	
R3073	NR3073	100 YR - 1 Day		AE	24.55	25.08	
R3074	NR3074	100 YR - 1 Day		AE	24.43	24.86	
R3075	NR3075	100 YR - 1 Day		AE	24.50	25.03	
R3076	NR3076	100 YR - 1 Day		AE	24.46	24.97	
R3077	NR3077	100 YR - 1 Day		AE	24.49	25.03	
R3078	NR3078	100 YR - 1 Day		AE	24.43	24.86	
R3079	NR3079	100 YR - 1 Day		AE	24.50	25.01	
R3080	NR3080	100 YR - 1 Day		AE	24.49	25.01	
R3081	NR3081	100 YR - 1 Day		AE	24.19	24.59	
R3082	NR3082	100 YR - 1 Day		AE	24.19	24.59	
R3083	NR3083	100 YR - 1 Day		AE	24.43	24.90	
R3084	NR3084	100 YR - 1 Day		AE	24.87	24.95	
R3085	NR3085	100 YR - 1 Day		AE	24.43	24.90	
R3088	NR3088	100 YR - 1 Day		AE	24.42	24.89	
R3089	NR3089	100 YR - 1 Day		AE	24.43	24.90	
R3090	NR3090	100 YR - 1 Day		AE	24.43	24.91	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
R3094	NR3094	100 YR - 1 Day		AE	24.05	24.32	
R3095	NR3095	100 YR - 1 Day		AE	24.02	24.28	
R3096	NR3096	100 YR - 1 Day		AE	24.32	24.76	
R3097	NR3097	100 YR - 1 Day		AE	24.37	24.84	
R3098	NR3098	100 YR - 1 Day		AE	24.02	24.28	
R3099	NR3099	100 YR - 1 Day		AE	24.37	24.84	
R3100	NR3100	100 YR - 1 Day		AE	24.37	24.84	
R3101	NR3101	100 YR - 1 Day		AE	24.05	24.36	
R3102	NR3102	100 YR - 1 Day		AE	24.05	24.36	
R3107	NR3107	100 YR - 1 Day		AE	23.98	24.45	
R3108	NR3108	100 YR - 1 Day		AE	24.19	24.62	
R3109	NR3109	100 YR - 1 Day		AE	24.19	24.62	
R3110	NR3110	100 YR - 1 Day		AE	24.19	24.62	
R3111	NR3111	100 YR - 1 Day		AE	23.66	24.22	
R3112	NR3112	100 YR - 1 Day		AE	23.66	24.22	
R3113	NR3113	100 YR - 1 Day		AE	24.07	24.23	
R3114	NR3114	100 YR - 1 Day		AE	23.68	24.22	
R3118	NR3118	100 YR - 1 Day		AE	23.78	24.26	
R3119	NR3119	100 YR - 1 Day		AE	23.78	24.25	
R3120	NR3120	100 YR - 1 Day		AE	23.79	24.26	
R3125	NR3125	100 YR - 1 Day		AE	23.38	23.72	
R3128	NR3128	100 YR - 1 Day		AE	23.17	23.49	
R3129	NR3129	100 YR - 1 Day		AE	22.78	22.98	
R3130	NR3130	100 YR - 1 Day		AE	22.78	22.98	
R3138	NR3138	100 YR - 1 Day		AE	22.45	22.54	
R3140	NR3140	100 YR - 1 Day		AE	22.44	22.52	
R3148	NR3148	100 YR - 1 Day		AE	22.26	22.36	
R3150	NR3150	100 YR - 1 Day		AE	22.23	22.32	
R3160	NR3160	100 YR - 1 Day		AE	22.23	22.32	
R3161	NR3161	100 YR - 1 Day		AE	22.98	23.07	
R3162	NR3162	100 YR - 1 Day		AE	22.91	23.00	
R3163	NR3163	100 YR - 1 Day		AE	22.89	22.98	
R3164	NR3164	100 YR - 1 Day		AE	23.24	23.33	
R3165	NR3165	100 YR - 1 Day		AE	23.70	24.10	
R3167	NR3167	100 YR - 1 Day		AE	22.87	22.95	
R3168	NR3168	100 YR - 1 Day		AE	22.26	22.36	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
R3190	NR3190	100 YR - 1 Day		AE	21.78	22.32	
R3193	NR3193	100 YR - 1 Day		AE	21.87	22.52	
R3197	NR3197	100 YR - 1 Day		AE	21.82	22.43	
R3199	NR3199	100 YR - 1 Day		AE	21.82	22.43	
R3200	NR3200	100 YR - 1 Day		AE	21.77	22.32	
R3203	NR3203	100 YR - 1 Day		AE	21.87	22.49	
R3207	NR3207	100 YR - 1 Day		AE	21.78	22.38	
R3210	NR3210	100 YR - 1 Day		AE	21.74	22.31	
R3215	NR3210	100 YR - 1 Day			21.74	22.31	
R3220	NR3220	100 YR - 1 Day		AE	19.54	19.90	
R3223	NR3223	100 YR - 1 Day		AE	20.22	20.24	
R3227	NR3227	100 YR - 1 Day		AE	19.57	19.98	
R3229	NR3229	100 YR - 1 Day		AE	19.16	19.58	
R3230	NR3230	100 YR - 1 Day		AE	19.09	19.46	
R3243	NR3243	100 YR - 1 Day		X	19.00	18.98	
R3244	NR3244	100 YR - 1 Day		AE	18.86	18.95	
R3246	NR3246	100 YR - 1 Day		AE	18.80	18.91	
R3249	NR3249	100 YR - 1 Day		AE	18.22	18.45	
R3250	NR3250	100 YR - 1 Day		AE	18.22	18.44	
R3270	NR3270	100 YR - 1 Day		AE	16.86	17.12	
R3282	NR3282	100 YR - 1 Day		AE	16.38	16.75	
R3283	NR3283	100 YR - 1 Day		AE	16.38	16.76	
R3286	NR3286	100 YR - 1 Day			16.38	16.74	
R3287	NR3287	100 YR - 1 Day		AE	16.37	16.75	
R3288	NR3288	100 YR - 1 Day		AE	16.37	16.81	
R3289	NR3289	100 YR - 1 Day		AE	16.37	16.83	
R3290	NR3290	100 YR - 1 Day		AE	16.37	16.91	
R3300	NR3300	100 YR - 1 Day		AE	15.56	16.20	
R3310	NR3310	100 YR - 1 Day		AE	14.79	15.27	
R3320	NR3320	100 YR - 1 Day		AE	14.21	14.61	
R3330	NR3330	100 YR - 1 Day		AE	13.36	13.90	
R3340	NR3340	100 YR - 1 Day		AE	12.47	13.04	
R3350	NR3350	100 YR - 1 Day		AE	10.08	10.51	
R3360	NR3360	100 YR - 1 Day		AE	9.96	10.42	
R3370	NR3370	100 YR - 1 Day		AE	9.86	10.38	
R3372	NR3372	100 YR - 1 Day		AE	9.57	9.86	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
R3374	NR3374	100 YR - 1 Day		AE	9.58	9.87	
R3376	NR3376	100 YR - 1 Day		AE	9.58	9.87	
R3377	NR3377	100 YR - 1 Day		AE	9.58	9.87	
R3378	NR3378	100 YR - 1 Day		AE	9.73	10.32	
R3380	NR3380	100 YR - 1 Day		AE	9.72	10.32	
R3400	NR3400	100 YR - 1 Day		AE	9.21	10.27	
R3402	NR3402	100 YR - 1 Day		AE	9.57	10.25	
R3404	NR3404	100 YR - 1 Day		AE	9.55	10.25	
R3406	NR3406	100 YR - 1 Day		AE	9.12	10.25	
R3410	NR3410	100 YR - 1 Day		AE	9.11	10.25	
R3420	NR3420	100 YR - 1 Day		AE	8.99	10.22	
R3450	NR3430	100 YR - 1 Day		AE	8.37	10.00	
R3510	NR3510	100 YR - 1 Day		AE	12.72	12.92	
R3520	NR3520	100 YR - 1 Day		AE	12.72	12.92	
R3522	NR3522	100 YR - 1 Day		AE	14.56	14.59	
R3524	NR3524	100 YR - 1 Day		AE	13.65	13.69	
R3526	NR3526	100 YR - 1 Day		AE	13.62	13.65	
R3530	NR3530	100 YR - 1 Day		AE	12.61	12.84	
R3540	NR3540	100 YR - 1 Day		AE	12.52	12.76	
R3550	NR3550	100 YR - 1 Day		AE	12.43	12.67	
R3560	NR3560	100 YR - 1 Day		AE	12.20	12.34	
R3570	NR3570	100 YR - 1 Day		AE	12.13	12.27	
R3610	NR3610	100 YR - 1 Day		AE	12.58	12.32	
R3620	NR3620	100 YR - 1 Day		AE	12.58	12.32	
R3630	NR3630	100 YR - 1 Day		AE	12.40	12.14	
R3640	NR3640	100 YR - 1 Day		AE	12.35	11.98	
R3650	NR3650	100 YR - 1 Day		AE	12.24	11.87	
R3660	NR3660	100 YR - 1 Day		AE	12.09	11.71	
R3670	NR3670	100 YR - 1 Day		AE	11.15	11.02	
R3675	NR3675	100 YR - 1 Day		AE	12.14	12.10	
R3680	NR3680	100 YR - 1 Day		AE	10.88	10.80	
R3690	NR3690	100 YR - 1 Day		AE	10.85	10.77	
R3693	NR3693	100 YR - 1 Day		AE	10.74	10.70	
R3698	NR3698	100 YR - 1 Day		AE	9.41	10.43	
S0005	NS0005	100 YR - 1 Day		AE	24.09	25.45	
S0025	NS0025	100 YR - 1 Day		AE	30.78	31.01	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S0030	NS0030	100 YR - 1 Day		AE	30.78	30.99	
S0035	NS0035	100 YR - 1 Day		AE	31.28	31.24	
S0036	NS0036	100 YR - 1 Day		AE	31.27	31.23	
S0038	NS0038	100 YR - 1 Day		AE	30.46	30.76	
S0039	NS0039	100 YR - 1 Day		AE	30.25	30.55	
S0040	NS0040	100 YR - 1 Day		AE	30.21	30.55	
S0046	NS0046	100 YR - 1 Day		AE	30.22	30.18	
S0047	NS0047	100 YR - 1 Day		AE	29.95	30.18	
S0048	NS0048	100 YR - 1 Day		AE	29.93	30.07	
S0049	NS0049	100 YR - 1 Day		AE	29.94	30.11	
S0050	NS0050	100 YR - 1 Day		AE	29.95	30.18	
S0059	NS0059	100 YR - 1 Day		AE	29.78	30.11	
S0060	NS0060	100 YR - 1 Day		AE	29.88	30.16	
S0065	NS0065	100 YR - 1 Day		AE	29.87	30.15	
S0070	NS0070	100 YR - 1 Day		AE	29.88	30.15	
S0086	NS0086	100 YR - 1 Day		AE	29.88	30.16	
S0087	NS0087	100 YR - 1 Day		AE	29.88	30.16	
S0088	NS0088	100 YR - 1 Day		AE	29.88	30.16	
S0089	NS0089	100 YR - 1 Day		AE	29.88	30.16	
S0090	NS0090	100 YR - 1 Day		AE	29.89	30.16	
S0100	NS0100	100 YR - 1 Day		AE	29.89	30.16	
S0110	NS0110	100 YR - 1 Day		AE	29.89	30.16	
S0119	NS0119	100 YR - 1 Day		AE	29.89	30.16	
S0120	NS0120	100 YR - 1 Day		AE	29.89	30.16	
S0129	NS0129	100 YR - 1 Day		AE	29.89	30.16	
S0130	NS0130	100 YR - 1 Day		AE	29.89	30.16	
S0134	NS0134	100 YR - 1 Day		AE	29.74	30.10	
S0135	NS0135	100 YR - 1 Day		AE	29.73	30.07	
S0136	NS0136	100 YR - 1 Day		AE	29.73	30.07	
S0137	NS0137	100 YR - 1 Day		AE	29.73	30.07	
S0138	NS0138	100 YR - 1 Day		AE	29.77	30.04	
S0139	NS0139	100 YR - 1 Day		AE	29.72	30.04	
S0140	NS0140	100 YR - 1 Day		AE	29.70	30.00	
S0143	NS0143	100 YR - 1 Day		AE	29.43	29.62	
S0144	NS0144	100 YR - 1 Day		AE	29.43	29.62	
S0145	NS0145	100 YR - 1 Day		AE	29.63	29.86	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S0146	NS0146	100 YR - 1 Day		AE	29.48	29.63	
S0147	NS0147	100 YR - 1 Day		AE	29.60	29.86	
S0148	NS0148	100 YR - 1 Day		AE	29.65	29.93	
S0149	NS0149	100 YR - 1 Day		AE	29.67	29.95	
S0150	NS0150	100 YR - 1 Day		AE	29.69	29.99	
S0159	NS0159	100 YR - 1 Day		AE	29.70	29.87	
S0160	NS0160	100 YR - 1 Day		AE	29.54	29.86	
S0170	NS0170	100 YR - 1 Day		AE	29.54	29.86	
S0178	NS0178	100 YR - 1 Day		AE	29.00	29.56	
S0179	NS0179	100 YR - 1 Day		AE	29.00	29.56	
S0180	NS0180	100 YR - 1 Day		AE	28.95	29.49	
S0190	NS0190	100 YR - 1 Day		AE	28.48	28.91	
S0200	NS0200	100 YR - 1 Day		AE	28.48	28.90	
S0201	NS0201	100 YR - 1 Day		AE	28.45	28.86	
S0203	NS0203	100 YR - 1 Day		AE	28.15	28.57	
S0205	NS0205	100 YR - 1 Day		AE	27.94	28.31	
S0207	NS0207	100 YR - 1 Day		AE	27.89	28.24	
S0209	NS0209	100 YR - 1 Day		AE	27.33	27.58	
S0210	NS0210	100 YR - 1 Day		AE	27.33	27.58	
S0215	NS0215	100 YR - 1 Day		AE	29.25	29.49	
S0220	NS0220	100 YR - 1 Day		AE	29.25	29.49	
S0230	NS0230	100 YR - 1 Day		AE	28.88	28.88	
S0239	NS0239	100 YR - 1 Day		AE	29.28	29.49	
S0240	NS0240	100 YR - 1 Day		AE	28.26	28.34	
S0250	NS0250	100 YR - 1 Day		AE	28.26	28.34	
S0259	NS0259	100 YR - 1 Day		AE	29.04	29.12	
S0260	NS0260	100 YR - 1 Day		AE	28.26	28.34	
S0265	NS0265	100 YR - 1 Day		AE	28.26	28.31	
S0270	NS0270	100 YR - 1 Day		AE	28.24	28.26	
S0280	NS0280	100 YR - 1 Day		AE	27.28	27.59	
S0290	NS0290	100 YR - 1 Day		AE	27.28	27.59	
S0295	NS0295	100 YR - 1 Day		AE	25.44	25.70	
S0300	NS0300	100 YR - 1 Day		AE	27.26	27.55	
S0310	NS0310	100 YR - 1 Day		AE	26.77	27.47	
S0315	NS0315	100 YR - 1 Day		AE	27.96	27.90	
S0316	NS0316	100 YR - 1 Day		AE	26.92	27.36	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S0317	NS0317	100 YR - 1 Day		AE	26.92	27.36	
S0318	NS0318	100 YR - 1 Day		AE	26.87	27.36	
S0319	NS0319	100 YR - 1 Day		AE	26.54	27.35	
S0320	NS0320	100 YR - 1 Day		AE	26.42	27.45	
S0330	NS0330	100 YR - 1 Day		AE	26.42	27.47	
S0340	NS0340	100 YR - 1 Day		AE	26.42	27.47	
S0350	NS0350	100 YR - 1 Day		AE	26.42	27.46	
S0367	NS0367	100 YR - 1 Day		AE	22.50	22.79	
S0410	NS0410	100 YR - 1 Day		AE	29.18	29.23	
S0411	NS0411	100 YR - 1 Day		AE	27.55	28.71	
S0416	NS0416	100 YR - 1 Day		AE	29.34	29.30	
S0417	NS0417	100 YR - 1 Day		AE	28.53	28.58	
S0418	NS0418	100 YR - 1 Day		AE	29.00	28.94	
S0419	NS0419	100 YR - 1 Day		AE	29.00	28.94	
S0420	NS0420	100 YR - 1 Day		AE	27.55	28.71	
S0430	NS0430	100 YR - 1 Day		AE	27.52	28.63	
S0436	NS0436	100 YR - 1 Day		AE	28.34	28.30	
S0437	NS0437	100 YR - 1 Day		AE	27.25	27.47	
S0438	NS0438	100 YR - 1 Day		AE	27.26	27.78	
S0439	NS0439	100 YR - 1 Day		AE	27.26	27.82	
S0440	NS0440	100 YR - 1 Day		AE	27.26	27.94	
S0450	NS0450	100 YR - 1 Day		AE	27.25	27.93	
S0455	NS0455	100 YR - 1 Day		AE	27.20	27.86	
S0459	NS0459	100 YR - 1 Day		AE	26.76	27.44	
S0460	NS0460	100 YR - 1 Day		AE	27.20	27.85	
S0530	NS0530	100 YR - 1 Day			31.70	31.88	
S0533	NS0533	100 YR - 1 Day		AE	32.05	31.99	
S0534	NS0534	100 YR - 1 Day		AE	31.75	31.69	
S0535	NS0535	100 YR - 1 Day		AE	31.04	31.16	
S0540	NS0540	100 YR - 1 Day		AE	29.89	30.16	
S0550	NS0550	100 YR - 1 Day			30.01	30.17	
S0585	NS0585	100 YR - 1 Day		AE	21.82	21.91	
S0595	NS0595	100 YR - 1 Day		AE	18.08	19.21	
S0630	NS0630	100 YR - 1 Day			30.39	30.71	
S0635	NS0635	100 YR - 1 Day		AE	29.97	30.30	
S0639	NS0639	100 YR - 1 Day		AE	29.91	30.22	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S0640	NS0640	100 YR - 1 Day		AE	29.91	30.22	
S0710	NS0710	100 YR - 1 Day		AE	28.00	28.13	
S0720	NS0720	100 YR - 1 Day		AE	28.00	28.13	
S0730	NS0730	100 YR - 1 Day		AE	28.00	28.13	
S0738	NS0738	100 YR - 1 Day		AE	30.06	30.01	
S0739	NS0739	100 YR - 1 Day		AE	28.00	28.13	
S0740	NS0740	100 YR - 1 Day		AE	27.26	27.95	
S0750	NS0750	100 YR - 1 Day		AE	27.26	27.95	
S0760	NS0760	100 YR - 1 Day		AE	27.26	27.95	
S0810	NS0810	100 YR - 1 Day		AE	30.04	30.11	
S0820	NS0820	100 YR - 1 Day		AE	29.94	29.97	
S0828	NS0828	100 YR - 1 Day		AE	29.32	29.31	
S0829	NS0829	100 YR - 1 Day		AE	29.31	29.35	
S0830	NS0830	100 YR - 1 Day		AE	28.86	28.97	
S0840	NS0840	100 YR - 1 Day		AE	28.55	28.60	
S0846	NS0846	100 YR - 1 Day		AE	29.39	29.37	
S0847	NS0847	100 YR - 1 Day		AE	29.27	29.30	
S0848	NS0848	100 YR - 1 Day		AE	29.27	29.30	
S0849	NS0849	100 YR - 1 Day		AE	29.27	29.29	
S0850	NS0850	100 YR - 1 Day		AE	27.16	27.57	
S0857	NS0857	100 YR - 1 Day		AE	28.46	28.46	
S0858	NS0858	100 YR - 1 Day		AE	28.44	28.36	
S0859	NS0859	100 YR - 1 Day		AE	27.07	27.47	
S0860	NS0860	100 YR - 1 Day		AE	27.07	27.47	
S0867	NS0867	100 YR - 1 Day		AE	27.07	27.47	
S0868	NS0868	100 YR - 1 Day		AE	27.07	27.30	
S0869	NS0869	100 YR - 1 Day		AE	27.07	27.48	
S0870	NS0870	100 YR - 1 Day		AE	27.07	27.46	
S1010	NS1010	100 YR - 1 Day		AE	24.62	25.68	
S1020	NS1020	100 YR - 1 Day		AE	24.65	25.67	
S1033	NS1033	100 YR - 1 Day		AE	24.69	25.64	
S1037	NS1037	100 YR - 1 Day		AE	24.67	25.66	
S1038	NS1038	100 YR - 1 Day		AE	24.66	25.67	
S1040	NS1040	100 YR - 1 Day		AE	24.65	25.67	
S1050	NS1050	100 YR - 1 Day		AE	24.65	25.67	
S1070	NS1070	100 YR - 1 Day		AE	24.64	25.67	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S1080	NS1080	100 YR - 1 Day		AE	24.59	25.67	
S1110	NS1110	100 YR - 1 Day		AE	22.81	23.03	
S1120	NS1120	100 YR - 1 Day		AE	22.81	23.04	
S1130	NS1130	100 YR - 1 Day		AE	22.81	23.04	
S1140	NS1140	100 YR - 1 Day		AE	22.72	23.01	
S1210	NS1210	100 YR - 1 Day		AE	22.41	22.64	
S1220	NS1220	100 YR - 1 Day		AE	22.41	22.64	
S1230	NS1230	100 YR - 1 Day		AE	22.40	22.64	
S1240	NS1240	100 YR - 1 Day		AE	22.39	22.64	
S1250	NS1250	100 YR - 1 Day		AE	22.37	22.64	
S1260	NS1260	100 YR - 1 Day		AE	22.30	22.63	
S1280	NS1280	100 YR - 1 Day		AE	21.88	22.58	
S1310	NS1310	100 YR - 1 Day		AE	21.99	22.25	
S1320	NS1320	100 YR - 1 Day		AE	21.99	22.25	
S1330	NS1330	100 YR - 1 Day		AE	21.87	22.23	
S1340	NS1340	100 YR - 1 Day		AE	21.86	22.23	
S1510	NS1510	100 YR - 1 Day			24.36	25.92	
S1530	NS1530	100 YR - 1 Day		AE	24.36	25.92	
S1540	NS1540	100 YR - 1 Day		AE	24.36	25.93	
S1560	NS1560	100 YR - 1 Day		AE	24.35	25.93	
S1570	NS1570	100 YR - 1 Day		AE	24.30	25.93	
S1575	NS1575	100 YR - 1 Day		AE	24.28	25.93	
S1580	NS1580	100 YR - 1 Day		AE	24.09	25.93	
S1610	NS1610	100 YR - 1 Day		AE	20.22	20.82	
S1620	NS1620	100 YR - 1 Day			18.68	20.80	
S1630	NS1630	100 YR - 1 Day		AE	18.64	20.58	
S1640	NS1640	100 YR - 1 Day		AE	18.63	20.57	
S1710	NS1710	100 YR - 1 Day		AE	20.02	20.96	
S1720	NS1720	100 YR - 1 Day			19.26	20.96	
S1730	NS1730	100 YR - 1 Day		AE	19.03	20.93	
S1740	NS1740	100 YR - 1 Day		AE	18.74	20.53	
S1750	NS1750	100 YR - 1 Day		AE	18.66	20.53	
S1760	NS1760	100 YR - 1 Day		AE	18.65	20.53	
S1810	NS1810	100 YR - 1 Day		AE	19.64	20.96	
S1820	NS1820	100 YR - 1 Day		AE	19.46	20.87	
S1830	NS1830	100 YR - 1 Day		AE	19.39	20.82	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S1910	NS1910	100 YR - 1 Day		AE	20.66	21.12	
S1920	NS1920	100 YR - 1 Day		AE	20.18	20.96	
S1930	NS1930	100 YR - 1 Day		AE	19.85	20.86	
S2010	NS2010	100 YR - 1 Day		AE	19.51	20.85	
S2020	NS2020	100 YR - 1 Day		AE	19.50	20.84	
S2029	NS2029	100 YR - 1 Day		AE	19.27	20.83	
S2040	NS2040	100 YR - 1 Day		AE	19.03	20.81	
S2045	NS2045	100 YR - 1 Day		AE	18.85	20.64	
S2050	NS2050	100 YR - 1 Day		AE	18.63	20.53	
S2070	NS2070	100 YR - 1 Day		AE	18.22	20.26	
S2510	NS2510	100 YR - 1 Day		AE	24.35	26.08	
S2705	NS2705	100 YR - 1 Day	AO	AE	19.95	20.04	
S2710	NS2710	100 YR - 1 Day	AO	AE	18.62	19.26	
S2717	NS2717	100 YR - 1 Day		AE	19.67	19.65	
S2718	NS2718	100 YR - 1 Day		AE	19.45	19.27	
S2719	NS2719	100 YR - 1 Day		AE	19.28	19.23	
S2720	NS2720	100 YR - 1 Day	AO	AE	17.64	19.14	
S2810	NS2810	100 YR - 1 Day			21.12	21.08	
S2820	NS2820	100 YR - 1 Day		AE	20.07	20.02	
S2830	NS2830	100 YR - 1 Day		AE	19.66	19.65	
S2840	NS2840	100 YR - 1 Day		AE	18.64	19.32	
S2850	NS2850	100 YR - 1 Day		AE	18.59	19.32	
S2910	NS2910	100 YR - 1 Day			21.24	21.31	
S2920	NS2920	100 YR - 1 Day		AE	19.85	19.88	
S2930	NS2930	100 YR - 1 Day			19.66	19.65	
S2940	NS2940	100 YR - 1 Day		AE	18.65	19.32	
S2950	NS2950	100 YR - 1 Day		AE	17.69	19.32	
S3010	NS3010	100 YR - 1 Day		AE	24.48	25.93	
S3020	NS3020	100 YR - 1 Day		AE	24.43	25.93	
S3030	NS3030	100 YR - 1 Day		AE	24.26	25.95	
S3040	NS3040	100 YR - 1 Day		AE	24.19	25.96	
S3050	NS3050	100 YR - 1 Day		AE	24.11	25.96	
S3510	NS3510	100 YR - 1 Day		AE	24.41	25.95	
S3520	NS3520	100 YR - 1 Day		AE	24.12	25.95	
S3525	NS3525	100 YR - 1 Day		AE	24.12	25.96	
S3530	NS3530	100 YR - 1 Day		AE	24.12	25.96	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S3540	NS3540	100 YR - 1 Day		AE	24.12	25.96	
S4010	NS4010	100 YR - 1 Day		AE	22.78	22.98	
S4020	NS4020	100 YR - 1 Day		AE	22.79	23.04	
S4030	NS4030	100 YR - 1 Day		AE	22.80	23.06	
S4050	NS4050	100 YR - 1 Day		AE	22.82	23.07	
S4510	NS4510	100 YR - 1 Day		AE	23.12	24.21	
S4520	NS4520	100 YR - 1 Day		AE	23.12	24.21	
S4530	NS4530	100 YR - 1 Day		AE	23.12	24.21	
S4540	NS4540	100 YR - 1 Day		AE	23.12	24.17	
S5010	NS5010	100 YR - 1 Day		AE	23.75	25.45	
S5020	NS5020	100 YR - 1 Day		AE	23.94	25.70	
S5030	NS5030	100 YR - 1 Day		AE	23.97	25.76	
S5040	NS5040	100 YR - 1 Day		AE	24.03	25.87	
S5050	NS5050	100 YR - 1 Day		AE	24.03	25.89	
S5059	NS5059	100 YR - 1 Day		AE	25.26	25.83	
S5060	NS5060	100 YR - 1 Day		AE	24.08	26.03	
S5070	NS5070	100 YR - 1 Day		AE	24.10	26.08	
S5080	NS5080	100 YR - 1 Day		AE	24.10	26.13	
S5090	NS5090	100 YR - 1 Day		AE	24.11	26.18	
S5100	NS5100	100 YR - 1 Day		AE	24.12	26.24	
S5109	NS5109	100 YR - 1 Day		AE	24.14	26.24	
S5110	NS5110	100 YR - 1 Day		AE	24.13	26.26	
S5114	NS5114	100 YR - 1 Day		AE	26.63	27.38	
S5116	NS5116	100 YR - 1 Day		AE	24.31	26.31	
S5117	NS5117	100 YR - 1 Day		AE	24.15	26.25	
S5118	NS5118	100 YR - 1 Day		AE	24.14	26.26	
S5119	NS5119	100 YR - 1 Day		AE	26.42	27.33	
S5120	NS5120	100 YR - 1 Day		AE	24.14	26.28	
S5130	NS5130	100 YR - 1 Day		AE	24.14	26.29	
S5142	NS5142	100 YR - 1 Day		AE	24.84	26.33	
S5144	NS5144	100 YR - 1 Day		AE	24.91	26.33	
S5146	NS5146	100 YR - 1 Day		AE	25.10	26.66	
S5150	NS5150	100 YR - 1 Day		AE	26.12	27.34	
S5158	NS5174	100 YR - 1 Day			23.93	24.29	
S5160	NS5150	100 YR - 1 Day			26.12	27.34	
S5162	NS5163	100 YR - 1 Day			23.59	24.32	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S5163	NS5163	100 YR - 1 Day		AE	23.59	24.32	
S5165	NS5165	100 YR - 1 Day		AE	23.59	24.32	
S5170	NS5170	100 YR - 1 Day			23.59	24.32	
S5173	NS5173	100 YR - 1 Day		AE	26.38	27.46	
S5174	NS5174	100 YR - 1 Day		X	23.93	24.29	
S5175	NS5175	100 YR - 1 Day		AE	23.39	24.17	
S5180	NS5180	100 YR - 1 Day		AE	23.39	24.15	
S5189	NS5189	100 YR - 1 Day		AE	23.95	24.88	
S5198	NS5198	100 YR - 1 Day		AE	23.30	23.52	
S5200	NS5200	100 YR - 1 Day		AE	23.29	23.99	
S5210	NS5210	100 YR - 1 Day		AE	23.19	23.85	
S5220	NS5220	100 YR - 1 Day		AE	23.10	23.72	
S5229	NS5229	100 YR - 1 Day		AE	25.20	25.47	
S5230	NS5230	100 YR - 1 Day		AE	23.07	23.68	
S5238	NS5238	100 YR - 1 Day		AE	22.92	23.49	
S5240	NS5240	100 YR - 1 Day		AE	22.92	23.46	
S5245	NS5245	100 YR - 1 Day		AE	22.78	23.31	
S5250	NS5250	100 YR - 1 Day		AE	22.78	23.24	
S5255	NS5255	100 YR - 1 Day		AE	22.73	23.48	
S5258	NS5258	100 YR - 1 Day		AE	24.37	24.79	
S5260	NS5260	100 YR - 1 Day		AE	22.64	23.05	
S5270	NS5270	100 YR - 1 Day		AE	22.52	22.88	
S5275	NS5275	100 YR - 1 Day		AE	23.48	23.97	
S5278	NS5278	100 YR - 1 Day		AE	25.44	25.70	
S5280	NS5280	100 YR - 1 Day		AE	22.48	22.85	
S5290	NS5290	100 YR - 1 Day		AE	22.41	22.80	
S5295	NS5295	100 YR - 1 Day		AE	22.53	23.57	
S5300	NS5300	100 YR - 1 Day		AE	22.32	22.74	
S5310	NS5310	100 YR - 1 Day		AE	22.23	22.68	
S5313	NS5313	100 YR - 1 Day		AE	25.44	25.70	
S5318	NS5318	100 YR - 1 Day		AE	23.03	23.57	
S5320	NS5320	100 YR - 1 Day		AE	22.13	22.59	
S5325	NS5325	100 YR - 1 Day		AE	23.06	23.07	
S5330	NS5330	100 YR - 1 Day		AE	22.03	22.52	
S5340	NS5340	100 YR - 1 Day		AE	21.86	22.42	
S5348	NS5348	100 YR - 1 Day		AE	24.46	24.82	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S5349	NS5349	100 YR - 1 Day		AE	24.46	24.83	
S5350	NS5350	100 YR - 1 Day		AE	21.82	22.39	
S5360	NS5360	100 YR - 1 Day		AE	21.43	22.11	
S5368	NS5368	100 YR - 1 Day		AE	23.63	24.89	
S5369	NS5369	100 YR - 1 Day		AE	23.21	24.68	
S5370	NS5370	100 YR - 1 Day		AE	21.41	22.12	
S5378	NS5378	100 YR - 1 Day		AE	23.17	23.22	
S5379	NS5379	100 YR - 1 Day		AE	24.86	25.49	
S5380	NS5380	100 YR - 1 Day		AE	21.36	22.11	
S5388	NS5388	100 YR - 1 Day		AE	22.11	22.25	
S5389	NS5389	100 YR - 1 Day			24.21	24.07	
S5390	NS5390	100 YR - 1 Day			21.33	22.09	
S5400	NS5400	100 YR - 1 Day		AE	21.19	22.02	
S5405	NS5405	100 YR - 1 Day		AE	22.62	22.65	
S5410	NS5410	100 YR - 1 Day		AE	21.09	21.96	
S5420	NS5420	100 YR - 1 Day		AE	20.98	21.89	
S5430	NS5430	100 YR - 1 Day		AE	20.94	21.84	
S5440	NS5440	100 YR - 1 Day		AE	20.32	21.16	
S5450	NS5450	100 YR - 1 Day		AE	20.25	21.10	
S5460	NS5460	100 YR - 1 Day			20.21	21.02	
S5470	NS5470	100 YR - 1 Day			20.19	20.99	
S5480	NS5480	100 YR - 1 Day		AE	20.17	20.94	
S5490	NS5490	100 YR - 1 Day			19.94	20.77	
S5500	NS5500	100 YR - 1 Day		AE	19.85	20.72	
S5520	NS5520	100 YR - 1 Day		AE	17.87	19.62	
S5530	NS5530	100 YR - 1 Day		AE	17.84	19.59	
S5540	NS5540	100 YR - 1 Day		AE	17.80	19.54	
S5545	NS5545	100 YR - 1 Day		AE	18.47	19.52	
S5549	NS5549	100 YR - 1 Day		AE	19.24	19.52	
S5550	NS5550	100 YR - 1 Day		AE	17.79	19.52	
S5560	NS5560	100 YR - 1 Day		AE	17.74	19.39	
S5566	NS5566	100 YR - 1 Day		AE	18.27	18.17	
S5567	NS5567	100 YR - 1 Day			19.12	19.10	
S5570	NS5570	100 YR - 1 Day		AE	17.71	19.32	
S5577	NS5577	100 YR - 1 Day			19.89	19.98	
S5578	NS5578	100 YR - 1 Day		AE	19.23	19.22	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
S5579	NS5579	100 YR - 1 Day		X	20.10	20.02	
S5580	NS5580	100 YR - 1 Day			17.68	19.23	
S5590	NS5590	100 YR - 1 Day		AE	17.64	19.14	
S5600	NS5600	100 YR - 5 Day	A0	AE	17.61	19.09	
S5610	NS5610	100 YR - 5 Day	A0	AE	17.24	18.74	
S9000	NS9000	100 YR - 1 Day		AE	21.07	21.23	
S9050	NS9050	100 YR - 1 Day		AE	26.41	26.88	
S9055	NS9055	100 YR - 1 Day		AE	26.41	26.88	
S9060	NS9060	100 YR - 1 Day		AE	26.35	26.88	
S9065	NS9065	100 YR - 1 Day		AE	26.34	26.74	
S9070	NS9070	100 YR - 1 Day		AE	25.34	25.60	
S9075	NS9075	100 YR - 1 Day		AE	25.88	26.18	
S9080	NS9080	100 YR - 1 Day		AE	25.44	25.64	
S9085	NS9085	100 YR - 1 Day		AE	25.10	25.17	
S9090	NS9090	100 YR - 1 Day		AE	25.44	25.70	
S9095	NS9095	100 YR - 1 Day		AE	20.40	20.38	
S9100	NS9100	100 YR - 1 Day		X	19.88	19.84	
S9110	NS9110	100 YR - 1 Day		X	18.59	19.40	
S9200	NS9200	100 YR - 1 Day		AE	19.78	19.52	
S9610	NS9610	100 YR - 1 Day		AE	25.07	25.17	
S9620	NS9620	100 YR - 1 Day		AE	22.98	23.55	
T0010	NT0010	100 YR - 1 Day		AE	21.38	22.03	
T0013	NT0013	100 YR - 1 Day		AE	23.19	23.24	
T0014	NT0014	100 YR - 1 Day		AE	23.60	23.61	
T0015	NT0015	100 YR - 1 Day		AE	21.40	22.25	
T0016	NT0016	100 YR - 1 Day		AE	23.59	23.62	
T0017	NT0017	100 YR - 1 Day		AE	22.62	23.62	
T0018	NT0018	100 YR - 1 Day		AE	22.62	23.62	
T0019	NT0019	100 YR - 1 Day		AE	22.62	23.62	
T0030	NT0030	100 YR - 1 Day		AE	21.20	21.74	
T0035	NT0035	100 YR - 1 Day		AE	21.38	22.16	
T0040	NT0040	100 YR - 1 Day		AE	21.09	21.55	
T0043	NT0043	100 YR - 1 Day		AE	22.65	22.64	
T0045	NT0045	100 YR - 1 Day		AE	22.92	22.94	
T0050	NT0050	100 YR - 1 Day		AE	21.04	21.45	
T0060	NT0060	100 YR - 1 Day		AE	20.09	21.33	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
T0065	NT0065	100 YR - 1 Day		AE	21.02	21.66	
T0068	NT0068	100 YR - 1 Day		AE	23.04	22.99	
T0069	NT0069	100 YR - 1 Day		AE	22.79	22.74	
T0070	NT0070	100 YR - 1 Day		AE	20.05	21.27	
T0073	NT0073	100 YR - 1 Day		AE	23.03	23.03	
T0077	NT0077	100 YR - 1 Day		AE	22.62	22.64	
T0080	NT0080	100 YR - 1 Day		AE	19.90	21.02	
T0090	NT0090	100 YR - 1 Day		AE	19.79	20.83	
T0092	NT0092	100 YR - 1 Day		AE	21.93	21.96	
T0093	NT0093	100 YR - 1 Day		AE	21.75	21.71	
T0097	NT0097	100 YR - 1 Day		AE	20.19	20.81	
T0100	NT0100	100 YR - 1 Day		AE	19.67	20.65	
T0110	NT0110	100 YR - 1 Day		AE	19.47	20.50	
T0112	NT0112	100 YR - 1 Day			19.34	20.41	
T0115	NT0115	100 YR - 1 Day		AE	19.34	20.41	
T0118	NT0118	100 YR - 1 Day		AE	19.35	20.40	
T0120	NT0120	100 YR - 1 Day		AE	19.37	20.40	
T1010	NT1010	100 YR - 1 Day		AE	22.45	22.47	
T1020	NT1020	100 YR - 1 Day		AE	22.44	22.47	
T1030	NT1030	100 YR - 1 Day		AE	22.41	22.46	
T1040	NT1040	100 YR - 1 Day		AE	22.36	22.44	
T1050	NT1050	100 YR - 1 Day		AE	21.73	22.37	
T2010	NT2010	100 YR - 1 Day			21.72	21.68	
T2020	NT2020	100 YR - 1 Day		AE	21.72	21.68	
T2030	NT2030	100 YR - 1 Day		AE	21.61	21.55	
T2040	NT2040	100 YR - 1 Day		AE	21.26	21.27	
T2050	NT2050	100 YR - 1 Day		AE	21.10	21.18	
T2510	NT2510	100 YR - 1 Day			21.81	21.85	
T2520	NT2520	100 YR - 1 Day			21.54	21.30	
T2530	NT2530	100 YR - 1 Day		AE	21.30	21.19	
T2540	NT2540	100 YR - 1 Day		AE	20.58	20.99	
T2550	NT2550	100 YR - 1 Day		AE	20.56	20.99	
T2560	NT2560	100 YR - 1 Day		AE	20.52	20.97	
T2570	NT2570	100 YR - 1 Day		AE	20.13	20.92	
T2580	NT2580	100 YR - 1 Day		AE	20.12	20.92	
T3006	NT3006	100 YR - 1 Day		AE	19.96	20.83	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
T3008	NT3008	100 YR - 1 Day		AE	19.75	20.80	
T3010	NT3010	100 YR - 1 Day		AE	19.76	20.81	
T3014	NT3014	100 YR - 1 Day		AE	22.11	22.18	
T3015	NT3015	100 YR - 1 Day		AE	22.11	22.18	
T3020	NT3020	100 YR - 1 Day		AE	20.16	21.05	
T3030	NT3030	100 YR - 1 Day		AE	19.79	20.84	
T3040	NT3040	100 YR - 1 Day		AE	19.75	20.80	
T4010	NT4010	100 YR - 1 Day		AE	17.88	18.08	
T4020	NT4020	100 YR - 1 Day		AE	18.70	19.01	
T4021	NT4021	100 YR - 1 Day		AE	20.21	21.27	
T4022	NT4022	100 YR - 1 Day		AE	18.99	19.55	
T4030	NT4030	100 YR - 1 Day		AE	18.74	19.12	
T4040	NT4040	100 YR - 1 Day		AE	19.47	20.48	
T4060	NT4060	100 YR - 1 Day		AE	19.47	20.44	
U0486	NU0486	100 YR - 1 Day			29.55	29.83	
U0487	NU0487	100 YR - 1 Day			29.07	29.59	
U0490	NU0490	100 YR - 1 Day			28.54	29.31	
U0493	NU0493	100 YR - 1 Day		AE	28.71	29.09	
U0494	NU0494	100 YR - 1 Day		AE	28.68	28.91	
U0495	NU0495	100 YR - 1 Day		AE	28.10	28.91	
U0500	NU0500	100 YR - 1 Day		AE	28.10	28.91	
U0507	NU0507	100 YR - 1 Day		AE	28.04	28.82	
U0510	NU0510	100 YR - 1 Day		AE	28.05	28.83	
U0512	NU0512	100 YR - 1 Day		AE	28.04	28.83	
U0515	NU0515	100 YR - 1 Day		AE	28.04	28.83	
U0520	NU0520	100 YR - 1 Day		AE	28.00	28.78	
U0525	NU0525	100 YR - 1 Day		AE	27.75	28.51	
U0530	NU0530	100 YR - 1 Day		AE	27.75	28.50	
U0537	NU0537	100 YR - 1 Day		AE	27.68	28.36	
U0538	NU0538	100 YR - 1 Day		AE	27.68	28.41	
U0540	NU0540	100 YR - 1 Day		AE	27.68	28.41	
U0543	NU0543	100 YR - 1 Day		AE	27.35	28.10	
U0545	NU0545	100 YR - 1 Day		AE	27.35	28.10	
U0550	NU0550	100 YR - 1 Day		AE	27.34	28.09	
U0551	NU0551	100 YR - 1 Day		AE	27.18	27.81	
U0552	NU0552	100 YR - 1 Day		AE	26.97	27.81	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U0553	NU0553	100 YR - 1 Day		AE	28.25	28.23	
U0554	NU0554	100 YR - 1 Day		AE	27.29	27.95	
U0555	NU0555	100 YR - 1 Day		AE	27.28	27.91	
U0556	NU0556	100 YR - 1 Day		AE	26.96	27.72	
U0557	NU0557	100 YR - 1 Day		AE	26.97	27.75	
U0558	NU0558	100 YR - 1 Day		AE	26.97	27.79	
U0560	NU0560	100 YR - 1 Day		AE	26.97	27.80	
U0570	NU0570	100 YR - 1 Day		AE	26.89	27.73	
U0575	NU0575	100 YR - 1 Day		AE	26.47	27.55	
U0580	NU0580	100 YR - 1 Day		AE	26.47	27.54	
U0590	NU0590	100 YR - 1 Day		AE	26.36	27.48	
U0610	NU0610	100 YR - 1 Day		AE	26.17	27.33	
U0640	NU0640	100 YR - 1 Day		AE	25.82	26.82	
U0645	NU0645	100 YR - 1 Day		AE	25.48	25.48	
U0646	NU0646	100 YR - 1 Day		AE	26.44	27.55	
U0647	NU0648	100 YR - 1 Day			25.27	25.47	
U0648	NU0648	100 YR - 1 Day		AE	25.27	25.47	
U0650	NU0650	100 YR - 1 Day		AE	25.09	25.47	
U0655	NU0655	100 YR - 1 Day		AE	25.15	25.16	
U2610	NU2610	100 YR - 1 Day		AE	28.97	28.95	
U2625	NU2625	100 YR - 1 Day		AE	27.82	28.55	
U2630	NU2630	100 YR - 1 Day		AE	27.82	28.55	
U2710	NU2710	100 YR - 1 Day		AE	28.53	28.82	
U2720	NU2720	100 YR - 1 Day			28.04	28.82	
U2730	NU2730	100 YR - 1 Day		AE	28.04	28.82	
U2735	NU2735	100 YR - 1 Day		AE	28.04	28.78	
U2737	NU2737	100 YR - 1 Day		AE	28.04	28.82	
U2740	NU2740	100 YR - 1 Day		AE	28.04	28.81	
U2745	NU2745	100 YR - 1 Day		AE	28.04	28.82	
U2750	NU2750	100 YR - 1 Day		AE	28.04	28.82	
U2753	NU2753	100 YR - 1 Day			28.04	28.82	
U2755	NU2755	100 YR - 1 Day		AE	28.04	28.82	
U2756	NU2756	100 YR - 1 Day			28.04	28.82	
U2757	NU2757	100 YR - 1 Day		AE	28.04	28.82	
U2760	NU2760	100 YR - 1 Day		AE	28.04	28.82	
U2770	NU2770	100 YR - 1 Day			28.04	28.82	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U3126	NU3126	100 YR - 1 Day		AE	31.36	31.33	
U3130	NU3130	100 YR - 1 Day			30.32	30.47	
U3135	NU3135	100 YR - 1 Day		AE	29.99	30.31	
U3140	NU3140	100 YR - 1 Day		AE	29.89	30.13	
U3150	NU3150	100 YR - 1 Day		AE	29.66	29.85	
U3160	NU3160	100 YR - 1 Day		AE	29.57	29.72	
U3163	NU3163	100 YR - 1 Day		AE	30.00	29.96	
U3165	NU3165	100 YR - 1 Day		AE	29.43	29.49	
U3170	NU3170	100 YR - 1 Day		AE	29.14	29.37	
U3255	NU3255	100 YR - 1 Day		AE	30.10	30.28	
U3260	NU3260	100 YR - 1 Day			30.08	30.28	
U3270	NU3270	100 YR - 1 Day		AE	29.66	29.83	
U3490	NU3490	100 YR - 1 Day			28.39	29.18	
U3510	NU3510	100 YR - 1 Day		AE	28.17	28.99	
U3810	NU3810	100 YR - 1 Day		AE	28.69	28.68	
U3815	NU3815	100 YR - 1 Day		AE	27.97	28.68	
U3820	NU3820	100 YR - 1 Day		AE	27.97	28.68	
U3825	NU3825	100 YR - 1 Day		AE	27.97	28.68	
U3830	NU3830	100 YR - 1 Day		AE	27.97	28.68	
U3840	NU3840	100 YR - 1 Day		AE	27.97	28.66	
U3843	NU3843	100 YR - 1 Day		AE	29.28	29.24	
U3845	NU3845	100 YR - 1 Day		AE	28.93	28.87	
U3848	NU3848	100 YR - 1 Day		AE	27.97	28.66	
U3850	NU3850	100 YR - 1 Day		AE	27.97	28.66	
U3910	NU3910	100 YR - 1 Day		AE	28.96	28.92	
U3915	NU3915	100 YR - 1 Day		AE	28.52	28.52	
U3920	NU3920	100 YR - 1 Day		AE	28.33	28.52	
U3930	NU3930	100 YR - 1 Day		AE	28.33	28.52	
U3940	NU3940	100 YR - 1 Day		AE	27.75	28.50	
U4010	NU4010	100 YR - 1 Day		AE	29.03	29.42	
U4020	NU4020	100 YR - 1 Day		AE	29.65	29.62	
U4030	NU4030	100 YR - 1 Day		AE	29.56	29.55	
U4040	NU4040	100 YR - 1 Day		AE	29.45	29.51	
U4050	NU4050	100 YR - 1 Day		AE	28.98	29.40	
U4052	NU4052	100 YR - 1 Day		AE	28.56	29.32	
U4053	NU4053	100 YR - 1 Day		AE	28.55	29.30	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U4054	NU4054	100 YR - 1 Day		AE	28.55	29.31	
U4055	NU4055	100 YR - 1 Day		AE	28.55	29.31	
U4060	NU4060	100 YR - 1 Day		AE	28.93	29.32	
U4070	NU4070	100 YR - 1 Day		AE	29.11	29.35	
U4080	NU4080	100 YR - 1 Day		AE	28.29	28.82	
U4082	NU4082	100 YR - 1 Day		AE	28.29	28.78	
U4084	NU4084	100 YR - 1 Day		AE	28.29	28.82	
U4087	NU4087	100 YR - 1 Day		AE	28.99	29.00	
U4090	NU4090	100 YR - 1 Day		AE	28.24	28.78	
U4100	NU4100	100 YR - 1 Day		AE	28.16	28.72	
U4105	NU4105	100 YR - 1 Day		AE	27.97	28.66	
U4110	NU4110	100 YR - 1 Day		AE	27.94	28.57	
U4112	NU4112	100 YR - 1 Day		AE	27.81	28.42	
U4113	NU4113	100 YR - 1 Day		AE	27.81	28.42	
U4115	NU4115	100 YR - 1 Day		AE	27.60	28.28	
U4117	NU4117	100 YR - 1 Day		AE	27.78	28.24	
U4124	NU4124	100 YR - 1 Day		AE	27.64	28.53	
U4125	NU4125	100 YR - 1 Day		AE	27.52	28.07	
U4126	NU4126	100 YR - 1 Day		AE	27.57	28.32	
U4128	NU4128	100 YR - 1 Day		AE	27.52	28.08	
U4130	NU4130	100 YR - 1 Day		AE	27.52	28.23	
U4140	NU4140	100 YR - 1 Day		AE	27.11	28.02	
U4150	NU4150	100 YR - 1 Day		AE	26.96	27.84	
U4155	NU4155	100 YR - 1 Day		AE	26.89	27.73	
U4160	NU4160	100 YR - 1 Day		AE	26.89	27.73	
U4165	NU4165	100 YR - 1 Day		AE	26.90	27.74	
U4210	NU4210	100 YR - 1 Day		AE	26.72	27.61	
U4220	NU4220	100 YR - 1 Day		AE	26.69	27.59	
U4225	NU4225	100 YR - 1 Day		AE	26.69	27.59	
U4230	NU4230	100 YR - 1 Day		AE	26.56	27.54	
U4240	NU4240	100 YR - 1 Day		AE	26.51	27.52	
U4250	NU4250	100 YR - 1 Day		AE	26.47	27.51	
U4260	NU4260	100 YR - 1 Day		AE	26.42	27.47	
U4410	NU4410	100 YR - 1 Day		AE	29.31	29.55	
U4420	NU4420	100 YR - 1 Day		AE	29.31	29.54	
U4430	NU4430	100 YR - 1 Day		AE	29.40	29.44	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U4440	NU4440	100 YR - 1 Day		AE	29.40	29.44	
U4445	NU4445	100 YR - 1 Day		AE	29.77	29.74	
U4450	NU4450	100 YR - 1 Day		AE	29.40	29.44	
U4610	NU4610	100 YR - 1 Day		AE	27.39	28.17	
U4615	NU4615	100 YR - 1 Day		AE	27.83	28.29	
U4620	NU4620	100 YR - 1 Day		AE	27.39	28.22	
U4623	NU4623	100 YR - 1 Day		AE	27.39	28.07	
U4627	NU4627	100 YR - 1 Day		AE	27.39	28.05	
U4630	NU4630	100 YR - 1 Day		AE	27.39	28.05	
U4640	NU4640	100 YR - 1 Day		AE	27.39	28.04	
U4642	NU4640	100 YR - 1 Day			27.39	28.04	
U4644	NU4644	100 YR - 1 Day		AE	27.63	28.21	
U4646	NU4646	100 YR - 1 Day		AE	27.46	28.09	
U4660	NU4660	100 YR - 1 Day		AE	26.81	27.30	
U4675	NU4675	100 YR - 1 Day		AE	26.10	26.40	
U4677	NU4677	100 YR - 1 Day		AE	26.10	26.40	
U4680	NU4680	100 YR - 1 Day		AE	26.10	26.40	
U4710	NU4710	100 YR - 1 Day		AE	26.87	27.70	
U4720	NU4720	100 YR - 1 Day		AE	26.86	27.70	
U4725	NU4720	100 YR - 1 Day			26.86	27.70	
U4730	NU4730	100 YR - 1 Day		AE	26.10	26.14	
U4740	NU4740	100 YR - 1 Day		AE	26.08	26.12	
U4750	NU4750	100 YR - 1 Day		AE	25.99	26.03	
U4760	NU4760	100 YR - 1 Day		AE	25.99	26.03	
U4770	NU4770	100 YR - 1 Day		AE	25.67	25.89	
U4810	NU4810	100 YR - 1 Day		AE	27.42	27.93	
U4820	NU4820	100 YR - 1 Day		AE	26.98	27.65	
U4830	NU4830	100 YR - 1 Day		AE	27.36	27.67	
U4840	NU4840	100 YR - 1 Day		AE	26.52	27.39	
U4844	NU4844	100 YR - 1 Day		AE	26.29	26.62	
U4850	NU4850	100 YR - 1 Day		AE	25.45	25.71	
U4857	NU4857	100 YR - 1 Day		AE	25.57	25.76	
U4860	NU4860	100 YR - 1 Day		AE	25.45	25.71	
U4870	NU4870	100 YR - 1 Day		AE	25.45	25.70	
U4910	NU4910	100 YR - 1 Day		AE	25.92	26.21	
U4920	NU4920	100 YR - 1 Day		AE	25.90	26.10	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U5010	NU5010	100 YR - 1 Day		AE	25.67	25.96	
U5020	NU5020	100 YR - 1 Day			26.21	26.16	
U5030	NU5030	100 YR - 1 Day			26.00	25.96	
U5040	NU5040	100 YR - 1 Day		AE	25.45	25.70	
U5050	NU5050	100 YR - 1 Day		AE	25.45	25.70	
U5060	NU5060	100 YR - 1 Day		X	26.80	26.77	
U5080	NU5080	100 YR - 1 Day		X	26.80	26.77	
U5090	NU5090	100 YR - 1 Day		AE	25.45	25.70	
U5095	NU5095	100 YR - 1 Day		AE	25.44	25.70	
U5185	NU5185	100 YR - 1 Day		AE	28.04	28.82	
U5202	NU5202	100 YR - 1 Day			28.04	28.82	
U5203	NU5203	100 YR - 1 Day		AE	28.04	28.81	
U5205	NU5205	100 YR - 1 Day		AE	28.04	28.82	
U5207	NU5207	100 YR - 1 Day		AE	28.04	28.82	
U5210	NU5210	100 YR - 1 Day		AE	28.04	28.82	
U5220	NU5220	100 YR - 1 Day		AE	28.04	28.82	
U5410	NU5410	100 YR - 1 Day		AE	27.80	28.56	
U5420	NU5420	100 YR - 1 Day		AE	27.79	28.55	
U5421	NU5421	100 YR - 1 Day		AE	27.79	28.53	
U5422	NU5422	100 YR - 1 Day		AE	28.16	28.58	
U5423	NU5423	100 YR - 1 Day		AE	27.84	28.58	
U5424	NU5424	100 YR - 1 Day		AE	27.85	28.63	
U5425	NU5425	100 YR - 1 Day		AE	28.03	28.81	
U5426	NU5426	100 YR - 1 Day		AE	27.85	28.63	
U5427	NU5427	100 YR - 1 Day		AE	27.80	28.55	
U5428	NU5428	100 YR - 1 Day		AE	27.80	28.56	
U5429	NU5429	100 YR - 1 Day		AE	27.79	28.54	
U5430	NU5430	100 YR - 1 Day		AE	27.79	28.53	
U5440	NU5440	100 YR - 1 Day		AE	27.79	28.52	
U5450	NU5450	100 YR - 1 Day		AE	27.70	28.36	
U5455	NU5455	100 YR - 1 Day		AE	27.69	28.29	
U5457	NU5457	100 YR - 1 Day		AE	27.69	28.34	
U5460	NU5460	100 YR - 1 Day		AE	27.64	28.23	
U5470	NU5470	100 YR - 1 Day		AE	27.64	28.23	
U5480	NU5480	100 YR - 1 Day		AE	27.64	28.23	
U5482	NU5482	100 YR - 1 Day		AE	28.49	28.54	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U5484	NU5484	100 YR - 1 Day		AE	28.44	28.47	
U5486	NU5486	100 YR - 1 Day		AE	28.40	28.44	
U5487	NU5487	100 YR - 1 Day		AE	28.40	28.44	
U5488	NU5488	100 YR - 1 Day		AE	27.64	28.21	
U5490	NU5490	100 YR - 1 Day		AE	27.64	28.22	
U5495	NU5495	100 YR - 1 Day		AE	27.64	28.21	
U5500	NU5500	100 YR - 1 Day		AE	27.64	28.21	
U5520	NU5520	100 YR - 1 Day		AE	27.64	28.21	
U5525	NU5525	100 YR - 1 Day		AE	27.77	27.80	
U5530	NU5530	100 YR - 1 Day		AE	27.19	27.73	
U5540	NU5540	100 YR - 1 Day		AE	26.35	26.77	
U5545	NU5545	100 YR - 1 Day		X	25.83	25.81	
U5550	NU5550	100 YR - 1 Day		AE	26.35	26.77	
U5555	NU5555	100 YR - 1 Day		AE	25.57	25.79	
U5570	NU5570	100 YR - 1 Day		AE	25.57	25.79	
U5580	NU5580	100 YR - 1 Day		AE	25.52	25.76	
U5590	NU5590	100 YR - 1 Day		AE	25.52	25.76	
U5595	NU5595	100 YR - 1 Day		AE	25.45	25.71	
U5610	NU5610	100 YR - 1 Day		AE	25.54	25.46	
U5620	NU5620	100 YR - 1 Day			25.86	25.84	
U5630	NU5630	100 YR - 1 Day			25.86	25.84	
U5640	NU5640	100 YR - 1 Day		AE	25.15	25.34	
U5710	NU5710	100 YR - 1 Day			26.30	26.28	
U5720	NU5720	100 YR - 1 Day		X	26.30	26.27	
U5730	NU5730	100 YR - 1 Day		AE	26.35	26.31	
U5810	NU5810	100 YR - 1 Day		AE	28.48	28.53	
U5820	NU5820	100 YR - 1 Day		AE	28.48	28.53	
U5825	NU5825	100 YR - 1 Day		AE	28.97	28.95	
U5830	NU5830	100 YR - 1 Day		AE	28.48	28.53	
U5835	NU5835	100 YR - 1 Day		AE	28.43	28.53	
U5840	NU5840	100 YR - 1 Day		AE	27.75	28.48	
U5845	NU5845	100 YR - 1 Day		AE	28.65	28.59	
U5850	NU5850	100 YR - 1 Day		AE	27.40	28.46	
U5870	NU5870	100 YR - 1 Day		AE	27.40	28.46	
U5910	NU5910	100 YR - 1 Day		AE	27.87	28.46	
U5915	NU5915	100 YR - 1 Day		AE	27.78	28.46	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U5920	NU5920	100 YR - 1 Day		AE	27.78	28.46	
U5930	NU5930	100 YR - 1 Day		AE	27.32	28.46	
U5940	NU5940	100 YR - 1 Day		AE	27.32	28.46	
U6010	NU6010	100 YR - 1 Day		AE	27.68	28.17	
U6020	NU6020	100 YR - 1 Day		AE	27.68	28.17	
U6021	NU6021	100 YR - 1 Day		AE	27.32	28.45	
U6022	NU6022	100 YR - 1 Day		AE	28.06	28.29	
U6023	NU6023	100 YR - 1 Day		AE	27.97	28.25	
U6024	NU6024	100 YR - 1 Day		AE	28.01	28.17	
U6026	NU6026	100 YR - 1 Day		AE	27.68	28.17	
U6030	NU6030	100 YR - 1 Day		AE	27.68	28.17	
U6040	NU6030	100 YR - 1 Day			27.68	28.17	
U6070	NU6070	100 YR - 1 Day		AE	27.13	27.17	
U6080	NU6080	100 YR - 1 Day		AE	26.42	26.78	
