Pond Siting Report

Florida Department of Transportation

District 7

State Road (SR) 50 (US 98/Cortez Boulevard) Project Development & Environment (PD&E) Study

From the Brooksville Bypass to west of Interstate 75 Hernando County, FL

Work Program Item Segment No. 430051-1

ETDM Project No. 13980



The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

ON THE DATE ADJACENT TO THE SEAL

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Project Development & Environment (PD&E) Study

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Prepared for:

Florida Department of Transportation District Seven



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October 2020

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) study to evaluate alternative improvements for State Road (SR) 50 (US 98/Cortez Boulevard) from the Brooksville Bypass to west of Interstate 75 (I-75) in Hernando County (Figure 1-1). The study extends to Lockhart Road on the east end of the project for a length of approximately 7.2 miles. The section along SR 50 to the east of Lockhart Road was studied as a part of a separate Federal Highway Administration (FHWA) approved PD&E study – SR 50 (Cortez Boulevard) from Lockhart Road to US 301 (SR 35/Treiman Boulevard), Work Program Item (WPI) Segment No.: 416732-2, with the I-75 interchange area excepted out under WPI Segment No. 411014-1. Study objectives include: determine proposed typical sections and develop preliminary conceptual design plans for proposed improvements, while minimizing impacts to the environment; consider agency and public comments; and ensure project compliance with all applicable federal and state laws. A Type 2 *Categorical Exclusion* is being prepared as part of this study. The highway is expected to be improved from an existing, four-lane divided rural facility to a six-lane divided facility. The proposed improvements will include construction of stormwater management and floodplain compensation facilities and various intersection improvements, in addition to multimodal facilities (pedestrian, bicycle and transit accommodations).

In accordance with the *FDOT's PD&E Manual*, a *Pond Siting Report (PSR)* was prepared for the proposed project's PD&E Study. The information presented in this document is subject to change until the final Phase of the project. This *PSR* is preliminary and it will be used as an engineering tool to identify potential stormwater management and floodplain encroachments as a result of the conceptual improvements. The calculations presented in this report are preliminary and help in estimating the preliminary size of the pond site facilities for each basin. The size requirements are preliminary based upon many assumptions and judgments.

The evaluation finds that a combination of dry retention and wet detention ponds are recommended for meeting the stormwater management requirements for the proposed roadway improvements.

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SECTION 1 INTRODUCTION

1.1 PD&E STUDY PURPOSE

The objective of this Project Development and Environment (PD&E) study is to assist the Florida Department of Transportation (FDOT) in reaching a decision on the type, location, and conceptual design of the proposed improvements for widening State Road (SR) 50 (US 98/Cortez Boulevard) from the Brooksville Bypass to west of Interstate 75 (I-75) in Hernando County.

The PD&E study satisfies all applicable state and federal requirements in order for this project to qualify for federal funding of subsequent development phases (design, right of way [ROW] acquisition, and construction). This project was screened through FDOT's Efficient Transportation Decision Making (ETDM) process as Project #13980. A *Final Programming Screen Summary Report* (PSSR) was published on January 7, 2014. A *Type 2 Categorical Exclusion* is being prepared as part of this study.

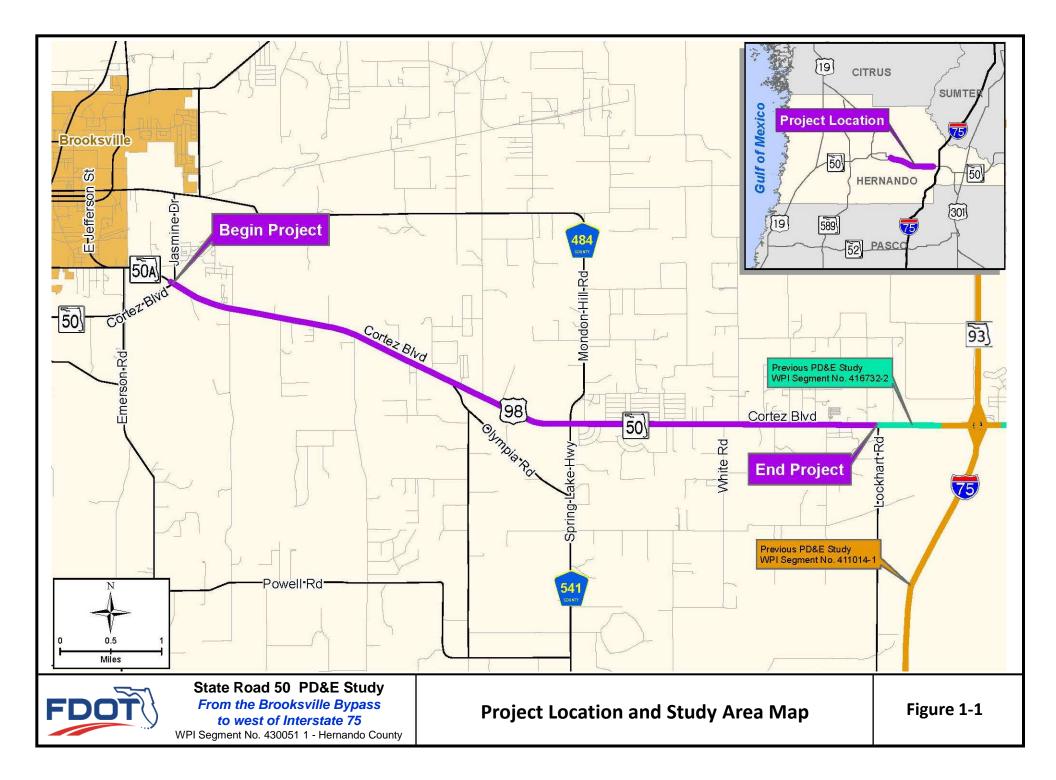
1.2 **PROJECT DESCRIPTION**

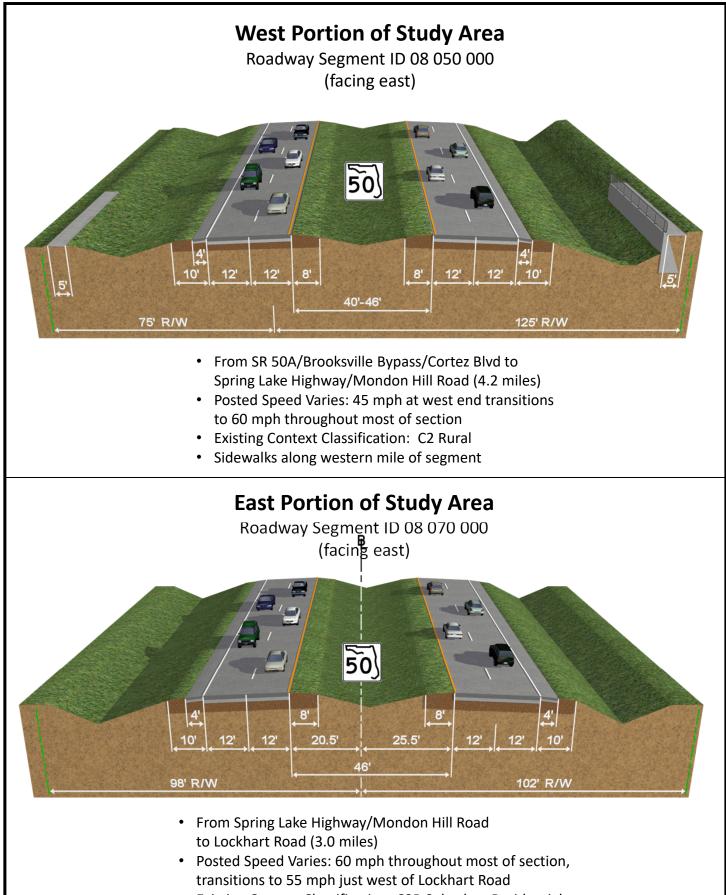
In order to accommodate projected traffic increases along SR 50, the FDOT is conducting a PD&E study to evaluate alternative capacity and operational improvements from the Brooksville Bypass to west of I-75 (**Figure 1-1**).

The study area extends to Lockhart Road on the east end of the project for a length of approximately 7.2 miles. The section along SR 50 to the east of Lockhart Road was studied as a part of a separate Federal Highway Administration (FHWA) approved PD&E study (2014) – SR 50 (Cortez Boulevard) from west of I-75 to US 301 (SR 35/Treiman Boulevard), Work Program Item (WPI) Segment No.: 416732-2, with the I-75 interchange area excepted out under WPI Segment No. 411014-1. Improvements for the Lockhart Road intersection were included in WPI Segment No. 416732-2. The highway is expected to be improved from an existing, four-lane divided rural facility to a six-lane divided facility. The proposed improvements will include construction of stormwater management and floodplain compensation facilities and various intersection improvements, in addition to multimodal facilities (pedestrian, bicycle and transit accommodations).

1.3 EXISTING FACILITY AND PROPOSED IMPROVEMENTS

SR 50 is currently a four-lane rural highway with 4-ft paved outside shoulders and 40 – 46-ft grassed median (**Figure 1-2**). The existing ROW is 200 feet wide. The posted speed limits vary from 45 mph to 60 mph. Major intersections within the project limits occur at Cortez Boulevard/Jasmine Drive, County Road (CR) 484/Spring Lake Highway and Lockhart Road (west of I-75). There is a short segment with existing sidewalk located near the west end of the project. There is a bridge culvert within the project limits located over the Bystream Overflow. This 53-ft bridge culvert was constructed in 1997 and has a sufficiency rating of 80 and a health index of 65.72 (inspected January 22, 2019). Expected improvements are described above in **Section 1.2**. The existing roadway is permitted under SWFWMD Permits No. 404773.001 and 44004306.002.





• Existing Context Classification: C3R Suburban Residential



State Road 50 PD&E Study From the Brooksville Bypass to west of Interstate 75 WPI Segment No. 430051-1 Hernando County

Existing Roadway Typical Sections

Figure 1-2

Proposed typical sections include rural and suburban typical sections (**Figure 1-3**). A six-lane rural section is proposed from the western project limits to east of Mondon Hill Road/Spring Lake Highway (West Segment) and a suburban typical section within 200-foot existing ROW is proposed from east of Mondon Hill Road/Spring Lake Highway to Lockhart Road. No additional ROW is anticipated for the roadway improvements with the exception of small corner clips at intersections along the corridor. Additional ROW may be needed for stormwater management facilities and floodplain compensation sites. A "No-Build" Alternative is also being evaluated.

1.4 PROJECT PURPOSE AND NEED

SR 50 is a major east-west rural principal arterial that spans central Florida from coast to coast. In Hernando County, SR 50 connects to several regionally significant corridors, including US 19, SR 589 (Suncoast Parkway), US 41, I-75, and US 301. SR 50 is also a hurricane evacuation route, a designated truck route, part of the Strategic Intermodal System (SIS) and part of the West Central Florida Metropolitan Planning Organization Chairs Coordinating Committee's (CCC) Regional Roadway Network. This segment of SR 50 connects the City of Brooksville to I-75.

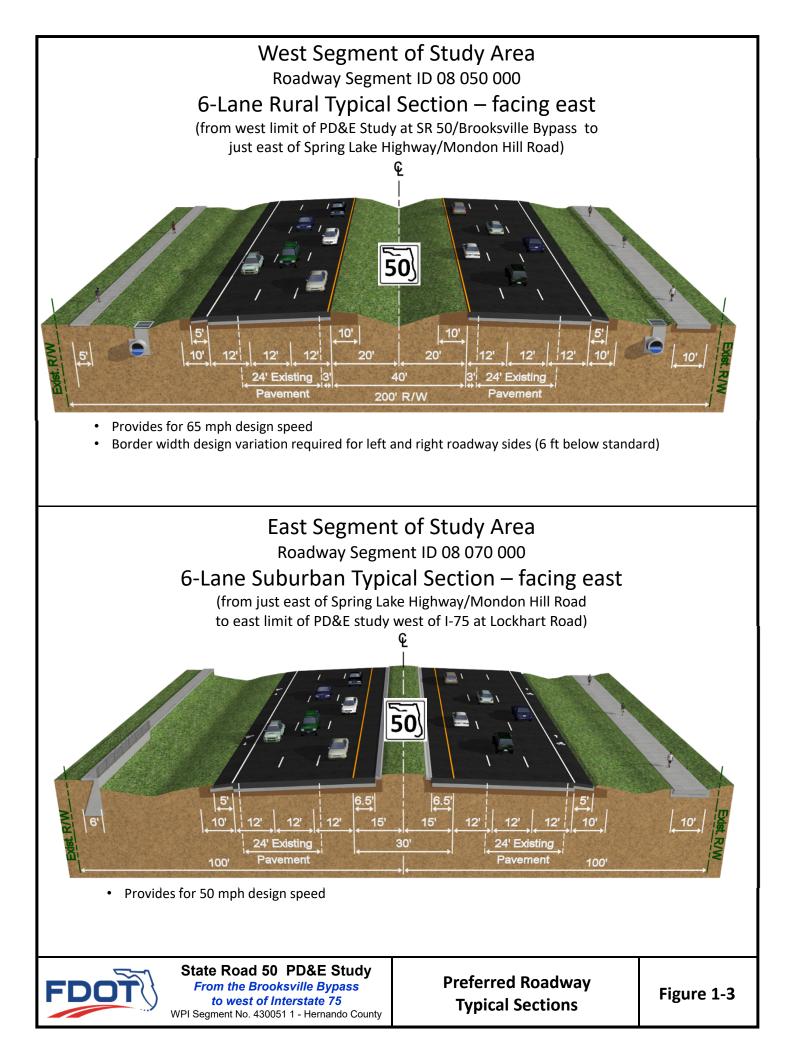
The purpose of this project is to address projected roadway congestion due to future growth along the project corridor and within Hernando County. Increasing roadway capacity along this segment of SR 50 will accommodate future growth, provide for enhanced emergency response times and emergency evacuation, and work in conjunction with other projects planned or underway to increase the capacity of SR 50. The annual average daily traffic (AADT) within the study limits varied between 18,150 and 22,700 vehicles per day (VPD) in 2014. Year 2040 AADTs based on the Tampa Bay Regional Planning Model (TBRPM Version 7.2) are predicted to range from 47,400 to 59,100 VPD. This would result in level of service (LOS) "F" at the major intersections.

Within the limits of this PD&E study, the Hernando/Citrus Metropolitan Planning Organization's (MPO) 2045 Long Range Transportation Plan (LRTP), adopted on December 4, 2019, shows a need for improving SR 50 to 6 lanes. The LRTP shows funding for the design phase and right of way for expansion to 6 lanes in the *Cost Feasible Plan*.

A more detailed discussion of the project's purpose and need is included in the ETDM *Final Programming Screen Summary Report*, under ETDM project number 13980.

1.5 REPORT PURPOSE

As part of the PD&E Study, this Pond Siting Report identifies stormwater management facility (SMF) and floodplain compensation (FPC) site alternatives, and includes the analysis for selection of preferred sites. This study analyzed SMF site alternatives that are hydraulically feasible and environmentally permissible based on the best available information. These alternatives were then compared based on relocations and community impacts; environmental impacts including wetlands, upland habitat and protected species involvement; petroleum and hazardous materials contamination; and economic factors including right-of-way costs.



SECTION 2 HYDROLOGIC FEATURES

2.1 EXISTING DRAINAGE CONDITIONS

The study limits of the SR 50 corridor are within two closed basins: Bystre Lake Watershed and Croom Watershed. The basin limits and areas are presented in **Appendix A**. Existing storm water management facilities consist of linear ponds (swales) within the ROW that provide water quality treatment and discharge attenuation. A floodplain compensation pond exists on the north side of SR 50 east of CR 541 outside of the ROW. The swales were designed to treat one-half inch of runoff from their contributing drainage area. Swales were equipped with ditch blocks to control discharge and retain water quality volume. The study limits of the SR 50 corridor traverses 15 project sub-basins with ultimate discharge to Bystre Lake. There are 19 cross drains and 1 bridge culvert (Bridge No. 080036) within the study limits. See **Tables 2-1 & 2-2** and **Figure 2-1** for cross drain and bridge locations and points of discharge.

Cross Drain No.	Mile Post	Station	Description
1	10.287	567+56	24" CC (Outfall Location)
2	9.786	594+30	24" CC
3	9.200	622+44	2-48″ CC
4	9.022	634+30	76"X48" CC (Outfall Location)
5	8.296	673+83	24" CC (Outfall Location)
6	7.830	697+50	2-48" CC (Outfall Location)
7	7.460	721+50	18" CC
8	7.402	722+30	2-60"X38" CC (Outfall Location)
9	6.947	743+70	24" CC (Outfall Location)
10	6.708	756+30	10'X8' CBC (Outfall Location)
11	6.352	777+70	36" CC (Outfall Location)
12	0.133	794+80	2-36" CC (Outfall Location)
13	0.697	824+20	36" CC
14	0.847	832+10	36" CC (Outfall Location)
15	1.257	853+80	24" CC (Outfall Location)
16	2.212	903+80	30" CC (Outfall Location)
17	2.422	915+90	18″ CC
18	2.624	926+40	2-45"X29" CC (Outfall Location)
19	2.684	929+50	2-30″ CC

Table 2-1	Existing Cross Drains
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Bridge No.	Mile Post	Station	Description
080036	8.542 TO 8.552	659+30	53' Bridge Culvert (Outfall Location)

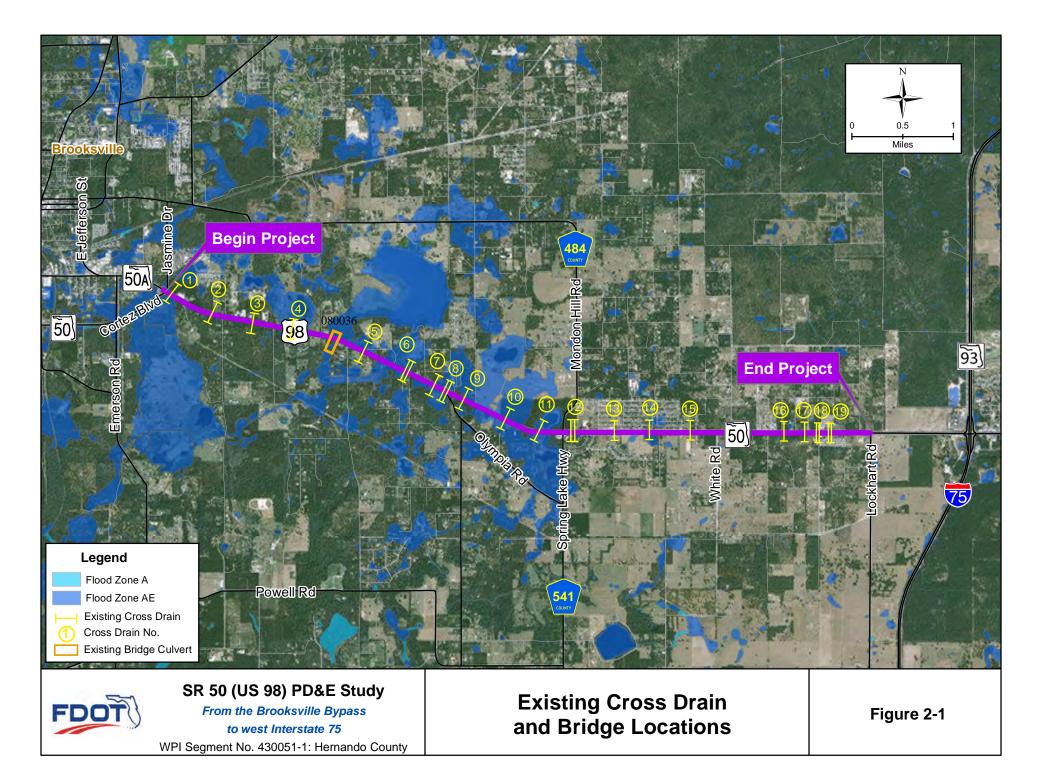
2.2 NUTRIENT LOADING

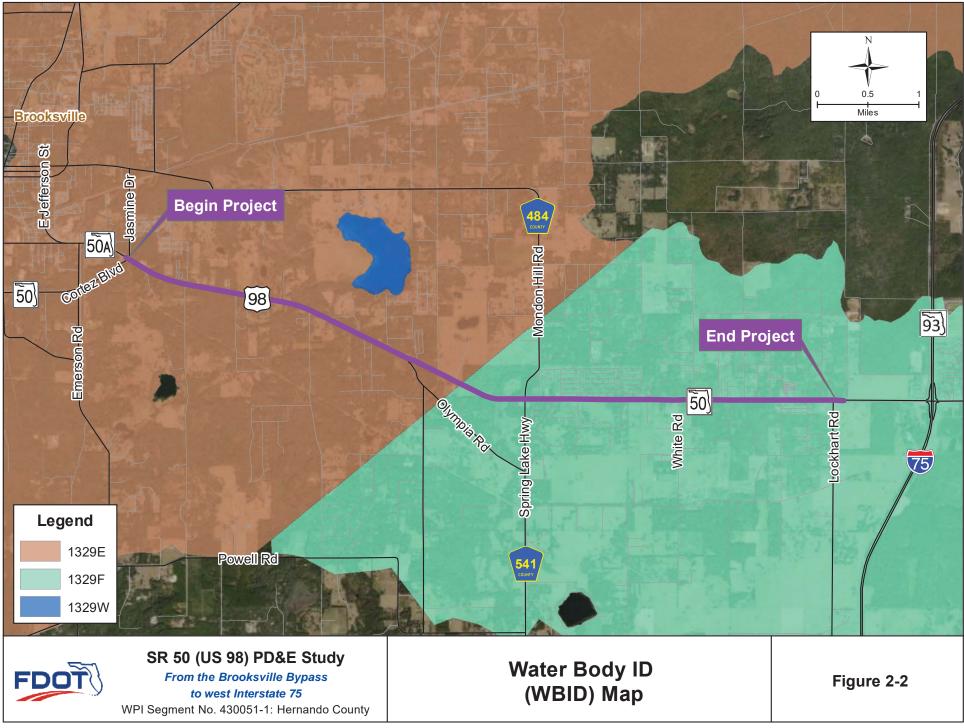
The following **Table 2-3** summarizes verified Impaired Water Body Identification (WBID) System based on Department of Environmental Protection (DEP) Geographic Information System (GIS) data, and the WBID's are shown in **Figure 2-2**.

Regional Basins	Project Basin No.	WBID	Impairments
Bystre Lake Watershed	1-8	1329E,	Nutrients (Total Phosphorus) in
Bystre Lake Watersheu	1-0	1329W	WBID 1329W
Croom Watershed	9-14	1329F	None

Table 2-3 Impaired WBIDs

Bystre Lake has been identified to be impaired for nutrients (total phosphorus.)



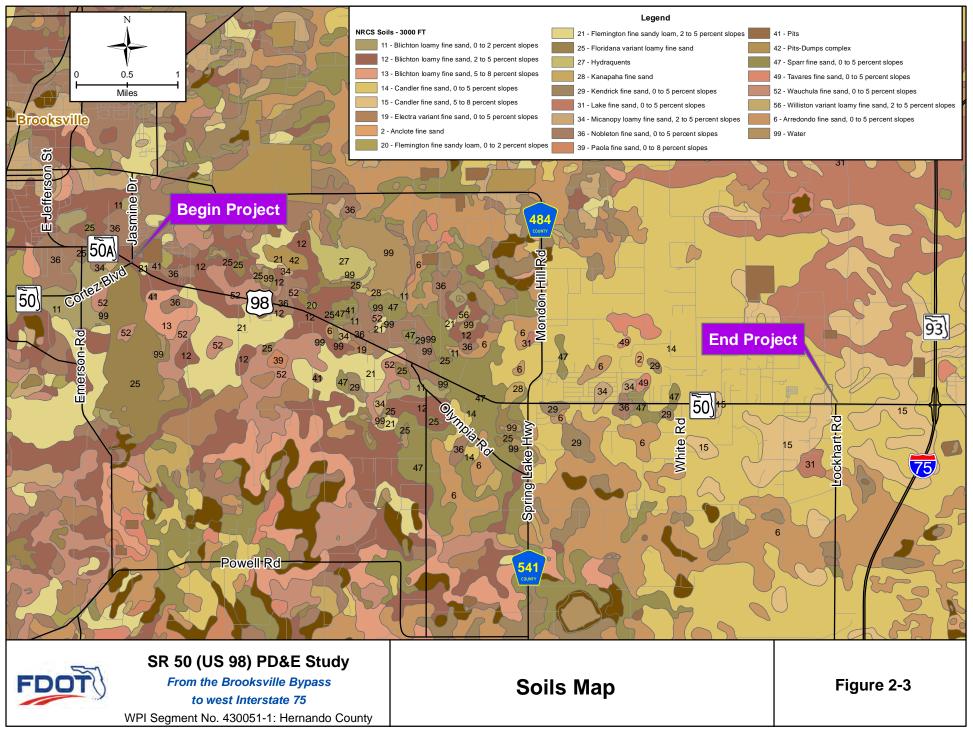


2.3 SOIL CHARACTERISTICS

Based on a review of the U.S. Department of Agriculture's Natural Resources Conservation Service (USDA – NRCS) Soil Survey for Hernando County, Florida, the predominant soils within the study limits consist of Blichton loamy fine sand (12), Candler fine sand (14), Nobleton Fine Sand (36) and Sparr fine sand (47). For the purpose of estimating the Soil Conservation Service (SCS) runoff Curve Numbers, the Hydrologic Soil Group was retrieved from the South West Florida Water Management District (SWFWMD) Information System website. See **Table 2-4** for USDA soils and **Figure 2-3** for soils map. The runoff Curve Numbers (CN) were determined from Table T-7 of the FDOT Hydrology Handbook (dated February 2012) using the Hydrologic Soil Group A/D.

Map #	Soil Name	Hydrologic Group	Depth to High Water Table (ft)	Soil Type	Description
6	Arredondo Fine Sand	А	>6.0	Sandy and loamy soil	Well drained soil on the uplands, slopes 0-5%
12	Blichton Loamy Fine Sand	D	0-1.0	Sandy and loamy soil	Poorly drained soil on the uplands, slopes 2-5%
14	Candler Fine Sand	А	>6.0	Sandy soil	Excessively drained soil on uplands, slopes 0-5%
15	Candler Fine Sand	А	>6.0	Sandy soil	Excessively drained soil on uplands, slopes 5-8%
19	Electra Variant Fine Sand	С	2.0-3.5	Sandy and loamy soil	Excessively drained soil on uplands, slopes 0-5%
21	Flemington Fine Sandy Loam	D	0-2.5	Sandy and loamy soil	Poorly drained soil on the uplands, slopes 2-5%
25	Floridana Variant Loamy Fine Sand	A/D	+2-1.0	Sandy and loamy soil	Very poorly drained soil in depressions
28	Kanapaha Fine Sand	A/D	0-1.0	Sandy and loamy soil	Poorly drained soil on the uplands
29	Kendrick Fine Sand	А	>6.0	Sandy and loamy soil	Well drained soil on the uplands, slopes 0-5%
34	Micanopy Loamy Fine Sand	С	1.5-2.5	Sandy and loamy soil	Poorly drained soil on the uplands, slopes 2-5%
36	Nobleton Fine Sand	С	1.5-3.5	Sandy and loamy soil	Poorly drained soil on the uplands, slopes 2-5%
47	Sparr Fine Sand	А	1.5-3.5	Sandy and loamy soil	Poorly drained soil on the uplands, slopes 0-5%
52	Wauchula Fine Sand	B/D	0-1.0	Sandy and loamy soil	Poorly drained soil on the uplands, slopes 0-5%

Table 2-4 USDA Soils



2.4 HISTORY OF FLOODING

According to the District 7 Drainage Office there are four flood investigation sites (Investigation Nos. 0806192006827, 0806192006317, 0806042010344, and 0806092017259) within the project limits which are within **Appendix D**. No history of SR 50 roadway flooding has been identified. District 7 Maintenance Office also noted some concerns listed below:

Maintenance-related issues identified include, Section #08050, from MP 6.117 to 10.130:

- Erosion under, behind and over pedestrian sidewalk
- Slime, mildew growing on sidewalks shaded by trees
- Erosion around headwalls
- Sidewalk constructed too close to trees are cracking, being stressed by tree growth
- Clogged drains installed on gravity walls (clogged with eroded sand from slopes)
- Silt over sidewalks
- Undermined sidewalks

2.5 BASE FLOODPLAIN

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) dated February 2, 2012, (Firm Nos. 12053C0211D, 12053C0212D, 12053C0214D, 12053C0218D and 12053C0219D) indicate that portions of the study limits are within Flood Zones A and AE (elevations vary throughout limits). A FEMA floodplain map is provided below in **Figure 2-4**, and FEMA FIRMs are provided in **Appendix D**.

Hernando County provided the following studies that establish the base floodplain for the project limits:

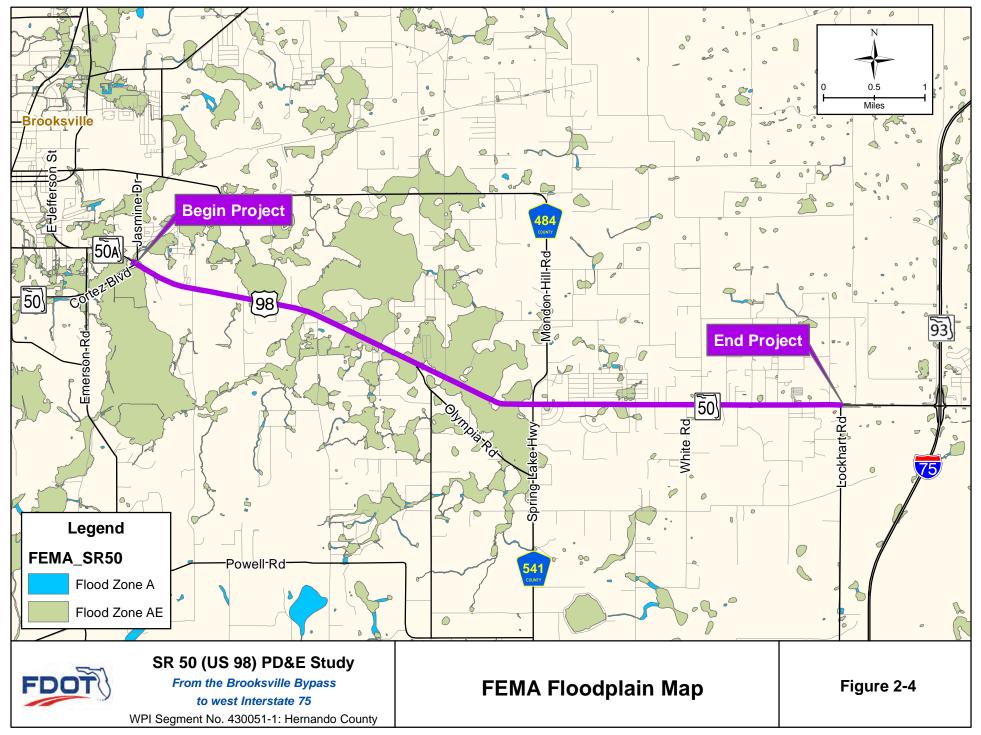
- Bystre Lake Watershed Floodplain Justification Report, dated March 2010 (Appendix E)
- Justification for Updates to the FEMA Floodplain as a Result of Watershed Management Program for the Croom Watershed, dated March 2010 (Appendix F)

Design floodplain elevations for each project sub-basin are identified in **Table 2-5**. The elevations provided in the table are for the 100-year storm event in feet North American Vertical Datum (NAVD) 88. The flood elevations utilized are per the current FEMA FIRMs and floodplain studies.

The project's drainage design will be consistent with local FEMA, FDOT, and Southwest Florida Water Management District (SWFWMD) design guidelines, which state that no net encroachment up to that, encompassed by the 100-year event, will be allowed, and that compensating storage shall be equivalently provided. Therefore, no significant changes in base flood elevations or limits will occur.

Regional Basins	Project Sub-Basin No.	Project Sub Basin Boundaries	Model Node ID	Zone AE- Hernando County Design 100-yr Flood EL (ft – NAVD 88)
			NC0500	96.3
	1	Sta 566+00 to Sta 598+25	NC0520	92.1
			NC0910	102.3
	2	Sta 598+25 to Sta 650+00	NC1400	87.8
		510 550 25 10 510 050 100	NC1405	85.1
	3	Sta 650+00 to Sta 669+00	NC1490/NA2040	78.2
	5		NC1345	77.5
Bystre Lake	4	Sta 669+00 to Sta 680+00	NC1470/NC1480	78.2
Watershed	5	Sta 680+00 to Sta 707+00	NB0070	78.2
	5		NA1440/NA1480	77.4
	c	Sta 707 100 to Sta 721 100	NA1490	74.5
	6	Sta 707+00 to Sta 731+00	NA1470	74.5
	7	Sta 731+00 to Sta 750+00	NA1770/NA1740	74.5
			NA1775/NA1790	74.5
	0	Sta 750+00 to Sta 769+00	NA1740	74.5
	8		NA1790/NA1880	74.5
	9	Sta 760 100 to Sta 707 100	NA1240	74.5
		Sta 769+00 to Sta 787+00	NA1248	74.5
	10	Sta 787+00 to Sta 813+00	NA1220	67.3
	11	Sta 813+00 to Sta 849+00	NK0510	58.1
			NK0430	63.6
			NK0500	57.9
			NK0532	77.4
			NK0534	77.6
Croom		Sta 849+00 to Sta 879+00	NK0540	94.3
Watershed			NK0538	95.0
			NK0536	96.3
			NL0293	86.8
	13		NL0297	84.5
		Sta 879+00 to Sta 918+00	NL0300	79.1
			NL0257	80.4
	14		NL0120	101.4
		Sta 918+00 to Sta 939+00	NL0170	100.8
			NL0180	102.4

Table 2-5Floodplain Summary



SECTION 3 SMF DESIGN CRITERIA AND METHODOLOGY

3.1 DISCHARGE ATTENUATION

Per the SWFWMD Environmental Resource Permit (ERP) Applicants Handbook II, Section 3.1 (d): For a project or portion of a project located within a closed drainage basin, the required retention volume shall be the post-development runoff volume less the pre-development runoff volume computed using the SWFWMD's 24-hour/100-year rainfall map and the NRCS Type II Florida Modified 24-hour rainfall distribution with an antecedent moisture condition II. The total post development volume leaving the site shall be no more than the total pre-development volume leaving the site for the design 100-year storm. The rate of runoff leaving the site shall not cause adverse off-site impacts. Maintenance of pre-development off-site low flow may be required in hydrologically sensitive areas. Additionally, being a closed basin, Florida Administrative Code (F.A.C.) 14-86 will require maintaining discharges to, at or below pre-developed discharges using a multiple storm approach. The required attenuation calculated is based on the difference of the existing and the proposed runoff volume for the critical storm event of 100-year/10-day.

The roadway improvements considered would result in the filling in of existing ponds within the ROW. Therefore, to estimate the required offsite pond sizes, the pre-development condition is considered as the two lane (pre-SWFWMD permits No. 404773.01 and 44004306.002) condition. For estimation of pond sizes the required attenuation volume is estimated as the difference in the 6-lane and 2-lane runoff volumes for the 100-year/10-day event.

3.2 WATER QUALITY

Water quality treatment shall be provided in accordance with SWFWMD criteria which vary according to the type of SMF as follows:

- 1. A wet detention treatment system shall treat one inch of runoff from the contributing area.
- 2. A dry retention pond shall treat one-half inch of runoff from the contributing area.

The depth to the water table for the basin area was utilized to assess if the treatment method would be wet or dry. Basins within depth to water table >6' assumed to be dry retention pond areas.

3.3 NUTRIENT LOADING

Bystre Lake has been identified to be impaired for nutrients (total phosphorus.) Per SWFWMD, basins that directly discharge to Bystre Lake will require nutrient loading calculations. Proposed nutrient loading shall not exceed existing nutrient loading to comply with impaired water body criteria. Nutrient loading calculations are provided in **Appendix B**.

3.4 DRAINAGE AREAS

The drainage area was calculated as the basin length multiplied by a typical ROW width of 200 feet. The impervious area for each basin was determined as the basin length multiplied by a typical impervious width and increased by 15% for intersections, etc. The pervious area was calculated as the remainder of the total drainage area. There is a separate PD&E study that has been conducted for the segment to the east under WPI Segment No. 416732-2. This extends past the project limits by approximately 1,400 feet; however, the area being calculated extends 900 feet to Lockhart Road. The calculations presented in this report are preliminary and help in estimating the preliminary size of the pond site facilities for each basin. The size requirements are preliminary based upon many assumptions and judgments. The results are tabulated in **Table 4-1**.

3.5 FLOODPLAIN INVOLVEMENT

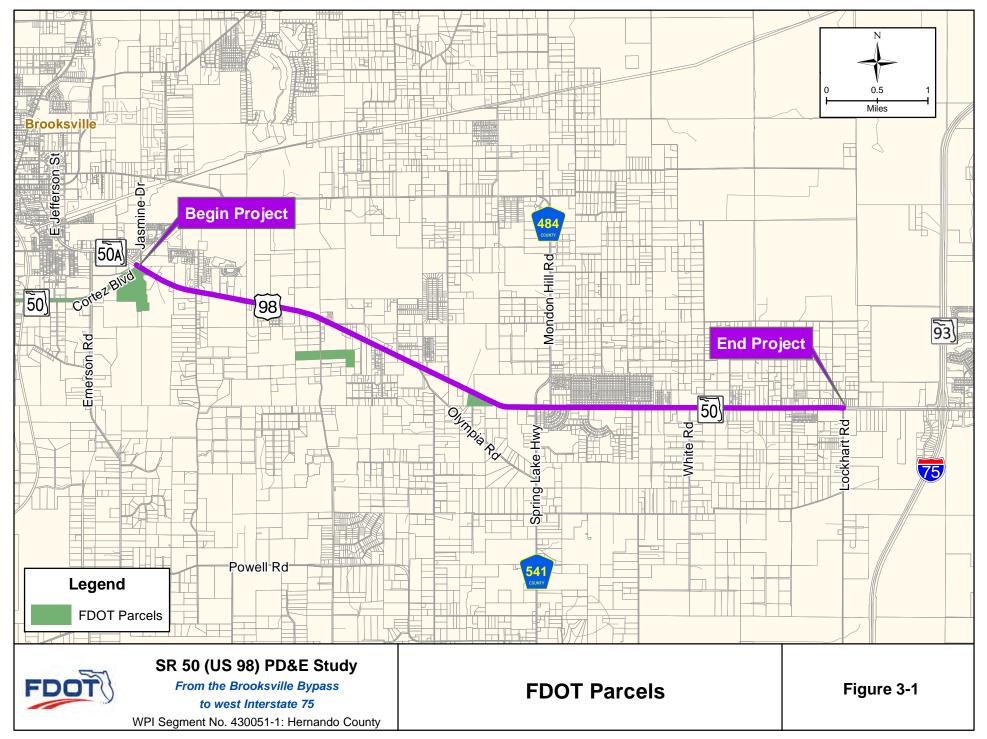
The project limits have been evaluated to determine potential impacts to the base floodplain. Cupfor-cup compensation will be provided for any fill placed within the floodplain. FPC site requirements are identified separately from SMF sites. Floodplain impacts are estimated based on estimated floodplain encroachment area and approximate average depths. FPC site areas are estimated based on the required compensation volume and depth to water table. These are summarized in **Table 4-2**.

It is noted that the floodplain encroachment volumes reported include volume below the weir of existing linear ponds within the ROW. It appears reasonable and correct to not include this volume in the required encroachment. However, justification of not being floodplain storage may require demonstration through modeling at the time of design. For this reason we have included the volume in the current calculations as a worst case scenario.

Also noted is that the FEMA mapping of the floodplain identifies a combination of 24-hour/100-year and 120-hr/100-year elevations. The original data is available from the Bystre Lake Watershed Floodplain Justification Report and the Justification for Updates to the FEMA Floodplain as a result of Watershed Management Program for the Croom Watershed (B206) report.

3.6 EXISTING FDOT PARCELS

FDOT owned parcels are located within the project limits and have been analyzed as possible conceptual Pond Siting areas; however, all FDOT parcels do not appear usable as pond sites for the proposed improvements since they are located within the floodplain or currently being utilized as floodplain compensation sites. FDOT parcels near the project corridor are shown in **Figure 3-1**. The FDOT floodplain compensation parcel that is west of Spring Lake Hwy and east of Olympia Rd was permitted under ERP: #4773.001. Data regarding the existing floodplain compensation pond is located within **Appendix H**.



SECTION 4 SMF AND FPC SITE ALTERNATIVES

Table 4-1 summarizes the SMF and FPC site alternatives. The table includes all pond site area requirements, including the pond site, ingress/egress and conveyances to and from the pond. The table identifies estimated costs for construction and property acquisition for each alternative. **Table 4-2** summarizes the environmental evaluation and potential impacts. Most categories were given a ranking of No Low, Moderate, or High based on potential impacts. **Table 4-3** shows the estimated floodplain encroachment area and estimated floodplain encroachment volume. The following tables are located at the end of **Section 4**. The following is a brief discussion on the preferred site selection considerations per sub-basin. A *Preliminary Cultural Resource Assessment Probability Analysis Technical Memorandum* (**Appendix I**) was prepared to provide a desktop evaluation of all of the proposed SMF and FPC sites. A detailed *Cultural Resource Assessment Survey (CRAS) Technical Memorandum Proposed SMF and FPC Sites* was prepared for the preferred pond sites. The CRAS stated that the proposed project would have no effect on any cultural resources, including archaeological sites and historic resources, which are listed, determined eligible, or that appear to be eligible for listing in the National Register of Historic Places (NRHP). The CRAS can be found in the project file.

4.1 BASIN CONSIDERATIONS

4.1.1 Basin 1

The SMF's and FPC's have been grouped together in the consideration of pond site alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Three alternative SMF's and FPC sites were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 24" cross drain, Sta. 567+56. The SMF alternatives are all wet ponds. The preliminary recommended SMF and FPC sites are SMF 1C and FPC 1C.

The SMF and FPC alternatives within Basin 1 are located within the U.S. Fish and Wildlife Service (USFWS) consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF and FPC alternatives. There are no residential or business relocations associated with Basin 1 alternatives.

SMF-1A/FPC-1A:

SMF-1A and FPC-1A are located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-1A is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-1A is adjacent to SMF-1A on the same parcel. The south side of SR 50 is the downstream side of the floodplain with a lower Base Flood Elevation (BFE) than the north side. FPC-1A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-1A and FPC-1A are located within land use identified as hardwood conifer mixed. No wetlands were identified within this alternative. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise and Florida pine snake. There is one medium ranked contamination site located on the north side of SR 50 across from these alternatives.

SMF-1B/FPC-1B:

SMF-1B and FPC-1B are located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-1B is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size. FPC-1B is adjacent to SMF-1B on a different parcel. FPC-1B allows needed access to SMF-1B. The north side of SR 50 is the upstream side of the floodplain with a higher BFE than the south side. FPC-1B is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-1B and FPC-1B are located within land use identified as mostly pine flatwood. Pine flatwoods typically provide good habitat for the gopher tortoise, although much of this area seems to be dense and overgrown, which could limit the herbaceous vegetation needed for foraging. No wetlands were identified within these alternatives. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There is one medium ranked contamination site located to the east of these alternatives.

SMF-1C/FPC-1C:

SMF-1C and FPC-1C are located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-1C is sited on low lying undeveloped area and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-1C is adjacent to SMF-1C on the same parcel. The south side of SR 50 is the downstream side of the floodplain with a lower BFE than the north side. FPC-1C is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-1C and FPC-1C are located in land uses identified as hardwood conifer mixed and other open lands (rural). The open grassed areas provide potential habitat for the gopher tortoise. No wetlands were identified within these alternatives. Potential federal and state-listed species include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. The contamination site identified for 1A and 1B above is located over 600 feet from this alternative and should not result in potential contamination impacts.

4.1.2 Basin 2

The SMF's and FPC's have been grouped together in the consideration of pond site alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Three alternative SMF's and FPC sites were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 76"x48" cross drain, Sta. 634+30. The SMF alternatives are all wet ponds. The preliminary recommended SMF and FPC sites are SMF 2A and FPC 2A.

The SMF and FPC alternatives within Basin 2 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF and FPC alternatives. There are no residential or business relocations associated with Basin 1 alternatives.

SMF-2A/FPC-2A:

SMF-2A and FPC-2A are located offsite on the north side of SR 50 along Irwin Street. Based on the soils and contours, SMF-2A is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-2A is adjacent to SMF-2A on the same parcel. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-2A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-2A and FPC-2A are located within cropland and pastureland land use. There are also some forested habitats within these locations. Wetlands are identified to the west and may extend within the limits of these sites. Potential wetland impacts may occur at this alternative. Potential federal and state-listed species include the eastern indigo snake, wood stork, red-cockaded woodpecker, gopher tortoise, Florida pine snake, Southeastern American kestrel, roseate spoonbill, little blue heron, tricolored heron, and Florida sandhill crane. There are no potential contamination sites located near this alternative.

SMF-2B/FPC-2B:

SMF-2B and FPC-2B are located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-2B is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-2B is adjacent to SMF-2B on the same parcel. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-2B is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-2B and FPC-2B are located within land use identified as commercial and services; however, there are forested habitats within the SMF and FPC locations. Wetlands are identified to the east and could be affected by the proposed pond alternatives. There is also a linear surface water feature associated

with a cross drain that appears to run through SMF-2B. Potential wetland and/or surface water impacts may occur at this alternative. Potential federal and state-listed species include the eastern indigo snake, wood stork, red-cockaded woodpecker, gopher tortoise, Florida pine snake, Southeastern American kestrel, roseate spoonbill, little blue heron, tricolored heron, and Florida sandhill crane. There is one high ranked contamination site located to the west of SMF-2B. Further evaluation will need to be conducted during design to determine potential contamination impacts.

SMF-2C/FPC-2C:

SMF-2C is located on the south side of SR 50 along Singer Lane, and FPC-2C is located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-2C is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size. FPC-2C is on a different parcel than SMF-2C. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-2C is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-2C is located within land use identified as hardwood conifer mixed, and FPC-2C is located within land use identified as cropland and pastureland; however, there are forested habitats within FPC-2C. Wetlands are identified to the east of FPC-2C and may extend within the footprint of FPC-2C. Potential wetland and/or surface water impacts may occur at this alternative. Potential federal and state-listed species include the eastern indigo snake, wood stork, red-cockaded woodpecker, gopher tortoise, Florida pine snake, Southeastern American kestrel, roseate spoonbill, little blue heron, tricolored heron, and Florida sandhill crane. There are no potential contamination sites located near this alternative.

4.1.3 Basin 3

The SMF's and FPC's have been grouped together in the consideration of pond site alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Three alternative SMF's and FPC sites were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing bridge culvert, Sta. 659+30. The SMF alternatives are all wet ponds. The preliminary recommended SMF and FPC sites are SMF 3A and FPC 3-4A.

This basin combined with Basin 4 discharges to Bystre Lake based on the LiDAR contour data and therefore required nutrient loading evaluation. The evaluation finds that the required nutrient loading reduction exceeds what can be achieved through wet detention alone. To meet the nutrient loading requirements for this basin either approximately 0.2 inch of retention can be provided within the swales in the right-of-way or offsite area can be drained to the wet detention pond along with the roadway pavement and credit taken for reduction of the loading from offsite. To provide the dry retention treatment within the roadway swales would be roughly 3 inch depth retained within the

border swales. Nutrient loading calculations are provided in the **Appendix B** and are based on a treatment train of dry retention in the swales followed by wet detention treatment.

The SMF and FPC alternatives within Basin 3 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF and FPC alternatives. There are no potential contamination sites located near the alternatives in this basin. There are no residential or business relocations associated with Basin 3 alternatives.

SMF-3A/FPC-3-4A:

SMF-3A and FPC-3-4A are located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-3A is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-3-4A is adjacent to SMF-3A on the same parcel. The south side of SR 50 is the downstream side of the floodplain with a lower BFE than the north side. FPC-3-4A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-3A and FPC-3-4A are located within a residential land use. The actual alternatives are located on mostly undeveloped property within this land use. The area near SR 50 is mostly open grass with upland forested areas to the south. There is a surface water/wetland feature located at FPC-3-4A associated with the existing bridge culvert. The FPC site could be graded to avoid impacts to the surface water/wetland, but impacts may occur at this alternative. Potential federal and state-listed species include the eastern indigo snake, wood stork, gopher tortoise, Florida pine snake, Southeastern American kestrel, roseate spoonbill, little blue heron, tricolored heron, and Florida sandhill crane.

SMF-3B/FPC-3-4B:

SMF-3B and FPC-3-4B are located offsite with a conveyance easement on the north side of SR 50. Based on the soils and contours, SMF-3B is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-3-4B is adjacent to SMF-3B on the same parcel. The north side of SR 50 is the upstream side of the floodplain with a higher BFE than the south side. FPC-3-4B is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-3B and FPC-3-4B are located mostly within land uses identified as hardwood conifer mixed and stream and lake swamps (bottomland). There are forested wetlands located within FPC-3-4B. The FPC site could be graded to avoid impacts to wetlands; however, wetland impacts are likely to occur at this alternative. Potential federal and state-listed species include the eastern indigo snake, wood stork, gopher tortoise, Florida pine snake, Southeastern American kestrel, roseate spoonbill, little blue heron, tricolored heron, and Florida sandhill crane.

SMF-3C/FPC-3-4C:

SMF-3C & FPC-3-4C are located offsite along Irwin Street. Based on the soils and contours, SMF-3C is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-3-4C is adjacent to SMF-3C on the same parcel. The north side of SR 50 is the upstream side of the floodplain with a higher BFE than the south side. FPC-3-4C is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-3C and FPC-3-4C are located mostly within land use identified as cropland and pastureland. The majority of the area consists of open land with low-growing herbaceous vegetation. There appears to be no wetlands within these alternatives. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel.

4.1.4 Basin 4

This basin contains only SMF alternatives. Floodplain area has been accounted for within FPC-3-4 Alternatives. This is a closed basin. Three alternative SMF's were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 24" cross drain, Sta. 673+83. The SMF alternatives are all wet ponds. The preliminary recommended SMF site is SMF-4C.

This basin discharges to Bystre Lake based on the LiDAR contour data and therefore required nutrient loading evaluation. The evaluation has been combined and documented within Basin 3. Nutrient loading calculations are provided in the **Appendix B** and are based on a treatment train of dry retention in the swales followed by wet detention treatment.

Note that from Sta. 665+00 and Sta. 669+00 LT, there is potential for minimal floodplain impact to occur that can be addressed through either grading or potentially with gravity wall. Alternatively, the impact potential is small enough that modeling may demonstrate no impact without any adjustments.

The SMF alternatives within Basin 4 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay or habitat to support the red-cockaded woodpecker appears to be present at any of the SMF alternatives. There are no potential contamination sites located near the alternatives in this basin.

SMF-4A

SMF-4A is located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-4A is sited on low lying undeveloped area and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-4A is located within a land use identified as cropland and pastureland, but there is also residential land use within the surrounding area to the east and west. The site consists of mostly open land with low-growing herbaceous vegetation. There is a small wetland/surface water feature to the south of this site. No wetland and surface water impacts are anticipated. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are no residential or business relocations associated with this alternative.

SMF-4B

SMF-4B is located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-4B is sited on low lying undeveloped area and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-4B is located within a land use identified as residential. There are residences located at this location. No wetland and surface water impacts are anticipated. There is minimal to no anticipated species utilization at this site. There is the potential for at least one residential relocation associated with this alternative.

SMF-4C

SMF-4C is located offsite along Cedar Lane with a conveyance easement. Based on the soils and contours, SMF-4C is sited on low lying undeveloped area and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-4C is located within a land use identified as cropland and pastureland, but there is also residential land use within the surrounding area to the east and west. The site consists of mostly open land with low-growing herbaceous vegetation. There is a small wetland/surface water feature to the west of this site. Minimal to no wetland and surface water impacts are anticipated. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are no residential or business relocations associated with this alternative.

4.1.5 Basin 5

The SMF's and FPC's have been grouped together in the consideration of pond site alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Three alternative SMF's and FPC sites were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 2-48" cross drains, Sta. 697+50. The SMF alternatives are all wet ponds. The preliminary recommended SMF and FPC sites are SMF 5B and FPC 5B.

This basin discharges to Bystre Lake based on the LiDAR contour data and therefore required nutrient loading evaluation. The evaluation finds that the required nutrient loading reduction exceeds what

can be achieved through wet detention alone. To meet the nutrient loading requirements for this basin either approximately 0.4 inch of retention can be provided within the swales in the right-of-way or offsite area can be drained to the wet detention pond along with the roadway pavement and credit taken for reduction of the loading from offsite. To provide the dry retention treatment within the roadway swales would be roughly 6 inch depth retained within the border swales. Nutrient loading calculations are provided in the **Appendix B** and are based on a treatment train of dry retention in the swales followed by wet detention treatment.

The SMF and FPC alternatives within Basin 5 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF and FPC alternatives. There are no residential or business relocations associated with the Basin 5 alternatives.

SMF-5A/FPC-5A:

SMF-5A is located on the north side of SR 50 adjacent to the road, and FPC-5A is located on the south side of SR 50. Based on the soils and contours, SMF-5A is sited on lower lying undeveloped area adjacent to wetlands. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-5A is on a different parcel than SMF-5A. The south side of SR 50 is the downstream side of the floodplain with a lower BFE than the north side. FPC-5A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-5A is located within land uses identified as residential and hardwood conifer mixed. There are no residences on this property, but there is a cell tower to the west. There are forested wetlands located to the west, and potential impacts may occur with this alterantive. FPC-5A is located within land use identified as hardwood conifer mixed. Minimal wetland impacts may occur with FPC-5A. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. Wetland dependent wading birds, such as the wood stork, may exist if wetlands are determined to be present. There are no potential contamination sites located near this alternative.

SMF-5B/FPC-5B:

SMF-5B and FPC-5B are located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-5B is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size. FPC-5B is adjacent to SMF-5B on the same parcel. The south side of SR 50 is the downstream side of the floodplain with a lower BFE than the north side. FPC-5B is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork. SMF-5B and FPC-5B are located mostly within hardwood conifer mixed land use. There is a freshwater emergent wetland located on the north end of SMF-5B and a forested wetland within the southern portion of FPC-5B. Wetland impacts are anticipated by the proposed SMF and FPC alternatives. Potential federal and state-listed species include the eastern indigo snake, wood stork, gopher tortoise, Florida pine snake, Southeastern American kestrel, roseate spoonbill, little blue heron, tricolored heron, and Florida sandhill crane. There is one site ranked as no for potential contamination identified to the east of these alternatives. No contamination impacts are anticipated.

SMF-5C/FPC-5C:

SMF-5C and FPC-5C are located offsite along Dorsey Smith Road. Based on the soils and contours, SMF-5C is sited on lower lying undeveloped area adjacent to the Zone AE Floodplain. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-5C is adjacent to SMF-5C on the same parcel. The north side of SR 50 is the upstream side of the floodplain with a higher BFE than the south side. FPC-5C is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-5C and FPC-5C are located within land uses identified as hardwood conifer mixed and cropland and pastureland. The majority of the site is forested with some open grassy areas along the south side. There are no wetland impacts anticipated for this site. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. Wildlife utilization would be low within SMF-5C due to close proximity to SR 50 and surrounding residential land uses and low-moderate at FPC-5C since it is further away from SR 50 although there are some surrounding residential areas. There are no potential contamination sites located near this alternative.

4.1.6 Basin 6

This basin contains only SMF alternatives. Floodplain area has been accounted for in FPC-6-9 alternatives. This is a closed basin. Three alternative SMF's were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 2-60"x38" cross drains, Sta. 722+30. The SMF alternatives are all wet ponds. The preliminary recommended SMF site is SMF 6B.

The SMF alternatives within Basin 6 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF alternatives. There are no residential or business relocations associated with Basin 6 SMF alternatives.

SMF-6A

SMF-6A is located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-6A is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the

outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-6A is located within land use identified as residential. There appear to be no residences within the proposed pond location, but there are houses surrounding the site. No wetlands are located within or adjacent to this site. Due to the close proximity to the road and surrounding residential areas, species utilization is not likely at this site. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are no potential contamination sites located near this alternative.

SMF-6B

SMF-6B is located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-6B is sited on lower lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-6B is located within land use identified as hardwood conifer mixed. There is a small residential community located directly to the north. There are no wetlands identified within or adjacent to this proposed site, so no wetland impacts are anticipated. There is wildlife access through undeveloped areas to the east, but utilization is likely low due to the residential area to the north and SR 50 directly to the south. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There is one low ranked potential contamination site located to the north of this alternative.

SMF-6C

SMF-6C is located offsite along Clayton Road with a conveyance easement on the north side of SR 50. Based on the soils and contours, SMF-6C is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-6C is located within land use identified as hardwood conifer mixed. This site is a small undisturbed area surrounded by mostly residences, making the site less likely to be utilized by wildlife. There are no wetlands identified within or adjacent to the site, so no wetland impacts are anticipated. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are no potential contamination sites located near this alternative.

4.1.7 Basins 7 and 8:

These basins contain only SMF alternatives. Floodplain area has been accounted for in FPC-6-9 alternatives. This is a closed basin. Three alternative SMF's were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as either

the existing 24" cross drain, Sta. 743+70 or 10'x8' box culvert, Sta. 756+30. The SMF alternatives are all wet ponds. The preliminary recommended SMF site is SMF 7&8C.

The SMF alternatives within Basin 6 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF alternatives. There are no residential or business relocations associated with Basin 7-8 SMF alternatives.

SMF-7-8A

SMF-7-8A is located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-7-8A is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-7-8A is located within land use identified as hardwood conifer mixed. This site has low-density residential to the south with some open rangeland. There were no wetlands identified within this alternative, so no wetland impacts are anticipated. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There is one low ranked contamination site located directly to the west of this proposed alternative.

SMF-7-8B

SMF-7-8B is located offsite with a conveyance easement on the south side of SR 50. Based on the soils and contours, SMF-7-8B is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-7-8B is located within land use identified as cropland and pastureland. This is an open grassy area with minimal other vegetation. There are commercial, residential and upland forested habitats within the vicinity of this site. No wetlands have been identified at this alternative, so no wetland impacts are anticipated. The small area of open land provides minimal habitat for listed species, with the exception of the gopher tortoise and eastern indigo snake. There is one low ranked contamination site located directly to the north of this proposed alternative.

SMF-7-8C

SMF-7-8C is located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-7-8C is sited on lower lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-7-8C is located within land use identified as tree plantations. This site appears to be planted pines of moderate size. There are large areas of open land surrounding this site including wetlands to the east and a mixture of cropland and pastureland mixed with low-density residential to the north

and west. No wetlands have been identified within the site, so no wetland impacts are anticipated. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are no potential contamination sites located near this alternative.

4.1.8 Basin 9

This basin contains only SMF alternatives. Floodplain area has been accounted for in FPC-6-9 alternatives. This is a closed basin. Three alternative SMF's were identified. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 36" cross drain, Sta. 777+70. The SMF alternatives are all wet ponds. The preliminary recommended SMF site is SMF 9A.

The SMF alternatives within Basin 6 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF alternatives. There are no residential or business relocations associated with Basin 9 SMF alternatives.

SMF-9A

SMF-9A is located along Mondon Hill Road on the north side of SR 50. Based on the soils and contours, SMF-9A is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-9A is located within land uses identified as tree plantations and hardwood conifer mixed. There are a combination of planted pines and mixed uplands within this site. There are wetlands identified to the west, but no wetland impacts are anticipated with this alternative. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are no potential contamination sites located near this alternative.

SMF-9B

SMF-9B is located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-9B is sited on lower lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-9B is located within land use identified as hardwood conifer mixed. There are large areas of wetland located to the west and south with commercial property (gas station) located to the east. There are some upland forested areas surrounding the wetlands. No wetland impacts are anticipated with the proposed alternative. Large areas of natural communities are located to the west and south. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern

American kestrel. The gas station to the east of this alternative is ranked medium for potential contamination.

SMF-9C

SMF-9C is located along Spring Lake Highway on the south side of SR 50. Based on the soils and contours, SMF-9C is sited on lower lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-9C is located within land use identified as hardwood conifer mixed, and is located to the south of the commercial property identified for alternative SMF-9B. There are upland forest and wetland habitats located to the west and south of the site. No wetland impacts are anticipated with the proposed alternative. Large areas of natural communities are located to the west and south. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. The gas station to the north of this alternative is ranked medium for potential contamination.

4.1.9 Basins 6-9 (FPC)

Basins 6-9 contain FPC-6-9 alternatives. Three FPC sites were identified. The preliminary recommended FPC site is FPC 6-9A.

The FPC 6-9 alternatives are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF alternatives. There are no potential contamination sites located near these FPC alternatives. There are no residential or business relocations associated with Basins 6-9 FPC alternatives.

FPC-6-9A

FPC-6-9A is located on the north side of SR 50 adjacent to the road. The north and south sides of SR 50 have the same BFE. FPC-6-9A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-6-9A is located within land use identified as tree plantations as described for SMF-7&8C. There are large areas of open land surrounding this site including wetlands to the east and a mixture of cropland and pastureland mixed with low-density residential to the north and west. No wetlands have been identified within the site, so no wetland impacts are anticipated. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel.

FPC-6-9B

FPC-6-9B is located offsite along Clayton Road with a conveyance easement on the north side of SR 50. The north and south sides of SR 50 have the same BFE. FPC-6-9B is sited at the fringe of the

existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-6-9B is located within land uses identified as residential low density and hardwood conifer mixed. There are no wetland identified at this alternative, and no wetland impacts are anticipated. The majority of the surroundings are residential communities with some upland forested area and rangeland located to the east. Minimal wildlife utilization would be anticipated at this location. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel.

FPC-6-9C

FPC-6-9C is located offsite with a conveyance easement on the south side of SR 50. The north and south sides of SR 50 have the same BFE. FPC-6-9C is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-6-9C is located within land use identified as hardwood conifer mixed. There are natural upland and wetland communities located around the site with low density residential to the west. There are no wetland impacts anticipated with this alternative. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel.

4.1.10 Basin 10

The SMF's and FPC's are being reviewed independently in the consideration of pond site and floodplain alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Two alternative SMF's and FPC sites were identified. There are only 2 alternative's identified since there is not a reasonable third alternative. SMF 10A would function as offline system with the control structure and point of discharge being located as the existing 2-36" cross drains, Sta. 794+80, and SMF 10B would function as an online system being adjacent to the existing 2-36" cross drains, Sta. 794+80. The SMF alternatives are all dry ponds. The preliminary recommended SMF and FPC sites are SMF 10A and FPC 10A.

The SMF alternatives within Basin 6 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF alternatives.

SMF-10A

SMF-10A is located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-10A is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-10A is located within land use identified as tree plantations. The project is bordered by two roads with additional tree plantation to the north and some vacant land to the east. There are commercial and residential land uses further to the east. There are no wetlands identified at this location, and no wetland impacts are anticipated. Wildlife utilization is anticipated to be minimal at this location. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There is one potential contamination site ranked medium located about 400 feet southwest of this alternative on the south side of SR 50. There are no residential or business relocations associated with this alternative.

SMF-10B

SMF-10B is located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-10B is sited on lower lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. SMF-10B is covered over two parcels with an equalizer pipe.

SMF-10B is located within land use identified as open land. This site has mostly herbaceous vegetation with a few trees and saplings. There is a tree plantation to the west and commercial property to the east with residential property in the surroundings. No wetland impacts will occur with this alternative. The gopher tortoise and eastern indigo snake are most likely to be located at this site. There are no potential contamination sites located near this alternative. There are no residential or business relocations associated with this alternative.

FPC-10A

FPC-10A is located on the north side of SR 50 along an existing easement. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-10A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-10A is located within land uses identified as tree plantations and open land. The surrounding habitats are similar to those described for SMF-10A and SMF-10B. No wetland impacts will occur with this alternative. The gopher tortoise and eastern indigo snake are most likely to be located at this site. There are no potential contamination sites located near this alternative. There are no residential or business relocations associated with this alternative.

FPC-10B

FPC-10B is located on the south side of SR 50 adjacent to the road. The south side of SR 50 is the upstream side of the floodplain with a higher BFE than the north side. FPC-10B is adjacent to wetlands and sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-10B is located within residential land use. There are residences located within the southern portion of the site. There are also wetlands identified within this alternative, and wetland impacts would likely occur. Minimal to no wildlife utilization is anticipated with this alternative. The nearest contamination site is located about 350 feet to the west and was ranked low for potential contamination. It appears there would be two residential relocations associated with this alternative.

4.1.11 Basin 11

The SMF's and FPC's have been grouped together in the consideration of pond site alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Two alternative SMF's and FPC sites were identified. There are only 2 alternative's identified since there is not a reasonable third alternative. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 36" cross drain, Sta. 832+10. The SMF alternatives are all dry ponds. The preliminary recommended SMF and FPC sites are SMF-11B and FPC-11B.

The SMF alternatives within Basin 4 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay or habitat to support the red-cockaded woodpecker appears to be present at any of the SMF alternatives. There are no residential or business relocations associated with the alternatives in Basin 11.

SMF-11A/FPC-11A:

SMF-11A & FPC-11A are located offsite with a conveyance easement on the south side of SR 50. Based on the soils and contours, SMF-11A is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size. FPC-11A is adjacent to SMF-11A on the same parcel. The south side of SR 50 is the downstream side of the floodplain with a lower BFE than the north side. FPC-11A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-11A and FPC-11A are located mostly within land use identified as cropland and pastureland. There is some upland forested area located within FPC-11A. The Hill 'n Dale subdivision is located north of SR 50 with residential land uses located mostly to the south with open lands. There are no wetland impacts anticipated within this alternative. Wildlife utilization is anticipated to be low. The gopher tortoise and eastern indigo snake have potential within the open areas. There is a potential contamination site located at SR 50 that was ranked as low.

SMF-11B/FPC-11B:

SMF-11B & FPC-11B are located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-11B is sited on low lying undeveloped area adjacent to the Zone AE Floodplain, and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-11B is adjacent to SMF-11B on the same parcel. The south side of SR 50 is the downstream side of the floodplain with a

lower BFE than the north side. FPC-11A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

SMF-11B and FPC-11B are located within land use identified as other open lands (rural), but most of these sites consist of forested habitats surrounded by open land. As mentioned above, the Hill 'n Dale subdivision is located north of SR 50 with residential land uses located mostly to the south with open lands. There are no wetland impacts anticipated within this alternative. Wildlife utilization is anticipated to be low. The gopher tortoise is unlikely within this alternative since it is mostly overgrown. There is a potential contamination site located at SR 50 that was ranked as low.

4.1.12 Basin 12

The SMF's and FPC's have been reviewed independently in the consideration of pond site and floodplain alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Two alternative SMF's and 3 alternative FPC sites were identified. There are only 2 SMF alternative's identified since there is not a reasonable third alternative. The SMF ponds would function as offline systems with the control structure and point of discharge being located as the existing 24" cross drain, Sta. 853+80. The SMF alternatives are all dry ponds. The preliminary recommended SMF and FPC sites are SMF-12A and FPC-12B.

The SMF alternatives within Basin 4 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay or habitat to support the red-cockaded woodpecker appears to be present at any of the SMF alternatives.

SMF-12A

SMF-12A is located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-12A is sited on higher lying undeveloped area and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-12A is located within land use identified as residential low density. The site is located within an area of open land and west of the Hillside Community Church. There are no wetland impacts anticipated with this alternative. Wildlife utilization is anticipated to be low. The gopher tortoise and eastern indigo snake have potential within the open areas. There are no potential contamination sites located near this alternative. There are no residential or business relocations associated with this alternative.

SMF-12B

SMF-12B is located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-12B is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-12B is located within land use identified as cropland and pastureland. This area is mostly maintained field grass with minimal other vegetation. There are no wetland impacts anticipated with this alternative. The potential for gopher tortoises and eastern indigo snakes exists at this site, and no other listed species are anticipated. There is a potential contamination site located approximately 400 feet to the west on SR 50 that was ranked as low. There are no residential or business relocations associated with this alternative.

FPC-12A

FPC-12A is located on the north side of SR 50 adjacent to the road. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-12A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-12A is located within land use identified as medium density residential. This alternative has some natural upland forested areas and open grassy areas with some continued natural habitat to the east. The overall surrounding is low density residential. There are no wetland impacts anticipated with this alternative. The potential for gopher tortoises and eastern indigo snakes exists at this site, and no other listed species are anticipated. There are no potential contamination sites located near this alternative. There are no residential or business relocations associated with this alternative.

FPC-12B

FPC-12B is located on the north side of SR 50 adjacent to the road. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-12B is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-12B is located within land use identified as longleaf pine – xeric oak. There are residential land uses surrounding this site in the distance that block off big picture connectivity to natural other natural habitats. There are no wetland impacts anticipated with this alternative. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are no potential contamination sites located near this alternative. There are no residential or business relocations associated with this alternative.

FPC-12C

FPC-12C is located on the north side of SR 50 adjacent to the road. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-12C is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-12C is located within land use identified as medium density residential. This is a small forested area directly surrounded by houses. There are no wetland impacts anticipated with this alternative. Minimal to wildlife utilization is anticipated at this site since it is such a small forested area with

surrounding development. There are no potential contamination sites located near this alternative. There appears to be at least two residential relocations associated with this alternative.

4.1.13 Basin 13

The SMF's and FPC's have been reviewed independently in the consideration of pond site and floodplain alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Three alternative SMF and FPC sites were identified. SMF-13A and SMF-13B would function as offline systems with the control structure and point of discharge being located as the existing 30" cross drain, Sta. 903+80, and SMF-13C would function as an online system being adjacent to the existing 30" cross drain, Sta. 903+80. The SMF alternatives are all dry ponds. The preliminary recommended SMF and FPC sites are SMF 13B and FPC 13B.

The SMF alternatives within Basin 6 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay appears to be present at any of the SMF alternatives.

SMF-13A

SMF-13A is located offsite with a conveyance easement on the north side of SR 50. Based on the soils and contours, SMF-13A is sited on low lying undeveloped area and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size.

SMF-13A is located within land use identified as tree plantations; however, the area is cleared land with minimal trees. There are no wetland impacts associated with this alternative. The gopher tortoise and eastern indigo snake have the potential to exist within this site. There are no potential contamination sites located near this alternative. There are no residential or business relocations associated with this alternative.

SMF-13B

SMF-13B is located on the south side of SR 50. Based on the soils and contours, SMF-13B is sited on higher lying undeveloped area and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-13B is located within land use identified as longleaf pine – xeric oak. There is low density residential land use located around this site, but the area remains heavily forested. There are no wetland impacts anticipated with this alternative. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are two potential contamination sites located on the opposite side of SR 50. These sites were ranked as no and low for potential contamination and should not be an issue with this alternative. There are no residential or business relocations associated with this alternative.

SMF-13C

SMF-13C is located on the south side of SR 50. Based on the soils and contours, SMF-13C is sited on higher lying undeveloped area and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size.

SMF-13C is located within land use identified as longleaf pine – xeric oak, directly east of SMF-13B. There is low density residential land use located around this site, but the area remains heavily forested. There are no wetland impacts anticipated with this alternative. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are two potential contamination sites located on the opposite side of SR 50 about 450 feet to the northwest. These sites were ranked as no and low for potential contamination and should not be an issue with this alternative. There is one potential residential relocation associated with this alternative.

FPC-13A

FPC-13A is located on the north side of SR 50 adjacent to the road. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-13A is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-13A is located within land use identified as tree plantations; however, the area is cleared land with minimal trees. There are no wetland impacts associated with this alternative. The gopher tortoise and eastern indigo snake have the potential to exist within this site. There are two sites that were ranked as no and low for potential contamination directly west of this site. Since the contamination sites do not appear to be a risk, no contamination impacts are anticipated. There are no residential or business relocations associated with this alternative.

FPC-13B

FPC-13B is located on the south side of SR 50 adjacent to the road. The south side of SR 50 is the upstream side of the floodplain with a higher BFE than the north side. FPC-13B is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-13B is located within land use identified as longleaf pine – xeric oak, directly east of SMF-13C. There is low density residential land use located around this site, but the area remains heavily forested. There are no wetland impacts anticipated with this alternative. Federal and state-listed species that have the potential to exist within this location include the eastern indigo snake, red-cockaded woodpecker, gopher tortoise, Florida pine snake, and Southeastern American kestrel. There are two potential contamination sites located on the opposite side of SR 50. These sites were

ranked as no and low for potential contamination and should not be an issue with this alternative. There are no residential or business relocations associated with this alternative.

FPC-13C

FPC-13C is located on the north side of SR 50 adjacent to the road. The north side of SR 50 is the downstream side of the floodplain with a lower BFE than the south side. FPC-13C is sited at the fringe of the existing floodplain to achieve efficiency in the amount of cup-for-cup compensation relative to the area and earthwork.

FPC-13C is located within land use identified as residential low density. The area of the proposed alternative is cleared land with minimal trees. There are no wetland impacts associated with this alternative. The gopher tortoise and eastern indigo snake have the potential to exist within this site. There are two sites that were ranked as no and low for potential contamination about 350 feet to the west of this site. Since the contamination sites do not appear to be a risk, no contamination impacts are anticipated. There are no residential or business relocations associated with this alternative.

4.1.14 Basin 14

The SMF's and FPC's have grouped together in the consideration of pond site alternatives for their respective limits since this appears to be the best approach for acquisition of the required land for these facilities. This is a closed basin. Two alternative SMF's and FPC sites were identified. There are only 2 alternative's identified since there is not a reasonable third alternative. The FPC area has been combined into the SMF ponds. SMF 14A/FPC-14A would function as offline system with the control structure and point of discharge being located as the existing 2-30" cross drains, Sta. 929+50, and SMF 14B/FPC-14B would function as an online system with interconnected ponds being adjacent to the existing 2-45"x29" cross drains, Sta. 926+40 or the 2-30" cross drains, Sta. 929+50. The SMF/FPC alternatives are all dry ponds. The preliminary recommended SMF/FPC site is SMF14A/FPC-14A.

The SMF alternatives within Basin 4 are located within the USFWS consultation area for the Florida scrub-jay and red-cockaded woodpecker. No scrub habitat to support the Florida scrub-jay or habitat to support the red-cockaded woodpecker appears to be present at any of the SMF alternatives.

SMF-14A/FPC-14A:

SMF-14A and FPC-14A are located on the north side of SR 50 adjacent to the road. Based on the soils and contours, SMF-14A is sited on higher lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively higher estimated seasonal high water elevation at this site allows for reduced storage depth and increases the required pond size. FPC-14A is combined with SMF-14A. The north side of SR 50 is the upstream side of the floodplain with a higher BFE than the south side.

SMF-14A/FPC-14A is located within land use identified as residential low density. There appears to be at least one residence located on the property. The remaining site is mostly open grass with scattered trees. There is commercial development located to the west. No wetland impacts are anticipated with this alternative. The potential for gopher tortoise and eastern indigo snake exists at

this site. The nearest contamination site is located over 800 feet away, and no contamination impacts are anticipated. There is one residential relocation associated with this alternative.

SMF-14B/FPC-14B:

SMF-14B and FPC-14B are located on the south side of SR 50 adjacent to the road. Based on the soils and contours, SMF-14B is sited on low lying undeveloped area adjacent to the Zone AE Floodplain and near the outfall for the basin. The relatively lower estimated seasonal high water elevation at this site allows for added storage depth and reduces the required pond size. FPC-14B is combined with SMF-14B. The south side of SR 50 is the downstream side of the floodplain with a lower BFE than the north side. SMF-14B is covered over two parcels with an equalizer pipe.

SMF-14B/FPC-14B is located within land use identified as open land is positioned between SR 50 and a high density residential community to the south. There are no wetland impacts anticipated with this alternative. Minimal habitat for protected species exists and wildlife utilization is anticipated to be low. The potential for gopher tortoise and eastern indigo snake exists. There are two contamination sites to the west that were ranked as low for potential contamination. Contamination impacts are unlikely with this alternative. There are no residential or business relocations associated with this alternative.