U6090	NU6090	100 YR - 1 Day		AE	26.40	26.77	
U6095	NU6095	100 YR - 1 Day		AE	27.11	27.11	
U6100	NU6100	100 YR - 1 Day		AE	26.40	26.77	
U6103	NU6103	100 YR - 1 Day		AE	26.80	26.81	
U6107	NU6107	100 YR - 1 Day		AE	26.35	26.77	
U6110	NU6110	100 YR - 1 Day		AE	26.35	26.77	
U6310	NU6310	100 YR - 1 Day		AE	27.85	28.45	
U6320	NU6320	100 YR - 1 Day		AE	27.36	28.45	
U6330	NU6330	100 YR - 1 Day		AE	27.36	28.45	
U6335	NU6335	100 YR - 1 Day		AE	27.38	28.45	
U6340	NU6340	100 YR - 1 Day		AE	27.22	28.43	
U6350	NU6350	100 YR - 1 Day		AE	27.22	28.43	
U6360	NU6360	100 YR - 1 Day		AE	27.22	28.43	
U6361	NU6360	100 YR - 1 Day			27.22	28.43	
U6362	NU6362	100 YR - 1 Day		AE	27.22	28.43	
U6370	NU6370	100 YR - 1 Day		AE	27.22	28.43	
U6380	NU6380	100 YR - 1 Day		AE	27.22	28.43	
U6383	NU6383	100 YR - 1 Day		AE	27.26	28.43	
U6385	NU6385	100 YR - 1 Day			26.14	26.65	
U6387	NU6387	100 YR - 1 Day		AE	26.41	26.66	
U6390	NU6390	100 YR - 1 Day		AE	25.30	26.65	
U6410	NU6410	100 YR - 1 Day		AE	26.99	27.40	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U6416	NU6416	100 YR - 1 Day		AE	28.03	28.01	
U6420	NU6420	100 YR - 1 Day		AE	26.90	27.40	
U6607	NU6607	100 YR - 1 Day		AE	26.99	27.40	
U6612	NU6612	100 YR - 1 Day			26.58	26.70	
U6620	NU6620	100 YR - 1 Day		AE	26.59	26.71	
U6630	NU6630	100 YR - 1 Day		AE	26.58	26.69	
U6640	NU6640	100 YR - 1 Day		AE	26.58	26.69	
U6650	NU6650	100 YR - 1 Day		AE	26.58	26.69	
U6655	NU6655	100 YR - 1 Day		AE	25.74	26.13	
U6660	NU6660	100 YR - 1 Day			25.74	26.13	
U6666	NU6666	100 YR - 1 Day		AE	25.74	26.14	
U6670	NU6670	100 YR - 1 Day		AE	25.74	26.13	
U6680	NU6680	100 YR - 1 Day		AE	25.66	25.95	
U6690	NU6690	100 YR - 1 Day		AE	25.57	25.78	
U6700	NU6700	100 YR - 1 Day			24.87	25.52	
U6810	NU6810	100 YR - 1 Day		AE	25.95	26.21	
U6820	NU6820	100 YR - 1 Day			26.77	26.76	
U6825	NU6825	100 YR - 1 Day		X	26.78	26.76	
U6830	NU6830	100 YR - 1 Day			26.64	26.59	
U6834	NU6834	100 YR - 1 Day		X	26.63	26.59	
U6840	NU6840	100 YR - 1 Day		AE	26.57	26.51	
U6850	NU6850	100 YR - 1 Day		X	26.51	26.47	
U6860	NU6860	100 YR - 1 Day		X	26.52	26.48	
U6870	NU6870	100 YR - 1 Day		AE	25.95	26.21	
U6880	NU6880	100 YR - 1 Day		AE	25.95	26.21	
U6890	NU6890	100 YR - 1 Day		X	26.43	26.39	
U6900	NU6900	100 YR - 1 Day		AE	25.95	26.21	
U6910	NU6910	100 YR - 1 Day		X	26.45	26.41	
U6915	NU6915	100 YR - 1 Day		X	26.43	26.39	
U6920	NU6920	100 YR - 1 Day			26.45	26.40	
U6930	NU6930	100 YR - 1 Day		AE	25.95	26.21	
U6940	NU6940	100 YR - 1 Day		X	26.09	26.21	
U6945	NU6945	100 YR - 1 Day		X	26.13	26.21	
U6950	NU6950	100 YR - 1 Day		X	26.26	26.20	
U6960	NU6960	100 YR - 1 Day		AE	26.47	26.45	
U6970	NU6970	100 YR - 1 Day		AE	26.20	26.14	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U6975	NU6975	100 YR - 1 Day		AE	25.07	25.62	
U7010	NU7010	100 YR - 1 Day		AE	25.68	26.01	
U7110	NU7110	100 YR - 1 Day		AE	25.95	26.21	
U7210	NU7210	100 YR - 1 Day		X	26.43	26.39	
U7220	NU7220	100 YR - 1 Day		AE	26.10	26.20	
U7230	NU7230	100 YR - 1 Day		AE	25.94	26.20	
U7310	NU7310	100 YR - 1 Day		AE	26.63	26.74	
U7320	NU7320	100 YR - 1 Day		AE	26.62	26.72	
U7330	NU7330	100 YR - 1 Day		AE	26.59	26.70	
U7355	NU7355	100 YR - 1 Day		AE	25.95	26.21	
U7360	NU7360	100 YR - 1 Day		AE	25.95	26.21	
U7363	NU7363	100 YR - 1 Day		AE	26.54	26.61	
U7365	NU7365	100 YR - 1 Day		AE	25.95	26.21	
U7367	NU7367	100 YR - 1 Day		AE	25.95	26.21	
U7370	NU7370	100 YR - 1 Day		AE	25.95	26.21	
U7375	NU7375	100 YR - 1 Day		AE	25.94	26.20	
U7380	NU7380	100 YR - 1 Day		AE	25.95	26.21	
U7390	NU7390	100 YR - 1 Day		AE	25.94	26.20	
U7400	NU7400	100 YR - 1 Day		AE	25.67	25.96	
U7510	NU7510	100 YR - 1 Day		AE	25.95	26.21	
U7520	NU7520	100 YR - 1 Day		X	25.75	26.14	
U7530	NU7530	100 YR - 1 Day		AE	25.74	26.14	
U7540	NU7540	100 YR - 1 Day			25.74	26.14	
U7550	NU7550	100 YR - 1 Day		AE	25.95	26.21	
U7560	NU7560	100 YR - 1 Day		AE	25.95	26.21	
U7570	NU7570	100 YR - 1 Day		AE	25.95	26.22	
U8210	NU8210	100 YR - 1 Day		AE	26.88	27.03	
U8220	NU8220	100 YR - 1 Day		AE	25.95	26.21	
U8230	NU8230	100 YR - 1 Day		AE	25.67	25.96	
U8240	NU8240	100 YR - 1 Day		AE	25.14	25.24	
U8250	NU8250	100 YR - 1 Day		AE	25.14	25.24	
U8260	NU8260	100 YR - 1 Day		AE	25.14	25.24	
U9000	NU9000	100 YR - 1 Day		AE	25.71	28.55	
U9002	NU9002	100 YR - 1 Day		AE	26.61	26.72	
U9003	NU9003	100 YR - 1 Day		AE	27.52	27.38	
U9004	NU9004	100 YR - 1 Day		AE	25.57	25.76	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U9005	NU9005	100 YR - 1 Day		AE	27.56	27.87	
U9006	NU9006	100 YR - 1 Day		AE	26.33	26.76	
U9007	NU9007	100 YR - 1 Day		AE	25.64	26.28	
U9008	NU9008	100 YR - 1 Day		AE	25.01	25.88	
U9009	NU9009	100 YR - 1 Day		AE	26.10	26.40	
U9011	NU9011	100 YR - 1 Day		AE	27.16	27.25	
U9012	NU9012	100 YR - 1 Day		AE	25.99	26.40	
U9013	NU9013	100 YR - 1 Day		AE	26.79	27.17	
U9014	NU9014	100 YR - 1 Day		AE	27.21	27.13	
U9015	NU9015	100 YR - 1 Day		AE	27.52	27.44	
U9016	NU9016	100 YR - 1 Day		AE	27.22	27.05	
U9017	NU9017	100 YR - 1 Day		AE	26.88	27.03	
U9018	NU9018	100 YR - 1 Day		AE	26.87	27.03	
U9019	NU9019	100 YR - 1 Day		AE	26.53	26.71	
U9021	NU9021	100 YR - 1 Day		AE	26.10	26.40	
U9022	NU9022	100 YR - 1 Day		AE	27.53	27.44	
U9023	NU9023	100 YR - 1 Day		AE	27.87	27.99	
U9024	NU9024	100 YR - 1 Day		AE	27.35	27.48	
U9025	NU9025	100 YR - 1 Day		AE	26.58	26.69	
U9026	NU9026	100 YR - 1 Day		AE	26.78	27.28	
U9027	NU9027	100 YR - 1 Day		X	25.97	26.21	
U9028	NU9028	100 YR - 1 Day		AE	25.95	26.21	
U9029	NU9029	100 YR - 1 Day		AE	25.95	26.21	
U9030	NU9030	100 YR - 1 Day		AE	26.47	26.61	
U9031	NU9031	100 YR - 1 Day		AE	27.41	27.84	
U9032	NU9032	100 YR - 1 Day		AE	26.54	26.61	
U9033	NU9033	100 YR - 1 Day		AE	26.62	26.72	
U9034	NU9034	100 YR - 1 Day		AE	28.56	28.55	
U9035	NU9035	100 YR - 1 Day		AE	25.98	26.21	
U9036	NU9036	100 YR - 1 Day		AE	26.62	26.72	
U9037	NU9037	100 YR - 1 Day		AE	27.42	27.93	
U9038	NU9038	100 YR - 1 Day		AE	28.32	28.27	
U9039	NU9039	100 YR - 1 Day		AE	27.42	27.93	
U9040	NU9040	100 YR - 1 Day		AE	26.81	27.29	
U9041	NU9041	100 YR - 1 Day		X	26.53	26.58	
U9042	NU9042	100 YR - 1 Day		AE	27.42	27.93	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U9043	NU9043	100 YR - 1 Day		AE	27.42	27.93	
U9044	NU9044	100 YR - 1 Day		AE	27.60	27.72	
U9045	NU9045	100 YR - 1 Day		AE	27.81	27.70	
U9046	NU9046	100 YR - 1 Day		AE	27.36	27.67	
U9051	NU9051	100 YR - 1 Day		AE	27.36	27.68	
U9052	NU9052	100 YR - 1 Day		AE	26.98	27.65	
U9053	NU9053	100 YR - 1 Day		AE	27.05	27.65	
U9054	NU9054	100 YR - 1 Day		AE	26.98	27.65	
U9055	NU9055	100 YR - 1 Day		AE	27.07	27.65	
U9056	NU9056	100 YR - 1 Day		AE	26.98	27.65	
U9057	NU9057	100 YR - 1 Day		AE	26.98	27.65	
U9058	NU9058	100 YR - 1 Day		AE	26.36	26.62	
U9059	NU9059	100 YR - 1 Day		AE	26.36	26.70	
U9061	NU9061	100 YR - 1 Day		AE	26.29	26.62	
U9062	NU9062	100 YR - 1 Day		AE	27.33	27.45	
U9065	NU9065	100 YR - 1 Day		AE	25.45	25.71	
U9066	NU9066	100 YR - 1 Day		AE	25.45	25.71	
U9067	NU9067	100 YR - 1 Day		AE	27.43	27.34	
U9068	NU9068	100 YR - 1 Day		AE	26.88	26.86	
U9069	NU9069	100 YR - 1 Day		AE	26.30	26.62	
U9070	NU9070	100 YR - 1 Day		AE	26.38	26.57	
U9071	NU9071	100 YR - 1 Day		AE	25.47	25.72	
U9072	NU9072	100 YR - 1 Day		AE	26.52	26.49	
U9073	NU9073	100 YR - 1 Day		AE	26.30	26.62	
U9074	NU9074	100 YR - 1 Day		AE	26.31	26.63	
U9080	NU9080	100 YR - 1 Day		AE	25.67	25.89	
U9081	NU9081	100 YR - 1 Day		AE	26.29	26.62	
U9082	NU9082	100 YR - 1 Day		AE	27.99	27.95	
U9083	NU9083	100 YR - 1 Day		AE	28.13	28.13	
U9084	NU9084	100 YR - 1 Day		AE	27.62	27.72	
U9085	NU9085	100 YR - 1 Day		AE	25.57	25.79	
U9086	NU9086	100 YR - 1 Day		AE	25.57	25.79	
U9087	NU9087	100 YR - 1 Day		AE	27.13	27.13	
U9088	NU9088	100 YR - 1 Day			26.99	27.39	
U9089	NU9089	100 YR - 1 Day		AE	27.76	27.71	
U9090	NU9090	100 YR - 1 Day		AE	25.67	25.89	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
U9091	NU9091	100 YR - 1 Day		AE	27.05	27.19	
U9092	NU9092	100 YR - 1 Day		AE	28.33	28.21	
U9093	NU9093	100 YR - 1 Day		AE	26.97	27.40	
U9094	NU9094	100 YR - 1 Day		AE	28.15	27.99	
U9095	NU9095	100 YR - 1 Day		AE	27.12	27.19	
U9096	NU9096	100 YR - 1 Day		X	27.33	27.24	
U9097	NU9097	100 YR - 1 Day		AE	27.34	27.24	
U9098	NU9098	100 YR - 1 Day		AE	27.75	27.62	
U9100	NU9100	100 YR - 1 Day		AE	28.04	28.82	
U9101	NU9101	100 YR - 1 Day		X	27.41	27.44	
U9110	NU9110	100 YR - 1 Day		AE	26.27	26.17	
U9115	NU9115	100 YR - 1 Day		AE	26.70	26.72	
U9120	NU9120	100 YR - 1 Day		AE	27.07	27.30	
U9125	NU9125	100 YR - 1 Day		AE	27.44	27.43	
U9130	NU9130	100 YR - 1 Day		AE	27.48	27.41	
U9135	NU9135	100 YR - 1 Day		X	26.87	26.84	
U9140	NU9140	100 YR - 1 Day		AE	27.88	27.59	
U9145	NU9145	100 YR - 1 Day		AE	26.80	26.57	
U9155	NU9155	100 YR - 1 Day			27.62	27.41	
U9160	NU9160	100 YR - 1 Day			27.81	27.47	
U9201	NU9201	100 YR - 1 Day		AE	27.40	27.37	
U9301	NU9301	100 YR - 1 Day		X	26.41	26.38	
U9400	NU9400	100 YR - 1 Day		AE	26.10	26.40	
U9450	NU9450	100 YR - 1 Day		AE	26.83	27.09	
U9500	NU9500	100 YR - 1 Day		AE	25.67	25.89	
U9600	NU9600	100 YR - 1 Day		AE	26.10	26.40	
U9700	NU9700	100 YR - 1 Day		AE	25.67	25.88	
U9800	NU9800	100 YR - 1 Day		AE	25.67	25.88	
U9810	NU9810	100 YR - 1 Day		AE	25.97	26.02	
U9820	NU9820	100 YR - 1 Day		AE	26.33	26.70	
U9830	NU9830	100 YR - 1 Day		AE	25.23	25.48	
U9900	NU9900	100 YR - 1 Day		AE	25.67	25.86	
U9910	NU9910	100 YR - 1 Day		AE	25.68	25.86	
V0001	NV0001	100 YR - 1 Day		AE	28.39	28.35	
V0002	NV0002	100 YR - 1 Day		AE	28.39	28.35	
V0003	NV0003	100 YR - 1 Day		AE	27.51	28.29	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
V0004	NV0004	100 YR - 1 Day			27.60	28.22	
V0005	NV0005	100 YR - 1 Day		AE	27.54	28.37	
V0006	NV0006	100 YR - 1 Day		AE	27.54	28.37	
V0007	NV0007	100 YR - 1 Day		AE	27.54	28.37	
V0008	NV0008	100 YR - 1 Day		AE	27.54	28.35	
V0009	NV0009	100 YR - 1 Day		AE	27.75	28.35	
V0011	NV0011	100 YR - 1 Day		AE	27.68	28.35	
V0012	NV0012	100 YR - 1 Day		AE	27.56	28.34	
V0014	NV0014	100 YR - 1 Day		AE	25.32	26.89	
V0015	NV0015	100 YR - 1 Day			25.32	26.89	
V0020	NV0020	100 YR - 1 Day		AE	25.32	26.89	
V0029	NV0029	100 YR - 1 Day		AE	25.32	27.08	
V0030	NV0030	100 YR - 1 Day		AE	25.32	26.89	
V0040	NV0040	100 YR - 1 Day		AE	25.30	26.78	
V0045	NV0045	100 YR - 1 Day		AE	23.38	24.35	
V0050	NV0050	100 YR - 1 Day		AE	25.30	26.75	
V0051	NV0051	100 YR - 1 Day		AE	21.86	22.82	
V0055	NV0055	100 YR - 1 Day		AE	25.30	27.00	
V0060	NV0060	100 YR - 1 Day		AE	25.30	26.73	
V0062	NV0062	100 YR - 1 Day			25.27	26.50	
V0064	NV0064	100 YR - 1 Day		AE	25.27	26.50	
V0065	NV0065	100 YR - 1 Day		AE	25.27	26.56	
V0066	NV0066	100 YR - 1 Day		AE	25.27	26.50	
V0068	NV0068	100 YR - 1 Day		AE	25.27	26.50	
V0070	NV0070	100 YR - 1 Day		AE	25.27	26.65	
V0073	NV0073	100 YR - 1 Day		AE	25.20	26.49	
V0077	NV0077	100 YR - 1 Day		AE	25.21	26.50	
V0080	NV0080	100 YR - 1 Day		AE	25.23	26.58	
V0090	NV0090	100 YR - 1 Day		AE	25.21	26.54	
V0100	NV0100	100 YR - 1 Day		AE	23.75	24.18	
V0110	NV0110	100 YR - 1 Day		AE	23.72	24.14	
V0120	NV0120	100 YR - 1 Day			23.71	24.11	
V0130	NV0130	100 YR - 1 Day			22.12	23.15	
V0135	NV0135	100 YR - 1 Day		AE	22.39	24.11	
V0140	NV0140	100 YR - 1 Day		AE	22.06	23.08	
V0160	NV0160	100 YR - 1 Day		AE	21.78	22.71	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
V0170	NV0170	100 YR - 1 Day		AE	21.71	22.62	
V0180	NV0180	100 YR - 1 Day		AE	21.64	22.53	
V0187	NV0187	100 YR - 1 Day		AE	21.53	22.54	
V0190	NV0190	100 YR - 1 Day		AE	21.52	22.46	
V0200	NV0200	100 YR - 1 Day		AE	21.48	22.42	
V0205	NV0205	100 YR - 1 Day		AE	21.49	22.53	
V0210	NV0210	100 YR - 1 Day		AE	21.39	22.33	
V0220	NV0220	100 YR - 1 Day		AE	21.32	22.24	
V0230	NV0230	100 YR - 1 Day		AE	21.25	22.16	
V0240	NV0240	100 YR - 1 Day		AE	21.20	22.12	
V0250	NV0250	100 YR - 1 Day		AE	21.14	22.04	
V1010	NV1010	100 YR - 1 Day			27.82	28.55	
V1015	NV1015	100 YR - 1 Day		AE	27.75	28.51	
V1033	NV1033	100 YR - 1 Day		AE	27.75	28.51	
V1037	NV1037	100 YR - 1 Day		AE	27.40	28.46	
V1040	NV1040	100 YR - 1 Day		AE	27.31	28.46	
V1043	NV1043	100 YR - 1 Day		AE	27.31	28.46	
V1047	NV1047	100 YR - 1 Day		AE	27.30	28.45	
V1050	NV1050	100 YR - 1 Day		AE	27.26	28.43	
V1080	NV1080	100 YR - 1 Day		AE	25.60	27.01	
V1090	NV1090	100 YR - 1 Day		AE	25.48	26.91	
V2011	NV2011	100 YR - 1 Day		AE	25.80	25.70	
V2015	NV2015	100 YR - 1 Day		AE	24.18	24.32	
V2210	NV2210	100 YR - 1 Day		AE	24.18	24.33	
V2220	NV2220	100 YR - 1 Day		AE	24.16	24.32	
V2520	NV2520	100 YR - 1 Day		AE	24.29	24.34	
V2530	NV2530	100 YR - 1 Day		AE	24.29	24.34	
V2540	NV2540	100 YR - 1 Day		AE	24.28	24.34	
V2550	NV2550	100 YR - 1 Day		AE	24.27	24.33	
V2560	NV2560	100 YR - 1 Day		AE	24.27	24.33	
V2570	NV2570	100 YR - 1 Day		AE	24.25	24.32	
V2590	NV2590	100 YR - 1 Day		AE	24.20	24.31	
V2600	NV2600	100 YR - 1 Day		AE	24.17	24.30	
V2610	NV2610	100 YR - 1 Day		AE	24.15	24.30	
V2810	NV2810	100 YR - 1 Day		AE	24.14	24.31	
V2830	NV2830	100 YR - 1 Day		AE	24.14	24.31	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
V2840	NV2840	100 YR - 1 Day		AE	24.12	24.30	
V2850	NV2850	100 YR - 1 Day		AE	24.06	24.28	
V2853	NV2853	100 YR - 1 Day		AE	23.99	24.24	
V2857	NV2857	100 YR - 1 Day		AE	23.99	24.24	
V2860	NV2860	100 YR - 1 Day		AE	23.99	24.25	
V2880	NV2880	100 YR - 1 Day		AE	23.78	24.17	
V2890	NV2890	100 YR - 1 Day		AE	23.77	24.16	
V3010	NV3010	100 YR - 1 Day		AE	23.01	23.24	
V3020	NV3020	100 YR - 1 Day		AE	22.25	23.20	
V3042	NV3042	100 YR - 1 Day		AE	27.75	28.51	
V3060	NV3060	100 YR - 1 Day		AE	22.07	23.10	
V3510	NV3510	100 YR - 1 Day			23.75	23.97	
V3520	NV3520	100 YR - 1 Day		AE	22.92	23.03	
V3530	NV3530	100 YR - 1 Day		AE	22.96	23.03	
V3540	NV3540	100 YR - 1 Day		AE	22.95	23.03	
V3550	NV3550	100 YR - 1 Day		AE	23.11	23.07	
V4020	NV4020	100 YR - 1 Day		AE	26.07	26.06	
V4025	NV4025	100 YR - 1 Day		AE	26.95	27.01	
V4030	NV4030	100 YR - 1 Day			25.55	25.55	
V4035	NV4035	100 YR - 1 Day		AE	23.75	24.17	
V4040	NV4040	100 YR - 1 Day			25.55	25.54	
V4050	NV4050	100 YR - 1 Day			25.57	25.56	
V4060	NV4060	100 YR - 1 Day			25.57	25.56	
V4070	NV4070	100 YR - 1 Day		AE	25.58	25.79	
V4080	NV4080	100 YR - 1 Day		AE	25.57	25.79	
V4090	NV4090	100 YR - 1 Day		AE	25.56	25.74	
V4100	NV4100	100 YR - 1 Day		AE	25.56	25.74	
V4110	NV4110	100 YR - 1 Day			25.55	25.70	
V4120	NV4120	100 YR - 1 Day		AE	25.55	25.70	
V4130	NV4130	100 YR - 1 Day		AE	25.50	25.59	
V4140	NV4140	100 YR - 1 Day		AE	25.50	25.59	
V4150	NV4150	100 YR - 1 Day		AE	25.49	25.58	
V4160	NV4160	100 YR - 1 Day		AE	25.49	25.58	
V4170	NV4170	100 YR - 1 Day		AE	24.86	25.03	
V4180	NV4180	100 YR - 1 Day		AE	24.84	25.02	
V4190	NV4190	100 YR - 1 Day		AE	24.23	24.11	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
X0004	NX0004	100 YR - 1 Day		AE	24.14	24.79	
X0006	NX0006	100 YR - 1 Day		AE	24.12	24.80	
X0008	NX0008	100 YR - 1 Day		AE	24.03	24.92	
X0010	NX0010	100 YR - 1 Day		AE	24.01	24.92	
X0035	NX0035	100 YR - 1 Day		AE	25.52	25.60	
X0040	NX0040	100 YR - 1 Day		AE	23.97	24.77	
X0050	NX0050	100 YR - 1 Day		AE	23.38	23.65	
X0055	NX0055	100 YR - 1 Day		AE	23.41	23.74	
X0060	NX0060	100 YR - 1 Day		AE	23.36	23.63	
X0070	NX0070	100 YR - 1 Day		AE	23.28	23.50	
X0510	NX0510	100 YR - 1 Day		AE	23.19	23.23	
X0519	NX0519	100 YR - 1 Day		AE	23.34	23.50	
X0520	NX0520	100 YR - 1 Day		AE	23.34	23.52	
X1005	NX1005	100 YR - 1 Day			25.20	25.16	
X1010	NX1010	100 YR - 1 Day		AE	24.22	25.17	
X1020	NX1020	100 YR - 1 Day			24.26	25.11	
X1030	NX1030	100 YR - 1 Day		AE	24.26	24.99	
X1040	NX1040	100 YR - 1 Day		AE	24.12	24.99	
X1045	NX1045	100 YR - 1 Day		AE	24.36	24.92	
X1050	NX1050	100 YR - 1 Day		AE	24.07	24.98	
X1505	NX1505	100 YR - 1 Day		AE	25.14	25.61	
X1510	NX1510	100 YR - 1 Day		AE	24.21	25.16	
X1524	NX1524	100 YR - 1 Day		AE	25.54	25.49	
X1525	NX1525	100 YR - 1 Day		AE	26.14	26.13	
X1530	NX1530	100 YR - 1 Day		AE	24.36	25.31	
X1540	NX1540	100 YR - 1 Day		AE	24.09	25.31	
X1541	NX1541	100 YR - 1 Day		AE	26.14	26.35	
X1542	NX1542	100 YR - 1 Day		AE	25.31	26.35	
X1543	NX1543	100 YR - 1 Day		AE	25.31	26.35	
X1544	NX1544	100 YR - 1 Day		AE	25.06	25.58	
X1545	NX1545	100 YR - 1 Day		AE	25.09	25.62	
X1547	NX1547	100 YR - 1 Day		AE	24.21	25.52	
X1548	NX1548	100 YR - 1 Day		AE	24.19	25.51	
X1549	NX1549	100 YR - 1 Day		AE	24.05	25.34	
X1550	NX1550	100 YR - 1 Day		AE	24.05	25.33	
X3005	NX3005	100 YR - 1 Day			25.60	26.43	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
X3010	NX3010	100 YR - 1 Day		X	25.48	26.33	
X3020	NX3020	100 YR - 1 Day			25.95	26.36	
X3030	NX3030	100 YR - 1 Day		AE	25.31	26.36	
X3031	NX3031	100 YR - 1 Day		AE	25.31	26.35	
X3032	NX3032	100 YR - 1 Day			25.93	26.35	
X3033	NX3033	100 YR - 1 Day			25.31	26.35	
Y0010	NY0010	100 YR - 1 Day		AE	22.17	22.73	
Y0020	NY0010	100 YR - 1 Day			22.17	22.73	
Y0040	NY0040	100 YR - 1 Day			21.64	21.72	
Y0050	NY0050	100 YR - 1 Day		AE	21.63	21.72	
Y0063	NY0063	100 YR - 1 Day		AE	20.99	21.26	
Y0067	NY0067	100 YR - 1 Day		AE	21.02	21.30	
Y0070	NY0070	100 YR - 1 Day		AE	20.98	21.18	
Y0073	NY0073	100 YR - 1 Day		AE	20.97	21.19	
Y0077	NY0077	100 YR - 1 Day		AE	20.97	21.18	
Y0080	NY0080	100 YR - 1 Day		AE	20.94	21.13	
Y0083	NY0083	100 YR - 1 Day		AE	20.75	20.89	
Y0087	NY0087	100 YR - 1 Day		AE	20.75	20.89	
Y0090	NY0090	100 YR - 1 Day		AE	20.74	20.89	
Y0093	NY0093	100 YR - 1 Day			20.64	20.75	
Y0097	NY0097	100 YR - 1 Day		AE	20.64	20.75	
Y0100	NY0100	100 YR - 1 Day		AE	20.64	20.75	
Y0103	NY0103	100 YR - 1 Day		AE	20.49	20.55	
Y0107	NY0107	100 YR - 1 Day		AE	20.47	20.53	
Y0120	NY0120	100 YR - 1 Day		AE	20.46	20.52	
Y0130	NY0130	100 YR - 1 Day		AE	19.58	19.82	
Y0140	NY0140	100 YR - 1 Day		AE	19.13	19.27	
Y0150	NY0150	100 YR - 1 Day		AE	18.63	18.70	
Y0160	NY0160	100 YR - 1 Day		AE	18.39	18.45	
Y0162	NY0162	100 YR - 1 Day		AE	18.13	18.14	
Y0165	NY0165	100 YR - 1 Day		AE	18.12	18.14	
Y0168	NY0168	100 YR - 1 Day		AE	18.12	18.14	
Y0170	NY0170	100 YR - 1 Day		AE	18.27	18.31	
Y0180	NY0180	100 YR - 1 Day		AE	18.21	18.24	
Y0190	NY0190	100 YR - 1 Day		AE	16.43	16.47	
Y0200	NY0200	100 YR - 1 Day		AE	16.31	16.34	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
Y0203	NY0203	100 YR - 1 Day		AE	16.34	16.34	
Y0207	NY0207	100 YR - 1 Day		AE	16.34	16.34	
Y0208	NY0208	100 YR - 1 Day		AE	16.32	16.34	
Y0210	NY0210	100 YR - 1 Day		AE	16.09	16.12	
Y0220	NY0220	100 YR - 1 Day			16.03	16.06	
Y0230	NY0230	100 YR - 1 Day		AE	15.06	15.16	
Y0240	NY0240	100 YR - 1 Day		AE	15.00	15.11	
Y0250	NY0250	100 YR - 1 Day		AE	14.87	14.97	
Y0260	NY0260	100 YR - 1 Day		AE	14.46	14.79	
Y1003	NY1003	100 YR - 1 Day		AE	23.21	23.44	
Y1005	NY1005	100 YR - 1 Day		AE	22.56	23.12	
Y1007	NY1007	100 YR - 1 Day		AE	22.61	23.11	
Y1010	NY1010	100 YR - 1 Day		AE	22.62	23.11	
Y1020	NY1020	100 YR - 1 Day		AE	22.45	23.07	
Y1310	NY1310	100 YR - 1 Day		AE	23.01	23.75	
Y1320	NY1320	100 YR - 1 Day		AE	22.89	23.74	
Y1330	NY1330	100 YR - 1 Day		AE	22.60	23.73	
Y1332	NY1332	100 YR - 1 Day		AE	23.55	24.54	
Y1335	NY1335	100 YR - 1 Day		AE	23.46	24.51	
Y1338	NY1338	100 YR - 1 Day			22.57	23.27	
Y1340	NY1340	100 YR - 1 Day		AE	22.53	23.24	
Y1348	NY1348	100 YR - 1 Day		AE	22.47	23.07	
Y1350	NY1350	100 YR - 1 Day		AE	22.24	22.78	
Y1510	NY1510	100 YR - 1 Day		AE	22.49	22.80	
Y1520	NY1520	100 YR - 1 Day		AE	22.49	22.80	
Y1530	NY1530	100 YR - 1 Day		AE	22.30	22.80	
Y1535	NY1535	100 YR - 1 Day		AE	22.21	22.72	
Y1537	NY1537	100 YR - 1 Day		AE	22.21	22.74	
Y1540	NY1540	100 YR - 1 Day		AE	22.21	22.77	
Y1550	NY1550	100 YR - 1 Day		AE	22.17	22.72	
Y1555	NY1560	100 YR - 1 Day			22.07	22.57	
Y1560	NY1560	100 YR - 1 Day		AE	22.07	22.57	
Y2010	NY2010	100 YR - 1 Day		AE	21.63	21.71	
Y2015	NY2015	100 YR - 1 Day		AE	22.56	22.54	
Y2020	NY2020	100 YR - 1 Day		AE	21.63	21.70	
Y2510	NY2510	100 YR - 1 Day		AE	21.53	21.60	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
Y2512	NY2512	100 YR - 1 Day		AE	21.87	21.81	
Y2513	NY2513	100 YR - 1 Day		AE	21.41	21.44	
Y2517	NY2517	100 YR - 1 Day		AE	21.45	21.49	
Y2520	NY2520	100 YR - 1 Day			21.53	21.60	
Y2540	NY2540	100 YR - 1 Day		AE	21.60	21.67	
Y2550	NY2550	100 YR - 1 Day		AE	21.63	21.71	
Y3010	NY3010	100 YR - 1 Day		AE	19.87	19.84	
Y3310	NY3310	100 YR - 1 Day		AE	19.86	19.83	
Y3710	NY3710	100 YR - 1 Day		AE	19.86	19.83	
Y3720	NY3720	100 YR - 1 Day		AE	19.77	19.74	
Y3730	NY3730	100 YR - 1 Day		AE	19.67	19.65	
Y3740	NY3740	100 YR - 1 Day		AE	19.22	19.35	
Y4010	NY4010	100 YR - 1 Day		AE	16.10	16.08	
Y4020	NY4020	100 YR - 1 Day		AE	16.29	16.26	
Y4030	NY4030	100 YR - 1 Day		AE	16.09	16.08	
Y4040	NY4040	100 YR - 1 Day		AE	15.85	15.85	
Y4050	NY4050	100 YR - 1 Day		AE	15.85	15.85	
Y4060	NY4060	100 YR - 1 Day		AE	15.00	15.11	
Z0010	NZ0010	100 YR - 1 Day			23.17	23.18	
Z0020	NZ0020	100 YR - 1 Day		AE	23.17	23.18	
Z0025	NZ0025	100 YR - 1 Day		AE	23.15	23.16	
Z0030	NZ0030	100 YR - 1 Day		AE	20.28	21.22	
Z0033	NZ0033	100 YR - 1 Day		AE	20.27	21.22	
Z0037	NZ0037	100 YR - 1 Day		AE	20.27	21.21	
Z0040	NZ0040	100 YR - 1 Day		AE	20.27	21.21	
Z0043	NZ0043	100 YR - 1 Day		AE	20.27	21.20	
Z0047	NZ0047	100 YR - 1 Day		AE	20.27	21.20	
Z0050	NZ0050	100 YR - 1 Day		AE	20.27	21.20	
Z0060	NZ0060	100 YR - 1 Day		AE	20.27	21.19	
Z0070	NZ0070	100 YR - 1 Day		AE	20.26	21.13	
Z1010	NZ1010	100 YR - 1 Day		AE	23.29	23.31	
Z1020	NZ1020	100 YR - 1 Day		AE	22.75	22.87	
Z1040	NZ1040	100 YR - 1 Day		AE	22.58	22.63	
Z1510	NZ1510	100 YR - 1 Day		AE	22.31	22.18	
Z1520	NZ1520	100 YR - 1 Day		AE	22.31	22.17	
Z1540	NZ1540	100 YR - 1 Day		AE	22.29	22.16	

Subbasin Name	Node Name	Modeled Storm Event Used for Floodplain	FEMA Zone	Preliminary Modeled Floodzone	100Yr1D Max Stage ft. NAVD88	100Yr5D Max Stage ft. NAVD88	High Water Mark Elevation (ft, NAVD 88)
Z1550	NZ1550	100 YR - 1 Day		AE	21.71	21.84	
Z1560	NZ1560	100 YR - 1 Day		AE	21.28	21.66	
Z1570	NZ1570	100 YR - 1 Day		AE	20.29	21.31	
Z2010	NZ2010	100 YR - 1 Day		AE	21.36	21.37	
Z2020	NZ2020	100 YR - 1 Day		AE	20.84	21.37	
Z2310	NZ2310	100 YR - 1 Day		AE	20.90	21.39	
Z2320	NZ2320	100 YR - 1 Day		AE	20.89	21.38	
Z2710	NZ2710	100 YR - 1 Day		AE	20.69	21.41	
Z2720	NZ2720	100 YR - 1 Day		AE	20.60	21.37	
Z2740	NZ2740	100 YR - 1 Day		AE	20.33	21.37	
Z2750	NZ2750	100 YR - 1 Day		AE	20.30	21.32	
Z2760	NZ2760	100 YR - 1 Day		AE	20.29	21.30	
Z3010	NZ3010	100 YR - 1 Day		AE	20.86	21.46	
Z3020	NZ3020	100 YR - 1 Day		AE	20.86	21.47	
Z3030	NZ3030	100 YR - 1 Day		AE	20.78	21.44	
Z3040	NZ3040	100 YR - 1 Day		AE	20.78	21.43	
Z3050	NZ3050	100 YR - 1 Day		AE	20.76	21.33	
Z3060	NZ3060	100 YR - 1 Day		AE	20.26	21.18	

Appendix B

Floodplain Comparison Table

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
A0020	3.02	0.10	0.00	0.10	-	3.15	No detailed FEMA Floodplain data available for this area.
A0021	1.22	0.09	0.00	0.09	-	7.73	No detailed FEMA Floodplain data available for this area.
A0022	15.24	1.83	0.00	1.83	-	12.02	No detailed FEMA Floodplain data available for this area.
A0023	8.91	0.44	0.00	0.44	-	4.93	No detailed FEMA Floodplain data available for this area.
A0024	8.52	0.15	0.00	0.15	-	1.78	No detailed FEMA Floodplain data available for this area.
A0026	8.64	0.21	0.00	0.21	-	2.45	No detailed FEMA Floodplain data available for this area.
A0028	15.24	1.38	0.00	1.38	-	9.04	No detailed FEMA Floodplain data available for this area.
A0030	8.92	1.62	0.00	1.62	-	18.21	No detailed FEMA Floodplain data available for this area.
A0035	1.96	0.16	0.00	0.16	-	8.35	No detailed FEMA Floodplain data available for this area.
A0040	2.65	0.76	0.00	0.76	-	28.84	No detailed FEMA Floodplain data available for this area.
A0050	3.50	0.48	0.00	0.48	-	13.78	No detailed FEMA Floodplain data available for this area.
A0055	7.68	0.50	0.00	0.50	-	6.52	No detailed FEMA Floodplain data available for this area.
A0060	2.53	1.23	0.00	1.23	-	48.70	No detailed FEMA Floodplain data available for this area.
A0063	20.72	0.28	0.00	0.28	-	1.35	No detailed FEMA Floodplain data available for this area.
A0066	8.76	0.14	0.00	0.14	-	1.65	No detailed FEMA Floodplain data available for this area.
A0070	2.87	1.33	0.00	1.33	-	46.20	No detailed FEMA Floodplain data available for this area.
A0073	19.19	3.00	0.00	3.00	-	15.65	No detailed FEMA Floodplain data available for this area.
A0077	10.84	1.21	0.00	1.21	-	11.12	No detailed FEMA Floodplain data available for this area.
A0080	2.95	1.52	0.00	1.52	-	51.60	No detailed FEMA Floodplain data available for this area.
A0085	11.39	0.16	0.00	0.16	-	1.42	No detailed FEMA Floodplain data available for this area.
A0090	4.30	1.87	0.00	1.87	-	43.50	No detailed FEMA Floodplain data available for this area.
A0092	10.08	0.53	0.00	0.53	-	5.22	No detailed FEMA Floodplain data available for this area.
A0097	20.80	0.42	0.00	0.42	-	2.02	No detailed FEMA Floodplain data available for this area.
A0098	11.24	1.24	0.00	1.24	-	11.05	No detailed FEMA Floodplain data available for this area.
A0100	4.42	2.51	0.00	2.51	-	56.73	No detailed FEMA Floodplain data available for this area.
A0102	6.30	0.21	0.00	0.21	-	3.30	No detailed FEMA Floodplain data available for this area.
A0103	14.59	0.24	0.00	0.24	-	1.63	No detailed FEMA Floodplain data available for this area.
A0106	21.87	0.74	0.00	0.74	-	3.37	No detailed FEMA Floodplain data available for this area.
A0107	0.82	0.26	0.00	0.26	-	31.43	No detailed FEMA Floodplain data available for this area.
A0108	6.97	0.13	0.00	0.13	-	1.89	No detailed FEMA Floodplain data available for this area.
A0110	6.24	2.54	0.00	2.54	-	40.67	No detailed FEMA Floodplain data available for this area.
A0113	13.25	0.32	0.00	0.32	-	2.38	No detailed FEMA Floodplain data available for this area.
A0116	15.22	0.22	0.00	0.22	-	1.42	No detailed FEMA Floodplain data available for this area.
A0120	6.96	2.19	0.00	2.19	-	31.44	No detailed FEMA Floodplain data available for this area.
A0125	19.18	0.37	0.00	0.37	-	1.94	No detailed FEMA Floodplain data available for this area.
A0130	7.32	2.57	0.00	2.57	-	35.07	No detailed FEMA Floodplain data available for this area.
A0132	28.62	1.92	0.00	1.92	-	6.72	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
A0135	5.42	0.12	0.00	0.12	-	2.28	No detailed FEMA Floodplain data available for this area.
A0139	9.55	0.15	0.00	0.15	-	1.59	No detailed FEMA Floodplain data available for this area.
A0140	4.00	1.95	0.00	1.95	-	48.72	No detailed FEMA Floodplain data available for this area.
A1010	1.50	0.17	0.00	0.17	-	11.60	No detailed FEMA Floodplain data available for this area.
A1020	9.17	0.65	0.00	0.65	-	7.04	No detailed FEMA Floodplain data available for this area.
A1030	7.86	0.91	0.00	0.91	-	11.57	No detailed FEMA Floodplain data available for this area.
A1040	4.77	0.40	0.00	0.40	-	8.46	No detailed FEMA Floodplain data available for this area.
A1050	1.36	0.08	0.00	0.08	-	6.04	No detailed FEMA Floodplain data available for this area.
A2010	6.80	1.73	0.00	1.73	-	25.44	No detailed FEMA Floodplain data available for this area.
A2020	14.01	2.91	0.00	2.91	-	20.76	No detailed FEMA Floodplain data available for this area.
A2023	3.24	0.17	0.00	0.17	-	5.29	No detailed FEMA Floodplain data available for this area.
A2027	5.48	0.73	0.00	0.73	-	13.34	No detailed FEMA Floodplain data available for this area.
A2028	1.47	0.45	0.00	0.45	-	30.51	No detailed FEMA Floodplain data available for this area.
A2030	19.84	1.00	0.00	1.00	-	5.02	No detailed FEMA Floodplain data available for this area.
A2040	6.54	0.87	0.00	0.87	-	13.30	No detailed FEMA Floodplain data available for this area.
A2050	10.41	0.98	0.00	0.98	-	9.38	No detailed FEMA Floodplain data available for this area.
A2060	0.97	0.39	0.00	0.39	-	39.92	No detailed FEMA Floodplain data available for this area.
A3010	15.02	0.55	0.00	0.55	-	3.68	No detailed FEMA Floodplain data available for this area.
A3020	36.00	5.20	0.00	5.20	-	14.43	No detailed FEMA Floodplain data available for this area.
A3030	15.01	1.71	0.00	1.71	-	11.38	No detailed FEMA Floodplain data available for this area.
A3040	5.79	0.76	0.00	0.76	-	13.15	No detailed FEMA Floodplain data available for this area.
A3050	2.66	0.51	0.00	0.51	-	19.26	No detailed FEMA Floodplain data available for this area.
A3060	0.33	0.20	0.00	0.20	-	61.64	No detailed FEMA Floodplain data available for this area.
B0630	0.22	0.21	0.02	0.19	1178.53	88.90	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0640	2.25	2.25	2.22	0.03	1.27	1.25	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0650	1.96	1.96	1.96	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0660	8.61	8.61	8.61	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0664	15.82	15.82	15.82	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0670	35.59	35.59	35.59	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0680	58.50	57.83	58.50	0.67	1.14	1.14	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0681	4.95	1.55	0.00	1.55	-	31.27	No detailed FEMA Floodplain data available for this area.
B0682	23.66	13.85	0.00	13.85	-	58.53	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0685	3.84	3.84	0.37	3.47	940.66	90.39	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0688	18.94	18.94	13.95	4.99	35.78	26.35	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0689	0.25	0.25	0.25	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0690	37.15	37.06	36.59	0.47	1.28	1.26	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0700	4.98	4.54	4.98	0.44	8.86	8.86	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B0880	3.94	3.73	3.89	0.16	4.14	4.09	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0886	1.89	1.85	1.42	0.43	29.90	22.46	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0888	0.93	0.90	0.70	0.21	29.62	22.22	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0890	1.94	1.75	1.05	0.70	66.76	35.96	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0905	8.50	7.53	0.00	7.53	-	88.54	No detailed FEMA Floodplain data available for this area.
B0907	14.17	0.62	0.00	0.62	-	4.38	No detailed FEMA Floodplain data available for this area.
B0910	4.02	3.85	3.20	0.65	20.16	16.06	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0920	2.09	1.97	1.34	0.63	46.75	30.02	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0930	1.05	0.79	0.43	0.36	84.03	34.54	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0931	0.23	0.06	0.00	0.06	-	27.18	No detailed FEMA Floodplain data available for this area.
B0934	0.70	0.62	0.00	0.62	-	88.87	No detailed FEMA Floodplain data available for this area.
B0935	8.05	2.75	0.00	2.75	-	34.19	No detailed FEMA Floodplain data available for this area.
B0936	0.53	0.44	0.00	0.44	-	82.38	No detailed FEMA Floodplain data available for this area.
B0938	1.11	0.28	0.00	0.28	-	25.33	No detailed FEMA Floodplain data available for this area.
B0940	0.79	0.65	0.05	0.60	1207.95	75.36	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0943	1.56	0.27	0.00	0.27	-	17.28	No detailed FEMA Floodplain data available for this area.
B0945	6.85	1.14	0.00	1.14	-	16.58	No detailed FEMA Floodplain data available for this area.
B0950	3.22	2.33	0.19	2.14	1131.65	66.47	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0960	6.69	4.28	1.09	3.19	292.51	47.67	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0963	1.04	0.88	0.24	0.64	267.53	61.06	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0965	17.79	3.46	0.00	3.46	-	19.46	No detailed FEMA Floodplain data available for this area.
B0970	5.62	5.09	1.99	3.10	155.84	55.12	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0980	9.82	6.77	2.05	4.72	229.84	48.05	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B0985	18.59	4.26	0.13	4.13	3179.63	22.20	No detailed FEMA Floodplain data available for this area.
B0990	6.73	5.97	1.34	4.63	344.81	68.71	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1000	6.81	3.77	0.01	3.76	32715.55	55.18	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1010	2.81	2.49	0.05	2.43	4612.77	86.72	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1020	6.16	5.82	1.29	4.54	353.11	73.68	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1030	10.16	6.37	7.18	0.81	11.31	7.99	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1060	12.58	9.70	9.77	0.07	0.74	0.58	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1065	7.15	1.87	0.00	1.87	-	26.08	No detailed FEMA Floodplain data available for this area.
B1070	37.47	7.92	4.53	3.39	74.78	9.04	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1110	4.80	1.45	4.80	3.35	69.77	69.77	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1120	10.89	4.64	10.89	6.25	57.36	57.36	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1130	4.86	1.86	4.86	2.99	61.68	61.68	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1140	7.02	5.02	7.02	2.00	28.54	28.54	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B1145	5.06	1.84	5.06	3.22	63.62	63.62	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B4338	1.37	0.44	0.00	0.44	-	32.42	No detailed FEMA Floodplain data available for this area.
B4339	1.58	0.58	0.00	0.58	-	36.34	No detailed FEMA Floodplain data available for this area.
B4340	5.93	1.52	0.00	1.52	-	25.60	No detailed FEMA Floodplain data available for this area.
B4344	41.19	38.53	2.29	36.24	1580.23	87.99	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4345	0.80	0.64	0.00	0.64	-	79.13	No detailed FEMA Floodplain data available for this area.
B4346	1.16	0.35	0.00	0.35	-	29.76	No detailed FEMA Floodplain data available for this area.
B4350	2.22	0.58	0.00	0.58	-	26.00	No detailed FEMA Floodplain data available for this area.
B4355	22.55	6.12	0.00	6.12	-	27.14	No detailed FEMA Floodplain data available for this area.
B4410	9.79	2.75	0.00	2.75	-	28.14	No detailed FEMA Floodplain data available for this area.
B4422	3.58	1.12	0.00	1.12	-	31.34	No detailed FEMA Floodplain data available for this area.
B4424	7.63	2.14	0.00	2.14	-	28.11	No detailed FEMA Floodplain data available for this area.
B4426	2.03	0.79	0.00	0.79	-	39.00	No detailed FEMA Floodplain data available for this area.
B4430	18.62	7.68	0.00	7.68	-	41.23	No detailed FEMA Floodplain data available for this area.
B4440	23.69	8.26	0.00	8.26	-	34.87	No detailed FEMA Floodplain data available for this area.
B4452	6.17	1.34	0.00	1.34	-	21.76	No detailed FEMA Floodplain data available for this area.
B4454	13.36	3.24	0.00	3.24	-	24.23	No detailed FEMA Floodplain data available for this area.
B4458	30.92	7.53	0.00	7.53	-	24.35	No detailed FEMA Floodplain data available for this area.
B4460	4.10	1.48	0.00	1.48	-	36.22	No detailed FEMA Floodplain data available for this area.
B4510	35.40	13.62	0.00	13.62	-	38.48	No detailed FEMA Floodplain data available for this area.
B4524	7.10	6.95	7.10	0.15	2.11	2.11	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4525	2.59	0.65	0.00	0.65	-	25.14	No detailed FEMA Floodplain data available for this area.
B4526	13.25	12.12	8.24	3.88	47.03	29.26	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4527	1.07	0.53	0.00	0.53	-	49.02	No detailed FEMA Floodplain data available for this area.
B4529	5.79	5.64	4.35	1.30	29.84	22.41	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4530	0.37	0.37	0.36	0.00	0.20	0.20	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4531	13.68	13.27	9.03	4.24	47.01	31.01	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4533	0.70	0.70	0.70	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4535	2.46	2.46	2.46	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4537	0.22	0.22	0.22	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4539	1.00	1.00	1.00	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4540	10.04	9.99	8.01	1.97	24.64	19.66	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4541	1.40	1.32	1.16	0.16	13.64	11.25	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4542	0.18	0.18	0.14	0.04	26.75	21.11	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4543	1.44	1.44	1.26	0.17	13.55	11.93	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4544	1.49	1.49	1.41	0.08	5.42	5.14	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4545	2.17	1.95	2.17	0.21	9.82	9.83	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4546	3.52	3.35	3.52	0.18	5.08	5.08	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B4547	0.74	0.74	0.74	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4548	2.16	2.16	2.16	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4549	0.91	0.91	0.89	0.02	1.91	1.87	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4550	0.62	0.62	0.62	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4551	3.84	3.84	3.84	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4560	0.13	0.13	0.13	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4702	9.08	0.62	0.22	0.40	183.89	4.44	No detailed FEMA Floodplain data available for this area.
B4703	5.55	0.81	0.74	0.07	9.79	1.31	No detailed FEMA Floodplain data available for this area.
B4706	20.47	0.99	0.00	0.99	-	4.82	No detailed FEMA Floodplain data available for this area.
B4707	4.99	0.86	0.00	0.86	-	17.18	No detailed FEMA Floodplain data available for this area.
B4708	0.94	0.30	0.00	0.30	-	31.57	No detailed FEMA Floodplain data available for this area.
B4709	2.37	0.39	0.00	0.39	-	16.63	No detailed FEMA Floodplain data available for this area.
B4720	0.96	0.23	0.00	0.23	-	23.54	No detailed FEMA Floodplain data available for this area.
B4735	7.45	0.70	0.00	0.70	-	9.43	No detailed FEMA Floodplain data available for this area.
B4740	9.59	1.14	0.00	1.14	-	11.93	No detailed FEMA Floodplain data available for this area.
B4750	6.03	0.73	0.00	0.73	-	12.14	No detailed FEMA Floodplain data available for this area.
B4810	11.63	1.83	0.00	1.83	-	15.77	No detailed FEMA Floodplain data available for this area.
B4820	21.88	2.97	0.00	2.97	-	13.59	No detailed FEMA Floodplain data available for this area.
B4830	19.86	3.60	0.00	3.60	-	18.12	No detailed FEMA Floodplain data available for this area.
B4845	13.00	1.71	10.39	8.69	83.59	66.85	No detailed FEMA Floodplain data available for this area.
B4850	47.00	6.00	8.25	2.25	27.30	4.79	No detailed FEMA Floodplain data available for this area.
B4851	16.01	4.29	15.89	11.60	72.98	72.43	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4852	9.55	3.16	1.73	1.42	82.11	14.91	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4853	1.82	0.09	0.00	0.09	-	4.71	No detailed FEMA Floodplain data available for this area.
B4854	4.26	1.56	4.26	2.70	63.45	63.45	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4855	2.39	0.76	2.39	1.63	68.16	67.97	No detailed FEMA Floodplain data available for this area.
B4856	0.79	0.15	0.51	0.36	70.52	45.48	No detailed FEMA Floodplain data available for this area.
B4857	0.52	0.21	0.00	0.21	-	40.66	No detailed FEMA Floodplain data available for this area.
B4858	1.36	0.86	0.17	0.68	396.15	50.15	No detailed FEMA Floodplain data available for this area.
B4859	0.52	0.27	0.00	0.27	-	52.01	No detailed FEMA Floodplain data available for this area.
B4860	25.30	8.67	0.00	8.67	-	34.27	No detailed FEMA Floodplain data available for this area.
B4870	13.87	4.42	0.05	4.37	8817.57	31.53	No detailed FEMA Floodplain data available for this area.
B4880	0.23	0.07	0.23	0.16	69.91	69.91	No detailed FEMA Floodplain data available for this area.
B4882	1.31	0.47	1.31	0.84	64.22	64.22	No detailed FEMA Floodplain data available for this area.
B4883	2.76	0.41	0.59	0.18	30.66	6.55	No detailed FEMA Floodplain data available for this area.
B4884	0.54	0.00	0.54	0.54	100.00	100.00	No detailed FEMA Floodplain data available for this area.
B4885	2.79	1.02	2.79	1.78	63.62	63.62	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B4890	0.32	0.19	0.32	0.13	41.31	41.31	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4895	3.07	0.63	0.00	0.63	-	20.59	No detailed FEMA Floodplain data available for this area.
B4896	1.32	0.00	0.28	0.28	100.00	20.90	No detailed FEMA Floodplain data available for this area.
B4897	3.24	0.43	0.86	0.43	50.56	13.43	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4900	9.36	3.28	9.08	5.80	63.87	61.99	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4910	9.07	3.54	9.07	5.54	61.00	61.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4920	48.36	37.11	48.36	11.24	23.25	23.25	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B4930	0.60	0.60	0.60	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B5010	20.91	2.91	0.00	2.91	-	13.92	No detailed FEMA Floodplain data available for this area.
B5025	9.22	1.11	0.00	1.11	-	12.08	No detailed FEMA Floodplain data available for this area.
B5030	19.33	5.03	0.00	5.03	-	26.03	No detailed FEMA Floodplain data available for this area.
B5040	5.27	1.60	0.00	1.60	-	30.29	No detailed FEMA Floodplain data available for this area.
B5110	8.54	1.60	0.00	1.60	-	18.68	No detailed FEMA Floodplain data available for this area.
B5115	6.59	1.59	0.00	1.59	-	24.14	No detailed FEMA Floodplain data available for this area.
B5120	1.37	0.47	0.00	0.47	-	34.03	No detailed FEMA Floodplain data available for this area.
B5130	9.48	1.41	0.00	1.41	-	14.88	No detailed FEMA Floodplain data available for this area.
B5132	13.77	2.02	0.00	2.02	-	14.67	No detailed FEMA Floodplain data available for this area.
B5135	4.10	0.89	0.00	0.89	-	21.73	No detailed FEMA Floodplain data available for this area.
B5138	2.94	0.51	0.00	0.51	-	17.27	No detailed FEMA Floodplain data available for this area.
B5140	1.16	0.61	0.00	0.61	-	52.21	No detailed FEMA Floodplain data available for this area.
B5145	15.12	2.94	0.00	2.94	-	19.48	No detailed FEMA Floodplain data available for this area.
B5150	2.31	0.86	0.00	0.86	-	37.17	No detailed FEMA Floodplain data available for this area.
B5160	7.66	0.98	0.00	0.98	-	12.76	No detailed FEMA Floodplain data available for this area.
B5170	11.33	1.75	0.00	1.75	-	15.42	No detailed FEMA Floodplain data available for this area.
B5190	28.05	6.05	0.00	6.05	-	21.58	No detailed FEMA Floodplain data available for this area.
B5195	14.26	3.36	0.00	3.36	-	23.54	No detailed FEMA Floodplain data available for this area.
B5210	14.95	3.59	0.00	3.59	-	24.02	No detailed FEMA Floodplain data available for this area.
B5212	1.19	0.41	0.00	0.41	-	34.35	No detailed FEMA Floodplain data available for this area.
B5315	21.23	1.64	0.00	1.64	-	7.74	No detailed FEMA Floodplain data available for this area.
B5317	1.75	0.25	0.00	0.25	-	13.99	No detailed FEMA Floodplain data available for this area.
B5320	11.91	3.08	0.00	3.08	-	25.86	No detailed FEMA Floodplain data available for this area.
B5325	12.98	1.14	0.00	1.14	-	8.77	No detailed FEMA Floodplain data available for this area.
B5327	1.31	0.24	0.00	0.24	-	18.73	No detailed FEMA Floodplain data available for this area.
B5330	10.14	2.65	0.00	2.65	-	26.16	No detailed FEMA Floodplain data available for this area.
B5332	12.42	2.46	0.00	2.46	-	19.81	No detailed FEMA Floodplain data available for this area.
B5338	30.48	8.97	0.00	8.97	-	29.42	No detailed FEMA Floodplain data available for this area.
B5339	1.00	0.48	0.00	0.48	-	47.83	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B5340	10.42	2.71	0.00	2.71	-	25.96	No detailed FEMA Floodplain data available for this area.
B5360	26.04	5.06	0.00	5.06	-	19.44	No detailed FEMA Floodplain data available for this area.
B5375	17.31	4.30	0.00	4.30	-	24.83	No detailed FEMA Floodplain data available for this area.
B5377	0.28	0.15	0.00	0.15	-	55.59	No detailed FEMA Floodplain data available for this area.
B5380	16.92	5.20	0.00	5.20	-	30.71	No detailed FEMA Floodplain data available for this area.
B5390	9.21	2.88	0.00	2.88	-	31.30	No detailed FEMA Floodplain data available for this area.
B5400	5.76	1.87	0.00	1.87	-	32.48	No detailed FEMA Floodplain data available for this area.
B5410	16.49	1.75	0.00	1.75	-	10.63	No detailed FEMA Floodplain data available for this area.
B5420	12.58	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
B5440	14.36	0.82	0.00	0.82	-	5.72	No detailed FEMA Floodplain data available for this area.
B5450	10.10	1.64	0.00	1.64	-	16.25	No detailed FEMA Floodplain data available for this area.
B5453	24.15	0.69	0.00	0.69	-	2.85	No detailed FEMA Floodplain data available for this area.
B5455	7.28	0.56	0.00	0.56	-	7.74	No detailed FEMA Floodplain data available for this area.
B5457	3.73	0.18	0.00	0.18	-	4.89	No detailed FEMA Floodplain data available for this area.
B5470	22.95	2.35	0.00	2.35	-	10.25	No detailed FEMA Floodplain data available for this area.
B5480	20.86	0.79	1.48	0.68	46.19	3.27	No detailed FEMA Floodplain data available for this area.
B5490	15.58	5.47	10.86	5.39	49.62	34.58	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B5510	4.70	4.70	4.70	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B5590	0.48	0.47	0.00	0.47	-	99.07	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B5610	0.75	0.06	0.00	0.06	-	8.20	No detailed FEMA Floodplain data available for this area.
B5613	0.37	0.03	0.00	0.03	-	7.02	No detailed FEMA Floodplain data available for this area.
B5617	0.96	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
B5620	2.41	0.62	0.00	0.62	-	25.56	No detailed FEMA Floodplain data available for this area.
B5630	2.93	0.96	0.00	0.96	-	32.93	No detailed FEMA Floodplain data available for this area.
B5635	4.90	1.29	0.00	1.29	-	26.31	No detailed FEMA Floodplain data available for this area.
B5640	24.44	3.15	0.00	3.15	-	12.90	No detailed FEMA Floodplain data available for this area.
B5642	3.23	0.40	0.00	0.40	-	12.44	No detailed FEMA Floodplain data available for this area.
B5644	2.68	0.25	0.00	0.25	-	9.27	No detailed FEMA Floodplain data available for this area.
B5646	4.00	0.44	0.00	0.44	-	10.87	No detailed FEMA Floodplain data available for this area.
B5650	0.19	0.03	0.00	0.03	-	14.98	No detailed FEMA Floodplain data available for this area.
B5655	0.13	0.06	0.00	0.06	-	44.63	No detailed FEMA Floodplain data available for this area.
B5660	1.78	0.56	0.00	0.56	-	31.31	No detailed FEMA Floodplain data available for this area.
B5663	0.52	0.03	0.00	0.03	-	5.30	No detailed FEMA Floodplain data available for this area.
B5667	2.53	0.57	0.00	0.57	-	22.64	No detailed FEMA Floodplain data available for this area.
B5670	1.05	0.40	0.00	0.40	-	38.26	No detailed FEMA Floodplain data available for this area.
B5675	33.69	1.19	0.50	0.69	136.83	2.04	No detailed FEMA Floodplain data available for this area.
B5676	1.79	1.00	0.80	0.20	25.44	11.40	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B5680	84.48	23.81	72.08	48.27	66.97	57.13	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B5690	20.66	15.54	20.66	5.12	24.79	24.79	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B5695	2.97	2.97	2.48	0.49	19.60	16.39	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B6010	20.64	0.42	0.00	0.42	-	2.05	No detailed FEMA Floodplain data available for this area.
B6015	6.89	0.11	0.00	0.11	-	1.54	No detailed FEMA Floodplain data available for this area.
B6020	17.14	0.68	0.00	0.68	-	3.97	No detailed FEMA Floodplain data available for this area.
B6030	1.22	0.18	0.00	0.18	-	15.04	No detailed FEMA Floodplain data available for this area.
B6110	59.57	6.02	0.00	6.02	-	10.11	No detailed FEMA Floodplain data available for this area.
B6116	14.09	0.85	0.00	0.85	-	6.05	No detailed FEMA Floodplain data available for this area.
B6118	0.97	0.07	0.00	0.07	-	7.13	No detailed FEMA Floodplain data available for this area.
B6119	0.81	0.13	0.00	0.13	-	16.30	No detailed FEMA Floodplain data available for this area.
B6120	5.31	1.06	0.00	1.06	-	20.02	No detailed FEMA Floodplain data available for this area.
B6130	1.65	0.50	0.00	0.50	-	30.07	No detailed FEMA Floodplain data available for this area.
B6210	30.69	5.83	0.00	5.83	-	19.00	No detailed FEMA Floodplain data available for this area.
B6220	0.96	0.24	0.00	0.24	-	25.46	No detailed FEMA Floodplain data available for this area.
B6310	15.70	0.74	0.00	0.74	-	4.70	No detailed FEMA Floodplain data available for this area.
B6320	42.99	1.46	0.00	1.46	-	3.40	No detailed FEMA Floodplain data available for this area.
B6330	14.56	1.91	0.00	1.91	-	13.08	No detailed FEMA Floodplain data available for this area.
B6340	17.34	3.15	0.00	3.15	-	18.17	No detailed FEMA Floodplain data available for this area.
B6355	16.33	3.61	0.00	3.61	-	22.09	No detailed FEMA Floodplain data available for this area.
B6359	26.31	5.81	0.00	5.81	-	22.07	No detailed FEMA Floodplain data available for this area.
B6360	30.68	4.68	0.00	4.68	-	15.27	No detailed FEMA Floodplain data available for this area.
B6370	39.85	3.35	0.00	3.35	-	8.40	No detailed FEMA Floodplain data available for this area.
B6385	27.50	1.72	0.00	1.72	-	6.24	No detailed FEMA Floodplain data available for this area.
B6387	1.10	0.35	0.00	0.35	-	32.09	No detailed FEMA Floodplain data available for this area.
B6390	28.15	6.23	0.00	6.23	-	22.14	No detailed FEMA Floodplain data available for this area.
B6393	16.44	2.08	0.00	2.08	-	12.64	No detailed FEMA Floodplain data available for this area.
B6395	6.24	2.66	0.00	2.66	-	42.72	No detailed FEMA Floodplain data available for this area.
B6400	18.02	4.06	0.00	4.06	-	22.55	No detailed FEMA Floodplain data available for this area.
B6403	16.31	6.82	0.00	6.82	-	41.78	No detailed FEMA Floodplain data available for this area.
B6405	8.11	3.68	0.00	3.68	-	45.34	No detailed FEMA Floodplain data available for this area.
B6410	11.73	3.70	0.00	3.70	-	31.54	No detailed FEMA Floodplain data available for this area.
B6510	16.68	1.77	0.00	1.77	-	10.59	No detailed FEMA Floodplain data available for this area.
B6520	24.38	4.02	0.00	4.02	-	16.48	No detailed FEMA Floodplain data available for this area.
B6540	23.63	2.67	0.00	2.67	-	11.29	No detailed FEMA Floodplain data available for this area.
B6550	15.47	2.79	0.00	2.79	-	18.06	No detailed FEMA Floodplain data available for this area.
B6552	35.83	1.35	0.00	1.35	-	3.78	No detailed FEMA Floodplain data available for this area.

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B6555	16.20	1.86	0.00	1.86	-	11.51	No detailed FEMA Floodplain data available for this area.
B6558	12.79	0.92	0.00	0.92	-	7.23	No detailed FEMA Floodplain data available for this area.
B6559	9.20	0.64	0.00	0.64	-	6.92	No detailed FEMA Floodplain data available for this area.
B6560	9.47	2.00	0.00	2.00	-	21.12	No detailed FEMA Floodplain data available for this area.
B6565	43.12	4.63	0.00	4.63	-	10.73	No detailed FEMA Floodplain data available for this area.
B6568	1.33	0.40	0.00	0.40	-	30.10	No detailed FEMA Floodplain data available for this area.
B6570	1.90	0.61	0.00	0.61	-	32.15	No detailed FEMA Floodplain data available for this area.
B6580	14.49	2.51	0.00	2.51	-	17.33	No detailed FEMA Floodplain data available for this area.
B6585	36.56	2.17	0.00	2.17	-	5.94	No detailed FEMA Floodplain data available for this area.
B6590	18.69	1.15	2.28	1.13	49.66	6.06	No detailed FEMA Floodplain data available for this area.
B6595	32.43	1.41	0.00	1.41	-	4.35	No detailed FEMA Floodplain data available for this area.
B6598	16.38	0.56	0.00	0.56	-	3.40	No detailed FEMA Floodplain data available for this area.
B6600	37.66	3.97	20.52	16.55	80.67	43.94	No detailed FEMA Floodplain data available for this area.
B6610	68.35	8.79	1.91	6.88	360.18	10.07	No detailed FEMA Floodplain data available for this area.
B6620	3.93	2.03	0.00	2.03	-	51.58	No detailed FEMA Floodplain data available for this area.
B6623	10.13	2.94	0.00	2.94	-	29.04	No detailed FEMA Floodplain data available for this area.
B6625	1.69	0.03	0.00	0.03	-	1.63	No detailed FEMA Floodplain data available for this area.
B6630	15.03	2.53	1.20	1.32	109.95	8.81	No detailed FEMA Floodplain data available for this area.
B6640	2.44	1.87	2.25	0.38	16.75	15.43	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B7002	5.91	1.41	0.00	1.41	-	23.91	No detailed FEMA Floodplain data available for this area.
B7004	23.86	3.08	0.00	3.08	-	12.89	No detailed FEMA Floodplain data available for this area.
B7005	1.24	0.86	0.00	0.86	-	69.43	No detailed FEMA Floodplain data available for this area.
B7010	4.81	0.39	0.00	0.39	-	8.10	No detailed FEMA Floodplain data available for this area.
B7110	24.14	0.87	0.00	0.87	-	3.60	No detailed FEMA Floodplain data available for this area.
B7210	2.81	0.36	0.00	0.36	-	12.95	No detailed FEMA Floodplain data available for this area.
B7223	0.73	0.47	0.00	0.47	-	64.32	No detailed FEMA Floodplain data available for this area.
B7227	0.50	0.16	0.00	0.16	-	32.36	No detailed FEMA Floodplain data available for this area.
B7230	2.63	1.18	0.00	1.18	-	44.93	No detailed FEMA Floodplain data available for this area.
B7240	10.50	2.58	0.00	2.58	-	24.63	No detailed FEMA Floodplain data available for this area.
B7250	21.97	2.87	0.00	2.87	-	13.08	No detailed FEMA Floodplain data available for this area.
B7260	2.16	0.50	0.00	0.50	-	23.29	No detailed FEMA Floodplain data available for this area.
B7320	2.46	0.76	0.00	0.76	-	30.77	No detailed FEMA Floodplain data available for this area.
B7330	10.92	1.92	0.00	1.92	-	17.55	No detailed FEMA Floodplain data available for this area.
B7335	1.22	0.14	0.00	0.14	-	11.20	No detailed FEMA Floodplain data available for this area.
B7340	4.91	1.43	0.00	1.43	-	29.15	No detailed FEMA Floodplain data available for this area.
B7350	3.02	0.68	0.00	0.68	-	22.59	No detailed FEMA Floodplain data available for this area.
B7360	9.81	1.26	0.00	1.26	-	12.84	No detailed FEMA Floodplain data available for this area.

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B7410	5.81	0.23	0.00	0.23	-	3.88	No detailed FEMA Floodplain data available for this area.
B7420	10.68	0.49	0.00	0.49	-	4.61	No detailed FEMA Floodplain data available for this area.
B7430	3.78	0.93	0.00	0.93	-	24.61	No detailed FEMA Floodplain data available for this area.
B7440	3.72	0.72	0.00	0.72	-	19.26	No detailed FEMA Floodplain data available for this area.
B7450	18.30	4.84	0.00	4.84	-	26.47	No detailed FEMA Floodplain data available for this area.
B7460	11.21	2.23	0.00	2.23	-	19.90	No detailed FEMA Floodplain data available for this area.
B7470	16.87	4.54	0.00	4.54	-	26.93	No detailed FEMA Floodplain data available for this area.
B7510	21.04	4.64	0.00	4.64	-	22.04	No detailed FEMA Floodplain data available for this area.
B7512	11.75	3.10	0.00	3.10	-	26.35	No detailed FEMA Floodplain data available for this area.
B7520	61.59	2.01	0.00	2.01	-	3.27	No detailed FEMA Floodplain data available for this area.
B8005	6.45	0.94	0.00	0.94	-	14.65	No detailed FEMA Floodplain data available for this area.
B8010	5.18	0.41	0.00	0.41	-	7.96	No detailed FEMA Floodplain data available for this area.
B8011	13.08	2.80	0.00	2.80	-	21.41	No detailed FEMA Floodplain data available for this area.
B8012	43.95	0.32	0.00	0.32	-	0.73	No detailed FEMA Floodplain data available for this area.
B8014	0.47	0.20	0.00	0.20	-	42.20	No detailed FEMA Floodplain data available for this area.
B8015	4.64	0.31	0.00	0.31	-	6.58	No detailed FEMA Floodplain data available for this area.
B8018	2.95	0.56	0.00	0.56	-	19.13	No detailed FEMA Floodplain data available for this area.
B8020	3.80	0.98	0.00	0.98	-	25.71	No detailed FEMA Floodplain data available for this area.
B8030	7.21	1.96	0.00	1.96	-	27.16	No detailed FEMA Floodplain data available for this area.
B8040	1.78	0.55	0.00	0.55	-	30.93	No detailed FEMA Floodplain data available for this area.
B8110	4.68	0.13	0.00	0.13	-	2.76	No detailed FEMA Floodplain data available for this area.
B8120	10.97	0.82	0.00	0.82	-	7.52	No detailed FEMA Floodplain data available for this area.
B8130	10.47	1.33	0.00	1.33	-	12.74	No detailed FEMA Floodplain data available for this area.
B8140	13.52	1.40	0.00	1.40	-	10.38	No detailed FEMA Floodplain data available for this area.
B8150	0.87	0.32	0.00	0.32	-	36.94	No detailed FEMA Floodplain data available for this area.
B8210	6.70	0.71	0.00	0.71	-	10.66	No detailed FEMA Floodplain data available for this area.
B8220	3.29	0.44	0.00	0.44	-	13.45	No detailed FEMA Floodplain data available for this area.
B8230	7.04	0.54	0.00	0.54	-	7.63	No detailed FEMA Floodplain data available for this area.
B8240	4.28	0.37	0.00	0.37	-	8.55	No detailed FEMA Floodplain data available for this area.
B8250	6.74	0.73	0.00	0.73	-	10.79	No detailed FEMA Floodplain data available for this area.
B8260	22.27	1.73	0.00	1.73	-	7.78	No detailed FEMA Floodplain data available for this area.
B8270	3.59	0.31	0.00	0.31	-	8.60	No detailed FEMA Floodplain data available for this area.
B8310	4.90	0.46	0.00	0.46	-	9.32	No detailed FEMA Floodplain data available for this area.
B8320	3.05	0.29	0.00	0.29	-	9.37	No detailed FEMA Floodplain data available for this area.
B8323	2.85	0.25	0.00	0.25	-	8.81	No detailed FEMA Floodplain data available for this area.
B8327	4.59	0.50	0.00	0.50	-	10.95	No detailed FEMA Floodplain data available for this area.
B8330	3.33	0.64	0.00	0.64	-	19.14	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B8340	17.06	1.07	0.00	1.07	-	6.28	No detailed FEMA Floodplain data available for this area.
B8350	4.15	0.33	0.00	0.33	-	8.01	No detailed FEMA Floodplain data available for this area.
B8360	3.96	0.37	0.00	0.37	-	9.45	No detailed FEMA Floodplain data available for this area.
B8370	1.70	0.57	0.00	0.57	-	33.79	No detailed FEMA Floodplain data available for this area.
B8380	12.91	2.18	0.00	2.18	-	16.90	No detailed FEMA Floodplain data available for this area.
B8390	1.01	0.38	0.00	0.38	-	37.52	No detailed FEMA Floodplain data available for this area.
B8410	10.52	2.94	0.00	2.94	-	27.95	No detailed FEMA Floodplain data available for this area.
B8420	24.63	6.35	0.00	6.35	-	25.77	No detailed FEMA Floodplain data available for this area.
B8430	6.83	1.18	0.00	1.18	-	17.29	No detailed FEMA Floodplain data available for this area.
B8440	4.28	0.77	0.00	0.77	-	17.98	No detailed FEMA Floodplain data available for this area.
B8450	25.35	2.07	0.00	2.07	-	8.16	No detailed FEMA Floodplain data available for this area.
B8460	10.68	0.92	0.00	0.92	-	8.58	No detailed FEMA Floodplain data available for this area.
B8480	9.91	0.90	0.00	0.90	-	9.03	No detailed FEMA Floodplain data available for this area.
B8490	0.29	0.08	0.00	0.08	-	26.74	No detailed FEMA Floodplain data available for this area.
B8502	1.04	0.01	0.00	0.01	-	0.63	No detailed FEMA Floodplain data available for this area.
B8503	14.67	2.79	0.00	2.79	-	19.04	No detailed FEMA Floodplain data available for this area.
B8504	1.04	0.16	0.00	0.16	-	15.63	No detailed FEMA Floodplain data available for this area.
B8505	1.39	0.12	0.00	0.12	-	8.40	No detailed FEMA Floodplain data available for this area.
B8506	9.73	0.30	0.00	0.30	-	3.13	No detailed FEMA Floodplain data available for this area.
B8507	2.33	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
B8508	23.47	0.51	0.00	0.51	-	2.18	No detailed FEMA Floodplain data available for this area.
B8520	28.61	0.72	0.00	0.72	-	2.51	No detailed FEMA Floodplain data available for this area.
B8521	12.76	2.33	0.00	2.33	-	18.29	No detailed FEMA Floodplain data available for this area.
B8522	0.76	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
B8523	0.50	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
B8525	18.05	2.32	0.00	2.32	-	12.83	No detailed FEMA Floodplain data available for this area.
B8530	14.98	1.60	0.00	1.60	-	10.70	No detailed FEMA Floodplain data available for this area.
B8545	13.92	1.57	0.00	1.57	-	11.24	No detailed FEMA Floodplain data available for this area.
B8550	11.84	2.29	0.00	2.29	-	19.30	No detailed FEMA Floodplain data available for this area.
B8552	5.11	0.68	0.00	0.68	-	13.40	No detailed FEMA Floodplain data available for this area.
B8554	8.71	1.36	0.00	1.36	-	15.60	No detailed FEMA Floodplain data available for this area.
B8556	8.64	1.93	0.00	1.93	-	22.33	No detailed FEMA Floodplain data available for this area.
B8558	1.89	0.54	0.00	0.54	-	28.46	No detailed FEMA Floodplain data available for this area.
B8560	22.85	2.80	0.00	2.80	-	12.25	No detailed FEMA Floodplain data available for this area.
B8570	29.65	2.87	0.00	2.87	-	9.66	No detailed FEMA Floodplain data available for this area.
B8590	2.09	0.56	0.00	0.56	-	26.77	No detailed FEMA Floodplain data available for this area.
B8600	3.86	1.02	0.00	1.02	-	26.42	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B8610	13.11	1.66	0.00	1.66	-	12.69	No detailed FEMA Floodplain data available for this area.
B8620	5.59	1.58	0.00	1.58	-	28.20	No detailed FEMA Floodplain data available for this area.
B8630	27.83	1.24	0.00	1.24	-	4.44	No detailed FEMA Floodplain data available for this area.
B8640	19.56	4.64	0.00	4.64	-	23.74	No detailed FEMA Floodplain data available for this area.
B8650	13.24	1.82	0.00	1.82	-	13.72	No detailed FEMA Floodplain data available for this area.
B8660	3.60	0.72	0.00	0.72	-	20.14	No detailed FEMA Floodplain data available for this area.
B8673	4.34	1.68	0.00	1.68	-	38.68	No detailed FEMA Floodplain data available for this area.
B8674	0.17	0.05	0.00	0.05	-	29.16	No detailed FEMA Floodplain data available for this area.
B8675	8.05	1.87	0.14	1.73	1275.90	21.52	No detailed FEMA Floodplain data available for this area.
B8676	1.63	0.16	0.16	0.00	2.45	0.24	No detailed FEMA Floodplain data available for this area.
B8677	2.56	0.57	0.00	0.57	-	22.38	No detailed FEMA Floodplain data available for this area.
B8910	25.90	0.24	0.00	0.24	-	0.94	No detailed FEMA Floodplain data available for this area.
B8920	5.77	0.24	0.00	0.24	-	4.20	No detailed FEMA Floodplain data available for this area.
B8930	6.86	0.53	0.00	0.53	-	7.68	No detailed FEMA Floodplain data available for this area.
B8940	0.98	0.11	0.00	0.11	-	11.53	No detailed FEMA Floodplain data available for this area.
B8950	1.12	0.33	0.02	0.32	1972.81	28.09	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
B9000	0.99	0.40	0.00	0.40	-	39.85	No detailed FEMA Floodplain data available for this area.
B9004	2.16	0.33	0.00	0.33	-	15.22	No detailed FEMA Floodplain data available for this area.
B9005	3.46	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
B9010	2.27	1.80	0.00	1.80	-	79.17	No detailed FEMA Floodplain data available for this area.
B9015	0.79	0.06	0.00	0.06	-	7.94	No detailed FEMA Floodplain data available for this area.
B9020	15.57	1.49	0.00	1.49	-	9.58	No detailed FEMA Floodplain data available for this area.
B9035	0.32	0.03	0.00	0.03	-	10.59	No detailed FEMA Floodplain data available for this area.
B9040	13.67	3.09	0.00	3.09	-	22.62	No detailed FEMA Floodplain data available for this area.
B9043	8.59	4.05	0.00	4.05	-	47.15	No detailed FEMA Floodplain data available for this area.
B9045	0.57	0.36	0.00	0.36	-	63.08	No detailed FEMA Floodplain data available for this area.
B9050	0.53	0.31	0.00	0.31	-	57.86	No detailed FEMA Floodplain data available for this area.
B9053	10.63	1.43	0.00	1.43	-	13.42	No detailed FEMA Floodplain data available for this area.
B9055	10.65	5.05	0.00	5.05	-	47.41	No detailed FEMA Floodplain data available for this area.
B9060	0.39	0.34	0.00	0.34	-	85.90	No detailed FEMA Floodplain data available for this area.
B9070	0.73	0.39	0.00	0.39	-	52.76	No detailed FEMA Floodplain data available for this area.
B9073	2.23	0.64	0.00	0.64	-	28.71	No detailed FEMA Floodplain data available for this area.
B9075	1.72	0.57	0.00	0.57	-	33.31	No detailed FEMA Floodplain data available for this area.
B9080	1.04	0.56	0.00	0.56	-	53.53	No detailed FEMA Floodplain data available for this area.
B9090	0.85	0.42	0.00	0.42	-	49.58	No detailed FEMA Floodplain data available for this area.
B9095	0.77	0.17	0.00	0.17	-	21.84	No detailed FEMA Floodplain data available for this area.
B9100	0.66	0.48	0.00	0.48	-	73.34	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
B9110	0.70	0.55	0.00	0.55	-	77.50	No detailed FEMA Floodplain data available for this area.
B9120	0.51	0.24	0.00	0.24	-	45.88	No detailed FEMA Floodplain data available for this area.
B9130	11.74	3.29	0.00	3.29	-	28.02	No detailed FEMA Floodplain data available for this area.
B9140	9.02	1.79	0.00	1.79	-	19.85	No detailed FEMA Floodplain data available for this area.
B9145	0.44	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
B9150	25.84	4.44	0.00	4.44	-	17.17	No detailed FEMA Floodplain data available for this area.
B9160	0.38	0.14	0.00	0.14	-	35.99	No detailed FEMA Floodplain data available for this area.
B9170	0.45	0.01	0.00	0.01	-	3.31	No detailed FEMA Floodplain data available for this area.
B9180	1.11	0.25	0.00	0.25	-	22.19	No detailed FEMA Floodplain data available for this area.
B9185	5.71	0.19	0.00	0.19	-	3.35	No detailed FEMA Floodplain data available for this area.
B9200	2.79	0.91	0.00	0.91	-	32.64	No detailed FEMA Floodplain data available for this area.
B9300	6.91	0.56	0.00	0.56	-	8.07	No detailed FEMA Floodplain data available for this area.
B9310	19.13	0.02	0.00	0.02	-	0.11	No detailed FEMA Floodplain data available for this area.
B9400	2.47	0.00	0.00	0.00	-	0.13	No detailed FEMA Floodplain data available for this area.
B9500	3.64	0.05	0.00	0.05	-	1.45	No detailed FEMA Floodplain data available for this area.
C0006	9.86	0.15	0.00	0.15	-	1.54	No detailed FEMA Floodplain data available for this area.
C0008	29.19	0.55	0.00	0.55	-	1.87	No detailed FEMA Floodplain data available for this area.
C0010	10.91	5.70	0.00	5.70	-	52.29	No detailed FEMA Floodplain data available for this area.
C0012	33.50	1.69	0.00	1.69	-	5.03	No detailed FEMA Floodplain data available for this area.
C0014	3.69	1.37	0.00	1.37	-	37.18	No detailed FEMA Floodplain data available for this area.
C0015	12.44	0.30	0.00	0.30	-	2.39	No detailed FEMA Floodplain data available for this area.
C0016	5.60	0.95	0.00	0.95	-	16.89	No detailed FEMA Floodplain data available for this area.
C0018	2.85	0.70	0.00	0.70	-	24.40	No detailed FEMA Floodplain data available for this area.
C0020	17.27	7.52	0.00	7.52	-	43.55	No detailed FEMA Floodplain data available for this area.
C0023	6.19	0.44	0.00	0.44	-	7.16	No detailed FEMA Floodplain data available for this area.
C0026	6.09	0.37	0.00	0.37	-	6.09	No detailed FEMA Floodplain data available for this area.
C0030	1.25	0.94	0.00	0.94	-	74.85	No detailed FEMA Floodplain data available for this area.
C0037	20.85	1.69	0.00	1.69	-	8.11	No detailed FEMA Floodplain data available for this area.
C0040	5.22	2.72	0.00	2.72	-	52.23	No detailed FEMA Floodplain data available for this area.
C0052	16.16	0.71	0.00	0.71	-	4.38	No detailed FEMA Floodplain data available for this area.
C0056	41.86	3.68	0.00	3.68	-	8.79	No detailed FEMA Floodplain data available for this area.
C0058	7.28	0.36	0.00	0.36	-	4.90	No detailed FEMA Floodplain data available for this area.
C0060	9.18	5.53	0.00	5.53	-	60.24	No detailed FEMA Floodplain data available for this area.
C0062	20.04	1.48	0.00	1.48	-	7.36	No detailed FEMA Floodplain data available for this area.
C0064	25.67	2.79	0.00	2.79	-	10.87	No detailed FEMA Floodplain data available for this area.
C0065	24.78	2.27	0.00	2.27	-	9.17	No detailed FEMA Floodplain data available for this area.
C0066	1.84	0.63	0.00	0.63	-	33.95	No detailed FEMA Floodplain data available for this area.

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C0068	2.27	0.58	0.00	0.58	-	25.66	No detailed FEMA Floodplain data available for this area.
C0070	6.96	4.68	0.00	4.68	-	67.27	No detailed FEMA Floodplain data available for this area.
C0077	8.19	1.40	0.00	1.40	-	17.12	No detailed FEMA Floodplain data available for this area.
C0080	21.30	10.42	0.00	10.42	-	48.90	No detailed FEMA Floodplain data available for this area.
C0082	5.60	1.55	0.00	1.55	-	27.65	No detailed FEMA Floodplain data available for this area.
C0083	14.88	3.13	0.00	3.13	-	21.06	No detailed FEMA Floodplain data available for this area.
C0085	21.94	3.82	0.00	3.82	-	17.43	No detailed FEMA Floodplain data available for this area.
C0087	10.81	1.27	0.00	1.27	-	11.76	No detailed FEMA Floodplain data available for this area.
C0090	0.68	0.49	0.00	0.49	-	71.89	No detailed FEMA Floodplain data available for this area.
C0092	2.80	1.31	0.00	1.31	-	46.56	No detailed FEMA Floodplain data available for this area.
C0093	1.91	0.11	0.00	0.11	-	5.57	No detailed FEMA Floodplain data available for this area.
C0094	1.19	0.07	0.00	0.07	-	5.88	No detailed FEMA Floodplain data available for this area.
C0095	13.62	2.52	0.00	2.52	-	18.53	No detailed FEMA Floodplain data available for this area.
C0096	1.30	0.61	0.00	0.61	-	47.11	No detailed FEMA Floodplain data available for this area.
C0097	1.24	0.28	0.00	0.28	-	22.14	No detailed FEMA Floodplain data available for this area.
C0098	6.48	1.20	0.00	1.20	-	18.50	No detailed FEMA Floodplain data available for this area.
C0099	3.23	0.22	0.00	0.22	-	6.96	No detailed FEMA Floodplain data available for this area.
C0100	0.72	0.15	0.00	0.15	-	21.21	No detailed FEMA Floodplain data available for this area.
C0101	1.80	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
C0102	3.36	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
C0103	20.43	2.66	0.00	2.66	-	13.04	No detailed FEMA Floodplain data available for this area.
C0104	9.45	0.20	0.00	0.20	-	2.13	No detailed FEMA Floodplain data available for this area.
C0105	0.55	0.18	0.00	0.18	-	32.64	No detailed FEMA Floodplain data available for this area.
C0106	1.89	0.19	0.00	0.19	-	10.21	No detailed FEMA Floodplain data available for this area.
C0107	7.22	0.14	0.00	0.14	-	1.95	No detailed FEMA Floodplain data available for this area.
C0108	2.02	0.22	0.00	0.22	-	10.81	No detailed FEMA Floodplain data available for this area.
C0109	14.82	0.29	0.00	0.29	-	1.94	No detailed FEMA Floodplain data available for this area.
C0110	5.46	2.01	0.00	2.01	-	36.77	No detailed FEMA Floodplain data available for this area.
C0111	3.51	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
C0120	8.01	4.73	0.00	4.73	-	59.10	No detailed FEMA Floodplain data available for this area.
C0124	9.91	0.19	0.00	0.19	-	1.91	No detailed FEMA Floodplain data available for this area.
C0127	5.72	0.05	0.00	0.05	-	0.81	No detailed FEMA Floodplain data available for this area.
C0130	11.48	2.60	0.00	2.60	-	22.63	No detailed FEMA Floodplain data available for this area.
C0140	12.61	1.69	0.00	1.69	-	13.37	No detailed FEMA Floodplain data available for this area.
C0147	15.24	0.18	0.00	0.18	-	1.17	No detailed FEMA Floodplain data available for this area.
C0160	8.12	5.70	0.00	5.70	-	70.27	No detailed FEMA Floodplain data available for this area.
C0168	7.34	0.14	0.00	0.14	-	1.91	No detailed FEMA Floodplain data available for this area.

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C0170	8.44	4.29	0.00	4.29	-	50.81	No detailed FEMA Floodplain data available for this area.
C0180	2.20	1.23	0.00	1.23	-	56.19	No detailed FEMA Floodplain data available for this area.
C0190	3.29	2.06	0.00	2.06	-	62.65	No detailed FEMA Floodplain data available for this area.
C0193	10.45	0.25	0.00	0.25	-	2.38	No detailed FEMA Floodplain data available for this area.
C0196	5.14	0.08	0.00	0.08	-	1.53	No detailed FEMA Floodplain data available for this area.
C0197	10.55	0.23	0.00	0.23	-	2.15	No detailed FEMA Floodplain data available for this area.
C0210	8.51	4.48	0.00	4.48	-	52.64	No detailed FEMA Floodplain data available for this area.
C0214	12.01	0.15	0.00	0.15	-	1.28	No detailed FEMA Floodplain data available for this area.
C0217	12.00	0.11	0.00	0.11	-	0.94	No detailed FEMA Floodplain data available for this area.
C0218	5.62	0.09	0.00	0.09	-	1.51	No detailed FEMA Floodplain data available for this area.
C0220	7.64	4.71	0.00	4.71	-	61.70	No detailed FEMA Floodplain data available for this area.
C0223	3.49	0.18	0.00	0.18	-	5.02	No detailed FEMA Floodplain data available for this area.
C0226	25.76	0.35	0.00	0.35	-	1.35	No detailed FEMA Floodplain data available for this area.
C0230	4.39	3.19	0.00	3.19	-	72.74	No detailed FEMA Floodplain data available for this area.
C0240	2.94	1.60	0.00	1.60	-	54.41	No detailed FEMA Floodplain data available for this area.
C0243	10.64	0.30	0.00	0.30	-	2.83	No detailed FEMA Floodplain data available for this area.
C0246	8.19	0.11	0.00	0.11	-	1.35	No detailed FEMA Floodplain data available for this area.
C0250	4.99	2.86	0.00	2.86	-	57.37	No detailed FEMA Floodplain data available for this area.
C0260	15.93	6.50	0.00	6.50	-	40.78	No detailed FEMA Floodplain data available for this area.
C0265	13.64	0.28	0.00	0.28	-	2.08	No detailed FEMA Floodplain data available for this area.
C0273	15.60	0.25	0.00	0.25	-	1.58	No detailed FEMA Floodplain data available for this area.
C0275	6.72	0.27	0.00	0.27	-	4.00	No detailed FEMA Floodplain data available for this area.
C0280	6.46	3.81	0.00	3.81	-	59.02	No detailed FEMA Floodplain data available for this area.
C0290	0.27	0.13	0.00	0.13	-	47.71	No detailed FEMA Floodplain data available for this area.
C0300	2.82	1.68	0.00	1.68	-	59.39	No detailed FEMA Floodplain data available for this area.
C0303	14.93	2.32	0.00	2.32	-	15.51	No detailed FEMA Floodplain data available for this area.
C0304	0.74	0.15	0.00	0.15	-	20.59	No detailed FEMA Floodplain data available for this area.
C0305	21.22	0.68	0.00	0.68	-	3.19	No detailed FEMA Floodplain data available for this area.
C0308	11.37	0.47	0.00	0.47	-	4.11	No detailed FEMA Floodplain data available for this area.
C0309	3.79	0.13	0.00	0.13	-	3.48	No detailed FEMA Floodplain data available for this area.
C0310	5.03	2.80	0.00	2.80	-	55.59	No detailed FEMA Floodplain data available for this area.
C0320	3.80	2.26	0.00	2.26	-	59.42	No detailed FEMA Floodplain data available for this area.
C0323	5.17	0.20	0.00	0.20	-	3.86	No detailed FEMA Floodplain data available for this area.
C0330	6.32	3.38	0.00	3.38	-	53.52	No detailed FEMA Floodplain data available for this area.
C0340	25.09	1.53	0.00	1.53	-	6.12	No detailed FEMA Floodplain data available for this area.
C0350	28.10	2.95	0.00	2.95	-	10.49	No detailed FEMA Floodplain data available for this area.
C0360	6.92	5.03	0.00	5.03	-	72.73	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
C0363	7.97	0.20	0.00	0.20	-	2.49	No detailed FEMA Floodplain data available for this area.
C0370	7.18	5.87	0.00	5.87	-	81.76	No detailed FEMA Floodplain data available for this area.
C0373	7.01	0.22	0.00	0.22	-	3.08	No detailed FEMA Floodplain data available for this area.
C0380	45.14	9.69	0.00	9.69	-	21.46	No detailed FEMA Floodplain data available for this area.
C0400	3.93	3.02	0.00	3.02	-	76.72	No detailed FEMA Floodplain data available for this area.
C0410	14.46	4.61	0.00	4.61	-	31.84	No detailed FEMA Floodplain data available for this area.
C0420	2.62	1.87	0.00	1.87	-	71.43	No detailed FEMA Floodplain data available for this area.
C0430	1.74	1.02	0.00	1.02	-	58.70	No detailed FEMA Floodplain data available for this area.
C0440	17.79	3.94	0.00	3.94	-	22.15	No detailed FEMA Floodplain data available for this area.
C0450	17.83	5.46	0.00	5.46	-	30.62	No detailed FEMA Floodplain data available for this area.
C0460	4.23	0.35	0.00	0.35	-	8.20	No detailed FEMA Floodplain data available for this area.
C0465	6.20	0.32	0.00	0.32	-	5.13	No detailed FEMA Floodplain data available for this area.
C0470	6.30	3.10	0.00	3.10	-	49.17	No detailed FEMA Floodplain data available for this area.
C0478	10.49	0.41	0.00	0.41	-	3.89	No detailed FEMA Floodplain data available for this area.
C0480	9.12	5.93	0.00	5.93	-	65.06	No detailed FEMA Floodplain data available for this area.
C0495	5.85	1.93	0.00	1.93	-	32.93	No detailed FEMA Floodplain data available for this area.
C0500	10.66	2.50	0.00	2.50	-	23.50	No detailed FEMA Floodplain data available for this area.
C0510	7.07	4.86	0.00	4.86	-	68.76	No detailed FEMA Floodplain data available for this area.
C0515	11.71	2.07	0.00	2.07	-	17.70	No detailed FEMA Floodplain data available for this area.
C0520	5.93	3.15	0.00	3.15	-	53.17	No detailed FEMA Floodplain data available for this area.
C0540	9.71	1.64	0.00	1.64	-	16.85	No detailed FEMA Floodplain data available for this area.
C0560	0.77	0.57	0.00	0.57	-	73.87	No detailed FEMA Floodplain data available for this area.
C0565	8.76	5.19	0.00	5.19	-	59.17	No detailed FEMA Floodplain data available for this area.
C0570	2.88	2.08	0.00	2.08	-	72.30	No detailed FEMA Floodplain data available for this area.
C0580	6.15	3.92	0.00	3.92	-	63.75	No detailed FEMA Floodplain data available for this area.
C0585	5.99	3.00	0.00	3.00	-	50.10	No detailed FEMA Floodplain data available for this area.
C0590	7.04	1.87	0.00	1.87	-	26.58	No detailed FEMA Floodplain data available for this area.
C0597	7.23	0.60	0.00	0.60	-	8.31	No detailed FEMA Floodplain data available for this area.
C0600	4.56	2.77	0.00	2.77	-	60.75	No detailed FEMA Floodplain data available for this area.
C0603	2.32	0.16	0.00	0.16	-	7.00	No detailed FEMA Floodplain data available for this area.
C0604	10.03	1.61	0.00	1.61	-	16.08	No detailed FEMA Floodplain data available for this area.
C0606	22.70	2.83	0.00	2.83	-	12.45	No detailed FEMA Floodplain data available for this area.
C0607	22.08	3.58	0.00	3.58	-	16.21	No detailed FEMA Floodplain data available for this area.
C0608	1.29	0.32	0.00	0.32	-	25.05	No detailed FEMA Floodplain data available for this area.
C0609	5.41	0.42	0.00	0.42	-	7.69	No detailed FEMA Floodplain data available for this area.
C0610	6.81	4.63	0.00	4.63	-	67.97	No detailed FEMA Floodplain data available for this area.
C0615	14.75	3.26	0.00	3.26	-	22.13	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
C0617	3.13	0.27	0.00	0.27	-	8.53	No detailed FEMA Floodplain data available for this area.
C0618	8.65	1.54	0.00	1.54	-	17.82	No detailed FEMA Floodplain data available for this area.
C0620	9.54	6.31	0.00	6.31	-	66.12	No detailed FEMA Floodplain data available for this area.
C0623	3.29	0.12	0.00	0.12	-	3.67	No detailed FEMA Floodplain data available for this area.
C0630	37.50	13.87	0.00	13.87	-	36.99	No detailed FEMA Floodplain data available for this area.
C0633	3.90	0.09	0.00	0.09	-	2.30	No detailed FEMA Floodplain data available for this area.
C0640	41.45	8.80	0.00	8.80	-	21.23	No detailed FEMA Floodplain data available for this area.
C0645	0.96	0.53	0.00	0.53	-	55.53	No detailed FEMA Floodplain data available for this area.
C0660	40.34	7.54	0.00	7.54	-	18.69	No detailed FEMA Floodplain data available for this area.
C0665	61.14	6.31	0.00	6.31	-	10.32	No detailed FEMA Floodplain data available for this area.
C0667	23.88	6.13	0.00	6.13	-	25.69	No detailed FEMA Floodplain data available for this area.
C0670	11.56	7.36	0.00	7.36	-	63.65	No detailed FEMA Floodplain data available for this area.
C0675	5.87	1.47	0.00	1.47	-	25.08	No detailed FEMA Floodplain data available for this area.
C0680	12.52	9.09	0.00	9.09	-	72.63	No detailed FEMA Floodplain data available for this area.
C0681	0.12	0.01	0.00	0.01	-	12.36	No detailed FEMA Floodplain data available for this area.
C0685	7.99	2.18	0.00	2.18	-	27.34	No detailed FEMA Floodplain data available for this area.
C0690	19.67	8.23	0.00	8.23	-	41.83	No detailed FEMA Floodplain data available for this area.
C0700	5.06	2.90	0.00	2.90	-	57.40	No detailed FEMA Floodplain data available for this area.
C0730	46.47	18.18	0.00	18.18	-	39.13	No detailed FEMA Floodplain data available for this area.
C0740	18.16	4.42	0.00	4.42	-	24.34	No detailed FEMA Floodplain data available for this area.
C0760	10.52	3.06	0.00	3.06	-	29.09	No detailed FEMA Floodplain data available for this area.
C0770	16.78	9.67	0.00	9.67	-	57.63	No detailed FEMA Floodplain data available for this area.
C0780	30.23	15.67	0.00	15.67	-	51.83	No detailed FEMA Floodplain data available for this area.
C0790	2.38	1.85	0.00	1.85	-	77.77	No detailed FEMA Floodplain data available for this area.
C0810	10.63	1.86	0.00	1.86	-	17.53	No detailed FEMA Floodplain data available for this area.
C0820	8.45	2.53	0.00	2.53	-	29.88	No detailed FEMA Floodplain data available for this area.
C0825	13.78	1.34	0.00	1.34	-	9.74	No detailed FEMA Floodplain data available for this area.
C0830	2.29	1.75	0.00	1.75	-	76.53	No detailed FEMA Floodplain data available for this area.
C0840	9.15	3.63	0.00	3.63	-	39.66	No detailed FEMA Floodplain data available for this area.
C0845	2.46	0.96	0.00	0.96	-	38.85	No detailed FEMA Floodplain data available for this area.
C0850	8.82	4.89	0.00	4.89	-	55.43	No detailed FEMA Floodplain data available for this area.
C0860	36.13	7.28	0.00	7.28	-	20.14	No detailed FEMA Floodplain data available for this area.
C0870	23.09	4.53	0.00	4.53	-	19.64	No detailed FEMA Floodplain data available for this area.
C0873	7.61	0.30	0.00	0.30	-	3.97	No detailed FEMA Floodplain data available for this area.
C0900	11.52	6.05	0.00	6.05	-	52.53	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
C0910	5.73	4.24	1.36	2.88	211.31	50.20	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
C0915	5.72	1.86	0.00	1.86	-	32.57	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
C0920	7.26	5.84	6.72	0.88	13.05	12.07	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
C0930	7.08	5.35	2.40	2.95	123.03	41.69	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
C0940	13.15	4.88	2.01	2.87	142.40	21.79	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
C1010	5.21	0.48	0.00	0.48	-	9.24	No detailed FEMA Floodplain data available for this area.
C1020	43.70	3.51	0.00	3.51	-	8.03	No detailed FEMA Floodplain data available for this area.
C1025	9.17	1.43	0.00	1.43	-	15.60	No detailed FEMA Floodplain data available for this area.
C1030	7.32	1.08	0.00	1.08	-	14.81	No detailed FEMA Floodplain data available for this area.
C1040	10.70	2.45	0.00	2.45	-	22.93	No detailed FEMA Floodplain data available for this area.
C1042	9.41	0.94	0.00	0.94	-	10.04	No detailed FEMA Floodplain data available for this area.
C1043	5.84	1.86	0.00	1.86	-	31.80	No detailed FEMA Floodplain data available for this area.
C1045	3.50	0.44	0.00	0.44	-	12.54	No detailed FEMA Floodplain data available for this area.
C1050	43.64	4.80	0.00	4.80	-	11.01	No detailed FEMA Floodplain data available for this area.
C1060	0.80	0.38	0.00	0.38	-	47.67	No detailed FEMA Floodplain data available for this area.
C1070	12.22	5.15	0.00	5.15	-	42.13	No detailed FEMA Floodplain data available for this area.
C1080	2.26	0.46	0.00	0.46	-	20.31	No detailed FEMA Floodplain data available for this area.
C1510	13.32	1.04	0.00	1.04	-	7.80	No detailed FEMA Floodplain data available for this area.
C1520	12.89	1.02	0.00	1.02	-	7.90	No detailed FEMA Floodplain data available for this area.
C1530	8.45	0.39	0.00	0.39	-	4.60	No detailed FEMA Floodplain data available for this area.
C1540	1.14	0.27	0.00	0.27	-	23.47	No detailed FEMA Floodplain data available for this area.
C1550	2.88	0.05	0.00	0.05	-	1.81	No detailed FEMA Floodplain data available for this area.
C2020	9.19	0.21	0.00	0.21	-	2.32	No detailed FEMA Floodplain data available for this area.
C2040	6.97	0.49	0.00	0.49	-	7.03	No detailed FEMA Floodplain data available for this area.
C2060	5.42	0.05	0.00	0.05	-	0.96	No detailed FEMA Floodplain data available for this area.
C2520	13.24	0.19	0.00	0.19	-	1.42	No detailed FEMA Floodplain data available for this area.
C2530	4.48	0.18	0.00	0.18	-	3.99	No detailed FEMA Floodplain data available for this area.
C2550	4.57	0.28	0.00	0.28	-	6.20	No detailed FEMA Floodplain data available for this area.
C2560	3.27	0.00	0.00	0.00	-	0.02	No detailed FEMA Floodplain data available for this area.
C3010	8.01	0.79	0.00	0.79	-	9.91	No detailed FEMA Floodplain data available for this area.
C3023	31.14	4.86	0.00	4.86	-	15.61	No detailed FEMA Floodplain data available for this area.
C3030	0.93	0.34	0.00	0.34	-	36.76	No detailed FEMA Floodplain data available for this area.
C3510	5.31	0.46	0.00	0.46	-	8.60	No detailed FEMA Floodplain data available for this area.
C3520	7.95	1.12	0.00	1.12	-	14.07	No detailed FEMA Floodplain data available for this area.
C3530	4.26	0.40	0.00	0.40	-	9.36	No detailed FEMA Floodplain data available for this area.
C4010	2.72	0.15	0.00	0.15	-	5.55	No detailed FEMA Floodplain data available for this area.
C4020	20.88	1.34	0.00	1.34	-	6.42	No detailed FEMA Floodplain data available for this area.
C4030	3.09	0.68	0.00	0.68	-	22.11	No detailed FEMA Floodplain data available for this area.
C4040	20.69	0.96	0.00	0.96	-	4.66	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
C4050	4.98	0.99	0.00	0.99	-	19.87	No detailed FEMA Floodplain data available for this area.
C4060	18.29	3.17	0.00	3.17	-	17.31	No detailed FEMA Floodplain data available for this area.
C4070	3.33	0.90	0.00	0.90	-	26.97	No detailed FEMA Floodplain data available for this area.
C5010	17.84	0.76	0.00	0.76	-	4.27	No detailed FEMA Floodplain data available for this area.
C5020	22.60	1.90	0.00	1.90	-	8.41	No detailed FEMA Floodplain data available for this area.
C5030	26.29	3.29	0.00	3.29	-	12.52	No detailed FEMA Floodplain data available for this area.
C5040	19.14	1.90	0.00	1.90	-	9.94	No detailed FEMA Floodplain data available for this area.
C5050	15.34	1.29	0.00	1.29	-	8.41	No detailed FEMA Floodplain data available for this area.
C5060	23.79	1.93	0.00	1.93	-	8.11	No detailed FEMA Floodplain data available for this area.
C5070	14.83	1.14	0.00	1.14	-	7.65	No detailed FEMA Floodplain data available for this area.
C5080	20.34	3.41	0.00	3.41	-	16.75	No detailed FEMA Floodplain data available for this area.
C5090	12.85	3.48	0.00	3.48	-	27.11	No detailed FEMA Floodplain data available for this area.
C5100	7.94	2.46	0.00	2.46	-	31.01	No detailed FEMA Floodplain data available for this area.
C5110	5.29	4.77	0.00	4.77	-	90.12	No detailed FEMA Floodplain data available for this area.
C5112	6.74	0.10	0.00	0.10	-	1.55	No detailed FEMA Floodplain data available for this area.
C5115	3.47	0.44	0.00	0.44	-	12.75	No detailed FEMA Floodplain data available for this area.