Table 4-1: SMF and FPC Site Alternatives Matrix

	-				Conveyance			Pond	FPC		Pond	FPC		Conveya	ances (ft)	Online or							
SMF #	Pond Area (Ac)	FPC #	FPC Sites (Ac)	Total Area (Ac)	Easement		Clearing & Grubbing	Excavation	Excavation	Excavation	Embankment	Embankment	Embankment	From	To Pond	Offline	Conveyance	Major Crossing Cost	Total Const. Cost	Wetland Impacts (Ac)	Est. Right of Way Costs	Est. Total Costs	Comments
	(***)		((,	(Ac)		8	(cy)	(cy)		(cy)	(cy)		Pond	TO FOIL	Pond							
	Units	5>					acre			cubic yard			cubic yard				feet						
	Unit Co	sts>				\$	4,004.25			\$ 3.53			\$ 4.70				\$ 186.00						
1A	1.91	1A	0.64	4.08	0	\$	16,337.34	3,403	3,608	\$ 24,749.75	4,047	0	\$ 19,019.48	0	85	Offline	\$ 15,810.00	\$ -	\$ 75,916.57	0	\$ 530,500.00	\$ 606,416.57	
1B	3.81	1B	0.59	7.02	0	\$	28,109.84	10,026	3,613	\$ 48,145.90	4,139	0	\$ 19,454.69	0	375	Offline	\$ 69,750.00	1	\$ 165,460.42	0	\$ 1,798,000.00		
10	2.08	10	0.69	5.33	0	Ş	21,342.65	13,196	3,989	\$ 60,661.43	1,242	0	\$ 5,837.20	0	360	Offline	\$ 66,960.00		\$ 154,801.28	0	\$ 342,700.00		Preliminarily Preferred Alternative
2A	2.74	2A	0.33	5.27	0.74	\$	24,065.54	32,995	3,692	\$ 129,502.26	1,073	0	\$ 5,041.61	0	100	Offline	\$ 18,600.00	\$ 50,000.00	\$ 227,209.42	0	\$ 371,000.00		Preliminarily Preferred Alternative
2B	2.94	2B	1.68	7.91	0	Ş	31,673.62	27,775	8,934	\$ 129,582.58	712	107	\$ 3,850.54	0	100	Offline	\$ 18,600.00	\$ 50,000.00	\$ 233,706.73	0.51	\$ 722,500.00		
2C	4.95	2C	1.51	9.93	0.39	Ş	41,323.86	85,299	8,557	\$ 331,310.66	0	9	\$ 44.46	0	145	Offline	\$ 26,970.00	\$ 50,000.00	\$ 449,648.99	0.20	\$ 645,900.00		Destination of the Destination of Allowers of the
3A	1.81	3-4A	1.99	5.23	0	\$	20,942.23	12,021	13,149	\$ 88,848.74	575	54	\$ 2,958.41	0	70	Offline	\$ 13,020.00	\$ 50,000.00	\$ 175,769.37	0	\$ 535,100.00		Preliminarily Preferred Alternative
3B 3C	1.79 1.75	3-4B 3-4C	3.63 1.06	9.05 5.96	0.51	Ş ¢	38,280.63 27,028.69	7,933 35,386	16,232 8,777	\$ 85,304.76 \$ 155,898.31	1,879 2	681 18	\$ 12,029.65 \$ 93.81	0	470 320	Offline Offline	\$ 87,420.00 \$ 59,520.00	\$ 50,000.00 \$ 50,000.00		2.08 0	\$ 495,000.00 \$ 647,100.00	\$ 1,184,035.04 \$ 939,640.81	
						ې د						0	\$ 55.61 ¢	0						-			
4A 4B	1.59	N/A	N/A	2.77	0	Ş	11,091.77	11,780	0	\$ 41,581.94	0	0	\$ -	0	100	Offline Offline	\$ 18,600.00	\$ 50,000.00	\$ 121,273.71	0	\$ 283,500.00		
4B 4C	1.20 1.63	N/A N/A	N/A N/A	2.25 3.55	0.20	ې د	9,009.56 15,015.94	7,676 1,008	0	\$ 27,097.83 \$ 3,559.57	751 1,460	0	\$ 3,529.35 \$ 6,862.16	0	140 70	Offline	\$ 26,040.00 \$ 13,020.00	\$ 50,000.00 \$ 50,000.00	\$ 115,676.74 \$ 88,457.67	0	\$ 1,283,800.00 \$ 263,600.00		Preliminarily Preferred Alternative
4C 5A	1.85	5A	3.07	8.52	0.20	ې د	34,116.21	41,940	24,028	\$ 232,866.42	0	0	\$ 0,802.10	0	95	Offline	\$ 17,670.00	\$ 50,000.00	\$ 334,652.63	0	\$ 685,500.00	. ,	
58 58	1.85	5B	2.97	10.04	0	ې د	40,202.67	15,356	24,028	\$ 137,481.73	112	4	\$ 546.46	0	140	Offline	\$ 26,040.00	\$ 50,000.00	\$ 254.270.87	0	\$ 504.300.00	. , ,	Preliminarily Preferred Alternative
50 50	1.64	50 5C	1.64	5.86	0.79	Ś	26,628.26	16,045	18,978	\$ 123,632.50	104	4	\$ 490.37	120	1525	Online	\$ 305,970.00	\$ 50,000.00	\$ 506,721.13	0	\$ 1,328,500.00		Freiminanty Freieneu Alternative
N/A	N/A	6-9A	12.99	21.54	0	Ś	86,251.55	0	181,551	\$ 640,873.49	0	544	\$ 2,558.72	0	0	N/A	\$ -	\$ -	\$ 729,683.75	0	\$ 936,200.00		Preliminarily Preferred Alternative
N/A	N/A	6-9B	12.25	20.14	0.44	Ś	82,407.47	0	181,531	\$ 665,881.24	0	26	\$ 122.01	0	0	N/A	\$ -	\$ -	\$ 748,410.72	0	\$ 1,203,500.00		
N/A	N/A	6-9C	10.92	15.31	0.15	Ś	61,905.71	0	183,587	\$ 648,062.03	0	10	\$ 45.24	0	0	N/A	\$	\$ -	\$ 710,012.97	0	\$ 703,700.00		
6A	2.68	N/A	N/A	4.03	0	Ś	16,137.13	26,437	0	\$ 93,321.39	1,019	0	\$ 4,787.40	0	90	Offline	\$ 16,740.00	\$ 50,000.00	\$ 180,985.92	0	\$ 426,600.00	\$ 607,585.92	
6B	1.70	N/A	N/A	2.45	0	Ś	9,810.41	7,877	0	\$ 27,804.38	2,277	0	\$ 10,703.50	0	85	Offline	\$ 15,810.00	, ,	\$ 114,128.30	0	\$ 341,200.00		Preliminarily Preferred Alternative
6C	2.36	, N/A	, N/A	3.52	0.94	\$	17,858.96	22,559	0	\$ 79,634.13	50	0	\$ 233.43	0	1340	Offline	\$ 249,240.00	\$ 50,000.00	\$ 396,966.52	0	\$ 273,600.00	\$ 670,566.52	
7-8A	3.84	N/A	N/A	5.32	0	\$	21,302.61	35,021	0	\$ 123,623.65	0	0	\$ -	0	75	Offline	\$ 13,950.00	\$ 50,000.00		0	\$ 447,900.00	\$ 656,776.26	
7-8B	2.67	N/A	N/A	3.72	0.33	\$	16,217.21	37,740	0	\$ 133,221.90	79	0	\$ 372.34	0	620	Offline	\$ 115,320.00	\$ 50,000.00	\$ 315,131.45	0.09	\$ 280,000.00	\$ 613,131.45	
7-8C	2.48	N/A	N/A	3.08	0	\$	12,333.09	23,849	0	\$ 84,188.67	421	0	\$ 1,977.87	0	85	Offline	\$ 15,810.00	\$ 50,000.00	\$ 164,309.63	0	\$ 255,400.00		Preliminarily Preferred Alternative
9A	1.51	N/A	N/A	2.57	0	\$	10,290.92	26,018	0	\$ 91,843.59	7	0	\$ 32.71	0	85	Offline	\$ 15,810.00	\$ 50,000.00	\$ 167,977.22	0	\$ 242,800.00	\$ 410,777.22	Preliminarily Preferred Alternative
9B	1.24	N/A	N/A	2.06	0	\$	8,248.76	15,205	0	\$ 53,672.76	336	0	\$ 1,581.17	0	75	Offline	\$ 13,950.00	\$ 50,000.00	\$ 127,452.68	0	\$ 282,400.00	\$ 409,852.68	
9C	1.27	N/A	N/A	2.52	0.26	\$	11,131.82	19,897	0	\$ 70,236.28	0	0	\$-	0	385	Offline	\$ 71,610.00	\$ 50,000.00	\$ 202,978.10	0	\$ 447,200.00	\$ 650,178.10	
10A	3.18	N/A	N/A	4.57	0	\$	18,299.42	69,572	0	\$ 245,590.22	0	0	\$-	0	95	Offline	\$ 17,670.00	\$ 50,000.00	\$ 331,559.64	0	<mark>\$ 495,300.00</mark>	\$ 826,859.64	Preliminarily Preferred Alternative
10B	2.43	N/A	N/A	3.88	0	\$	15,536.49	27,297	0	\$ 96,359.82	34	0	\$ 160.71	0	0	Online	\$-	\$-	\$ 112,057.02	0	\$ 824,600.00	\$ 936,657.02	
N/A	N/A	10A	0.74	1.93	0	\$	7,728.20	0	4,415	\$ 15,586.00	0	2	\$ 9.11	0	0	N/A	\$-	\$-	\$ 23,323.31	0	<mark>\$ 272,900.00</mark>	\$ 296,223.31	Preliminarily Preferred Alternative
N/A	N/A	10B	0.61	1.56	0	\$	6,246.63	0	3,705	\$ 13,077.38	0	0	\$-	0	0	N/A	\$-	\$-	\$ 19,324.01	0.29	\$ 1,529,000.00	\$ 1,606,324.01	
11A	2.20	11A	0.34	4.02	0.30	\$	17,298.36	19,909	7,177	\$ 95,611.94	792	0	\$ 3,723.26	0	530	Offline	\$ 98,580.00	\$ 50,000.00	\$ 265,213.55	0	\$ 292,100.00	\$ 557,313.55	
11B	1.84	11B	0.83	8.42	0	\$	33,715.79	8,755	10,198	\$ 66,905.92	3,081	0	\$ 14,482.29	0	110	Offline	\$ 20,460.00	\$ 50,000.00	\$ 185,564.00	0	<mark>\$ 446,100.00</mark>	\$ 631,664.00	Preliminarily Preferred Alternative
12A	1.86	N/A	N/A	3.89	0	\$	15,576.53	31,201	0	\$ 110,138.84	2,868	0	\$ 13,481.53	0	100	Offline	\$ 18,600.00	\$ 50,000.00	\$ 207,796.90	0	<mark>\$ 276,300.00</mark>	\$ 484,096.90	Preliminarily Preferred Alternative
12B	1.40	N/A	N/A	3.04	0	\$	12,172.92	2,152	0	\$ 7,594.81	13,841	0	\$ 65,054.44	0	125	Offline	\$ 23,250.00	\$ 50,000.00	\$ 158,072.18	0	\$ 827,100.00	\$ 985,172.18	
N/A	N/A	12A	0.35	0.68	0	\$	2,722.89	0	2,031	\$ 7,168.49	0	0	\$-	0	0	N/A	\$-	\$ -	\$ 9,891.38	0		\$ 234,991.38	
N/A	N/A	12B	0.42	0.99	0	\$	3,964.21	0	2,354	\$ 8,310.91	0	0	\$ -	0	0	N/A	\$ -	\$ -	\$ 12,275.12	0			Preliminarily Preferred Alternative
N/A	N/A	12C	0.27	1.11	0	\$	4,444.72	0	1,759	\$ 6,208.01	0	0	\$-	0	0	N/A	\$-		\$ 10,652.72	0	\$ 1,128,100.00		
13A	2.26	N/A	N/A	5.00	0.40	\$	21,622.95	47,687	0	\$ 168,335.00	0	0	\$-	0	720	Offline	\$ 133,920.00			0	\$ 431,300.00		
13B	2.96	N/A	N/A	6.88	0	\$	27,549.24	47,291		\$ 166,938.73	1	0	\$ 4.22	0	285	Offline	\$ 53,010.00		\$ 297,502.19	0	\$ 388,700.00		Preliminarily Preferred Alternative
13C	2.85	N/A	N/A	9.13	0	\$	36,558.80	77,107	0	\$ 272,188.97	169	0	\$ 794.65	0	0	Online	\$-		\$ 309,542.43	0	\$ 1,381,500.00	. , ,	
N/A	N/A	13A	1.20	2.93	0	\$	11,732.45	0	7,901	\$ 27,891.74	0	0	\$ -	0	0	N/A	\$-	\$ -	\$ 39,624.19	0	\$ 346,200.00		
N/A	N/A	13B	0.85	2.25	0	\$	9,009.56	0	6,443	\$ 22,742.93	0	0	\$ -	0	0	N/A	\$-	\$ -	\$ 31,752.49	0			Preliminarily Preferred Alternative
N/A	N/A	13C	1.48	3.31		\$	13,254.07	0		\$ 31,577.07	0	÷	\$-	0	0	N/A	\$ -		\$ 44,831.14	0	\$ 378,300.00	· ,	
14A	1.54	14A	N/A	4.65		\$	18,619.76	18,519	0	\$ 65,370.95	0	-	\$ -	0	85	Offline	\$ 15,810.00			0			Preliminarily Preferred Alternative
14B	1.54	14B	N/A	3.46	0	\$	13,854.71	26,588	0	\$ 93,857.07	2	0	\$ 7.41	0		Online	\$ -	\$-	\$ 107,719.19	0	\$ 1,841,300.00	\$ 1,949,019.19	

Notes:

1) Pond area is the measured at outside berm area.

2) Floodplain compensation area is measured at the SHW which will be the water surface elevation of the pond.

3) Ponds are paired with FPC sites where it appears the most reasonable alternative to acquire both properties together.

4) Construction costs are based on Area 7, 12 month average from 10/1/16 - 9/30/17.

5) Est. Right of Way Costs are from FDOT District Seven Right of Way.

6) Est. Total Costs include \$200,000 per acre of wetland impact.

7) One potential residential relocation with SMF 14A/FPC 14A

8) Preferred pond sites and preferred FPC sites are delineated by the yellow highlighting

SMF #	Pond Area (Ac)	FPC #	FPC Sites (Ac)	Total Area (Ac)	Wetlands	Widlife and Habitat	Contamination	Cultural Resources	Potential Relocations	Estimated Cost
1A	1.91	1A	0.64	4.08	No	Low	Low	Low-Moderate	None	\$606,416.57
1B	3.81	1B	0.59	7.02	No	Low	Low-Moderate	Low-Moderate	None	\$1,963,460.42
1C	2.08	1C	0.69	5.33	No	Low	Low	Low-Moderate	None	\$497,501.28
2A	2.74	2A	0.33	5.27	Low	Low-Moderate	No	Low-Moderate	None	\$598,209.42
2B	2.94	2B	1.68	7.91	Low-Moderate	Low-Moderate	Moderate	Low	None	\$1,058,206.73
2C	4.95	2C	1.51	9.93	Low-Moderate	Low-Moderate	No	Low-Moderate	None	\$1,135,548.99
3A	1.81	3-4A	1.99	5.23	Low-Moderate	Low-Moderate	No	Low-Moderate	None	\$710,869.37
3B	1.79	3-4B	3.63	9.05	Low-Moderate	Low-Moderate	No	Low	None	\$1,184,035.04
3C	1.75	3-4C	1.06	5.96	No	Low	No	Low-Moderate	None	\$939,640.81
4A	1.59	N/A	N/A	2.77	Low	Low	No	Low-Moderate	None	\$404,773.71
4B	1.20	N/A	N/A	2.25	Low	Low	No	Moderate	1	\$1,399,476.74
4C	1.63	N/A	N/A	3.55	Low	Low	No	Low	None	\$352,057.67
5A	1.85	5A	3.07	8.52	Low	Low	No	Low-Moderate	None	\$1,020,152.63
5B	1.84	5B	2.97	10.04	Moderate	Low-Moderate	Low	Low-Moderate	None	\$758,570.87
5C	1.64	5C	1.64	5.86	No	Low	No	Moderate	None	\$1,835,221.13
N/A	N/A	6-9A	12.99	21.54	No	Low	No	Low-Moderate	None	\$1,665,883.75
N/A	N/A	6-9B	12.25	20.14	No	Low	No	Moderate	None	\$1,951,910.72
N/A	N/A	6-9C	10.92	15.31	No	Low	No	Low-Moderate	None	\$1,413,712.97
6A	2.68	N/A	N/A	4.03	No	Low	No	Low-Moderate	None	\$607,585.92
6B	1.70	N/A	N/A	2.45	No	Low	Low	Low-Moderate	None	\$455,328.30
6C	2.36	N/A	N/A	3.52	No	Low	No	Low	None	\$670,566.52
7-8A	3.84	N/A	N/A	5.32	No	Low	Low	Low-Moderate	None	\$656,776.26
7-8B	2.67	N/A	N/A	3.72	No	Low	Low	Moderate	None	\$613,131.45
7-8C	2.48	N/A	N/A	3.08	No	Low	No	Low-Moderate	None	\$419,709.63
9A	1.51	N/A	N/A	2.57	No	Low	No	Low-Moderate	None	\$410,777.22
9B	1.24	N/A	N/A	2.06	No	Low	Low-Moderate	Low-Moderate	None	\$409,852.68
9C	1.27	N/A	N/A	2.52	No	Low	Low-Moderate	Low-Moderate	None	\$650,178.10
10A	3.18	N/A	N/A	4.57	No	Low	Low	Low-Moderate	None	\$826,859.64
10B	2.43	N/A	N/A	3.88	No	Low	No	Low-Moderate	None	\$936,657.02
N/A	N/A	10A	0.74	1.93	No	Low	No	Low-Moderate	None	\$296,223.31
N/A	N/A	10B	0.61	1.56	Low	Low	Low	Low-Moderate	2	\$1,606,324.01
11A	2.20	11A	0.34	4.02	No	Low	Low	Low	None	\$557,313.55
11B	1.84	11B	0.83	8.42	No	Low	Low	Low	None	\$631,664.00
12A	1.86	N/A	N/A	3.89	No	Low	No	Low-Moderate	None	\$484,096.90
12B	1.40	, N/A	, N/A	3.04	No	Low	Low	Low-Moderate	None	\$985,172.18
N/A	N/A	12A	0.35	0.68	No	Low	No	Low-Moderate	None	\$234,991.38
N/A	N/A	12B	0.42	0.99	No	Low	No	Low	None	\$181,375.12
N/A	N/A	12C	0.27	1.11	No	Low	No	Low-Moderate	2	\$1,138,752.72
13A	2.26	N/A	N/A	5.00	No	Low	No	Moderate	None	\$805,177.95
13B	2.96	N/A	N/A	6.88	No	Low	Low	Low-Moderate	None	\$686,202.19
13C	2.85	N/A	N/A	9.13	No	Low	Low	Low-Moderate	1	\$1,691,042.43
N/A	N/A	, 13A	1.20	2.93	No	Low	Low	Low-Moderate	None	\$385,824.19
N/A	N/A	13B	0.85	2.25	No	Low	Low	Low	None	\$246,052.49
N/A	N/A	13C	1.48	3.31	No	Low	Low	Low	None	\$423,131.14
14A	1.54	14A	N/A	4.65	No	Low	No	Low	1	\$1,261,900.72
14B	1.54	14B	N/A	3.46	No	Low	Low	Low-Moderate	None	\$1,949,019.19

Notes:

1) One potential residential relocation with SMF 14A/FPC 14A

2) Preferred pond sites and preferred FPC sites are delineated by the yellow highlighting

Floodplain	Sub- Basins	Project Floodplain Limits	Base Flood Elev. (BFE)	Estimated Floodplain Encroachment Area (ac) ①③	Estimated Floodplain Encroachment Volume (ac-ft) ②③
1	1A	Sta 566+00 to Sta 572+00 LT	96.3	0.48	0.48
T	1B	Sta 577+62 to Sta 579+30 RT	102.3	0.10	0.05
2	2A	Sta 628+00 to Sta 641+50 RT	85.1	0.62	0.62
Z	2B	Sta 629+40 to Sta 637+00 LT	87.8	0.52	0.52
	3A	Sta 656+55 to Sta 669+00 LT	78.2	0.57	0.86
3-4	3B	Sta 657+30 to Sta 665+15 RT	77.5	0.45	0.34
	4	Sta 669+00 to Sta 678+00 LT	78.2	0.72	1.45
5	5A	Sta 685+50 to Sta 702+00 LT	78.2	1.33	3.31
5	5B	Sta 683+50 to Sta 700+50 RT	77.4	1.17	2.93
	6A	Sta 714+00 to Sta 731+00 LT		1.17	1.46
	6B	Sta 712+00 to Sta 731+00 RT		0.87	1.09
6-9	7	Sta 731+00 to Sta 750+00 LT&RT	74.5	5.94	25.25
	8	Sta 750+00 to Sta 769+00 LT&RT		6.50	34.13
	9	Sta 769+00 to Sta 781+00 LT&RT		3.13	13.30
10	10A	Sta 793+25 to Sta 795+50 LT	67.3	0.18	0.18
10	10B	Sta 793+07 to Sta 797+15 RT	07.3	0.28	0.56
11	11	Sta 829+35 to Sta 836+50 RT	57.9	0.66	1.97
	12A	Sta 851+50 to Sta 852+90 LT	77.4	0.08	0.06
12	12B	Sta 853+40 to Sta 854+50 LT	77.6	0.04	0.03
12	12C	Sta 860+45 to Sta 862+00 LT	94.3	0.12	0.12
	12D	Sta 862+45 to Sta 866+35 LT	95.0	0.22	0.22
	13A	Sta 899+45 to Sta 905+30 LT	80.4	0.54	0.40
13	13B	Sta 888+20 to Sta 892+65 RT	86.8	0.46	0.69
12	13C	Sta 895+00 to Sta 897+00 RT	84.5	0.09	0.11
	13D	Sta 900+20 to Sta 904+85 RT	79.1	0.32	0.48
	14A	Sta 925+00 to Sta 928+35 LT	100.8	0.23	0.35
14	14B	Sta 928+35 to Sta 930+05 LT	102.4	0.18	0.22
	14C	Sta 926+50 to Sta 927+72 RT	101.4	0.08	0.06
			Totals	27.05	91.24

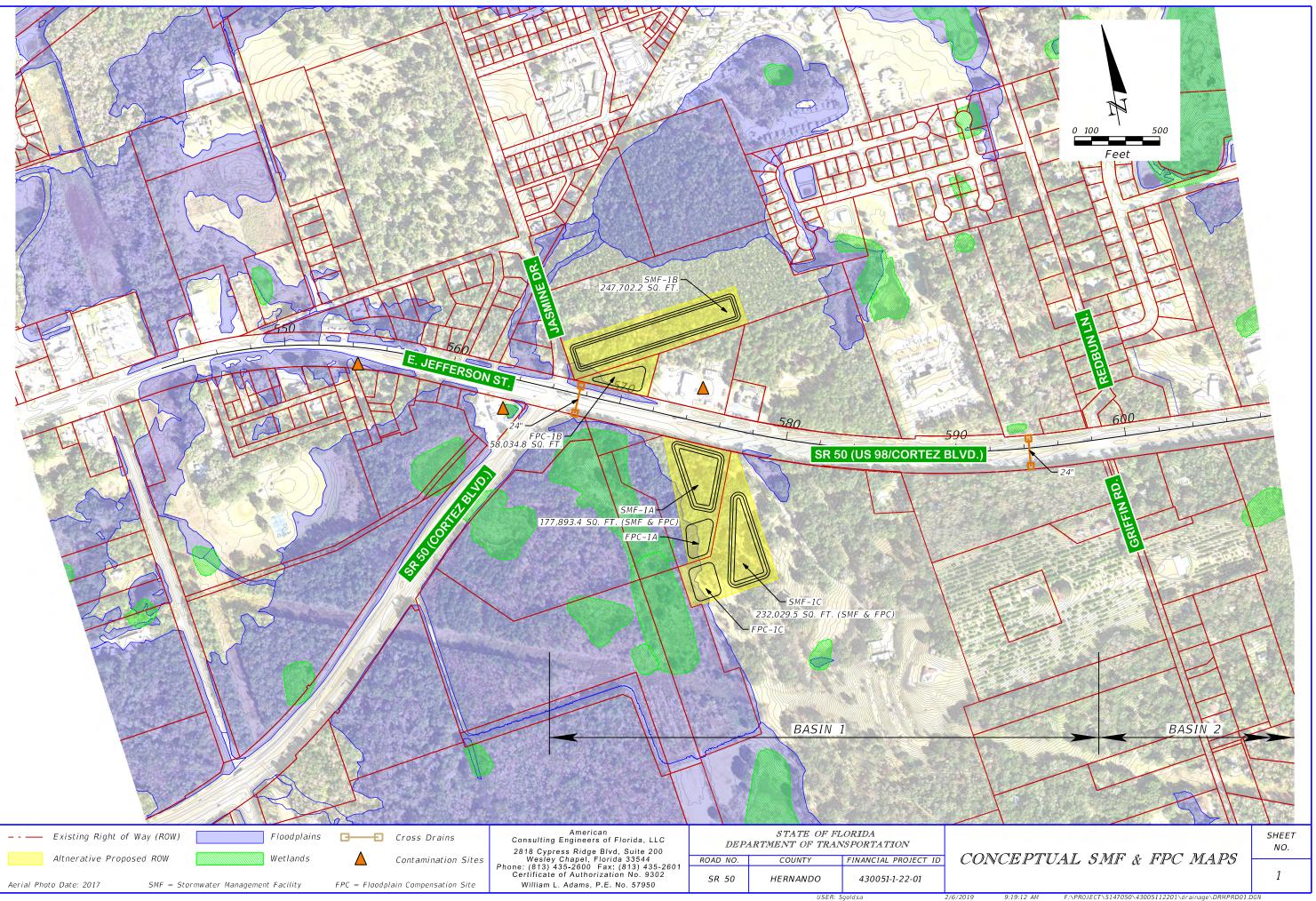
Table 4-3	Floodplain	Encroachment Summary	

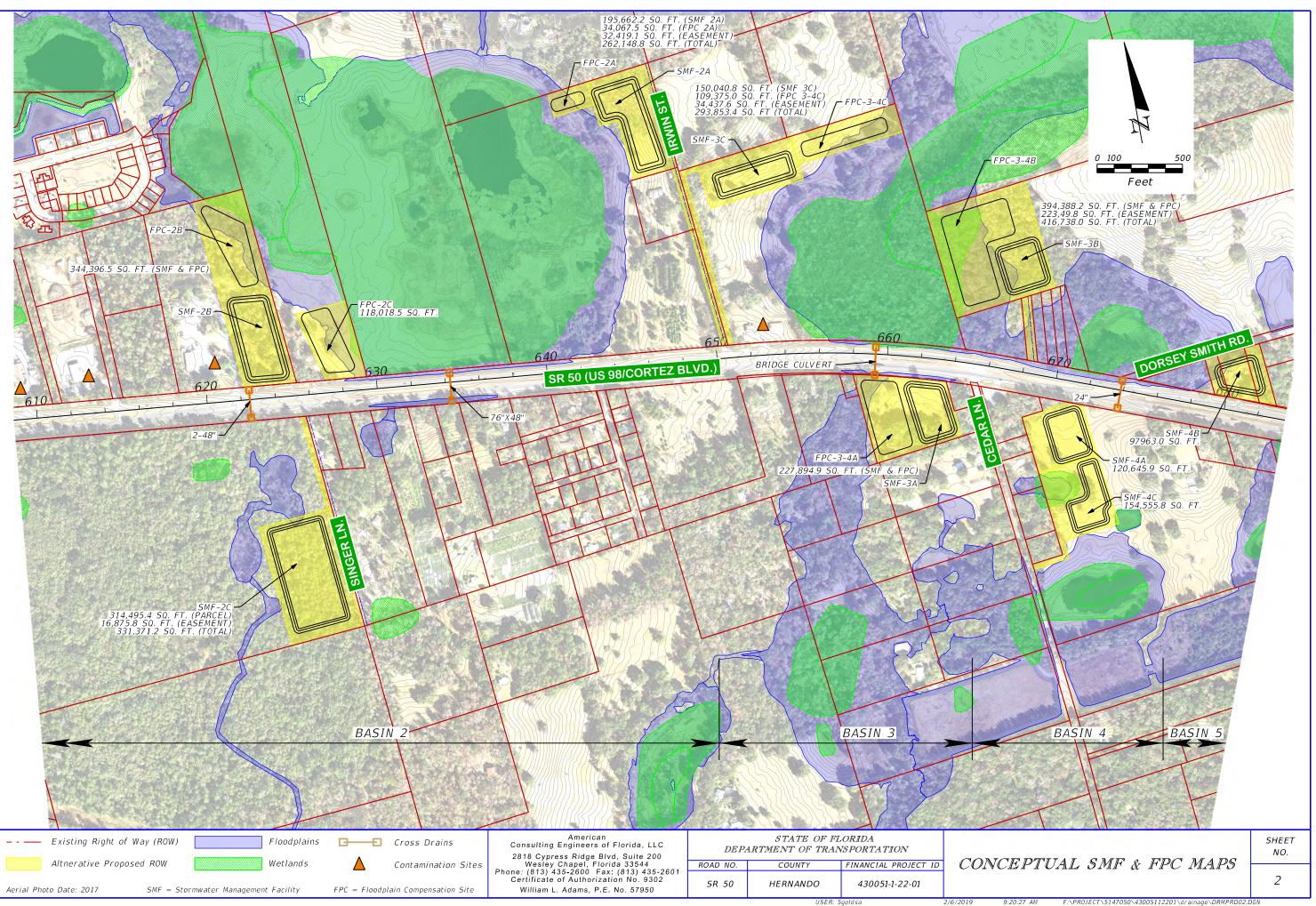
① The estimated floodplain encroachment area is based on an average 20-40 ft width per the length of encroachment per side.

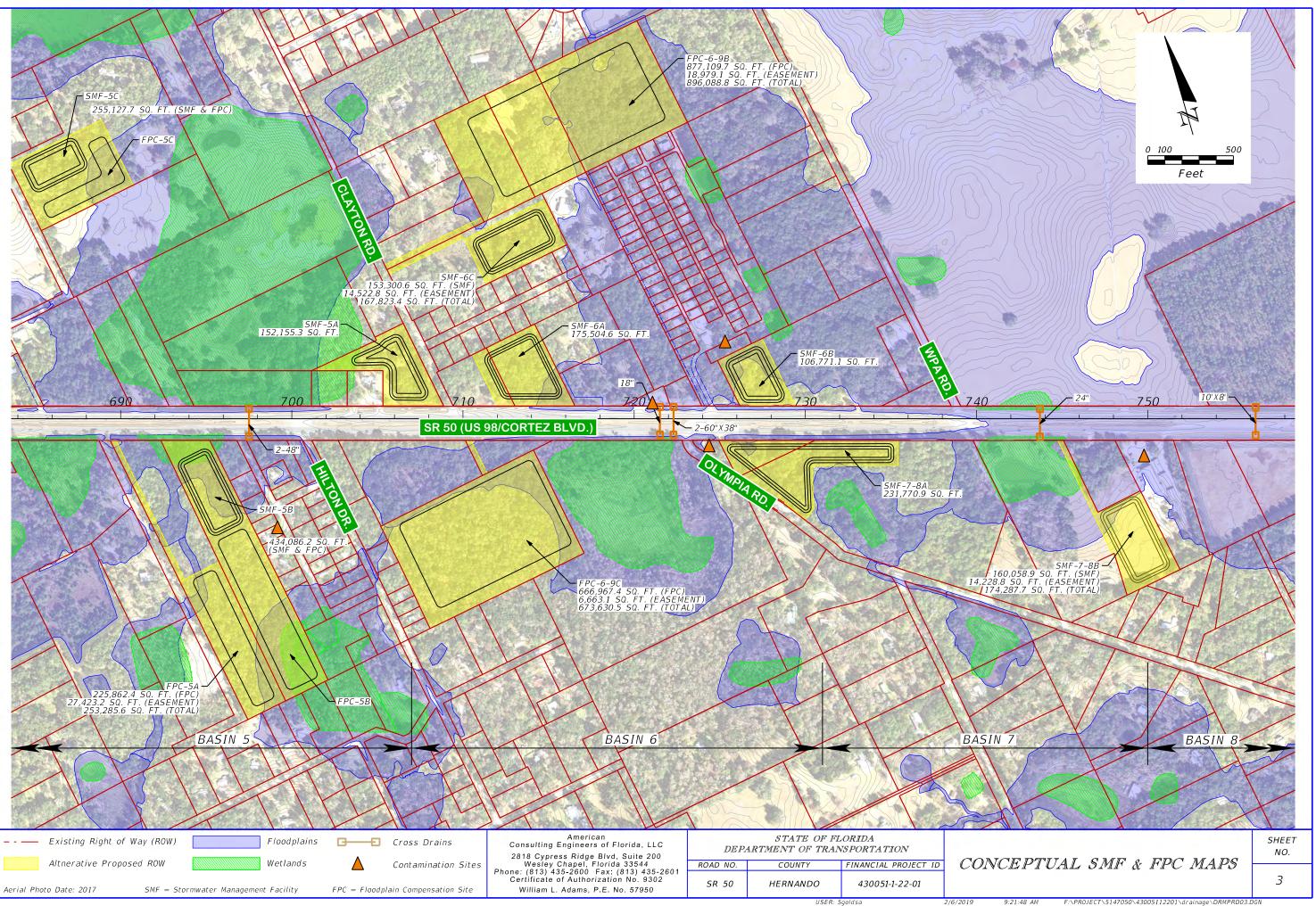
(2) An estimated fill depth based on existing ground and the average depth was estimated per basin.
 (3) See Appendix B (Floodplain Encroachment and Compensation Calculation Summary) for Calculations.

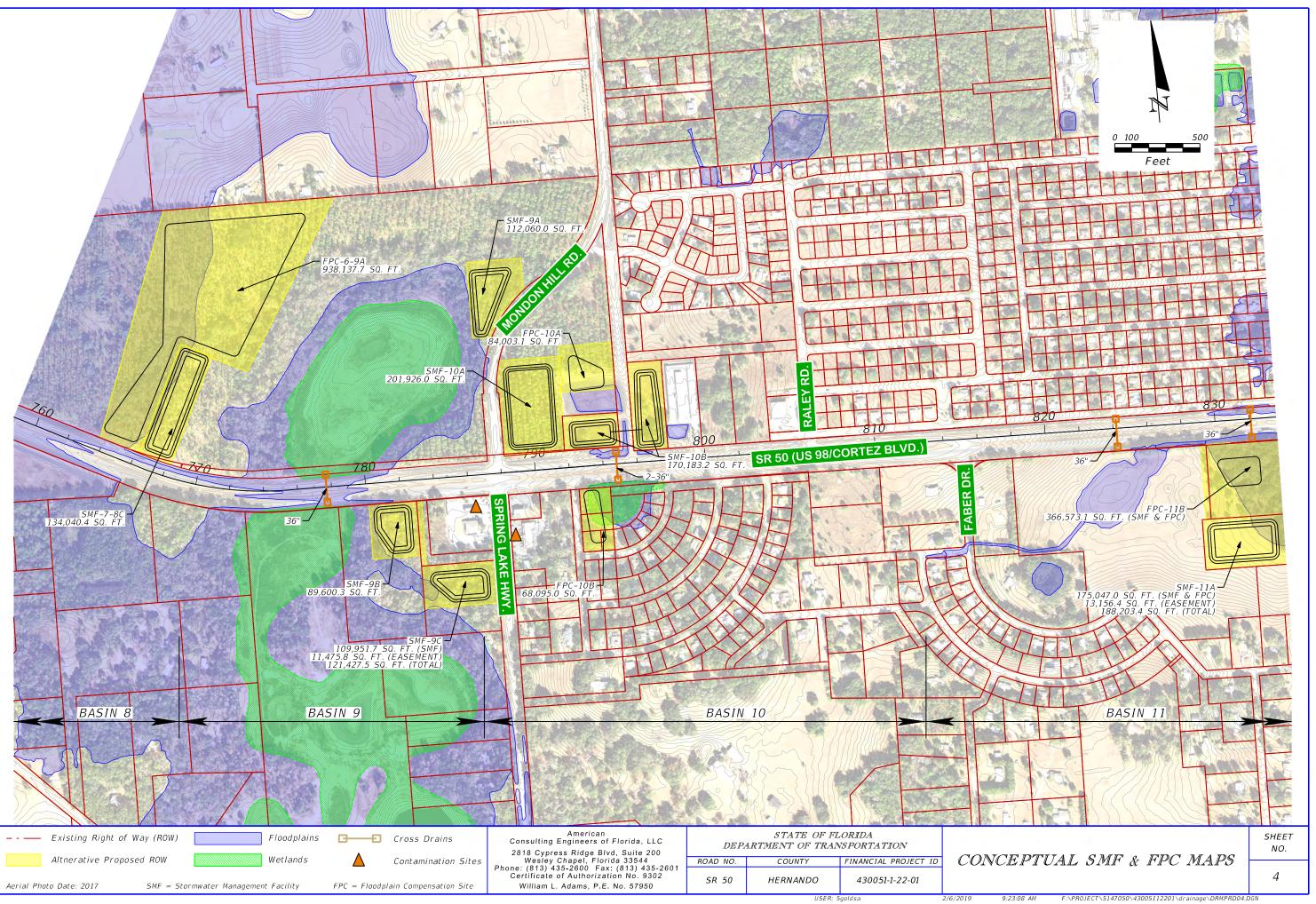
APPENDIX A

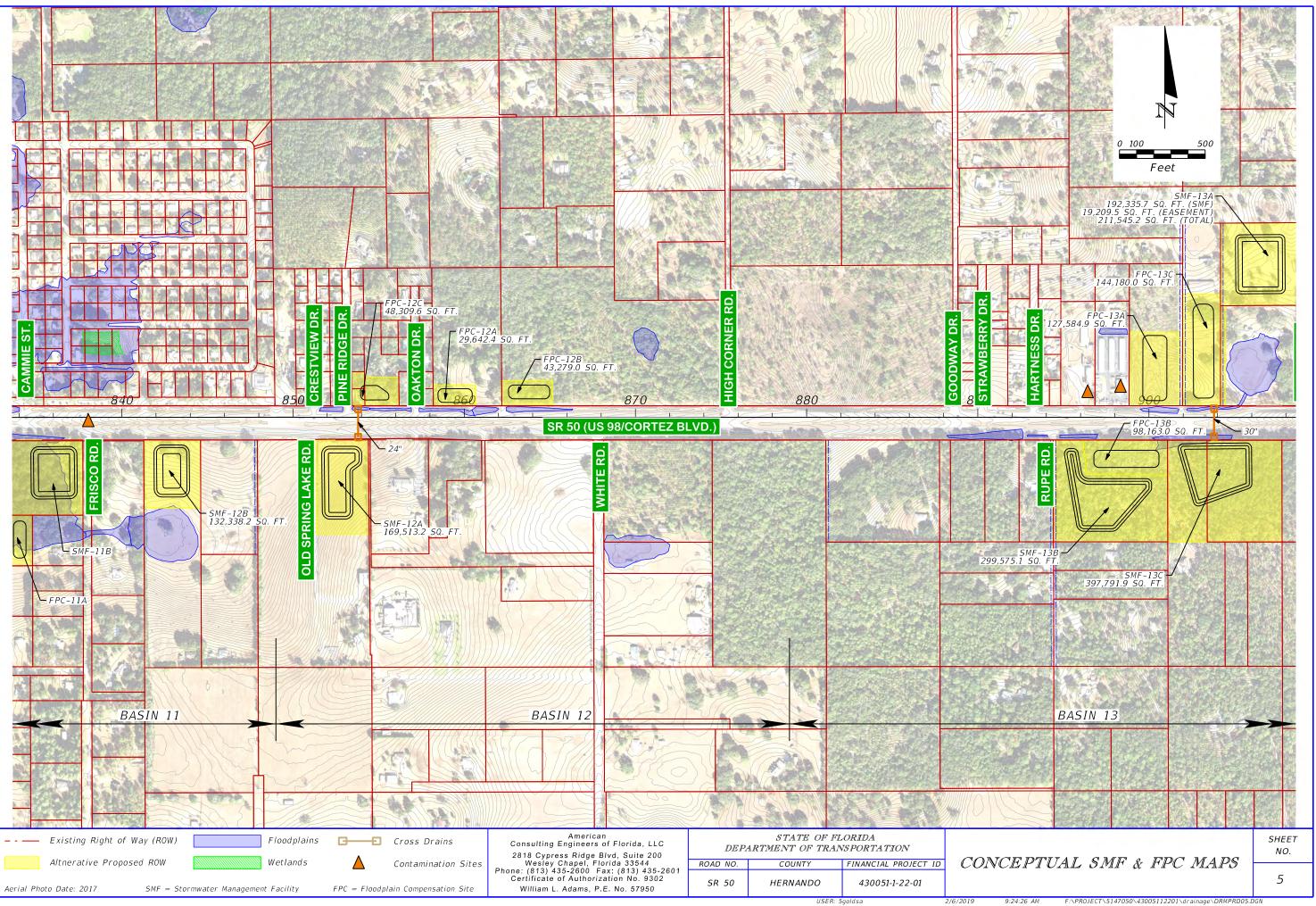
Conceptual Drainage Maps with SMF and FPC Site Alternatives

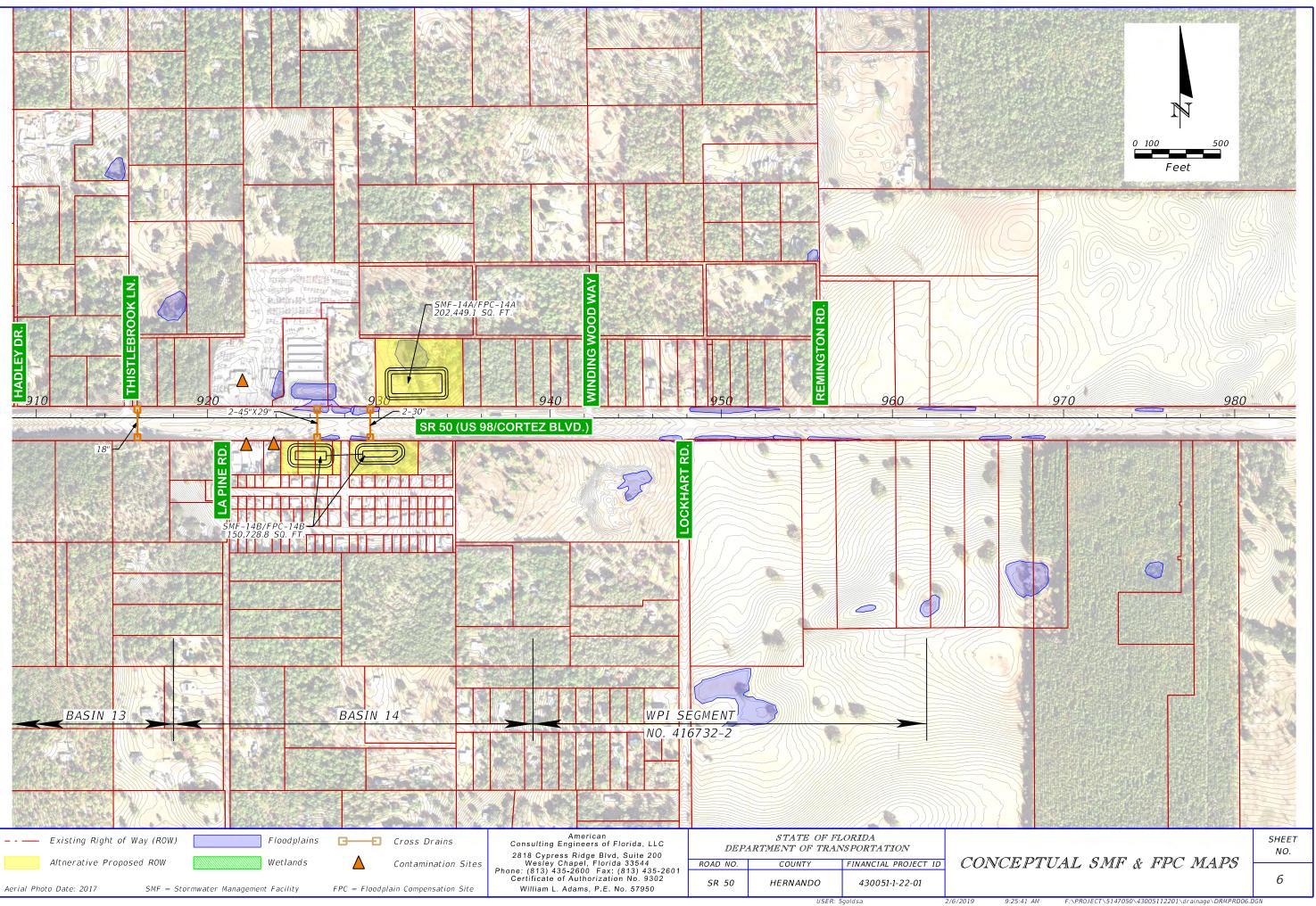












APPENDIX B

Land Use Calculations, Nutrient Loading Calculations, SMF Site Alternative Calculations and Floodplain Compensation Site Alternative Calculations with Grading Schematics

					EXISTI	NG LAND	USE					
Basin	Sta. From	Sta. To	Outfall Location	Length (ft)	Typical R/W Width (ft)	Typical Imp. Width (ft) (1)	Typical Imp. Area (Ac)	5' Sidewalk (ac)	Imp. Total (ac)	Pervious Area (Ac)	Total Onsite Area (ac)	Exist. CN
1	566+00.00	598+25.00	567+56.00	3225	200	26	1.92	0.50	2.42	12.38	14.81	67
2	598+25.00	650+00.00	634+30.00	5175	200	26	3.09	0.64	3.73	20.03	23.76	67
3	650+00.00	669+00.00	659+30.00	1900	200	26	1.13		1.13	7.59	8.72	66
4	669+00.00	680+00.00	673+83.00	1100	200	26	0.66		0.66	4.39	5.05	66
5	680+00.00	707+00.00	697+50.00	2700	200	26	1.61		1.61	10.79	12.40	66
6	707+00.00	731+00.00	722+30.00	2400	200	24	1.32		1.32	9.70	11.02	65
7	731+00.00	750+00.00	743+70.00	1900	200	24	1.05		1.05	7.68	8.72	65
8	750+00.00	769+00.00	756+30.00	1900	200	24	1.05		1.05	7.68	8.72	65
9	769+00.00	787+00.00	777+70.00	1800	200	24	0.99		0.99	7.27	8.26	65
10	787+00.00	813+00.00	794+80.00	2600	200	24	1.43		1.43	10.51	11.94	65
11	813+00.00	849+00.00	832+10.00	3600	200	24	1.98		1.98	14.55	16.53	65
12	849+00.00	879+00.00	853+80.00	3000	200	24	1.65		1.65	12.12	13.77	65
13	879+00.00	918+00.00	903+80.00	3900	200	24	2.15		2.15	15.76	17.91	65
14	918+00.00	939+00.00	926+40.00	2100	200	24	1.16		1.16	8.48	9.64	65

(1) Typical Impervious width is based on the pre permit existing calculations for 2 lanes

					PROPOSED	LAND USE					
Basin	Sta From	Sta To	Length (ft)	Typical R/W Width (ft)	Typical Imp. Width (ft)	Typical Imp. Area (Ac)	Add 15% Imp. Area (Ac)	lmp. Total (ac)	Pervious Area (Ac)	Total Onsite Area (ac)	Prop. CN
1	566+00.00	598+25.00	3225	200	113	8.37	1.25	9.62	5.19	14.81	85
2	598+25.00	650+00.00	5175	200	113	13.42	2.01	15.43	8.33	23.76	85
3	650+00.00	669+00.00	1900	200	92	4.01	0.60	4.61	4.11	8.72	81
4	669+00.00	680+00.00	1100	200	92	2.32	0.35	2.67	2.38	5.05	81
5	680+00.00	707+00.00	2700	200	92	5.70	0.86	6.56	5.84	12.40	81
6	707+00.00	731+00.00	2400	200	92	5.07	0.76	5.83	5.19	11.02	81
7	731+00.00	750+00.00	1900	200	92	4.01	0.60	4.61	4.11	8.72	81
8	750+00.00	769+00.00	1900	200	92	4.01	0.60	4.61	4.11	8.72	81
9	769+00.00	787+00.00	1800	200	92	3.80	0.57	4.37	3.89	8.26	81
10	787+00.00	813+00.00	2600	200	92	5.49	0.82	6.31	5.63	11.94	81
11	813+00.00	849+00.00	3600	200	92	7.60	1.14	8.74	7.79	16.53	81
12	849+00.00	879+00.00	3000	200	92	6.34	0.95	7.29	6.48	13.77	81
13	879+00.00	918+00.00	3900	200	92	8.24	1.24	9.47	8.44	17.91	81
14	918+00.00	939+00.00	2100	200	92	4.44	0.67	5.10	4.54	9.64	81

				Pond Wa	ater Qualit	y and Quanti	ty Calculatio	ons		
Basin	Basin Area	Exist. CN	Exist. S (in)	Exist. 100- yr 10-day vol. (ac-ft)	Prop.CN	Prop. S (in)	Prop. 100- yr 10-day vol.(ac-ft)	Req. Att. Vol. (ac-ft)	Req. WQ Vol. (ac-ft)	Type of Facility _{1.} (Wet/Dry)
1	14.81	67	4.9	18.64	85	1.8	22.25	3.61	1.23	Wet
2	23.76	67	4.9	29.90	85	1.8	35.70	5.79	1.98	Wet
3	8.72	66	5.2	10.85	81	2.3	12.68	1.83	0.73	Wet
4	5.05	66	5.2	6.28	81	2.3	7.34	1.06	0.42	Wet
5	12.40	66	5.2	15.41	81	2.3	18.01	2.60	1.03	Wet
6	11.02	65	5.4	13.53	81	2.3	16.01	2.48	0.92	Wet
7	8.72	65	5.4	10.71	81	2.3	12.68	1.97	0.73	Wet
8	8.72	65	5.4	10.71	81	2.3	12.68	1.97	0.73	Wet
9	8.26	65	5.4	10.15	81	2.3	12.01	1.86	0.69	Wet
10	11.94	65	5.4	14.66	81	2.3	17.35	2.69	0.50	Dry
11	16.53	65	5.4	20.29	81	2.3	24.02	3.73	0.69	Dry
12	13.77	65	5.4	16.90	81	2.3	20.01	3.10	0.57	Dry
13	17.91	65	5.4	21.99	81	2.3	26.02	4.04	0.75	Dry
14	9.64	65	5.4	11.83	81	2.3	14.01	2.17	0.40	Dry
					38.91	11.36				

1. Determined by depth to water table, >6' depth assumed as dry pond

	Summary of Nutrient Loading Calculations									
Basin No.	Existing Nitrogen Loading (kg/yr)	Existing Phosphorus Loading (kg/yr)	Proposed Nitrogen Loading (kg/yr)	Proposed Phosphorus Loading (kg/yr)						
3	24.38	3.21	23.53	1.23						
4	24.30	3.21	23.33	1.23						
5	14.42	1.90	14.36	0.83						
Totals	38.80	5.11	37.89	2.06						

Existing Loading	gCalculations - Basins (3&4			
Basin area	$A_{ex} := 8.72acre + 5.0$	5acre	$A_{ex} = 13.77$.	acre	
Impervious Area	$Imp_{ex} := 1.13acre + 0$	0.66acre	$Imp_{ex} = 1.79$	·acre	
Meteorological Zone 4	Annual Pre	ccipitation Depth	$AP \coloneqq 51.50 \frac{\text{in}}{\text{yr}}$		
Annual Mass Loading	for Highway Areas				
Total Nitrogen T	Nhwy := $1.52 \cdot \frac{\text{mg}}{1}$ To	tal Phosphorus	TPhwy := $0.20 \cdot \frac{\text{mg}}{1}$		3MP Treatment Trains Γ and UCF Stormwater my.
$DCIA_{ex} := Imp_{ex} \div$ Non DCIA CN N	A_{ex} DCIA _{ex} = 13.00 NonDCIA := 80	- ·	pendix E , FDEP Stormwa Handbook (2010)	ater	
Note basins 3 and 4 ar	re calculated separately since the	he soil type within th	nese basins is Hydrologic	Soil Group D	
Calculate annual runof	ff coefficient (CA)	CA _{ex} := 0.23	$34 - \left(\frac{0.234 - 0.199}{15\% - 10\%}\right)$	$(15\% - DCIA_{ex})$	$CA_{ex} = 0.220$
Calculate annual runof	ff (QA)	$QA_{ex} := CA_{ex}$	· AP·A _{ex}		$QA_{ex} = 13.00 \cdot \frac{acre \cdot fi}{yr}$
Calculate annual Nitro	gen loading (NA)	NA _{ex} := TNhy	wy·QA _{ex}		$NA_{ex} = 24.38 \cdot \frac{kg}{yr}$
Calculate annual Phos	phorus loading (PA)	$PA_{ex} := TPhw$	vy·QA _{ex}		$PA_{ex} = 3.21 \cdot \frac{kg}{k}$

Proposed Load	ling Calculations - B	easins 3&4			
Basin area	$A_{pr} := 8.72 acre + 5.0$	05acre	$A_{pr} = 13.77 \cdot acre$		
Impervious Area	$Imp_{pr} := 4.61acre +$	2.67acre	$Imp_{pr} = 7.28 \cdot acre$		
Meteorological Zor	ne 4 Ann	ual Precipitation Depth	$AP := 51.50 \frac{in}{yr}$		
Annual Mass Load	ing for Highway Areas				
Total Nitrogen	TNhwy := $1.52 \cdot \frac{\text{mg}}{1}$	Total Phosphorus	TPhwy := $0.20 \cdot \frac{\text{mg}}{1}$		BMP Treatment Trains 7 and UCF Stormwater my.
$DCIA_{pr} := Imp_{pr}$	÷ A _{pr}	$DCIA_{pr} = 52.87 \cdot 9$	% From Appendix I Quality Handboo	E , FDEP Stormwater k (2010)	
Non DCIA CN	NonDCIA := 80				
Note basins 3 and 4	are calculated separately	since the soil type within t	these basins is Hydrologic S	Soil Group D	
Calculate annual ru	noff coefficient (CA)	CA _{pr} := 0.5	$11 - \left(\frac{0.511 - 0.476}{55\% - 50\%}\right) \cdot ($	(55% – DCIA _{pr})	$CA_{pr} = 0.496$
Calculate annual ru	noff (QA)	$QA_{pr} := CA_{pr} \cdot A$	P·A _{pr}		$QA_{pr} = 29.32 \cdot \frac{acre \cdot ft}{yr}$
Calculate annual Ni	trogen loading (NA)	NA _{pr} := TNhwy	·QA _{pr}		$NA_{pr} = 54.97 \cdot \frac{kg}{yr}$
Calculate annual Pr	nosphorus loading (PA)	$PA_{pr} := TPhwy$	QA _{pr}		$PA_{pr} = 7.23 \cdot \frac{kg}{yr}$
Required N remova	l efficiency	$NRe := 1 - \frac{NA_{e}}{NA_{p}}$	к - г	NRe = 55.65	3.%
Required P remova	l efficiency	$PRe := 1 - \frac{PA_{ex}}{PA_{pr}}$		PRe = 55.65.	3.%

Proposed removal efficiences

Permanent Pool Volume PPV := 9.32acre.ft

Input :=
$$QA_{pr}$$
 Input = $29.32 \cdot \frac{acre \cdot ft}{yr}$ Residence time $Rt := \frac{PPV}{Input}$ $Rt = 116.114 \cdot day$

Nitrogen removal efficiency

Phosphorus removal efficiency

$$PRN := \frac{43.75 \cdot \frac{Rt}{day}}{\left(4.38 + \frac{Rt}{day}\right)} \cdot \frac{1}{100} \quad PRN = 42.16 \cdot \% \quad PRP := \frac{1}{100} \cdot \left[44.53 + 6.146 \cdot \ln\left(\frac{Rt}{day}\right) + 0.145 \cdot \left(\ln\left(\frac{Rt}{day}\right)\right)^2\right]$$

Nitrogen loading

Phosphorus loading $N_{\text{loading}} = 31.79 \cdot \frac{\text{kg}}{\text{yr}}$ $N_{loading} := (1 - PRN) \cdot NA_{pr}$ $P_{\text{loading}} := (1 - PRP) \cdot PA_{\text{pr}}$

$$P_{\text{loading}} = 1.66 \cdot \frac{\text{kg}}{\text{yr}}$$

The calculated removal efficiencies did not meet the required removal efficiencies for the wet pond alone. A dry retention swale must be added for this basin to supplement the wet detention pond to meet the require removal efficiency.

Required dry retention efficiency (trial and error)

PDe := NDe NDe := 26% NRe = 55.653.%PRe = 55.653.%Required treatment train efficiency $NTe := NDe + (1 - NDe) \cdot PRN$ NTe = 57.198.% $PTe := PDe + (1 - PDe) \cdot PRP$ PTe = 83.002.%

Nitrogen loading	ka	Phosphorus loading	ka
$N_{loading} := (1 - NTe) \cdot NA_{pr}$	$N_{\text{loading}} = 23.53 \cdot \frac{\text{kg}}{1000}$	$P_{\text{loading}} := (1 - PTe) \cdot PA_{\text{pr}}$	$P_{\text{loading}} = 1.23 \cdot \frac{Kg}{M}$
iouunig (yr	iouung () pi	yr

Nutrient Loading Calculations - Basin 5

Existing Loading Calculations - Basin 5

Basin area	$A_{ex} := 12.40$ acre		$A_{ex} = 12.4 \cdot ac$	cre	
Impervious Area	Imp _{ex} := 1.61acre		$Imp_{ex} = 1.61$	acre	
Meteorological Zone 4	Annual Precipi	tation Depth AP := 5	$51.50 \frac{\text{in}}{\text{yr}}$		
Annual Mass Loading fo	or Highway Areas				
Total Nitrogen TNI	$1 \text{ awy} := 1.52 \cdot \frac{\text{mg}}{1}$ Total P	hosphorus TPhwy	$:= 0.20 \cdot \frac{\mathrm{mg}}{\mathrm{l}}$	From Stormwater Bl developed by FDOT Management Acader	and UCF Stormwater
$DCIA_{ex} := Imp_{ex} \div A_{ex}$ Non DCIA CN Nor	$DCIA_{ex} = 12.98 \cdot \%$ $DCIA := 61$	From Appendix E , Quality Handbook		ıter	
Calculate annual runoff c	n calculations	$CA_{ex1} := 0.158 - \left(\frac{0}{2}\right)$	$\frac{.158 - 0.119}{15\% - 10\%} \bigg)$	\cdot (15% – DCIA _{ex})	$CA_{ex1} = 0.142$
performed between four . coefficient values for DC non DCIA CN.		$CA_{ex2} := 0.169 - \left(\frac{0}{2}\right)$	$\frac{.169 - 0.131}{15\% - 10\%} \bigg)$	\cdot (15% – DCIA _{ex})	$CA_{ex2} = 0.154$
		$CA_{ex} := CA_{ex2} - \left(\frac{C}{2}\right)$	$\frac{A_{ex2} - CA_{ex1}}{65 - 60} \bigg)$	·(65 – NonDCIA)	$CA_{ex} = 0.145$
Calculate annual runoff (QA)	$QA_{ex} := CA_{ex} \cdot AP \cdot A_{ex}$			$QA_{ex} = 7.69 \cdot \frac{acre \cdot ft}{yr}$
Calculate annual Nitroger	n loading (NA)	$NA_{ex} := TNhwy \cdot QA_{ex}$			$NA_{ex} = 14.42 \cdot \frac{kg}{yr}$
Calculate annual Phosphe	orus loading (PA)	$PA_{ex} := TPhwy \cdot QA_{ex}$			$PA_{ex} = 1.90 \cdot \frac{kg}{yr}$

Proposed Loading Calculations	s - Basin 5	
Basin area $A_{pr} := 12.40 \text{ acre}$	$A_{pr} = 12.4 \cdot acre$	
Impervious Area Imp _{pr} := 6.56acr	Imp _{pr} = $6.56 \cdot acre$	
Meteorological Zone 4	Annual Precipitation Depth $AP := 51.50 \frac{\text{in}}{\text{yr}}$	
Annual Mass Loading for Highway Area	as	
Total Nitrogen TNhwy := $1.52 \cdot \frac{n}{2}$	$\frac{\text{ng}}{\text{l}} \qquad \text{Total Phosphorus} \qquad \text{TPhwy} := 0.20 \cdot \frac{\text{mg}}{\text{l}} \qquad \begin{array}{c} From \ Stormw\\ developed \ by\\ Management \end{array}$	vater BMP Treatment Trains FDOT and UCF Stormwater Academy.
$DCIA_{pr} := Imp_{pr} \div A_{pr}$	$DCIA_{pr} = 52.90.\%$ From Appendix E, FDEP Storn Quality Handbook (2010)	nwater
Non DCIA CN NonDCIA := 61	£	
Calculate annual runoff coefficient (CA)	$CA_{pr1} \coloneqq 0.471 - \left(\frac{0.471 - 0.432}{55\% - 50\%}\right) \cdot (55\% - DCI)$	$(A_{pr}) \qquad CA_{pr1} = 0.455$
Three linear interpolation calculations performed between four seperate coefficient values for DCIA and non DCIA CN	$CA_{pr2} \coloneqq 0.477 - \left(\frac{0.477 - 0.438}{55\% - 50\%}\right) \cdot (55\% - DCI)$	$A_{pr}) CA_{pr2} = 0.461$
	$CA_{pr} := CA_{pr2} - \left(\frac{CA_{pr2} - CA_{pr1}}{65 - 60}\right) \cdot (65 - NonDCIA)$	$CA_{pr} = 0.456$
Calculate annual runoff (QA)	$QA_{pr} := CA_{pr} \cdot AP \cdot A_{pr}$	$QA_{pr} = 24.26 \cdot \frac{acre \cdot ft}{yr}$
Calculate annual Nitrogen loading (NA)	$NA_{pr} := TNhwy \cdot QA_{pr}$	$NA_{pr} = 45.48 \cdot \frac{kg}{yr}$
Calculate annual Phosphorus loading (PA	A) $PA_{pr} := TPhwy \cdot QA_{pr}$	$PA_{pr} = 5.98 \cdot \frac{kg}{yr}$
Required N removal efficiency	$NRe := 1 - \frac{NA_{ex}}{NA_{pr}} \qquad NRe =$	68.289.%
Required P removal efficiency	$PRe := 1 - \frac{PA_{ex}}{PA_{pr}} \qquad PRe =$	68.289.%

Proposed removal efficiences

Permanent Pool Volume $PPV := 5.44 acre \cdot ft$

> Input := QA_{pr} Input = $24.26 \cdot \frac{acre \cdot ft}{cre \cdot ft}$ $Rt := \frac{PPV}{Input}$ Rt = 81.906 · day Residence time yr

Nitrogen removal efficiency

Phosphorus removal efficiency

$$PRN := \frac{43.75 \cdot \frac{Rt}{day}}{\left(4.38 + \frac{Rt}{day}\right)} \cdot \frac{1}{100} \quad PRN = 41.53 \cdot \% \quad PRP := \frac{1}{100} \cdot \left[44.53 + 6.146 \cdot \ln\left(\frac{Rt}{day}\right) + 0.145 \cdot \left(\ln\left(\frac{Rt}{day}\right)\right)^2\right]$$

Ni 1:

Nitrogen loading

$$N_{\text{loading}} := (1 - PRN) \cdot NA_{\text{pr}}$$
 $N_{\text{loading}} = 26.59 \cdot \frac{\text{kg}}{\text{vr}}$
 $P_{\text{loading}} := (1 - PRP) \cdot PA_{\text{pr}}$
 $P_{\text{loading}} = 1.53 \cdot \frac{\text{kg}}{\text{vr}}$

The calculated removal efficiencies did not meet the required removal efficiencies for the wet pond alone. A dry retention swale must be added for this basin to supplement the wet detention pond to meet the require removal efficiency.

Required dry retention efficiency (trial and error)

NDe := 46% PDe := NDeNRe = 68.289.%PRe = 68.289.%Required treatment train efficiency $NTe := NDe + (1 - NDe) \cdot PRN$ NTe = 68.426.%

$PTe := PDe + (1 - PDe) \cdot PRP$	PTe = 86.187.%

Nitrogen loading	ka	Phosphorus loading	ka
$N_{loading} := (1 - NTe) \cdot NA_{pr}$	$N_{\text{loading}} = 14.36 \cdot \frac{\text{kg}}{\text{m}}$	$P_{\text{loading}} := (1 - PTe) \cdot PA_{\text{pr}}$	$P_{\text{loading}} = 0.83 \cdot \frac{\text{kg}}{\text{m}}$
rouging to pr	yr	iouung () pr	yr

POND PROPERTIES, SMF 1A

Water quality requirement,	1" over basin area			
Basin Area	$A_{\text{basin}} := 14.81 \text{acre}$	$ReqWQ := A_{basin} \cdot 1in$	$ReqWQ = 1.23 ft \cdot acre$	
Stage Storage Calculations				
Seasonal High Water Elevation	SHW := 93.0ft		estimated based on 3' above approximate	
Pond CWE elevation	CWE := 93.0ft	existing wetland elevation of 90. BFE is 92.1		
Pond CWE Area	$A_{CWE} := 1.08acre$			
Pond top of bank elevation	TOB := 98.0ft		Existing Low $EOP = 98$ ft	
Top of Bank Area	$A_{\text{TOB}} := 1.51 \cdot \text{acre}$			
Available storage depth	Depth := TOB - CWE	Depth = 5 ft		
Number of pond stages desired	$stage_{number} := Depth \div 1.0f$	t		
	$i := 0 stage_{number}$			
stage increment	incr := Depth \div stage _{number}			
	stage _i := $i \cdot incr$			
	$elev_i := CWE + i \cdot incr$			
Vertical Pond Storage (Vpv) Vpv	$1_i := if [elev_i > CWE, (elev_i - $	$CWE angle \cdot A_{CWE}, 0$ Note: Ve bottom o	ertical storage is storage above the pond or the control water elevation.	
Linear Pond Storage (Vpl) Vpl1 _i	$:= if \left[elev_i > CWE \land elev_i < T \right]$	$OB + 1in, \frac{\left[\left(elev_i - CWE\right)^2 + 1in\right]}{2 \cdot (TO)}$	$\frac{b}{B} = \frac{b}{CWE} + \frac{b}{C$	
Total wet pond storage Vpone	d1 := Vpv1 + Vpl1 Note: Linea	ar storage is storage over th	he pond side slopes	
Store Storege Coloulation	Dogulta			

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft	93 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	94	1.08	0.043	1.123
2	95	2.16	0.172	2.332
3	96	3.24	0.387	3.627
4	97	4.32	0.688	5.008
5	98	5.4	1.075	6.475

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume $Att_{elev} := TOB - 1ft$

 $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$ $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WQ} = 94.09 \text{ ft}$ $Storage_{vol} = 5.008 \text{ ft} \cdot \text{acre}$ $Att_{req} := 3.61 \text{ ft} \cdot \text{acre}$ $Att_{vol} = 3.77 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 1	В		
Water quality requirement, 1"	over basin area		
Basin Area	A _{basin} := 14.81 acre	$ReqWQ := A_{basin} \cdot 1$ in	ReqWQ = 1.23 ft acre
Stage Storage Calculations			
Seasonal High Water Elevation	SHW := 95.0ft	Note: SH	W estimated based on 1' below BFE 96.3.
Pond CWE elevation	CWE := 95.0ft		
Pond CWE Area	$A_{CWE} := 2.43 acre$		
Pond top of bank elevation	TOB := 98.0ft		Existing Low EOP = 98 ft
Top of Bank Area	$A_{\text{TOB}} := 3.03 \cdot \text{acre}$		
Available storage depth	Depth := TOB – CWE	Depth = 3 ft	
Number of pond stages desired	$stage_{number} := Depth \div 1.0$	0ft	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{numb}	er	
	stage _i := i·incr		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv) Vpv1	$i := if elev_i > CWE, elev_i$	$- CWE) \cdot A_{CWE}, 0 $ Note:	Vertical storage is storage above the pond n or the control water elevation.
Linear Pond Storage (Vpl) Vpl1;	$=$ if elev _i > CWE \land elev _i <	$TOB + 1in, \frac{\lfloor (elev_i - C) + 1in, \frac{1}{2} \rfloor}{2}$	$\frac{WE}{(TOB - CWE)}, 0$
	L = Vpv1 + Vp11 Note: Line		
Stage Storage Calculation Res	sults		
	Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_{i} = elev_{i} =$	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
	0 ·acre·ft 2.43 4.86 7.29	-	0 ·acre·ft 2.53 5.26 8.19
Top of attenuation pool Water Quality volume stage	Att _{elev} := TOB – 1ft Stage _{WQ} := linterp(Vpor	nd1, elev, ReqWQ)	$Stage_{WQ} = 95.49 \text{ ft}$

Proposed storage volume at weir

Required attenutation volume

Proposed attenutation volume

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

Stage_{WQ} = 95.49 ft Storage_{vol} = 5.26 ft·acre Att_{req} := 3.61 ft·acre Att_{vol} = 4.03 ft·acre

POND PROPERTIES, SMF 1C

Water quality requirement, 1" over basin area

Basin Area	$A_{\text{basin}} \coloneqq 14.81 \text{acre}$	$ReqWQ := A_{basin} \cdot 1 in$	$ReqWQ = 1.23 \text{ ft} \cdot acre$
Stage Storage Calculati	ons		
Seasonal High Water Elevation	SHW := 93.0ft		V estimated based on 3' above approximate
Pond CWE elevation	CWE := 93.0ft	existing we	etland elevation of 90. BFE is 92.1.
Pond CWE Area	A _{CWE} := 1.08acre		
Pond top of bank elevation	TOB := 98.0ft		Existing Low $EOP = 98$ ft
Top of Bank Area	$A_{\text{TOB}} := 1.63 \cdot \text{acre}$		
Available storage depth	Depth := TOB - CWE	Depth = 5 ft	
Number of pond stages desired	stage _{number} := Depth \div 1.01	ì	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	stage _i := i·incr		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpvl_i := if [elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Ve bottom of	rtical storage is storage above the pond r the control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < T$	$\text{TOB} + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - \text{CW}\right)\right]}{2 \cdot (\text{TO})}$	$\frac{\left[\mathbf{E}\right]^{2} \left[\left(\mathbf{A}_{\text{TOB}} - \mathbf{A}_{\text{CWE}}\right) \\ \mathbf{OB} - \mathbf{CWE} \right]}{\mathbf{OB} - \mathbf{CWE}}, 0 \end{bmatrix}$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the p	ond side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft	93 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	94	1.08	0.055	1.135
2	95	2.16	0.22	2.38
3	96	3.24	0.495	3.735
4	97	4.32	0.88	5.2
5	98	5.4	1.375	6.775

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume $Att_{elev} := TOB - 1ft$

 $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$ $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $\begin{aligned} Stage_{WQ} &= 94.08 \text{ ft} \\ Storage_{vol} &= 5.2 \text{ ft} \cdot \text{acre} \\ Att_{req} &\coloneqq 3.61 \text{ ft} \cdot \text{acre} \\ Att_{vol} &= 3.97 \text{ ft} \cdot \text{acre} \end{aligned}$

Water quality requirement, 1" over basin area Basin Area $A_{basin} := 23.76 acre$ $ReqWQ := A_{basin} \cdot 1$ in $ReqWQ = 1.98 ft \cdot acre$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 3.5' above approximate SHW := 83.5ft existing wetland elevation of 80. BFE is 85.1. Pond CWE elevation CWE := 83.5ft Pond CWE Area $A_{CWE} := 1.47$ acre Pond top of bank elevation Existing Low EOP = 89 ft TOB := 89.0ft Top of Bank Area $A_{TOB} := 2.20 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 5.5 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if [elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left| \left(elev_{i} - CWE \right)^{2} \right| \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF2A

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_{i} =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	83.5 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	84.5	1.47	0.066	1.536
2	85.5	2.94	0.265	3.205
3	86.5	4.41	0.597	5.007
4	87.5	5.88	1.062	6.942
5	88.5	7.35	1.659	9.009

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume

 $Att_{elev} := TOB - 1ft$

 $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$ $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WQ} = 84.77 \text{ ft}$ $Storage_{vol} = 7.975 \text{ ft} \cdot \text{acre}$ $Att_{req} \coloneqq 5.79 \text{ ft} \cdot \text{acre}$ $Att_{vol} = 6 \text{ ft} \cdot \text{acre}$

Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1$ in $ReqWQ = 1.98 ft \cdot acre$ $A_{\text{basin}} := 23.76 \text{ acre}$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 4' above approximate SHW := 84.0ft existing wetland elevation of 80. BFE is 85.1. Pond CWE elevation CWE := 84.0ft Pond CWE Area $A_{CWE} := 1.85$ acre Existing Low EOP = 89 ft Pond top of bank elevation TOB := 89.0ft Top of Bank Area $A_{TOB} := 2.45 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 5 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if [elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpl1_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF2B

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 1 2 3 4 5	84 ft 85 86 87 88 89 89	0 1.85 3.7 5.55 7.4 9.25	0 0.06 0.24 0.54 0.96 1.5	0 1.91 3.94 6.09 8.36 10.75

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume

 $Att_{elev} := TOB - 1ft$

 $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$ $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

Stage_{WQ} = 85.03 ft Storage_{vol} = 8.36 ft acre Att_{req} := 5.79 ft acre Att_{vol} = 6.38 ft acre

POND PROPERTIES, SMF	POND PROPERTIES, SMF 2C				
Water quality requirement, 1	" over basin area				
Basin Area	$A_{\text{basin}} := 23.76 \text{acre}$	$ReqWQ := A_{basin} \cdot 1$ in	ReqWQ = 1.98 ft acre		
Stage Storage Calculations					
Seasonal High Water Elevation	SHW := 86.0ft	Note: SH	W estimated based on 6' below BFE 92.6.		
Pond CWE elevation	CWE := 86.0ft				
Pond CWE Area	A _{CWE} := 3.83acre				
Pond top of bank elevation	TOB := 89.0ft		Existing Low $EOP = 89$ ft		
Top of Bank Area	$A_{TOB} := 4.32 \cdot acre$				
Available storage depth	Depth := TOB - CWE	Depth = 3 ft			
Number of pond stages desired	$stage_{number} := Depth \div 1.0$	Oft			
	$i := 0 stage_{number}$				
stage increment	incr := Depth \div stage _{numb}	er			
	stage _i := i · incr				
	$elev_i := CWE + i \cdot incr$				
Vertical Pond Storage (Vpv) Vpv	$l_i := if [elev_i > CWE, (elev_i + CWE)]$	$- CWE \cdot A_{CWE}, 0$ Note:	Vertical storage is storage above the pond n or the control water elevation.		
Linear Pond Storage (Vpl) $Vpl_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left[\left(elev_{i} - CWE \right)^{2} \right] \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$					
1	d1 := Vpv1 + Vp11 Note: Line	ar storage is storage over th	e pond side slopes		
Stage Storage Calculation R					
	Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)		
stage _i = $elev_i =$ $\begin{bmatrix} 0 \\ 1 \\ 2 \\ 3 \end{bmatrix}$ ft $\begin{bmatrix} 86 \\ 87 \\ 88 \\ 89 \end{bmatrix}$ ft	$Vpv1_{i} = $ $ 0 \cdot acre \cdot ft $ $ 3.83 7.66 \\ 111.49 $	$Vpl1_{i} = 0 -acre.ft 0.082 0.327 0.735 $	$Vpondl_{i} =$ 0 ·acre·ft 3.912 7.987 12.225		

Top of attenuation pool	$Att_{elev} := TOB - 1ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 86.51 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	Storage _{vol} = 7.987 ft acre
Required attenutation volume		$Att_{req} := 5.79 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 6.01 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF3A Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1$ in $ReqWQ = 0.73 ft \cdot acre$ $A_{\text{basin}} := 8.72 \text{ acre}$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 4' below BFE 79.8. SHW := 76.0ft Pond CWE elevation CWE := 76.0ft Pond CWE Area $A_{CWE} := 1 acre$ Pond top of bank elevation Existing Low EOP = 80 ft TOB := 80.0ft Top of Bank Area $A_{TOB} := 1.34 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 4 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ incr := Depth \div stage_{number} stage increment $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

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0 70 0			Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
1 77 1 0.043 1.043 2 78 2 0.17 2.17 3 79 3 0.383 3.383	$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
4 80 4 0.68 4.68	1 2 3	77 78	1 2 3	0.043 0.17	2.17

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 76.70 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 2.776 \text{ ft} \cdot \text{acre}$
Required attenutation volume		$Att_{req} := 1.83 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 2.05 \text{ ft} \cdot \text{acre}$

Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1$ in $ReqWQ = 0.73 ft \cdot acre$ $A_{\text{basin}} := 8.72 \text{ acre}$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 3' above approximate SHW := 76.0ft existing wetland elevation of 73. BFE is 78.2. Pond CWE elevation CWE := 76.0ft Pond CWE Area $A_{CWE} := 1.00acre$ Pond top of bank elevation Existing Low EOP = 80 ft TOB := 80.0ft Top of Bank Area $A_{TOB} := 1.33 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 4 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ incr := Depth \div stage_{number} stage increment $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF3B

0 70 0 0 1 77 1 0.041 1.041 2 78 2 0.165 2.165 3 79 3 0.371 3.371			Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
1 77 1 0.041 1.041 2 78 2 0.165 2.165 3 79 3 0.371 3.371	$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
	1 2	77 78	1 2	0.041 0.165	2.165

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 76.70 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	Storage _{vol} = 2.768 ft⋅acre
Required attenutation volume		$Att_{req} := 1.83 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 2.04 \text{ ft} \cdot \text{acre}$

Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1$ in $ReqWQ = 0.73 ft \cdot acre$ $A_{\text{basin}} := 8.72 \text{ acre}$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 2.5' above approximate SHW := 75.5ft existing wetland elevation of 73. BFE is 78.2. Pond CWE elevation CWE := 75.5ft Pond CWE Area $A_{CWE} := 0.78acre$ Pond top of bank elevation Existing Low EOP = 80 ft TOB := 80.0ft Top of Bank Area $A_{TOB} := 1.23 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 4.5 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ incr := Depth \div stage_{number} stage increment $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpl1_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF3C

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	75.5 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	76.5	0.78	0.05	0.83
2	77.5	1.56	0.2	1.76
3	78.5	2.34	0.45	2.79
4	79.5	3.12	0.8	3.92

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 76.38 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 2.79 \text{ ft} \cdot \text{acre}$
Required attenutation volume		$Att_{req} := 1.83 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 2.06 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF4A						
Water quality requirement, 1	" over basin area					
Basin Area	$A_{\text{basin}} := 5.05 \text{acre}$	$ReqWQ := A_{basin} \cdot 1 in$	$ReqWQ = 0.42 ft \cdot acre$			
Stage Storage Calculations						
Seasonal High Water Elevation	SHW := 77.0ft		HW estimated based on 1' above approximate			
Pond CWE elevation	CWE := 77.0ft	existing	wetland elevation of 76. BFE is Zone A.			
Pond CWE Area	$A_{CWE} := 1.02acre$					
Pond top of bank elevation	TOB := 80.0ft		Existing Low $EOP = 80$ ft			
Top of Bank Area	$A_{TOB} := 1.26 \cdot acre$					
Available storage depth	Depth := $TOB - CWE$	Depth = 3 ft				
Number of pond stages desired	$stage_{number} := Depth \div 1.0$	ft				
	$i := 0 \dots stage_{number}$					
stage increment	$incr := Depth \div stage_{number}$	r				
	stage _i := $i \cdot incr$					
	$elev_i := CWE + i \cdot incr$					
Vertical Pond Storage (Vpv) Vpv	$1_i := if [elev_i > CWE, (elev_i - $	$(CWE) \cdot A_{CWE}, 0$ Note: bottom	Vertical storage is storage above the pond n or the control water elevation.			
Linear Pond Storage (Vpl) $Vpll_i := if \left[elev_i > CWE \land elev_i < TOB + 1in, \frac{\left[\left(elev_i - CWE \right)^2 \right] \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$						
Total wet pond storage Vpond	11 := Vpv1 + Vp11 Note: Linea	r storage is storage over th	e pond side slopes			
Stage Storage Calculation Results						
		Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)			
$stage_i = elev_i =$	Vpv1 _i = V	/pl1 _i =	Vpond1 _i =			
0 ft 77 ft		$\frac{0}{2} \cdot \operatorname{acre} \cdot \operatorname{ft}$	• acre· ft			