C5118	34.39	1.82	0.00	1.82	-	5.29	No detailed FEMA Floodplain data available for this area.
C5120	8.22	2.44	0.00	2.44	-	29.65	No detailed FEMA Floodplain data available for this area.
C5130	2.26	1.11	0.00	1.11	-	48.98	No detailed FEMA Floodplain data available for this area.
C5140	10.01	2.78	0.00	2.78	-	27.80	No detailed FEMA Floodplain data available for this area.
C5150	14.11	1.98	0.00	1.98	-	14.05	No detailed FEMA Floodplain data available for this area.
C6010	27.15	0.61	0.00	0.61	-	2.23	No detailed FEMA Floodplain data available for this area.
C6020	28.64	0.64	0.00	0.64	-	2.23	No detailed FEMA Floodplain data available for this area.
C6030	0.38	0.01	0.00	0.01	-	2.40	No detailed FEMA Floodplain data available for this area.
C6040	37.55	0.55	0.00	0.55	-	1.46	No detailed FEMA Floodplain data available for this area.
C6050	27.42	1.31	0.00	1.31	-	4.78	No detailed FEMA Floodplain data available for this area.
C6060	12.21	0.43	0.00	0.43	-	3.52	No detailed FEMA Floodplain data available for this area.
C6503	7.57	0.28	0.00	0.28	-	3.73	No detailed FEMA Floodplain data available for this area.
C6505	7.09	0.77	0.00	0.77	-	10.81	No detailed FEMA Floodplain data available for this area.
C6510	4.14	0.61	0.00	0.61	-	14.80	No detailed FEMA Floodplain data available for this area.
C6513	18.53	3.14	0.00	3.14	-	16.94	No detailed FEMA Floodplain data available for this area.
C6518	7.07	0.23	0.00	0.23	-	3.32	No detailed FEMA Floodplain data available for this area.
C6520	11.96	2.73	0.00	2.73	-	22.80	No detailed FEMA Floodplain data available for this area.
C6522	2.37	0.14	0.00	0.14	-	5.74	No detailed FEMA Floodplain data available for this area.
C6523	10.30	3.48	0.00	3.48	-	33.74	No detailed FEMA Floodplain data available for this area.
C6524	14.35	0.74	0.00	0.74	-	5.17	No detailed FEMA Floodplain data available for this area.
C6526	11.36	0.99	0.00	0.99	-	8.76	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
C6527	10.70	3.36	0.00	3.36	-	31.40	No detailed FEMA Floodplain data available for this area.
C6528	2.00	0.36	0.00	0.36	-	18.22	No detailed FEMA Floodplain data available for this area.
C6530	2.92	1.76	0.00	1.76	-	60.29	No detailed FEMA Floodplain data available for this area.
C6540	1.26	0.66	0.00	0.66	-	51.86	No detailed FEMA Floodplain data available for this area.
C6545	12.18	4.59	0.00	4.59	-	37.66	No detailed FEMA Floodplain data available for this area.
C6550	1.53	0.87	0.00	0.87	-	56.96	No detailed FEMA Floodplain data available for this area.
C7010	4.65	0.17	0.00	0.17	-	3.58	No detailed FEMA Floodplain data available for this area.
C7020	6.91	0.59	0.00	0.59	-	8.47	No detailed FEMA Floodplain data available for this area.
C7030	5.89	0.78	0.00	0.78	-	13.28	No detailed FEMA Floodplain data available for this area.
C7040	17.83	1.69	0.00	1.69	-	9.48	No detailed FEMA Floodplain data available for this area.
C7053	7.35	1.96	0.00	1.96	-	26.74	No detailed FEMA Floodplain data available for this area.
C7059	1.37	0.59	0.00	0.59	-	43.22	No detailed FEMA Floodplain data available for this area.
C7062	1.15	0.35	0.00	0.35	-	30.45	No detailed FEMA Floodplain data available for this area.
C7065	14.09	2.14	0.00	2.14	-	15.16	No detailed FEMA Floodplain data available for this area.
C7068	2.85	0.79	0.00	0.79	-	27.93	No detailed FEMA Floodplain data available for this area.
C7070	6.59	1.96	0.00	1.96	-	29.79	No detailed FEMA Floodplain data available for this area.
C7080	12.57	1.77	0.00	1.77	-	14.11	No detailed FEMA Floodplain data available for this area.
C7093	10.12	2.39	0.00	2.39	-	23.61	No detailed FEMA Floodplain data available for this area.
C7097	13.08	1.29	0.00	1.29	-	9.89	No detailed FEMA Floodplain data available for this area.
C7098	1.49	0.42	0.00	0.42	-	28.15	No detailed FEMA Floodplain data available for this area.
C7100	18.12	2.58	0.00	2.58	-	14.22	No detailed FEMA Floodplain data available for this area.
C7110	5.11	2.41	0.00	2.41	-	47.09	No detailed FEMA Floodplain data available for this area.
C7120	13.75	6.34	0.00	6.34	-	46.11	No detailed FEMA Floodplain data available for this area.
C8005	8.79	0.94	0.00	0.94	-	10.65	No detailed FEMA Floodplain data available for this area.
C8010	8.99	0.76	0.00	0.76	-	8.43	No detailed FEMA Floodplain data available for this area.
C8012	5.30	0.71	0.00	0.71	-	13.47	No detailed FEMA Floodplain data available for this area.
C8013	3.41	0.60	0.00	0.60	-	17.74	No detailed FEMA Floodplain data available for this area.
C8018	9.96	0.72	0.00	0.72	-	7.19	No detailed FEMA Floodplain data available for this area.
C8020	15.16	1.68	0.00	1.68	-	11.05	No detailed FEMA Floodplain data available for this area.
C8025	4.20	0.92	0.00	0.92	-	21.86	No detailed FEMA Floodplain data available for this area.
C8030	1.65	0.78	0.00	0.78	-	47.38	No detailed FEMA Floodplain data available for this area.
C8040	5.39	1.47	0.00	1.47	-	27.32	No detailed FEMA Floodplain data available for this area.
C8043	6.01	1.59	0.00	1.59	-	26.49	No detailed FEMA Floodplain data available for this area.
C8045	7.45	2.37	0.00	2.37	-	31.88	No detailed FEMA Floodplain data available for this area.
C8046	6.77	1.92	0.00	1.92	-	28.43	No detailed FEMA Floodplain data available for this area.
C8047	8.86	2.95	0.00	2.95	-	33.33	No detailed FEMA Floodplain data available for this area.
C8048	12.10	6.38	0.00	6.38	-	52.77	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
C8050	4.01	0.47	0.00	0.47	-	11.67	No detailed FEMA Floodplain data available for this area.
C8060	9.32	1.35	0.00	1.35	-	14.49	No detailed FEMA Floodplain data available for this area.
C8065	9.29	2.90	0.00	2.90	-	31.26	No detailed FEMA Floodplain data available for this area.
C8070	1.44	0.47	0.00	0.47	-	32.71	No detailed FEMA Floodplain data available for this area.
C8080	0.79	0.16	0.00	0.16	-	20.24	No detailed FEMA Floodplain data available for this area.
C8090	1.47	0.48	0.00	0.48	-	32.47	No detailed FEMA Floodplain data available for this area.
C8100	19.66	5.48	0.00	5.48	-	27.89	No detailed FEMA Floodplain data available for this area.
C8110	2.11	0.92	0.00	0.92	-	43.76	No detailed FEMA Floodplain data available for this area.
C8120	13.08	7.82	0.00	7.82	-	59.76	No detailed FEMA Floodplain data available for this area.
C8140	6.15	2.44	0.00	2.44	-	39.64	No detailed FEMA Floodplain data available for this area.
C8150	20.91	10.03	0.00	10.03	-	48.00	No detailed FEMA Floodplain data available for this area.
C8160	1.02	0.48	0.00	0.48	-	47.19	No detailed FEMA Floodplain data available for this area.
C8170	1.17	1.02	0.00	1.02	-	87.48	No detailed FEMA Floodplain data available for this area.
C8510	5.93	2.50	0.00	2.50	-	42.12	No detailed FEMA Floodplain data available for this area.
C8520	3.55	0.68	0.00	0.68	-	19.06	No detailed FEMA Floodplain data available for this area.
C8530	13.04	1.79	0.00	1.79	-	13.70	No detailed FEMA Floodplain data available for this area.
C8540	4.49	2.24	0.00	2.24	-	50.01	No detailed FEMA Floodplain data available for this area.
C8550	3.15	1.20	0.00	1.20	-	38.16	No detailed FEMA Floodplain data available for this area.
C8560	16.84	3.16	0.00	3.16	-	18.78	No detailed FEMA Floodplain data available for this area.
C8570	1.01	0.15	0.00	0.15	-	15.12	No detailed FEMA Floodplain data available for this area.
C8580	2.00	0.27	0.00	0.27	-	13.76	No detailed FEMA Floodplain data available for this area.
C8590	4.26	0.62	0.00	0.62	-	14.48	No detailed FEMA Floodplain data available for this area.
C8600	5.91	1.86	0.00	1.86	-	31.40	No detailed FEMA Floodplain data available for this area.
C8610	2.51	1.03	0.00	1.03	-	41.02	No detailed FEMA Floodplain data available for this area.
C8620	2.60	1.41	0.00	1.41	-	54.23	No detailed FEMA Floodplain data available for this area.
C8630	1.58	0.28	0.00	0.28	-	17.84	No detailed FEMA Floodplain data available for this area.
C8640	1.09	0.33	0.00	0.33	-	30.19	No detailed FEMA Floodplain data available for this area.
C9010	9.87	3.00	0.00	3.00	-	30.40	No detailed FEMA Floodplain data available for this area.
C9020	1.21	0.16	0.00	0.16	-	12.97	No detailed FEMA Floodplain data available for this area.
C9022	1.34	0.23	0.00	0.23	-	17.03	No detailed FEMA Floodplain data available for this area.
C9024	3.79	0.46	0.00	0.46	-	12.06	No detailed FEMA Floodplain data available for this area.
C9030	6.27	0.77	0.00	0.77	-	12.29	No detailed FEMA Floodplain data available for this area.
C9032	1.27	0.11	0.00	0.11	-	9.00	No detailed FEMA Floodplain data available for this area.
C9040	1.42	0.12	0.00	0.12	-	8.15	No detailed FEMA Floodplain data available for this area.
C9050	5.17	0.42	0.00	0.42	-	8.12	No detailed FEMA Floodplain data available for this area.
C9052	1.29	0.18	0.00	0.18	-	13.80	No detailed FEMA Floodplain data available for this area.
C9054	0.89	0.12	0.00	0.12	-	13.81	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
C9056	1.16	0.10	0.00	0.10	-	8.96	No detailed FEMA Floodplain data available for this area.
C9058	0.54	0.24	0.00	0.24	-	45.65	No detailed FEMA Floodplain data available for this area.
C9060	5.49	2.26	0.00	2.26	-	41.21	No detailed FEMA Floodplain data available for this area.
C9070	10.10	0.89	0.00	0.89	-	8.82	No detailed FEMA Floodplain data available for this area.
C9080	14.59	1.28	0.00	1.28	-	8.80	No detailed FEMA Floodplain data available for this area.
C9090	9.82	1.35	0.00	1.35	-	13.76	No detailed FEMA Floodplain data available for this area.
C9100	18.97	3.20	0.00	3.20	-	16.85	No detailed FEMA Floodplain data available for this area.
C9110	1.38	0.23	0.00	0.23	-	16.78	No detailed FEMA Floodplain data available for this area.
C9120	1.39	0.26	0.00	0.26	-	18.77	No detailed FEMA Floodplain data available for this area.
C9130	10.46	1.05	0.00	1.05	-	10.01	No detailed FEMA Floodplain data available for this area.
C9510	6.93	0.21	0.00	0.21	-	3.01	No detailed FEMA Floodplain data available for this area.
C9520	18.41	3.22	0.00	3.22	-	17.51	No detailed FEMA Floodplain data available for this area.
C9530	19.28	1.91	0.00	1.91	-	9.91	No detailed FEMA Floodplain data available for this area.
C9540	21.64	3.92	0.00	3.92	-	18.11	No detailed FEMA Floodplain data available for this area.
C9550	1.85	0.48	0.00	0.48	-	25.70	No detailed FEMA Floodplain data available for this area.
C9560	18.26	4.52	0.00	4.52	-	24.73	No detailed FEMA Floodplain data available for this area.
C9570	2.47	0.74	0.00	0.74	-	30.07	No detailed FEMA Floodplain data available for this area.
C9580	0.87	0.60	0.00	0.60	-	68.63	No detailed FEMA Floodplain data available for this area.
C9600	2.83	0.31	0.00	0.31	-	10.89	No detailed FEMA Floodplain data available for this area.
C9700	1.37	0.58	0.00	0.58	-	42.26	No detailed FEMA Floodplain data available for this area.
C9800	3.60	0.59	0.00	0.59	-	16.51	No detailed FEMA Floodplain data available for this area.
D0004	27.88	0.97	0.00	0.97	-	3.48	No detailed FEMA Floodplain data available for this area.
D0006	13.01	0.72	0.00	0.72	-	5.54	No detailed FEMA Floodplain data available for this area.
D0010	46.06	4.75	0.00	4.75	-	10.31	No detailed FEMA Floodplain data available for this area.
D0020	40.31	4.78	0.00	4.78	-	11.85	No detailed FEMA Floodplain data available for this area.
D0030	12.05	1.35	0.00	1.35	-	11.21	No detailed FEMA Floodplain data available for this area.
D0040	3.87	0.41	0.00	0.41	-	10.46	No detailed FEMA Floodplain data available for this area.
D0045	66.38	2.48	0.00	2.48	-	3.74	No detailed FEMA Floodplain data available for this area.
D0050	22.58	1.36	0.00	1.36	-	6.02	No detailed FEMA Floodplain data available for this area.
D0053	49.96	1.27	0.00	1.27	-	2.55	No detailed FEMA Floodplain data available for this area.
D0055	1.62	0.72	0.00	0.72	-	44.39	No detailed FEMA Floodplain data available for this area.
D0057	4.92	0.28	0.00	0.28	-	5.66	No detailed FEMA Floodplain data available for this area.
D0059	1.42	0.23	0.00	0.23	-	16.30	No detailed FEMA Floodplain data available for this area.
D0060	25.73	2.45	0.00	2.45	-	9.51	No detailed FEMA Floodplain data available for this area.
D0063	63.95	2.18	0.00	2.18	-	3.41	No detailed FEMA Floodplain data available for this area.
D0070	39.27	4.66	0.00	4.66	-	11.87	No detailed FEMA Floodplain data available for this area.
D0080	21.85	1.76	0.00	1.76	-	8.07	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
D0082	5.81	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
D0085	34.44	0.92	0.00	0.92	-	2.68	No detailed FEMA Floodplain data available for this area.
D0088	55.61	2.67	0.00	2.67	-	4.81	No detailed FEMA Floodplain data available for this area.
D0090	2.97	1.28	0.00	1.28	-	43.32	No detailed FEMA Floodplain data available for this area.
D0092	21.41	1.25	0.00	1.25	-	5.85	No detailed FEMA Floodplain data available for this area.
D0094	14.61	0.45	0.00	0.45	-	3.10	No detailed FEMA Floodplain data available for this area.
D0096	11.26	0.80	0.00	0.80	-	7.14	No detailed FEMA Floodplain data available for this area.
D0098	17.94	0.63	0.00	0.63	-	3.50	No detailed FEMA Floodplain data available for this area.
D0100	7.09	2.86	0.00	2.86	-	40.30	No detailed FEMA Floodplain data available for this area.
D0103	28.27	3.14	0.00	3.14	-	11.12	No detailed FEMA Floodplain data available for this area.
D0107	5.31	0.59	0.00	0.59	-	11.04	No detailed FEMA Floodplain data available for this area.
D0110	40.37	2.70	0.00	2.70	-	6.68	No detailed FEMA Floodplain data available for this area.
D0112	16.56	1.20	0.00	1.20	-	7.23	No detailed FEMA Floodplain data available for this area.
D0114	50.06	4.24	0.00	4.24	-	8.47	No detailed FEMA Floodplain data available for this area.
D0116	28.79	1.73	0.00	1.73	-	6.03	No detailed FEMA Floodplain data available for this area.
D0118	2.06	0.59	0.00	0.59	-	28.82	No detailed FEMA Floodplain data available for this area.
D0130	1.57	0.66	0.00	0.66	-	41.88	No detailed FEMA Floodplain data available for this area.
D0140	51.32	3.53	0.00	3.53	-	6.88	No detailed FEMA Floodplain data available for this area.
D0152	9.76	1.63	0.00	1.63	-	16.74	No detailed FEMA Floodplain data available for this area.
D0155	59.13	6.07	0.00	6.07	-	10.26	No detailed FEMA Floodplain data available for this area.
D0158	19.48	4.28	0.00	4.28	-	21.95	No detailed FEMA Floodplain data available for this area.
D0160	46.45	7.76	0.00	7.76	-	16.71	No detailed FEMA Floodplain data available for this area.
D0162	5.67	1.97	0.00	1.97	-	34.75	No detailed FEMA Floodplain data available for this area.
D0164	49.01	8.47	0.00	8.47	-	17.27	No detailed FEMA Floodplain data available for this area.
D0166	30.58	5.01	0.00	5.01	-	16.38	No detailed FEMA Floodplain data available for this area.
D0168	17.49	3.62	0.00	3.62	-	20.69	No detailed FEMA Floodplain data available for this area.
D0170	37.88	7.05	0.00	7.05	-	18.62	No detailed FEMA Floodplain data available for this area.
D0180	19.69	4.47	0.00	4.47	-	22.72	No detailed FEMA Floodplain data available for this area.
D0190	2.21	1.28	0.00	1.28	-	58.03	No detailed FEMA Floodplain data available for this area.
D0192	10.93	3.27	0.00	3.27	-	29.93	No detailed FEMA Floodplain data available for this area.
D0194	36.84	7.01	0.00	7.01	-	19.03	No detailed FEMA Floodplain data available for this area.
D0196	61.63	9.92	0.00	9.92	-	16.09	No detailed FEMA Floodplain data available for this area.
D0198	33.50	3.36	0.00	3.36	-	10.04	No detailed FEMA Floodplain data available for this area.
D0200	40.06	5.46	0.00	5.46	-	13.63	No detailed FEMA Floodplain data available for this area.
D0202	4.61	0.42	0.00	0.42	-	9.18	No detailed FEMA Floodplain data available for this area.
D0204	50.50	4.39	0.00	4.39	-	8.69	No detailed FEMA Floodplain data available for this area.
D0206	26.41	5.22	0.00	5.22	-	19.79	No detailed FEMA Floodplain data available for this area.

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D0208	1.23	0.53	0.00	0.53	-	42.76	No detailed FEMA Floodplain data available for this area.
D0210	3.87	1.91	0.00	1.91	-	49.25	No detailed FEMA Floodplain data available for this area.
D0220	66.14	11.43	0.00	11.43	-	17.28	No detailed FEMA Floodplain data available for this area.
D0230	65.48	12.83	0.00	12.83	-	19.60	No detailed FEMA Floodplain data available for this area.
D0240	75.40	22.66	0.00	22.66	-	30.05	No detailed FEMA Floodplain data available for this area.
D1010	8.23	0.91	0.00	0.91	-	11.02	No detailed FEMA Floodplain data available for this area.
D1020	44.26	3.90	0.00	3.90	-	8.80	No detailed FEMA Floodplain data available for this area.
D1025	1.27	0.35	0.00	0.35	-	27.14	No detailed FEMA Floodplain data available for this area.
D1030	30.66	5.00	0.00	5.00	-	16.32	No detailed FEMA Floodplain data available for this area.
D2010	12.28	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
D2020	14.90	0.27	0.00	0.27	-	1.80	No detailed FEMA Floodplain data available for this area.
D2025	29.11	0.07	0.00	0.07	-	0.23	No detailed FEMA Floodplain data available for this area.
D2030	4.55	0.42	0.00	0.42	-	9.19	No detailed FEMA Floodplain data available for this area.
D2040	2.49	0.44	0.00	0.44	-	17.86	No detailed FEMA Floodplain data available for this area.
E0010	0.63	0.50	0.00	0.50	-	79.19	No detailed FEMA Floodplain data available for this area.
E0020	21.59	1.77	0.00	1.77	-	8.18	No detailed FEMA Floodplain data available for this area.
E0023	34.62	0.80	0.00	0.80	-	2.32	No detailed FEMA Floodplain data available for this area.
E0027	9.16	0.24	0.00	0.24	-	2.61	No detailed FEMA Floodplain data available for this area.
E0030	15.99	2.87	0.00	2.87	-	17.95	No detailed FEMA Floodplain data available for this area.
E0040	43.05	1.57	0.00	1.57	-	3.64	No detailed FEMA Floodplain data available for this area.
E0050	21.42	1.40	0.00	1.40	-	6.56	No detailed FEMA Floodplain data available for this area.
E0052	39.75	0.49	0.00	0.49	-	1.24	No detailed FEMA Floodplain data available for this area.
E0054	4.32	0.49	0.00	0.49	-	11.23	No detailed FEMA Floodplain data available for this area.
E0059	16.18	0.35	0.00	0.35	-	2.17	No detailed FEMA Floodplain data available for this area.
E0060	15.80	2.86	0.00	2.86	-	18.11	No detailed FEMA Floodplain data available for this area.
E0061	0.89	0.23	0.00	0.23	-	25.78	No detailed FEMA Floodplain data available for this area.
E0062	14.44	2.66	0.00	2.66	-	18.41	No detailed FEMA Floodplain data available for this area.
E0063	17.21	2.73	0.00	2.73	-	15.87	No detailed FEMA Floodplain data available for this area.
E0064	1.99	0.39	0.00	0.39	-	19.77	No detailed FEMA Floodplain data available for this area.
E0065	5.04	1.50	0.00	1.50	-	29.66	No detailed FEMA Floodplain data available for this area.
E0069	3.68	1.03	0.00	1.03	-	27.93	No detailed FEMA Floodplain data available for this area.
E0070	74.55	2.18	0.00	2.18	-	2.92	No detailed FEMA Floodplain data available for this area.
E0071	33.64	2.34	0.00	2.34	-	6.95	No detailed FEMA Floodplain data available for this area.
E0072	25.42	0.20	0.00	0.20	-	0.77	No detailed FEMA Floodplain data available for this area.
E0074	1.69	0.24	0.00	0.24	-	14.13	No detailed FEMA Floodplain data available for this area.
E0075	9.36	0.87	0.00	0.87	-	9.32	No detailed FEMA Floodplain data available for this area.
E0077	14.77	2.46	0.00	2.46	-	16.68	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
E0079	13.29	0.51	0.00	0.51	-	3.85	No detailed FEMA Floodplain data available for this area.
E0080	1.93	1.12	0.00	1.12	-	58.20	No detailed FEMA Floodplain data available for this area.
E0090	0.80	0.47	0.00	0.47	-	58.76	No detailed FEMA Floodplain data available for this area.
E0100	13.62	1.19	0.00	1.19	-	8.77	No detailed FEMA Floodplain data available for this area.
E0110	32.12	3.62	0.00	3.62	-	11.29	No detailed FEMA Floodplain data available for this area.
E0120	59.61	4.48	0.00	4.48	-	7.52	No detailed FEMA Floodplain data available for this area.
E0125	21.05	0.68	0.00	0.68	-	3.23	No detailed FEMA Floodplain data available for this area.
E0127	30.37	0.74	0.00	0.74	-	2.44	No detailed FEMA Floodplain data available for this area.
E0128	9.97	0.23	0.00	0.23	-	2.27	No detailed FEMA Floodplain data available for this area.
E0129	0.98	0.30	0.00	0.30	-	31.06	No detailed FEMA Floodplain data available for this area.
E0130	10.31	3.23	0.00	3.23	-	31.33	No detailed FEMA Floodplain data available for this area.
E0140	51.25	6.25	0.00	6.25	-	12.19	No detailed FEMA Floodplain data available for this area.
E0145	22.39	0.52	0.00	0.52	-	2.32	No detailed FEMA Floodplain data available for this area.
E0150	15.24	2.50	0.00	2.50	-	16.42	No detailed FEMA Floodplain data available for this area.
E0160	151.41	41.68	0.00	41.68	-	27.53	No detailed FEMA Floodplain data available for this area.
E0165	12.79	2.06	0.00	2.06	-	16.15	No detailed FEMA Floodplain data available for this area.
E0166	0.83	0.14	0.00	0.14	-	16.51	No detailed FEMA Floodplain data available for this area.
E0167	17.22	5.70	0.00	5.70	-	33.07	No detailed FEMA Floodplain data available for this area.
E0168	10.82	2.07	0.00	2.07	-	19.13	No detailed FEMA Floodplain data available for this area.
E0170	42.13	15.40	0.00	15.40	-	36.56	No detailed FEMA Floodplain data available for this area.
E0180	25.50	10.13	0.00	10.13	-	39.72	No detailed FEMA Floodplain data available for this area.
E0510	6.85	0.36	0.00	0.36	-	5.20	No detailed FEMA Floodplain data available for this area.
E0520	20.71	2.17	0.00	2.17	-	10.50	No detailed FEMA Floodplain data available for this area.
E0530	4.93	0.92	0.00	0.92	-	18.68	No detailed FEMA Floodplain data available for this area.
E0540	2.10	0.30	0.00	0.30	-	14.34	No detailed FEMA Floodplain data available for this area.
E0555	13.19	0.29	0.00	0.29	-	2.22	No detailed FEMA Floodplain data available for this area.
E0560	22.41	0.86	0.00	0.86	-	3.86	No detailed FEMA Floodplain data available for this area.
E0570	20.68	1.31	0.00	1.31	-	6.33	No detailed FEMA Floodplain data available for this area.
E0580	20.79	1.81	0.00	1.81	-	8.70	No detailed FEMA Floodplain data available for this area.
E0890	3.93	0.57	0.00	0.57	-	14.51	No detailed FEMA Floodplain data available for this area.
E2010	9.05	0.38	0.00	0.38	-	4.22	No detailed FEMA Floodplain data available for this area.
E2020	33.16	0.86	0.00	0.86	-	2.59	No detailed FEMA Floodplain data available for this area.
E2030	20.74	2.07	0.00	2.07	-	9.99	No detailed FEMA Floodplain data available for this area.
E2041	11.81	3.92	0.00	3.92	-	33.20	No detailed FEMA Floodplain data available for this area.
E2043	12.47	2.92	0.00	2.92	-	23.41	No detailed FEMA Floodplain data available for this area.
E2045	10.08	2.54	0.00	2.54	-	25.22	No detailed FEMA Floodplain data available for this area.
E2049	2.60	1.18	0.00	1.18	-	45.21	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
E2050	2.41	1.04	0.00	1.04	-	43.08	No detailed FEMA Floodplain data available for this area.
E2060	2.33	1.17	0.00	1.17	-	50.19	No detailed FEMA Floodplain data available for this area.
E2510	18.82	4.31	0.00	4.31	-	22.89	No detailed FEMA Floodplain data available for this area.
E2530	1.80	0.22	0.00	0.22	-	12.11	No detailed FEMA Floodplain data available for this area.
E2540	18.77	0.60	0.00	0.60	-	3.18	No detailed FEMA Floodplain data available for this area.
E3010	26.22	6.24	0.00	6.24	-	23.80	No detailed FEMA Floodplain data available for this area.
E3015	0.44	0.10	0.00	0.10	-	24.01	No detailed FEMA Floodplain data available for this area.
E3020	1.18	0.35	0.00	0.35	-	29.99	No detailed FEMA Floodplain data available for this area.
E3051	19.36	3.92	0.00	3.92	-	20.27	No detailed FEMA Floodplain data available for this area.
E3053	4.64	1.32	0.00	1.32	-	28.37	No detailed FEMA Floodplain data available for this area.
E3060	10.34	5.36	0.00	5.36	-	51.85	No detailed FEMA Floodplain data available for this area.
E3080	3.19	1.64	0.00	1.64	-	51.29	No detailed FEMA Floodplain data available for this area.
E3090	2.09	0.70	0.00	0.70	-	33.32	No detailed FEMA Floodplain data available for this area.
E3095	0.46	0.19	0.00	0.19	-	41.33	No detailed FEMA Floodplain data available for this area.
E3112	29.69	7.55	0.00	7.55	-	25.44	No detailed FEMA Floodplain data available for this area.
E3113	12.69	1.66	0.00	1.66	-	13.09	No detailed FEMA Floodplain data available for this area.
E3115	13.98	5.73	0.00	5.73	-	40.98	No detailed FEMA Floodplain data available for this area.
E3118	0.92	0.25	0.00	0.25	-	27.25	No detailed FEMA Floodplain data available for this area.
E3120	22.16	9.59	0.00	9.59	-	43.29	No detailed FEMA Floodplain data available for this area.
E3125	1.61	0.88	0.00	0.88	-	54.90	No detailed FEMA Floodplain data available for this area.
E3130	2.34	1.14	0.00	1.14	-	48.69	No detailed FEMA Floodplain data available for this area.
E3140	7.67	2.41	0.00	2.41	-	31.48	No detailed FEMA Floodplain data available for this area.
E3150	7.42	1.84	0.00	1.84	-	24.83	No detailed FEMA Floodplain data available for this area.
E3160	5.73	0.92	0.00	0.92	-	16.10	No detailed FEMA Floodplain data available for this area.
E3170	9.49	1.00	0.00	1.00	-	10.57	No detailed FEMA Floodplain data available for this area.
E5010	5.78	1.61	0.00	1.61	-	27.86	No detailed FEMA Floodplain data available for this area.
E5020	21.39	7.46	0.00	7.46	-	34.86	No detailed FEMA Floodplain data available for this area.
E5025	6.25	2.91	0.00	2.91	-	46.50	No detailed FEMA Floodplain data available for this area.
E5030	15.13	5.56	0.00	5.56	-	36.74	No detailed FEMA Floodplain data available for this area.
E5040	12.45	4.10	0.00	4.10	-	32.97	No detailed FEMA Floodplain data available for this area.
E5050	11.82	4.80	0.00	4.80	-	40.60	No detailed FEMA Floodplain data available for this area.
E5053	3.11	0.94	0.00	0.94	-	30.29	No detailed FEMA Floodplain data available for this area.
E5054	2.66	0.75	0.00	0.75	-	28.23	No detailed FEMA Floodplain data available for this area.
E5055	0.28	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
E5056	11.85	3.23	0.00	3.23	-	27.24	No detailed FEMA Floodplain data available for this area.
E5057	6.68	1.49	0.00	1.49	-	22.27	No detailed FEMA Floodplain data available for this area.
E5058	0.87	0.38	0.00	0.38	-	43.10	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
E5059	7.97	3.71	0.00	3.71	-	46.55	No detailed FEMA Floodplain data available for this area.
E5061	11.79	4.65	0.00	4.65	-	39.41	No detailed FEMA Floodplain data available for this area.
E5063	14.86	4.44	0.00	4.44	-	29.88	No detailed FEMA Floodplain data available for this area.
E5069	8.20	1.55	0.00	1.55	-	18.88	No detailed FEMA Floodplain data available for this area.
E5070	19.62	11.37	0.00	11.37	-	57.96	No detailed FEMA Floodplain data available for this area.
E5080	1.65	0.97	0.00	0.97	-	58.72	No detailed FEMA Floodplain data available for this area.
E5085	1.99	1.28	0.00	1.28	-	64.33	No detailed FEMA Floodplain data available for this area.
E5510	32.15	9.93	0.00	9.93	-	30.89	No detailed FEMA Floodplain data available for this area.
E5512	9.07	2.49	0.00	2.49	-	27.43	No detailed FEMA Floodplain data available for this area.
E5515	4.56	0.71	0.00	0.71	-	15.61	No detailed FEMA Floodplain data available for this area.
E5520	0.95	0.03	0.00	0.03	-	3.57	No detailed FEMA Floodplain data available for this area.
E5525	1.04	0.75	0.00	0.75	-	72.64	No detailed FEMA Floodplain data available for this area.
E5527	7.35	4.05	0.00	4.05	-	55.09	No detailed FEMA Floodplain data available for this area.
E5530	3.51	1.78	0.00	1.78	-	50.79	No detailed FEMA Floodplain data available for this area.
E5540	3.17	2.17	0.00	2.17	-	68.26	No detailed FEMA Floodplain data available for this area.
E6010	7.49	2.33	0.00	2.33	-	31.16	No detailed FEMA Floodplain data available for this area.
E6020	14.86	1.94	2.91	0.97	33.33	6.52	No detailed FEMA Floodplain data available for this area.
E6030	16.87	5.64	0.13	5.50	4095.75	32.61	No detailed FEMA Floodplain data available for this area.
E6031	9.08	3.30	0.00	3.30	-	36.31	No detailed FEMA Floodplain data available for this area.
E6032	1.43	1.13	0.65	0.48	73.87	33.63	No detailed FEMA Floodplain data available for this area.
E6033	5.43	2.54	3.30	0.76	23.01	14.00	No detailed FEMA Floodplain data available for this area.
E6034	4.21	1.23	0.00	1.23	-	29.26	No detailed FEMA Floodplain data available for this area.
E6035	2.62	1.68	1.30	0.38	28.86	14.35	No detailed FEMA Floodplain data available for this area.
E6036	4.98	2.80	1.53	1.27	82.55	25.43	No detailed FEMA Floodplain data available for this area.
E6037	2.41	0.64	0.00	0.64	-	26.47	No detailed FEMA Floodplain data available for this area.
E6038	17.10	3.16	0.01	3.16	52729.61	18.45	No detailed FEMA Floodplain data available for this area.
E6039	5.97	1.45	0.00	1.45	-	24.23	No detailed FEMA Floodplain data available for this area.
E6040	15.31	3.72	0.00	3.72	-	24.29	No detailed FEMA Floodplain data available for this area.
E6041	2.76	1.09	0.00	1.09	-	39.46	No detailed FEMA Floodplain data available for this area.
E6042	13.78	0.88	0.00	0.88	-	6.35	No detailed FEMA Floodplain data available for this area.
E6043	10.04	1.62	0.00	1.62	-	16.18	No detailed FEMA Floodplain data available for this area.
E6046	9.75	1.90	0.00	1.90	-	19.50	No detailed FEMA Floodplain data available for this area.
E6047	22.11	4.02	0.00	4.02	-	18.19	No detailed FEMA Floodplain data available for this area.
E6048	12.47	2.58	0.00	2.58	-	20.69	No detailed FEMA Floodplain data available for this area.
E6051	7.41	0.74	0.00	0.74	-	10.02	No detailed FEMA Floodplain data available for this area.
E6052	2.40	0.50	0.00	0.50	-	20.73	No detailed FEMA Floodplain data available for this area.
E6053	4.28	1.65	0.00	1.65	-	38.57	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
E6054	2.51	0.69	0.00	0.69	-	27.49	No detailed FEMA Floodplain data available for this area.
E6055	15.74	7.21	0.00	7.21	-	45.82	No detailed FEMA Floodplain data available for this area.
E6060	15.26	3.00	0.00	3.00	-	19.65	No detailed FEMA Floodplain data available for this area.
E7010	5.41	1.80	0.00	1.80	-	33.24	No detailed FEMA Floodplain data available for this area.
E7020	16.31	0.35	0.00	0.35	-	2.17	No detailed FEMA Floodplain data available for this area.
E7030	3.65	0.73	0.00	0.73	-	19.91	No detailed FEMA Floodplain data available for this area.
E7040	1.11	0.06	0.00	0.06	-	5.18	No detailed FEMA Floodplain data available for this area.
E7050	2.03	0.32	0.00	0.32	-	15.60	No detailed FEMA Floodplain data available for this area.
E7053	0.85	0.20	0.00	0.20	-	23.84	No detailed FEMA Floodplain data available for this area.
E7055	0.84	0.29	0.00	0.29	-	34.28	No detailed FEMA Floodplain data available for this area.
E7080	1.88	1.26	0.00	1.26	-	67.36	No detailed FEMA Floodplain data available for this area.
E7090	3.07	0.80	0.00	0.80	-	26.00	No detailed FEMA Floodplain data available for this area.
E7100	2.67	0.64	0.00	0.64	-	24.11	No detailed FEMA Floodplain data available for this area.
E7102	4.46	0.22	0.00	0.22	-	4.93	No detailed FEMA Floodplain data available for this area.
E7103	11.00	1.77	0.00	1.77	-	16.05	No detailed FEMA Floodplain data available for this area.
E7104	5.23	0.59	0.00	0.59	-	11.26	No detailed FEMA Floodplain data available for this area.
E7105	1.97	0.39	0.00	0.39	-	19.56	No detailed FEMA Floodplain data available for this area.
E7107	3.72	0.66	0.00	0.66	-	17.75	No detailed FEMA Floodplain data available for this area.
E7110	1.95	0.50	0.00	0.50	-	25.67	No detailed FEMA Floodplain data available for this area.
E7120	2.25	0.31	0.00	0.31	-	13.67	No detailed FEMA Floodplain data available for this area.
E7130	3.67	0.51	0.00	0.51	-	13.95	No detailed FEMA Floodplain data available for this area.
E7135	4.43	1.60	0.00	1.60	-	36.10	No detailed FEMA Floodplain data available for this area.
E7138	2.41	0.66	0.00	0.66	-	27.16	No detailed FEMA Floodplain data available for this area.
E7140	6.57	0.78	0.00	0.78	-	11.90	No detailed FEMA Floodplain data available for this area.
E7150	8.22	1.71	0.00	1.71	-	20.79	No detailed FEMA Floodplain data available for this area.
E7505	1.29	0.10	0.00	0.10	-	8.02	No detailed FEMA Floodplain data available for this area.
E7507	0.72	0.09	0.00	0.09	-	11.78	No detailed FEMA Floodplain data available for this area.
E7509	0.78	0.07	0.00	0.07	-	8.75	No detailed FEMA Floodplain data available for this area.
E7510	0.92	0.00	0.00	0.00	-	0.00	No detailed FEMA Floodplain data available for this area.
E7512	1.74	0.16	0.00	0.16	-	9.13	No detailed FEMA Floodplain data available for this area.
E7514	0.22	0.06	0.00	0.06	-	27.08	No detailed FEMA Floodplain data available for this area.
E7516	0.34	0.08	0.00	0.08	-	22.77	No detailed FEMA Floodplain data available for this area.
E7517	4.41	1.89	0.00	1.89	-	42.85	No detailed FEMA Floodplain data available for this area.
E7518	11.01	3.70	0.00	3.70	-	33.62	No detailed FEMA Floodplain data available for this area.
E7519	4.20	1.16	0.00	1.16	-	27.69	No detailed FEMA Floodplain data available for this area.
E7520	8.46	0.81	0.00	0.81	-	9.57	No detailed FEMA Floodplain data available for this area.
E7525	2.75	2.29	0.00	2.29	-	83.19	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
E7530	5.41	0.79	0.00	0.79	-	14.57	No detailed FEMA Floodplain data available for this area.
E7540	5.87	1.90	0.00	1.90	-	32.42	No detailed FEMA Floodplain data available for this area.
E7545	4.09	1.12	0.00	1.12	-	27.41	No detailed FEMA Floodplain data available for this area.
E7547	1.59	0.05	0.00	0.05	-	3.02	No detailed FEMA Floodplain data available for this area.
E7550	2.49	0.07	0.00	0.07	-	2.62	No detailed FEMA Floodplain data available for this area.
E7560	1.94	0.20	0.00	0.20	-	10.08	No detailed FEMA Floodplain data available for this area.
E7580	4.44	0.73	0.00	0.73	-	16.40	No detailed FEMA Floodplain data available for this area.
E9008	4.83	0.69	0.00	0.69	-	14.30	No detailed FEMA Floodplain data available for this area.
E9009	2.40	0.44	0.00	0.44	-	18.27	No detailed FEMA Floodplain data available for this area.
E9010	10.57	3.18	0.00	3.18	-	30.05	No detailed FEMA Floodplain data available for this area.
E9020	6.04	1.59	0.00	1.59	-	26.26	No detailed FEMA Floodplain data available for this area.
E9025	7.52	3.77	0.00	3.77	-	50.19	No detailed FEMA Floodplain data available for this area.
E9030	9.91	2.96	0.00	2.96	-	29.81	No detailed FEMA Floodplain data available for this area.
E9040	18.10	2.92	0.00	2.92	-	16.11	No detailed FEMA Floodplain data available for this area.
E9045	18.37	3.45	0.00	3.45	-	18.78	No detailed FEMA Floodplain data available for this area.
E9047	12.14	2.49	0.00	2.49	-	20.49	No detailed FEMA Floodplain data available for this area.
E9050	2.09	0.62	0.00	0.62	-	29.69	No detailed FEMA Floodplain data available for this area.
E9060	1.36	0.56	0.00	0.56	-	41.42	No detailed FEMA Floodplain data available for this area.
E9065	3.57	0.66	0.00	0.66	-	18.38	No detailed FEMA Floodplain data available for this area.
E9070	2.49	0.71	0.00	0.71	-	28.43	No detailed FEMA Floodplain data available for this area.
E9080	6.04	0.53	0.00	0.53	-	8.76	No detailed FEMA Floodplain data available for this area.
E9090	2.32	0.37	0.00	0.37	-	15.81	No detailed FEMA Floodplain data available for this area.
E9100	0.47	0.17	0.00	0.17	-	36.94	No detailed FEMA Floodplain data available for this area.
E9110	4.56	0.36	0.00	0.36	-	7.82	No detailed FEMA Floodplain data available for this area.
E9510	15.25	0.47	0.00	0.47	-	3.06	No detailed FEMA Floodplain data available for this area.
E9520	0.68	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
E9602	0.36	0.03	0.00	0.03	-	7.49	No detailed FEMA Floodplain data available for this area.
E9604	0.77	0.49	0.00	0.49	-	63.50	No detailed FEMA Floodplain data available for this area.
E9606	0.29	0.13	0.00	0.13	-	45.63	No detailed FEMA Floodplain data available for this area.
E9608	0.19	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
E9610	0.43	0.02	0.00	0.02	-	5.69	No detailed FEMA Floodplain data available for this area.
E9611	0.46	0.07	0.00	0.07	-	16.02	No detailed FEMA Floodplain data available for this area.
E9612	0.46	0.08	0.00	0.08	-	18.20	No detailed FEMA Floodplain data available for this area.
E9620	0.78	0.06	0.00	0.06	-	7.45	No detailed FEMA Floodplain data available for this area.
E9626	0.47	0.02	0.00	0.02	-	3.77	No detailed FEMA Floodplain data available for this area.
E9630	1.14	0.12	0.00	0.12	-	10.89	No detailed FEMA Floodplain data available for this area.
E9700	7.35	0.50	0.00	0.50	-	6.82	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
F0010	0.49	0.29	0.00	0.29	-	60.55	No detailed FEMA Floodplain data available for this area.
F0020	24.09	1.94	0.00	1.94	-	8.06	No detailed FEMA Floodplain data available for this area.
F0022	12.69	0.77	0.00	0.77	-	6.10	No detailed FEMA Floodplain data available for this area.
F0025	10.31	1.53	0.00	1.53	-	14.80	No detailed FEMA Floodplain data available for this area.
F0030	29.41	1.98	0.00	1.98	-	6.73	No detailed FEMA Floodplain data available for this area.
F0032	26.62	1.08	0.00	1.08	-	4.05	No detailed FEMA Floodplain data available for this area.
F0034	54.51	1.52	0.00	1.52	-	2.78	No detailed FEMA Floodplain data available for this area.
F0036	24.62	1.21	0.00	1.21	-	4.91	No detailed FEMA Floodplain data available for this area.
F0038	6.16	0.17	0.00	0.17	-	2.79	No detailed FEMA Floodplain data available for this area.
F0040	19.23	2.15	0.00	2.15	-	11.18	No detailed FEMA Floodplain data available for this area.
F0070	9.00	0.26	0.00	0.26	-	2.93	No detailed FEMA Floodplain data available for this area.
F0082	4.86	0.04	0.00	0.04	-	0.85	No detailed FEMA Floodplain data available for this area.
F0085	19.68	0.73	0.00	0.73	-	3.70	No detailed FEMA Floodplain data available for this area.
F0088	22.26	2.00	0.00	2.00	-	8.99	No detailed FEMA Floodplain data available for this area.
F0090	25.99	1.15	0.00	1.15	-	4.41	No detailed FEMA Floodplain data available for this area.
F0092	5.06	0.21	0.00	0.21	-	4.06	No detailed FEMA Floodplain data available for this area.
F0094	12.22	1.12	0.00	1.12	-	9.19	No detailed FEMA Floodplain data available for this area.
F0096	57.55	1.04	0.00	1.04	-	1.81	No detailed FEMA Floodplain data available for this area.
F0098	4.31	0.35	0.00	0.35	-	8.21	No detailed FEMA Floodplain data available for this area.
F0100	18.19	1.61	0.00	1.61	-	8.84	No detailed FEMA Floodplain data available for this area.
F0110	83.01	2.83	0.00	2.83	-	3.41	No detailed FEMA Floodplain data available for this area.
F0120	24.84	3.27	0.00	3.27	-	13.15	No detailed FEMA Floodplain data available for this area.
F0122	13.68	0.29	0.00	0.29	-	2.09	No detailed FEMA Floodplain data available for this area.
F0124	1.41	0.25	0.00	0.25	-	17.55	No detailed FEMA Floodplain data available for this area.
F0126	24.04	1.61	0.00	1.61	-	6.69	No detailed FEMA Floodplain data available for this area.
F0128	0.76	0.21	0.00	0.21	-	27.76	No detailed FEMA Floodplain data available for this area.
F0140	15.58	2.15	0.00	2.15	-	13.83	No detailed FEMA Floodplain data available for this area.
F0150	3.87	0.91	0.00	0.91	-	23.61	No detailed FEMA Floodplain data available for this area.
F0152	25.49	0.11	0.00	0.11	-	0.43	No detailed FEMA Floodplain data available for this area.
F0153	25.46	4.89	0.00	4.89	-	19.20	No detailed FEMA Floodplain data available for this area.
F0154	13.94	0.44	0.00	0.44	-	3.13	No detailed FEMA Floodplain data available for this area.
F0155	3.07	1.22	0.00	1.22	-	39.84	No detailed FEMA Floodplain data available for this area.
F0156	16.59	0.55	0.00	0.55	-	3.33	No detailed FEMA Floodplain data available for this area.
F0158	20.73	0.32	0.00	0.32	-	1.52	No detailed FEMA Floodplain data available for this area.
F0160	14.38	1.43	0.00	1.43	-	9.92	No detailed FEMA Floodplain data available for this area.
F0170	21.90	2.38	0.00	2.38	-	10.86	No detailed FEMA Floodplain data available for this area.
F0180	31.42	4.62	0.00	4.62	-	14.72	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
F0187	0.46	0.08	0.00	0.08	-	17.12	No detailed FEMA Floodplain data available for this area.
F0188	6.58	0.75	0.00	0.75	-	11.38	No detailed FEMA Floodplain data available for this area.
F0190	40.06	5.10	0.00	5.10	-	12.74	No detailed FEMA Floodplain data available for this area.
F0210	83.20	9.56	0.00	9.56	-	11.48	No detailed FEMA Floodplain data available for this area.
F0220	76.67	13.44	0.00	13.44	-	17.53	No detailed FEMA Floodplain data available for this area.
F0229	0.32	0.05	0.00	0.05	-	16.99	No detailed FEMA Floodplain data available for this area.
F0230	67.27	14.82	0.00	14.82	-	22.03	No detailed FEMA Floodplain data available for this area.
F1010	31.46	1.28	0.00	1.28	-	4.05	No detailed FEMA Floodplain data available for this area.
F1020	19.89	1.69	0.00	1.69	-	8.51	No detailed FEMA Floodplain data available for this area.
F1030	8.05	0.35	0.00	0.35	-	4.41	No detailed FEMA Floodplain data available for this area.
F1040	1.43	0.05	0.00	0.05	-	3.31	No detailed FEMA Floodplain data available for this area.
F2010	27.14	2.36	0.00	2.36	-	8.71	No detailed FEMA Floodplain data available for this area.
F2020	2.48	0.44	0.00	0.44	-	17.82	No detailed FEMA Floodplain data available for this area.
F2025	10.00	0.65	0.00	0.65	-	6.51	No detailed FEMA Floodplain data available for this area.
F2030	9.31	0.56	0.00	0.56	-	6.01	No detailed FEMA Floodplain data available for this area.
F2040	4.68	0.19	0.00	0.19	-	4.02	No detailed FEMA Floodplain data available for this area.
F2050	0.35	0.07	0.00	0.07	-	19.48	No detailed FEMA Floodplain data available for this area.
G0003	27.70	0.76	0.00	0.76	-	2.76	No detailed FEMA Floodplain data available for this area.
G0008	10.99	0.15	0.00	0.15	-	1.40	No detailed FEMA Floodplain data available for this area.
G0010	1.83	1.27	0.00	1.27	-	69.24	No detailed FEMA Floodplain data available for this area.
G0020	2.74	1.43	0.00	1.43	-	52.10	No detailed FEMA Floodplain data available for this area.
G0030	1.67	1.20	0.00	1.20	-	71.82	No detailed FEMA Floodplain data available for this area.
G0040	3.72	1.30	0.00	1.30	-	34.79	No detailed FEMA Floodplain data available for this area.
G0050	14.19	2.48	0.00	2.48	-	17.45	No detailed FEMA Floodplain data available for this area.
G0053	31.43	2.30	0.00	2.30	-	7.32	No detailed FEMA Floodplain data available for this area.
G0057	25.61	3.68	0.00	3.68	-	14.35	No detailed FEMA Floodplain data available for this area.
G0060	30.21	4.31	0.00	4.31	-	14.28	No detailed FEMA Floodplain data available for this area.
G0080	15.40	2.54	0.00	2.54	-	16.49	No detailed FEMA Floodplain data available for this area.
G0090	16.42	3.40	0.00	3.40	-	20.70	No detailed FEMA Floodplain data available for this area.
G0110	17.71	3.54	0.00	3.54	-	19.97	No detailed FEMA Floodplain data available for this area.
G0120	35.81	3.60	0.00	3.60	-	10.05	No detailed FEMA Floodplain data available for this area.
G0130	44.88	9.48	0.00	9.48	-	21.13	No detailed FEMA Floodplain data available for this area.
G0140	54.87	8.96	0.00	8.96	-	16.32	No detailed FEMA Floodplain data available for this area.
G0150	33.13	5.37	0.00	5.37	-	16.22	No detailed FEMA Floodplain data available for this area.
G0170	24.01	4.18	0.00	4.18	-	17.42	No detailed FEMA Floodplain data available for this area.
G0180	11.76	4.31	0.00	4.31	-	36.63	No detailed FEMA Floodplain data available for this area.
G0190	34.65	11.55	0.00	11.55	-	33.33	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
G0200	0.49	0.28	0.00	0.28	-	55.78	No detailed FEMA Floodplain data available for this area.
G0210	0.89	0.53	0.00	0.53	-	59.26	No detailed FEMA Floodplain data available for this area.
G0215	22.43	3.89	0.00	3.89	-	17.34	No detailed FEMA Floodplain data available for this area.
G0216	2.39	1.30	0.00	1.30	-	54.65	No detailed FEMA Floodplain data available for this area.
G0217	7.60	2.00	0.00	2.00	-	26.29	No detailed FEMA Floodplain data available for this area.
G0218	22.86	1.96	0.00	1.96	-	8.56	No detailed FEMA Floodplain data available for this area.
G0219	18.52	2.71	0.00	2.71	-	14.65	No detailed FEMA Floodplain data available for this area.
G0220	17.32	2.96	0.00	2.96	-	17.11	No detailed FEMA Floodplain data available for this area.
G0221	7.67	3.35	0.00	3.35	-	43.66	No detailed FEMA Floodplain data available for this area.
G0222	3.37	0.59	0.00	0.59	-	17.51	No detailed FEMA Floodplain data available for this area.
G0223	13.54	2.00	0.00	2.00	-	14.78	No detailed FEMA Floodplain data available for this area.
G0224	0.40	0.14	0.00	0.14	-	34.19	No detailed FEMA Floodplain data available for this area.
G0226	4.27	1.08	0.00	1.08	-	25.35	No detailed FEMA Floodplain data available for this area.
G0227	0.39	0.30	0.00	0.30	-	76.32	No detailed FEMA Floodplain data available for this area.
G0229	0.49	0.28	0.00	0.28	-	57.11	No detailed FEMA Floodplain data available for this area.
G0230	3.29	2.12	0.00	2.12	-	64.32	No detailed FEMA Floodplain data available for this area.
G0240	5.26	2.35	0.00	2.35	-	44.67	No detailed FEMA Floodplain data available for this area.
G0245	7.29	0.79	0.00	0.79	-	10.80	No detailed FEMA Floodplain data available for this area.
G0250	4.69	2.94	0.00	2.94	-	62.68	No detailed FEMA Floodplain data available for this area.
G0252	7.57	2.03	0.00	2.03	-	26.81	No detailed FEMA Floodplain data available for this area.
G0254	4.59	1.93	0.00	1.93	-	42.19	No detailed FEMA Floodplain data available for this area.
G0256	9.08	1.29	0.00	1.29	-	14.16	No detailed FEMA Floodplain data available for this area.
G0260	5.02	3.27	0.00	3.27	-	65.20	No detailed FEMA Floodplain data available for this area.
G0263	6.74	2.62	0.00	2.62	-	38.86	No detailed FEMA Floodplain data available for this area.
G0266	5.55	2.15	0.00	2.15	-	38.80	No detailed FEMA Floodplain data available for this area.
G0270	2.54	1.87	0.00	1.87	-	73.53	No detailed FEMA Floodplain data available for this area.
G0280	1.93	0.72	0.00	0.72	-	37.09	No detailed FEMA Floodplain data available for this area.
G1010	2.50	0.95	0.00	0.95	-	37.94	No detailed FEMA Floodplain data available for this area.
G1020	3.28	0.58	0.00	0.58	-	17.66	No detailed FEMA Floodplain data available for this area.
G1030	15.64	0.49	0.00	0.49	-	3.11	No detailed FEMA Floodplain data available for this area.
G1040	0.44	0.26	0.00	0.26	-	59.47	No detailed FEMA Floodplain data available for this area.
G1050	0.32	0.15	0.00	0.15	-	47.42	No detailed FEMA Floodplain data available for this area.
G1060	3.45	0.80	0.00	0.80	-	23.27	No detailed FEMA Floodplain data available for this area.
G1510	4.05	0.57	0.00	0.57	-	14.17	No detailed FEMA Floodplain data available for this area.
G1520	23.35	3.82	0.00	3.82	-	16.37	No detailed FEMA Floodplain data available for this area.
G1530	11.68	1.68	0.00	1.68	-	14.38	No detailed FEMA Floodplain data available for this area.
G1540	3.94	0.80	0.00	0.80	-	20.29	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
G2020	3.28	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
G2030	5.45	0.83	0.00	0.83	-	15.13	No detailed FEMA Floodplain data available for this area.
G2032	18.03	0.52	0.00	0.52	-	2.91	No detailed FEMA Floodplain data available for this area.
G2034	11.34	0.98	0.00	0.98	-	8.69	No detailed FEMA Floodplain data available for this area.
G2036	8.97	0.81	0.00	0.81	-	9.07	No detailed FEMA Floodplain data available for this area.
G2040	25.72	1.81	0.00	1.81	-	7.03	No detailed FEMA Floodplain data available for this area.
G2050	3.67	0.56	0.00	0.56	-	15.28	No detailed FEMA Floodplain data available for this area.
G2070	5.96	0.81	0.00	0.81	-	13.59	No detailed FEMA Floodplain data available for this area.
G2080	4.28	0.87	0.00	0.87	-	20.22	No detailed FEMA Floodplain data available for this area.
G2090	28.67	4.78	0.00	4.78	-	16.67	No detailed FEMA Floodplain data available for this area.
G2100	39.16	9.18	0.00	9.18	-	23.44	No detailed FEMA Floodplain data available for this area.
G2103	11.39	1.91	0.00	1.91	-	16.76	No detailed FEMA Floodplain data available for this area.
G2107	12.65	2.05	0.00	2.05	-	16.17	No detailed FEMA Floodplain data available for this area.
G2109	1.66	0.31	0.00	0.31	-	18.69	No detailed FEMA Floodplain data available for this area.
G2110	7.47	2.29	0.00	2.29	-	30.71	No detailed FEMA Floodplain data available for this area.
G2130	17.51	3.61	0.00	3.61	-	20.63	No detailed FEMA Floodplain data available for this area.
G2150	1.52	0.70	0.00	0.70	-	45.74	No detailed FEMA Floodplain data available for this area.
G3010	9.15	0.46	0.00	0.46	-	5.01	No detailed FEMA Floodplain data available for this area.
G3020	8.78	1.24	0.00	1.24	-	14.14	No detailed FEMA Floodplain data available for this area.
G3030	8.20	1.94	0.00	1.94	-	23.69	No detailed FEMA Floodplain data available for this area.
G3040	5.43	1.83	0.00	1.83	-	33.69	No detailed FEMA Floodplain data available for this area.
G3050	0.85	0.42	0.00	0.42	-	49.82	No detailed FEMA Floodplain data available for this area.
G4010	7.86	1.05	0.00	1.05	-	13.33	No detailed FEMA Floodplain data available for this area.
G4020	13.79	2.25	0.00	2.25	-	16.32	No detailed FEMA Floodplain data available for this area.
G4023	16.62	1.23	0.00	1.23	-	7.40	No detailed FEMA Floodplain data available for this area.
G4027	7.45	0.88	0.00	0.88	-	11.85	No detailed FEMA Floodplain data available for this area.
G4030	2.71	0.72	0.00	0.72	-	26.63	No detailed FEMA Floodplain data available for this area.
G4040	7.14	0.98	0.00	0.98	-	13.65	No detailed FEMA Floodplain data available for this area.
G4050	0.48	0.23	0.00	0.23	-	47.90	No detailed FEMA Floodplain data available for this area.
G5210	9.65	0.43	0.00	0.43	-	4.49	No detailed FEMA Floodplain data available for this area.
G5220	8.51	1.20	0.00	1.20	-	14.14	No detailed FEMA Floodplain data available for this area.
G5230	10.04	0.40	0.00	0.40	-	4.02	No detailed FEMA Floodplain data available for this area.
G5240	3.53	0.16	0.00	0.16	-	4.51	No detailed FEMA Floodplain data available for this area.
G5510	3.13	0.19	0.00	0.19	-	6.22	No detailed FEMA Floodplain data available for this area.
G5520	5.19	0.58	0.00	0.58	-	11.09	No detailed FEMA Floodplain data available for this area.
G5535	1.31	0.34	0.00	0.34	-	25.94	No detailed FEMA Floodplain data available for this area.
G5540	10.25	2.13	0.00	2.13	-	20.81	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
G5545	10.60	0.40	0.00	0.40	-	3.76	No detailed FEMA Floodplain data available for this area.
G5550	20.49	1.27	0.00	1.27	-	6.22	No detailed FEMA Floodplain data available for this area.
G5560	11.98	0.71	0.00	0.71	-	5.95	No detailed FEMA Floodplain data available for this area.
G5580	22.97	2.08	0.00	2.08	-	9.05	No detailed FEMA Floodplain data available for this area.
G5810	2.15	1.29	0.00	1.29	-	60.30	No detailed FEMA Floodplain data available for this area.
G5815	13.12	0.40	0.00	0.40	-	3.02	No detailed FEMA Floodplain data available for this area.
G5820	2.87	1.92	0.00	1.92	-	67.12	No detailed FEMA Floodplain data available for this area.
G5830	2.84	1.36	0.00	1.36	-	47.82	No detailed FEMA Floodplain data available for this area.
G5835	12.42	1.64	0.00	1.64	-	13.24	No detailed FEMA Floodplain data available for this area.
G5840	0.86	0.64	0.00	0.64	-	74.65	No detailed FEMA Floodplain data available for this area.
G5850	5.99	0.62	0.00	0.62	-	10.27	No detailed FEMA Floodplain data available for this area.
G5860	12.73	0.50	0.00	0.50	-	3.90	No detailed FEMA Floodplain data available for this area.
G5863	18.14	0.21	0.00	0.21	-	1.15	No detailed FEMA Floodplain data available for this area.
G5867	0.50	0.12	0.00	0.12	-	24.39	No detailed FEMA Floodplain data available for this area.
G5870	4.43	2.53	0.00	2.53	-	56.98	No detailed FEMA Floodplain data available for this area.
G5880	66.63	3.51	0.00	3.51	-	5.27	No detailed FEMA Floodplain data available for this area.
G5890	64.70	3.45	0.00	3.45	-	5.34	No detailed FEMA Floodplain data available for this area.
G6010	17.62	0.79	0.00	0.79	-	4.47	No detailed FEMA Floodplain data available for this area.
G6020	15.95	1.17	0.00	1.17	-	7.34	No detailed FEMA Floodplain data available for this area.
G6030	12.99	1.12	0.00	1.12	-	8.61	No detailed FEMA Floodplain data available for this area.
G6050	1.15	0.25	0.00	0.25	-	21.36	No detailed FEMA Floodplain data available for this area.
G7010	8.47	0.97	0.00	0.97	-	11.47	No detailed FEMA Floodplain data available for this area.
G7012	13.26	2.58	0.00	2.58	-	19.46	No detailed FEMA Floodplain data available for this area.
G7015	23.70	3.35	0.00	3.35	-	14.12	No detailed FEMA Floodplain data available for this area.
G7020	5.75	1.58	0.00	1.58	-	27.40	No detailed FEMA Floodplain data available for this area.
G7030	0.59	0.17	0.00	0.17	-	28.16	No detailed FEMA Floodplain data available for this area.
G7040	1.02	0.37	0.00	0.37	-	36.53	No detailed FEMA Floodplain data available for this area.
G7050	2.81	0.51	0.00	0.51	-	18.34	No detailed FEMA Floodplain data available for this area.
G8005	10.39	1.99	0.00	1.99	-	19.15	No detailed FEMA Floodplain data available for this area.
G8010	19.13	1.89	0.00	1.89	-	9.89	No detailed FEMA Floodplain data available for this area.
G8040	18.95	4.52	0.00	4.52	-	23.84	No detailed FEMA Floodplain data available for this area.
G8042	12.25	0.63	0.00	0.63	-	5.18	No detailed FEMA Floodplain data available for this area.
G8044	1.52	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
G8045	1.10	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
G8048	20.57	4.85	0.00	4.85	-	23.58	No detailed FEMA Floodplain data available for this area.
G8050	4.98	1.21	0.00	1.21	-	24.36	No detailed FEMA Floodplain data available for this area.
H0002	2.72	1.79	0.00	1.79	-	65.93	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
H0004	5.45	1.43	0.00	1.43	-	26.24	No detailed FEMA Floodplain data available for this area.
H0006	1.19	0.93	0.00	0.93	-	77.98	No detailed FEMA Floodplain data available for this area.
H0008	2.05	0.59	0.00	0.59	-	28.70	No detailed FEMA Floodplain data available for this area.
H0010	10.02	7.43	6.52	0.91	14.00	9.11	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0020	13.33	6.32	5.81	0.51	8.79	3.83	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0030	4.41	2.84	4.28	1.44	33.54	32.53	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0040	18.61	7.51	8.37	0.87	10.35	4.66	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0050	13.80	2.12	2.40	0.28	11.63	2.02	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0060	8.39	4.66	6.67	2.01	30.10	23.93	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0070	30.38	9.38	11.97	2.59	21.61	8.52	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0072	1.76	1.76	1.76	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0074	0.77	0.77	0.77	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0076	2.19	2.19	2.19	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0080	15.70	11.43	15.70	4.27	27.18	27.18	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0090	16.92	13.92	16.92	3.01	17.76	17.76	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0100	26.14	18.50	22.94	4.44	19.35	16.98	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0110	33.15	27.95	25.10	2.86	11.39	8.62	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0120	2.60	2.28	2.45	0.17	7.02	6.61	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0130	15.24	14.82	14.71	0.11	0.74	0.71	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0140	23.00	22.74	23.00	0.26	1.14	1.14	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0150	11.87	11.87	11.87	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H0160	12.24	12.21	10.63	1.59	14.93	12.96	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H6010	14.30	2.51	0.00	2.51	-	17.56	No detailed FEMA Floodplain data available for this area.
H6020	2.33	0.52	0.00	0.52	-	22.26	No detailed FEMA Floodplain data available for this area.
H6035	3.40	0.66	0.00	0.66	-	19.35	No detailed FEMA Floodplain data available for this area.
H6050	20.08	5.07	0.00	5.07	-	25.27	No detailed FEMA Floodplain data available for this area.
H6060	1.79	0.46	0.00	0.46	-	25.43	No detailed FEMA Floodplain data available for this area.
H6065	27.83	6.64	0.00	6.64	-	23.86	No detailed FEMA Floodplain data available for this area.
H6080	1.23	0.39	0.00	0.39	-	31.73	No detailed FEMA Floodplain data available for this area.
H6100	6.92	0.94	0.00	0.94	-	13.59	No detailed FEMA Floodplain data available for this area.
H6105	3.31	2.98	0.20	2.78	1362.41	83.83	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H6110	4.60	4.52	2.05	2.48	120.87	53.79	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
H8010	5.61	3.34	0.00	3.34	-	59.60	No detailed FEMA Floodplain data available for this area.
H8020	8.49	4.52	0.00	4.52	-	53.23	No detailed FEMA Floodplain data available for this area.
H8030	13.26	8.26	0.00	8.26	-	62.28	No detailed FEMA Floodplain data available for this area.
H8060	15.14	4.96	0.00	4.96	-	32.76	No detailed FEMA Floodplain data available for this area.
H8075	10.00	3.04	0.00	3.04	-	30.36	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
H8077	16.23	5.61	0.00	5.61	-	34.60	No detailed FEMA Floodplain data available for this area.
H8080	14.57	2.05	0.00	2.05	-	14.06	No detailed FEMA Floodplain data available for this area.
H8090	10.62	2.26	0.28	1.99	721.13	18.72	No detailed FEMA Floodplain data available for this area.
H9000	35.93	7.49	6.70	0.79	11.83	2.20	No detailed FEMA Floodplain data available for this area.
I0012	15.75	0.96	0.00	0.96	-	6.10	No detailed FEMA Floodplain data available for this area.
I0015	10.57	1.74	0.00	1.74	-	16.41	No detailed FEMA Floodplain data available for this area.
I0016	29.58	7.51	0.00	7.51	-	25.39	No detailed FEMA Floodplain data available for this area.
I0018	1.70	0.56	0.00	0.56	-	33.04	No detailed FEMA Floodplain data available for this area.
I0020	34.79	12.24	0.00	12.24	-	35.19	No detailed FEMA Floodplain data available for this area.
I0025	1.99	0.22	0.00	0.22	-	11.20	No detailed FEMA Floodplain data available for this area.
I0030	21.13	7.58	0.00	7.58	-	35.88	No detailed FEMA Floodplain data available for this area.
I0040	4.62	0.58	0.00	0.58	-	12.54	No detailed FEMA Floodplain data available for this area.
I0050	5.80	0.61	0.00	0.61	-	10.45	No detailed FEMA Floodplain data available for this area.
I0055	19.20	0.10	0.00	0.10	-	0.51	No detailed FEMA Floodplain data available for this area.
I0059	0.86	0.13	0.00	0.13	-	14.67	No detailed FEMA Floodplain data available for this area.
I0060	18.46	2.17	0.00	2.17	-	11.73	No detailed FEMA Floodplain data available for this area.
I0062	11.76	2.46	0.00	2.46	-	20.90	No detailed FEMA Floodplain data available for this area.
I0070	26.83	3.06	0.00	3.06	-	11.40	No detailed FEMA Floodplain data available for this area.
I0080	29.06	2.15	0.00	2.15	-	7.39	No detailed FEMA Floodplain data available for this area.
I0082	16.09	3.56	0.00	3.56	-	22.11	No detailed FEMA Floodplain data available for this area.
I0085	50.93	13.72	0.00	13.72	-	26.95	No detailed FEMA Floodplain data available for this area.
I0090	12.47	2.76	0.00	2.76	-	22.10	No detailed FEMA Floodplain data available for this area.
I0095	18.00	4.38	0.00	4.38	-	24.31	No detailed FEMA Floodplain data available for this area.
I0100	31.58	4.59	0.00	4.59	-	14.54	No detailed FEMA Floodplain data available for this area.
I0105	24.16	3.22	0.00	3.22	-	13.32	No detailed FEMA Floodplain data available for this area.
I0110	29.56	4.89	0.00	4.89	-	16.55	No detailed FEMA Floodplain data available for this area.
I0130	9.20	2.46	0.00	2.46	-	26.75	No detailed FEMA Floodplain data available for this area.
I0132	26.09	0.58	0.00	0.58	-	2.22	No detailed FEMA Floodplain data available for this area.
I0133	34.23	7.79	0.00	7.79	-	22.75	No detailed FEMA Floodplain data available for this area.
I0135	29.07	0.95	0.00	0.95	-	3.25	No detailed FEMA Floodplain data available for this area.
I0138	40.16	1.00	0.00	1.00	-	2.48	No detailed FEMA Floodplain data available for this area.
I0140	5.72	2.95	0.00	2.95	-	51.48	No detailed FEMA Floodplain data available for this area.
I0150	40.51	6.77	0.00	6.77	-	16.71	No detailed FEMA Floodplain data available for this area.
I0155	17.02	0.80	0.00	0.80	-	4.71	No detailed FEMA Floodplain data available for this area.
I0160	3.66	1.87	0.00	1.87	-	51.02	No detailed FEMA Floodplain data available for this area.
I0170	11.78	0.87	0.00	0.87	-	7.41	No detailed FEMA Floodplain data available for this area.
I0172	22.42	1.18	0.00	1.18	-	5.28	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
I0174	31.78	4.49	0.00	4.49	-	14.12	No detailed FEMA Floodplain data available for this area.
I0176	71.29	5.85	0.00	5.85	-	8.21	No detailed FEMA Floodplain data available for this area.
I0178	10.54	0.73	0.00	0.73	-	6.97	No detailed FEMA Floodplain data available for this area.
I0180	6.83	3.07	0.00	3.07	-	44.99	No detailed FEMA Floodplain data available for this area.
I0181	9.53	1.01	0.00	1.01	-	10.61	No detailed FEMA Floodplain data available for this area.
I0182	33.23	4.76	0.00	4.76	-	14.34	No detailed FEMA Floodplain data available for this area.
I0183	33.59	2.39	0.00	2.39	-	7.12	No detailed FEMA Floodplain data available for this area.
I0185	46.56	7.67	0.00	7.67	-	16.47	No detailed FEMA Floodplain data available for this area.
I0188	9.50	2.69	0.00	2.69	-	28.30	No detailed FEMA Floodplain data available for this area.
I0190	3.79	2.08	0.00	2.08	-	54.86	No detailed FEMA Floodplain data available for this area.
I0192	15.98	1.47	0.00	1.47	-	9.18	No detailed FEMA Floodplain data available for this area.
I0193	21.99	4.24	0.00	4.24	-	19.26	No detailed FEMA Floodplain data available for this area.
I0195	9.04	1.73	0.00	1.73	-	19.16	No detailed FEMA Floodplain data available for this area.
I1010	22.73	0.20	0.00	0.20	-	0.87	No detailed FEMA Floodplain data available for this area.
I1015	32.59	0.51	0.00	0.51	-	1.55	No detailed FEMA Floodplain data available for this area.
I1020	62.15	1.12	0.00	1.12	-	1.80	No detailed FEMA Floodplain data available for this area.
I1030	39.56	0.80	0.00	0.80	-	2.03	No detailed FEMA Floodplain data available for this area.
I2010	5.85	0.59	0.00	0.59	-	10.12	No detailed FEMA Floodplain data available for this area.
I2020	4.73	0.56	0.00	0.56	-	11.90	No detailed FEMA Floodplain data available for this area.
I2030	9.49	1.21	0.00	1.21	-	12.75	No detailed FEMA Floodplain data available for this area.
I2040	8.59	0.90	0.00	0.90	-	10.47	No detailed FEMA Floodplain data available for this area.
I2050	18.27	1.67	0.00	1.67	-	9.13	No detailed FEMA Floodplain data available for this area.
I9020	2.61	1.38	0.00	1.38	-	52.83	No detailed FEMA Floodplain data available for this area.
I9022	9.08	2.78	0.00	2.78	-	30.67	No detailed FEMA Floodplain data available for this area.
I9024	50.34	10.78	0.00	10.78	-	21.41	No detailed FEMA Floodplain data available for this area.
J0005	5.64	1.48	0.00	1.48	-	26.17	No detailed FEMA Floodplain data available for this area.
J0010	25.39	7.45	0.00	7.45	-	29.35	No detailed FEMA Floodplain data available for this area.
J0020	25.36	6.27	0.00	6.27	-	24.73	No detailed FEMA Floodplain data available for this area.
J0030	29.51	5.75	0.00	5.75	-	19.47	No detailed FEMA Floodplain data available for this area.
J0040	37.32	12.69	0.00	12.69	-	34.01	No detailed FEMA Floodplain data available for this area.
J0050	9.34	3.42	0.00	3.42	-	36.61	No detailed FEMA Floodplain data available for this area.
J0070	3.50	2.37	0.00	2.37	-	67.62	No detailed FEMA Floodplain data available for this area.
J0080	46.37	12.14	0.00	12.14	-	26.18	No detailed FEMA Floodplain data available for this area.
J0090	13.16	8.68	0.00	8.68	-	65.96	No detailed FEMA Floodplain data available for this area.
J0100	7.56	1.52	0.00	1.52	-	20.16	No detailed FEMA Floodplain data available for this area.
J0103	3.14	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
J0104	3.30	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
J0105	6.67	0.12	0.00	0.12	-	1.84	No detailed FEMA Floodplain data available for this area.
J0110	43.62	2.74	0.00	2.74	-	6.28	No detailed FEMA Floodplain data available for this area.
J0120	41.71	4.40	0.00	4.40	-	10.55	No detailed FEMA Floodplain data available for this area.
J0130	29.88	4.59	0.00	4.59	-	15.37	No detailed FEMA Floodplain data available for this area.
J0140	2.85	1.66	0.00	1.66	-	58.33	No detailed FEMA Floodplain data available for this area.
J0142	1.25	0.53	0.00	0.53	-	42.28	No detailed FEMA Floodplain data available for this area.
J0143	3.50	0.64	0.00	0.64	-	18.43	No detailed FEMA Floodplain data available for this area.
J0144	2.01	0.09	0.00	0.09	-	4.30	No detailed FEMA Floodplain data available for this area.
J0145	63.90	9.90	0.00	9.90	-	15.50	No detailed FEMA Floodplain data available for this area.
J0148	0.86	0.25	0.00	0.25	-	29.76	No detailed FEMA Floodplain data available for this area.
J0150	13.02	2.19	0.00	2.19	-	16.82	No detailed FEMA Floodplain data available for this area.
J0160	42.00	12.44	0.00	12.44	-	29.62	No detailed FEMA Floodplain data available for this area.
J0162	17.11	3.73	0.00	3.73	-	21.82	No detailed FEMA Floodplain data available for this area.
J0165	11.78	2.59	0.00	2.59	-	21.97	No detailed FEMA Floodplain data available for this area.
J0168	0.99	0.33	0.00	0.33	-	32.87	No detailed FEMA Floodplain data available for this area.
J0170	3.89	2.14	0.00	2.14	-	55.06	No detailed FEMA Floodplain data available for this area.
J0172	9.78	1.33	0.00	1.33	-	13.61	No detailed FEMA Floodplain data available for this area.
J0174	22.00	4.07	0.00	4.07	-	18.51	No detailed FEMA Floodplain data available for this area.
J0176	11.39	3.23	0.00	3.23	-	28.35	No detailed FEMA Floodplain data available for this area.
J0178	19.35	4.66	0.00	4.66	-	24.10	No detailed FEMA Floodplain data available for this area.
J0180	12.04	4.52	0.00	4.52	-	37.54	No detailed FEMA Floodplain data available for this area.
J0182	9.42	1.25	0.00	1.25	-	13.26	No detailed FEMA Floodplain data available for this area.
J0184	4.31	1.13	0.00	1.13	-	26.28	No detailed FEMA Floodplain data available for this area.
J0186	18.58	3.23	0.00	3.23	-	17.40	No detailed FEMA Floodplain data available for this area.
J0188	0.84	0.31	0.00	0.31	-	36.46	No detailed FEMA Floodplain data available for this area.
J0190	2.63	1.28	0.00	1.28	-	48.63	No detailed FEMA Floodplain data available for this area.
J0192	8.95	1.30	0.00	1.30	-	14.50	No detailed FEMA Floodplain data available for this area.
J0195	27.28	3.64	0.00	3.64	-	13.35	No detailed FEMA Floodplain data available for this area.
J0198	6.03	1.59	0.00	1.59	-	26.41	No detailed FEMA Floodplain data available for this area.
J0200	19.40	4.83	0.00	4.83	-	24.89	No detailed FEMA Floodplain data available for this area.
J0210	14.72	2.52	0.00	2.52	-	17.10	No detailed FEMA Floodplain data available for this area.
J1010	3.45	0.69	0.00	0.69	-	20.09	No detailed FEMA Floodplain data available for this area.
J1020	5.37	1.01	0.00	1.01	-	18.81	No detailed FEMA Floodplain data available for this area.
J1110	2.53	0.80	0.00	0.80	-	31.75	No detailed FEMA Floodplain data available for this area.
J1120	19.23	2.55	0.00	2.55	-	13.28	No detailed FEMA Floodplain data available for this area.
J1130	20.25	2.97	0.00	2.97	-	14.67	No detailed FEMA Floodplain data available for this area.
J1210	9.38	0.42	0.00	0.42	-	4.52	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
J1220	3.64	0.45	0.00	0.45	-	12.33	No detailed FEMA Floodplain data available for this area.
J1310	7.11	1.45	0.00	1.45	-	20.44	No detailed FEMA Floodplain data available for this area.
J1320	31.07	2.14	0.00	2.14	-	6.87	No detailed FEMA Floodplain data available for this area.
J1330	4.58	1.05	0.00	1.05	-	22.94	No detailed FEMA Floodplain data available for this area.
J1410	14.27	0.64	0.00	0.64	-	4.45	No detailed FEMA Floodplain data available for this area.
J1420	4.11	0.51	0.00	0.51	-	12.40	No detailed FEMA Floodplain data available for this area.
J1501	7.85	5.61	0.00	5.61	-	71.43	No detailed FEMA Floodplain data available for this area.
J1502	30.44	0.74	0.00	0.74	-	2.43	No detailed FEMA Floodplain data available for this area.
J1503	14.94	1.10	0.00	1.10	-	7.35	No detailed FEMA Floodplain data available for this area.
J1504	15.09	0.73	0.00	0.73	-	4.83	No detailed FEMA Floodplain data available for this area.
J1505	10.01	4.17	0.00	4.17	-	41.61	No detailed FEMA Floodplain data available for this area.
J1506	7.86	4.13	0.00	4.13	-	52.58	No detailed FEMA Floodplain data available for this area.
J1510	0.69	0.43	0.00	0.43	-	62.06	No detailed FEMA Floodplain data available for this area.
J1520	7.93	1.05	0.00	1.05	-	13.20	No detailed FEMA Floodplain data available for this area.
J1530	14.89	3.68	0.00	3.68	-	24.72	No detailed FEMA Floodplain data available for this area.
J1540	16.56	5.10	0.00	5.10	-	30.79	No detailed FEMA Floodplain data available for this area.
J1550	8.10	1.76	0.00	1.76	-	21.74	No detailed FEMA Floodplain data available for this area.
J1560	21.88	7.43	0.00	7.43	-	33.95	No detailed FEMA Floodplain data available for this area.
J1570	13.15	1.55	0.00	1.55	-	11.81	No detailed FEMA Floodplain data available for this area.
J1580	11.67	2.57	0.00	2.57	-	22.01	No detailed FEMA Floodplain data available for this area.
J1590	6.36	1.72	0.00	1.72	-	26.97	No detailed FEMA Floodplain data available for this area.
J1600	26.57	1.64	0.00	1.64	-	6.18	No detailed FEMA Floodplain data available for this area.
J1610	5.95	1.08	0.00	1.08	-	18.12	No detailed FEMA Floodplain data available for this area.
J2010	2.23	0.05	0.00	0.05	-	2.29	No detailed FEMA Floodplain data available for this area.
J2020	18.12	1.34	0.00	1.34	-	7.40	No detailed FEMA Floodplain data available for this area.
J2030	15.80	1.77	0.00	1.77	-	11.18	No detailed FEMA Floodplain data available for this area.
J2110	34.21	2.48	0.00	2.48	-	7.26	No detailed FEMA Floodplain data available for this area.
J2120	14.21	0.92	0.00	0.92	-	6.50	No detailed FEMA Floodplain data available for this area.
J2210	9.68	0.78	0.00	0.78	-	8.03	No detailed FEMA Floodplain data available for this area.
J2220	16.18	1.49	0.00	1.49	-	9.19	No detailed FEMA Floodplain data available for this area.
J2230	16.41	0.82	0.00	0.82	-	4.97	No detailed FEMA Floodplain data available for this area.
J2310	14.81	1.98	0.00	1.98	-	13.37	No detailed FEMA Floodplain data available for this area.
J2320	25.67	2.69	0.00	2.69	-	10.47	No detailed FEMA Floodplain data available for this area.
J2330	26.74	4.72	0.00	4.72	-	17.65	No detailed FEMA Floodplain data available for this area.
J2410	16.73	0.22	0.00	0.22	-	1.32	No detailed FEMA Floodplain data available for this area.
J2420	10.99	1.17	0.00	1.17	-	10.69	No detailed FEMA Floodplain data available for this area.
J2430	18.71	0.39	0.00	0.39	-	2.11	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
J2440	11.37	0.28	0.00	0.28	-	2.50	No detailed FEMA Floodplain data available for this area.
J2450	16.64	1.57	0.00	1.57	-	9.46	No detailed FEMA Floodplain data available for this area.
J2460	15.38	0.39	0.00	0.39	-	2.52	No detailed FEMA Floodplain data available for this area.
J2470	17.27	0.40	0.00	0.40	-	2.30	No detailed FEMA Floodplain data available for this area.
J2480	0.60	0.31	0.00	0.31	-	51.19	No detailed FEMA Floodplain data available for this area.
J2510	5.34	1.23	0.00	1.23	-	23.02	No detailed FEMA Floodplain data available for this area.
J2520	30.93	3.14	0.00	3.14	-	10.14	No detailed FEMA Floodplain data available for this area.
J2530	4.26	1.75	0.00	1.75	-	40.97	No detailed FEMA Floodplain data available for this area.
J2540	1.21	0.59	0.00	0.59	-	48.59	No detailed FEMA Floodplain data available for this area.
J2550	29.26	14.88	0.00	14.88	-	50.85	No detailed FEMA Floodplain data available for this area.
J3010	16.03	2.38	0.00	2.38	-	14.87	No detailed FEMA Floodplain data available for this area.
J3020	30.88	3.29	0.00	3.29	-	10.65	No detailed FEMA Floodplain data available for this area.
J3030	13.88	1.73	0.00	1.73	-	12.49	No detailed FEMA Floodplain data available for this area.
J3210	8.87	1.85	0.00	1.85	-	20.90	No detailed FEMA Floodplain data available for this area.
J3520	8.25	0.53	0.00	0.53	-	6.47	No detailed FEMA Floodplain data available for this area.
J3530	10.89	1.00	0.00	1.00	-	9.18	No detailed FEMA Floodplain data available for this area.
J3540	15.82	1.51	0.00	1.51	-	9.56	No detailed FEMA Floodplain data available for this area.
J3550	4.66	1.83	0.00	1.83	-	39.15	No detailed FEMA Floodplain data available for this area.
J3810	17.91	2.32	0.00	2.32	-	12.96	No detailed FEMA Floodplain data available for this area.
J3820	5.26	0.61	0.00	0.61	-	11.60	No detailed FEMA Floodplain data available for this area.
J3830	3.79	0.70	0.00	0.70	-	18.49	No detailed FEMA Floodplain data available for this area.
J3835	10.10	1.01	0.00	1.01	-	9.97	No detailed FEMA Floodplain data available for this area.
J3838	4.24	0.96	0.00	0.96	-	22.71	No detailed FEMA Floodplain data available for this area.
J3840	1.39	0.63	0.00	0.63	-	45.43	No detailed FEMA Floodplain data available for this area.
J3850	4.79	2.40	0.00	2.40	-	50.12	No detailed FEMA Floodplain data available for this area.
J3870	5.12	1.18	0.00	1.18	-	23.04	No detailed FEMA Floodplain data available for this area.
J3880	23.45	3.12	0.00	3.12	-	13.30	No detailed FEMA Floodplain data available for this area.
J3890	41.33	6.20	0.00	6.20	-	15.01	No detailed FEMA Floodplain data available for this area.
J3900	4.87	1.31	0.00	1.31	-	26.83	No detailed FEMA Floodplain data available for this area.
J3910	12.72	1.93	0.00	1.93	-	15.16	No detailed FEMA Floodplain data available for this area.
J3920	1.33	0.37	0.00	0.37	-	28.28	No detailed FEMA Floodplain data available for this area.
J4010	53.11	12.11	0.00	12.11	-	22.79	No detailed FEMA Floodplain data available for this area.
J4020	13.01	3.05	0.00	3.05	-	23.42	No detailed FEMA Floodplain data available for this area.
J4030	22.79	2.72	0.00	2.72	-	11.92	No detailed FEMA Floodplain data available for this area.
J4040	18.13	1.30	0.00	1.30	-	7.18	No detailed FEMA Floodplain data available for this area.
J4050	9.89	0.52	0.00	0.52	-	5.22	No detailed FEMA Floodplain data available for this area.
J4060	1.78	0.43	0.00	0.43	-	24.34	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
J4503	3.16	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
J4505	4.07	0.00	0.00	0.00	0.00	0.00	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
J4510	21.23	4.83	0.00	4.83	-	22.73	No detailed FEMA Floodplain data available for this area.
J4520	15.91	2.62	0.00	2.62	-	16.45	No detailed FEMA Floodplain data available for this area.
J4530	29.33	4.12	0.00	4.12	-	14.06	No detailed FEMA Floodplain data available for this area.
J4540	15.79	2.26	0.00	2.26	-	14.34	No detailed FEMA Floodplain data available for this area.
J4550	3.79	1.14	0.00	1.14	-	29.99	No detailed FEMA Floodplain data available for this area.
J5005	5.74	0.04	0.00	0.04	-	0.67	No detailed FEMA Floodplain data available for this area.
J5015	7.68	0.08	0.00	0.08	-	1.09	No detailed FEMA Floodplain data available for this area.
J5020	15.12	0.50	0.00	0.50	-	3.30	No detailed FEMA Floodplain data available for this area.
J5022	8.85	0.22	0.00	0.22	-	2.47	No detailed FEMA Floodplain data available for this area.
J5025	9.13	0.20	0.00	0.20	-	2.19	No detailed FEMA Floodplain data available for this area.
J5030	11.76	0.89	0.00	0.89	-	7.56	No detailed FEMA Floodplain data available for this area.
J5040	0.80	0.23	0.00	0.23	-	28.29	No detailed FEMA Floodplain data available for this area.
J6010	18.84	0.62	0.00	0.62	-	3.26	No detailed FEMA Floodplain data available for this area.
J6020	2.78	0.19	0.00	0.19	-	6.89	No detailed FEMA Floodplain data available for this area.
J6030	4.45	0.68	0.00	0.68	-	15.28	No detailed FEMA Floodplain data available for this area.
J6040	16.96	1.43	0.00	1.43	-	8.46	No detailed FEMA Floodplain data available for this area.
J6050	0.93	0.37	0.00	0.37	-	39.73	No detailed FEMA Floodplain data available for this area.
J7010	51.26	1.09	0.00	1.09	-	2.13	No detailed FEMA Floodplain data available for this area.
J7013	55.33	3.71	0.00	3.71	-	6.70	No detailed FEMA Floodplain data available for this area.
J7017	4.40	0.83	0.00	0.83	-	18.95	No detailed FEMA Floodplain data available for this area.
J7020	21.94	2.52	0.00	2.52	-	11.49	No detailed FEMA Floodplain data available for this area.
J7022	21.19	3.69	0.00	3.69	-	17.40	No detailed FEMA Floodplain data available for this area.
J7025	3.28	0.63	0.00	0.63	-	19.14	No detailed FEMA Floodplain data available for this area.
J7028	1.24	0.29	0.00	0.29	-	23.37	No detailed FEMA Floodplain data available for this area.
J7030	69.53	6.78	0.00	6.78	-	9.75	No detailed FEMA Floodplain data available for this area.
J9000	7.84	0.86	0.00	0.86	-	11.00	No detailed FEMA Floodplain data available for this area.
J9100	7.61	1.02	0.00	1.02	-	13.41	No detailed FEMA Floodplain data available for this area.
J9200	13.30	2.21	0.00	2.21	-	16.64	No detailed FEMA Floodplain data available for this area.
K0005	7.32	0.36	0.00	0.36	-	4.89	No detailed FEMA Floodplain data available for this area.
K0010	0.95	0.41	0.00	0.41	-	42.90	No detailed FEMA Floodplain data available for this area.
K0030	3.68	1.44	0.00	1.44	-	39.23	No detailed FEMA Floodplain data available for this area.
K0035	16.84	0.74	0.00	0.74	-	4.40	No detailed FEMA Floodplain data available for this area.
K0040	6.15	2.34	0.00	2.34	-	38.00	No detailed FEMA Floodplain data available for this area.
K0050	6.28	2.57	0.00	2.57	-	40.88	No detailed FEMA Floodplain data available for this area.
K0070	3.62	1.25	0.00	1.25	-	34.46	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
K0077	14.68	0.48	0.00	0.48	-	3.26	No detailed FEMA Floodplain data available for this area.
K0080	2.56	0.94	0.00	0.94	-	36.79	No detailed FEMA Floodplain data available for this area.
K0088	9.92	0.88	0.00	0.88	-	8.91	No detailed FEMA Floodplain data available for this area.
K0090	4.00	2.08	0.00	2.08	-	51.95	No detailed FEMA Floodplain data available for this area.
K0095	36.18	15.08	0.00	15.08	-	41.68	No detailed FEMA Floodplain data available for this area.
K0100	4.14	1.37	0.00	1.37	-	33.22	No detailed FEMA Floodplain data available for this area.
K0110	1.20	0.69	0.00	0.69	-	57.80	No detailed FEMA Floodplain data available for this area.
K0118	10.69	2.81	0.00	2.81	-	26.30	No detailed FEMA Floodplain data available for this area.
K0119	2.10	1.28	0.00	1.28	-	60.81	No detailed FEMA Floodplain data available for this area.
K0120	0.87	0.58	0.00	0.58	-	65.93	No detailed FEMA Floodplain data available for this area.
K0123	12.56	0.76	0.00	0.76	-	6.07	No detailed FEMA Floodplain data available for this area.
K0135	2.23	1.12	0.00	1.12	-	49.98	No detailed FEMA Floodplain data available for this area.
K0140	1.65	0.31	0.00	0.31	-	18.71	No detailed FEMA Floodplain data available for this area.
K0141	1.76	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
K0142	7.19	0.35	0.00	0.35	-	4.83	No detailed FEMA Floodplain data available for this area.
K0143	2.57	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
K0144	14.73	6.17	0.00	6.17	-	41.87	No detailed FEMA Floodplain data available for this area.
K0145	2.39	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
K0146	5.62	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
K0148	1.88	0.19	0.00	0.19	-	9.94	No detailed FEMA Floodplain data available for this area.
K0150	2.48	0.86	0.00	0.86	-	34.69	No detailed FEMA Floodplain data available for this area.
K0158	5.24	0.28	0.00	0.28	-	5.37	No detailed FEMA Floodplain data available for this area.
K0160	5.83	2.20	0.00	2.20	-	37.64	No detailed FEMA Floodplain data available for this area.
K0170	4.20	1.66	0.00	1.66	-	39.58	No detailed FEMA Floodplain data available for this area.
K0174	11.43	0.38	0.00	0.38	-	3.35	No detailed FEMA Floodplain data available for this area.
K0175	10.99	0.46	0.00	0.46	-	4.17	No detailed FEMA Floodplain data available for this area.
K0180	2.34	1.34	0.00	1.34	-	57.17	No detailed FEMA Floodplain data available for this area.
K0185	12.39	0.24	0.00	0.24	-	1.97	No detailed FEMA Floodplain data available for this area.
K0190	2.16	0.75	0.00	0.75	-	34.85	No detailed FEMA Floodplain data available for this area.
K0200	8.24	4.12	0.00	4.12	-	49.98	No detailed FEMA Floodplain data available for this area.
K0210	11.53	0.59	0.00	0.59	-	5.14	No detailed FEMA Floodplain data available for this area.
K0226	8.48	0.36	0.00	0.36	-	4.20	No detailed FEMA Floodplain data available for this area.
K0230	3.34	1.42	0.00	1.42	-	42.35	No detailed FEMA Floodplain data available for this area.
K0233	9.92	0.29	0.00	0.29	-	2.97	No detailed FEMA Floodplain data available for this area.
K0237	1.16	0.32	0.00	0.32	-	27.79	No detailed FEMA Floodplain data available for this area.
K0242	19.09	0.04	0.00	0.04	-	0.22	No detailed FEMA Floodplain data available for this area.
K0245	1.35	0.22	0.00	0.22	-	16.40	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
K0246	17.53	0.52	0.00	0.52	-	2.99	No detailed FEMA Floodplain data available for this area.
K0248	1.08	0.17	0.00	0.17	-	15.58	No detailed FEMA Floodplain data available for this area.
K0250	22.10	3.50	0.00	3.50	-	15.85	No detailed FEMA Floodplain data available for this area.
K0274	4.99	0.16	0.00	0.16	-	3.26	No detailed FEMA Floodplain data available for this area.
K0280	40.95	5.54	0.00	5.54	-	13.52	No detailed FEMA Floodplain data available for this area.
K0294	6.87	0.16	0.00	0.16	-	2.36	No detailed FEMA Floodplain data available for this area.
K0300	37.60	3.91	0.00	3.91	-	10.40	No detailed FEMA Floodplain data available for this area.
K0302	24.30	3.52	0.00	3.52	-	14.47	No detailed FEMA Floodplain data available for this area.
K0305	79.83	10.08	0.00	10.08	-	12.62	No detailed FEMA Floodplain data available for this area.
K0308	1.62	0.64	0.00	0.64	-	39.42	No detailed FEMA Floodplain data available for this area.
K0309	15.33	0.47	0.00	0.47	-	3.04	No detailed FEMA Floodplain data available for this area.
K0310	20.23	3.46	0.00	3.46	-	17.11	No detailed FEMA Floodplain data available for this area.
K0314	11.59	0.22	0.00	0.22	-	1.89	No detailed FEMA Floodplain data available for this area.
K0318	10.03	0.19	0.00	0.19	-	1.87	No detailed FEMA Floodplain data available for this area.
K0320	29.21	2.85	0.00	2.85	-	9.75	No detailed FEMA Floodplain data available for this area.
K0323	30.82	1.50	0.00	1.50	-	4.86	No detailed FEMA Floodplain data available for this area.
K0327	2.20	0.34	0.00	0.34	-	15.41	No detailed FEMA Floodplain data available for this area.
K0328	6.51	0.16	0.00	0.16	-	2.48	No detailed FEMA Floodplain data available for this area.
K0330	11.08	1.96	0.00	1.96	-	17.66	No detailed FEMA Floodplain data available for this area.
K1010	2.22	0.77	0.00	0.77	-	34.85	No detailed FEMA Floodplain data available for this area.
K1020	7.21	1.08	0.00	1.08	-	15.00	No detailed FEMA Floodplain data available for this area.
K1030	20.06	1.33	0.00	1.33	-	6.65	No detailed FEMA Floodplain data available for this area.
K1040	5.71	0.62	0.00	0.62	-	10.92	No detailed FEMA Floodplain data available for this area.
K1050	0.67	0.19	0.00	0.19	-	28.06	No detailed FEMA Floodplain data available for this area.
K1510	19.48	0.92	0.00	0.92	-	4.70	No detailed FEMA Floodplain data available for this area.
K2010	19.86	1.61	0.00	1.61	-	8.10	No detailed FEMA Floodplain data available for this area.
K2020	64.42	1.55	0.00	1.55	-	2.41	No detailed FEMA Floodplain data available for this area.
K2040	10.28	1.94	0.00	1.94	-	18.85	No detailed FEMA Floodplain data available for this area.
K2510	7.68	0.34	0.00	0.34	-	4.47	No detailed FEMA Floodplain data available for this area.
K2520	5.06	0.10	0.00	0.10	-	2.05	No detailed FEMA Floodplain data available for this area.
K2530	6.83	0.23	0.00	0.23	-	3.40	No detailed FEMA Floodplain data available for this area.
K2540	8.17	0.89	0.00	0.89	-	10.90	No detailed FEMA Floodplain data available for this area.
K3010	57.98	8.75	0.00	8.75	-	15.10	No detailed FEMA Floodplain data available for this area.
K3020	14.66	1.09	0.00	1.09	-	7.44	No detailed FEMA Floodplain data available for this area.
K3030	16.58	1.50	0.00	1.50	-	9.06	No detailed FEMA Floodplain data available for this area.
K3040	1.38	0.49	0.00	0.49	-	35.70	No detailed FEMA Floodplain data available for this area.
K3050	12.60	5.36	0.00	5.36	-	42.51	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
K3070	6.65	0.47	0.00	0.47	-	7.07	No detailed FEMA Floodplain data available for this area.
K4010	4.59	0.59	0.00	0.59	-	12.77	No detailed FEMA Floodplain data available for this area.
K4020	25.70	2.16	0.00	2.16	-	8.42	No detailed FEMA Floodplain data available for this area.
K4030	18.15	1.86	0.00	1.86	-	10.26	No detailed FEMA Floodplain data available for this area.
K4060	22.42	1.59	0.00	1.59	-	7.10	No detailed FEMA Floodplain data available for this area.
K4070	3.66	0.92	0.00	0.92	-	25.22	No detailed FEMA Floodplain data available for this area.
K5010	1.62	0.41	0.00	0.41	-	25.09	No detailed FEMA Floodplain data available for this area.
K5030	5.03	0.86	0.00	0.86	-	17.09	No detailed FEMA Floodplain data available for this area.
K5040	7.27	0.91	0.00	0.91	-	12.56	No detailed FEMA Floodplain data available for this area.
K5050	12.73	0.89	0.00	0.89	-	6.97	No detailed FEMA Floodplain data available for this area.
K5060	3.93	0.24	0.00	0.24	-	6.06	No detailed FEMA Floodplain data available for this area.
K6010	14.55	1.55	0.00	1.55	-	10.67	No detailed FEMA Floodplain data available for this area.
K6030	5.67	1.62	0.00	1.62	-	28.52	No detailed FEMA Floodplain data available for this area.
K6040	11.09	1.43	0.00	1.43	-	12.87	No detailed FEMA Floodplain data available for this area.
K6050	4.27	0.65	0.00	0.65	-	15.16	No detailed FEMA Floodplain data available for this area.
K6060	7.94	1.21	0.00	1.21	-	15.24	No detailed FEMA Floodplain data available for this area.
K6070	2.37	0.75	0.00	0.75	-	31.66	No detailed FEMA Floodplain data available for this area.
K6080	3.29	0.75	0.00	0.75	-	22.82	No detailed FEMA Floodplain data available for this area.
K7020	3.16	0.17	0.00	0.17	-	5.31	No detailed FEMA Floodplain data available for this area.
K7040	3.10	0.19	0.00	0.19	-	6.05	No detailed FEMA Floodplain data available for this area.
K7050	3.83	0.19	0.00	0.19	-	4.84	No detailed FEMA Floodplain data available for this area.
K7060	2.29	0.18	0.00	0.18	-	7.79	No detailed FEMA Floodplain data available for this area.
K7070	2.97	0.14	0.00	0.14	-	4.64	No detailed FEMA Floodplain data available for this area.
K7210	7.68	1.25	0.00	1.25	-	16.26	No detailed FEMA Floodplain data available for this area.
K7220	9.21	0.90	0.00	0.90	-	9.75	No detailed FEMA Floodplain data available for this area.
K7230	3.67	0.29	0.00	0.29	-	7.81	No detailed FEMA Floodplain data available for this area.
K7240	8.46	0.72	0.00	0.72	-	8.53	No detailed FEMA Floodplain data available for this area.
K7250	1.75	0.67	0.00	0.67	-	38.07	No detailed FEMA Floodplain data available for this area.
K7410	4.03	0.28	0.00	0.28	-	6.91	No detailed FEMA Floodplain data available for this area.
K7420	11.08	1.57	0.00	1.57	-	14.19	No detailed FEMA Floodplain data available for this area.
K7430	7.87	1.38	0.00	1.38	-	17.58	No detailed FEMA Floodplain data available for this area.
K7440	5.59	1.02	0.00	1.02	-	18.19	No detailed FEMA Floodplain data available for this area.
K7450	20.83	2.97	0.00	2.97	-	14.26	No detailed FEMA Floodplain data available for this area.
K7460	61.58	6.93	0.00	6.93	-	11.26	No detailed FEMA Floodplain data available for this area.
K7470	3.67	0.48	0.00	0.48	-	13.06	No detailed FEMA Floodplain data available for this area.
K7480	6.07	0.31	0.00	0.31	-	5.10	No detailed FEMA Floodplain data available for this area.
K7490	0.63	0.15	0.00	0.15	-	23.35	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
K7610	2.64	0.70	0.00	0.70	-	26.61	No detailed FEMA Floodplain data available for this area.
K7630	6.30	0.93	0.00	0.93	-	14.74	No detailed FEMA Floodplain data available for this area.
K7640	8.32	0.71	0.00	0.71	-	8.57	No detailed FEMA Floodplain data available for this area.
K7650	7.57	0.61	0.00	0.61	-	8.05	No detailed FEMA Floodplain data available for this area.
K7660	3.94	0.15	0.00	0.15	-	3.88	No detailed FEMA Floodplain data available for this area.
K7805	13.72	2.32	0.00	2.32	-	16.92	No detailed FEMA Floodplain data available for this area.
K7810	3.55	0.63	0.00	0.63	-	17.68	No detailed FEMA Floodplain data available for this area.
K7812	4.83	0.75	0.00	0.75	-	15.48	No detailed FEMA Floodplain data available for this area.
K7814	8.98	1.01	0.00	1.01	-	11.28	No detailed FEMA Floodplain data available for this area.
K7816	5.24	0.93	0.00	0.93	-	17.80	No detailed FEMA Floodplain data available for this area.
K7818	6.50	1.60	0.00	1.60	-	24.64	No detailed FEMA Floodplain data available for this area.
K7820	5.09	1.46	0.00	1.46	-	28.73	No detailed FEMA Floodplain data available for this area.
K7830	2.77	0.96	0.00	0.96	-	34.67	No detailed FEMA Floodplain data available for this area.
K7845	16.81	2.01	0.00	2.01	-	11.98	No detailed FEMA Floodplain data available for this area.
K7850	2.95	1.73	0.00	1.73	-	58.56	No detailed FEMA Floodplain data available for this area.
K7855	7.59	2.67	0.00	2.67	-	35.22	No detailed FEMA Floodplain data available for this area.
K7858	13.49	2.69	0.00	2.69	-	19.95	No detailed FEMA Floodplain data available for this area.
K7859	3.32	1.76	0.00	1.76	-	53.15	No detailed FEMA Floodplain data available for this area.
K7860	3.67	2.15	0.00	2.15	-	58.63	No detailed FEMA Floodplain data available for this area.
K7864	1.66	0.08	0.00	0.08	-	4.76	No detailed FEMA Floodplain data available for this area.
K7865	4.26	0.36	0.00	0.36	-	8.48	No detailed FEMA Floodplain data available for this area.
K7872	9.14	2.59	0.00	2.59	-	28.29	No detailed FEMA Floodplain data available for this area.
K7873	7.09	1.68	0.00	1.68	-	23.74	No detailed FEMA Floodplain data available for this area.
K7874	6.74	0.15	0.00	0.15	-	2.26	No detailed FEMA Floodplain data available for this area.
K7875	4.55	0.74	0.00	0.74	-	16.29	No detailed FEMA Floodplain data available for this area.
K7880	0.76	0.22	0.00	0.22	-	28.60	No detailed FEMA Floodplain data available for this area.
K7881	5.25	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
K7882	5.29	0.79	0.00	0.79	-	14.88	No detailed FEMA Floodplain data available for this area.
K7884	2.21	0.95	0.00	0.95	-	42.98	No detailed FEMA Floodplain data available for this area.
K7885	1.76	0.34	0.00	0.34	-	19.53	No detailed FEMA Floodplain data available for this area.
K7886	6.08	0.14	0.00	0.14	-	2.36	No detailed FEMA Floodplain data available for this area.
K7890	1.83	0.48	0.00	0.48	-	26.43	No detailed FEMA Floodplain data available for this area.
K7893	6.42	0.21	0.00	0.21	-	3.28	No detailed FEMA Floodplain data available for this area.
K7900	7.25	0.56	0.00	0.56	-	7.72	No detailed FEMA Floodplain data available for this area.
K7910	4.48	0.58	0.00	0.58	-	13.02	No detailed FEMA Floodplain data available for this area.
K7913	9.71	1.25	0.00	1.25	-	12.85	No detailed FEMA Floodplain data available for this area.
K7917	4.60	0.75	0.00	0.75	-	16.42	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
K7920	26.96	1.75	0.00	1.75	-	6.48	No detailed FEMA Floodplain data available for this area.
K7930	22.69	1.93	0.00	1.93	-	8.51	No detailed FEMA Floodplain data available for this area.
K7932	7.80	1.29	0.00	1.29	-	16.53	No detailed FEMA Floodplain data available for this area.
K7934	13.67	1.29	0.00	1.29	-	9.46	No detailed FEMA Floodplain data available for this area.
K7936	15.43	0.95	0.00	0.95	-	6.18	No detailed FEMA Floodplain data available for this area.
K7938	6.07	0.78	0.00	0.78	-	12.79	No detailed FEMA Floodplain data available for this area.
K7940	12.68	1.08	0.00	1.08	-	8.50	No detailed FEMA Floodplain data available for this area.
K7945	16.13	0.36	0.00	0.36	-	2.25	No detailed FEMA Floodplain data available for this area.
K7947	1.28	0.38	0.00	0.38	-	29.39	No detailed FEMA Floodplain data available for this area.
K7950	13.23	1.71	0.00	1.71	-	12.92	No detailed FEMA Floodplain data available for this area.
K7960	16.04	3.05	0.00	3.05	-	19.04	No detailed FEMA Floodplain data available for this area.
K8010	5.07	0.54	0.00	0.54	-	10.73	No detailed FEMA Floodplain data available for this area.
K8020	6.93	0.80	0.00	0.80	-	11.58	No detailed FEMA Floodplain data available for this area.
K8030	14.30	0.22	0.00	0.22	-	1.56	No detailed FEMA Floodplain data available for this area.
K8040	3.19	0.63	0.00	0.63	-	19.58	No detailed FEMA Floodplain data available for this area.
K8050	11.04	0.38	0.00	0.38	-	3.48	No detailed FEMA Floodplain data available for this area.
K9010	35.52	2.68	0.00	2.68	-	7.56	No detailed FEMA Floodplain data available for this area.
K9020	23.29	2.56	0.00	2.56	-	11.00	No detailed FEMA Floodplain data available for this area.
K9030	24.98	2.61	0.00	2.61	-	10.46	No detailed FEMA Floodplain data available for this area.
K9040	13.31	1.44	0.00	1.44	-	10.81	No detailed FEMA Floodplain data available for this area.
K9050	18.38	0.49	0.00	0.49	-	2.64	No detailed FEMA Floodplain data available for this area.
K9052	16.11	0.82	0.00	0.82	-	5.12	No detailed FEMA Floodplain data available for this area.
K9055	8.93	0.21	0.00	0.21	-	2.37	No detailed FEMA Floodplain data available for this area.
K9058	40.83	1.14	0.00	1.14	-	2.79	No detailed FEMA Floodplain data available for this area.
K9060	23.40	1.83	0.00	1.83	-	7.83	No detailed FEMA Floodplain data available for this area.
K9070	1.65	0.42	0.00	0.42	-	25.65	No detailed FEMA Floodplain data available for this area.
K9510	11.57	1.23	0.00	1.23	-	10.65	No detailed FEMA Floodplain data available for this area.
K9520	9.21	1.56	0.00	1.56	-	16.94	No detailed FEMA Floodplain data available for this area.
K9610	8.85	0.70	0.00	0.70	-	7.96	No detailed FEMA Floodplain data available for this area.
K9630	25.30	2.23	0.00	2.23	-	8.82	No detailed FEMA Floodplain data available for this area.
K9710	17.48	2.62	0.00	2.62	-	15.01	No detailed FEMA Floodplain data available for this area.
K9720	1.97	0.47	0.00	0.47	-	24.04	No detailed FEMA Floodplain data available for this area.
K9730	3.35	0.65	0.00	0.65	-	19.45	No detailed FEMA Floodplain data available for this area.
L0010	70.08	11.04	0.00	11.04	-	15.75	No detailed FEMA Floodplain data available for this area.
L0020	15.38	2.07	0.00	2.07	-	13.43	No detailed FEMA Floodplain data available for this area.
L0030	32.48	0.66	0.00	0.66	-	2.04	No detailed FEMA Floodplain data available for this area.
L0035	57.64	1.27	0.00	1.27	-	2.20	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
L0040	61.71	2.02	0.00	2.02	-	3.27	No detailed FEMA Floodplain data available for this area.
L0042	14.55	0.23	0.00	0.23	-	1.55	No detailed FEMA Floodplain data available for this area.
L0045	2.28	0.45	0.00	0.45	-	19.76	No detailed FEMA Floodplain data available for this area.
L0047	8.40	2.32	0.00	2.32	-	27.66	No detailed FEMA Floodplain data available for this area.
L0048	18.88	0.04	0.00	0.04	-	0.24	No detailed FEMA Floodplain data available for this area.
L0050	18.52	2.29	0.00	2.29	-	12.37	No detailed FEMA Floodplain data available for this area.
L0057	9.88	0.65	0.00	0.65	-	6.56	No detailed FEMA Floodplain data available for this area.
L0060	19.52	3.97	0.00	3.97	-	20.33	No detailed FEMA Floodplain data available for this area.
L0063	34.04	0.14	0.00	0.14	-	0.40	No detailed FEMA Floodplain data available for this area.
L0067	0.70	0.15	0.00	0.15	-	21.06	No detailed FEMA Floodplain data available for this area.
L0070	61.85	4.01	0.00	4.01	-	6.48	No detailed FEMA Floodplain data available for this area.
L0073	16.53	1.54	0.00	1.54	-	9.33	No detailed FEMA Floodplain data available for this area.
L0077	6.96	0.90	0.00	0.90	-	12.99	No detailed FEMA Floodplain data available for this area.
L0080	20.86	2.54	0.00	2.54	-	12.18	No detailed FEMA Floodplain data available for this area.
L0083	11.29	0.61	0.00	0.61	-	5.42	No detailed FEMA Floodplain data available for this area.
L0087	12.68	1.58	0.00	1.58	-	12.43	No detailed FEMA Floodplain data available for this area.
L0090	35.25	2.09	0.00	2.09	-	5.94	No detailed FEMA Floodplain data available for this area.
L0100	58.71	2.71	0.00	2.71	-	4.61	No detailed FEMA Floodplain data available for this area.
L0110	55.56	3.90	0.00	3.90	-	7.03	No detailed FEMA Floodplain data available for this area.
L1010	27.22	0.23	0.00	0.23	-	0.86	No detailed FEMA Floodplain data available for this area.