		Storage (v pv)		
ev _i =	=	Vpv1 _i =		
77	ft	0	∙ac	
78		1.02		
79		2.04		
80		3.06		
		0.00		

0 0.04 0.16 0.36

0 1.06 2.2 3.42

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 77.40 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 1.63 \text{ ft} \cdot \text{acre}$
Required attenutation volume		$Att_{req} := 1.06 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 1.21 \text{ ft} \cdot \text{acre}$

Water quality requirement, 1" over basin area Basin Area $A_{\text{basin}} := 5.05 \text{acre}$ $ReqWQ := A_{basin} \cdot 1 in$ $ReqWQ = 0.42 ft \cdot acre$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 9' above approximate SHW := 76.0ft existing wetland elevation of 67. BFE is 78.2. Pond CWE elevation CWE := 76.0ft Pond CWE Area $A_{CWE} := 0.54$ acre Pond top of bank elevation Existing Low EOP = 80 ft TOB := 80.0ft Top of Bank Area $A_{TOB} := 0.80 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 4 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left[\left(elev_{i} - CWE \right)^{2} \right] \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF4B

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	76 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	77	0.54	0.033	0.573
2	78	1.08	0.13	1.21
3	79	1.62	0.293	1.913
4	80	2.16	0.52	2.68

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume Att_{elev} := TOB - 1.5ft Stage_{WQ} := linterp(Vpond1, elev, ReqWQ) Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WQ} = 76.74 \text{ ft}$ $Storage_{vol} = 1.561 \text{ ft} \cdot \text{acre}$ $Att_{req} := 1.06 \text{ ft} \cdot \text{acre}$ $Att_{vol} = 1.14 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SM	MF4C					
Water quality requirement	ıt, 1" over basin area					
Basin Area	$A_{basin} := 5.05acre$	$ReqWQ := A_{basin} \cdot 1$ in	$ReqWQ = 0.42 ft \cdot acre$			
Stage Storage Calculation	\$					
Seasonal High Water Elevation	SHW := 77.0ft	Note: SH	W estimated based on 1' above approximate			
Pond CWE elevation	CWE := 77.0ft		wetland elevation of 76. BFE is Zone A.			
Pond CWE Area	$A_{CWE} := 0.94acre$					
Pond top of bank elevation	TOB := 80.0ft		Existing Low $EOP = 80$ ft			
Top of Bank Area	$A_{\text{TOB}} := 1.23 \cdot \text{acre}$					
Available storage depth	Depth := TOB – CV	WE Depth = 3 ft				
Number of pond stages desired	$stage_{number} := Depth \div$	1.0ft				
	$i := 0 \dots stage_{number}$					
stage increment	incr := Depth \div stage _{nv}	$incr := Depth \div stage_{number}$				
	stage := $i \cdot incr$	$stage_i := i \cdot incr$				
	$elev_i := CWE + i \cdot incr$					
Vertical Pond Storage (Vpv)	$\operatorname{Vpv1}_{i} := \operatorname{if}\left[\operatorname{elev}_{i} > \operatorname{CWE}, (\operatorname{elev}_{i} > \operatorname{CWE},$	$\mathbf{w}_{i}^{-} - \mathbf{CWE} \cdot \mathbf{A}_{CWE}, 0$ Note: V bottom	Vertical storage is storage above the pond or the control water elevation.			
Linear Pond Storage (Vpl) V	$v_{\text{pl1}_i} := \text{if}\left[\text{elev}_i > \text{CWE} \land \text{elev}_i\right]$	$_{i} < \text{TOB} + 1 \text{ in}, \frac{\left[\left(\text{elev}_{i} - CW\right)^{2}\right]}{2 \cdot (1)}$	$\frac{\left(VE\right)^{2}\left(A_{TOB} - A_{CWE}\right)}{TOB - CWE}, 0$			
Total wet pond storage V	/pond1 := Vpv1 + Vp11 Note: L	inear storage is storage over the	pond side slopes			
Stage Storage Calculation	n Results					
	Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)			
$stage_i = elev_i =$	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =			
0 ft 77 ft 1 78 79 3 80	0 ·acre·ft 0.94 1.88 2.82	0 ·acre·ft 0.048 0.193 0.435	0 ·acre·ft 0.988 2.073 3.255			
Top of attenuation pool	Att _{elev} := TOB – 1.5f	t				

Top of allenuation pool	$Att_{elev} := TOB - 1.5tt$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 77.43 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 1.531 \text{ ft} \cdot \text{acre}$
Required attenutation volume		Att _{req} := 1.06ft acre
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 1.11 \text{ ft} \cdot \text{acre}$

Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1$ in $ReqWQ = 1.03 ft \cdot acre$ $A_{\text{hasin}} := 12.40 \text{ acre}$ **Stage Storage Calculations** Seasonal High Water Elevation SHW := 74.0ft Note: SHW estimated based on 2' above approximate Pond CWE elevation existing wetland elevation of 72. BFE is 78.2. CWE := 74.0ft Pond CWE Area $A_{CWE} := 0.64acre$ Existing Low EOP = 80 ft Pond top of bank elevation TOB := 80.0ft Top of Bank Area $A_{TOB} := 1.29$ ·acre Available storage depth Depth := TOB - CWEDepth = 6 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF5A

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft	74 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	75	0.64	0.054	0.694
2	76	1.28	0.217	1.497
3	77	1.92	0.488	2.408
4	78	2.56	0.867	3.427
5	79	3.2	1.354	4.554
6	80	3.84	1.95	5.79

Top of attenuation pool Water Quality volume stage

Proposed storage volume at weir Required attenutation volume Proposed attenutation volume $Att_{elev} := TOB - 1.5ft$

Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)

 $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

Stage_{WQ} = 75.42 ft Storage_{vol} = 3.99 ft·acre Att_{req} := 2.60 ft·acre Att_{vol} = 2.96 ft·acre

POND PROPERTIES, SMF5B

Water quality requirement, 1" over basin area

Basin Area $A_{basin} := 12.40$ acre		$ReqWQ := A_{basin} \cdot 1 in$	$ReqWQ = 1.03 ft \cdot acre$	
Stage Storage Calculati	ons			
Seasonal High Water Elevation	SHW := 75.5ft			
Pond CWE elevation	CWE := 75.5ft	existing wetland e	elevation of 74. BFE is 77.4.	
Pond CWE Area	A _{CWE} := 1.09acre			
Pond top of bank elevation	TOB := 80.0ft	Ι	Existing Low $EOP = 80$ ft	
Top of Bank Area	$A_{TOB} := 1.48 \cdot acre$			
Available storage depth	Depth := $TOB - CWE$	Depth = 4.5 ft		
Number of pond stages desired	stage _{number} := Depth \div 1.05	ft		
	$i := 0 \dots stage_{number}$			
stage increment	incr := Depth \div stage _{number}			
	stage _i := i · incr			
	$elev_i := CWE + i \cdot incr$			
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Vert bottom or t	ical storage is storage above the pond he control water elevation.	
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < CWE \land elev_i > CWE \land elev_i < CWE \land elev_i > CWE \land elev_i$	$\Gamma OB + 1 \text{ in}, \frac{\left[\left(\text{elev}_{i} - CWE\right)\right]}{2 \cdot (TOP)}$	$\frac{\left \left(A_{\text{TOB}} - A_{\text{CWE}}\right)\right }{B - CWE}, 0$	
Total wet pond storage $V_{pond1} := V_{pv1} + V_{p11}$ Note: Linear storage is storage over the pond side slopes			nd side slopes	

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_{i} =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft	75.5 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	76.5	1.09	0.043	1.133
2	77.5	2.18	0.173	2.353
3	78.5	3.27	0.39	3.66
4	79.5	4.36	0.693	5.053

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 76.41 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 3.66 \text{ ft} \cdot \text{acre}$
Required attenutation volume		$Att_{req} := 2.60 \text{ft} \cdot \text{acre}$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	Att _{vol} = 2.63 ft acre

POND PROPERTIES, SMF 5C

Water quality requirement, 1" over basin area

Basin Area	$A_{basin} := 12.40 acre$	$ReqWQ := A_{basin} \cdot 1 in$	$ReqWQ = 1.03 \text{ ft} \cdot acre$
Stage Storage Calculati	ons		
Seasonal High Water Elevation	SHW := 74.0ft		nated based on 2' above approximate
Pond CWE elevation	CWE := 74.0ft	existing wetland e	elevation of 72. BFE is 78.2.
Pond CWE Area	$A_{CWE} := 0.71 acre$		
Pond top of bank elevation	TOB := 80.0ft	Ex	kisting Low $EOP = 80$ ft
Top of Bank Area	$A_{\text{TOB}} := 1.19 \cdot \text{acre}$		
Available storage depth	Depth := TOB - CWE	Depth = 6 ft	
Number of pond stages desired	stage _{number} := Depth \div 1.0f	t	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	stage _i := $i \cdot incr$		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE angle \cdot A_{CWE}, 0$ Note: Vertice bottom or the	al storage is storage above the pond e control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < 7$	$COB + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - CWE\right)^2\right]}{2 \cdot (TOB)}$	$\frac{1}{1-CWE} \cdot \left(A_{TOB} - A_{CWE}\right), 0$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the pond	l side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
stage _i =	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	74 ft	0 ∙acre∙ft	0 ·acre·ft	0 ·acre·ft
1	75	0.71	0.04	0.75
2	76	1.42	0.16	1.58
3	77	2.13	0.36	2.49
4	78	2.84	0.64	3.48
5	79	3.55	1	4.55
6	80	4.26	1.44	5.7

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume $Att_{elev} := TOB - 1.5ft$

Stage_{WQ} := linterp(Vpond1, elev, ReqWQ) Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

 $Att_{vol} := Storage_{vol} - ReqWQ$

$$\begin{split} Stage_{WQ} &= 75.34 \text{ ft} \\ Storage_{vol} &= 4.015 \text{ ft} \cdot \text{acre} \\ Att_{req} &:= 2.60 \text{ft} \cdot \text{acre} \\ Att_{vol} &= 2.98 \text{ ft} \cdot \text{acre} \end{split}$$

POND PROPERTIES, SMF 6A						
Water quality requirem	Water quality requirement, 1" over basin area					
Basin Area	$A_{\text{basin}} \coloneqq 11.02 \text{acre}$	$ReqWQ := A_{basin} \cdot 1 in$	$ReqWQ = 0.92 ft \cdot acre$			
Stage Storage Calculati	ons					
Seasonal High Water Elevation	SHW := 72.5ft	Note: SHW	V estimated based on 2' below BFE 74.5.			
Pond CWE elevation	CWE := 72.5ft					
Pond CWE Area	$A_{CWE} := 1.75$ acre					
Pond top of bank elevation	TOB := 76.0ft		Existing Low $EOP = 76$ ft			
Top of Bank Area	$A_{\text{TOB}} := 2.13 \cdot \text{acre}$					
Available storage depth	Depth := TOB - CWE	Depth = 3.5 ft				
Number of pond stages desired	stage _{number} := Depth \div 1.01	ì				
	$i := 0 \dots stage_{number}$					
stage increment	incr := Depth \div stage _{number}					
	stage _i := $i \cdot incr$					
	$elev_i := CWE + i \cdot incr$					
Vertical Pond Storage (Vpv)	$Vpvl_i := if[elev_i > CWE, (elev_i - $	CWE $(A_{CWE}, 0]$ Note: Version of bottom of A_{CWE}	rtical storage is storage above the pond r the control water elevation.			
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < T$	$\text{COB} + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - \text{CWF}\right)^2 + 2 \cdot (\text{TO})^2\right]}{2 \cdot (\text{TO})^2}$	$\frac{\left[2\right)^{2}\left[\left(A_{TOB}-A_{CWE}\right)\\DB-CWE\right]},0$			
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the po	ond side slopes			
Stage Storage Calcula	tion Results					

Total wet pond Vertical Pond Linear Pond Storage (Vpv) Storage (Vpl) storage (Vpond) $Vpv1_i =$ $Vpondl_i =$ $elev_i =$ $Vpl1_i =$ $stage_i =$ **0** ft 0 ·acre·ft 72.5 ft ·acre∙ft 0 0 ·acre∙ft 1.75 1 1.804 73.5 0.054 2 74.5 3.5 0.217 3.717 3 75.5 5.25 5.739 0.489

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 73.01 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	Storage _{vol} = 3.717 ft·acre
Required attenutation volume		$Att_{req} \coloneqq 2.48 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 2.80 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 6B				
Water quality requiren	ient, 1" over basin area			
Basin Area	$A_{\text{basin}} \coloneqq 11.02 \text{acre}$	$ReqWQ := A_{basin} \cdot 1 in$	$ReqWQ = 0.92 \text{ ft} \cdot acre$	
Stage Storage Calculati	ons			
Seasonal High Water Elevation	SHW := 70.5ft	Note: Sl	HW estimated based on 4' below BFE 74.5	
Pond CWE elevation	CWE := 70.5ft			
Pond CWE Area	$A_{CWE} := 0.76acre$			
Pond top of bank elevation	TOB := 76.0ft		Existing Low $EOP = 76$ ft	
Top of Bank Area	$A_{TOB} := 1.21 \cdot acre$			
Available storage depth	Depth := $TOB - CWE$	Depth = 5.5 ft		
Number of pond stages desired	d stage _{number} := Depth ÷ 1.0	ft		
	$i := 0 \dots stage_{number}$			
stage increment	incr := Depth \div stage _{numbe}	r		
	stage _i := $i \cdot incr$			
	$elev_i := CWE + i \cdot incr$			
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE angle \cdot A_{CWE}, 0$ Note: V bottom	Vertical storage is storage above the pond or the control water elevation.	
Linear Pond Storage (Vpl)	$Vpll_i := if elev_i > CWE \land elev_i < CWE \land elev_i$	$\Gamma OB + 1 in, \frac{\left[\left(elev_i - CW\right)^2 + \frac{1}{2}\right]}{2 \cdot (T)}$	$\frac{(ZE)^{2} \cdot (A_{TOB} - A_{CWE})}{COB - CWE}, 0$	
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linea	r storage is storage over the	pond side slopes	

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	70.5 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	71.5	0.76	0.041	0.801
2	72.5	1.52	0.164	1.684
3	73.5	2.28	0.368	2.648
4	74.5	3.04	0.655	3.695
5	75.5	3.8	1.023	4.823

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume

Proposed attenutation volume

 $Att_{elev} := TOB - 1.5ft$

Stage_{WQ} := linterp(Vpond1, elev, ReqWQ) $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WQ} = 71.63 \text{ ft}$ $Storage_{vol} = 3.695 \text{ ft} \cdot \text{acre}$ $Att_{req} := 2.48 \text{ft} \cdot \text{acre}$ $Att_{vol} = 2.78 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 6C					
Water quality requiren	nent, 1" over basin area				
Basin Area	A _{basin} := 11.02 acre	$ReqWQ := A_{basin} \cdot 1 in$	$ReqWQ = 0.92 \text{ ft} \cdot \text{acre}$		
Stage Storage Calculati	ions				
Seasonal High Water Elevation	n SHW := 72.0ft	Note: SH	W estimated based on 2' below BFE 74.5		
Pond CWE elevation	CWE := 72.0ft				
Pond CWE Area	$A_{CWE} := 1.37acre$				
Pond top of bank elevation	TOB := 76.0ft		Existing Low $EOP = 76$ ft		
Top of Bank Area	$A_{\text{TOB}} := 1.79 \cdot \text{acre}$				
Available storage depth	Depth := $TOB - CWE$	Depth = 4 ft			
Number of pond stages desired	d stage _{number} := Depth \div 1.0:	ft			
	$i := 0 stage_{number}$				
stage increment	incr := Depth \div stage _{number}				
	$stage_i := i \cdot incr$				
	$elev_i := CWE + i \cdot incr$				
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE \Big) \cdot A_{CWE}, 0 \Big] \begin{array}{c} Note: V \\ bottom c \end{array}$	ertical storage is storage above the pond or the control water elevation.		
Linear Pond Storage (Vpl)	$Vpll_i := if elev_i > CWE \land elev_i < CWE$	$\Gamma OB + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - CW\right)^2 + 1 \text{ in}, \frac{1}{2 \cdot (T)^2}\right]}{2 \cdot (T)^2}$	$\frac{\left(\mathbf{E}\right)^{2} \cdot \left(\mathbf{A}_{\text{TOB}} - \mathbf{A}_{\text{CWE}}\right)}{\left(\mathbf{OB} - \mathbf{CWE}\right)}, 0$		
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the p	pond side slopes		
Staga Staraga Calculation Basults					

Stage Storage Calculation Results

$stage_i = elev_i = Vpvl_i = Vpl_i = Vpl_i = Vpl_i = Vpond_i = Vp$	
$\begin{array}{ c c c c c c c } \hline 0 & ft & \hline 72 & ft & \hline 0 & \cdot & \text{acre} \cdot & ft & \hline 0 & \cdot & ft $	ft
1 73 1.37 0.053 1.423	
2 74 2.74 0.21 2.95	
3 75 4.11 0.473 4.583	
4 76 5.48 0.84 6.32	

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 72.65 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	Storage _{vol} = 3.766 ft·acre
Required attenutation volume		$Att_{req} := 2.48 \text{ ft} \cdot \text{acre}$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 2.85 \text{ ft} \cdot \text{acre}$

Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1 in$ $ReqWQ = 1.45 ft \cdot acre$ $A_{\text{basin}} := 17.44 \, \text{acre}$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 2' above approximate SHW := 69.0ft existing wetland elevation of 67. BFE is 74.5. Pond CWE elevation CWE := 69.0ft Pond CWE Area $A_{CWE} := 2.10acre$ Pond top of bank elevation Existing Low EOP = 73 ft TOB := 73.0ft Top of Bank Area $A_{TOB} := 2.95 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 4 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF 7-8A

	Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i = elev_i =$	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft 69 ft 70	$\begin{array}{ c c }\hline 0 \\\hline 2.1 \\\hline \end{array} \cdot \operatorname{acre} \cdot \operatorname{ft}$	0 ·acre·ft	0 ·acre·ft
2 71	4.2	0.425	4.625
3 72	6.3	0.956	7.256
4 73	8.4	1.7	10.1

Top of attenuation pool $Att_{elev} \coloneqq TOB - 1.5ft$ Water Quality volume stage $Stage_{WQ} \coloneqq linterp(Vpond1, elev, ReqWQ)$ $Stage_{WQ} = 69.66 \text{ ft}$ Proposed storage volume at weir $Storage_{vol} \coloneqq linterp(elev, Vpond1, Att_{elev})$ $Storage_{vol} = 5.941 \text{ ft} \cdot \text{acre}$ Required attenutation volume $Att_{vol} \coloneqq Storage_{vol} - ReqWQ$ $Att_{vol} = 4.49 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 7-8B Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1 in$ $ReqWQ = 1.45 ft \cdot acre$ $A_{\text{basin}} := 17.44 \text{ acre}$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 3' above approximate SHW := 68.0ft existing wetland elevation of 65. BFE is 74.5. Pond CWE elevation CWE := 68.0ft Pond CWE Area $A_{CWE} := 1.51$ acre Pond top of bank elevation Existing Low EOP = 73 ft TOB := 73.0ft Top of Bank Area $A_{TOB} := 2.06 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 5 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left[\left(elev_{i} - CWE \right)^{2} \right] \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_{i} =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	68 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	69	1.51	0.055	1.565
2	70	3.02	0.22	3.24
3	71	4.53	0.495	5.025
4	72	6.04	0.88	6.92
5	73	7.55	1.375	8.925

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume

Proposed attenutation volume

 $Att_{elev} := TOB - 1.5ft$ $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$ $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$ $Att_{vol} := Storage_{vol} - ReqWQ$

Stage_{WQ} = 68.93 ft Storage_{vol} = 5.973 ft·acre Att_{req} := 3.94ft·acre Att_{vol} = 4.52 ft·acre

POND PROPERTIES, SMF 7-8C Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1 in$ $ReqWQ = 1.45 ft \cdot acre$ $A_{\text{basin}} := 17.44 \text{ acre}$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 2' above approximate SHW := 67.0ft existing wetland elevation of 65. BFE is 74.5. Pond CWE elevation CWE := 67.0ft Pond CWE Area $A_{CWE} := 1.03 acre$ Existing Low EOP = 73 ft Pond top of bank elevation TOB := 73.0ft Top of Bank Area $A_{TOB} := 1.80 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 6 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

stage _.	=	elev _i :
0	ft	67
1		68
2		69
3		70
4		71
5		72
6		73

	Vpv1 _i =
ft	0
	1.03
	2.06
	3.09
	4.12
	5.15
	6.18

Vertical Pond

Storage (Vpv)

·acre · ft

	Linear Por Storage (V	Total wet po storage (Vp		
Vpl1 _i =			Vpond1 _i =	=
	0	·acre∙ft	0	·ac
	0.064		1.094	
	0.257		2.317	
	0.578		3.668	
	1.027		5.147	
	1.604		6.754	

2.31

Top of attenuation pool Water Quality volume stage

Proposed storage volume at weir

Required attenutation volume

Proposed attenutation volume

 $Att_{elev} := TOB - 1.5ft$

Stage_{WO} := linterp(Vpond1, elev, ReqWQ)

Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WO} = 68.29 \text{ ft}$ Storage_{vol} = 5.95 ft · acre $Att_{reg} := 3.94 ft \cdot acre$ $Att_{vol} = 4.50 \text{ ft} \cdot \text{acre}$

·acre · ft

8.49

POND PROPERTIES, SMF9A Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1 in$ $ReqWQ = 0.69 ft \cdot acre$ $A_{\text{basin}} := 8.26$ acre **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 2' above approximate SHW := 68.0ft existing wetland elevation of 66. BFE is 74.5. Pond CWE elevation CWE := 68.0ft Pond CWE Area $A_{CWE} := 0.60acre$ Existing Low EOP = 73.0 ft Pond top of bank elevation TOB := 73.0ft Top of Bank Area $A_{TOB} := 1.04 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 5 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpl1_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
stage _i =	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft 1 2 3 4 5	68 ft 69 70 71 72 73	0 0.6 1.2 1.8 2.4 3	0 ·acre·ft 0.044 0.176 0.396 0.704 1.1	0 0.644 1.376 2.196 3.104 4.1

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir

Required attenutation volume Proposed attenutation volume $Att_{elev} := TOB - 1.5ft$

Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)

 $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

Stage_{WQ} = 69.06 ft Storage_{vol} = 2.65 ft·acre Att_{req} := 1.86ft·acre Att_{vol} = 1.96 ft·acre

Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1 in$ $ReqWQ = 0.69 ft \cdot acre$ $A_{\text{basin}} := 8.26$ acre **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 1' above approximate SHW := 67.0ft existing wetland elevation of 66. BFE is 74.5. Pond CWE elevation CWE := 67.0ft Pond CWE Area $A_{CWE} := 0.46acre$ Existing Low EOP = 73.0 ft Pond top of bank elevation TOB := 73.0ft Top of Bank Area $A_{TOB} := 0.84 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 6 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF9B

$stage_{1} =$	elev _i =
0 ft	67
1	68
2	69
3	70
4	71
5	72
6	73

 $Vpv1_i =$ ft 0.46 0.92 1.38 1.84 2.3 2.76

Linear Pond Total wet pond Storage (Vpl) storage (Vpond) $Vpond1_i =$ $Vpl1_i =$ 0 ·acre · ft 0.032 0.127 0.285 0.507 0.792 1.14

Top of attenuation pool Water Quality volume stage

 $Att_{elev} := TOB - 1.5ft$

Vertical Pond

Storage (Vpv)

0 ·acre·ft

Stage_{WO} := linterp(Vpond1, elev, ReqWQ)

Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

Required attenutation volume

Proposed storage volume at weir

Proposed attenutation volume

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WO} = 68.35 \text{ ft}$ $Storage_{vol} = 2.719 \text{ ft} \cdot \text{acre}$ $Att_{reg} := 1.86ft \cdot acre$ $Att_{vol} = 2.03 \text{ ft} \cdot \text{acre}$

0

0.492

1.047

1.665

2.347

3.092

3.9

·acre · ft

POND PROPERTIES, SMF9C Water quality requirement, 1" over basin area Basin Area $ReqWQ := A_{basin} \cdot 1 in$ $ReqWQ = 0.69 ft \cdot acre$ $A_{\text{basin}} := 8.26$ acre **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 1' above approximate SHW := 67.0ft existing wetland elevation of 66. BFE is 74.5. Pond CWE elevation CWE := 67.0ft Pond CWE Area $A_{CWE} := 0.44$ acre Pond top of bank elevation Existing Low EOP = 73.0 ft TOB := 73.0ft Top of Bank Area $A_{TOB} := 0.85 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 6 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ stage increment incr := Depth \div stage_{number} $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpl1_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

$stage_i =$	elev _i =
0 ft	67 ^{ft}
1	68
2	69
3	70
4	71
5	72
6	73

Storage (Vpv) $Vpv1_i =$ 0 ·acre∙ft 0.44 0.88 1.32 1.76 2.2 2.64

Vertical Pond

Storage (Vpl) storage (Vpond) $Vpond1_i =$ $Vpl1_i =$ 0 ·acre · ft 0.034 0.474 0.137 1.017 0.308 1.628 0.547 2.307 0.854 3.054 1.23 3.87

Total wet pond

0

·acre · ft

Linear Pond

Top of attenuation pool Water Quality volume stage

Proposed storage volume at weir Required attenutation volume Proposed attenutation volume

 $Att_{elev} := TOB - 1.5ft$

Stage_{WO} := linterp(Vpond1, elev, ReqWQ)

Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WO} = 68.39 \text{ ft}$ Storage_{vol} = 2.68 ft · acre $Att_{reg} := 1.86ft \cdot acre$ $Att_{vol} = 1.99 \text{ ft} \cdot \text{acre}$

Water quality requirement, 0.5" over basin area Basin Area $A_{\text{basin}} := 11.94 \text{ acre}$ $ReqWQ := A_{basin} \cdot 0.5 in$ $ReqWQ = 0.50 ft \cdot acre$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 2' below BFE 67.3. SHW := 65.0ft Pond CWE elevation CWE := 67.0ft Pond CWE Area $A_{CWE} := 2.27$ acre Pond top of bank elevation Existing Low EOP = 70 ft TOB := 70.0ft Top of Bank Area $A_{TOB} := 2.64 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 3 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ incr := Depth \div stage_{number} stage increment $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, \left(elev_i - CWE \right) \cdot A_{CWE}, 0 \right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left[\left(elev_{i} - CWE \right)^{2} \right] \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

POND PROPERTIES, SMF 10A

Vertical PondLinear PondStorage (Vpv)Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i = elev_i = Vpvl_i = Vpl_i = Vpl_i$	$Vpondl_i =$
$\begin{array}{ c c c c c c c c } \hline 0 & ft & \hline 67 & ft & \hline 0 & \cdot & \text{acre} \cdot & ft & \hline 0 & \cdot & \text{acre} \cdot & ft & \hline \end{array}$	0 ·acre·ft
1 68 2.27 0.062	2.332
2 69 4.54 0.247	4.787
3 70 6.81 0.555	7.365

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 67.21 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 3.559 \text{ ft} \cdot \text{acre}$
Required attenutation volume		Att _{req} := 2.69ft·acre
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 3.06 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 10B

Water quality requirement, 0.5" over basin area

Basin Area	A _{basin} := 11.94 acre	$ReqWQ := A_{basin} \cdot 0.5 in$	$ReqWQ = 0.50 ft \cdot acre$	
Stage Storage Calculations				
Seasonal High Water Elevation	SHW := 63.0ft	Note: SHW estimate	d based on 4' below BFE 67.3.	
Pond CWE elevation	CWE := 65.5ft			
Pond CWE Area	$A_{CWE} := 0.96acre$			
Pond top of bank elevation	TOB := 70.0ft	I	Existing Low $EOP = 70$ ft	
Top of Bank Area	$A_{TOB} := 1.64 \cdot acre$			
Available storage depth	Depth := $TOB - CWE$	Depth = 4.5 ft		
Number of pond stages desired	d stage _{number} := Depth ÷ 1.02	ft		
	$i := 0 \dots stage_{number}$			
stage increment	incr := Depth \div stage _{number}	r		
	stage _i := $i \cdot incr$			
	$elev_i := CWE + i \cdot incr$			
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Vert bottom or t	ical storage is storage above the pond the control water elevation.	
Linear Pond Storage (Vpl)	$Vpll_i := if elev_i > CWE \land elev_i < CWE$	$TOB + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - CWE\right)\right]}{2 \cdot (TOP)}$	$\frac{\int_{-\infty}^{2} \left(A_{\text{TOB}} - A_{\text{CWE}} \right)}{B - CWE}, 0 \end{bmatrix}$	
Total wet pond storage	wet pond storage $Vpond1 := Vpv1 + Vp11$ Note: Linear storage is storage over the pond side slopes			

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	65.5 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	66.5	0.96	0.076	1.036
2	67.5	1.92	0.302	2.222
3	68.5	2.88	0.68	3.56
4	69.5	3.84	1.209	5.049

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 65.98 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$\text{Storage}_{\text{vol}} = 3.56 \text{ft} \cdot \text{a}$
Required attenutation volume		$Att_{req} \coloneqq 2.69 \text{ft} \cdot \text{acre}$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 3.06 \text{ ft} \cdot \text{acre}$

3.56 ft-acre

POND PROPERTIES, SMF11A

Water quality requirement, 0.5" over basin area

Basin Area	$A_{basin} := 16.53 acre$	$ReqWQ := A_{basin} \cdot 0.5 in$	$ReqWQ = 0.69 ft \cdot acre$
Stage Storage Calculati	ons		
Seasonal High Water Elevation	SHW := 51.0ft	Note: SHW e	stimated based on 7' below BFE 57.9
Pond CWE elevation	CWE := 53.5ft		
Pond CWE Area	A _{CWE} := 1.00acre		
Pond top of bank elevation	TOB := 59.0ft		Existing Low EOP = 59 ft
Top of Bank Area	$A_{\text{TOB}} := 1.54 \cdot \text{acre}$		
Available storage depth	Depth := TOB - CWE	Depth = 5.5 ft	
Number of pond stages desired	stage _{number} := Depth \div 1.01	t	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	stage _i := $i \cdot incr$		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpvl_i := if[elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Ver bottom or	tical storage is storage above the pond the control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < 7$	$fOB + 1 in, \frac{\left[\left(elev_i - CWE\right)^2 + 1 in\right]}{2 \cdot (TO)}$	$\frac{\left \right ^{2} \left \left(A_{\text{TOB}} - A_{\text{CWE}} \right)}{B - CWE} \right , 0$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the po	nd side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_{i} =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft	53.5 ^{ft}	0 ·acre∙ft	0 ·acre·ft	0 ·acre·ft
1	54.5	1	0.049	1.049
2	55.5	2	0.196	2.196
3	56.5	3	0.442	3.442
4	57.5	4	0.785	4.785
5	58.5	5	1.227	6.227

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume $Att_{elev} := TOB - 1.5ft$

Stage_{WQ} := linterp(Vpond1, elev, ReqWQ) Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $\begin{aligned} Stage_{WQ} &= 54.16 \text{ ft} \\ Storage_{vol} &= 4.785 \text{ ft} \cdot \text{acre} \\ Att_{req} &:= 3.73 \text{ ft} \cdot \text{acre} \\ Att_{vol} &= 4.10 \text{ ft} \cdot \text{acre} \end{aligned}$

POND PROPERTIES, SMF11B

Water quality requirement, 0.5" over basin area

Basin Area	$A_{basin} := 16.53 acre$	$ReqWQ := A_{basin} \cdot 0.5 in$	$ReqWQ = 0.69 \text{ ft} \cdot acre$
Stage Storage Calculati	ons		
Seasonal High Water Elevation	sHW := 50.0ft	Note: SHW e	stimated based on 8' below BFE 57.9
Pond CWE elevation	CWE := 52.0ft		
Pond CWE Area	$A_{CWE} := 0.67acre$		
Pond top of bank elevation	TOB := 59.0ft	J	Existing Low EOP = 59 ft
Top of Bank Area	$A_{\text{TOB}} := 1.24 \cdot \text{acre}$		
Available storage depth	Depth := TOB - CWE	Depth = 7 ft	
Number of pond stages desired	d stage _{number} := Depth ÷ 1.0f	ì	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	$stage_i := i \cdot incr$		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Vert bottom or t	ical storage is storage above the pond the control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if \left[elev_i > CWE \land elev_i < T \right]$	$roB + 1in, \frac{\left[\left(elev_i - CWE\right)\right]}{2 \cdot (TO)}$	$\frac{\int^{2} \left[\left(A_{TOB} - A_{CWE} \right) \right]}{B - CWE}, 0$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the por	nd side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
stage ₁ =	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	52 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	53	0.67	0.041	0.711
2	54	1.34	0.163	1.503
3	55	2.01	0.366	2.376
4	56	2.68	0.651	3.331
5	57	3.35	1.018	4.368
6	58	4.02	1.466	5.486
7	59	4.69	1.995	6.685
Top of attenuation	n pool	$Att_{elev} := TOB - 1.5ft$		

Top of allenuation poor

Water Quality volume stage

Proposed storage volume at weir

Required attenutation volume

Proposed attenutation volume

 $Att_{elev} := TOB - 1.5ft$

 $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$

 $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $\begin{aligned} Stage_{WQ} &= 52.97 \text{ ft} \\ Storage_{vol} &= 4.927 \text{ ft} \cdot \text{acre} \\ Att_{req} &\coloneqq 3.73 \text{ ft} \cdot \text{acre} \\ Att_{vol} &= 4.24 \text{ ft} \cdot \text{acre} \end{aligned}$

POND PROPERTIES, SMF 12A

Water quality requirement, 0.5" over basin area

Basin Area	$A_{basin} \coloneqq 13.77 acre$	$ReqWQ := A_{basin} \cdot 0.5 in$	ReqWQ = 0.57 ft acre
Stage Storage Calculati	ons		
Seasonal High Water Elevation	SHW := 69.0ft		stimated based on 6' below existing
Pond CWE elevation	CWE := 73.0ft	ground El. 75.	0
Pond CWE Area	A _{CWE} := 0.68acre		
Pond top of bank elevation	TOB := 79.0ft	E	Existing Low $EOP = 79$ ft
Top of Bank Area	$A_{\text{TOB}} := 1.25 \cdot \text{acre}$		
Available storage depth	Depth := TOB - CWE	Depth = 6 ft	
Number of pond stages desired	stage _{number} := Depth \div 1.01	ft	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	stage := i incr		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE angle \cdot A_{CWE}, 0$ Note: Vertice Vertice bottom or the set of the set	ical storage is storage above the pond he control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if \left[elev_i > CWE \land elev_i < CWE \land elev_i > CWE \land elev_i < CWE \land elev_i < CWE \land elev_i > CWE \land elev_i > CWE \land elev_i < CWE \land elev_i > CWE \land elev_i < CWE \land elev_i > CWE \land ele$	$\Gamma OB + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - CWE\right)\right]}{2 \cdot (TOH)}$	$\frac{\left \left(A_{\text{TOB}} - A_{\text{CWE}}\right)\right }{B - CWE}, 0$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the pon	nd side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft 1 2 3 4	73 ^{ft} 74 75 76 77	0 ·acre·ft 0.68 1.36 2.04 2.72	0 ·acre·ft 0.048 0.19 0.428 0.76	0 ·acre·ft 0.728 1.55 2.468 3.48
5	78 79	3.4 4.08	1.188	4.588 5.79
Top of attenuat	ion pool	$Att_{elev} := TOB - 1$	1.5ft	

Water Quality volume stage

Proposed storage volume at weir Required attenutation volume Proposed attenutation volume

Stage_{WO} := linterp(Vpond1, elev, ReqWQ) Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WQ} = 73.79 \text{ ft}$ $Storage_{vol} = 4.034 \text{ ft} \cdot \text{acre}$ $Att_{req} := 3.10 \text{ft} \cdot \text{acre}$ $Att_{vol} = 3.46 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 12B

79

9

2.52

Water quality requirement, 0.5" over basin area

Water quality requirement, 0.5" over basin area					
Basin Area		$A_{basin} := 13.77 acre$	$ReqWQ := A_{basin} \cdot 0.5in$	h $ReqWQ = 0.57 \text{ ft} \cdot \text{acre}$	
Stage Storage	Calculations				
Seasonal High Wa	ater Elevation	SHW := 62.0ft	Note: SHW	estimated based on 1' below BFE 62.8.	
Pond CWE elevat	ion	CWE := 70.0ft			
Pond CWE Area		A _{CWE} := 0.28acre			
Pond top of bank	elevation	TOB := 79.0ft		Existing Low $EOP = 79$ ft	
Top of Bank Area		$A_{TOB} := 0.89 \cdot acre$			
Available storage	depth	Depth := TOB - CW	VE Depth = 9 ft		
Number of pond s	tages desired	$stage_{number} := Depth \div$	1.0ft		
		$i := 0 stage_{number}$			
stage increment		incr := Depth \div stage _{nu}	mber		
		stage _i := i · incr			
		$elev_i := CWE + i \cdot incr$			
Vertical Pond Stor	rage (Vpv) Vpv		$V_{i} - CWE + A_{CWE}, 0$ Note: bottom	Vertical storage is storage above the pond or the control water elevation.	
Linear Pond Stora	ge (Vpl) Vpl1 _i	$:=$ if $elev_i > CWE \land elev_i$	$< \text{TOB} + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - Cv\right)^2\right]}{2 \cdot (1 + 1)^2}$	$\frac{WE}{TOB} = \frac{CWE}{CWE}, 0$	
Total wet pond sto		-	near storage is storage over the	, 1	
Stage Storag	e Calculation R				
8 8		Vertical Pond	Linear Pond	Total wet pond	
stage ₁ =	elev =	Storage (Vpv) Vpv1 _i =	Storage (Vpl) Vpl1 _i =	storage (Vpond) Vpond1 _i =	
1	$elev_i =$				
0 ft 1	70 ^{ft} 71	$\begin{array}{c} 0 \\ \hline 0.28 \end{array}$	$\begin{array}{c c} 0 & \cdot \operatorname{acre} \cdot \operatorname{ft} \\ \hline 0.034 & \end{array}$	$\begin{array}{c c} 0 & \cdot \operatorname{acre} \cdot \operatorname{ft} \\ \hline 0.314 & \end{array}$	
2	71	0.56	0.136	0.696	
3	73	0.84	0.305	1.145	
4	74	1.12	0.542	1.662	
5	75	1.4	0.847	2.247	
6	76	1.68	1.22	2.9	
7	77	1.96	1.661	3.621	
8	78	2.24	2.169	4.409	

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 71.68 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	Storage _{vol} = 4.015 ft·acre
Required attenutation volume		$Att_{req} := 3.10 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 3.44 \text{ ft} \cdot \text{acre}$