L1013	16.65	3.82	0.00	3.82	-	22.92	No detailed FEMA Floodplain data available for this area.
L1017	10.83	2.08	0.00	2.08	-	19.24	No detailed FEMA Floodplain data available for this area.
L1020	3.21	0.51	0.00	0.51	-	15.97	No detailed FEMA Floodplain data available for this area.
L1021	13.53	2.49	0.00	2.49	-	18.43	No detailed FEMA Floodplain data available for this area.
L1023	29.20	1.06	0.00	1.06	-	3.64	No detailed FEMA Floodplain data available for this area.
L1027	18.48	2.46	0.00	2.46	-	13.33	No detailed FEMA Floodplain data available for this area.
L1030	6.02	0.86	0.00	0.86	-	14.22	No detailed FEMA Floodplain data available for this area.
L1035	17.04	5.16	0.00	5.16	-	30.30	No detailed FEMA Floodplain data available for this area.
L1040	23.61	0.52	0.00	0.52	-	2.19	No detailed FEMA Floodplain data available for this area.
N0009	18.17	4.25	0.00	4.25	-	23.39	No detailed FEMA Floodplain data available for this area.
N0010	22.86	15.24	0.00	15.24	-	66.66	No detailed FEMA Floodplain data available for this area.
N0020	6.55	2.86	0.00	2.86	-	43.59	No detailed FEMA Floodplain data available for this area.
N0030	2.94	1.56	0.00	1.56	-	52.97	No detailed FEMA Floodplain data available for this area.
N0035	11.29	0.58	0.00	0.58	-	5.18	No detailed FEMA Floodplain data available for this area.
N0040	5.13	1.92	0.00	1.92	-	37.39	No detailed FEMA Floodplain data available for this area.
N0042	19.82	0.74	0.00	0.74	-	3.74	No detailed FEMA Floodplain data available for this area.
N0045	16.13	2.50	0.00	2.50	-	15.51	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
N0047	1.55	0.49	0.00	0.49	-	31.24	No detailed FEMA Floodplain data available for this area.
N0048	1.38	0.22	0.00	0.22	-	15.56	No detailed FEMA Floodplain data available for this area.
N0049	7.11	0.37	0.00	0.37	-	5.25	No detailed FEMA Floodplain data available for this area.
N0050	3.76	1.75	0.00	1.75	-	46.42	No detailed FEMA Floodplain data available for this area.
N0055	7.39	1.47	0.00	1.47	-	19.92	No detailed FEMA Floodplain data available for this area.
N0060	1.23	0.74	0.00	0.74	-	59.93	No detailed FEMA Floodplain data available for this area.
N0070	6.57	1.63	0.00	1.63	-	24.87	No detailed FEMA Floodplain data available for this area.
N0075	11.29	0.50	0.00	0.50	-	4.47	No detailed FEMA Floodplain data available for this area.
N0080	6.86	2.70	0.00	2.70	-	39.39	No detailed FEMA Floodplain data available for this area.
N0085	25.49	2.01	0.00	2.01	-	7.87	No detailed FEMA Floodplain data available for this area.
N0090	7.85	2.58	0.00	2.58	-	32.86	No detailed FEMA Floodplain data available for this area.
N0092	3.20	0.36	0.00	0.36	-	11.33	No detailed FEMA Floodplain data available for this area.
N0093	13.22	0.57	0.00	0.57	-	4.29	No detailed FEMA Floodplain data available for this area.
N0098	28.22	2.09	0.00	2.09	-	7.41	No detailed FEMA Floodplain data available for this area.
N0100	10.21	3.46	0.00	3.46	-	33.83	No detailed FEMA Floodplain data available for this area.
N0105	13.21	0.97	0.00	0.97	-	7.38	No detailed FEMA Floodplain data available for this area.
N0110	27.15	9.33	0.00	9.33	-	34.35	No detailed FEMA Floodplain data available for this area.
N0115	0.96	0.06	0.00	0.06	-	6.47	No detailed FEMA Floodplain data available for this area.
N0120	3.74	0.22	0.00	0.22	-	5.75	No detailed FEMA Floodplain data available for this area.
N0121	2.43	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
N0122	1.98	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
N0123	1.92	0.27	0.00	0.27	-	13.93	No detailed FEMA Floodplain data available for this area.
N0124	3.19	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
N0125	2.47	0.33	0.00	0.33	-	13.30	No detailed FEMA Floodplain data available for this area.
N0127	1.34	0.25	0.00	0.25	-	18.69	No detailed FEMA Floodplain data available for this area.
N0130	3.23	1.48	0.00	1.48	-	45.77	No detailed FEMA Floodplain data available for this area.
N0144	8.50	0.09	0.00	0.09	-	1.01	No detailed FEMA Floodplain data available for this area.
N0147	14.42	0.35	0.00	0.35	-	2.43	No detailed FEMA Floodplain data available for this area.
N0150	3.64	1.53	0.00	1.53	-	42.06	No detailed FEMA Floodplain data available for this area.
N0160	4.89	0.34	0.00	0.34	-	6.88	No detailed FEMA Floodplain data available for this area.
N0165	9.80	0.37	0.00	0.37	-	3.74	No detailed FEMA Floodplain data available for this area.
N0170	5.28	1.08	0.00	1.08	-	20.45	No detailed FEMA Floodplain data available for this area.
N0171	18.32	0.44	0.00	0.44	-	2.38	No detailed FEMA Floodplain data available for this area.
N0172	14.23	1.61	0.00	1.61	-	11.32	No detailed FEMA Floodplain data available for this area.
N0174	10.75	1.22	0.00	1.22	-	11.34	No detailed FEMA Floodplain data available for this area.
N0176	8.33	0.58	0.00	0.58	-	7.02	No detailed FEMA Floodplain data available for this area.
N0177	10.52	0.25	0.00	0.25	-	2.38	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
N0178	4.00	0.45	0.00	0.45	-	11.21	No detailed FEMA Floodplain data available for this area.
N0180	4.40	2.10	0.00	2.10	-	47.85	No detailed FEMA Floodplain data available for this area.
N0182	8.71	1.69	0.00	1.69	-	19.45	No detailed FEMA Floodplain data available for this area.
N0184	5.03	1.18	0.00	1.18	-	23.54	No detailed FEMA Floodplain data available for this area.
N0185	7.34	0.11	0.00	0.11	-	1.50	No detailed FEMA Floodplain data available for this area.
N0186	22.15	3.10	0.00	3.10	-	14.00	No detailed FEMA Floodplain data available for this area.
N0188	0.47	0.08	0.00	0.08	-	17.99	No detailed FEMA Floodplain data available for this area.
N0190	2.75	1.18	0.00	1.18	-	42.96	No detailed FEMA Floodplain data available for this area.
N0194	9.55	0.22	0.00	0.22	-	2.27	No detailed FEMA Floodplain data available for this area.
N0200	3.87	1.57	0.00	1.57	-	40.53	No detailed FEMA Floodplain data available for this area.
N1010	7.11	0.18	0.00	0.18	-	2.50	No detailed FEMA Floodplain data available for this area.
N1020	7.23	0.45	0.00	0.45	-	6.17	No detailed FEMA Floodplain data available for this area.
N1030	8.28	0.46	0.00	0.46	-	5.50	No detailed FEMA Floodplain data available for this area.
N1040	5.09	0.46	0.00	0.46	-	9.09	No detailed FEMA Floodplain data available for this area.
N1050	1.83	0.10	0.00	0.10	-	5.67	No detailed FEMA Floodplain data available for this area.
N1510	0.64	0.17	0.00	0.17	-	26.68	No detailed FEMA Floodplain data available for this area.
N1520	1.56	0.52	0.00	0.52	-	33.26	No detailed FEMA Floodplain data available for this area.
N1540	1.94	0.21	0.00	0.21	-	10.73	No detailed FEMA Floodplain data available for this area.
N2010	9.98	1.04	0.00	1.04	-	10.40	No detailed FEMA Floodplain data available for this area.
N2020	2.51	0.44	0.00	0.44	-	17.42	No detailed FEMA Floodplain data available for this area.
N2030	9.33	0.65	0.00	0.65	-	6.95	No detailed FEMA Floodplain data available for this area.
N2040	5.47	0.71	0.00	0.71	-	12.92	No detailed FEMA Floodplain data available for this area.
N2510	8.31	0.79	0.00	0.79	-	9.56	No detailed FEMA Floodplain data available for this area.
N2520	11.54	0.76	0.00	0.76	-	6.56	No detailed FEMA Floodplain data available for this area.
N2530	2.83	1.10	0.00	1.10	-	38.72	No detailed FEMA Floodplain data available for this area.
N2540	1.38	0.70	0.00	0.70	-	50.42	No detailed FEMA Floodplain data available for this area.
N3020	21.47	2.33	0.00	2.33	-	10.84	No detailed FEMA Floodplain data available for this area.
N3030	18.70	1.78	0.00	1.78	-	9.54	No detailed FEMA Floodplain data available for this area.
N3040	20.89	1.48	0.00	1.48	-	7.09	No detailed FEMA Floodplain data available for this area.
N3050	5.33	1.27	0.00	1.27	-	23.89	No detailed FEMA Floodplain data available for this area.
N3510	2.83	1.72	0.00	1.72	-	60.77	No detailed FEMA Floodplain data available for this area.
N3520	25.90	1.67	0.00	1.67	-	6.44	No detailed FEMA Floodplain data available for this area.
N3530	17.67	2.13	0.00	2.13	-	12.03	No detailed FEMA Floodplain data available for this area.
N3540	1.09	0.48	0.00	0.48	-	44.52	No detailed FEMA Floodplain data available for this area.
N3550	3.38	0.17	0.00	0.17	-	5.01	No detailed FEMA Floodplain data available for this area.
N4010	1.42	0.24	0.00	0.24	-	16.72	No detailed FEMA Floodplain data available for this area.
N4020	11.90	2.09	0.00	2.09	-	17.60	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
N4024	0.85	0.42	0.00	0.42	-	48.99	No detailed FEMA Floodplain data available for this area.
N4026	1.49	0.65	0.00	0.65	-	43.73	No detailed FEMA Floodplain data available for this area.
N4028	0.81	0.36	0.00	0.36	-	44.67	No detailed FEMA Floodplain data available for this area.
N4030	8.12	0.89	0.00	0.89	-	11.00	No detailed FEMA Floodplain data available for this area.
N4040	3.63	0.15	0.00	0.15	-	4.24	No detailed FEMA Floodplain data available for this area.
N4045	0.16	0.06	0.00	0.06	-	37.49	No detailed FEMA Floodplain data available for this area.
N4050	5.17	1.04	0.00	1.04	-	20.13	No detailed FEMA Floodplain data available for this area.
N4060	21.87	9.11	0.00	9.11	-	41.64	No detailed FEMA Floodplain data available for this area.
N4320	23.09	1.06	0.00	1.06	-	4.58	No detailed FEMA Floodplain data available for this area.
N4710	26.12	4.23	0.00	4.23	-	16.18	No detailed FEMA Floodplain data available for this area.
N4720	3.39	1.53	0.00	1.53	-	45.19	No detailed FEMA Floodplain data available for this area.
N5010	13.73	0.14	0.00	0.14	-	1.04	No detailed FEMA Floodplain data available for this area.
N5013	2.28	0.04	0.00	0.04	-	1.88	No detailed FEMA Floodplain data available for this area.
N5015	13.99	0.28	0.00	0.28	-	2.00	No detailed FEMA Floodplain data available for this area.
N5016	1.67	0.15	0.00	0.15	-	8.70	No detailed FEMA Floodplain data available for this area.
N5017	2.13	0.31	0.00	0.31	-	14.74	No detailed FEMA Floodplain data available for this area.
N5020	1.36	0.14	0.00	0.14	-	10.50	No detailed FEMA Floodplain data available for this area.
N5520	28.16	2.28	0.00	2.28	-	8.09	No detailed FEMA Floodplain data available for this area.
N5530	8.66	1.21	0.00	1.21	-	13.99	No detailed FEMA Floodplain data available for this area.
N5540	0.59	0.22	0.00	0.22	-	37.21	No detailed FEMA Floodplain data available for this area.
N6010	2.31	0.35	0.00	0.35	-	14.95	No detailed FEMA Floodplain data available for this area.
N6020	2.38	0.45	0.00	0.45	-	19.06	No detailed FEMA Floodplain data available for this area.
N6030	4.28	0.56	0.00	0.56	-	13.15	No detailed FEMA Floodplain data available for this area.
N6040	3.60	0.39	0.00	0.39	-	10.82	No detailed FEMA Floodplain data available for this area.
N6050	2.59	0.45	0.00	0.45	-	17.21	No detailed FEMA Floodplain data available for this area.
N6060	7.85	1.71	0.00	1.71	-	21.84	No detailed FEMA Floodplain data available for this area.
N6080	5.65	0.63	0.00	0.63	-	11.17	No detailed FEMA Floodplain data available for this area.
N6100	4.00	0.00	0.00	0.00	-	0.02	No detailed FEMA Floodplain data available for this area.
N6510	16.58	1.07	0.00	1.07	-	6.43	No detailed FEMA Floodplain data available for this area.
N6520	15.05	1.11	0.00	1.11	-	7.37	No detailed FEMA Floodplain data available for this area.
N6530	1.65	0.13	0.00	0.13	-	7.69	No detailed FEMA Floodplain data available for this area.
N7020	8.87	0.97	0.00	0.97	-	10.88	No detailed FEMA Floodplain data available for this area.
N7030	15.98	1.37	0.00	1.37	-	8.54	No detailed FEMA Floodplain data available for this area.
N7040	1.44	0.59	0.00	0.59	-	41.23	No detailed FEMA Floodplain data available for this area.
N7045	0.49	0.23	0.00	0.23	-	46.36	No detailed FEMA Floodplain data available for this area.
N7050	20.42	3.17	0.00	3.17	-	15.54	No detailed FEMA Floodplain data available for this area.
N7060	3.69	0.31	0.00	0.31	-	8.42	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
O0010	5.74	2.77	0.00	2.77	-	48.35	No detailed FEMA Floodplain data available for this area.
O0012	15.39	0.97	0.00	0.97	-	6.30	No detailed FEMA Floodplain data available for this area.
O0015	18.55	1.39	0.00	1.39	-	7.50	No detailed FEMA Floodplain data available for this area.
O0017	7.31	1.00	0.00	1.00	-	13.75	No detailed FEMA Floodplain data available for this area.
O0020	5.76	3.94	0.00	3.94	-	68.47	No detailed FEMA Floodplain data available for this area.
O0030	4.32	2.32	0.00	2.32	-	53.66	No detailed FEMA Floodplain data available for this area.
O0035	10.69	1.79	0.00	1.79	-	16.72	No detailed FEMA Floodplain data available for this area.
O0040	8.42	2.45	0.00	2.45	-	29.14	No detailed FEMA Floodplain data available for this area.
O0050	8.36	2.54	0.00	2.54	-	30.42	No detailed FEMA Floodplain data available for this area.
O0055	2.26	1.17	0.00	1.17	-	51.85	No detailed FEMA Floodplain data available for this area.
O0060	38.04	8.39	0.00	8.39	-	22.05	No detailed FEMA Floodplain data available for this area.
O0070	35.57	6.73	0.00	6.73	-	18.93	No detailed FEMA Floodplain data available for this area.
O0078	6.60	4.29	0.00	4.29	-	64.96	No detailed FEMA Floodplain data available for this area.
O0080	42.18	11.78	0.00	11.78	-	27.94	No detailed FEMA Floodplain data available for this area.
O0083	45.51	5.36	0.00	5.36	-	11.78	No detailed FEMA Floodplain data available for this area.
O0087	12.27	1.81	0.00	1.81	-	14.76	No detailed FEMA Floodplain data available for this area.
O0090	57.46	10.23	0.00	10.23	-	17.81	No detailed FEMA Floodplain data available for this area.
O0095	72.68	8.34	0.00	8.34	-	11.47	No detailed FEMA Floodplain data available for this area.
O0097	5.23	1.76	0.00	1.76	-	33.67	No detailed FEMA Floodplain data available for this area.
O0100	13.38	3.43	0.00	3.43	-	25.60	No detailed FEMA Floodplain data available for this area.
O0110	0.90	0.56	0.00	0.56	-	62.06	No detailed FEMA Floodplain data available for this area.
O0115	0.88	0.46	0.00	0.46	-	52.02	No detailed FEMA Floodplain data available for this area.
O0116	3.18	1.15	0.00	1.15	-	36.21	No detailed FEMA Floodplain data available for this area.
O0120	21.94	1.19	0.00	1.19	-	5.41	No detailed FEMA Floodplain data available for this area.
O0130	26.59	3.43	0.00	3.43	-	12.90	No detailed FEMA Floodplain data available for this area.
O0133	64.51	0.79	0.00	0.79	-	1.23	No detailed FEMA Floodplain data available for this area.
O0137	1.88	0.49	0.00	0.49	-	25.88	No detailed FEMA Floodplain data available for this area.
O0150	82.71	7.52	0.00	7.52	-	9.10	No detailed FEMA Floodplain data available for this area.
O0160	69.03	7.77	0.00	7.77	-	11.26	No detailed FEMA Floodplain data available for this area.
O0170	25.37	2.74	0.00	2.74	-	10.78	No detailed FEMA Floodplain data available for this area.
O0172	0.97	0.41	0.00	0.41	-	42.19	No detailed FEMA Floodplain data available for this area.
O0174	6.14	0.72	0.00	0.72	-	11.75	No detailed FEMA Floodplain data available for this area.
O0176	21.51	0.95	0.00	0.95	-	4.43	No detailed FEMA Floodplain data available for this area.
O0178	1.76	0.42	0.00	0.42	-	23.67	No detailed FEMA Floodplain data available for this area.
O0180	1.79	0.96	0.00	0.96	-	53.83	No detailed FEMA Floodplain data available for this area.
O0190	2.40	1.35	0.00	1.35	-	56.33	No detailed FEMA Floodplain data available for this area.
O0200	31.24	2.85	0.00	2.85	-	9.13	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
O0210	3.94	0.70	0.00	0.70	-	17.76	No detailed FEMA Floodplain data available for this area.
O0213	27.43	0.96	0.00	0.96	-	3.50	No detailed FEMA Floodplain data available for this area.
O0217	55.93	5.20	0.00	5.20	-	9.31	No detailed FEMA Floodplain data available for this area.
O0220	4.76	2.18	0.00	2.18	-	45.78	No detailed FEMA Floodplain data available for this area.
O1010	3.51	0.06	0.00	0.06	-	1.64	No detailed FEMA Floodplain data available for this area.
O1020	5.81	0.38	0.00	0.38	-	6.61	No detailed FEMA Floodplain data available for this area.
O1030	12.57	2.48	0.00	2.48	-	19.71	No detailed FEMA Floodplain data available for this area.
O1040	17.59	1.02	0.00	1.02	-	5.78	No detailed FEMA Floodplain data available for this area.
O1050	10.82	0.75	0.00	0.75	-	6.95	No detailed FEMA Floodplain data available for this area.
O1070	4.26	0.42	0.00	0.42	-	9.86	No detailed FEMA Floodplain data available for this area.
O1510	10.57	1.76	0.00	1.76	-	16.65	No detailed FEMA Floodplain data available for this area.
O1520	9.15	3.33	0.00	3.33	-	36.44	No detailed FEMA Floodplain data available for this area.
O1530	15.47	2.59	0.00	2.59	-	16.77	No detailed FEMA Floodplain data available for this area.
O1540	7.36	0.90	0.00	0.90	-	12.23	No detailed FEMA Floodplain data available for this area.
O1550	6.26	0.51	0.00	0.51	-	8.08	No detailed FEMA Floodplain data available for this area.
O1560	12.86	1.22	0.00	1.22	-	9.52	No detailed FEMA Floodplain data available for this area.
O1570	1.49	0.75	0.00	0.75	-	50.19	No detailed FEMA Floodplain data available for this area.
O1580	9.07	0.73	0.00	0.73	-	8.03	No detailed FEMA Floodplain data available for this area.
O1600	3.58	0.45	0.00	0.45	-	12.57	No detailed FEMA Floodplain data available for this area.
O2010	2.85	0.66	0.00	0.66	-	23.14	No detailed FEMA Floodplain data available for this area.
O2020	8.21	0.98	0.00	0.98	-	11.97	No detailed FEMA Floodplain data available for this area.
O2030	11.38	1.68	0.00	1.68	-	14.73	No detailed FEMA Floodplain data available for this area.
O2050	4.82	1.01	0.00	1.01	-	21.01	No detailed FEMA Floodplain data available for this area.
O3010	24.93	2.32	0.00	2.32	-	9.30	No detailed FEMA Floodplain data available for this area.
O3020	30.37	3.38	0.00	3.38	-	11.15	No detailed FEMA Floodplain data available for this area.
O3030	18.26	2.83	0.00	2.83	-	15.50	No detailed FEMA Floodplain data available for this area.
O3040	32.63	8.48	0.00	8.48	-	25.98	No detailed FEMA Floodplain data available for this area.
O3050	14.26	1.79	0.00	1.79	-	12.52	No detailed FEMA Floodplain data available for this area.
O4010	19.85	2.74	0.00	2.74	-	13.81	No detailed FEMA Floodplain data available for this area.
O4020	11.35	3.16	0.00	3.16	-	27.85	No detailed FEMA Floodplain data available for this area.
O4030	2.52	0.57	0.00	0.57	-	22.46	No detailed FEMA Floodplain data available for this area.
O4040	1.64	0.15	0.00	0.15	-	9.09	No detailed FEMA Floodplain data available for this area.
O4050	1.61	0.16	0.00	0.16	-	9.92	No detailed FEMA Floodplain data available for this area.
O4060	0.91	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
O5010	2.95	0.36	0.00	0.36	-	12.34	No detailed FEMA Floodplain data available for this area.
O5020	9.49	1.16	0.00	1.16	-	12.28	No detailed FEMA Floodplain data available for this area.
O5030	3.74	0.52	0.00	0.52	-	13.80	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
O5040	3.63	0.10	0.00	0.10	-	2.71	No detailed FEMA Floodplain data available for this area.
O5050	1.02	0.07	0.00	0.07	-	7.33	No detailed FEMA Floodplain data available for this area.
P0003	1.24	0.27	0.00	0.27	-	22.13	No detailed FEMA Floodplain data available for this area.
P0010	3.63	1.64	0.00	1.64	-	45.00	No detailed FEMA Floodplain data available for this area.
P0013	5.55	1.06	0.00	1.06	-	19.17	No detailed FEMA Floodplain data available for this area.
P0014	3.72	1.75	0.00	1.75	-	46.90	No detailed FEMA Floodplain data available for this area.
P0016	1.44	0.50	0.00	0.50	-	34.98	No detailed FEMA Floodplain data available for this area.
P0018	11.32	1.66	0.00	1.66	-	14.68	No detailed FEMA Floodplain data available for this area.
P0020	3.47	0.82	0.00	0.82	-	23.55	No detailed FEMA Floodplain data available for this area.
P0030	3.95	1.84	0.00	1.84	-	46.64	No detailed FEMA Floodplain data available for this area.
P0040	4.57	2.69	0.00	2.69	-	58.89	No detailed FEMA Floodplain data available for this area.
P0045	13.11	0.70	0.00	0.70	-	5.34	No detailed FEMA Floodplain data available for this area.
P0050	4.09	1.34	0.00	1.34	-	32.75	No detailed FEMA Floodplain data available for this area.
P0060	2.62	1.28	0.00	1.28	-	48.78	No detailed FEMA Floodplain data available for this area.
P0070	6.75	5.63	0.32	5.31	1651.58	78.63	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P0072	2.46	0.98	0.00	0.98	-	39.83	No detailed FEMA Floodplain data available for this area.
P0074	17.60	12.31	2.09	10.22	489.85	58.10	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P0076	29.22	24.78	24.69	0.10	0.39	0.33	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P0078	5.16	3.94	5.16	1.22	23.67	23.67	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P0080	3.16	3.16	2.88	0.28	9.82	8.94	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P0085	11.59	10.86	11.59	0.73	6.27	6.27	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P0090	3.61	3.61	3.14	0.46	14.75	12.85	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P0100	0.47	0.47	0.33	0.14	42.89	30.01	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P1010	120.69	79.54	0.00	79.54	-	65.91	No detailed FEMA Floodplain data available for this area.
P1510	0.11	0.09	0.00	0.09	-	80.44	No detailed FEMA Floodplain data available for this area.
P2010	2.27	0.55	0.00	0.55	-	24.40	No detailed FEMA Floodplain data available for this area.
P2020	20.24	1.22	0.00	1.22	-	6.05	No detailed FEMA Floodplain data available for this area.
P2030	11.04	2.53	0.00	2.53	-	22.88	No detailed FEMA Floodplain data available for this area.
P2210	2.51	0.91	0.00	0.91	-	36.09	No detailed FEMA Floodplain data available for this area.
P2220	14.01	1.61	0.00	1.61	-	11.47	No detailed FEMA Floodplain data available for this area.
P2410	1.99	0.06	0.00	0.06	-	2.95	No detailed FEMA Floodplain data available for this area.
P2420	15.46	1.00	0.00	1.00	-	6.44	No detailed FEMA Floodplain data available for this area.
P2610	3.77	2.87	3.46	0.59	17.04	15.63	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P2620	9.18	6.16	1.53	4.63	301.95	50.39	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P2810	16.07	0.86	0.00	0.86	-	5.33	No detailed FEMA Floodplain data available for this area.
P2820	16.75	7.34	0.00	7.34	-	43.84	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P2830	20.06	7.42	0.00	7.42	-	36.98	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
P2840	36.64	14.05	0.00	14.05	-	38.36	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P2850	33.40	13.62	1.62	12.00	741.35	35.93	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
P2860	5.96	0.40	0.00	0.40	-	6.71	No detailed FEMA Floodplain data available for this area.
Q0175	0.13	0.06	0.00	0.06	-	47.43	No detailed FEMA Floodplain data available for this area.
Q3022	65.13	37.45	0.00	37.45	-	57.50	No detailed FEMA Floodplain data available for this area.
Q3024	5.25	1.65	0.00	1.65	-	31.43	No detailed FEMA Floodplain data available for this area.
Q3026	6.08	3.92	0.00	3.92	-	64.51	No detailed FEMA Floodplain data available for this area.
Q3040	0.62	0.62	0.00	0.62	-	99.88	No detailed FEMA Floodplain data available for this area.
Q3041	5.23	3.00	0.00	3.00	-	57.27	No detailed FEMA Floodplain data available for this area.
Q3043	1.83	1.83	0.00	1.83	-	100.00	No detailed FEMA Floodplain data available for this area.
Q3044	3.45	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
Q3048	7.26	2.25	0.00	2.25	-	30.92	No detailed FEMA Floodplain data available for this area.
R0170	0.37	0.27	0.00	0.27	-	72.68	No detailed FEMA Floodplain data available for this area.
R0270	30.93	4.28	0.00	4.28	-	13.83	No detailed FEMA Floodplain data available for this area.
R1043	31.35	10.14	0.00	10.14	-	32.33	No detailed FEMA Floodplain data available for this area.
R2560	0.00	0.00	0.00	0.00	-	87.85	No detailed FEMA Floodplain data available for this area.
R3008	13.23	11.40	10.88	0.51	4.72	3.88	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
R3010	2.39	2.39	1.01	1.38	136.03	57.62	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
R3020	1.96	1.94	0.63	1.32	209.66	67.05	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
R3025	2.68	2.48	0.19	2.28	1183.04	85.40	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
R3030	4.19	3.52	0.00	3.52	-	83.85	No detailed FEMA Floodplain data available for this area.
R3036	3.87	1.31	0.00	1.31	-	33.96	No detailed FEMA Floodplain data available for this area.
R3038	23.91	1.87	0.00	1.87	-	7.82	No detailed FEMA Floodplain data available for this area.
R3039	14.31	3.74	0.00	3.74	-	26.14	No detailed FEMA Floodplain data available for this area.
R3040	5.34	4.06	0.00	4.06	-	76.01	No detailed FEMA Floodplain data available for this area.
R3041	5.13	1.86	0.00	1.86	-	36.29	No detailed FEMA Floodplain data available for this area.
R3042	34.61	10.25	0.00	10.25	-	29.61	No detailed FEMA Floodplain data available for this area.
R3043	6.17	0.35	0.00	0.35	-	5.66	No detailed FEMA Floodplain data available for this area.
R3044	15.57	5.02	0.00	5.02	-	32.25	No detailed FEMA Floodplain data available for this area.
R3045	4.73	1.70	0.00	1.70	-	35.97	No detailed FEMA Floodplain data available for this area.
R3048	3.29	1.62	0.00	1.62	-	49.27	No detailed FEMA Floodplain data available for this area.
R3049	9.36	1.37	0.00	1.37	-	14.67	No detailed FEMA Floodplain data available for this area.
R3050	6.39	5.59	0.00	5.59	-	87.38	No detailed FEMA Floodplain data available for this area.
R3052	12.51	1.03	0.00	1.03	-	8.26	No detailed FEMA Floodplain data available for this area.
R3054	15.38	1.27	0.00	1.27	-	8.24	No detailed FEMA Floodplain data available for this area.
R3056	1.80	0.32	0.00	0.32	-	17.72	No detailed FEMA Floodplain data available for this area.
R3057	53.45	8.28	0.00	8.28	-	15.50	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
R3058	13.89	3.69	0.00	3.69	-	26.57	No detailed FEMA Floodplain data available for this area.
R3060	5.11	4.17	0.00	4.17	-	81.58	No detailed FEMA Floodplain data available for this area.
R3061	12.64	2.20	0.00	2.20	-	17.42	No detailed FEMA Floodplain data available for this area.
R3062	2.62	1.07	0.00	1.07	-	40.96	No detailed FEMA Floodplain data available for this area.
R3063	23.25	3.94	0.00	3.94	-	16.97	No detailed FEMA Floodplain data available for this area.
R3064	3.73	2.23	0.00	2.23	-	59.91	No detailed FEMA Floodplain data available for this area.
R3065	27.93	13.12	0.00	13.12	-	46.97	No detailed FEMA Floodplain data available for this area.
R3070	3.90	3.88	0.00	3.88	-	99.54	No detailed FEMA Floodplain data available for this area.
R3072	15.66	1.84	0.00	1.84	-	11.74	No detailed FEMA Floodplain data available for this area.
R3073	6.59	1.00	0.00	1.00	-	15.21	No detailed FEMA Floodplain data available for this area.
R3074	29.72	6.79	0.00	6.79	-	22.85	No detailed FEMA Floodplain data available for this area.
R3075	26.41	2.84	0.00	2.84	-	10.75	No detailed FEMA Floodplain data available for this area.
R3076	28.00	9.65	0.00	9.65	-	34.47	No detailed FEMA Floodplain data available for this area.
R3077	1.34	0.69	0.00	0.69	-	51.30	No detailed FEMA Floodplain data available for this area.
R3078	15.40	6.52	0.00	6.52	-	42.37	No detailed FEMA Floodplain data available for this area.
R3079	6.39	1.41	0.00	1.41	-	22.07	No detailed FEMA Floodplain data available for this area.
R3080	3.67	3.61	0.00	3.61	-	98.36	No detailed FEMA Floodplain data available for this area.
R3081	31.64	11.91	0.00	11.91	-	37.64	No detailed FEMA Floodplain data available for this area.
R3082	45.90	17.62	0.00	17.62	-	38.39	No detailed FEMA Floodplain data available for this area.
R3083	3.33	1.76	0.00	1.76	-	52.80	No detailed FEMA Floodplain data available for this area.
R3084	22.11	5.37	0.00	5.37	-	24.28	No detailed FEMA Floodplain data available for this area.
R3085	0.73	0.29	0.00	0.29	-	39.22	No detailed FEMA Floodplain data available for this area.
R3088	10.08	2.06	0.00	2.06	-	20.46	No detailed FEMA Floodplain data available for this area.
R3089	13.42	1.87	0.00	1.87	-	13.96	No detailed FEMA Floodplain data available for this area.
R3090	3.67	3.63	0.00	3.63	-	98.90	No detailed FEMA Floodplain data available for this area.
R3094	35.71	11.50	0.00	11.50	-	32.21	No detailed FEMA Floodplain data available for this area.
R3095	32.15	6.95	0.00	6.95	-	21.62	No detailed FEMA Floodplain data available for this area.
R3096	3.76	0.62	0.00	0.62	-	16.39	No detailed FEMA Floodplain data available for this area.
R3097	9.27	4.72	0.00	4.72	-	50.92	No detailed FEMA Floodplain data available for this area.
R3098	13.12	5.58	0.00	5.58	-	42.56	No detailed FEMA Floodplain data available for this area.
R3099	20.29	3.02	0.00	3.02	-	14.90	No detailed FEMA Floodplain data available for this area.
R3100	3.73	3.59	0.00	3.59	-	96.25	No detailed FEMA Floodplain data available for this area.
R3101	64.82	19.51	0.00	19.51	-	30.10	No detailed FEMA Floodplain data available for this area.
R3102	22.75	7.84	0.00	7.84	-	34.47	No detailed FEMA Floodplain data available for this area.
R3107	1.65	0.24	0.00	0.24	-	14.58	No detailed FEMA Floodplain data available for this area.
R3108	16.98	2.19	0.00	2.19	-	12.91	No detailed FEMA Floodplain data available for this area.
R3109	6.39	1.96	0.00	1.96	-	30.75	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
R3110	3.62	3.18	0.00	3.18	-	87.74	No detailed FEMA Floodplain data available for this area.
R3111	43.39	6.50	0.00	6.50	-	14.98	No detailed FEMA Floodplain data available for this area.
R3112	15.46	3.31	0.00	3.31	-	21.40	No detailed FEMA Floodplain data available for this area.
R3113	17.89	6.34	0.00	6.34	-	35.45	No detailed FEMA Floodplain data available for this area.
R3114	23.30	6.08	0.00	6.08	-	26.11	No detailed FEMA Floodplain data available for this area.
R3118	14.36	2.16	0.00	2.16	-	15.07	No detailed FEMA Floodplain data available for this area.
R3119	14.42	1.71	0.00	1.71	-	11.82	No detailed FEMA Floodplain data available for this area.
R3120	4.51	3.67	0.00	3.67	-	81.31	No detailed FEMA Floodplain data available for this area.
R3125	3.01	2.28	0.00	2.28	-	75.85	No detailed FEMA Floodplain data available for this area.
R3128	6.97	0.96	0.00	0.96	-	13.85	No detailed FEMA Floodplain data available for this area.
R3129	13.39	1.18	0.00	1.18	-	8.85	No detailed FEMA Floodplain data available for this area.
R3130	3.63	3.33	0.00	3.33	-	91.92	No detailed FEMA Floodplain data available for this area.
R3138	30.07	2.21	0.00	2.21	-	7.34	No detailed FEMA Floodplain data available for this area.
R3140	4.33	4.12	0.00	4.12	-	95.07	No detailed FEMA Floodplain data available for this area.
R3148	15.42	1.37	0.00	1.37	-	8.88	No detailed FEMA Floodplain data available for this area.
R3150	3.30	3.22	0.00	3.22	-	97.53	No detailed FEMA Floodplain data available for this area.
R3160	0.78	0.72	0.00	0.72	-	93.04	No detailed FEMA Floodplain data available for this area.
R3161	12.77	1.92	0.00	1.92	-	15.06	No detailed FEMA Floodplain data available for this area.
R3162	8.14	2.83	0.00	2.83	-	34.79	No detailed FEMA Floodplain data available for this area.
R3163	3.49	1.76	0.00	1.76	-	50.37	No detailed FEMA Floodplain data available for this area.
R3164	17.14	1.61	0.00	1.61	-	9.38	No detailed FEMA Floodplain data available for this area.
R3165	10.96	4.63	0.00	4.63	-	42.27	No detailed FEMA Floodplain data available for this area.
R3167	14.45	3.74	0.00	3.74	-	25.86	No detailed FEMA Floodplain data available for this area.
R3168	17.22	6.55	0.00	6.55	-	38.07	No detailed FEMA Floodplain data available for this area.
R3190	8.62	0.86	0.00	0.86	-	10.03	No detailed FEMA Floodplain data available for this area.
R3193	21.60	9.73	0.00	9.73	-	45.07	No detailed FEMA Floodplain data available for this area.
R3197	18.98	10.18	0.00	10.18	-	53.62	No detailed FEMA Floodplain data available for this area.
R3199	0.46	0.22	0.00	0.22	-	47.72	No detailed FEMA Floodplain data available for this area.
R3200	23.17	7.72	0.00	7.72	-	33.32	No detailed FEMA Floodplain data available for this area.
R3203	13.20	7.46	0.00	7.46	-	56.54	No detailed FEMA Floodplain data available for this area.
R3207	2.84	1.62	0.00	1.62	-	56.79	No detailed FEMA Floodplain data available for this area.
R3210	18.09	7.00	0.00	7.00	-	38.68	No detailed FEMA Floodplain data available for this area.
R3215	5.85	0.14	0.00	0.14	-	2.35	No detailed FEMA Floodplain data available for this area.
R3220	25.65	1.55	0.00	1.55	-	6.03	No detailed FEMA Floodplain data available for this area.
R3223	3.63	0.71	0.00	0.71	-	19.58	No detailed FEMA Floodplain data available for this area.
R3227	22.20	0.60	0.00	0.60	-	2.71	No detailed FEMA Floodplain data available for this area.
R3229	2.09	0.48	0.00	0.48	-	23.14	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
R3230	27.28	2.22	0.00	2.22	-	8.13	No detailed FEMA Floodplain data available for this area.
R3243	3.81	0.04	0.00	0.04	-	1.04	No detailed FEMA Floodplain data available for this area.
R3244	7.32	0.42	0.00	0.42	-	5.79	No detailed FEMA Floodplain data available for this area.
R3246	0.71	0.16	0.00	0.16	-	22.77	No detailed FEMA Floodplain data available for this area.
R3249	0.42	0.13	0.00	0.13	-	30.15	No detailed FEMA Floodplain data available for this area.
R3250	33.76	2.60	0.00	2.60	-	7.70	No detailed FEMA Floodplain data available for this area.
R3270	29.39	2.88	0.00	2.88	-	9.79	No detailed FEMA Floodplain data available for this area.
R3282	7.19	0.50	0.00	0.50	-	6.97	No detailed FEMA Floodplain data available for this area.
R3283	6.20	0.75	0.00	0.75	-	12.06	No detailed FEMA Floodplain data available for this area.
R3286	4.82	0.41	0.00	0.41	-	8.44	No detailed FEMA Floodplain data available for this area.
R3287	7.59	1.62	0.00	1.62	-	21.35	No detailed FEMA Floodplain data available for this area.
R3288	1.62	0.68	0.00	0.68	-	42.08	No detailed FEMA Floodplain data available for this area.
R3289	0.55	0.25	0.00	0.25	-	44.77	No detailed FEMA Floodplain data available for this area.
R3290	30.34	3.19	0.00	3.19	-	10.52	No detailed FEMA Floodplain data available for this area.
R3300	11.35	1.39	0.00	1.39	-	12.28	No detailed FEMA Floodplain data available for this area.
R3310	30.01	2.84	0.00	2.84	-	9.45	No detailed FEMA Floodplain data available for this area.
R3320	3.66	1.96	0.00	1.96	-	53.52	No detailed FEMA Floodplain data available for this area.
R3330	24.86	4.88	0.00	4.88	-	19.63	No detailed FEMA Floodplain data available for this area.
R3340	10.96	2.32	0.00	2.32	-	21.14	No detailed FEMA Floodplain data available for this area.
R3350	15.75	2.20	0.00	2.20	-	13.96	No detailed FEMA Floodplain data available for this area.
R3360	14.71	1.41	0.00	1.41	-	9.62	No detailed FEMA Floodplain data available for this area.
R3370	14.88	1.25	0.00	1.25	-	8.38	No detailed FEMA Floodplain data available for this area.
R3372	24.25	4.67	0.00	4.67	-	19.27	No detailed FEMA Floodplain data available for this area.
R3374	3.27	0.80	0.00	0.80	-	24.36	No detailed FEMA Floodplain data available for this area.
R3376	20.00	1.71	0.00	1.71	-	8.55	No detailed FEMA Floodplain data available for this area.
R3377	2.60	0.20	0.00	0.20	-	7.60	No detailed FEMA Floodplain data available for this area.
R3378	1.93	0.08	0.00	0.08	-	4.26	No detailed FEMA Floodplain data available for this area.
R3380	2.85	0.86	0.00	0.86	-	30.31	No detailed FEMA Floodplain data available for this area.
R3400	12.95	1.37	0.00	1.37	-	10.62	No detailed FEMA Floodplain data available for this area.
R3402	17.80	1.08	0.00	1.08	-	6.09	No detailed FEMA Floodplain data available for this area.
R3404	30.18	0.61	0.00	0.61	-	2.01	No detailed FEMA Floodplain data available for this area.
R3406	3.94	0.12	0.00	0.12	-	2.99	No detailed FEMA Floodplain data available for this area.
R3410	5.61	2.57	0.00	2.57	-	45.79	No detailed FEMA Floodplain data available for this area.
R3420	26.11	1.20	0.00	1.20	-	4.61	No detailed FEMA Floodplain data available for this area.
R3450	12.50	0.60	0.00	0.60	-	4.83	No detailed FEMA Floodplain data available for this area.
R3510	10.56	0.43	0.00	0.43	-	4.12	No detailed FEMA Floodplain data available for this area.
R3520	24.08	0.90	0.00	0.90	-	3.73	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
R3522	6.54	0.42	0.00	0.42	-	6.44	No detailed FEMA Floodplain data available for this area.
R3524	19.80	1.90	0.00	1.90	-	9.60	No detailed FEMA Floodplain data available for this area.
R3526	20.46	2.54	0.00	2.54	-	12.41	No detailed FEMA Floodplain data available for this area.
R3530	22.20	2.34	0.00	2.34	-	10.55	No detailed FEMA Floodplain data available for this area.
R3540	47.89	8.21	0.00	8.21	-	17.15	No detailed FEMA Floodplain data available for this area.
R3550	22.15	2.01	0.00	2.01	-	9.09	No detailed FEMA Floodplain data available for this area.
R3560	40.06	4.21	0.00	4.21	-	10.51	No detailed FEMA Floodplain data available for this area.
R3570	2.50	1.59	0.00	1.59	-	63.44	No detailed FEMA Floodplain data available for this area.
R3610	11.78	0.63	0.00	0.63	-	5.35	No detailed FEMA Floodplain data available for this area.
R3620	35.52	2.69	0.00	2.69	-	7.56	No detailed FEMA Floodplain data available for this area.
R3630	6.55	0.91	0.00	0.91	-	13.92	No detailed FEMA Floodplain data available for this area.
R3640	3.09	0.73	0.00	0.73	-	23.76	No detailed FEMA Floodplain data available for this area.
R3650	23.82	1.54	0.00	1.54	-	6.45	No detailed FEMA Floodplain data available for this area.
R3660	8.28	0.46	0.00	0.46	-	5.61	No detailed FEMA Floodplain data available for this area.
R3670	2.91	0.55	0.00	0.55	-	19.01	No detailed FEMA Floodplain data available for this area.
R3675	14.87	2.87	0.00	2.87	-	19.31	No detailed FEMA Floodplain data available for this area.
R3680	23.31	1.26	0.00	1.26	-	5.41	No detailed FEMA Floodplain data available for this area.
R3690	22.68	2.52	0.00	2.52	-	11.12	No detailed FEMA Floodplain data available for this area.
R3693	24.59	3.18	0.00	3.18	-	12.93	No detailed FEMA Floodplain data available for this area.
R3698	2.20	0.09	0.00	0.09	-	4.26	No detailed FEMA Floodplain data available for this area.
S0005	12.04	0.31	0.00	0.31	-	2.59	No detailed FEMA Floodplain data available for this area.
S0025	35.53	24.57	0.00	24.57	-	69.15	No detailed FEMA Floodplain data available for this area.
S0030	56.17	30.16	0.00	30.16	-	53.69	No detailed FEMA Floodplain data available for this area.
S0035	8.67	3.08	0.00	3.08	-	35.56	No detailed FEMA Floodplain data available for this area.
S0036	4.28	1.97	0.00	1.97	-	46.00	No detailed FEMA Floodplain data available for this area.
S0038	39.19	21.20	0.00	21.20	-	54.10	No detailed FEMA Floodplain data available for this area.
S0039	5.57	3.56	0.00	3.56	-	63.84	No detailed FEMA Floodplain data available for this area.
S0040	82.18	35.32	0.00	35.32	-	42.98	No detailed FEMA Floodplain data available for this area.
S0046	12.05	6.68	0.00	6.68	-	55.45	No detailed FEMA Floodplain data available for this area.
S0047	10.24	7.51	0.00	7.51	-	73.32	No detailed FEMA Floodplain data available for this area.
S0048	9.05	4.30	0.00	4.30	-	47.50	No detailed FEMA Floodplain data available for this area.
S0049	12.08	6.75	0.00	6.75	-	55.84	No detailed FEMA Floodplain data available for this area.
S0050	107.07	78.40	0.00	78.40	-	73.22	No detailed FEMA Floodplain data available for this area.
S0059	21.89	21.31	0.00	21.31	-	97.36	No detailed FEMA Floodplain data available for this area.
S0060	20.24	17.23	0.00	17.23	-	85.12	No detailed FEMA Floodplain data available for this area.
S0065	5.25	5.04	0.00	5.04	-	96.06	No detailed FEMA Floodplain data available for this area.
S0070	6.74	6.69	0.00	6.69	-	99.23	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S0086	16.47	4.29	0.00	4.29	-	26.02	No detailed FEMA Floodplain data available for this area.
S0087	10.90	8.97	0.00	8.97	-	82.36	No detailed FEMA Floodplain data available for this area.
S0088	14.67	3.26	0.00	3.26	-	22.22	No detailed FEMA Floodplain data available for this area.
S0089	71.24	25.68	0.00	25.68	-	36.04	No detailed FEMA Floodplain data available for this area.
S0090	6.71	6.25	0.00	6.25	-	93.05	No detailed FEMA Floodplain data available for this area.
S0100	17.00	16.30	0.00	16.30	-	95.86	No detailed FEMA Floodplain data available for this area.
S0110	23.15	19.63	0.00	19.63	-	84.79	No detailed FEMA Floodplain data available for this area.
S0119	22.90	3.47	0.00	3.47	-	15.15	No detailed FEMA Floodplain data available for this area.
S0120	50.09	14.76	0.00	14.76	-	29.47	No detailed FEMA Floodplain data available for this area.
S0129	10.39	2.24	0.00	2.24	-	21.54	No detailed FEMA Floodplain data available for this area.
S0130	56.20	37.78	0.00	37.78	-	67.22	No detailed FEMA Floodplain data available for this area.
S0134	5.90	4.73	0.00	4.73	-	80.14	No detailed FEMA Floodplain data available for this area.
S0135	38.76	7.60	0.00	7.60	-	19.61	No detailed FEMA Floodplain data available for this area.
S0136	3.41	2.61	0.00	2.61	-	76.46	No detailed FEMA Floodplain data available for this area.
S0137	55.31	30.14	0.00	30.14	-	54.49	No detailed FEMA Floodplain data available for this area.
S0138	22.95	12.43	0.00	12.43	-	54.16	No detailed FEMA Floodplain data available for this area.
S0139	127.23	112.39	0.00	112.39	-	88.34	No detailed FEMA Floodplain data available for this area.
S0140	23.08	21.84	0.00	21.84	-	94.63	No detailed FEMA Floodplain data available for this area.
S0143	10.78	8.82	0.00	8.82	-	81.83	No detailed FEMA Floodplain data available for this area.
S0144	86.37	56.80	0.00	56.80	-	65.77	No detailed FEMA Floodplain data available for this area.
S0145	8.82	6.76	0.00	6.76	-	76.67	No detailed FEMA Floodplain data available for this area.
S0146	58.15	40.31	0.00	40.31	-	69.31	No detailed FEMA Floodplain data available for this area.
S0147	28.05	18.37	0.00	18.37	-	65.47	No detailed FEMA Floodplain data available for this area.
S0148	19.64	17.33	0.00	17.33	-	88.22	No detailed FEMA Floodplain data available for this area.
S0149	25.77	23.91	0.00	23.91	-	92.78	No detailed FEMA Floodplain data available for this area.
S0150	20.66	18.97	0.00	18.97	-	91.79	No detailed FEMA Floodplain data available for this area.
S0159	11.52	6.34	0.00	6.34	-	55.02	No detailed FEMA Floodplain data available for this area.
S0160	61.59	13.96	0.00	13.96	-	22.66	No detailed FEMA Floodplain data available for this area.
S0170	37.82	31.48	0.00	31.48	-	83.24	No detailed FEMA Floodplain data available for this area.
S0178	12.74	8.54	0.00	8.54	-	67.05	No detailed FEMA Floodplain data available for this area.
S0179	9.22	4.77	0.00	4.77	-	51.70	No detailed FEMA Floodplain data available for this area.
S0180	12.19	8.10	0.00	8.10	-	66.46	No detailed FEMA Floodplain data available for this area.
S0190	28.48	18.97	0.00	18.97	-	66.62	No detailed FEMA Floodplain data available for this area.
S0200	39.00	21.99	0.00	21.99	-	56.40	No detailed FEMA Floodplain data available for this area.
S0201	2.72	2.20	0.00	2.20	-	80.82	No detailed FEMA Floodplain data available for this area.
S0203	11.20	7.57	0.00	7.57	-	67.61	No detailed FEMA Floodplain data available for this area.
S0205	10.25	6.60	0.00	6.60	-	64.42	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S0207	15.07	5.43	0.00	5.43	-	36.02	No detailed FEMA Floodplain data available for this area.
S0209	27.30	6.35	0.00	6.35	-	23.27	No detailed FEMA Floodplain data available for this area.
S0210	57.46	25.01	0.00	25.01	-	43.53	No detailed FEMA Floodplain data available for this area.
S0215	4.88	2.48	0.00	2.48	-	50.77	No detailed FEMA Floodplain data available for this area.
S0220	26.16	13.33	0.00	13.33	-	50.96	No detailed FEMA Floodplain data available for this area.
S0230	9.67	6.72	0.00	6.72	-	69.56	No detailed FEMA Floodplain data available for this area.
S0239	103.56	67.90	0.00	67.90	-	65.57	No detailed FEMA Floodplain data available for this area.
S0240	15.08	9.25	0.00	9.25	-	61.31	No detailed FEMA Floodplain data available for this area.
S0250	39.88	30.15	0.00	30.15	-	75.60	No detailed FEMA Floodplain data available for this area.
S0259	13.15	9.41	0.00	9.41	-	71.55	No detailed FEMA Floodplain data available for this area.
S0260	29.66	19.57	0.00	19.57	-	66.00	No detailed FEMA Floodplain data available for this area.
S0265	2.37	1.74	0.00	1.74	-	73.59	No detailed FEMA Floodplain data available for this area.
S0270	1.65	1.31	0.00	1.31	-	79.78	No detailed FEMA Floodplain data available for this area.
S0280	28.37	16.02	0.00	16.02	-	56.47	No detailed FEMA Floodplain data available for this area.
S0290	35.97	7.62	0.00	7.62	-	21.19	No detailed FEMA Floodplain data available for this area.
S0295	10.71	9.60	0.00	9.60	-	89.70	No detailed FEMA Floodplain data available for this area.
S0300	17.06	3.84	0.00	3.84	-	22.50	No detailed FEMA Floodplain data available for this area.
S0310	18.09	9.84	0.00	9.84	-	54.38	No detailed FEMA Floodplain data available for this area.
S0315	8.67	7.64	0.00	7.64	-	88.12	No detailed FEMA Floodplain data available for this area.
S0316	21.86	11.97	0.00	11.97	-	54.76	No detailed FEMA Floodplain data available for this area.
S0317	39.45	15.28	0.00	15.28	-	38.75	No detailed FEMA Floodplain data available for this area.
S0318	13.13	2.18	0.00	2.18	-	16.64	No detailed FEMA Floodplain data available for this area.
S0319	15.78	3.66	0.00	3.66	-	23.18	No detailed FEMA Floodplain data available for this area.
S0320	44.06	22.64	0.00	22.64	-	51.39	No detailed FEMA Floodplain data available for this area.
S0330	27.81	21.13	0.00	21.13	-	75.99	No detailed FEMA Floodplain data available for this area.
S0340	10.03	9.64	0.00	9.64	-	96.14	No detailed FEMA Floodplain data available for this area.
S0350	8.88	8.09	0.00	8.09	-	91.11	No detailed FEMA Floodplain data available for this area.
S0367	3.92	1.19	0.00	1.19	-	30.20	No detailed FEMA Floodplain data available for this area.
S0410	12.42	10.09	0.00	10.09	-	81.29	No detailed FEMA Floodplain data available for this area.
S0411	23.27	10.03	0.00	10.03	-	43.10	No detailed FEMA Floodplain data available for this area.
S0416	19.51	7.73	0.00	7.73	-	39.65	No detailed FEMA Floodplain data available for this area.
S0417	26.76	11.08	0.00	11.08	-	41.40	No detailed FEMA Floodplain data available for this area.
S0418	0.97	0.72	0.00	0.72	-	73.77	No detailed FEMA Floodplain data available for this area.
S0419	4.78	3.68	0.00	3.68	-	77.07	No detailed FEMA Floodplain data available for this area.
S0420	76.89	27.99	0.00	27.99	-	36.40	No detailed FEMA Floodplain data available for this area.
S0430	27.32	18.90	0.00	18.90	-	69.20	No detailed FEMA Floodplain data available for this area.
S0436	9.88	8.55	0.00	8.55	-	86.55	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S0437	41.33	7.49	0.00	7.49	-	18.13	No detailed FEMA Floodplain data available for this area.
S0438	40.76	12.49	0.00	12.49	-	30.64	No detailed FEMA Floodplain data available for this area.
S0439	12.14	9.08	0.00	9.08	-	74.82	No detailed FEMA Floodplain data available for this area.
S0440	56.07	28.89	0.00	28.89	-	51.52	No detailed FEMA Floodplain data available for this area.
S0450	12.34	9.34	0.00	9.34	-	75.72	No detailed FEMA Floodplain data available for this area.
S0455	6.71	1.08	0.00	1.08	-	16.12	No detailed FEMA Floodplain data available for this area.
S0459	9.42	2.43	0.00	2.43	-	25.76	No detailed FEMA Floodplain data available for this area.
S0460	3.96	1.88	0.00	1.88	-	47.50	No detailed FEMA Floodplain data available for this area.
S0530	0.00	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
S0533	4.98	2.94	0.00	2.94	-	58.90	No detailed FEMA Floodplain data available for this area.
S0534	7.96	3.42	0.00	3.42	-	42.92	No detailed FEMA Floodplain data available for this area.
S0535	7.44	2.40	0.00	2.40	-	32.27	No detailed FEMA Floodplain data available for this area.
S0540	59.76	42.52	0.00	42.52	-	71.15	No detailed FEMA Floodplain data available for this area.
S0550	5.49	2.72	0.00	2.72	-	49.53	No detailed FEMA Floodplain data available for this area.
S0585	2.59	1.77	0.00	1.77	-	68.34	No detailed FEMA Floodplain data available for this area.
S0595	15.88	4.99	0.00	4.99	-	31.43	No detailed FEMA Floodplain data available for this area.
S0630	3.30	1.09	0.00	1.09	-	32.96	No detailed FEMA Floodplain data available for this area.
S0635	4.47	2.37	0.00	2.37	-	52.98	No detailed FEMA Floodplain data available for this area.
S0639	33.87	16.02	0.00	16.02	-	47.30	No detailed FEMA Floodplain data available for this area.
S0640	38.50	22.37	0.00	22.37	-	58.09	No detailed FEMA Floodplain data available for this area.
S0710	3.66	1.97	0.00	1.97	-	53.75	No detailed FEMA Floodplain data available for this area.
S0720	12.47	1.67	0.00	1.67	-	13.39	No detailed FEMA Floodplain data available for this area.