2.745

5.265

POND PROPERTIES, SMF 13A

Water quality requirement, 0.5" over basin area

Basin Area	$A_{basin} \coloneqq 17.91 acre$	$ReqWQ := A_{basin} \cdot 0.5 in$	$ReqWQ = 0.75 ft \cdot acre$
Stage Storage Calculati	ons		
Seasonal High Water Elevation	SHW := 73.0ft	Note: SHW estim	ated based on 3' below BFE 76.1.
Pond CWE elevation	CWE := 75.0ft		
Pond CWE Area	$A_{CWE} := 0.97$ acre		
Pond top of bank elevation	TOB := 81.0ft	E	Existing Low $EOP = 81$ ft
Top of Bank Area	$A_{\text{TOB}} := 1.55 \cdot \text{acre}$		
Available storage depth	Depth := $TOB - CWE$	Depth = 6 ft	
Number of pond stages desired	stage _{number} := Depth \div 1.01	ft	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	$stage_i := i \cdot incr$		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Vertiable bottom or the set of th	cal storage is storage above the pond he control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < T$	$\Gamma OB + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - CWE\right)\right]}{2 \cdot (TOE)}$	$\frac{2}{3-CWE} \cdot \left(A_{TOB} - A_{CWE}\right), 0$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the pon	d side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	75 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	76	0.97	0.048	1.018
2	77	1.94	0.193	2.133
3	78	2.91	0.435	3.345
4	79	3.88	0.773	4.653
5	80	4.85	1.208	6.058
6	81	5.82	1.74	7.56
Ton of ottoming	ion no ol	1	5 0	

Top of attenuation pool

Water Quality volume stage

Proposed storage volume at weir Required attenutation volume Proposed attenutation volume $Att_{elev} := TOB - 1.5ft$

 $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$ $Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $Stage_{WQ} = 75.73 \text{ ft}$ $Storage_{vol} = 5.356 \text{ ft} \cdot \text{acre}$ $Att_{req} := 4.04 \text{ ft} \cdot \text{acre}$ $Att_{vol} = 4.61 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 13B

Water quality requirement, 0.5" over basin area

Basin Area	$A_{basin} \coloneqq 17.91 acre$	ReqWQ := $A_{basin} \cdot 0.5in$	$ReqWQ = 0.75 ft \cdot acre$
Stage Storage Calculati	ons		
Seasonal High Water Elevation	sHW := 75.0ft	Note: SHW estim	ated based on 4' below BFE 79.1.
Pond CWE elevation	CWE := 76.5ft		
Pond CWE Area	$A_{CWE} := 1.57acre$		
Pond top of bank elevation	TOB := 81.0ft	E	Existing Low $EOP = 81$ ft
Top of Bank Area	$A_{\text{TOB}} \coloneqq 2.21 \cdot \text{acre}$		
Available storage depth	Depth := $TOB - CWE$	Depth = 4.5 ft	
Number of pond stages desired	1	ît	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	$stage_i := i \cdot incr$		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Verti bottom or the second secon	cal storage is storage above the pond he control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if \left[elev_i > CWE \land elev_i < T \right]$	$\text{TOB} + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - \text{CWE}\right)\right]}{2 \cdot (\text{TOE})}$	$\frac{2}{3 - CWE} \cdot \left(A_{TOB} - A_{CWE}\right), 0$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	storage is storage over the pon	d side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
stage _i =	elev _i =	Vpv1 _i =	Vpl1 _i =	Vpond1 _i =
0 ft	76.5 ^{ft}	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	77.5	1.57	0.071	1.641
2	78.5	3.14	0.284	3.424
3	79.5	4.71	0.64	5.35
4	80.5	6.28	1.138	7.418

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 76.95 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 5.35 \text{ ft} \cdot \text{acre}$
Required attenutation volume		$Att_{req} := 4.04 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 4.60 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF13C Water quality requirement, 0.5" over basin area Basin Area $A_{\text{basin}} := 17.91 \, \text{acre}$ $ReqWQ := A_{basin} \cdot 0.5 in$ $ReqWQ = 0.75 ft \cdot acre$ **Stage Storage Calculations** Seasonal High Water Elevation Note: SHW estimated based on 5' below BFE 79.1. SHW := 74.0ft Pond CWE elevation CWE := 76.5ft Pond CWE Area $A_{CWE} := 1.58acre$ Pond top of bank elevation Existing Low EOP = 81 ft TOB := 81.0ft Top of Bank Area $A_{TOB} := 2.09 \cdot acre$ Available storage depth Depth := TOB - CWEDepth = 4.5 ftNumber of pond stages desired $stage_{number} := Depth \div 1.0ft$ $i := 0 .. stage_{number}$ incr := Depth \div stage_{number} stage increment $stage_i := i \cdot incr$ $elev_i := CWE + i \cdot incr$ $Vpv1_i := if \left[elev_i > CWE, (elev_i - CWE) \cdot A_{CWE}, 0\right]$ Note: Vertical storage is storage above the pond bottom or the control water elevation. Vertical Pond Storage (Vpv) $Vpll_{i} := if \left[elev_{i} > CWE \land elev_{i} < TOB + 1in, \frac{\left\lfloor \left(elev_{i} - CWE \right)^{2} \right\rfloor \cdot \left(A_{TOB} - A_{CWE} \right)}{2 \cdot (TOB - CWE)}, 0 \right]$ Linear Pond Storage (Vpl) Total wet pond storage Vpond1 := Vpv1 + Vp11 Note: Linear storage is storage over the pond side slopes

Stage Storage Calculation Results

		Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i =$	elev _i =	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft	76.5 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1	77.5	1.58	0.057	1.637
2	78.5	3.16	0.227	3.387
3	79.5	4.74	0.51	5.25
4	80.5	6.32	0.907	7.227

Top of attenuation pool	$Att_{elev} := TOB - 1.5ft$	
Water Quality volume stage	Stage _{WQ} := linterp(Vpond1, elev, ReqWQ)	$Stage_{WQ} = 76.96 \text{ ft}$
Proposed storage volume at weir	$Storage_{vol} := linterp(elev, Vpond1, Att_{elev})$	$Storage_{vol} = 5.25 \text{ ft} \cdot \text{acre}$
Required attenutation volume		$Att_{req} := 4.04 ft \cdot acre$
Proposed attenutation volume	$Att_{vol} := Storage_{vol} - ReqWQ$	$Att_{vol} = 4.50 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 14A/FPC-14A

Water quality requirement, 0.5" over basin area

Basin Area	$A_{basin} \coloneqq 9.64acre$	$ReqWQ := A_{basin} \cdot 0.5 in$	ReqWQ = 0.40 ft acre
Stage Storage Calculation	ons		
Seasonal High Water Elevation	SHW := 95.0ft	Note: SHW estim	ated based on 9' below BFE 104.1.
Pond CWE elevation	CWE := 98.0ft		
Pond CWE Area	$A_{CWE} := 0.67 acre$		
Pond top of bank elevation	TOB := 103.0ft	Ex	isting Low EOP = 103 ft
Top of Bank Area	$A_{TOB} := 1.08 \cdot acre$		
Available storage depth	Depth := $TOB - CWE$	Depth = 5 ft	
Number of pond stages desired	stage _{number} := Depth \div 1.0	ft	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}	r	
	stage _i := $i \cdot incr$		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpv1_i := if [elev_i > CWE, (elev_i - $	$CWE ight) \cdot A_{CWE}, 0$ Note: Vertice bottom or the	al storage is storage above the pond e control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < 7$	$\Gamma OB + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - CWE\right)^2\right]}{2 \cdot (TOB)}$	$\frac{\left \cdot \left(A_{\text{TOB}} - A_{\text{CWE}} \right) - CWE \right }{-CWE}, 0$
Total wet pond storage	Vpond1 := Vpv1 + Vp11 Note: Linear	r storage is storage over the pond	side slopes

Stage Storage Calculation Results

	Vertical Pond Storage (Vpv)	Linear Pond Storage (Vpl)	Total wet pond storage (Vpond)
$stage_i = elev_i =$	Vpv1 _i =	Vpl1 _i =	$Vpondl_i =$
0 ft 98 ft	0 ·acre·ft	0 ·acre·ft	0 ·acre·ft
1 99	0.67	0.041	0.711
2 100	1.34	0.164	1.504
3 101	2.01	0.369	2.379
4 102	2.68	0.656	3.336
5 103	3.35	1.025	4.375

Top of attenuation pool Water Quality volume stage Proposed storage volume at weir Required attenutation volume Proposed attenutation volume

 $Stage_{WQ} = 98.56 \text{ ft}$ $Storage_{vol} = 2.858 \text{ ft} \cdot \text{acre}$ $Att_{req} \coloneqq 2.17 \text{ ft} \cdot \text{acre}$ $Att_{vol} = 2.46 \text{ ft} \cdot \text{acre}$

POND PROPERTIES, SMF 14B/FPC-14B

Water quality requirement, 0.5" over basin area

Basin Area	$A_{basin} := 9.64acre$	$ReqWQ := A_{basin} \cdot 0.5 in$	$ReqWQ = 0.40 ft \cdot acre$
Stage Storage Calculation	ons		
Seasonal High Water Elevation	SHW := 95.0ft	Note: SHW estin	mated based on 6' below BFE 101.4.
Pond CWE elevation	CWE := 96.0ft		
Pond CWE Area	$A_{CWE} := 0.22acre$		
Pond top of bank elevation	TOB := 103.0ft	E	Existing Low $EOP = 103$ ft
Top of Bank Area	$A_{TOB} := 0.92 \cdot acre$		
Available storage depth	Depth := TOB - CWE	Depth = 7 ft	
Number of pond stages desired	stage _{number} := Depth \div 1.01	ît	
	$i := 0 \dots stage_{number}$		
stage increment	incr := Depth \div stage _{number}		
	stage _i := $i \cdot incr$		
	$elev_i := CWE + i \cdot incr$		
Vertical Pond Storage (Vpv)	$Vpv1_i := if[elev_i > CWE, (elev_i - $	$CWE ight) vert A_{CWE}, 0$ Note: Vertice bottom or the set of	cal storage is storage above the pond he control water elevation.
Linear Pond Storage (Vpl)	$Vpl1_i := if elev_i > CWE \land elev_i < T$	$\text{TOB} + 1 \text{ in}, \frac{\left[\left(\text{elev}_i - \text{CWE}\right)^2\right]}{2 \cdot (\text{TOE})}$	$\frac{2}{3-CWE} \cdot \left(A_{TOB} - A_{CWE}\right), 0$
Total wet pond storage	Vpond1 := Vpv1 + Vpl1 Note: Linear	storage is storage over the pon-	d side slopes

Linear Pond

Storage (Vpl)

0

0.05

0.2

0.45

0.8

1.25

1.8

2.45

·acre · ft

 $Vpl1_i =$

Stage Storage Calculation Results

$stage_{i} =$	elev _i =
0 ft	96 ft
1	97
2	98
3	99
4	100
5	101
6	102
7	103

Top of attenuation pool

Water Quality volume stage

Proposed storage volume at weir

Required attenutation volume

Proposed attenutation volume

0.66		
0.88		
1.1		
1.32		
1.54		
	TOD	

·acre · ft

Vertical Pond

Storage (Vpv)

0

0.22

0.44

 $Vpv1_i =$

 $Att_{elev} := TOB - 1.5ft$

 $Stage_{WQ} := linterp(Vpond1, elev, ReqWQ)$

Storage_{vol} := linterp(elev, Vpond1, Att_{elev})

 $Att_{vol} := Storage_{vol} - ReqWQ$

 $\begin{aligned} Stage_{WQ} &= 97.36 \text{ ft} \\ Storage_{vol} &= 2.735 \text{ ft} \cdot \text{acre} \\ Att_{req} &\coloneqq 2.17 \text{ ft} \cdot \text{acre} \\ Att_{vol} &= 2.33 \text{ ft} \cdot \text{acre} \end{aligned}$

Total wet pond

 $Vpond1_i =$

0.27

0.64

1.11

1.68

2.35

3.12

3.99

storage (Vpond)

0

·acre · ft

Floodplain Encroachment Calculation Summary Table 4-2 Calculation Basis

Basin 1A

Column 1: Station 566+00.00 to 572+00.00 (North) (600') times 35' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1' (Based on estimated average of 0-2' fill below floodplain depth to Exist. Ground El.)

Basin 1B - Connected to Basin 1A

Column 1: Station 577+62.00 to 579+30.00 (South) (168') times 25' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 0.5' (Based on estimated average of 0-1' fill below floodplain depth to Exist. Ground El.) Basin 2A

Column 1: Station 628+00.00 to 641+50.00 (North) (1350') times 20' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 1' (Based on estimated average of 0-2' fill below floodplain depth to Exist. Ground El.) Basin 2B - Connected to Basin 2A

Column 1: Station 629+40.00 to 637+00.00 (South) (760') times 30' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 1.0' (Based on estimated average of 0-2' fill below floodplain depth to Exist. Ground El.) Basin 3A - Connected to Basin 3B

Column 1: Station 656+55.00 to 669+00.00 (North) (1245') times 20' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 1.5' (Based on estimated average of 0-3' fill below floodplain depth to Exist. Ground El.) Basin 3B

Column 1: Station 657+30.00 to 665+15.00 (South) (785') times 25' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 0.75' (Based on estimated average of 0-1.5' fill below floodplain depth to Exist. Ground El.) Basin 4 - Connected to Basin 3A

Column 1: Station 669+0.00 to 678+00.00 (North) (900') times 35' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 2' (Based on estimated average of 0-4' fill below floodplain depth to Exist. Ground El.) Basin 5A - Connected to Basin 5B

Column 1: Station 685+50.00 to 702+00.00 (North) (1650') times 35' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 2.5' (Based on estimated average of 0-5.0' fill below floodplain depth to Exist. Ground El.) Basin 5B

Column 1: Station 683+50.00 to 700+50.00 (South) (1700') times 30' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 2.5' (Based on estimated average of 0-5' fill below floodplain depth to Exist. Ground El.) Basin 6A - Connected to Basin 9

Column 1: Station 714+00.00 to 731+00.00 (North) (1700') times 30' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 1.25' (Based on estimated average of 0-2.5' fill below floodplain depth to Exist. Ground El.) Basin 6B - Connected to Basin 9

Column 1: Station 712+00.00 to 731+00.00 (South) (1900') times 20' width of Floodplain Encroachment

Column 2: Volume = Encroachment area times depth of 1.25' (Based on estimated average of 0-2.5' fill below floodplain depth to Exist. Ground El.) Basin 7 - Connected to Basin 9

Column 1: Portion of basin limits within Floodplain Encroachment - measured at 5.94 acres

Column 2: Volume = Encroachment area times average depth of 4.25' (Based on estimated average of 0-8.5' fill below floodplain depth to Exist. Ground El.) Basin 8 - Connected to Basin 9

Column 1: Portion of basin limits within Floodplain Encroachment - measured at 6.50 acres

Column 2: Volume = Encroachment area times average depth of 5.25' (Based on estimated average of 0-10.5' fill below floodplain depth to Exist. Ground El.) Basin 9

Column 1: Portion of basin limits within Floodplain Encroachment - measured at 3.13 acres

Column 2: Volume = Encroachment area times average depth of 4.25' (Based on estimated average of 0-8.5' fill below floodplain depth to Exist. Ground El.)

Floodplain Encroachment Calculation Summary Table 4-2 Calculation Basis

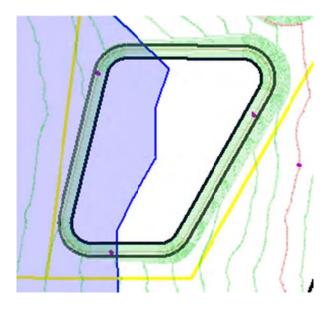
Basin 10A Column 1: Station 793+25.00 to 795+50.00 (North) (225') times 35' width of Floodplain Encroachment Column 2: Encroachment area times depth of 1.0' (Based on estimated average of 0-2.0' fill below floodplain depth to Exist. Ground El.) Basin 10B - Connected to 10A Column 1: Station 793+07.00 to 797+15.00 (South) (408') times 30' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 2.0' (Based on estimated average of 0-4.0' fill below floodplain depth to Exist. Ground El.) Basin 11 Column 1: Station 829+35.00 to 836+50.00 (South) (715') times 40' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 3.0' (Based on estimated average of 0-6.0' fill below floodplain depth to Exist. Ground El.) Basin 12A Column 1: Station 851+50.00 to 852+90.00 (North) (140') times 25' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 0.75' (Based on estimated average of 0-1.5' fill below floodplain depth to Exist. Ground EL) Basin 12B - Connected to 12A Column 1: Station 853+40.00 to 854+50.00 (North) (110') times 15' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 0.75' (Based on estimated average of 0-1.5' fill below floodplain depth to Exist. Ground EL) Basin 12C - Connected to 12B Column 1: Station 860+45.00 to 862+00.00 (North) (155') times 35' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1.0' (Based on estimated average of 0-2.0' fill below floodplain depth to Exist. Ground El.) Basin 12D - Connected to 12C Column 1: Station 862+45.00 to 866+35.00 (North) (390') times 25' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1.0' (Based on estimated average of 0-2.0' fill below floodplain depth to Exist. Ground El.) Basin 13A Column 1: Station 899+45.00 to 905+30.00 (North) (585') times 40' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 0.75' (Based on estimated average of 0-1.5' fill below floodplain depth to Exist. Ground El.) Basin 13B - Connected to 13C Column 1: Station 888+20.00 to 892+65.00 (South) (445') times 45' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1.5' (Based on estimated average of 0-3' fill below floodplain depth to Exist. Ground EL) Basin 13C Column 1: Station 895+00.00 to 897+00.00 (South) (200') times 20' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1.25' (Based on estimated average of 0-2.5' fill below floodplain depth to Exist. Ground El.) Basin 13D Column 1: Station 900+20.00 to 904+85.00 (South) (465') times 30' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1.5' (Based on estimated average of 0-3.0' fill below floodplain depth to Exist. Ground EL) Basin 14A Column 1: Station 925+00.00 to 928+35.00 (North) (335') times 30' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1.5' (Based on estimated average of 0-3.0' fill below floodplain depth to Exist. Ground EL) Basin 14B - Connected to 14A Column 1: Station 928+35.00 to 930+05.00 (North) (170') times 45' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 1.25' (Based on estimated average of 0-2.5' fill below floodplain depth to Exist. Ground EL) Basin 14C - Connected to 14A

Column 1: Station 926+50.00 to 927+72.00 (South) (122') times 30' width of Floodplain Encroachment Column 2: Volume = Encroachment area times depth of 0.75' (Based on estimated average of 0-1.5' fill below floodplain depth to Exist. Ground El.) Floodplain Calculations FPC-1A

*******	******	******
**	**	
** Object to Object Volume Rep	ort Wed Dec 19 09:40):46 2018
**	**	
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-1a></fpc-1a></td><td></td></exist>	> to Object <fpc-1a></fpc-1a>	
**	**	
** Prismoidal Volume		
**	**	
**	**	
******	*******	******
**	**	
** Total Cut =	4226.054 Cubic Yards	
** Total Fill =	0.063 Cubic Yards	
** Area =		3589.960 Sq Yards
** Balance =		4225.991 Cubic Yards
**	**	
** Elevation Range Used		
** 88.000 to 89.000	Cut = 808.072	Fill = 0.000
** 89.000 to 90.000	Cut = 896.809	Fill = 0.000
** 90.000 to 91.000	Cut = 988.745	Fill = 0.000
** 91.000 to 92.000	Cut = 851.734	Fill = 0.003
** 92.000 to 92.100	Cut = 62.502	Fill = 0.000
**	**	
** No Quantity Depth Used		
*********	******	******
	Floodplain compensation	on between elevation 91.0 to 92.1

Required Floodplain Compensation 0.53 AC-FT Proposed Floodplain Compensation 0.57 AC-FT

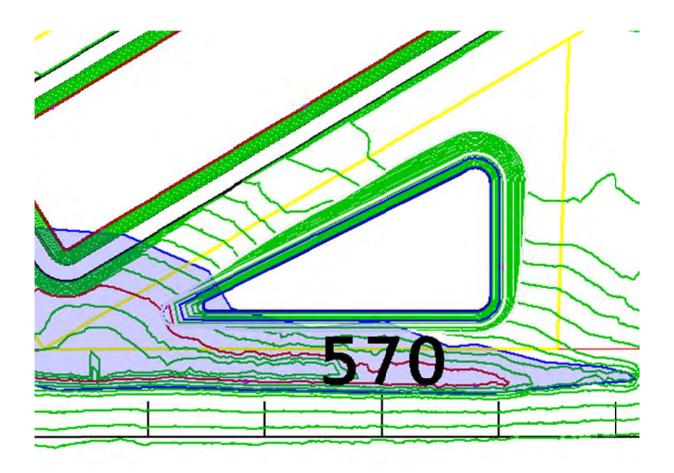
FPC-1A Grading Schematic



Floodplain Calculations FPC-1B

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**	**	
** Prismoidal Volume		
**	**	
**	**	
******	******	******
**	**	
** Total Cut =	5411.896 Cubic Yards	
** Total Fill =	0.026 Cubic Yards	
** Area =		3714.340 Sq Yards
** Balance =		5411.870 Cubic Yards
**	**	
** Elevation Range Used		
** 92.000 to 93.000	Cut = 676.263	Fill = 0.000
** 93.000 to 94.000	Cut = 777.909	Fill = 0.000
** 94.000 to 95.000	Cut = 886.646	Fill = 0.013
** 95.000 to 96.000	Cut = 976.854	Fill = 0.000
** 96.000 to 96.300	Cut = 295.243	Fill = 0.010
**	**	
** No Quantity Depth Used		
******	******	*****
	Floodplain compensation	on between elevation 95.0 to 96.3

Required Floodplain Compensation 0.53 AC-FT Proposed Floodplain Compensation 0.79 AC-FT FPC-1B Grading Schematic

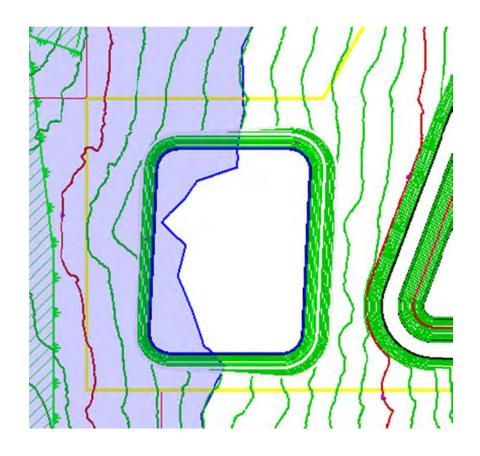


Floodplain Calculations FPC-1C

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**	**	
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**	**	
** Prismoidal Volume		
**	**	
**	**	
******	******	*****
**	**	
** Total Cut =	4580.813 Cubic Yards	
** Total Fill =	0.320 Cubic Yards	
** Area =		3736.042 Sq Yards
** Balance =		4580.493 Cubic Yards
**	**	
** Elevation Range Used		
** 88.000 to 89.000	Cut = 884.988	Fill = 0.000
** 89.000 to 90.000	Cut = 974.971	Fill = 0.000
** 90.000 to 91.000	Cut = 1066.786	Fill = 0.310
** 91.000 to 92.000	Cut = 983.038	Fill = 0.001
** 92.000 to 92.100	Cut = 79.246	Fill = 0.000
**	**	
** No Quantity Depth Used		
******	******	*****
	Floodplain compensatio	on between elevation 91.0 to 92.1

Required Floodplain Compensation 0.53 AC-FT Proposed Floodplain Compensation 0.66 AC-FT

FPC-1C Grading Schematic



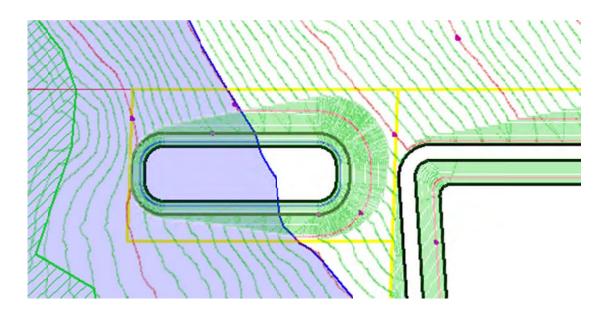
Floodplain Calculations FPC-2A

**	**		
** Object to Object Volume Rep	ort Wed Dec 19 11:10):15 2018	
**	**		
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-2a></fpc-2a></td><td></td></exist>	> to Object <fpc-2a></fpc-2a>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
******	*****	******	
**	**		
** Total Cut =	4417.747 Cubic Yards		
** Total Fill =	0.077 Cubic Yards		
** Area =		2702.029 Sq Yards	
** Balance =		4417.670 Cubic Yards	
**	* *		
** Elevation Range Used			
** 77.000 to 78.000	Cut = 354.079	Fill = 0.000	
** 78.000 to 79.000	Cut = 420.482	Fill = 0.000	
** 79.000 to 80.000	Cut = 490.464	Fill = 0.074	
** 80.000 to 81.000	Cut = 532.136	Fill = 0.000	
** 81.000 to 82.000	Cut = 521.424	Fill = 0.002	
** 82.000 to 83.000	Cut = 491.322	Fill = 0.001	
** 83.000 to 84.000	Cut = 449.905	Fill = 0.000	
** 84.000 to 85.000	Cut = 395.625	Fill = 0.000	
** 85.000 to 85.100	Cut = 36.147	Fill = 0.000	
**	**		
** No Quantity Depth Used			

Floodplain compensation between elevation 80.0 to 85.1

Required Floodplain Compensation 1.14 AC-FT Proposed Floodplain Compensation 1.50 AC-FT

FPC-2A Grading Schematic



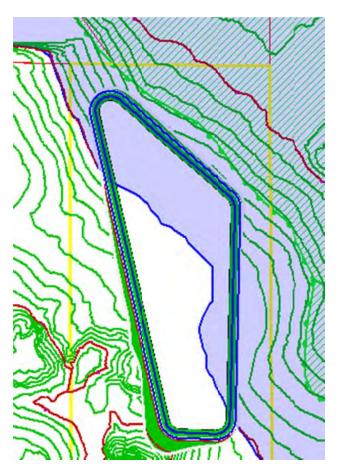
Floodplain Calculations FPC-2B

**	**	
** Object to Object Volume Rep	ort Wed Dec 19 10:40:	46 2018
**	**	
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-2b></fpc-2b></td><td></td></exist>	> to Object <fpc-2b></fpc-2b>	
**	**	
** Prismoidal Volume		
**	**	
**	**	
*******	*****	******
**	**	
** Total Cut =	10875.066 Cubic Yards	
** Total Fill =	107.462 Cubic Yards	
** Area =		9293.423 Sq Yards
** Balance =		10767.604 Cubic Yards
**	**	
** Elevation Range Used		
** 81.000 to 82.000	Cut = 2260.853	Fill = 0.945
** 82.000 to 83.000	Cut = 2397.598	Fill = 60.776
** 83.000 to 84.000	Cut = 2263.313	Fill = 45.565
** 84.000 to 85.000	Cut = 1869.563	Fill = 0.007
** 85.000 to 85.100	Cut = 142.864	Fill = 0.000
**	**	
** No Quantity Depth Used		

	Floodplain compensation	between elevation 84.0 to 85.1

Required Floodplain Compensation 1.14 AC-FT Proposed Floodplain Compensation 1.25 AC-FT

FPC-2B Grading Schematic

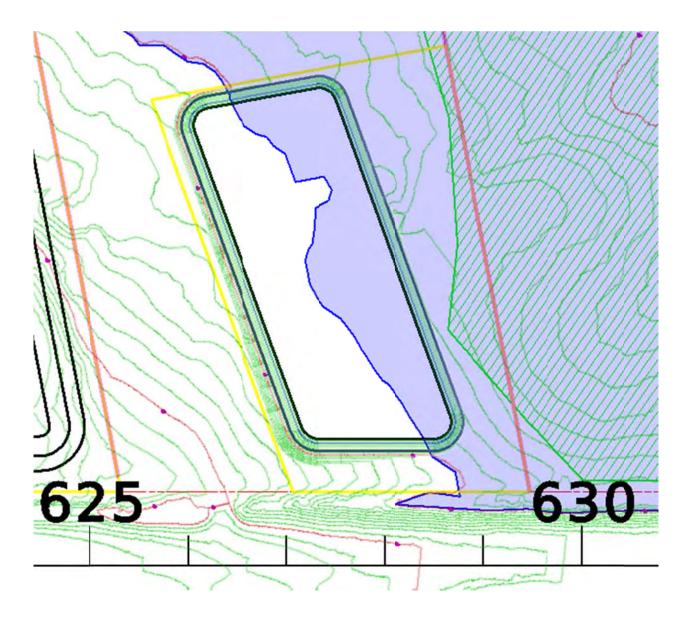


Floodplain Calculations FPC-2C

****** ****** ** ** ** Object to Object Volume Report -- Wed Dec 19 11:10:55 2018 ** ** ** From Object <Exist Ground 1> to Object <FPC-2C> ** ** ** Prismoidal Volume ** ** ** ** ***** ****** ** ** ** Total Cut = 9772.787 Cubic Yards ** Total Fill = 9.466 Cubic Yards ** Area = 8089.985 Sq Yards ** Balance = 9763.321 Cubic Yards ** ** ** Elevation Range Used ** 81.000 to 82.000 Cut = 2054.769 Fill = 0.000 ** 82.000 to 83.000 Cut = 2207.163 Fill = 0.000 ** 83.000 to 84.000 Cut = 2300.737 Fill = 9.462 ** 84.000 to 85.000 Cut = 1856.654 Fill = 0.000 ** 85.000 to 85.100 Cut = 137.651 Fill = 0.000** ** ** No Quantity Depth Used ***** ****** Floodplain compensation between elevation 84.0 to 85.1

Required Floodplain Compensation 1.14 AC-FT Proposed Floodplain Compensation 1.24 AC-FT

FPC-2C Grading Schematic

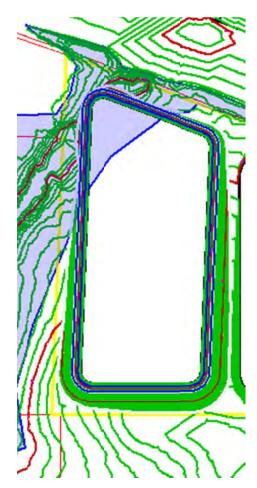


Floodplain Calculations FPC-3-4A

**	**		
** Object to Object Volume Report Wed Dec 19 10:41:36 2018			
**	**		
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-3-4a></fpc-3-4a></td><td></td></exist>	> to Object <fpc-3-4a></fpc-3-4a>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
*******	******	******	
**	**		
** Total Cut =	25392.437 Cubic Yards		
** Total Fill =	54.080 Cubic Yards		
** Area =		11990.780 Sq Yards	
** Balance =		25338.357 Cubic Yards	
**	**		
** Elevation Range Used			
** 73.000 to 74.000	Cut = 2765.321	Fill = 0.001	
** 74.000 to 75.000	Cut = 2860.125	Fill = 34.239	
** 75.000 to 76.000	Cut = 2969.694	Fill = 19.829	
** 76.000 to 77.000	Cut = 3033.125	Fill = 0.003	
** 77.000 to 77.500	Cut = 1520.641	Fill = 0.000	
**	**		
** No Quantity Depth Used			
*******	*****	******	
	Floodplain compensatior	between elevation 76.0 to 77.5	

Required Floodplain Compensation 2.65 AC-FT Proposed Floodplain Compensation 2.82 AC-FT

FPC-3-4A Grading Schematic



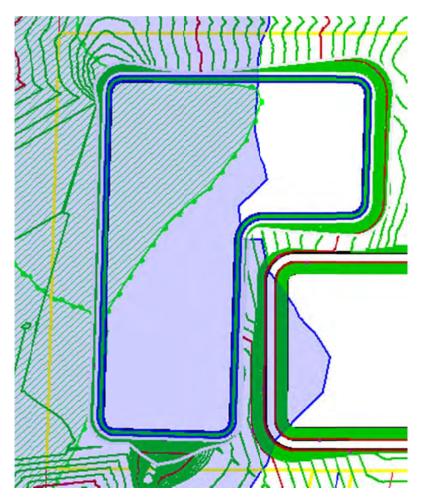
Floodplain Calculations FPC-3-4B

**	**		
** Object to Object Volume Report Wed Dec 19 10:42:36 2018			
**	**		
** From Object <exist 2<="" ground="" td=""><td>1> to Object <fpc-3-4b></fpc-3-4b></td><td></td></exist>	1> to Object <fpc-3-4b></fpc-3-4b>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
*********************	******	******	
**	**		
** Total Cut =	18685.567 Cubic Yards		
** Total Fill =	1397.656 Cubic Yards		
** Area =		20307.285 Sq Yards	
** Balance =		17287.910 Cubic Yards	
**	**		
** Elevation Range Used			
** 72.000 to 73.000	Cut = 4735.811	Fill = 171.061	
** 73.000 to 74.000	Cut = 3146.833	Fill = 364.864	
** 74.000 to 75.000	Cut = 2640.957	Fill = 144.926	
** 75.000 to 76.000	Cut = 2187.603	Fill = 0.000	
** 76.000 to 77.000	Cut = 1785.698	Fill = 0.000	
** 77.000 to 78.000	Cut = 1476.376	Fill = 0.000	
** 78.000 to 78.200	Cut = 259.212	Fill = 0.000	
**	**		
** No Quantity Depth Used			

	Floodplain compensatio	n between elevation 75.0 to 78.2	

Required Floodplain Compensation 2.65 AC-FT Proposed Floodplain Compensation 3.54 AC-FT

FPC-3-4B Grading Schematic



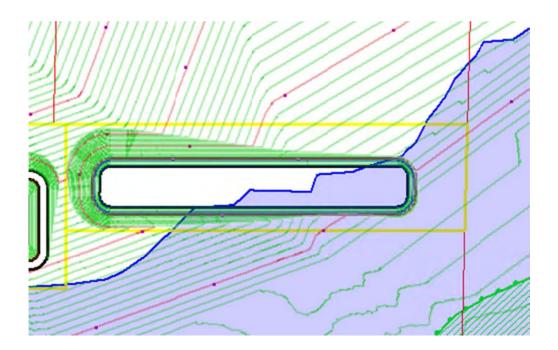
Floodplain Calculations FPC-3-4C

**	**		
** Object to Object Volume Re	** Object to Object Volume Report Wed Dec 19 11:15:46 2018		
**	**		
** From Object <exist 2<="" ground="" td=""><td>1> to Object <fpc-3-4c></fpc-3-4c></td><td></td></exist>	1> to Object <fpc-3-4c></fpc-3-4c>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
******	******	******	
**	**		
** Total Cut =	14325.502 Cubic Yards		
** Total Fill =	17.826 Cubic Yards		
** Area =		7677.408 Sq Yards	
** Balance =		14307.676 Cubic Yards	
**	**		
** Elevation Range Used			
** 72.000 to 73.000	Cut = 1284.098	Fill = 0.000	
** 73.000 to 74.000	Cut = 1448.395	Fill = 3.783	
** 74.000 to 75.000	Cut = 1562.700	Fill = 14.029	
** 75.000 to 76.000	Cut = 1530.225	Fill = 0.005	
** 76.000 to 77.000	Cut = 1396.270	Fill = 0.000	
** 77.000 to 78.000	Cut = 1302.374	Fill = 0.000	
** 78.000 to 78.200	Cut = 253.296	Fill = 0.002	
**	**		
** No Quantity Depth Used			

	Floodplain compensatio	n between elevation 75.0 to 78.2	

Required Floodplain Compensation 2.65 AC-FT Proposed Floodplain Compensation 2.78 AC-FT

FPC-3-4C Grading Schematic



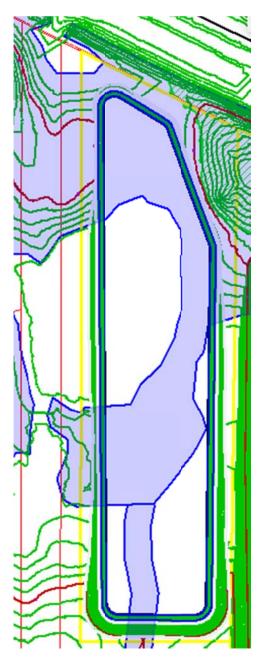
Floodplain Calculations FPC-5A

**	**		
** Object to Object Volume Report Wed Dec 19 10:45:31 2018			
**	**		
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-5a></fpc-5a></td><td></td></exist>	> to Object <fpc-5a></fpc-5a>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
******	******	******	
**	**		
** Total Cut =	27711.317 Cubic Yards		
** Total Fill =	0.058 Cubic Yards		
** Area =		17147.158 Sq Yards	
** Balance =		27711.259 Cubic Yards	
**	**		
** Elevation Range Used			
** 72.000 to 73.000	Cut = 4288.108	Fill = 0.000	
** 73.000 to 74.000	Cut = 4553.707	Fill = 0.000	
** 74.000 to 75.000	Cut = 4823.024	Fill = 0.000	
** 75.000 to 76.000	Cut = 4877.421	Fill = 0.006	
** 76.000 to 77.000	Cut = 4144.824	Fill = 0.023	
** 77.000 to 77.400	Cut = 1340.450	Fill = 0.013	
**	**		
** No Quantity Depth Used			

	Floodplain compensatior	between elevation 75.0 to 77.4	

Required Floodplain Compensation 6.24 AC-FT Proposed Floodplain Compensation 6.42 AC-FT

FPC-5A Grading Schematic



Floodplain Calculations FPC-5B

****** ** ** ** Object to Object Volume Report -- Wed Dec 19 10:47:24 2018 ** ** ** From Object <Exist Ground 1> to Object <FPC-5B> ** ** ** Prismoidal Volume ** ** ** ***** ****** ** ** ** Total Cut = 29014.984 Cubic Yards ** Total Fill = 4.712 Cubic Yards ** Area = 16818.253 Sq Yards ** Balance = 29010.272 Cubic Yards ** ** ** Elevation Range Used ** 72.000 to 73.000 Cut = 4195.523 Fill = 0.000 ** 73.000 to 74.000 Cut = 4431.431 Fill = 0.000 ** 74.000 to 75.000 Cut = 4655.933 Fill = 4.644 ** 75.000 to 76.000 Cut = 4660.137 Fill = 0.000 ** 76.000 to 77.000 Cut = 4236.024 Fill = 0.005 ** 77.000 to 77.400 Cut = 1411.460 Fill = 0.001 ** ** ** No Quantity Depth Used ***** *******

Floodplain compensation between elevation 75.0 to 77.4

Required Floodplain Compensation 6.24 AC-FT Proposed Floodplain Compensation 6.39 AC-FT

FPC-5B Grading Schematic

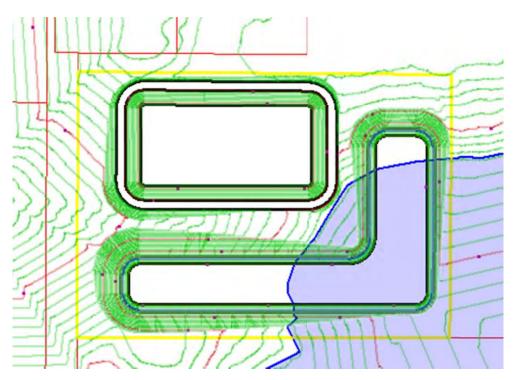
Floodplain Calculations FPC-5C

**	**		
** Object to Object Volume Rep **	oort Wed Dec 19 11:16 **	:46 2018	
** From Object <exist 1<="" ground="" td=""><td>.> to Object <fpc-5c></fpc-5c></td><td></td></exist>	.> to Object <fpc-5c></fpc-5c>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
*******	******	*****	
**	**		
** Total Cut =	24532.250 Cubic Yards		
** Total Fill =	0.035 Cubic Yards		
** Area =		11895.286 Sq Yards	
** Balance =		24532.215 Cubic Yards	
**	**		
** Elevation Range Used			
** 70.000 to 71.000	Cut = 1925.022	Fill = 0.000	
** 71.000 to 72.000	Cut = 2143.239	Fill = 0.000	
** 72.000 to 73.000	Cut = 2365.173	Fill = 0.000	
** 73.000 to 74.000	Cut = 2588.143	Fill = 0.000	
** 74.000 to 75.000	Cut = 2663.214	Fill = 0.011	
** 75.000 to 76.000	Cut = 2572.342	Fill = 0.000	
** 76.000 to 77.000	Cut = 2338.351	Fill = 0.000	
** 77.000 to 78.000	Cut = 2017.450	Fill = 0.003	
** 78.000 to 78.200	Cut = 365.007	Fill = 0.005	
**	**		
** No Quantity Depth Used			

Floodplain compensation between elevation 73.0 to 78.2

Required Floodplain Compensation 6.24 AC-FT Proposed Floodplain Compensation 7.78 AC-FT

FPC-5C Grading Schematic

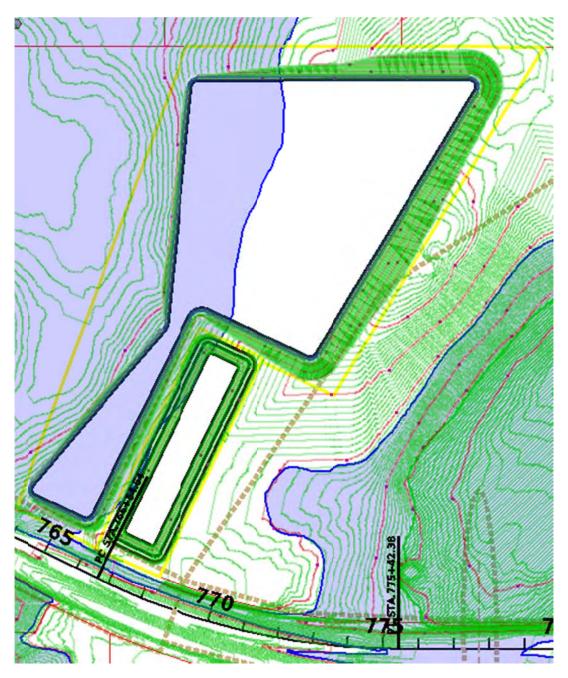


Floodplain Calculations FPC-6-9A

**	**		
** Object to Object Volume Re	** Object to Object Volume Report Wed Dec 19 11:17:46 2018		
**	**		
** From Object <exist 2<="" ground="" td=""><td>1> to Obiect <fpc-6-9a></fpc-6-9a></td><td></td></exist>	1> to Obiect <fpc-6-9a></fpc-6-9a>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
******	******	******	
**	**		
** Total Cut =	287010.868 Cubic Yards		
** Total Fill =	568.223 Cubic Yards		
** Area =		79381.477 Sq Yards	
** Balance =		286442.645 Cubic Yards	
**	**		
** Elevation Range Used			
** 64.000 to 65.000	Cut = 19325.172	Fill = 115.403	
** 65.000 to 66.000	Cut = 19682.487	Fill = 281.440	
** 66.000 to 67.000	Cut = 19458.075	Fill = 147.568	
** 67.000 to 68.000	Cut = 18832.424	Fill = 0.000	
** 68.000 to 69.000	Cut = 18120.827	Fill = 0.000	
** 69.000 to 70.000	Cut = 17410.866	Fill = 0.001	
** 70.000 to 71.000	Cut = 16673.267	Fill = 0.002	
** 71.000 to 72.000	Cut = 15961.125	Fill = 0.000	
** 72.000 to 73.000	Cut = 15033.299	Fill = 0.012	
** 73.000 to 74.000	Cut = 14220.298	Fill = 0.002	
** 74.000 to 74.500	Cut = 6832.724	Fill = 0.000	
** **			
** No Quantity Depth Used			
	Floodplain compensation	between elevation 67.0 to 74.5	

Required Floodplain Compensation 75.23 AC-FT Proposed Floodplain Compensation 76.29 AC-FT

FPC-6-9A Grading Schematic



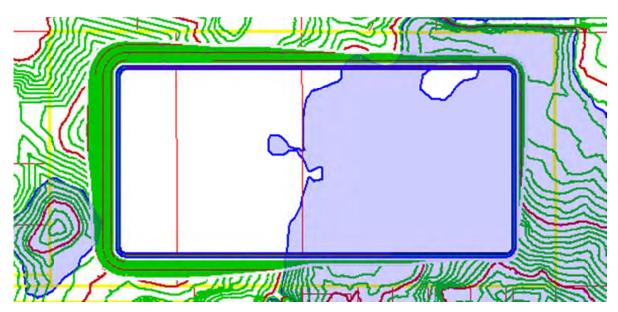
Floodplain Calculations FPC-6-9B

******	************************	
**	**	
** Object to Object Volume Rep	oort Wed Dec 19 10:54:1	16 2018
**	**	
** From Object <exist 1<="" ground="" td=""><td>L> to Object <fpc-6-9b></fpc-6-9b></td><td></td></exist>	L> to Object <fpc-6-9b></fpc-6-9b>	
**	**	
** Prismoidal Volume		
**	**	
**	**	
******	******	*****
**	**	
** Total Cut =	264671.617 Cubic Yards	
** Total Fill =	26.145 Cubic Yards	
** Area =		72405.995 Sq Yards
** Balance =		264645.472 Cubic Yards
**	**	
** Elevation Range Used		
** 64.000 to 65.000	Cut = 18642.559	Fill = 0.000
** 65.000 to 66.000	Cut = 19081.430	Fill = 12.210
** 66.000 to 67.000	Cut = 19427.659	Fill = 13.752
** 67.000 to 68.000	Cut = 19620.399	Fill = 0.008
** 68.000 to 69.000	Cut = 19650.458	Fill = 0.032
** 69.000 to 70.000	Cut = 19592.008	Fill = 0.003
** 70.000 to 71.000	Cut = 19486.477	Fill = 0.001
** 71.000 to 72.000	Cut = 18351.533	Fill = 0.040
** 72.000 to 73.000	Cut = 15940.075	Fill = 0.008
** 73.000 to 74.000	Cut = 13220.472	Fill = 0.018
** 74.000 to 74.500	Cut = 5621.843	Fill = 0.000
**	**	
** No Quantity Depth Used	is als als als als als als als als als al	, de

Floodplain compensation between elevation 67.0 to 74.5

Required Floodplain Compensation 75.23 AC-FT Proposed Floodplain Compensation 81.50 AC-FT

FPC-6-9B Grading Schematic



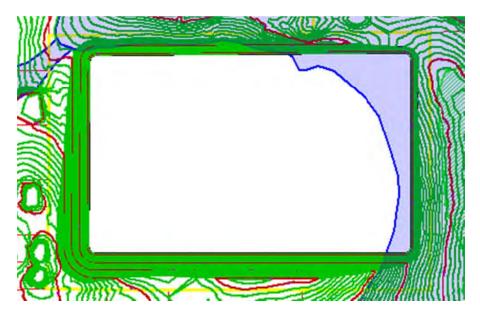
Floodplain Calculations FPC-6-9C

**	**		
** Object to Object Volume Report Wed Dec 19 10:54:46 2018			
** From Object <exist 1="" ground=""> to (</exist>	Object < EBC_6_QC>		
**	**		
** Prismoidal Volume			
**	**		
**	**		
*******	*****	******	
**	**		
** Total Cut = 3040	075.898 Cubic Yards		
** Total Fill = 9.71	3 Cubic Yards		
** Area =		63178.845 Sq Yards	
** Balance =		304066.186 Cubic Yards	
**	**		
** Elevation Range Used			
** 64.000 to 65.000 Cut =	= 16593.512	Fill = 0.000	
** 65.000 to 66.000 Cut =	= 16998.368	Fill = 0.186	
** 66.000 to 67.000 Cut =	= 17372.038	Fill = 9.439	
<mark>** 67.000 to 68.000 </mark>	= 17625.084	Fill = 0.000	
<mark>** 68.000 to 69.000 </mark>	= 17807.622	Fill = 0.000	
<mark>** 69.000 to 70.000 </mark>	= 17904.906	Fill = 0.006	
	= 17862.516	Fill = 0.022	
** 71.000 to 72.000 Cut =	= 17757.429	Fill = 0.003	
	= 17642.327	Fill = 0.000	
	= 17461.919	Fill = 0.007	
	= 8561.255	Fill = 0.000	
** **			
** No Quantity Depth Used			

Floodplain compensation between elevation 67.0 to 74.5

Required Floodplain Compensation 75.23 AC-FT Proposed Floodplain Compensation 82.20 AC-FT

FPC-6-9C Grading Schematic



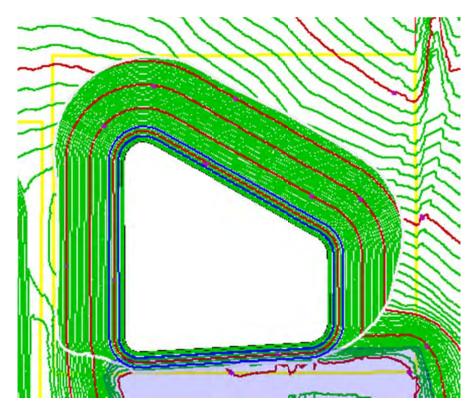
Floodplain Calculations FPC-10A

**	**	
** Object to Object Volume Report Wed Dec 19 10:57:17 2018		
**	**	
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-10a></fpc-10a></td><td></td></exist>	> to Object <fpc-10a></fpc-10a>	
**	**	
** Prismoidal Volume		
**	**	
**	**	
*******	******	******
**	**	
** Total Cut =	14795.617 Cubic Yards	
** Total Fill =	1.939 Cubic Yards	
** Area =		3583.274 Sq Yards
** Balance =		14793.677 Cubic Yards
**	**	
** Elevation Range Used		
** 63.000 to 64.000	Cut = 948.654	Fill = 0.000
** 64.000 to 65.000	Cut = 1044.237	Fill = 0.000
** 65.000 to 66.000	Cut = 1141.075	Fill = 1.939
** 66.000 to 67.000	Cut = 1166.189	Fill = 0.000
** 67.000 to 67.100	Cut = 115.142	Fill = 0.000
**	**	
** No Quantity Depth Used		

	Floodplain compensatior	between elevation 66.0 to 67.1

Required Floodplain Compensation 0.74 AC-FT Proposed Floodplain Compensation 0.79 AC-FT

FPC-10A Grading Schematic



Floodplain Calculations FPC-10B

**	**	
** Object to Object Volume Rep	ort Wed Dec 19 10:58	3:19 2018
**	**	
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-10b></fpc-10b></td><td></td></exist>	> to Object <fpc-10b></fpc-10b>	
**	**	
** Prismoidal Volume		
**	**	
**	**	
*******	*****	******
**	**	
** Total Cut =	7499.206 Cubic Yards	
** Total Fill =	0.183 Cubic Yards	
** Area =		4497.702 Sq Yards
** Balance =		7499.023 Cubic Yards
* *	**	
** Elevation Range Used		
** 63.000 to 64.000	Cut = 720.127	Fill = 0.000
** 64.000 to 65.000	Cut = 823.379	Fill = 0.000
** 65.000 to 66.000	Cut = 930.116	Fill = 0.118
** 66.000 to 67.000	Cut = 1006.164	Fill = 0.024
** 67.000 to 67.300	Cut = 301.935	Fill = 0.007
**	**	
** No Quantity Depth Used		

	Floodplain compensation	on between elevation 66.0 to 67.3

Required Floodplain Compensation 0.74 AC-FT Proposed Floodplain Compensation 0.81 AC-FT

FPC-10B Grading Schematic

Floodplain Calculations FPC-11A

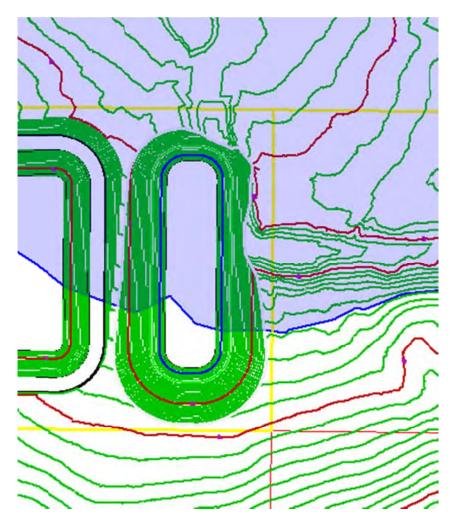
**	**				
** Object to Object Volume Report Wed Dec 19 11:18:15 2018 ** **					
** From Object <exist ground<="" td=""><td>1> to Obiect <fpc-11a></fpc-11a></td><td></td></exist>	1> to Obiect <fpc-11a></fpc-11a>				
**	**				
** Prismoidal Volume					
**	**				
**	**				

**	**				
** Total Cut =	6897.584 Cubic Yards				
** Total Fill =	0.199 Cubic Yards				
** Area =		3439.663 Sq Yards			
** Balance =		6897.385 Cubic Yards			
**	**				
** Elevation Range Used					
** 47.000 to 48.000	Cut = 370.303	Fill = 0.000			
** 48.000 to 49.000	Cut = 440.834	Fill = 0.000			
** 49.000 to 50.000	Cut = 515.081	Fill = 0.000			
** 50.000 to 51.000	Cut = 593.050	Fill = 0.000			
** 51.000 to 52.000	Cut = 674.746	Fill = 0.000			
** 52.000 to 53.000	Cut = 747.067	Fill = 0.001			
** 53.000 to 54.000	Cut = 760.969	Fill = 0.119			
** 54.000 to 55.000	Cut = 773.087	Fill = 0.063			
** 55.000 to 56.000	Cut = 717.998	Fill = 0.002			
** 56.000 to 57.000	Cut = 593.185	Fill = 0.001			
** 57.000 to 57.900	Cut = 412.722	Fill = 0.011			
** **					
** No Quantity Depth Used					

Floodplain compensation between elevation 50.0 to 57.9

Required Floodplain Compensation 1.97 AC-FT Proposed Floodplain Compensation 3.27 AC-FT

FPC-11A Grading Schematic



Floodplain Calculations FPC-11B

**	**				
** Object to Object Volume Report Wed Dec 19 11:02:24 2018					
**	**				
** From Object <exist :<="" ground="" td=""><td>1> to Object <fpc-11b></fpc-11b></td><td></td></exist>	1> to Object <fpc-11b></fpc-11b>				
**	**				
** Prismoidal Volume					
**	**				
**	**				

**	**				
** Total Cut =	10223.904 Cubic Yards				
** Total Fill =	0.000 Cubic Yards				
** Area =		4040.138 Sq Yards			
** Balance =		10223.904 Cubic Yards			
**	**				
** Elevation Range Used					
** 47.000 to 48.000	Cut = 1086.122	Fill = 0.000			
** 48.000 to 49.000	Cut = 1187.633	Fill = 0.000			
** 49.000 to 50.000	Cut = 1292.861	Fill = 0.000			
** 50.000 to 51.000	Cut = 1346.713	Fill = 0.000			
** 51.000 to 52.000	Cut = 1346.713	Fill = 0.000			
** 52.000 to 53.000	Cut = 1197.794	Fill = 0.000			
** 53.000 to 54.000	Cut = 1028.154	Fill = 0.000			
** 54.000 to 55.000	Cut = 775.119	Fill = 0.000			
** 55.000 to 56.000	Cut = 516.041	Fill = 0.000			
** 56.000 to 57.000	Cut = 300.014	Fill = 0.000			
** 57.000 to 57.900	Cut = 121.196	Fill = 0.000			
** **					
** No Quantity Depth Used					

Floodplain compensation between elevation 50.0 to 57.9

Required Floodplain Compensation 1.97 AC-FT Proposed Floodplain Compensation 4.11 AC-FT

FPC-11B Grading Schematic

Floodplain Calculations FPC-12A

**	**			
** Object to Object Volume Report Wed Dec 19 11:04:31 2018				
**	**			
** From Object <exist 1="" ground=""> to Object <fpc-12a></fpc-12a></exist>				
**	**			
** Prismoidal Volume				
**	**			
**	**			

**	**			
** Total Cut =	2915.103 Cubic Yards			
** Total Fill =	0.654 Cubic Yards			
** Area =		1691.862 Sq Yards		
** Balance =		2914.448 Cubic Yards		
**	**			
** Elevation Range Used				
** 90.000 to 91.000	Cut = 387.427	Fill = 0.000		
** 91.000 to 92.000	Cut = 455.313	Fill = 0.000		
** 92.000 to 93.000	Cut = 523.512	Fill = 0.654		
** 93.000 to 94.000	Cut = 520.372	Fill = 0.000		
** 94.000 to 94.300	Cut = 144.111	Fill = 0.000		
**	**			
** No Quantity Depth Used				

	Floodplain compensation between elevation 93.0 to 94.3			

Required Floodplain Compensation 0.43 AC-FT Proposed Floodplain Compensation 0.43 AC-FT

FPC-12A Grading Schematic

Floodplain Calculations FPC-12B

******** ****** ** ** ** Object to Object Volume Report -- Wed Dec 19 11:05:11 2018 ** ** ** From Object <Exist Ground 1> to Object <FPC-12B> ** ** ** Prismoidal Volume ** ** ** ** ***** ***** ** ** ** Total Cut = 4331.481 Cubic Yards ** Total Fill = 0.000 Cubic Yards ** Area = 2047.432 Sq Yards ** Balance = 4331.481 Cubic Yards ** ** ** Elevation Range Used ** 91.000 to 92.000 Cut = 476.319 Fill = 0.000 ** 92.000 to 93.000 Cut = 556.058 Fill = 0.000 ** 93.000 to 94.000 Cut = 639.512 Fill = 0.000 ** 94.000 to 95.000 Cut = 686.477 Fill = 0.000 ** ** ** No Quantity Depth Used ****** ****** Floodplain compensation between elevation 94.0 to 95.0

Required Floodplain Compensation 0.43 AC-FT Proposed Floodplain Compensation 0.43 AC-FT FPC-12B Grading Schematic

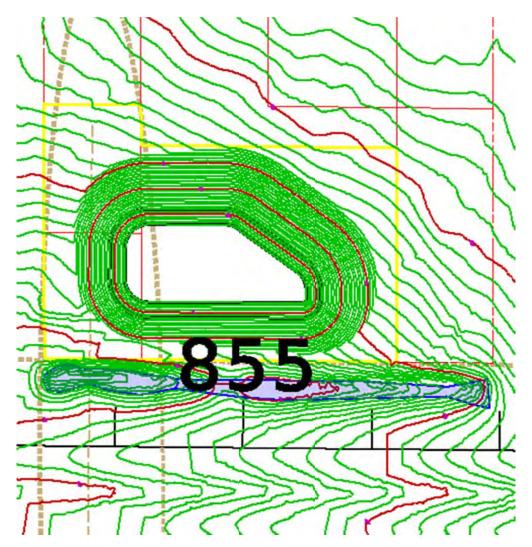


Floodplain Calculations FPC-12C

******	****	*****
**	**	
** Object to Object Volume Rep	ort Wed Dec 19 11:05	5:48 2018
**	**	
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-12c></fpc-12c></td><td></td></exist>	> to Object <fpc-12c></fpc-12c>	
**	**	
** Prismoidal Volume		
**	**	
**	**	
*******	*****	******
**	**	
** Total Cut =	4507.154 Cubic Yards	
** Total Fill =	0.000 Cubic Yards	
** Area =		1323.848 Sq Yards
** Balance =		4507.154 Cubic Yards
**	**	
** Elevation Range Used		
** 73.000 to 74.000	Cut = 293.061	Fill = 0.000
** 74.000 to 75.000	Cut = 349.624	Fill = 0.000
** 75.000 to 76.000	Cut = 409.904	Fill = 0.000
** 76.000 to 77.000	Cut = 441.283	Fill = 0.000
** 77.000 to 77.600	Cut = 264.770	Fill = 0.000
**	**	
** No Quantity Depth Used		
******	*****	******
	Floodplain compensation	on between elevation 76.0 to 77.6

Required Floodplain Compensation 0.43 AC-FT Proposed Floodplain Compensation 0.44 AC-FT

FPC-12C Grading Schematic

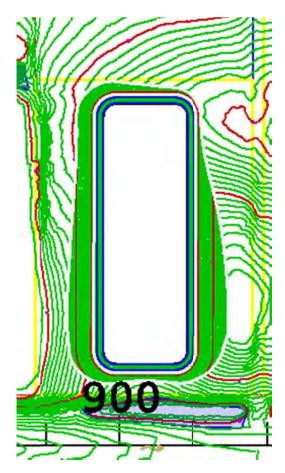


Floodplain Calculations FPC-13A

********** ****** ** ** ** Object to Object Volume Report -- Wed Dec 19 11:06:15 2018 ** ** ** From Object <Exist Ground 1> to Object <FPC-13A> ** ** ** Prismoidal Volume ** ** ** ** ***** ****** *** ** ** ** Total Cut = 15819.570 Cubic Yards ** Total Fill = 0.000 Cubic Yards ** Area = 5825.143 Sq Yards ** Balance = 15819.570 Cubic Yards ** ** ** Elevation Range Used ** 76.000 to 77.000 Cut = 1587.414 Fill = 0.000 ** 77.000 to 78.000 Cut = 1726.409 Fill = 0.000 ** 78.000 to 79.000 Cut = 1869.120 Fill = 0.000** 79.000 to 80.000 Cut = 1941.714 Fill = 0.000 ** 80.000 to 80.400 Cut = 776.686 Fill = 0.000** ** ** No Quantity Depth Used ***** ****** Floodplain compensation between elevation 79.0 to 80.4

Required Floodplain Compensation 1.68 AC-FT Proposed Floodplain Compensation 1.68 AC-FT

FPC-13A Grading Schematic



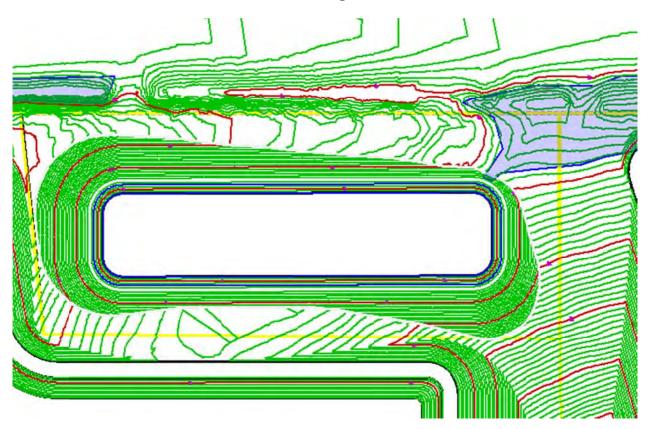
Floodplain Calculations FPC-13B

******* ** ** ** Object to Object Volume Report -- Wed Dec 19 11:06:55 2018 ** ** ** From Object <Exist Ground 1> to Object <FPC-13B> ** ** ** Prismoidal Volume ** ** ** ***** ****** ** ** ** Total Cut = 10646.617 Cubic Yards ** Total Fill = 0.000 Cubic Yards ** Area = 4136.268 Sq Yards ** Balance = 10646.617 Cubic Yards ** ** ** Elevation Range Used ** 74.000 to 75.000 Cut = 1054.084 Fill = 0.000 ** 75.000 to 76.000 Cut = 1181.228 Fill = 0.000 ** 76.000 to 77.000 Cut = 1312.088 Fill = 0.000** 77.000 to 78.000 Cut = 1378.756 Fill = 0.000 ** 78.000 to 79.000 Cut = 1378.756 Fill = 0.000** 79.000 to 79.100 Cut = 137.843 Fill = 0.000 ** ** ** No Quantity Depth Used ***** *******

Floodplain compensation between elevation 77.0 to 79.1

Required Floodplain Compensation 1.68 AC-FT Proposed Floodplain Compensation 1.79 AC-FT

FPC-13B Grading Schematic

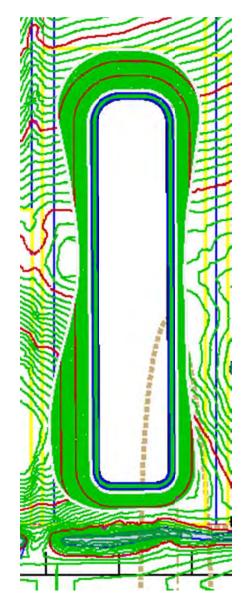


Floodplain Calculations FPC-13C

*******	*******	******
**	**	
** Object to Object Volume Rep	ort Wed Dec 19 11:07:	04 2018
**	**	
** From Object <exist 1<="" ground="" td=""><td>> to Object <fpc-13c></fpc-13c></td><td></td></exist>	> to Object <fpc-13c></fpc-13c>	
**	**	
** Prismoidal Volume		
**	**	
**	**	
******	*****	*****
**	**	
** Total Cut =	21811.230 Cubic Yards	
** Total Fill =	0.000 Cubic Yards	
** Area =		7153.798 Sq Yards
** Balance =		21811.230 Cubic Yards
**	**	
** Elevation Range Used		
** 72.000 to 73.000	Cut = 1925.124	Fill = 0.000
** 73.000 to 74.000	Cut = 2106.191	Fill = 0.000
** 74.000 to 75.000	Cut = 2290.971	Fill = 0.000
** 75.000 to 76.000	Cut = 2684.599	Fill = 0.000
** 76.000 to 76.100	Cut = 238.460	Fill = 0.000
**	**	
** No Quantity Depth Used		
*******	*******************	*****
	Floodplain compensation	n between elevation 75.0 to 76.1

Required Floodplain Compensation 1.68 AC-FT Proposed Floodplain Compensation 1.83 AC-FT

FPC-13C Grading Schematic



APPENDIX C

FDOT District 7 Right of Way Cost Estimates

1.1						ARTMENT OF T N RIGHT OF W			F			1
FM#: County: State Rd.: Project Des.	100 BUT CUT	lo S 98/SR 700) sville Bypass	Alternate: Segment: FAP#:		SMF-1A/FPC-1A 08050000 & 08070 N/A		T LOTIMAT	Distric Date:	t: equence		Seven 6-Jun-18 N/A
Parcels Commercial Residential Unimproved Total Parcels	Gross 0 0 1	Net 0 0 1	SVITE Bypass	5 10 1-75				Estimated Re Business Residential Signs Special Total Relocat			0 0 0 0 0 0	
R/W SUPPORT C 1. Direct Labor (2. Indirect Overl 3.	Cost	(P	arcels arcels	1		<u>20,000</u> = 0 =	Rate Rate		Amoun	20,000	_	
 R/W OPS (PHASI Appraisal Fer Business Dari Court Reporter Expert Witne Mediators Demolition, A Miscellaneou Appraisal Fer Appraisal Fer 	es Through nage CPA er & Proce ss Asb. Abate. us Contrac	Fees Throu ss Servers , Survey, et		50% 75% 75%	x x x	<u>1</u> = <u>1</u> = <u>1</u> =	1 0 1 1 1 0 1 0		x x x x x x x x x x x x x	PHASE 41 30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 5,000 = PHASE 4B	Amount 30,000 0 500 30,000 2,400 0 15,000 0	\$20,000
R/W LAND COST 13. Land, Improve and Cost to C 14. Water Retent	ements & S ure Amou	everance nt	Damages	246,406	x x		Design p	l <i>an stage</i> /o R/W Acq)	Amoun		Subtotal	\$77,900
 SUBTOTAL Admin. Settle Litigation Aw Business Dar Bus. Damage Owner Appr. Owner CPA F Defend.Atty F Owner Expendition 	ments aards nages s Incrs. Fees ees ees t Witness	(Factor (Factor (Claims (Factor (Parcels (Claims (Sum of Lines		20% 45% 0 25% 1 0 90,000 0	x x x x x x x x x x x +	60% of 45% of 0) \$ -) \$15,000) \$16,000) 33%) 1) >	(Lines 13 Line 15) Line 15)	&14)		33,500 56,500 0 15,000 0 29,700 18,000	278,900	
 24. Other Conden 25. SUBTOTAL 26. * Design continu 		esign plan	stage:	1	x	\$1,000	(Lines 16	thru 24)	TOTAL	1,000 PHASE 43	153,700	\$432,600
(1) PD&E pl R/W ACQUISITIO				(3) 60% plans - 11	0% (4) 90% plans -105%	5 (5) 268 D	ate -100%		-		1
27. Acquisition C RELOCATION COS	STS (PHAS	E 45)		\$20,000	x	0	-	Sec. 2	TOTAL	PHASE 42		\$0
28. Owner 29. Tenant 30. Residential 31. Business/Fan 32. Personal Proj 33. (Lines 28 thru	Move Co n perty	ment Hous	ing	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x x x x	Number 0 0 0 0 0	-	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 45		\$0
34. Relocation Se 35.	ervices Cos	st	_		-	\$0	(Not in P	hase Total)				
36. 37. Real Estate: Bus. Dam. :	Stephen	Cross		Signed: Signed:	f.c.	gelj tues	-	(All Phases)	TOTAL	ESTIMATE Date: Date:	06/18/18	\$530,500
Relocation: Overall Review: Cost Estimate Sec	D. Wade	Brown	Dated:	Signed: Signed: 6/18/2018	In th	e Amount of S	\$530,500		— — Data Innu	Date: Date: t Completio	06/18/18	6/18/2018
REMARKS: The following ind X The following ind	icates the Type A - Type B - Type C - Type D -	estimator's indicates t indicates a indicates t indicates t	he most con above averag aelow averag he least or n	in the above estin fidence le confidence ge confidence o confidence	nate:							

1				TRANSPORTATION			
FM#: County: State Rd.: Project Des.	430051-1 Hernando SR 50/US98/SR 700 SR 50 from Brooksville Bypas	Alternate: Segment: FAP#:	SMF-1B/FPC-1B N/A N/A		District: Date: C.E. Sequence		even Jun-18 A
Parcels Commercial Residential Unimproved Total Parcels	Gross Net			Estimated I Business Residential Signs Special Total Reloc		0 0 0 0	
R/W SUPPORT CO 1. Direct Labor Co 2. Indirect Overh	ost (Parcels				Amount 0 0		
 Court Reporter Expert Witnes Mediators Demolition, As Miscellaneous Appraisal Fee 	s Through Trial age CPA Fees Through Trial r & Process Servers s sb. Abate., Survey, etc. s Contracts	50% 75% 75%	x 1 =		x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 15,000 = x 5,000 =	Amount 30,000 500 30,000 2,400 0 15,000 0	\$20,00
12. R/W LAND COSTS				_	TOTAL PHASE 4B Amount S	ubtotal	\$77,90
and Cost to Cu 14. Water Retention 15. SUBTOTAL (57) 16. Admin. Settlen 17. Litigation Awa 18. Business Dam 19. Bus. Damages 20. Owner Appr. F 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condemu 25. SUBTOTAL 26.	on & Mit. (2 Pond) ,648 SF) nents (Factor ages (Factor ages (Claims Incrs. (Factor ees (Parcels es (Claims ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs	0 999,789 20% 45% 0 25% 1 0 377,300 0 1	x 120% (x 60% c x 40% c x 0) x \$-) x \$15,000 x \$16,000 x 33%) + 0)	* Design plan stage 0 Parcels w/o R/W Acq) (Lines 13 &14) of Line 15) of Line 15) x <u>18,000</u> (Lines 16 thru 24)	$= \underbrace{0}{1,199,700}$ $= \underbrace{144,000}{215,900}$ $= \underbrace{0}{0}$ $= \underbrace{0}{15,000}$ $= \underbrace{0}{124,500}$ $= \underbrace{0}{124,500}$ $= \underbrace{124,500}{100}$ $= \underbrace{124,500}{100}$ $= \underbrace{124,500}{100}$ $= \underbrace{124,500}{100}$	1,199,700 500,400	\$1,700,100
(1) PD&E pla	ency for design plan stage: ans - 120% (2) 30% plans - 115%	% (3) 60% plans - 11	10% (4) 90% plans -105	% (5) 268 Date -100%			222
27. Acquisition Co	I CONSULTANT (PHASE 42) nsultant-50% of parcels	\$20,000	x 0		TOTAL PHASE 42		\$0
RELOCATION COS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser	Replacement Housing Move Costs erty (2)	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0		0 0 0 0 0 0 1 1 1 0 1 0 0 0 0 0 0 0 0 0		\$0
35.	VICES LOSI		\$0	(Not in Phase Total)	_		
37. Real Estate: Bus. Dam. : Relocation:	Stephen Cross D. Wade Brown	Signed: Signed: Signed: Signed:	Flopely in	(All Phases)	TOTAL ESTIMATE Date:	06/18/18	\$1,798,000
Cost Estimate Sequ	uence #: Dated:	6/18/2018	In the Amount of \$	\$1,798,000	Data Input Completion	Date:	6/18/2018
36, 37, Real Estate: Bus, Dam, : Relocation: Overall Review: Overall Review: Cost Estimate Sequ REMARKS:	D. Wade Brown Jence #: Dated:	Signed: Signed: Signed: 6/18/2018	In the Amount of \$	\$1,798,000 & Bypass (0.6 acres of the 2	Date: Date: Date: Date: Data Input Completion	06/18/18 Date:	
	cates the estimator's confidenc Type A - indicates the most co Type B - indicates above aver Type G - indicates above aver	nfidence age confidence					
	Type C - indicates below aver. Type D - indicates the least or cates the Department's purposi late:	no confidence		Special Purpose:	XDo	ocs to RW:	

FM#: County: State Rd.:			ELLE 40/200 40				
	430051-1 Hernando	Alternate: Segment:	SMF-1C/FPC-1C N/A		District: Date:		Seven i-Jun-18
	SR 50/US 98/SR 700	FAP#:	N/A		C.E. Sequence		V/A
roject Des. arcels	SR 50 from Brooksville Bypas	s to 1-75		JE			
ommercial	Gross Net			Estimated R Business	elocatees:		
esidential	1 1			Residential		0	
nimproved	0 0			Signs		0	
and Barrels				Special		0	
otal Parcels	1 1			Total Reloca	atees	0	
/W SUPPORT CO . Direct Labor Co					Amount		
. Indirect Overhe					20,000		
l.	(raiocia	1	×0		TOTAL PHASE 41		\$20,0
W OPS (PHASE	(4R)					mount	\$20,0
. Appraisal Fees				1 Parcels	x 30,000 =	30,000	
	nage CPA Fees Through Trial			0 Claims	x 19,000 =	0	
	r & Process Servers	50%	x <u>1</u> =	= 1 Parcels	x 500 =	500	
. Expert Witnes: Mediators	55	75%		= 1 Parcels	x 30,000 =	30,000	
	sb. Abate., Survey, etc.	75%	x <u>1</u> =	i i i uioois	x 2,400 =	2,400	
Miscellaneous				0 Imprvmet 1 Per Project	x 15,000 = x 15,000 =	15 000	
. Appraisal Fee				0 Parcels	x 15,000 = x 5,000 =	15,000 0	
					TOTAL PHASE 4B	U	\$77,9
W LAND COSTS	(PHASE 43)					ubtotal	411,5
	ments & Severance Damages				Amount 3	ubiotal	
and Cost to Cu	the set of	133,515	x 120%	* Design plan stage	= 160,200		
. Water Retentio	on & Mit. (0 Ponds)	0		0 Parcels w/o R/W Acq)	0		
. SUBTOTAL (57				(Lines 13 &14)	0	160,200	
. Admin. Settlen		20%	x 60% c	of Line 15)	= 19,200	100,200	
. Litigation Awa	ards (Factor	45%		of Line 15)	= 32,400		
. Business Dama	nages (Claims	0	x 0)		= 0		
. Bus. Damages	Incrs. (Factor	25%	x \$ -)		= 0		
		1	x \$15,000)		= 15,000		
. Owner Appr. Fe					10,000		
	es (Claims	0	x \$16.000)		= 0		
. Owner CPA Fe		0					
. Owner CPA Fe Defend.Atty Fe	BBS (Sum of Lines 16, 17 & 19)	0 51,600 0	x 33%)	x 18.000	= 17,000		
. Owner CPA Fe 2. Defend.Atty Fe 3. Owner Expert V	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	51,600		x <u>18,000</u>	= <u>17,000</u> = <u>0</u>		
1. Owner CPA Fe 2. Defend.Atty Fe 3. Owner Expert V 3. Other Condema	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	51,600 0	x 33%) + 0)	x <u>18,000</u> (Lines 16 thru 24)	= 17,000	84,600	
0. Owner Appr. Fe 1. Owner CPA Fe 2. Defend.Atty Fe 3. Owner Expert V 4. Other Condemn 5. SUBTOTAL 5.	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	51,600 0	x 33%) + 0)		= <u>17,000</u> = <u>0</u> = 1,000	84,600	\$244,80
 Owner CPA Fei Defend.Atty Fei Owner Expert V Other Condemn SUBTOTAL Design continge 	Bes (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage:	51,600 0 1	x 33%) + 0) x \$1,000	(Lines 16 thru 24)	= <u>17,000</u> = <u>0</u> = <u>1,000</u>	84,600	\$244,80
. Owner CPA Fe . Defend.Atty Fe . Owner Expert 1 . Other Condemn . SUBTOTAL Design continge (1) PD&E pla	Ses (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115%	51,600 0 1	x 33%) + 0) x \$1,000	(Lines 16 thru 24)	= <u>17,000</u> = <u>0</u> = <u>1,000</u>	84,600	\$244,80
Owner CPA Fei Defend.Atty Fei Owner Expert 1 Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION	Sees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42)	51,600 0 1 (3) 60% plans - 11	x 33%) + 0) x \$1,000	(Lines 16 thru 24)	= <u>17,000</u> = <u>0</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	84,600	\$244,80
. Owner CPA Fe Defend.Atty Fe Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Co	Sees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels	51,600 0 1	x 33%) + 0) x \$1,000	(Lines 16 thru 24)	= <u>17,000</u> = <u>0</u> = <u>1,000</u>	84,600	\$244,80
Owner CPA Fee Defend.Atty Fee Owner Expert 1 Other Condemn SUBTOTAL <i>Osign continge</i> (1) PD&E pla WACQUISITION Acquisition Cost	Bes (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% V CONSULTANT (PHASE 42) onsultant-50% of parcels ITS (PHASE 45)	51,600 0 1 (3) 60% plans - 11	x 33%) + 0) x \$1,000	(Lines 16 thru 24) % (5) 268 Date -100%	= <u>17,000</u> = <u>0</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	84,600	
. Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost	Sees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels	51,600 0 1 (3) 60% plans - 11 \$20,000	x 33%) + 0) x \$1,000 0% (4) 90% plans - 105 x 0 Number	(Lines 16 thru 24) % (5) 268 Date -100% Amount	= <u>17,000</u> = <u>0</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	84,600	
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST Owner	Bes (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% V CONSULTANT (PHASE 42) onsultant-50% of parcels ITS (PHASE 45)	51,600 0 1 (3) 60% plans - 11 \$20,000 \$35,000	x 33%) + 0) x \$1,000 0% (4) 90% plans - 105 x 0 Number x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount =0	= <u>17,000</u> = <u>0</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	84,600	
Owner CPA Fei Defend.Atty Fei Owner Expert V Other Condemn SUBTOTAL <i>Outry Continue</i> (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST . Owner	Bes (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels ITS (PHASE 45) Replacement Housing	51,600 0 1 (3) 60% plans - 11 \$20,000	x 33%) + 0) x \$1,000 0% (4) 90% plans - 105 x 0 Number	(Lines 16 thru 24) % (5) 268 Date -100% Amount	= <u>17,000</u> = <u>0</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	84,600	
Owner CPA Fei Defend.Atty Fei Owner Expert V Other Condemn SUBTOTAL Owner Continge (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST . Owner . Tenant	Bes (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% V CONSULTANT (PHASE 42) onsultant-50% of parcels ITS (PHASE 45)	51,600 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000	x 33%) + 0) x \$1,000 0% (4) 90% plans - 105 x 0 Number x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount =0	= <u>17,000</u> = <u>0</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	84,600	
Owner CPA Fei Defend.Atty Fei Owner Expert V Other Condemn SUBTOTAL Owner Continge (1) PD&E pla W ACQUISITION Acquisition Cost OCATION COST Owner Tenant Residential	Bes (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels ITS (PHASE 45) Replacement Housing Move Costs	51,600 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000	x 33%) + 0) x \$1,000 20% (4) 90% plans - 105 x 0 Number x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount =0 =0	= <u>17,000</u> = <u>0</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	84,600	
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FM#: County: State Rd.: Project Des.		do IS 98/SR 700	ville Bypass	Alternate: Segment: FAP#: to I-75		SMF-2A/FPC-2A N/A N/A	+Ease		Distric Date: C.E. Se	t: quence		Seven 6-Jun-18 N/A	
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37. Real Estate: Bus. Dam. : Relocation: Overall Review:	Stephen D. Wade			Signed: Signed: Signed: Signed:	1	and for the second s	-	(All Phases)	TOTALI	Date: Date: Date: Date: Date:	06/18/18		\$371,000
Cost Estimate Sec	uence #:		Dated:	6/18/2018	In th	e Amount of \$	\$371,000		Data Input	Completio	on Date:		6/18/2018
X	_ Type A - _ Type B - _ Type C - _ Type D -	indicates t indicates a indicates b indicates t	he most con bove averag elow averag he least or n	je confidence je confidence o confidence	nate:								
The following ind Work Program Up Comments:	date:	Departmen	t's purpose l	for this estimate: Gaming 1:	_		Special F	Purpose: _	X	()	Docs to RW:		