S0730	5.49	3.95	0.00	3.95	-	71.91	No detailed FEMA Floodplain data available for this area.
S0738	2.68	2.27	0.00	2.27	-	84.94	No detailed FEMA Floodplain data available for this area.
S0739	12.44	6.36	0.00	6.36	-	51.13	No detailed FEMA Floodplain data available for this area.
S0740	41.11	6.84	0.00	6.84	-	16.63	No detailed FEMA Floodplain data available for this area.
S0750	21.24	6.48	0.00	6.48	-	30.50	No detailed FEMA Floodplain data available for this area.
S0760	21.94	17.93	0.00	17.93	-	81.74	No detailed FEMA Floodplain data available for this area.
S0810	40.16	16.01	0.00	16.01	-	39.86	No detailed FEMA Floodplain data available for this area.
S0820	3.59	2.48	0.00	2.48	-	69.14	No detailed FEMA Floodplain data available for this area.
S0828	3.20	1.63	0.00	1.63	-	51.12	No detailed FEMA Floodplain data available for this area.
S0829	18.99	7.25	0.00	7.25	-	38.20	No detailed FEMA Floodplain data available for this area.
S0830	6.08	2.63	0.00	2.63	-	43.24	No detailed FEMA Floodplain data available for this area.
S0840	23.46	9.20	0.00	9.20	-	39.21	No detailed FEMA Floodplain data available for this area.
S0846	4.99	3.61	0.00	3.61	-	72.46	No detailed FEMA Floodplain data available for this area.
S0847	15.14	6.39	0.00	6.39	-	42.25	No detailed FEMA Floodplain data available for this area.
S0848	43.93	8.15	0.00	8.15	-	18.55	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S0849	8.14	5.01	0.00	5.01	-	61.57	No detailed FEMA Floodplain data available for this area.
S0850	31.81	7.05	0.00	7.05	-	22.17	No detailed FEMA Floodplain data available for this area.
S0857	14.46	3.93	0.00	3.93	-	27.17	No detailed FEMA Floodplain data available for this area.
S0858	4.65	1.98	0.00	1.98	-	42.52	No detailed FEMA Floodplain data available for this area.
S0859	14.48	4.45	0.00	4.45	-	30.76	No detailed FEMA Floodplain data available for this area.
S0860	45.32	34.77	0.00	34.77	-	76.71	No detailed FEMA Floodplain data available for this area.
S0867	4.00	2.05	0.00	2.05	-	51.40	No detailed FEMA Floodplain data available for this area.
S0868	20.84	7.06	0.00	7.06	-	33.86	No detailed FEMA Floodplain data available for this area.
S0869	15.09	2.59	0.00	2.59	-	17.14	No detailed FEMA Floodplain data available for this area.
S0870	10.28	5.85	0.00	5.85	-	56.85	No detailed FEMA Floodplain data available for this area.
S1010	2.50	0.74	0.00	0.74	-	29.35	No detailed FEMA Floodplain data available for this area.
S1020	9.59	1.12	0.00	1.12	-	11.70	No detailed FEMA Floodplain data available for this area.
S1033	10.62	0.25	0.00	0.25	-	2.31	No detailed FEMA Floodplain data available for this area.
S1037	2.00	0.45	0.00	0.45	-	22.63	No detailed FEMA Floodplain data available for this area.
S1038	1.16	0.42	0.00	0.42	-	36.00	No detailed FEMA Floodplain data available for this area.
S1040	5.00	0.52	0.00	0.52	-	10.32	No detailed FEMA Floodplain data available for this area.
S1050	14.19	0.69	0.00	0.69	-	4.90	No detailed FEMA Floodplain data available for this area.
S1070	13.62	0.75	0.00	0.75	-	5.49	No detailed FEMA Floodplain data available for this area.
S1080	4.37	0.29	0.00	0.29	-	6.61	No detailed FEMA Floodplain data available for this area.
S1110	8.67	0.84	0.00	0.84	-	9.67	No detailed FEMA Floodplain data available for this area.
S1120	11.54	0.82	0.00	0.82	-	7.10	No detailed FEMA Floodplain data available for this area.
S1130	20.79	0.75	0.00	0.75	-	3.60	No detailed FEMA Floodplain data available for this area.
S1140	0.60	0.12	0.00	0.12	-	19.98	No detailed FEMA Floodplain data available for this area.
S1210	4.80	0.63	0.00	0.63	-	13.17	No detailed FEMA Floodplain data available for this area.
S1220	11.03	1.00	0.00	1.00	-	9.09	No detailed FEMA Floodplain data available for this area.
S1230	12.94	1.02	0.00	1.02	-	7.86	No detailed FEMA Floodplain data available for this area.
S1240	4.54	0.86	0.00	0.86	-	19.04	No detailed FEMA Floodplain data available for this area.
S1250	19.02	1.19	0.00	1.19	-	6.25	No detailed FEMA Floodplain data available for this area.
S1260	6.12	0.68	0.00	0.68	-	11.08	No detailed FEMA Floodplain data available for this area.
S1280	7.14	0.22	0.00	0.22	-	3.02	No detailed FEMA Floodplain data available for this area.
S1310	9.02	3.33	0.00	3.33	-	36.91	No detailed FEMA Floodplain data available for this area.
S1320	98.91	33.85	0.00	33.85	-	34.22	No detailed FEMA Floodplain data available for this area.
S1330	1.78	1.23	0.00	1.23	-	69.09	No detailed FEMA Floodplain data available for this area.
S1340	6.92	5.64	0.00	5.64	-	81.53	No detailed FEMA Floodplain data available for this area.
S1510	13.52	0.90	0.00	0.90	-	6.68	No detailed FEMA Floodplain data available for this area.
S1530	8.58	1.24	0.00	1.24	-	14.44	No detailed FEMA Floodplain data available for this area.
S1540	13.66	1.14	0.00	1.14	-	8.32	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S1560	20.15	1.29	0.00	1.29	-	6.42	No detailed FEMA Floodplain data available for this area.
S1570	2.29	0.89	0.00	0.89	-	39.02	No detailed FEMA Floodplain data available for this area.
S1575	5.79	0.13	0.00	0.13	-	2.31	No detailed FEMA Floodplain data available for this area.
S1580	1.28	0.67	0.00	0.67	-	51.90	No detailed FEMA Floodplain data available for this area.
S1610	8.10	0.79	0.00	0.79	-	9.79	No detailed FEMA Floodplain data available for this area.
S1620	7.24	0.07	0.00	0.07	-	0.97	No detailed FEMA Floodplain data available for this area.
S1630	3.68	0.58	0.00	0.58	-	15.73	No detailed FEMA Floodplain data available for this area.
S1640	1.62	0.26	0.00	0.26	-	16.07	No detailed FEMA Floodplain data available for this area.
S1710	20.08	1.00	0.00	1.00	-	4.98	No detailed FEMA Floodplain data available for this area.
S1720	5.97	0.62	0.00	0.62	-	10.37	No detailed FEMA Floodplain data available for this area.
S1730	12.89	1.80	0.00	1.80	-	14.00	No detailed FEMA Floodplain data available for this area.
S1740	37.37	0.22	0.00	0.22	-	0.58	No detailed FEMA Floodplain data available for this area.
S1750	3.62	0.52	0.00	0.52	-	14.28	No detailed FEMA Floodplain data available for this area.
S1760	1.55	0.36	0.00	0.36	-	23.17	No detailed FEMA Floodplain data available for this area.
S1810	39.39	2.73	0.00	2.73	-	6.93	No detailed FEMA Floodplain data available for this area.
S1820	12.76	2.10	0.00	2.10	-	16.43	No detailed FEMA Floodplain data available for this area.
S1830	12.48	2.07	0.00	2.07	-	16.62	No detailed FEMA Floodplain data available for this area.
S1910	26.50	7.86	0.00	7.86	-	29.65	No detailed FEMA Floodplain data available for this area.
S1920	17.00	3.34	0.00	3.34	-	19.68	No detailed FEMA Floodplain data available for this area.
S1930	11.68	0.97	0.00	0.97	-	8.32	No detailed FEMA Floodplain data available for this area.
S2010	18.79	0.37	0.00	0.37	-	1.95	No detailed FEMA Floodplain data available for this area.
S2020	19.84	1.07	0.00	1.07	-	5.41	No detailed FEMA Floodplain data available for this area.
S2029	11.04	1.78	0.00	1.78	-	16.09	No detailed FEMA Floodplain data available for this area.
S2040	12.46	1.34	0.00	1.34	-	10.75	No detailed FEMA Floodplain data available for this area.
S2045	46.04	3.53	0.00	3.53	-	7.68	No detailed FEMA Floodplain data available for this area.
S2050	63.00	4.90	0.00	4.90	-	7.78	No detailed FEMA Floodplain data available for this area.
S2070	44.85	2.70	0.00	2.70	-	6.01	No detailed FEMA Floodplain data available for this area.
S2510	5.83	0.15	0.00	0.15	-	2.53	No detailed FEMA Floodplain data available for this area.
S2705	16.07	0.30	3.98	3.68	92.52	22.91	No detailed FEMA Floodplain data available for this area.
S2710	16.77	0.26	1.10	0.84	76.24	5.01	No detailed FEMA Floodplain data available for this area.
S2717	4.69	0.09	0.00	0.09	-	1.95	No detailed FEMA Floodplain data available for this area.
S2718	10.73	0.52	0.00	0.52	-	4.86	No detailed FEMA Floodplain data available for this area.
S2719	1.25	0.23	0.00	0.23	-	18.19	No detailed FEMA Floodplain data available for this area.
S2720	36.68	0.75	1.59	0.84	52.71	2.28	No detailed FEMA Floodplain data available for this area.
S2810	1.48	0.18	0.00	0.18	-	12.24	No detailed FEMA Floodplain data available for this area.
S2820	20.12	0.65	0.00	0.65	-	3.24	No detailed FEMA Floodplain data available for this area.
S2830	2.90	0.76	0.00	0.76	-	26.04	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S2840	8.29	0.83	0.00	0.83	-	9.99	No detailed FEMA Floodplain data available for this area.
S2850	1.22	0.37	0.00	0.37	-	30.34	No detailed FEMA Floodplain data available for this area.
S2910	2.71	0.16	0.00	0.16	-	5.85	No detailed FEMA Floodplain data available for this area.
S2920	2.25	0.24	0.00	0.24	-	10.90	No detailed FEMA Floodplain data available for this area.
S2930	1.50	0.60	0.00	0.60	-	39.88	No detailed FEMA Floodplain data available for this area.
S2940	5.13	0.71	0.00	0.71	-	13.76	No detailed FEMA Floodplain data available for this area.
S2950	1.03	0.07	0.00	0.07	-	6.53	No detailed FEMA Floodplain data available for this area.
S3010	12.71	0.45	0.00	0.45	-	3.51	No detailed FEMA Floodplain data available for this area.
S3020	23.32	1.66	0.00	1.66	-	7.13	No detailed FEMA Floodplain data available for this area.
S3030	2.39	0.87	0.00	0.87	-	36.25	No detailed FEMA Floodplain data available for this area.
S3040	5.62	0.72	0.00	0.72	-	12.84	No detailed FEMA Floodplain data available for this area.
S3050	3.01	0.32	0.00	0.32	-	10.60	No detailed FEMA Floodplain data available for this area.
S3510	24.26	0.93	0.00	0.93	-	3.82	No detailed FEMA Floodplain data available for this area.
S3520	8.94	0.99	0.00	0.99	-	11.11	No detailed FEMA Floodplain data available for this area.
S3525	1.26	0.44	0.00	0.44	-	34.76	No detailed FEMA Floodplain data available for this area.
S3530	22.98	2.18	0.00	2.18	-	9.51	No detailed FEMA Floodplain data available for this area.
S3540	5.73	0.46	0.00	0.46	-	8.00	No detailed FEMA Floodplain data available for this area.
S4010	6.10	0.90	0.00	0.90	-	14.79	No detailed FEMA Floodplain data available for this area.
S4020	17.65	1.66	0.00	1.66	-	9.38	No detailed FEMA Floodplain data available for this area.
S4030	9.56	1.01	0.00	1.01	-	10.52	No detailed FEMA Floodplain data available for this area.
S4050	7.41	0.29	0.00	0.29	-	3.96	No detailed FEMA Floodplain data available for this area.
S4510	13.98	0.53	0.00	0.53	-	3.81	No detailed FEMA Floodplain data available for this area.
S4520	7.70	0.71	0.00	0.71	-	9.23	No detailed FEMA Floodplain data available for this area.
S4530	2.02	0.16	0.00	0.16	-	7.90	No detailed FEMA Floodplain data available for this area.
S4540	0.40	0.14	0.00	0.14	-	34.44	No detailed FEMA Floodplain data available for this area.
S5010	21.29	13.99	0.00	13.99	-	65.72	No detailed FEMA Floodplain data available for this area.
S5020	3.49	2.08	0.00	2.08	-	59.53	No detailed FEMA Floodplain data available for this area.
S5030	4.63	2.65	0.00	2.65	-	57.30	No detailed FEMA Floodplain data available for this area.
S5040	6.13	3.65	0.00	3.65	-	59.62	No detailed FEMA Floodplain data available for this area.
S5050	6.39	4.59	0.00	4.59	-	71.79	No detailed FEMA Floodplain data available for this area.
S5059	6.81	0.25	0.00	0.25	-	3.71	No detailed FEMA Floodplain data available for this area.
S5060	6.23	3.83	0.00	3.83	-	61.43	No detailed FEMA Floodplain data available for this area.
S5070	4.05	2.88	0.00	2.88	-	71.01	No detailed FEMA Floodplain data available for this area.
S5080	5.48	3.76	0.00	3.76	-	68.63	No detailed FEMA Floodplain data available for this area.
S5090	7.33	5.42	0.00	5.42	-	73.97	No detailed FEMA Floodplain data available for this area.
S5100	7.84	5.33	0.00	5.33	-	68.00	No detailed FEMA Floodplain data available for this area.
S5109	4.63	2.61	0.00	2.61	-	56.44	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S5110	2.85	2.43	0.00	2.43	-	85.19	No detailed FEMA Floodplain data available for this area.
S5114	45.50	10.29	0.00	10.29	-	22.61	No detailed FEMA Floodplain data available for this area.
S5116	12.35	1.98	0.00	1.98	-	16.06	No detailed FEMA Floodplain data available for this area.
S5117	2.28	1.17	0.00	1.17	-	51.31	No detailed FEMA Floodplain data available for this area.
S5118	3.44	1.37	0.00	1.37	-	39.86	No detailed FEMA Floodplain data available for this area.
S5119	15.97	7.89	0.00	7.89	-	49.42	No detailed FEMA Floodplain data available for this area.
S5120	3.53	2.71	0.00	2.71	-	76.95	No detailed FEMA Floodplain data available for this area.
S5130	2.89	0.92	0.00	0.92	-	31.90	No detailed FEMA Floodplain data available for this area.
S5142	5.97	2.49	0.00	2.49	-	41.73	No detailed FEMA Floodplain data available for this area.
S5144	5.04	1.18	0.00	1.18	-	23.40	No detailed FEMA Floodplain data available for this area.
S5146	2.20	0.74	0.00	0.74	-	33.69	No detailed FEMA Floodplain data available for this area.
S5150	3.93	2.98	0.00	2.98	-	75.83	No detailed FEMA Floodplain data available for this area.
S5158	2.25	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
S5160	4.61	1.37	0.00	1.37	-	29.71	No detailed FEMA Floodplain data available for this area.
S5162	3.19	0.00	0.00	0.00	-	0.00	No detailed FEMA Floodplain data available for this area.
S5163	8.94	0.90	0.00	0.90	-	10.07	No detailed FEMA Floodplain data available for this area.
S5165	3.14	0.45	0.00	0.45	-	14.40	No detailed FEMA Floodplain data available for this area.
S5170	3.51	1.47	0.00	1.47	-	42.00	No detailed FEMA Floodplain data available for this area.
S5173	11.80	10.08	0.00	10.08	-	85.45	No detailed FEMA Floodplain data available for this area.
S5174	4.11	0.54	0.00	0.54	-	13.21	No detailed FEMA Floodplain data available for this area.
S5175	4.58	0.65	0.00	0.65	-	14.19	No detailed FEMA Floodplain data available for this area.
S5180	6.59	3.57	0.00	3.57	-	54.10	No detailed FEMA Floodplain data available for this area.
S5189	40.91	13.34	0.00	13.34	-	32.61	No detailed FEMA Floodplain data available for this area.
S5198	13.90	1.12	0.00	1.12	-	8.07	No detailed FEMA Floodplain data available for this area.
S5200	4.63	2.51	0.00	2.51	-	54.20	No detailed FEMA Floodplain data available for this area.
S5210	3.72	2.40	0.00	2.40	-	64.66	No detailed FEMA Floodplain data available for this area.
S5220	2.18	1.45	0.00	1.45	-	66.43	No detailed FEMA Floodplain data available for this area.
S5229	52.20	4.52	0.00	4.52	-	8.67	No detailed FEMA Floodplain data available for this area.
S5230	1.48	0.98	0.00	0.98	-	65.99	No detailed FEMA Floodplain data available for this area.
S5238	5.91	0.40	0.00	0.40	-	6.72	No detailed FEMA Floodplain data available for this area.
S5240	2.26	1.38	0.00	1.38	-	60.95	No detailed FEMA Floodplain data available for this area.
S5245	5.57	0.26	0.00	0.26	-	4.72	No detailed FEMA Floodplain data available for this area.
S5250	3.55	2.35	0.00	2.35	-	66.16	No detailed FEMA Floodplain data available for this area.
S5255	10.24	0.26	0.00	0.26	-	2.54	No detailed FEMA Floodplain data available for this area.
S5258	6.34	2.17	0.00	2.17	-	34.30	No detailed FEMA Floodplain data available for this area.
S5260	2.99	1.98	0.00	1.98	-	66.31	No detailed FEMA Floodplain data available for this area.
S5270	4.22	2.70	0.00	2.70	-	63.93	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S5275	14.09	0.27	0.00	0.27	-	1.90	No detailed FEMA Floodplain data available for this area.
S5278	8.63	6.84	0.00	6.84	-	79.32	No detailed FEMA Floodplain data available for this area.
S5280	2.54	1.53	0.00	1.53	-	60.44	No detailed FEMA Floodplain data available for this area.
S5290	2.55	1.53	0.00	1.53	-	59.78	No detailed FEMA Floodplain data available for this area.
S5295	10.51	0.22	0.00	0.22	-	2.11	No detailed FEMA Floodplain data available for this area.
S5300	2.96	1.81	0.00	1.81	-	60.95	No detailed FEMA Floodplain data available for this area.
S5310	2.46	1.56	0.00	1.56	-	63.16	No detailed FEMA Floodplain data available for this area.
S5313	5.97	2.14	0.00	2.14	-	35.86	No detailed FEMA Floodplain data available for this area.
S5318	12.00	0.56	0.00	0.56	-	4.66	No detailed FEMA Floodplain data available for this area.
S5320	2.02	1.26	0.00	1.26	-	62.62	No detailed FEMA Floodplain data available for this area.
S5325	10.31	0.52	0.00	0.52	-	5.01	No detailed FEMA Floodplain data available for this area.
S5330	3.46	2.16	0.00	2.16	-	62.25	No detailed FEMA Floodplain data available for this area.
S5340	2.68	1.74	0.00	1.74	-	65.08	No detailed FEMA Floodplain data available for this area.
S5348	11.92	9.32	0.00	9.32	-	78.21	No detailed FEMA Floodplain data available for this area.
S5349	10.70	7.23	0.00	7.23	-	67.57	No detailed FEMA Floodplain data available for this area.
S5350	1.91	1.28	0.00	1.28	-	67.31	No detailed FEMA Floodplain data available for this area.
S5360	5.06	2.69	0.00	2.69	-	53.16	No detailed FEMA Floodplain data available for this area.
S5368	2.43	0.63	0.00	0.63	-	26.04	No detailed FEMA Floodplain data available for this area.
S5369	7.93	1.77	0.00	1.77	-	22.39	No detailed FEMA Floodplain data available for this area.
S5370	2.36	1.28	0.00	1.28	-	54.27	No detailed FEMA Floodplain data available for this area.
S5378	17.17	4.69	0.00	4.69	-	27.30	No detailed FEMA Floodplain data available for this area.
S5379	1.17	0.64	0.00	0.64	-	54.54	No detailed FEMA Floodplain data available for this area.
S5380	4.09	2.34	0.00	2.34	-	57.25	No detailed FEMA Floodplain data available for this area.
S5388	9.65	0.57	0.00	0.57	-	5.92	No detailed FEMA Floodplain data available for this area.
S5389	7.25	1.07	0.00	1.07	-	14.77	No detailed FEMA Floodplain data available for this area.
S5390	3.23	1.88	0.00	1.88	-	58.20	No detailed FEMA Floodplain data available for this area.
S5400	11.24	3.36	0.00	3.36	-	29.85	No detailed FEMA Floodplain data available for this area.
S5405	33.82	4.99	0.00	4.99	-	14.76	No detailed FEMA Floodplain data available for this area.
S5410	29.87	9.83	0.00	9.83	-	32.91	No detailed FEMA Floodplain data available for this area.
S5420	29.88	2.49	0.00	2.49	-	8.33	No detailed FEMA Floodplain data available for this area.
S5430	0.65	0.21	0.00	0.21	-	32.41	No detailed FEMA Floodplain data available for this area.
S5440	22.61	2.31	0.00	2.31	-	10.22	No detailed FEMA Floodplain data available for this area.
S5450	16.90	7.27	0.00	7.27	-	43.01	No detailed FEMA Floodplain data available for this area.
S5460	31.56	4.70	0.00	4.70	-	14.89	No detailed FEMA Floodplain data available for this area.
S5470	10.01	2.22	0.00	2.22	-	22.18	No detailed FEMA Floodplain data available for this area.
S5480	10.36	5.52	0.00	5.52	-	53.28	No detailed FEMA Floodplain data available for this area.
S5490	29.14	3.77	0.00	3.77	-	12.94	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
S5500	16.68	0.73	0.00	0.73	-	4.36	No detailed FEMA Floodplain data available for this area.
S5520	13.37	1.58	0.00	1.58	-	11.80	No detailed FEMA Floodplain data available for this area.
S5530	47.98	4.10	0.00	4.10	-	8.54	No detailed FEMA Floodplain data available for this area.
S5540	4.89	2.56	0.00	2.56	-	52.32	No detailed FEMA Floodplain data available for this area.
S5545	6.09	1.69	0.00	1.69	-	27.76	No detailed FEMA Floodplain data available for this area.
S5549	16.44	1.37	0.00	1.37	-	8.32	No detailed FEMA Floodplain data available for this area.
S5550	39.66	15.59	0.00	15.59	-	39.30	No detailed FEMA Floodplain data available for this area.
S5560	26.12	2.44	0.00	2.44	-	9.32	No detailed FEMA Floodplain data available for this area.
S5566	1.97	0.30	0.00	0.30	-	15.16	No detailed FEMA Floodplain data available for this area.
S5567	1.88	0.50	0.00	0.50	-	26.52	No detailed FEMA Floodplain data available for this area.
S5570	12.93	0.94	0.00	0.94	-	7.25	No detailed FEMA Floodplain data available for this area.
S5577	9.59	1.04	0.00	1.04	-	10.89	No detailed FEMA Floodplain data available for this area.
S5578	2.32	0.96	0.00	0.96	-	41.59	No detailed FEMA Floodplain data available for this area.
S5579	3.87	0.21	0.00	0.21	-	5.31	No detailed FEMA Floodplain data available for this area.
S5580	3.69	1.54	0.00	1.54	-	41.75	No detailed FEMA Floodplain data available for this area.
S5590	42.37	3.75	0.00	3.75	-	8.86	No detailed FEMA Floodplain data available for this area.
S5600	18.53	11.08	4.46	6.63	148.58	35.75	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
S5610	2.56	2.52	2.56	0.04	1.55	1.55	1) Terrain differences resulting from using more recent and accurate Terrain data, 2) differences in methodology employed, 3) recent development that has occurred subsequent to FEMA's study, and 4) differences due to the more rigorous approach used in selecting storage locations to model and due to the resulting greater study detail.
S9000	12.98	1.42	0.00	1.42	-	10.94	No detailed FEMA Floodplain data available for this area.
S9050	12.82	2.39	0.00	2.39	-	18.64	No detailed FEMA Floodplain data available for this area.
S9055	49.89	11.98	0.00	11.98	-	24.01	No detailed FEMA Floodplain data available for this area.
S9060	2.47	2.25	0.00	2.25	-	91.20	No detailed FEMA Floodplain data available for this area.
S9065	0.28	0.22	0.00	0.22	-	80.17	No detailed FEMA Floodplain data available for this area.
S9070	10.90	1.40	0.00	1.40	-	12.89	No detailed FEMA Floodplain data available for this area.
S9075	31.70	5.89	0.00	5.89	-	18.59	No detailed FEMA Floodplain data available for this area.
S9080	0.42	0.35	0.00	0.35	-	82.76	No detailed FEMA Floodplain data available for this area.
S9085	34.18	6.66	0.00	6.66	-	19.50	No detailed FEMA Floodplain data available for this area.
S9090	31.20	29.60	0.00	29.60	-	94.89	No detailed FEMA Floodplain data available for this area.
S9095	3.39	1.18	0.00	1.18	-	34.79	No detailed FEMA Floodplain data available for this area.
S9100	2.04	0.29	0.00	0.29	-	14.11	No detailed FEMA Floodplain data available for this area.
S9110	1.23	0.01	0.00	0.01	-	0.57	No detailed FEMA Floodplain data available for this area.
S9200	0.69	0.11	0.00	0.11	-	16.29	No detailed FEMA Floodplain data available for this area.
S9610	4.16	1.15	0.00	1.15	-	27.71	No detailed FEMA Floodplain data available for this area.
S9620	0.65	0.33	0.00	0.33	-	51.39	No detailed FEMA Floodplain data available for this area.
T0010	2.61	1.45	0.00	1.45	-	55.51	No detailed FEMA Floodplain data available for this area.
T0013	14.32	3.61	0.00	3.61	-	25.23	No detailed FEMA Floodplain data available for this area.
T0014	7.12	0.22	0.00	0.22	-	3.13	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
T0015	7.80	0.15	0.00	0.15	-	1.98	No detailed FEMA Floodplain data available for this area.
T0016	6.25	0.81	0.00	0.81	-	13.04	No detailed FEMA Floodplain data available for this area.
T0017	1.44	0.13	0.00	0.13	-	8.91	No detailed FEMA Floodplain data available for this area.
T0018	6.36	0.26	0.00	0.26	-	4.10	No detailed FEMA Floodplain data available for this area.
T0019	5.70	3.53	0.00	3.53	-	61.98	No detailed FEMA Floodplain data available for this area.
T0030	2.91	1.75	0.00	1.75	-	60.08	No detailed FEMA Floodplain data available for this area.
T0035	15.25	0.57	0.00	0.57	-	3.71	No detailed FEMA Floodplain data available for this area.
T0040	2.89	1.92	0.00	1.92	-	66.34	No detailed FEMA Floodplain data available for this area.
T0043	22.93	9.77	0.00	9.77	-	42.60	No detailed FEMA Floodplain data available for this area.
T0045	9.44	5.45	0.00	5.45	-	57.74	No detailed FEMA Floodplain data available for this area.
T0050	10.87	2.79	0.00	2.79	-	25.67	No detailed FEMA Floodplain data available for this area.
T0060	30.04	0.45	0.00	0.45	-	1.49	No detailed FEMA Floodplain data available for this area.
T0065	24.62	3.57	0.00	3.57	-	14.49	No detailed FEMA Floodplain data available for this area.
T0068	5.67	2.37	0.00	2.37	-	41.81	No detailed FEMA Floodplain data available for this area.
T0069	12.18	2.59	0.00	2.59	-	21.31	No detailed FEMA Floodplain data available for this area.
T0070	15.76	2.50	0.00	2.50	-	15.88	No detailed FEMA Floodplain data available for this area.
T0073	20.08	8.44	0.00	8.44	-	42.06	No detailed FEMA Floodplain data available for this area.
T0077	34.68	16.79	0.00	16.79	-	48.43	No detailed FEMA Floodplain data available for this area.
T0080	14.80	3.26	0.00	3.26	-	22.05	No detailed FEMA Floodplain data available for this area.
T0090	29.53	4.39	0.00	4.39	-	14.87	No detailed FEMA Floodplain data available for this area.
T0092	2.59	1.00	0.00	1.00	-	38.45	No detailed FEMA Floodplain data available for this area.
T0093	26.67	11.95	0.00	11.95	-	44.80	No detailed FEMA Floodplain data available for this area.
T0097	6.76	1.04	0.00	1.04	-	15.42	No detailed FEMA Floodplain data available for this area.
T0100	40.76	7.00	0.00	7.00	-	17.17	No detailed FEMA Floodplain data available for this area.
T0110	34.23	8.56	0.00	8.56	-	25.00	No detailed FEMA Floodplain data available for this area.
T0112	6.98	0.53	0.00	0.53	-	7.58	No detailed FEMA Floodplain data available for this area.
T0115	7.67	2.08	0.00	2.08	-	27.09	No detailed FEMA Floodplain data available for this area.
T0118	1.67	0.74	0.00	0.74	-	44.15	No detailed FEMA Floodplain data available for this area.
T0120	16.19	10.10	0.00	10.10	-	62.39	No detailed FEMA Floodplain data available for this area.
T1010	10.00	0.86	0.00	0.86	-	8.63	No detailed FEMA Floodplain data available for this area.
T1020	15.12	1.08	0.00	1.08	-	7.14	No detailed FEMA Floodplain data available for this area.
T1030	13.20	1.62	0.00	1.62	-	12.25	No detailed FEMA Floodplain data available for this area.
T1040	5.20	0.64	0.00	0.64	-	12.33	No detailed FEMA Floodplain data available for this area.
T1050	3.30	0.16	0.00	0.16	-	4.73	No detailed FEMA Floodplain data available for this area.
T2010	10.33	0.62	0.00	0.62	-	6.01	No detailed FEMA Floodplain data available for this area.
T2020	15.84	1.38	0.00	1.38	-	8.70	No detailed FEMA Floodplain data available for this area.
T2030	45.34	3.38	0.00	3.38	-	7.46	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
T2040	29.51	1.83	0.00	1.83	-	6.22	No detailed FEMA Floodplain data available for this area.
T2050	19.33	1.85	0.00	1.85	-	9.56	No detailed FEMA Floodplain data available for this area.
T2510	3.06	0.32	0.00	0.32	-	10.43	No detailed FEMA Floodplain data available for this area.
T2520	10.93	0.76	0.00	0.76	-	6.94	No detailed FEMA Floodplain data available for this area.
T2530	6.59	0.83	0.00	0.83	-	12.63	No detailed FEMA Floodplain data available for this area.
T2540	3.20	0.22	0.00	0.22	-	6.91	No detailed FEMA Floodplain data available for this area.
T2550	19.20	0.72	0.00	0.72	-	3.74	No detailed FEMA Floodplain data available for this area.
T2560	22.84	8.08	0.00	8.08	-	35.40	No detailed FEMA Floodplain data available for this area.
T2570	7.63	0.48	0.00	0.48	-	6.27	No detailed FEMA Floodplain data available for this area.
T2580	1.10	0.24	0.00	0.24	-	21.99	No detailed FEMA Floodplain data available for this area.
T3006	24.19	2.59	0.00	2.59	-	10.71	No detailed FEMA Floodplain data available for this area.
T3008	7.07	2.98	0.00	2.98	-	42.10	No detailed FEMA Floodplain data available for this area.
T3010	7.66	2.72	0.00	2.72	-	35.52	No detailed FEMA Floodplain data available for this area.
T3014	21.22	12.55	0.00	12.55	-	59.16	No detailed FEMA Floodplain data available for this area.
T3015	2.11	1.34	0.00	1.34	-	63.70	No detailed FEMA Floodplain data available for this area.
T3020	11.34	0.24	0.00	0.24	-	2.08	No detailed FEMA Floodplain data available for this area.
T3030	2.09	0.38	0.00	0.38	-	18.41	No detailed FEMA Floodplain data available for this area.
T3040	5.05	0.39	0.00	0.39	-	7.67	No detailed FEMA Floodplain data available for this area.
T4010	34.93	2.34	0.00	2.34	-	6.71	No detailed FEMA Floodplain data available for this area.
T4020	11.75	4.74	0.00	4.74	-	40.34	No detailed FEMA Floodplain data available for this area.
T4021	15.28	6.65	0.00	6.65	-	43.52	No detailed FEMA Floodplain data available for this area.
T4022	18.15	3.94	0.00	3.94	-	21.69	No detailed FEMA Floodplain data available for this area.
T4030	1.75	0.35	0.00	0.35	-	20.06	No detailed FEMA Floodplain data available for this area.
T4040	36.49	15.35	0.00	15.35	-	42.07	No detailed FEMA Floodplain data available for this area.
T4060	0.28	0.07	0.00	0.07	-	24.22	No detailed FEMA Floodplain data available for this area.
U0486	7.64	4.33	0.00	4.33	-	56.63	No detailed FEMA Floodplain data available for this area.
U0487	3.85	1.04	0.00	1.04	-	27.02	No detailed FEMA Floodplain data available for this area.
U0490	44.64	36.98	0.00	36.98	-	82.84	No detailed FEMA Floodplain data available for this area.
U0493	15.13	6.77	0.00	6.77	-	44.74	No detailed FEMA Floodplain data available for this area.
U0494	13.08	5.56	0.00	5.56	-	42.48	No detailed FEMA Floodplain data available for this area.
U0495	38.38	19.22	0.00	19.22	-	50.07	No detailed FEMA Floodplain data available for this area.
U0500	67.24	55.94	0.00	55.94	-	83.19	No detailed FEMA Floodplain data available for this area.
U0507	22.13	22.13	0.00	22.13	-	100.00	No detailed FEMA Floodplain data available for this area.
U0510	23.54	23.54	0.00	23.54	-	99.99	No detailed FEMA Floodplain data available for this area.
U0512	27.88	27.88	0.00	27.88	-	100.00	No detailed FEMA Floodplain data available for this area.
U0515	5.09	4.28	0.00	4.28	-	84.11	No detailed FEMA Floodplain data available for this area.
U0520	33.32	26.52	0.00	26.52	-	79.58	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U0525	8.61	6.46	0.00	6.46	-	75.03	No detailed FEMA Floodplain data available for this area.
U0530	7.77	7.77	0.00	7.77	-	100.00	No detailed FEMA Floodplain data available for this area.
U0537	83.59	51.74	0.00	51.74	-	61.89	No detailed FEMA Floodplain data available for this area.
U0538	6.65	1.87	0.00	1.87	-	28.19	No detailed FEMA Floodplain data available for this area.
U0540	143.52	107.27	0.00	107.27	-	74.74	No detailed FEMA Floodplain data available for this area.
U0543	30.23	9.61	0.00	9.61	-	31.79	No detailed FEMA Floodplain data available for this area.
U0545	16.87	14.62	0.00	14.62	-	86.70	No detailed FEMA Floodplain data available for this area.
U0550	47.19	28.32	0.00	28.32	-	60.02	No detailed FEMA Floodplain data available for this area.
U0551	16.78	7.03	0.00	7.03	-	41.91	No detailed FEMA Floodplain data available for this area.
U0552	23.80	10.56	0.00	10.56	-	44.37	No detailed FEMA Floodplain data available for this area.
U0553	4.39	2.38	0.00	2.38	-	54.21	No detailed FEMA Floodplain data available for this area.
U0554	33.16	8.32	0.00	8.32	-	25.09	No detailed FEMA Floodplain data available for this area.
U0555	5.09	2.70	0.00	2.70	-	53.05	No detailed FEMA Floodplain data available for this area.
U0556	29.71	19.33	0.00	19.33	-	65.07	No detailed FEMA Floodplain data available for this area.
U0557	5.19	2.15	0.00	2.15	-	41.44	No detailed FEMA Floodplain data available for this area.
U0558	10.29	7.56	0.00	7.56	-	73.47	No detailed FEMA Floodplain data available for this area.
U0560	91.00	57.86	0.00	57.86	-	63.58	No detailed FEMA Floodplain data available for this area.
U0570	64.68	60.47	0.00	60.47	-	93.49	No detailed FEMA Floodplain data available for this area.
U0575	55.25	36.09	0.00	36.09	-	65.32	No detailed FEMA Floodplain data available for this area.
U0580	57.30	55.72	0.00	55.72	-	97.24	No detailed FEMA Floodplain data available for this area.
U0590	12.71	12.62	0.00	12.62	-	99.27	No detailed FEMA Floodplain data available for this area.
U0610	4.28	3.01	0.00	3.01	-	70.24	No detailed FEMA Floodplain data available for this area.
U0640	0.38	0.12	0.00	0.12	-	31.37	No detailed FEMA Floodplain data available for this area.
U0645	16.74	7.38	0.00	7.38	-	44.09	No detailed FEMA Floodplain data available for this area.
U0646	13.69	7.84	0.00	7.84	-	57.31	No detailed FEMA Floodplain data available for this area.
U0647	4.68	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U0648	8.29	0.55	0.00	0.55	-	6.69	No detailed FEMA Floodplain data available for this area.
U0650	30.59	16.33	0.00	16.33	-	53.37	No detailed FEMA Floodplain data available for this area.
U0655	20.81	10.80	0.00	10.80	-	51.90	No detailed FEMA Floodplain data available for this area.
U2610	13.63	4.92	0.00	4.92	-	36.08	No detailed FEMA Floodplain data available for this area.
U2625	4.20	2.42	0.00	2.42	-	57.68	No detailed FEMA Floodplain data available for this area.
U2630	27.79	17.92	0.00	17.92	-	64.48	No detailed FEMA Floodplain data available for this area.
U2710	1.38	0.78	0.00	0.78	-	56.23	No detailed FEMA Floodplain data available for this area.
U2720	8.76	4.86	0.00	4.86	-	55.53	No detailed FEMA Floodplain data available for this area.
U2730	40.73	26.63	0.00	26.63	-	65.39	No detailed FEMA Floodplain data available for this area.
U2735	96.16	12.03	0.00	12.03	-	12.51	No detailed FEMA Floodplain data available for this area.
U2737	6.25	2.90	0.00	2.90	-	46.36	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U2740	34.05	22.61	0.00	22.61	-	66.42	No detailed FEMA Floodplain data available for this area.
U2745	5.90	4.73	0.00	4.73	-	80.28	No detailed FEMA Floodplain data available for this area.
U2750	17.59	15.61	0.00	15.61	-	88.78	No detailed FEMA Floodplain data available for this area.
U2753	2.36	1.04	0.00	1.04	-	44.11	No detailed FEMA Floodplain data available for this area.
U2755	13.24	10.23	0.00	10.23	-	77.25	No detailed FEMA Floodplain data available for this area.
U2756	0.06	0.06	0.00	0.06	-	99.90	No detailed FEMA Floodplain data available for this area.
U2757	7.25	7.25	0.00	7.25	-	100.00	No detailed FEMA Floodplain data available for this area.
U2760	17.46	15.30	0.00	15.30	-	87.65	No detailed FEMA Floodplain data available for this area.
U2770	3.23	3.23	0.00	3.23	-	99.98	No detailed FEMA Floodplain data available for this area.
U3126	5.20	1.71	0.00	1.71	-	32.89	No detailed FEMA Floodplain data available for this area.
U3130	5.53	4.03	0.00	4.03	-	72.83	No detailed FEMA Floodplain data available for this area.
U3135	10.29	3.49	0.00	3.49	-	33.90	No detailed FEMA Floodplain data available for this area.
U3140	15.32	8.04	0.00	8.04	-	52.50	No detailed FEMA Floodplain data available for this area.
U3150	48.23	29.66	0.00	29.66	-	61.50	No detailed FEMA Floodplain data available for this area.
U3160	55.75	45.25	0.00	45.25	-	81.17	No detailed FEMA Floodplain data available for this area.
U3163	41.40	28.61	0.00	28.61	-	69.11	No detailed FEMA Floodplain data available for this area.
U3165	22.31	6.56	0.00	6.56	-	29.42	No detailed FEMA Floodplain data available for this area.
U3170	37.70	30.95	0.00	30.95	-	82.10	No detailed FEMA Floodplain data available for this area.
U3255	7.05	3.78	0.00	3.78	-	53.59	No detailed FEMA Floodplain data available for this area.
U3260	12.29	5.17	0.00	5.17	-	42.06	No detailed FEMA Floodplain data available for this area.
U3270	50.07	31.45	0.00	31.45	-	62.81	No detailed FEMA Floodplain data available for this area.
U3490	1.07	0.31	0.00	0.31	-	28.64	No detailed FEMA Floodplain data available for this area.
U3510	7.38	6.55	0.00	6.55	-	88.71	No detailed FEMA Floodplain data available for this area.
U3810	2.44	1.01	0.00	1.01	-	41.61	No detailed FEMA Floodplain data available for this area.
U3815	9.61	5.23	0.00	5.23	-	54.39	No detailed FEMA Floodplain data available for this area.
U3820	33.68	22.79	0.00	22.79	-	67.68	No detailed FEMA Floodplain data available for this area.
U3825	16.02	7.03	0.00	7.03	-	43.91	No detailed FEMA Floodplain data available for this area.
U3830	31.56	19.99	0.00	19.99	-	63.32	No detailed FEMA Floodplain data available for this area.
U3840	48.62	39.20	0.00	39.20	-	80.63	No detailed FEMA Floodplain data available for this area.
U3843	15.53	6.33	0.00	6.33	-	40.75	No detailed FEMA Floodplain data available for this area.
U3845	3.55	2.44	0.00	2.44	-	68.66	No detailed FEMA Floodplain data available for this area.
U3848	25.82	13.69	0.00	13.69	-	53.03	No detailed FEMA Floodplain data available for this area.
U3850	63.07	27.50	0.00	27.50	-	43.59	No detailed FEMA Floodplain data available for this area.
U3910	7.13	2.69	0.00	2.69	-	37.74	No detailed FEMA Floodplain data available for this area.
U3915	4.81	3.49	0.00	3.49	-	72.48	No detailed FEMA Floodplain data available for this area.
U3920	19.07	9.49	0.00	9.49	-	49.78	No detailed FEMA Floodplain data available for this area.
U3930	11.72	8.57	0.00	8.57	-	73.14	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U3940	14.75	11.33	0.00	11.33	-	76.80	No detailed FEMA Floodplain data available for this area.
U4010	46.83	29.04	0.00	29.04	-	62.01	No detailed FEMA Floodplain data available for this area.
U4020	7.69	3.22	0.00	3.22	-	41.91	No detailed FEMA Floodplain data available for this area.
U4030	6.41	2.45	0.00	2.45	-	38.28	No detailed FEMA Floodplain data available for this area.
U4040	4.68	3.17	0.00	3.17	-	67.66	No detailed FEMA Floodplain data available for this area.
U4050	26.59	14.91	0.00	14.91	-	56.07	No detailed FEMA Floodplain data available for this area.
U4052	24.46	12.74	0.00	12.74	-	52.06	No detailed FEMA Floodplain data available for this area.
U4053	40.67	26.98	0.00	26.98	-	66.35	No detailed FEMA Floodplain data available for this area.
U4054	64.89	54.87	0.00	54.87	-	84.55	No detailed FEMA Floodplain data available for this area.
U4055	7.89	6.52	0.00	6.52	-	82.64	No detailed FEMA Floodplain data available for this area.
U4060	62.66	48.04	0.00	48.04	-	76.67	No detailed FEMA Floodplain data available for this area.
U4070	25.94	14.91	0.00	14.91	-	57.46	No detailed FEMA Floodplain data available for this area.
U4080	35.07	15.99	0.00	15.99	-	45.60	No detailed FEMA Floodplain data available for this area.
U4082	15.98	10.53	0.00	10.53	-	65.89	No detailed FEMA Floodplain data available for this area.
U4084	20.13	12.45	0.00	12.45	-	61.86	No detailed FEMA Floodplain data available for this area.
U4087	14.86	1.28	0.00	1.28	-	8.60	No detailed FEMA Floodplain data available for this area.
U4090	38.35	20.09	0.00	20.09	-	52.39	No detailed FEMA Floodplain data available for this area.
U4100	46.61	23.28	0.00	23.28	-	49.95	No detailed FEMA Floodplain data available for this area.
U4105	33.31	26.77	0.00	26.77	-	80.36	No detailed FEMA Floodplain data available for this area.
U4110	18.18	13.60	0.00	13.60	-	74.79	No detailed FEMA Floodplain data available for this area.
U4112	22.57	11.40	0.00	11.40	-	50.52	No detailed FEMA Floodplain data available for this area.
U4113	4.29	2.88	0.00	2.88	-	67.10	No detailed FEMA Floodplain data available for this area.
U4115	14.87	4.77	0.00	4.77	-	32.05	No detailed FEMA Floodplain data available for this area.
U4117	3.69	2.63	0.00	2.63	-	71.20	No detailed FEMA Floodplain data available for this area.
U4124	7.00	3.45	0.00	3.45	-	49.30	No detailed FEMA Floodplain data available for this area.
U4125	65.77	44.58	0.00	44.58	-	67.78	No detailed FEMA Floodplain data available for this area.
U4126	11.67	8.81	0.00	8.81	-	75.52	No detailed FEMA Floodplain data available for this area.
U4128	61.97	48.56	0.00	48.56	-	78.37	No detailed FEMA Floodplain data available for this area.
U4130	75.73	39.20	0.00	39.20	-	51.77	No detailed FEMA Floodplain data available for this area.
U4140	38.11	18.24	0.00	18.24	-	47.87	No detailed FEMA Floodplain data available for this area.
U4150	19.57	8.41	0.00	8.41	-	42.94	No detailed FEMA Floodplain data available for this area.
U4155	9.96	4.81	0.00	4.81	-	48.32	No detailed FEMA Floodplain data available for this area.
U4160	42.36	34.17	0.00	34.17	-	80.67	No detailed FEMA Floodplain data available for this area.
U4165	8.44	7.46	0.00	7.46	-	88.31	No detailed FEMA Floodplain data available for this area.
U4210	8.05	7.33	0.00	7.33	-	91.01	No detailed FEMA Floodplain data available for this area.
U4220	14.95	13.13	0.00	13.13	-	87.83	No detailed FEMA Floodplain data available for this area.
U4225	26.63	13.54	0.00	13.54	-	50.84	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U4230	12.70	11.34	0.00	11.34	-	89.25	No detailed FEMA Floodplain data available for this area.
U4240	40.43	14.44	0.00	14.44	-	35.72	No detailed FEMA Floodplain data available for this area.
U4250	23.96	23.10	0.00	23.10	-	96.39	No detailed FEMA Floodplain data available for this area.
U4260	37.70	37.44	0.00	37.44	-	99.31	No detailed FEMA Floodplain data available for this area.
U4410	24.01	12.53	0.00	12.53	-	52.21	No detailed FEMA Floodplain data available for this area.
U4420	26.92	19.17	0.00	19.17	-	71.22	No detailed FEMA Floodplain data available for this area.
U4430	18.17	8.14	0.00	8.14	-	44.80	No detailed FEMA Floodplain data available for this area.
U4440	55.08	41.68	0.00	41.68	-	75.66	No detailed FEMA Floodplain data available for this area.
U4445	20.49	6.71	0.00	6.71	-	32.76	No detailed FEMA Floodplain data available for this area.
U4450	72.56	48.49	0.00	48.49	-	66.83	No detailed FEMA Floodplain data available for this area.
U4610	28.72	16.94	0.00	16.94	-	58.97	No detailed FEMA Floodplain data available for this area.
U4615	19.78	10.07	0.00	10.07	-	50.92	No detailed FEMA Floodplain data available for this area.
U4620	48.85	21.69	0.00	21.69	-	44.41	No detailed FEMA Floodplain data available for this area.
U4623	8.76	3.34	0.00	3.34	-	38.14	No detailed FEMA Floodplain data available for this area.
U4627	9.23	7.27	0.00	7.27	-	78.78	No detailed FEMA Floodplain data available for this area.
U4630	49.66	15.61	0.00	15.61	-	31.43	No detailed FEMA Floodplain data available for this area.
U4640	68.59	48.55	0.00	48.55	-	70.79	No detailed FEMA Floodplain data available for this area.
U4642	3.27	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U4644	34.31	16.54	0.00	16.54	-	48.20	No detailed FEMA Floodplain data available for this area.
U4646	22.63	16.38	0.00	16.38	-	72.38	No detailed FEMA Floodplain data available for this area.
U4660	32.08	20.27	0.00	20.27	-	63.18	No detailed FEMA Floodplain data available for this area.
U4675	64.99	39.59	0.00	39.59	-	60.92	No detailed FEMA Floodplain data available for this area.
U4677	39.29	22.49	0.00	22.49	-	57.25	No detailed FEMA Floodplain data available for this area.
U4680	23.10	20.38	0.00	20.38	-	88.25	No detailed FEMA Floodplain data available for this area.
U4710	38.48	22.69	0.00	22.69	-	58.97	No detailed FEMA Floodplain data available for this area.
U4720	22.92	10.99	0.00	10.99	-	47.95	No detailed FEMA Floodplain data available for this area.
U4725	2.96	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U4730	12.04	4.56	0.00	4.56	-	37.86	No detailed FEMA Floodplain data available for this area.
U4740	6.88	3.44	0.00	3.44	-	49.94	No detailed FEMA Floodplain data available for this area.
U4750	15.33	11.21	0.00	11.21	-	73.13	No detailed FEMA Floodplain data available for this area.
U4760	12.92	7.18	0.00	7.18	-	55.58	No detailed FEMA Floodplain data available for this area.
U4770	13.05	12.48	0.00	12.48	-	95.65	No detailed FEMA Floodplain data available for this area.
U4810	5.21	4.04	0.00	4.04	-	77.56	No detailed FEMA Floodplain data available for this area.
U4820	26.39	21.65	0.00	21.65	-	82.03	No detailed FEMA Floodplain data available for this area.
U4830	12.80	10.27	0.00	10.27	-	80.23	No detailed FEMA Floodplain data available for this area.
U4840	11.31	8.21	0.00	8.21	-	72.54	No detailed FEMA Floodplain data available for this area.
U4844	18.29	15.62	0.00	15.62	-	85.37	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U4850	12.82	10.74	0.00	10.74	-	83.79	No detailed FEMA Floodplain data available for this area.
U4857	3.62	2.48	0.00	2.48	-	68.59	No detailed FEMA Floodplain data available for this area.
U4860	19.06	17.90	0.00	17.90	-	93.88	No detailed FEMA Floodplain data available for this area.
U4870	18.48	17.47	0.00	17.47	-	94.50	No detailed FEMA Floodplain data available for this area.
U4910	2.22	0.78	0.00	0.78	-	34.94	No detailed FEMA Floodplain data available for this area.
U4920	14.77	6.81	0.00	6.81	-	46.11	No detailed FEMA Floodplain data available for this area.
U5010	2.40	0.36	0.00	0.36	-	14.93	No detailed FEMA Floodplain data available for this area.
U5020	0.29	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U5030	0.26	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U5040	11.89	2.14	0.00	2.14	-	17.96	No detailed FEMA Floodplain data available for this area.
U5050	6.37	5.74	0.00	5.74	-	90.08	No detailed FEMA Floodplain data available for this area.
U5060	0.40	0.13	0.00	0.13	-	32.18	No detailed FEMA Floodplain data available for this area.
U5080	0.33	0.15	0.00	0.15	-	44.47	No detailed FEMA Floodplain data available for this area.
U5090	20.32	6.87	0.00	6.87	-	33.80	No detailed FEMA Floodplain data available for this area.
U5095	11.86	11.07	0.00	11.07	-	93.38	No detailed FEMA Floodplain data available for this area.
U5185	25.48	24.44	0.00	24.44	-	95.92	No detailed FEMA Floodplain data available for this area.
U5202	18.02	18.02	0.00	18.02	-	100.00	No detailed FEMA Floodplain data available for this area.
U5203	7.45	7.45	0.00	7.45	-	100.00	No detailed FEMA Floodplain data available for this area.
U5205	12.24	12.23	0.00	12.23	-	99.99	No detailed FEMA Floodplain data available for this area.
U5207	22.00	22.00	0.00	22.00	-	100.00	No detailed FEMA Floodplain data available for this area.
U5210	12.79	12.79	0.00	12.79	-	100.00	No detailed FEMA Floodplain data available for this area.
U5220	15.72	15.72	0.00	15.72	-	100.00	No detailed FEMA Floodplain data available for this area.
U5410	17.07	17.07	0.00	17.07	-	100.00	No detailed FEMA Floodplain data available for this area.
U5420	68.04	68.04	0.00	68.04	-	100.00	No detailed FEMA Floodplain data available for this area.
U5421	18.72	16.87	0.00	16.87	-	90.13	No detailed FEMA Floodplain data available for this area.
U5422	6.01	3.18	0.00	3.18	-	52.93	No detailed FEMA Floodplain data available for this area.
U5423	16.96	11.35	0.00	11.35	-	66.94	No detailed FEMA Floodplain data available for this area.
U5424	9.34	7.43	0.00	7.43	-	79.57	No detailed FEMA Floodplain data available for this area.
U5425	40.50	24.57	0.00	24.57	-	60.65	No detailed FEMA Floodplain data available for this area.
U5426	24.05	24.05	0.00	24.05	-	100.00	No detailed FEMA Floodplain data available for this area.
U5427	9.11	9.11	0.00	9.11	-	100.00	No detailed FEMA Floodplain data available for this area.
U5428	15.29	15.01	0.00	15.01	-	98.12	No detailed FEMA Floodplain data available for this area.
U5429	9.78	9.66	0.00	9.66	-	98.77	No detailed FEMA Floodplain data available for this area.
U5430	40.60	15.91	0.00	15.91	-	39.20	No detailed FEMA Floodplain data available for this area.
U5440	18.93	7.01	0.00	7.01	-	37.01	No detailed FEMA Floodplain data available for this area.
U5450	84.25	38.83	0.00	38.83	-	46.09	No detailed FEMA Floodplain data available for this area.
U5455	8.05	3.10	0.00	3.10	-	38.52	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U5457	37.64	23.83	0.00	23.83	-	63.30	No detailed FEMA Floodplain data available for this area.
U5460	21.98	6.55	0.00	6.55	-	29.79	No detailed FEMA Floodplain data available for this area.
U5470	7.48	3.84	0.00	3.84	-	51.30	No detailed FEMA Floodplain data available for this area.
U5480	64.68	51.05	0.00	51.05	-	78.93	No detailed FEMA Floodplain data available for this area.
U5482	56.92	36.82	0.00	36.82	-	64.69	No detailed FEMA Floodplain data available for this area.
U5484	28.43	20.90	0.00	20.90	-	73.51	No detailed FEMA Floodplain data available for this area.
U5486	6.16	2.50	0.00	2.50	-	40.52	No detailed FEMA Floodplain data available for this area.
U5487	27.35	17.46	0.00	17.46	-	63.84	No detailed FEMA Floodplain data available for this area.
U5488	7.26	2.72	0.00	2.72	-	37.42	No detailed FEMA Floodplain data available for this area.
U5490	3.01	3.01	0.00	3.01	-	100.00	No detailed FEMA Floodplain data available for this area.
U5495	10.98	2.35	0.00	2.35	-	21.39	No detailed FEMA Floodplain data available for this area.
U5500	28.41	24.00	0.00	24.00	-	84.48	No detailed FEMA Floodplain data available for this area.
U5520	30.63	19.89	0.00	19.89	-	64.95	No detailed FEMA Floodplain data available for this area.
U5525	20.03	7.96	0.00	7.96	-	39.74	No detailed FEMA Floodplain data available for this area.
U5530	24.78	10.68	0.00	10.68	-	43.11	No detailed FEMA Floodplain data available for this area.
U5540	29.32	14.80	0.00	14.80	-	50.46	No detailed FEMA Floodplain data available for this area.
U5545	17.20	6.09	0.00	6.09	-	35.39	No detailed FEMA Floodplain data available for this area.
U5550	10.65	5.86	0.00	5.86	-	55.01	No detailed FEMA Floodplain data available for this area.
U5555	31.32	16.22	0.00	16.22	-	51.81	No detailed FEMA Floodplain data available for this area.
U5570	17.88	8.71	0.00	8.71	-	48.68	No detailed FEMA Floodplain data available for this area.
U5580	8.24	6.92	0.00	6.92	-	84.08	No detailed FEMA Floodplain data available for this area.
U5590	58.26	27.62	0.00	27.62	-	47.40	No detailed FEMA Floodplain data available for this area.
U5595	32.94	30.91	0.00	30.91	-	93.83	No detailed FEMA Floodplain data available for this area.
U5610	4.58	0.56	0.00	0.56	-	12.17	No detailed FEMA Floodplain data available for this area.
U5620	0.27	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U5630	0.31	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U5640	9.92	2.30	0.00	2.30	-	23.22	No detailed FEMA Floodplain data available for this area.
U5710	0.20	0.09	0.00	0.09	-	42.46	No detailed FEMA Floodplain data available for this area.
U5720	0.33	0.21	0.00	0.21	-	62.31	No detailed FEMA Floodplain data available for this area.
U5730	12.80	4.96	0.00	4.96	-	38.79	No detailed FEMA Floodplain data available for this area.
U5810	6.42	3.17	0.00	3.17	-	49.41	No detailed FEMA Floodplain data available for this area.
U5820	11.64	7.42	0.00	7.42	-	63.75	No detailed FEMA Floodplain data available for this area.
U5825	6.71	4.46	0.00	4.46	-	66.51	No detailed FEMA Floodplain data available for this area.
U5830	54.97	32.27	0.00	32.27	-	58.71	No detailed FEMA Floodplain data available for this area.
U5835	18.66	6.18	0.00	6.18	-	33.12	No detailed FEMA Floodplain data available for this area.
U5840	97.68	28.46	0.00	28.46	-	29.14	No detailed FEMA Floodplain data available for this area.
U5845	34.31	19.15	0.00	19.15	-	55.81	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U5850	137.41	65.36	0.00	65.36	-	47.57	No detailed FEMA Floodplain data available for this area.
U5870	3.84	3.20	0.00	3.20	-	83.26	No detailed FEMA Floodplain data available for this area.
U5910	16.74	5.16	0.00	5.16	-	30.84	No detailed FEMA Floodplain data available for this area.
U5915	5.75	3.29	0.00	3.29	-	57.21	No detailed FEMA Floodplain data available for this area.
U5920	68.42	38.59	0.00	38.59	-	56.40	No detailed FEMA Floodplain data available for this area.
U5930	22.77	19.09	0.00	19.09	-	83.81	No detailed FEMA Floodplain data available for this area.
U5940	32.91	17.56	0.00	17.56	-	53.37	No detailed FEMA Floodplain data available for this area.
U6010	13.57	7.65	0.00	7.65	-	56.38	No detailed FEMA Floodplain data available for this area.
U6020	14.51	9.91	0.00	9.91	-	68.29	No detailed FEMA Floodplain data available for this area.
U6021	24.16	3.38	0.00	3.38	-	14.00	No detailed FEMA Floodplain data available for this area.
U6022	10.28	0.67	0.00	0.67	-	6.53	No detailed FEMA Floodplain data available for this area.
U6023	83.38	74.21	0.00	74.21	-	89.00	No detailed FEMA Floodplain data available for this area.
U6024	5.49	3.57	0.00	3.57	-	65.05	No detailed FEMA Floodplain data available for this area.
U6026	13.86	9.35	0.00	9.35	-	67.43	No detailed FEMA Floodplain data available for this area.
U6030	122.00	80.39	0.00	80.39	-	65.90	No detailed FEMA Floodplain data available for this area.
U6040	4.97	1.09	0.00	1.09	-	21.93	No detailed FEMA Floodplain data available for this area.
U6070	57.31	20.68	0.00	20.68	-	36.08	No detailed FEMA Floodplain data available for this area.
U6080	41.68	5.42	0.00	5.42	-	13.00	No detailed FEMA Floodplain data available for this area.
U6090	17.10	9.71	0.00	9.71	-	56.77	No detailed FEMA Floodplain data available for this area.
U6095	15.89	2.91	0.00	2.91	-	18.32	No detailed FEMA Floodplain data available for this area.
U6100	27.00	18.09	0.00	18.09	-	66.99	No detailed FEMA Floodplain data available for this area.
U6103	26.26	8.47	0.00	8.47	-	32.27	No detailed FEMA Floodplain data available for this area.
U6107	12.86	11.29	0.00	11.29	-	87.82	No detailed FEMA Floodplain data available for this area.
U6110	64.50	18.64	0.00	18.64	-	28.89	No detailed FEMA Floodplain data available for this area.
U6310	4.97	2.02	0.00	2.02	-	40.70	No detailed FEMA Floodplain data available for this area.
U6320	5.10	1.76	0.00	1.76	-	34.44	No detailed FEMA Floodplain data available for this area.
U6330	15.31	8.36	0.00	8.36	-	54.60	No detailed FEMA Floodplain data available for this area.
U6335	26.73	6.80	0.00	6.80	-	25.43	No detailed FEMA Floodplain data available for this area.
U6340	33.68	29.13	0.00	29.13	-	86.47	No detailed FEMA Floodplain data available for this area.
U6350	11.25	6.42	0.00	6.42	-	57.08	No detailed FEMA Floodplain data available for this area.
U6360	41.53	18.30	0.00	18.30	-	44.06	No detailed FEMA Floodplain data available for this area.
U6361	9.33	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U6362	7.98	1.40	0.00	1.40	-	17.60	No detailed FEMA Floodplain data available for this area.
U6370	10.74	8.53	0.00	8.53	-	79.46	No detailed FEMA Floodplain data available for this area.
U6380	6.91	5.77	0.00	5.77	-	83.54	No detailed FEMA Floodplain data available for this area.
U6383	5.44	4.68	0.00	4.68	-	86.11	No detailed FEMA Floodplain data available for this area.
U6385	1.24	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U6387	7.00	1.13	0.00	1.13	-	16.20	No detailed FEMA Floodplain data available for this area.
U6390	16.31	8.73	0.00	8.73	-	53.51	No detailed FEMA Floodplain data available for this area.
U6410	24.80	16.47	0.00	16.47	-	66.44	No detailed FEMA Floodplain data available for this area.
U6416	6.92	1.53	0.00	1.53	-	22.17	No detailed FEMA Floodplain data available for this area.
U6420	4.30	0.75	0.00	0.75	-	17.38	No detailed FEMA Floodplain data available for this area.
U6607	29.54	14.72	0.00	14.72	-	49.83	No detailed FEMA Floodplain data available for this area.
U6612	5.77	3.20	0.00	3.20	-	55.51	No detailed FEMA Floodplain data available for this area.
U6620	15.10	10.79	0.00	10.79	-	71.42	No detailed FEMA Floodplain data available for this area.
U6630	24.86	22.18	0.00	22.18	-	89.25	No detailed FEMA Floodplain data available for this area.
U6640	12.26	8.84	0.00	8.84	-	72.09	No detailed FEMA Floodplain data available for this area.
U6650	9.80	7.01	0.00	7.01	-	71.51	No detailed FEMA Floodplain data available for this area.
U6655	0.88	0.65	0.00	0.65	-	73.62	No detailed FEMA Floodplain data available for this area.
U6660	4.85	1.98	0.00	1.98	-	40.81	No detailed FEMA Floodplain data available for this area.
U6666	9.07	1.70	0.00	1.70	-	18.78	No detailed FEMA Floodplain data available for this area.
U6670	4.94	2.91	0.00	2.91	-	58.96	No detailed FEMA Floodplain data available for this area.
U6680	2.76	1.95	0.00	1.95	-	70.72	No detailed FEMA Floodplain data available for this area.
U6690	1.35	0.72	0.00	0.72	-	53.06	No detailed FEMA Floodplain data available for this area.
U6700	1.28	0.47	0.00	0.47	-	36.83	No detailed FEMA Floodplain data available for this area.
U6810	3.20	1.62	0.00	1.62	-	50.59	No detailed FEMA Floodplain data available for this area.
U6820	0.92	0.21	0.00	0.21	-	23.02	No detailed FEMA Floodplain data available for this area.
U6825	0.47	0.24	0.00	0.24	-	51.22	No detailed FEMA Floodplain data available for this area.
U6830	0.49	0.11	0.00	0.11	-	23.36	No detailed FEMA Floodplain data available for this area.
U6834	0.47	0.09	0.00	0.09	-	19.61	No detailed FEMA Floodplain data available for this area.
U6840	7.12	2.73	0.00	2.73	-	38.40	No detailed FEMA Floodplain data available for this area.
U6850	0.16	0.09	0.00	0.09	-	54.56	No detailed FEMA Floodplain data available for this area.
U6860	0.63	0.24	0.00	0.24	-	38.91	No detailed FEMA Floodplain data available for this area.
U6870	0.08	0.02	0.00	0.02	-	27.64	No detailed FEMA Floodplain data available for this area.
U6880	5.54	4.55	0.00	4.55	-	82.21	No detailed FEMA Floodplain data available for this area.
U6890	0.66	0.09	0.00	0.09	-	14.00	No detailed FEMA Floodplain data available for this area.
U6900	7.90	1.68	0.00	1.68	-	21.26	No detailed FEMA Floodplain data available for this area.
U6910	0.61	0.21	0.00	0.21	-	34.10	No detailed FEMA Floodplain data available for this area.
U6915	0.58	0.19	0.00	0.19	-	32.57	No detailed FEMA Floodplain data available for this area.
U6920	0.49	0.05	0.00	0.05	-	10.39	No detailed FEMA Floodplain data available for this area.
U6930	5.03	3.61	0.00	3.61	-	71.77	No detailed FEMA Floodplain data available for this area.
U6940	0.34	0.15	0.00	0.15	-	43.45	No detailed FEMA Floodplain data available for this area.
U6945	0.66	0.17	0.00	0.17	-	26.29	No detailed FEMA Floodplain data available for this area.
U6950	0.45	0.21	0.00	0.21	-	47.06	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U6960	0.60	0.34	0.00	0.34	-	57.76	No detailed FEMA Floodplain data available for this area.
U6970	23.77	11.77	0.00	11.77	-	49.50	No detailed FEMA Floodplain data available for this area.
U6975	16.87	8.03	0.00	8.03	-	47.59	No detailed FEMA Floodplain data available for this area.
U7010	4.19	0.47	0.00	0.47	-	11.30	No detailed FEMA Floodplain data available for this area.
U7110	6.50	1.69	0.00	1.69	-	26.06	No detailed FEMA Floodplain data available for this area.
U7210	0.77	0.20	0.00	0.20	-	26.36	No detailed FEMA Floodplain data available for this area.
U7220	0.37	0.01	0.00	0.01	-	2.91	No detailed FEMA Floodplain data available for this area.
U7230	5.30	1.87	0.00	1.87	-	35.27	No detailed FEMA Floodplain data available for this area.
U7310	23.97	14.01	0.00	14.01	-	58.44	No detailed FEMA Floodplain data available for this area.
U7320	65.63	50.35	0.00	50.35	-	76.72	No detailed FEMA Floodplain data available for this area.
U7330	6.71	5.84	0.00	5.84	-	86.98	No detailed FEMA Floodplain data available for this area.
U7355	4.38	2.13	0.00	2.13	-	48.70	No detailed FEMA Floodplain data available for this area.
U7360	29.44	20.09	0.00	20.09	-	68.23	No detailed FEMA Floodplain data available for this area.
U7363	30.83	13.20	0.00	13.20	-	42.83	No detailed FEMA Floodplain data available for this area.
U7365	4.54	4.40	0.00	4.40	-	97.06	No detailed FEMA Floodplain data available for this area.
U7367	1.94	1.41	0.00	1.41	-	72.71	No detailed FEMA Floodplain data available for this area.
U7370	22.28	17.49	0.00	17.49	-	78.48	No detailed FEMA Floodplain data available for this area.
U7375	5.58	4.36	0.00	4.36	-	78.18	No detailed FEMA Floodplain data available for this area.
U7380	7.48	6.35	0.00	6.35	-	84.85	No detailed FEMA Floodplain data available for this area.
U7390	6.49	6.03	0.00	6.03	-	92.88	No detailed FEMA Floodplain data available for this area.
U7400	2.98	2.66	0.00	2.66	-	89.35	No detailed FEMA Floodplain data available for this area.
U7510	12.28	2.62	0.00	2.62	-	21.30	No detailed FEMA Floodplain data available for this area.
U7520	0.50	0.01	0.00	0.01	-	1.99	No detailed FEMA Floodplain data available for this area.
U7530	0.94	0.60	0.00	0.60	-	63.51	No detailed FEMA Floodplain data available for this area.
U7540	0.64	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U7550	2.57	0.74	0.00	0.74	-	28.64	No detailed FEMA Floodplain data available for this area.
U7560	0.99	0.18	0.00	0.18	-	18.44	No detailed FEMA Floodplain data available for this area.
U7570	1.43	0.48	0.00	0.48	-	33.81	No detailed FEMA Floodplain data available for this area.
U8210	11.48	9.44	0.00	9.44	-	82.24	No detailed FEMA Floodplain data available for this area.
U8220	14.72	11.66	0.00	11.66	-	79.23	No detailed FEMA Floodplain data available for this area.
U8230	5.60	4.87	0.00	4.87	-	86.90	No detailed FEMA Floodplain data available for this area.
U8240	4.92	3.91	0.00	3.91	-	79.39	No detailed FEMA Floodplain data available for this area.
U8250	6.05	4.25	0.00	4.25	-	70.23	No detailed FEMA Floodplain data available for this area.
U8260	2.21	1.05	0.00	1.05	-	47.27	No detailed FEMA Floodplain data available for this area.
U9000	21.36	12.90	0.00	12.90	-	60.41	No detailed FEMA Floodplain data available for this area.
U9002	13.03	8.89	0.00	8.89	-	68.27	No detailed FEMA Floodplain data available for this area.
U9003	0.74	0.61	0.00	0.61	-	82.44	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U9004	5.04	2.41	0.00	2.41	-	47.77	No detailed FEMA Floodplain data available for this area.
U9005	4.58	1.02	0.00	1.02	-	22.28	No detailed FEMA Floodplain data available for this area.
U9006	21.24	8.85	0.00	8.85	-	41.67	No detailed FEMA Floodplain data available for this area.
U9007	3.55	1.41	0.00	1.41	-	39.66	No detailed FEMA Floodplain data available for this area.
U9008	4.13	1.94	0.00	1.94	-	47.07	No detailed FEMA Floodplain data available for this area.
U9009	12.26	8.92	0.00	8.92	-	72.78	No detailed FEMA Floodplain data available for this area.
U9011	19.77	5.49	0.00	5.49	-	27.77	No detailed FEMA Floodplain data available for this area.
U9012	7.43	3.94	0.00	3.94	-	52.98	No detailed FEMA Floodplain data available for this area.
U9013	5.03	1.28	0.00	1.28	-	25.46	No detailed FEMA Floodplain data available for this area.
U9014	4.84	1.26	0.00	1.26	-	26.13	No detailed FEMA Floodplain data available for this area.
U9015	3.00	0.91	0.00	0.91	-	30.23	No detailed FEMA Floodplain data available for this area.
U9016	2.16	0.15	0.00	0.15	-	6.86	No detailed FEMA Floodplain data available for this area.
U9017	1.66	0.12	0.00	0.12	-	7.19	No detailed FEMA Floodplain data available for this area.
U9018	3.13	2.31	0.00	2.31	-	73.82	No detailed FEMA Floodplain data available for this area.
U9019	0.58	0.37	0.00	0.37	-	63.97	No detailed FEMA Floodplain data available for this area.
U9021	1.09	0.80	0.00	0.80	-	73.60	No detailed FEMA Floodplain data available for this area.
U9022	5.22	1.02	0.00	1.02	-	19.61	No detailed FEMA Floodplain data available for this area.
U9023	2.74	0.69	0.00	0.69	-	25.29	No detailed FEMA Floodplain data available for this area.
U9024	2.38	0.53	0.00	0.53	-	22.30	No detailed FEMA Floodplain data available for this area.
U9025	5.21	4.22	0.00	4.22	-	81.03	No detailed FEMA Floodplain data available for this area.
U9026	4.50	2.11	0.00	2.11	-	46.91	No detailed FEMA Floodplain data available for this area.
U9027	2.01	0.45	0.00	0.45	-	22.10	No detailed FEMA Floodplain data available for this area.
U9028	3.95	3.46	0.00	3.46	-	87.59	No detailed FEMA Floodplain data available for this area.
U9029	23.56	21.11	0.00	21.11	-	89.60	No detailed FEMA Floodplain data available for this area.
U9030	4.27	1.17	0.00	1.17	-	27.35	No detailed FEMA Floodplain data available for this area.
U9031	6.60	2.94	0.00	2.94	-	44.48	No detailed FEMA Floodplain data available for this area.
U9032	2.03	1.30	0.00	1.30	-	64.09	No detailed FEMA Floodplain data available for this area.
U9033	6.19	3.23	0.00	3.23	-	52.20	No detailed FEMA Floodplain data available for this area.
U9034	5.08	0.96	0.00	0.96	-	18.99	No detailed FEMA Floodplain data available for this area.
U9035	0.28	0.11	0.00	0.11	-	40.67	No detailed FEMA Floodplain data available for this area.
U9036	1.90	1.60	0.00	1.60	-	84.01	No detailed FEMA Floodplain data available for this area.
U9037	0.91	0.03	0.00	0.03	-	2.84	No detailed FEMA Floodplain data available for this area.
U9038	1.53	0.34	0.00	0.34	-	21.97	No detailed FEMA Floodplain data available for this area.
U9039	2.13	0.03	0.00	0.03	-	1.26	No detailed FEMA Floodplain data available for this area.
U9040	0.80	0.58	0.00	0.58	-	72.80	No detailed FEMA Floodplain data available for this area.
U9041	1.80	0.78	0.00	0.78	-	43.08	No detailed FEMA Floodplain data available for this area.
U9042	5.69	4.76	0.00	4.76	-	83.69	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
U9043	7.79	5.15	0.00	5.15	-	66.14	No detailed FEMA Floodplain data available for this area.
U9044	2.85	0.14	0.00	0.14	-	4.91	No detailed FEMA Floodplain data available for this area.
U9045	7.23	0.21	0.00	0.21	-	2.87	No detailed FEMA Floodplain data available for this area.
U9046	2.12	0.27	0.00	0.27	-	12.89	No detailed FEMA Floodplain data available for this area.
U9051	1.09	0.68	0.00	0.68	-	62.63	No detailed FEMA Floodplain data available for this area.
U9052	4.39	0.19	0.00	0.19	-	4.22	No detailed FEMA Floodplain data available for this area.
U9053	3.69	0.29	0.00	0.29	-	7.87	No detailed FEMA Floodplain data available for this area.
U9054	1.01	0.08	0.00	0.08	-	8.06	No detailed FEMA Floodplain data available for this area.
U9055	6.18	2.23	0.00	2.23	-	36.17	No detailed FEMA Floodplain data available for this area.
U9056	3.31	0.13	0.00	0.13	-	3.99	No detailed FEMA Floodplain data available for this area.
U9057	2.23	0.13	0.00	0.13	-	5.61	No detailed FEMA Floodplain data available for this area.
U9058	0.62	0.22	0.00	0.22	-	35.70	No detailed FEMA Floodplain data available for this area.
U9059	2.68	1.76	0.00	1.76	-	65.71	No detailed FEMA Floodplain data available for this area.
U9061	1.56	1.18	0.00	1.18	-	75.16	No detailed FEMA Floodplain data available for this area.
U9062	20.96	3.86	0.00	3.86	-	18.41	No detailed FEMA Floodplain data available for this area.
U9065	0.46	0.22	0.00	0.22	-	48.45	No detailed FEMA Floodplain data available for this area.
U9066	1.09	0.92	0.00	0.92	-	83.74	No detailed FEMA Floodplain data available for this area.
U9067	19.13	15.00	0.00	15.00	-	78.38	No detailed FEMA Floodplain data available for this area.
U9068	8.94	1.64	0.00	1.64	-	18.30	No detailed FEMA Floodplain data available for this area.
U9069	0.26	0.13	0.00	0.13	-	51.72	No detailed FEMA Floodplain data available for this area.
U9070	2.75	0.66	0.00	0.66	-	24.00	No detailed FEMA Floodplain data available for this area.
U9071	3.02	2.67	0.00	2.67	-	88.55	No detailed FEMA Floodplain data available for this area.
U9072	1.74	1.50	0.00	1.50	-	86.04	No detailed FEMA Floodplain data available for this area.
U9073	0.46	0.29	0.00	0.29	-	62.97	No detailed FEMA Floodplain data available for this area.
U9074	0.92	0.40	0.00	0.40	-	43.44	No detailed FEMA Floodplain data available for this area.
U9080	1.96	1.24	0.00	1.24	-	63.15	No detailed FEMA Floodplain data available for this area.
U9081	8.04	5.30	0.00	5.30	-	65.87	No detailed FEMA Floodplain data available for this area.
U9082	2.70	0.55	0.00	0.55	-	20.24	No detailed FEMA Floodplain data available for this area.
U9083	2.15	0.50	0.00	0.50	-	23.25	No detailed FEMA Floodplain data available for this area.
U9084	5.28	1.07	0.00	1.07	-	20.28	No detailed FEMA Floodplain data available for this area.
U9085	46.70	27.81	0.00	27.81	-	59.54	No detailed FEMA Floodplain data available for this area.
U9086	0.79	0.42	0.00	0.42	-	53.02	No detailed FEMA Floodplain data available for this area.
U9087	0.03	0.01	0.00	0.01	-	40.51	No detailed FEMA Floodplain data available for this area.
U9088	0.10	0.06	0.00	0.06	-	54.48	No detailed FEMA Floodplain data available for this area.
U9089	3.96	0.54	0.00	0.54	-	13.71	No detailed FEMA Floodplain data available for this area.
U9090	9.76	8.66	0.00	8.66	-	88.68	No detailed FEMA Floodplain data available for this area.
U9091	0.03	0.01	0.00	0.01	-	46.13	No detailed FEMA Floodplain data available for this area.

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U9092	2.31	0.23	0.00	0.23	-	10.08	No detailed FEMA Floodplain data available for this area.
U9093	0.11	0.06	0.00	0.06	-	51.62	No detailed FEMA Floodplain data available for this area.
U9094	1.79	0.12	0.00	0.12	-	6.55	No detailed FEMA Floodplain data available for this area.
U9095	0.09	0.01	0.00	0.01	-	16.59	No detailed FEMA Floodplain data available for this area.
U9096	1.28	0.04	0.00	0.04	-	3.18	No detailed FEMA Floodplain data available for this area.
U9097	1.35	0.05	0.00	0.05	-	3.65	No detailed FEMA Floodplain data available for this area.
U9098	1.24	0.12	0.00	0.12	-	9.64	No detailed FEMA Floodplain data available for this area.
U9100	13.79	7.80	0.00	7.80	-	56.56	No detailed FEMA Floodplain data available for this area.
U9101	0.74	0.00	0.00	0.00	-	0.05	No detailed FEMA Floodplain data available for this area.
U9110	16.54	3.16	0.00	3.16	-	19.07	No detailed FEMA Floodplain data available for this area.
U9115	10.51	2.65	0.00	2.65	-	25.18	No detailed FEMA Floodplain data available for this area.
U9120	1.19	0.24	0.00	0.24	-	20.50	No detailed FEMA Floodplain data available for this area.
U9125	6.06	1.33	0.00	1.33	-	22.01	No detailed FEMA Floodplain data available for this area.
U9130	0.88	0.05	0.00	0.05	-	5.99	No detailed FEMA Floodplain data available for this area.
U9135	3.74	0.05	0.00	0.05	-	1.42	No detailed FEMA Floodplain data available for this area.
U9140	2.13	0.15	0.00	0.15	-	6.81	No detailed FEMA Floodplain data available for this area.
U9145	1.75	0.44	0.00	0.44	-	25.41	No detailed FEMA Floodplain data available for this area.
U9155	1.36	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U9160	2.96	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
U9201	14.97	3.86	0.00	3.86	-	25.81	No detailed FEMA Floodplain data available for this area.
U9301	1.03	0.10	0.00	0.10	-	9.81	No detailed FEMA Floodplain data available for this area.
U9400	14.36	12.04	0.00	12.04	-	83.86	No detailed FEMA Floodplain data available for this area.
U9450	16.08	4.25	0.00	4.25	-	26.42	No detailed FEMA Floodplain data available for this area.
U9500	6.28	5.61	0.00	5.61	-	89.25	No detailed FEMA Floodplain data available for this area.
U9600	3.23	2.63	0.00	2.63	-	81.40	No detailed FEMA Floodplain data available for this area.
U9700	1.40	1.16	0.00	1.16	-	82.51	No detailed FEMA Floodplain data available for this area.
U9800	1.90	1.60	0.00	1.60	-	84.24	No detailed FEMA Floodplain data available for this area.
U9810	0.29	0.09	0.00	0.09	-	32.81	No detailed FEMA Floodplain data available for this area.
U9820	3.62	0.81	0.00	0.81	-	22.45	No detailed FEMA Floodplain data available for this area.
U9830	0.66	0.28	0.00	0.28	-	41.89	No detailed FEMA Floodplain data available for this area.
U9900	0.57	0.40	0.00	0.40	-	70.72	No detailed FEMA Floodplain data available for this area.
U9910	0.07	0.04	0.00	0.04	-	55.26	No detailed FEMA Floodplain data available for this area.
V0001	2.05	0.60	0.00	0.60	-	29.40	No detailed FEMA Floodplain data available for this area.
V0002	9.38	5.88	0.00	5.88	-	62.63	No detailed FEMA Floodplain data available for this area.
V0003	2.41	0.54	0.00	0.54	-	22.20	No detailed FEMA Floodplain data available for this area.
V0004	1.83	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
V0005	8.09	4.21	0.00	4.21	-	51.96	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
V0006	6.06	1.09	0.00	1.09	-	17.95	No detailed FEMA Floodplain data available for this area.
V0007	9.38	1.64	0.00	1.64	-	17.53	No detailed FEMA Floodplain data available for this area.
V0008	0.74	0.45	0.00	0.45	-	60.78	No detailed FEMA Floodplain data available for this area.
V0009	2.86	1.87	0.00	1.87	-	65.53	No detailed FEMA Floodplain data available for this area.
V0011	3.05	1.38	0.00	1.38	-	45.08	No detailed FEMA Floodplain data available for this area.
V0012	19.98	4.50	0.00	4.50	-	22.53	No detailed FEMA Floodplain data available for this area.
V0014	18.71	1.75	0.00	1.75	-	9.35	No detailed FEMA Floodplain data available for this area.
V0015	8.16	0.13	0.00	0.13	-	1.57	No detailed FEMA Floodplain data available for this area.
V0020	1.57	1.04	0.00	1.04	-	66.14	No detailed FEMA Floodplain data available for this area.
V0029	5.52	0.01	0.00	0.01	-	0.20	No detailed FEMA Floodplain data available for this area.
V0030	5.44	0.52	0.00	0.52	-	9.61	No detailed FEMA Floodplain data available for this area.
V0040	15.24	1.55	0.00	1.55	-	10.15	No detailed FEMA Floodplain data available for this area.
V0045	62.46	3.44	0.00	3.44	-	5.50	No detailed FEMA Floodplain data available for this area.
V0050	55.80	2.07	0.00	2.07	-	3.70	No detailed FEMA Floodplain data available for this area.
V0051	17.18	1.91	0.00	1.91	-	11.09	No detailed FEMA Floodplain data available for this area.
V0055	0.65	0.20	0.00	0.20	-	31.36	No detailed FEMA Floodplain data available for this area.
V0060	7.20	3.47	0.00	3.47	-	48.10	No detailed FEMA Floodplain data available for this area.
V0062	3.28	0.13	0.00	0.13	-	3.86	No detailed FEMA Floodplain data available for this area.
V0064	4.22	1.30	0.00	1.30	-	30.82	No detailed FEMA Floodplain data available for this area.
V0065	22.68	4.04	0.00	4.04	-	17.79	No detailed FEMA Floodplain data available for this area.
V0066	4.63	1.38	0.00	1.38	-	29.92	No detailed FEMA Floodplain data available for this area.
V0068	8.44	1.30	0.00	1.30	-	15.36	No detailed FEMA Floodplain data available for this area.
V0070	5.89	2.60	0.00	2.60	-	44.12	No detailed FEMA Floodplain data available for this area.
V0073	27.30	2.92	0.00	2.92	-	10.69	No detailed FEMA Floodplain data available for this area.
V0077	1.68	0.62	0.00	0.62	-	36.85	No detailed FEMA Floodplain data available for this area.
V0080	2.91	2.00	0.00	2.00	-	68.76	No detailed FEMA Floodplain data available for this area.
V0090	24.84	4.60	0.00	4.60	-	18.50	No detailed FEMA Floodplain data available for this area.
V0100	17.84	1.87	0.00	1.87	-	10.50	No detailed FEMA Floodplain data available for this area.
V0110	10.54	2.13	0.00	2.13	-	20.26	No detailed FEMA Floodplain data available for this area.
V0120	2.71	0.58	0.00	0.58	-	21.46	No detailed FEMA Floodplain data available for this area.
V0130	11.25	0.53	0.00	0.53	-	4.74	No detailed FEMA Floodplain data available for this area.
V0135	8.86	0.32	0.00	0.32	-	3.55	No detailed FEMA Floodplain data available for this area.
V0140	4.50	2.25	0.00	2.25	-	49.91	No detailed FEMA Floodplain data available for this area.
V0160	24.55	1.03	0.00	1.03	-	4.20	No detailed FEMA Floodplain data available for this area.
V0170	12.22	1.00	0.00	1.00	-	8.18	No detailed FEMA Floodplain data available for this area.
V0180	33.63	2.17	0.00	2.17	-	6.45	No detailed FEMA Floodplain data available for this area.
V0187	13.10	2.49	0.00	2.49	-	19.03	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
V0190	19.68	1.68	0.00	1.68	-	8.53	No detailed FEMA Floodplain data available for this area.
V0200	15.17	1.39	0.00	1.39	-	9.17	No detailed FEMA Floodplain data available for this area.
V0205	8.31	0.41	0.00	0.41	-	4.96	No detailed FEMA Floodplain data available for this area.
V0210	29.21	1.74	0.00	1.74	-	5.97	No detailed FEMA Floodplain data available for this area.
V0220	13.02	1.52	0.00	1.52	-	11.66	No detailed FEMA Floodplain data available for this area.
V0230	14.49	1.02	0.00	1.02	-	7.02	No detailed FEMA Floodplain data available for this area.
V0240	23.87	1.40	0.00	1.40	-	5.86	No detailed FEMA Floodplain data available for this area.
V0250	10.52	0.88	0.00	0.88	-	8.33	No detailed FEMA Floodplain data available for this area.
V1010	5.36	1.55	0.00	1.55	-	28.83	No detailed FEMA Floodplain data available for this area.
V1015	36.76	25.85	0.00	25.85	-	70.31	No detailed FEMA Floodplain data available for this area.
V1033	17.66	17.21	0.00	17.21	-	97.46	No detailed FEMA Floodplain data available for this area.
V1037	29.57	26.39	0.00	26.39	-	89.24	No detailed FEMA Floodplain data available for this area.
V1040	30.44	27.40	0.00	27.40	-	90.01	No detailed FEMA Floodplain data available for this area.
V1043	89.73	66.46	0.00	66.46	-	74.06	No detailed FEMA Floodplain data available for this area.
V1047	83.48	55.17	0.00	55.17	-	66.09	No detailed FEMA Floodplain data available for this area.
V1050	37.35	29.27	0.00	29.27	-	78.36	No detailed FEMA Floodplain data available for this area.
V1080	20.04	2.73	0.00	2.73	-	13.64	No detailed FEMA Floodplain data available for this area.
V1090	0.42	0.19	0.00	0.19	-	45.98	No detailed FEMA Floodplain data available for this area.
V2011	12.18	0.80	0.00	0.80	-	6.58	No detailed FEMA Floodplain data available for this area.
V2015	6.78	0.57	0.00	0.57	-	8.47	No detailed FEMA Floodplain data available for this area.
V2210	20.60	1.51	0.00	1.51	-	7.35	No detailed FEMA Floodplain data available for this area.
V2220	3.49	0.59	0.00	0.59	-	16.85	No detailed FEMA Floodplain data available for this area.
V2520	7.38	0.59	0.00	0.59	-	8.01	No detailed FEMA Floodplain data available for this area.
V2530	14.26	2.19	0.00	2.19	-	15.38	No detailed FEMA Floodplain data available for this area.
V2540	17.43	2.13	0.00	2.13	-	12.24	No detailed FEMA Floodplain data available for this area.
V2550	11.96	2.46	0.00	2.46	-	20.60	No detailed FEMA Floodplain data available for this area.
V2560	14.30	3.43	0.00	3.43	-	23.96	No detailed FEMA Floodplain data available for this area.
V2570	35.87	8.07	0.00	8.07	-	22.49	No detailed FEMA Floodplain data available for this area.
V2590	21.54	4.38	0.00	4.38	-	20.33	No detailed FEMA Floodplain data available for this area.
V2600	10.55	1.90	0.00	1.90	-	18.03	No detailed FEMA Floodplain data available for this area.
V2610	7.41	1.98	0.00	1.98	-	26.68	No detailed FEMA Floodplain data available for this area.
V2810	9.57	3.19	0.00	3.19	-	33.35	No detailed FEMA Floodplain data available for this area.
V2830	5.68	1.03	0.00	1.03	-	18.11	No detailed FEMA Floodplain data available for this area.
V2840	2.56	0.95	0.00	0.95	-	37.15	No detailed FEMA Floodplain data available for this area.
V2850	9.66	0.88	0.00	0.88	-	9.06	No detailed FEMA Floodplain data available for this area.
V2853	1.64	0.55	0.00	0.55	-	33.58	No detailed FEMA Floodplain data available for this area.
V2857	3.69	1.17	0.00	1.17	-	31.74	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
V2860	4.92	1.30	0.00	1.30	-	26.38	No detailed FEMA Floodplain data available for this area.
V2880	9.24	1.19	0.00	1.19	-	12.89	No detailed FEMA Floodplain data available for this area.
V2890	1.41	0.65	0.00	0.65	-	45.72	No detailed FEMA Floodplain data available for this area.
V3010	13.45	0.71	0.00	0.71	-	5.27	No detailed FEMA Floodplain data available for this area.
V3020	23.39	0.57	0.00	0.57	-	2.44	No detailed FEMA Floodplain data available for this area.
V3042	5.35	4.38	0.00	4.38	-	81.85	No detailed FEMA Floodplain data available for this area.
V3060	7.80	0.48	0.00	0.48	-	6.21	No detailed FEMA Floodplain data available for this area.
V3510	5.68	0.00	0.00	0.00	-	0.01	No detailed FEMA Floodplain data available for this area.
V3520	5.32	1.98	0.00	1.98	-	37.15	No detailed FEMA Floodplain data available for this area.
V3530	5.02	1.45	0.00	1.45	-	28.80	No detailed FEMA Floodplain data available for this area.
V3540	6.69	1.44	0.00	1.44	-	21.54	No detailed FEMA Floodplain data available for this area.
V3550	9.49	2.65	0.00	2.65	-	27.91	No detailed FEMA Floodplain data available for this area.
V4020	5.81	2.63	0.00	2.63	-	45.21	No detailed FEMA Floodplain data available for this area.
V4025	7.64	1.23	0.00	1.23	-	16.14	No detailed FEMA Floodplain data available for this area.
V4030	3.41	1.02	0.00	1.02	-	29.82	No detailed FEMA Floodplain data available for this area.
V4035	37.34	1.20	0.00	1.20	-	3.22	No detailed FEMA Floodplain data available for this area.
V4040	4.41	3.36	0.00	3.36	-	76.02	No detailed FEMA Floodplain data available for this area.
V4050	0.68	0.16	0.00	0.16	-	23.14	No detailed FEMA Floodplain data available for this area.
V4060	0.78	0.14	0.00	0.14	-	17.93	No detailed FEMA Floodplain data available for this area.
V4070	1.08	0.20	0.00	0.20	-	18.73	No detailed FEMA Floodplain data available for this area.
V4080	1.38	0.23	0.00	0.23	-	16.61	No detailed FEMA Floodplain data available for this area.
V4090	1.18	0.19	0.00	0.19	-	15.94	No detailed FEMA Floodplain data available for this area.
V4100	1.02	0.22	0.00	0.22	-	21.31	No detailed FEMA Floodplain data available for this area.
V4110	0.96	0.20	0.00	0.20	-	21.14	No detailed FEMA Floodplain data available for this area.
V4120	0.98	0.27	0.00	0.27	-	28.10	No detailed FEMA Floodplain data available for this area.
V4130	0.95	0.38	0.00	0.38	-	40.19	No detailed FEMA Floodplain data available for this area.
V4140	1.24	0.56	0.00	0.56	-	44.96	No detailed FEMA Floodplain data available for this area.
V4150	1.59	0.68	0.00	0.68	-	42.74	No detailed FEMA Floodplain data available for this area.
V4160	1.24	0.54	0.00	0.54	-	43.43	No detailed FEMA Floodplain data available for this area.
V4170	1.20	0.29	0.00	0.29	-	24.21	No detailed FEMA Floodplain data available for this area.
V4180	1.07	0.33	0.00	0.33	-	30.71	No detailed FEMA Floodplain data available for this area.
V4190	1.35	0.30	0.00	0.30	-	22.44	No detailed FEMA Floodplain data available for this area.
X0004	12.43	2.32	0.00	2.32	-	18.67	No detailed FEMA Floodplain data available for this area.
X0006	0.36	0.17	0.00	0.17	-	46.64	No detailed FEMA Floodplain data available for this area.
X0008	0.52	0.23	0.00	0.23	-	44.06	No detailed FEMA Floodplain data available for this area.
X0010	31.83	5.53	0.00	5.53	-	17.39	No detailed FEMA Floodplain data available for this area.
X0035	31.54	17.51	0.00	17.51	-	55.53	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
X0040	4.74	0.88	0.00	0.88	-	18.64	No detailed FEMA Floodplain data available for this area.
X0050	13.75	1.93	0.00	1.93	-	14.04	No detailed FEMA Floodplain data available for this area.
X0055	5.53	1.51	0.00	1.51	-	27.34	No detailed FEMA Floodplain data available for this area.
X0060	2.28	1.08	0.00	1.08	-	47.57	No detailed FEMA Floodplain data available for this area.
X0070	3.86	0.94	0.00	0.94	-	24.43	No detailed FEMA Floodplain data available for this area.
X0510	32.10	4.20	0.00	4.20	-	13.08	No detailed FEMA Floodplain data available for this area.
X0519	10.37	1.87	0.00	1.87	-	18.04	No detailed FEMA Floodplain data available for this area.
X0520	8.56	1.81	0.00	1.81	-	21.08	No detailed FEMA Floodplain data available for this area.
X1005	1.94	0.19	0.00	0.19	-	9.80	No detailed FEMA Floodplain data available for this area.
X1010	3.16	0.61	0.00	0.61	-	19.33	No detailed FEMA Floodplain data available for this area.
X1020	5.99	0.53	0.00	0.53	-	8.86	No detailed FEMA Floodplain data available for this area.
X1030	3.82	0.59	0.00	0.59	-	15.52	No detailed FEMA Floodplain data available for this area.
X1040	5.38	0.34	0.00	0.34	-	6.25	No detailed FEMA Floodplain data available for this area.
X1045	3.67	0.87	0.00	0.87	-	23.68	No detailed FEMA Floodplain data available for this area.
X1050	5.77	1.10	0.00	1.10	-	19.00	No detailed FEMA Floodplain data available for this area.
X1505	30.65	15.58	0.00	15.58	-	50.84	No detailed FEMA Floodplain data available for this area.
X1510	7.50	1.36	0.00	1.36	-	18.18	No detailed FEMA Floodplain data available for this area.
X1524	13.03	3.22	0.00	3.22	-	24.67	No detailed FEMA Floodplain data available for this area.
X1525	5.49	2.38	0.00	2.38	-	43.45	No detailed FEMA Floodplain data available for this area.
X1530	3.04	0.91	0.00	0.91	-	30.05	No detailed FEMA Floodplain data available for this area.
X1540	14.73	0.84	0.00	0.84	-	5.69	No detailed FEMA Floodplain data available for this area.
X1541	4.23	2.08	0.00	2.08	-	49.29	No detailed FEMA Floodplain data available for this area.
X1542	21.92	1.97	0.00	1.97	-	8.97	No detailed FEMA Floodplain data available for this area.
X1543	4.87	0.63	0.00	0.63	-	13.00	No detailed FEMA Floodplain data available for this area.
X1544	12.29	2.47	0.00	2.47	-	20.09	No detailed FEMA Floodplain data available for this area.
X1545	22.13	4.02	0.00	4.02	-	18.19	No detailed FEMA Floodplain data available for this area.
X1547	8.38	2.62	0.00	2.62	-	31.22	No detailed FEMA Floodplain data available for this area.
X1548	2.67	0.98	0.00	0.98	-	36.63	No detailed FEMA Floodplain data available for this area.
X1549	7.27	1.12	0.00	1.12	-	15.38	No detailed FEMA Floodplain data available for this area.
X1550	2.06	0.60	0.00	0.60	-	29.26	No detailed FEMA Floodplain data available for this area.
X3005	2.58	0.02	0.00	0.02	-	0.64	No detailed FEMA Floodplain data available for this area.
X3010	5.51	0.03	0.00	0.03	-	0.63	No detailed FEMA Floodplain data available for this area.
X3020	3.52	0.12	0.00	0.12	-	3.49	No detailed FEMA Floodplain data available for this area.
X3030	7.14	1.23	0.00	1.23	-	17.19	No detailed FEMA Floodplain data available for this area.
X3031	7.94	1.48	0.00	1.48	-	18.65	No detailed FEMA Floodplain data available for this area.
X3032	6.32	0.17	0.00	0.17	-	2.61	No detailed FEMA Floodplain data available for this area.
X3033	1.86	0.45	0.00	0.45	-	24.47	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
Y0010	29.14	7.21	0.00	7.21	-	24.74	No detailed FEMA Floodplain data available for this area.
Y0020	11.74	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
Y0040	0.31	0.11	0.00	0.11	-	35.40	No detailed FEMA Floodplain data available for this area.
Y0050	0.26	0.11	0.00	0.11	-	41.63	No detailed FEMA Floodplain data available for this area.
Y0063	2.51	0.14	0.00	0.14	-	5.50	No detailed FEMA Floodplain data available for this area.
Y0067	0.24	0.09	0.00	0.09	-	36.85	No detailed FEMA Floodplain data available for this area.
Y0070	1.26	0.36	0.00	0.36	-	28.56	No detailed FEMA Floodplain data available for this area.
Y0073	10.25	0.57	0.00	0.57	-	5.56	No detailed FEMA Floodplain data available for this area.
Y0077	16.88	0.30	0.00	0.30	-	1.79	No detailed FEMA Floodplain data available for this area.
Y0080	10.77	0.98	0.00	0.98	-	9.14	No detailed FEMA Floodplain data available for this area.
Y0083	18.67	0.32	0.00	0.32	-	1.69	No detailed FEMA Floodplain data available for this area.
Y0087	2.13	0.35	0.00	0.35	-	16.27	No detailed FEMA Floodplain data available for this area.
Y0090	14.32	1.87	0.00	1.87	-	13.05	No detailed FEMA Floodplain data available for this area.
Y0093	20.87	1.63	0.00	1.63	-	7.79	No detailed FEMA Floodplain data available for this area.
Y0097	0.69	0.19	0.00	0.19	-	28.01	No detailed FEMA Floodplain data available for this area.
Y0100	3.11	1.20	0.00	1.20	-	38.61	No detailed FEMA Floodplain data available for this area.
Y0103	28.08	0.84	0.00	0.84	-	3.01	No detailed FEMA Floodplain data available for this area.
Y0107	0.92	0.17	0.00	0.17	-	18.62	No detailed FEMA Floodplain data available for this area.
Y0120	13.92	2.14	0.00	2.14	-	15.35	No detailed FEMA Floodplain data available for this area.
Y0130	7.88	0.83	0.00	0.83	-	10.55	No detailed FEMA Floodplain data available for this area.
Y0140	26.71	5.04	0.00	5.04	-	18.85	No detailed FEMA Floodplain data available for this area.
Y0150	21.00	3.13	0.00	3.13	-	14.90	No detailed FEMA Floodplain data available for this area.
Y0160	2.43	1.07	0.00	1.07	-	44.08	No detailed FEMA Floodplain data available for this area.
Y0162	35.06	2.86	0.00	2.86	-	8.16	No detailed FEMA Floodplain data available for this area.
Y0165	10.84	1.63	0.00	1.63	-	15.00	No detailed FEMA Floodplain data available for this area.
Y0168	4.12	0.73	0.00	0.73	-	17.83	No detailed FEMA Floodplain data available for this area.
Y0170	9.20	2.83	0.00	2.83	-	30.79	No detailed FEMA Floodplain data available for this area.
Y0180	7.50	1.13	0.00	1.13	-	15.10	No detailed FEMA Floodplain data available for this area.
Y0190	3.51	0.71	0.00	0.71	-	20.28	No detailed FEMA Floodplain data available for this area.
Y0200	12.61	1.74	0.00	1.74	-	13.81	No detailed FEMA Floodplain data available for this area.
Y0203	15.66	0.71	0.00	0.71	-	4.51	No detailed FEMA Floodplain data available for this area.
Y0207	17.28	0.93	0.00	0.93	-	5.40	No detailed FEMA Floodplain data available for this area.
Y0208	0.46	0.14	0.00	0.14	-	30.27	No detailed FEMA Floodplain data available for this area.
Y0210	17.64	2.18	0.00	2.18	-	12.35	No detailed FEMA Floodplain data available for this area.
Y0220	20.79	3.81	0.00	3.81	-	18.30	No detailed FEMA Floodplain data available for this area.
Y0230	8.33	0.95	0.00	0.95	-	11.44	No detailed FEMA Floodplain data available for this area.
Y0240	15.41	3.97	0.00	3.97	-	25.78	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
Y0250	14.81	3.48	0.00	3.48	-	23.50	No detailed FEMA Floodplain data available for this area.
Y0260	6.37	2.54	0.00	2.54	-	39.91	No detailed FEMA Floodplain data available for this area.
Y1003	14.51	2.44	0.00	2.44	-	16.84	No detailed FEMA Floodplain data available for this area.
Y1005	12.19	1.73	0.00	1.73	-	14.22	No detailed FEMA Floodplain data available for this area.
Y1007	1.63	0.21	0.00	0.21	-	12.81	No detailed FEMA Floodplain data available for this area.
Y1010	14.10	4.81	0.00	4.81	-	34.09	No detailed FEMA Floodplain data available for this area.
Y1020	14.03	3.29	0.00	3.29	-	23.46	No detailed FEMA Floodplain data available for this area.
Y1310	23.92	0.55	0.00	0.55	-	2.31	No detailed FEMA Floodplain data available for this area.
Y1320	12.23	0.84	0.00	0.84	-	6.83	No detailed FEMA Floodplain data available for this area.
Y1330	10.31	0.68	0.00	0.68	-	6.60	No detailed FEMA Floodplain data available for this area.
Y1332	17.07	3.92	0.00	3.92	-	22.94	No detailed FEMA Floodplain data available for this area.
Y1335	1.95	0.26	0.00	0.26	-	13.58	No detailed FEMA Floodplain data available for this area.
Y1338	1.64	0.16	0.00	0.16	-	9.87	No detailed FEMA Floodplain data available for this area.
Y1340	17.95	2.75	0.00	2.75	-	15.32	No detailed FEMA Floodplain data available for this area.
Y1348	14.19	3.25	0.00	3.25	-	22.92	No detailed FEMA Floodplain data available for this area.
Y1350	2.22	1.37	0.00	1.37	-	61.74	No detailed FEMA Floodplain data available for this area.
Y1510	18.11	3.75	0.00	3.75	-	20.69	No detailed FEMA Floodplain data available for this area.
Y1520	9.62	2.35	0.00	2.35	-	24.38	No detailed FEMA Floodplain data available for this area.
Y1530	11.20	1.71	0.00	1.71	-	15.23	No detailed FEMA Floodplain data available for this area.
Y1535	16.02	4.08	0.00	4.08	-	25.46	No detailed FEMA Floodplain data available for this area.
Y1537	0.89	0.16	0.00	0.16	-	18.39	No detailed FEMA Floodplain data available for this area.
Y1540	41.04	5.67	0.00	5.67	-	13.82	No detailed FEMA Floodplain data available for this area.
Y1550	13.50	4.17	0.00	4.17	-	30.92	No detailed FEMA Floodplain data available for this area.
Y1555	3.30	0.00	0.00	0.00	0.00	0.00	No detailed FEMA Floodplain data available for this area.
Y1560	36.60	12.17	0.00	12.17	-	33.24	No detailed FEMA Floodplain data available for this area.
Y2010	15.11	1.17	0.00	1.17	-	7.74	No detailed FEMA Floodplain data available for this area.
Y2015	7.20	3.31	0.00	3.31	-	46.00	No detailed FEMA Floodplain data available for this area.
Y2020	26.80	4.26	0.00	4.26	-	15.88	No detailed FEMA Floodplain data available for this area.
Y2510	8.46	1.02	0.00	1.02	-	12.05	No detailed FEMA Floodplain data available for this area.
Y2512	6.23	2.21	0.00	2.21	-	35.53	No detailed FEMA Floodplain data available for this area.
Y2513	21.11	4.08	0.00	4.08	-	19.31	No detailed FEMA Floodplain data available for this area.
Y2517	8.36	2.32	0.00	2.32	-	27.76	No detailed FEMA Floodplain data available for this area.
Y2520	21.53	1.70	0.00	1.70	-	7.89	No detailed FEMA Floodplain data available for this area.
Y2540	10.42	1.87	0.00	1.87	-	17.98	No detailed FEMA Floodplain data available for this area.
Y2550	15.60	3.19	0.00	3.19	-	20.43	No detailed FEMA Floodplain data available for this area.
Y3010	29.89	2.99	0.00	2.99	-	9.99	No detailed FEMA Floodplain data available for this area.
Y3310	6.05	1.69	0.00	1.69	-	27.92	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
Y3710	10.91	1.71	0.00	1.71	-	15.63	No detailed FEMA Floodplain data available for this area.
Y3720	42.45	3.95	0.00	3.95	-	9.30	No detailed FEMA Floodplain data available for this area.
Y3730	16.60	1.05	0.00	1.05	-	6.33	No detailed FEMA Floodplain data available for this area.
Y3740	3.21	0.12	0.00	0.12	-	3.75	No detailed FEMA Floodplain data available for this area.
Y4010	11.42	1.74	0.00	1.74	-	15.20	No detailed FEMA Floodplain data available for this area.
Y4020	47.38	5.37	0.00	5.37	-	11.34	No detailed FEMA Floodplain data available for this area.
Y4030	11.59	2.03	0.00	2.03	-	17.54	No detailed FEMA Floodplain data available for this area.
Y4040	5.39	1.57	0.00	1.57	-	29.23	No detailed FEMA Floodplain data available for this area.
Y4050	2.45	0.98	0.00	0.98	-	40.08	No detailed FEMA Floodplain data available for this area.
Y4060	1.10	0.14	0.00	0.14	-	13.14	No detailed FEMA Floodplain data available for this area.
Z0010	12.20	0.99	0.00	0.99	-	8.12	No detailed FEMA Floodplain data available for this area.
Z0020	22.74	2.85	0.00	2.85	-	12.53	No detailed FEMA Floodplain data available for this area.
Z0025	37.01	6.00	0.00	6.00	-	16.21	No detailed FEMA Floodplain data available for this area.
Z0030	3.49	1.66	0.00	1.66	-	47.44	No detailed FEMA Floodplain data available for this area.
Z0033	38.67	0.35	0.00	0.35	-	0.91	No detailed FEMA Floodplain data available for this area.
Z0037	1.70	0.45	0.00	0.45	-	26.30	No detailed FEMA Floodplain data available for this area.
Z0040	45.08	3.35	0.00	3.35	-	7.42	No detailed FEMA Floodplain data available for this area.
Z0043	23.28	0.28	0.00	0.28	-	1.18	No detailed FEMA Floodplain data available for this area.
Z0047	1.43	0.33	0.00	0.33	-	23.13	No detailed FEMA Floodplain data available for this area.
Z0050	35.68	2.02	0.00	2.02	-	5.65	No detailed FEMA Floodplain data available for this area.
Z0060	14.72	3.00	0.00	3.00	-	20.37	No detailed FEMA Floodplain data available for this area.
Z0070	27.02	2.64	0.00	2.64	-	9.78	No detailed FEMA Floodplain data available for this area.
Z1010	5.35	0.25	0.00	0.25	-	4.66	No detailed FEMA Floodplain data available for this area.
Z1020	4.83	0.21	0.00	0.21	-	4.28	No detailed FEMA Floodplain data available for this area.
Z1040	7.68	0.27	0.00	0.27	-	3.57	No detailed FEMA Floodplain data available for this area.
Z1510	9.63	0.71	0.00	0.71	-	7.34	No detailed FEMA Floodplain data available for this area.
Z1520	30.77	1.98	0.00	1.98	-	6.44	No detailed FEMA Floodplain data available for this area.
Z1540	12.43	0.97	0.00	0.97	-	7.76	No detailed FEMA Floodplain data available for this area.
Z1550	4.11	0.83	0.00	0.83	-	20.25	No detailed FEMA Floodplain data available for this area.
Z1560	45.45	0.87	0.00	0.87	-	1.91	No detailed FEMA Floodplain data available for this area.
Z1570	0.41	0.12	0.00	0.12	-	28.64	No detailed FEMA Floodplain data available for this area.
Z2010	3.04	0.07	0.00	0.07	-	2.41	No detailed FEMA Floodplain data available for this area.
Z2020	7.50	0.43	0.00	0.43	-	5.70	No detailed FEMA Floodplain data available for this area.
Z2310	11.47	0.95	0.00	0.95	-	8.24	No detailed FEMA Floodplain data available for this area.
Z2320	1.94	0.36	0.00	0.36	-	18.76	No detailed FEMA Floodplain data available for this area.
Z2710	54.12	2.34	0.00	2.34	-	4.32	No detailed FEMA Floodplain data available for this area.
Z2720	26.75	1.19	0.00	1.19	-	4.43	No detailed FEMA Floodplain data available for this area.

Basin Name	Basin Area (Acres)	Ardaman 100 Year Floodplain (Acres)	FEMA Q3 Area (Acres)	FP Difference (Acres)	% Change FEMA Area Basis	% Change Basin Area Basis	Justification Category
Z2740	28.03	1.49	0.00	1.49	-	5.31	No detailed FEMA Floodplain data available for this area.
Z2750	16.55	0.58	0.00	0.58	-	3.53	No detailed FEMA Floodplain data available for this area.
Z2760	1.32	0.27	0.00	0.27	-	20.37	No detailed FEMA Floodplain data available for this area.
Z3010	7.38	1.05	0.00	1.05	-	14.23	No detailed FEMA Floodplain data available for this area.
Z3020	29.78	2.82	0.00	2.82	-	9.48	No detailed FEMA Floodplain data available for this area.
Z3030	37.22	5.63	0.00	5.63	-	15.13	No detailed FEMA Floodplain data available for this area.
Z3040	22.55	1.20	0.00	1.20	-	5.31	No detailed FEMA Floodplain data available for this area.
Z3050	4.69	0.82	0.00	0.82	-	17.52	No detailed FEMA Floodplain data available for this area.
Z3060	4.03	0.12	0.00	0.12	-	2.96	No detailed FEMA Floodplain data available for this area.