PARE 40001-1 Alternate: SMF-20/FPC-28 District: Seven State Rd.: SR00/US 9881700 FAPE. N/A Date: F1an-16 State Rd.: SR00/US 9881700 FAPE. N/A Date: F1an-16 Commorcial Image: Image: </th <th>State Rd.:</th> <th></th> <th></th> <th></th> <th>TMENT OF T RIGHT OF W</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	State Rd.:				TMENT OF T RIGHT OF W						
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1. Direct Labor Coat (Parcels 1 x 20.000 20.000 3. Indirect Overhead (Parcels 1 x 0 707AL PHASE 41 500 3. Approximation compact CPA frees 50% x 1 0 707AL PHASE 41 500 5. Description compact CPA frees 50% x 1 0 1 Parcels x 30,000 6. Description compact CPA frees 50% x 1 0 1 Parcels x 30,000 6. Description compact CPA frees 50% x 1 0 1 Parcels x 30,000 0 0 6. Description compact CPA frees 2000 2000 0 0 0 1 0 Parcels x 30,000 0 0 0 1 0 1 0 1 0 0 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <t< th=""><th>Parcels Commercial Residential Unimproved</th><th>Gross Net 1 1 0 0 0 0</th><th>Bypass to I-75</th><th></th><th></th><th></th><th>Business Residential Signs Special</th><th></th><th>Ξ</th><th>0 0 0</th><th></th></t<>	Parcels Commercial Residential Unimproved	Gross Net 1 1 0 0 0 0	Bypass to I-75				Business Residential Signs Special		Ξ	0 0 0	
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AVM OP (PHASE 4B) Amount 4. Apgraisel Faces Through Trial 0 Claims x 3000 0 5. Bosiness Damage CPA Faces Through Trial 0 Claims x 3000 0 6. Court Roport & Process Servers 75% x 1 = 1 Parcelis x 3000 0 7. Expert Witness 75% x 1 = 1 Parcelis x 2000 30000 8. Mediators 75% x 1 = 1 Parcelis x 2000 2000 30000 9. Denolition, Ash, Abata, Survey, etc. 00 Ingreent Sectors 1000 1 Parcelis x 2000 1 5000 0 100 10. Miscollaneous Contacts 0 Parcelis x 1000 1 100 1 100 1 100 1 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 1120% of 000 of 00	2. Indirect Overhe			x _					0		
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R/W LAND COSTS (PHASE 43) Amount Subtotal 13. Land, Improvements & Severance Damages and Costs Cure Amount 344,397 x 120%, * Design plan stage = 413,300 14. Water Retention & Mit, (0 Ponds) 0 x 120%, (0 Parcels w/o RVM Acq) 0 413,300 15. SUBTOTAL (57,648 SF) (Clines 13 & 41) - 49,600 - 413,300 16. Admin. Settlements (Factor 25%, x 45%, of Line 15) = 83,700 18. Busines Damages (Claims 0 x 0) = 0 20. Owner Appr. Fees (Parcels 1 x \$15,000 = 1 21. Owner CPA Fees (Claims 10, 17 & 19) 133,300 33%) = 44,000 22. Defend Atty Fees (Samo Lines 15, 74 19) 133,300 x 33%) = 1,000 23. Owner Cycer Visites 1 x \$10,000 = 1,000 = 1,000 24. Other Condemn. Costs 1 x \$10,000 = 1,000 = 211,000 25. SUBTOTAL 5 5 5 <	 Appraisal Fees Business Dama Court Reporter Expert Witness Mediators Demolition, Asl Miscellaneous Appraisal Fee F 	Through Trial age CPA Fees Through Tr & Process Servers s b. Abate., Survey, etc. s Contracts	<u>50%</u> 75%	x	1 =	0 1 1 1 0 1	Claims Parcels Parcels Parcels Imprvmet Per Project	x 19, x 30, x 30, x 2, x 15, x 15, x 5,	000 = 000 = 000 = 000 = 000 = 000 = 000 =	30,000 0 500 30,000 2,400 0 15,000	00.000
13. Land, Inprovements & Severance Damages 344,397 × 120% * Design plan stage = 413,300 14. Water Retention & Mit. (D Ponds) 0 × 120% (D Parcels w/o R/W Acq) = 0 15. SUBTOTAL (57,648 SF) (Lines 13 & 14) 0 413,300 16. Admin. Settlements (Factor 20% × 60% of Line 15) = 48,500 18. Business Damages (Claims 0 × 0) = 0 18. Business Damages Incrs. (Factor 25% × \$ >.) = 0 20. Owner Appr. Fees (Parcels 1 × \$15,000 = 0 21. Owner CPA Fees (Claims 0 × \$15,000 = 0 22. Defind Atry Fees (Une tines 15, 17 & 19) 13.300 × 33%.0) = 40,000 23. Owner Expert Witness (Comm.+Unimp.) 1 + 0) × 18,000 = 1,000 23. SUBTOTAL (Lines 16 thru 24) = 1,000 211,300 Z0 221,300 24. Other Condemn. Costs 1 × 51,000 N 0 =		(PHASE 43)		_					A DESCRIPTION OF TAXABLE PARTY.		\$77,90
Replacement Housing Number Amount 28. Owner \$35,000 x 0 = 0 29. Tenant \$25,000 x 0 = 0 Move Costs \$5,000 x 0 = 0 30. Residential \$5,000 x 0 = 0 31. Business/Farm \$40,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45	 Land, Improven and Cost to Cui Water Retentio SUBTOTAL (57, 16. Admin. Settlem Litigation Awai Business Dama Bus. Damages I Owner Appr. Fe Owner CPA Fee Owner CPA Fee Owner Expert V Other Condemn SUBTOTAL SUBTOTAL SUBTOTAL SUBTOTAL SUBTOTAL Arbaign contingen (1) PD&E plan 	nents & Severance Dama ire Amount on & Mit. (0 Ponds) ,648 SF) nents (Factor rds (Factor ages (Claims Incrs. (Factor ees (Parcels es (Claims es (Sum of Lines 16, 17 Witness (Comm.+Unimp n. Costs ency for design plan stage ency for design plan stage ency (2) 30% plans CONSULTANT (PHASE 4	e: - 115% (3) 60% plans - 11 12)	x xx x xx x xx x xx x xx x x x x	120% (0 60% of 45% of 0) () Parcels w (Lines 13 f Line 15) f Line 15) x <u>18,000</u> (Lines 16	//o R/W Acq) &14) thru 24)	=	800 0 500 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	413,300	\$624,60
28. Owner \$35,000 x 0 = 0 29. Tenant \$25,000 x 0 = 0 Move Costs \$30. Residential \$5,000 x 0 = 0 30. Residential \$5,000 x 0 = 0 31. Business/Farm \$40,000 x 0 = 0 32. Personal Property \$33,000 x 0 = 0 33. (Lines 28 thru 32) \$0 (Not in Phase Total) TOTAL PHASE 45 34. Relocation Services Cost \$0 (Not in Phase Total) \$722 35. \$0 (Not in Phases) TOTAL ESTIMATE \$722 36. \$10 (All Phases) TOTAL ESTIMATE \$722 Real Estate: Stephen Cross Signed: Date: 06/18/18 Bus. Dam. : Signed: Date: 06/18/18 Date: Relocation: Signed: Date: Date: 06/18/18							See La -				
35. 36. 37. (All Phases) TOTAL ESTIMATE \$722 Real Estate: Stephen Cross Signed: Bus. Dam. : Date: 06/18/18 Bus. Dam. : Date: 06/18/18 Bus. Dam. : Date: 06/18/18	28. Owner 29. Tenant	Move Costs	\$25,000	× ×	0 0 0		0 0				
37. (All Phases) TOTAL ESTIMATE \$722 Real Estate: Stephen Cross Signed: Date: 06/18/18 Bus. Dam. : Signed: Date: 06/18/18 Relocation: Signed: Date: 06/18/18	31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3	12)	\$3,000	× _	0	= (Not in P	0	TOTAL PHA	SE 45		\$
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Cost Estimate Sequence #: Dated: 6/18/2018 In the Amount of \$\$722,500 Data Input Completion Date: 6/18/2 REMARKS:	 Business/Farm Personal Prope (Lines 28 thru 3: Relocation Ser 35. 36. 37. Real Estate: Bus. Dam. : Relocation: 	2) vices Cost Stephen Cross	Signed: Signed: Signed: Signed:	* _	0	= (Not in P	0 hase Total)	TOTAL ESTI	MATE te: 0 te: te:		
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FM#: County: State Rd.: Project Des. Parcels	430051-1		A lan an other				the second s		
State Rd.: Project Des.	Hernand	0	Alternate: Segment:	SMF-2C	FPC-2C		District: Date:		Seven 6-Jun-18
		98/ SR 700	FAP#:	N/A			C.E. Sequence		N/A
roole		om Brooksville Bypass	to 1-75						
	Gross	Net				Estimated Re	locatees:	141	
ommercial esidential	0	0				Business		0	
nimproved	0	2				Residential		0	
amproved		<u> </u>				Signs Special		0	
otal Parcels	0	2				Total Reloca	tees	0	
W SUPPORT COS		SE 41)		_	_	Total Herood			
Direct Labor Co		(Parcels	2		20,000 = Rat	1	Amount		
Indirect Overhe		(Parcels	2	x	0 = Rat		40,000		
indirect overne		li diccia		^	hat	.e1	TOTAL PHASE 41		\$40.0
W OPS (PHASE 4							TUTAL PHASE 41		\$40,0
. Appraisal Fees		Trial			2	Parcels	x 30,000 =	Amount	
		ees Through Trial			2	Claims		60,000	
Court Reporter	& Proces	s Servers	50%	x 2	= 1	Parcels	x 19,000 = x 500 =	0 500	
Expert Witness			75%	x 2		Parcels	x 30,000 =	60,000	
Mediators			75%	x 2		Parcels	x 2,400 =	4,800	
Demolition, As	b. Abate.,	Survey, etc.			0	Imprvmet	x 15,000 =	0	
. Miscellaneous	Contract	5			1		x 15,000 =	15,000	
Appraisal Fee I	Review				1	Parcels	x 5,000 =	5,000	
	_						TOTAL PHASE 4B		\$145,3
W LAND COSTS	(PHASE 4	3)					Amount	Subtotal	
	and the second second	everance Damages							
and Cost to Cu		the state of the s	233,851	x	120% * Design	plan stage	= 280,600		
. Water Retentio		-	0	x	120% (0 Parcels		- 200,000		
SUBTOTAL (57,		o i onus,		^	(Lines 1			200 000	
. Admin. Settlem		Factor	20%	x	60% of Line 15)	0014/	= 33,700	280,600	
. Litigation Awa		Factor	45%	<u>^</u>	40% of Line 15)				
. Business Dama		Claims		×			=		
		C. C. MICONDEL	0	×	0)		=		
. Bus. Damages		Factor	25%	x <u>\$</u>	-)		=0		
. Owner Appr. Fe	2.2.2	Parcels	2		15,000)		=		
. Owner CPA Fee		Claims	0	x\$	16,000)		=0		
Defend.Atty Fee		Sum of Lines 16, 17 & 19)	84,200	x	33%)		= 27,800		
	Witness	Comm.+Unimp.)	0	+	2) x 18,0	00	= 36,000		
. Owner Expert V									
8. Owner Expert V 4. Other Condemn			2	x	\$1,000		= 2,000	and the	
8. Owner Expert V 9. Other Condemn 9. SUBTOTAL			2	x		6 thru 24)	= 2,000	180,000	
3. Owner Expert V 4. Other Condemn 5. SUBTOTAL 5.	n. Costs	sian alon stone.	2	x		16 thru 24)	= 2,000	180,000	\$460,60
8. Owner Expert V 9. Other Condemn 6. SUBTOTAL 6. Design continge	n. Costs	sign plan stage: (2) 30% plans - 115%			(Lines 1		= 2,000	180,000	\$460,60
 Owner Expert V Other Condemn SUBTOTAL Design continged (1) PD&E plant 	n. Costs ency for de ens - 120%	(2) 30% plans - 115%			(Lines 1		= 2,000	180,000	\$460,60
Owner Expert V Other Condemn SUBTOTAL Design contingen (1) PD&E plai W ACQUISITION	n. Costs ancy for de ans - 120% CONSULT	(2) 30% plans - 115% TANT (PHASE 42)	(3) 60% plans - 11	0% (4) 90% pla	(Lines 1 105% (5) 268		= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
8. Owner Expert V 9. Other Condemn 9. SUBTOTAL 9. <i>Design contingen</i> (1) PD&E plan W ACQUISITION 9. Acquisition Con	n. Costs ancy for de ans - 120% CONSULT nsultant-50	(2) 30% plans - 115% TANT (PHASE 42) 0% of parcels			(Lines 1		= 2,000	180,000	
8. Owner Expert V 4. Other Condemn 5. SUBTOTAL 6. <i>Design continge</i> (1) PD&E plan W ACQUISITION 6. Acquisition Cost ELOCATION COST	n. Costs ancy for de ans - 120% CONSULT nsultant-50 TS (PHASI	(2) 30% plans - 115% FANT (PHASE 42) 0% of parcels 5 45)	(3) 60% plans - 11	0% (4) 90% pla X	(Lines 1 05% (5) 268 0	Date -100%	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
2. Owner Expert V 3. Other Condemn 5. SUBTOTAL 5. <i>Design contingen</i> (1) PD&E plan W ACQUISITION 5. Acquisition Cost ELOCATION COST	n. Costs ancy for de ans - 120% CONSULT nsultant-50 TS (PHASI	(2) 30% plans - 115% TANT (PHASE 42) 0% of parcels	<i>(3) 60% plans - 11</i> \$20,000	0% (4) 90% pla X	(Lines 1 0 -105% (5) 268 0 umber	Date -100%	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
Owner Expert V Other Condemn SUBTOTAL Design contingen (1) PD&E plan W ACQUISITION Acquisition Cor ELOCATION COST	n. Costs ancy for de ans - 120% CONSULT nsultant-50 TS (PHASI	(2) 30% plans - 115% FANT (PHASE 42) 0% of parcels 5 45)	(3) 60% plans - 11 \$20,000 \$35,000	0% (4) 90% pla x N x	(Lines 1 ons - 105% (5) 268 0 umber 0 =	Date -100% Amount	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
. Owner Expert V . Other Condemn . SUBTOTAL	n. Costs ancy for de ns - 120% CONSULT nsultant-50 TS (PHASI Replacen	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing	<i>(3) 60% plans - 11</i> \$20,000	0% (4) 90% pla X	(Lines 1 0 -105% (5) 268 0 umber	Date -100%	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
. Owner Expert V . Other Condemn . SUBTOTAL <i>Design continge</i> . <i>(1) PD&E plan</i> W ACQUISITION . Acquisition Cor ELOCATION COST . Owner . Tenant	n. Costs ancy for de ans - 120% CONSULT nsultant-50 TS (PHASI	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000	0% (4) 90% pla x N x	(Lines 1 ons - 105% (5) 268 0 umber 0 =	Date -100% Amount 0 0 0	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E plan W ACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Residential	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cos	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000	0% (4) 90% pla x N x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 =	Date -100% Amount 0 0 0	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
. Owner Expert V . Other Condemn . SUBTOTAL	n. Costs ency for de nss - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cos	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 =	Date -100%	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	
Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E plan W ACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cost	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000	0% (4) 90% pla x N x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 =	Date -100% Amount 0 0 0	= 2,000 = TOTAL PHASE 43	180,000	:
Owner Expert V Other Condemn SUBTOTAL Design continge. (1) PD&E plan W ACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3:	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cost erty 2)	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing Sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100%	= <u>2,000</u> = <u>TOTAL PHASE 43</u>	180,000	:
Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E plan W ACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3: Relocation Serv	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cost erty 2)	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing Sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100%	= 2,000 = TOTAL PHASE 43	180,000	5
Owner Expert V Other Condemn SUBTOTAL Design continge. (1) PD&E plan W ACQUISITION Acquisition Cor LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 32 Relocation Ser	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cost erty 2)	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing Sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100%	= 2,000 = TOTAL PHASE 43	180,000	5
Owner Expert V Other Condemn SUBTOTAL Design continge. (1) PD&E plan W ACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Business/Farm Personal Prope (Lines 28 thru 3) Relocation Ser	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cost erty 2)	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 545) nent Housing Sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100%	= 2,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 45	180,000	5
A. Owner Expert V Other Condemn SUBTOTAL <i>Design continge</i> , <i>(1) PD&E plan</i> W ACQUISITION Acquisition Cor Acquisition Cor COWner Tenant Business/Farm Personal Prope (Lines 28 thru 32 Relocation Serv	n. Costs ency for de lans - 120% I CONSULT nsultant-50 TS (PHASI Replacer Move Cos erty 2) vices Cos	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 45) nent Housing sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100%	= 2,000 = TOTAL PHASE 43		\$
A. Owner Expert V Other Condemn SUBTOTAL <i>Design continge (1) PD&E plan</i> W ACQUISITION Acquisition Cor Acquisition Cor CONner Desidential Business/Farm Personal Prope (Lines 28 thru 33 Relocation Serv S	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Cost erty 2)	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 45) nent Housing sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100% Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	= 2,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 45	180,000	\$
Owner Expert V Other Condemn SUBTOTAL Design continger (1) PD&E plan W ACQUISITION Acquisition Cor LOCATION COST Owner Tenant Business/Farm Personal Prope (Lines 28 thru 32 Relocation Ser	n. Costs ency for de lans - 120% I CONSULT nsultant-50 TS (PHASI Replacer Move Cos erty 2) vices Cos	(2) 30% plans - 115% FANT (PHASE 42) 1% of parcels 45) nent Housing sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100% Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	= 2,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE		3
Owner Expert V Other Condemn SUBTOTAL Design continger (1) PD&E plan W ACQUISITION Acquisition Cor LOCATION COST Owner Tenant Business/Farm Personal Prope (Lines 28 thru 32 Relocation Service al Estate: Is. Dam, : location:	n. Costs ency for defines - 120% CONSULT nsultant-50 TS (PHASI Replacent Move Cost erty (2) vices Cost Stephen f	(2) 30% plans - 115% (ANT (PHASE 42) 1% of parcels 245) nent Housing sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	0% (4) 90% pla x N x x x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100% Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	=	06/18/18	3
A. Owner Expert V Other Condemn SUBTOTAL <i>Design continge</i> , <i>(1) PD&E plan</i> W ACQUISITION Acquisition Cor Acquisition Cor COATION COST Owner Tenant Business/Farm Personal Prope (Lines 28 thru 32 Relocation Serv destate: us. Dam. : elocation:	n. Costs ency for de lans - 120% I CONSULT nsultant-50 TS (PHASI Replacer Move Cos erty 2) vices Cos	(2) 30% plans - 115% (ANT (PHASE 42) 1% of parcels 245) nent Housing sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000	0% (4) 90% pla x N x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = 0 =	Date -100% Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	=		5
A. Owner Expert V Other Condemn SUBTOTAL <i>Design continge</i> , <i>(1) PD&E plan</i> W ACQUISITION Acquisition Cor Acquisition Cor COATION COST Owner Tenant Business/Farm Personal Prope (Lines 28 thru 32 Relocation Serv destate: us. Dam. : elocation:	n. Costs ancy for de ans - 120% CONSULT nsultant-50 TS (PHASI Replacen Move Co: erty 2) vices Cos Stephen D. Wade	(2) 30% plans - 115% (ANT (PHASE 42) 1% of parcels 245) nent Housing sts	(3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$40,000 \$3,000 \$3,000 \$3,000	0% (4) 90% pla x N x x x x x x x x	(Lines 1 ons -105% (5) 268 0 umber 0 = 0 = 0 = 0 = 0 = \$0 (Not in 	Date -100% Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	=	06/18/18	\$460,60 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$

					ARTMENT OF N RIGHT OF W			E				
FM#: County: State Rd.: Project Des.	430051-1 Hernando SR 50/US SR 50 from		Alternate: Segment: FAP#: to L-75	1	SMF-3A/FPC-3-4 N/A N/A	A		Distric Date: C.E. Se	t: equence		Seven 17-Dec-18 N/A	
Parcels Commercial Residential Unimproved Total Parcels	Gross 1 0 0	<u>Net</u> 0 0 1 1					Estimated Rel Business Residential Signs Special Total Relocat			0 0 0 0 0		
R/W SUPPORT CO 1. Direct Labor C		E 41) (Parcels		· 6.	20,000 =	Rate		Amoun	it 20,000			
2. Indirect Overh		(Parcels	1	×	20,000 =				0			
3.			_			_		TOTAL	PHASE 41			\$20,000
 R/W OPS (PHASE 4. Appraisal Fee 5. Business Dan 6. Court Reporte 7. Expert Witnes 8. Mediators 9. Demolition, A 10. Miscellaneou 11. Appraisal Fee 12. 	s Through T nage CPA Fe r & Process is sb. Abate., S s Contracts	es Through Trial Servers	50% 75% 75%	x x x	<u>1</u> 1	1 1 1 1 0 1 0	Per Project	x x x x x x x x x x x x x x	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 5,000 = PHASE 4B	Amount 30,000 19,000 500 30,000 2,400 0 15,000 0		\$96,900
R/W LAND COSTS	(PHASE 43			-			_	Amoun	the second second second	Subtotal		
 Land, Improve and Cost to C Water Retenti SUBTOTAL (5) Admin. Settle Litigation Aw Business Dam Bus. Damaget Owner Appr. I Owner CPA Fr Owner CPA Fr Owner CPA Fr Owner Expert Owner SUBTOTAL SUBTOTAL * Design conting 	ements & Se ure Amount fon & Mit. (0 7,648 SF) ments (1 ards (1 hages (0 s Incrs. (1 Fees (1 ees (1 ees (1 ees (1 ees (1 witness (1) witness	verance Damages Ponds) Factor Claims Factor Parcels Claims um of Lines 16, 17 & 19) Comm.+Unimp.) Fign plan stage: (2) 30% plans - 115% ANT (PHASE 42) % of parcels	175,921 0 20% 45% 1 25% 1 1 80,500 1 1 (3) 60% plans - 11 \$20,000 \$20,000	x x x x x x x x x x x x x x x x x x x	60% 0 45% 0 0) \$ 50,000) \$15,000) \$16,000) 33%) 0) \$1,000	Parcels v (Lines 13 (Line 15) (Line 15) (Line 15) (Lines 16) thru 24)	= = = = = = = = TOTAL	211,100 0 25,300 42,700 50,000 12,500 15,000 16,000 26,600 18,000 1,000 PHASE 43 PHASE 42	211,100		\$418,200
30. Residential	Move Cos	S	\$5,000	x	0		0					
31. Business/Farr			\$40,000 \$3,000	x x	0		0					- 54
32. Personal Prop 33. (Lines 28 thru			\$3,000	î		1.1		TOTAL	PHASE 45			\$0
34. Relocation Se	rvices Cost			-	\$0	(Not in P	hase Total)		-	_		-
35. 36.								-	-			
37.			-		er di ha	-	(All Phases)	TOTAL	ESTIMATE	40/47/40		\$535,100
Real Estate: Bus. Dam. :	Stephen C	ross	Signed: Signed:	-1-	4.7.7.			3	Date:	12/17/18	-	-
Relocation: Overall Review:	D. Wade E	1000	Signed: Signed:	~	Charges -			-	Date:	12/17/18	_	-
		in the second			10 0 0	ATOT 400		_		7		147/2040
Cost Estimate Sec	uence #:	Dated:	6/18/2018	In t	he Amount of \$	\$535,100		Data Inpu	t Completio	n Date:	12	17/2018
REMARKS:	icates the e	stimator's confidence		nate:								
x	Type B - in Type C - in	ndicates the most con idicates above avera idicates below avera idicates the least or i	ge confidence ge confidence									
The following ind Work Program Up Comments:		epartment's purpose X	for this estimate: Gaming 1:			Special I	Purpose:	1	x	Docs to RW:		

County: State Rd.: Project Des. Parcels	430051-1		DISTRICT S		ARTMENT OF			E			
Commercial Residential	450051-1 Hernando SR 50/US 98/ SR 70 SR 50 from Brooks Gross Net 0 0 1 1		Alternate: Segment: FAP#: to 1-75		SMF-3B/FPC-3-4 N/A N/A	B + Ease	Estimated Re Business Residential	District Date: C.E. Sec locatees:		0	Seven 17-Dec-18 N/A
Unimproved							Signs Special Total Relocat	200	3	0	
R/W SUPPORT COS		-	-	-			Tutar neroou	Amount	-		
1. Direct Labor Cos		Parcels	1	x	20,000 =	Rate		Puno an.	20,000		
2. Indirect Overhea	ad (F	Parcels	1	x	0 =	Rate		(Constant of	0		
3.				_	_		_	TOTAL	PHASE 41		\$20,0
R/W OPS (PHASE 48 4. Appraisal Fees						1	Parcels	x	A 30,000 =	mount 30,000	
5. Business Damag		igh Trial				Ó	Claims	x	19,000 =	0	
6. Court Reporter &			50%	x		1	Parcels	×	500 =	500	
7. Expert Witness 8. Mediators			75%	x		1.1.1.2.1.1	Parcels Parcels	x	30,000 = 2,400 =	30,000 2,400	
9. Demolition, Asb	. Abate., Survey, e	tc.			, <u> </u>	Ö	Imprvmet	x	15,000 =	0	
10. Miscellaneous						1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	x x	15,000 = 5,000 =	15,000 0	
11. Appraisal Fee R 12.	leview					U	rarceis	-	PHASE 4B		\$77,9
R/W LAND COSTS (PHASE 42)			-				Amount		ubtotal	
13. Land, Improvem		Damages						Aubun			
and Cost to Cur			222,252	x	120%	* Design p	lan stage	- 3	266,700		
14. Water Retention	n & Mit. (0 Ponds)		0	x	120% (/o R/W Acq)		0		
15. SUBTOTAL (57,6	and the second		1			(Lines 13	&14)			266,700	
16. Admin. Settleme			<u>20%</u> 45%	×		f Line 15) f Line 15)		-	32,000		
17. Litigation Awar 18. Business Damag			45%	x		Line 15/			0		
19. Bus. Damages In			25%	x	\$ -)			-	0		
20. Owner Appr. Fee			1	x	\$15,000)			-	15,000		
21. Owner CPA Fee:			0	x	\$16,000)			=	0		
22. Defend.Atty Fee		s 16, 17 & 19)	86,000	x	33%)	12 000			28,400		
23. Owner Expert W 24. Other Condemn.		lnimp.)	1	+	0) \$1,000	x 18,000			1,000		
24. Other Condemn. 25. SUBTOTAL	Costs			•		(Lines 16	thru 24)	-	1,000	130,400	
26.						,		TOTAL	PHASE 43	-	\$397,1
* Desian contingen	ncy for design plan	stage:						1			
	ns - 120% (2) 30%	and the second s	3) 60% plans - 11	0% (4) 90% plans -105	% (5) Zb8 U	ate -100%		-		_
R/W ACQUISITION (ACO 000					TOTAL	1140F 40		
27. Acquisition Con		els	\$20,000	X	U			TUTAL	PHASE 42		
RELOCATION COST	S (PHASE 45) Replacement Hous	Teres .			Number						
	Replacement noo.	sing			1 united		amount				
			\$35,000	x	0	-	Amount 0				
I 28. Owner			\$35,000 \$25,000	x x	0	-					
l 28. Owner 29. Tenant I	Move Costs		\$25,000		0	-	0				
I 28. Owner 29. Tenant I 30. Residential	Move Costs		\$25,000		0	-	0 0 0				
I 28. Owner 29. Tenant I 30. Residential 31. Business/Farm			\$25,000 \$5,000 \$40,000		0		0				
I 28. Owner 29. Tenant I 30. Residential 31. Business/Farm 32. Personal Proper	rty		\$25,000		0 0		0 0 0	TOTAL	PHASE 45		
I 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32	rty 2)		\$25,000 \$5,000 \$40,000		0 0		0 0 0	TOTAL	PHASE 45		
I 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv	rty 2)		\$25,000 \$5,000 \$40,000				0 0 0 0	TOTAL	PHASE 45		
I 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36.	rty 2)		\$25,000 \$5,000 \$40,000				0 0 0 0 0 hase Total)				
I 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37.	rty 2) rices Cost		\$25,000 \$5,000 \$40,000 \$3,000				0 0 0 0		ESTIMATE	12/17/18	\$495,0
28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate:	rty 2)		\$25,000 \$5,000 \$40,000 \$3,000 \$3,000				0 0 0 0 0 hase Total)			12/17/18	
I 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37.	rty 2) rices Cost		\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000				0 0 0 0 0 hase Total)		STIMATE Date: Date: Date:		
28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate: Bus. Dam. : Relocation:	rty 2) rices Cost		\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	x x x x			0 0 0 0 0 hase Total)		STIMATE Date: Date:	12/17/18 12/17/18	
28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate: 5 Bus. Dam. : Relocation: 5	rty 2) vices Cost Stephen Cross D. Wade Brown	Dated:	\$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x 7	0 0 0 50		0 0 0 0 0 hase Total) (All Phases)	TOTAL	STIMATE Date: Date: Date:	12/17/18	

					ARTMENT OF '			E				
FM#: County: State Rd.: Project Des. Parcels Commercial Residential Unimproved Total Parcels	430051-1 Hernando SR 50/US 98/ SR 70 SR 50 from Brooks Gross Net 1 1 0 0 0 0	sville Bypass to	Alternate: Segment: FAP#:		SMF-3C/FPC-3-40 N/A N/A		Estimated Re Business Residential Signs Special Total Relocat	Distric Date: C.E. Se locatees:	equence 	0 0 0 0 0	Seven 17-Dec-18 N/A	
R/W SUPPORT CO				-		-		Amour	nt			-
1. Direct Labor C		Parcels	1	x	20,000 =	Rate		1910	20,000			
2. Indirect Overh 3.	ead (I	Parcels	1	x	0 =	Rate)	TOTAL	0 PHASE 41	_	5	\$20,000
R/W OPS (PHASE	4B)			-				1.0110		Amount		autorio de
4. Appraisal Fee	s Through Trial					1	Parcels	x	30,000 =	30,000		
	nage CPA Fees Thron r & Process Servers		50%	x	1 -	0	Claims Parcels	x	19,000 = 500 =	0		
7. Expert Witnes			75%	×	1 =	1	Parcels	x	30,000 =	30,000		
8. Mediators			75%	×	=	1	Parcels Imprvmet	x x	2,400 = 15,000 =	2,400		
9. Demolition, A 10. Miscellaneou	sb. Abate., Survey, e s Contracts	ttc.				1		x	15,000 =	15,000		
11. Appraisal Fee						0	Parcels	×	5,000 =	0		
12.	_					-		TOTAL	PHASE 4B	-	\$	\$77,900
R/W LAND COSTS		D						Amour	nt :	Subtotal		
13. Land, Improve and Cost to C	ments & Severance	Damages	300,410	×	120%	Design p	lan stane	i i i	360,500			
LL	on & Mit. (0 Ponds)		0	x		1.	/o R/W Acq)		0			
15. SUBTOTAL (5						(Lines 13	&14)	-		360,500		
16. Admin. Settle			20%	x		Line 15)			43,300			
17. Litigation Aw 18. Business Dan			45%	×	45% 0	Line 15)			73,000			ſ
19. Bus. Damages			25%	x	\$ - 1			-	0			1
20. Owner Appr. I			1	x	\$15,000)			-	15,000			
21. Owner CPA Fe		a man	0	x	\$16,000)				0			
22. Defend.Atty F	ees (Sum of Line Witness (Comm.+L	Is 16, 17 & 19)	116,300	×	33%)	c 18,000			38,400			
24. Other Condem		Jump./		×	\$1,000	10,000	-	2	1,000			
25. SUBTOTAL						(Lines 16	thru 24)	=		188,700		
26.	1. 1. 1. A. C.							TOTAL	PHASE 43		\$5	549,200
* Design conting (1) PD&E al	ency for design plan ans - 120% (2) 30%	n stage: plans - 115% ((3) 60% plans - 11	0% (4) 90% plans -105%	6 (5) 268 D	ate -100%					-
the second s	CONSULTANT (PH	and the second sec										
and the form of a damage of the	onsultant-50% of parc	and the second	\$20,000	x	0			TOTAL	PHASE 42			\$0
RELOCATION COS	STS (PHASE 45)				and a local sector		Termin	100	100			
	Replacement Hous	sing	407 000		Number		Amount					
28. Owner 29. Tenant			\$35,000 \$25,000	×	0	-	0					
Lu. ronune	Move Costs											Í
30. Residential			\$5,000	×	0	=	0					Í
31. Business/Farr 32. Personal Prop			\$40,000	×	0	-	0					
33. (Lines 28 thru	10 C C				<u> </u>			TOTAL	PHASE 45			\$0
34. Relocation Se			-		\$0	(Not in P	hase Total)					
35.												
36. 37.						-	(All Phases)	TOTAL	ESTIMATE		\$6	647,100
Real Estate:	Stephen Cross		Signed:	1	april 1se	~	di secondo de la constante de		Date:	12/17/18		
Bus. Dam. :			Signed:	-				-	Date:			
Relocation:	D. Wade Brown		Signed: Signed:	1.34	-			-	Date:	12/17/18		
Overall Review:	D. Wade Brown		_ Signeu.		Sec. Sec.	100		35.			-	
Cost Estimate Sec	juence #:	Dated:	6/18/2018	In t	he Amount of \$	\$647,100		Data Inpu	it Completio	n Date:	12/1	17/2018
REMARKS:												
	icates the estimator Type A - indicates Type B - indicates Type C - indicates Type D - indicates	the most conf above averag below averag	lidence le confidence le confidence	nate:								
The following ind Work Program Up Comments:	licates the Departme idate:	ent's purpose f X	for this estimate: Gaming 1:			Special	Purpose:		x)	Docs to RW:		

FM#:			DISTRICTS	EVEN RIGHT	OF WAY COST ESTIN	MATE		
County: State Rd.: Project Des.			Alternate: Segment: FAP#: to I-75	SMF-4A N/A N/A		District: Date: C.E. Sequence		Seven 17-Dec-18 N/A
Parcels Commercial Residential Jnimproved Fotal Parcels	Gross 0 1 0	Net 0 1 0 1			Busine: Resider Signs Special	ntial	0 0 0 0	
W SUPPORT CO	STS (PHA	SE 41)		A		Amount		
1. Direct Labor Co		(Parcels	1		000 = Rate)	20,000		
 Indirect Overholds 3. 	ead	(Parcels	1	x	0 = Rate)	TOTAL PHASE 41		\$20,00
o. R/W OPS (PHASE	4B)			-		TOTALTINGEN	Amount	420,00
4. Appraisal Fee:		Trial			1 Parcels	s x 30,000 =	30,000	
5. Business Dam	age CPA I	Fees Through Trial			0 Claims	10000000	0	
6. Court Reporter		ss Servers	50% 75%	$\frac{x}{x} = \frac{1}{1}$	= 1 Parcels = 1 Parcels		500 30,000	
7. Expert Witnes 8. Mediators	55		75%	x 1	= 1 Parcels		2,400	
9. Demolition, As	sb. Abate.,	Survey, etc.		* <u> </u>	0 Imprvm		0	
IO. Miscellaneous	s Contract				1 Per Pro		15,000	
11. Appraisal Fee	Review				0 Parcels	the second se	0	
12.						TOTAL PHASE 4B		\$77,90
R/W LAND COSTS						Amount	Subtotal	
and selected to select the		everance Damages	in the		and Sound and	Suc La		
and Cost to Cu			90,323		0% * Design plan stage			
14. Water Retention		(0 Ponds)	0	x1	0% (0 Parcels w/o R/W A (Lines 13 &14)	Acq) 0	108,400	
15. SUBTOTAL (57	9.4 100.00	(Factor	20%		0% of Line 15)	= 13,000	100,400	
 Admin. Settler Litigation Awa 		Factor	45%		0% of Line 15)	= 19,500		
18. Business Dam		(Claims	0	x	0)	= 0		
9. Bus. Damages	•	(Factor	25%		<u> </u>	= 0		
20. Owner Appr. F		Parcels	1	x \$15	000)	= 15,000		
1. Owner CPA Fe	ees	(Claims	0	x \$16	000)	= 0		
		(Sum of Lines 16, 17 & 19)	32,500	x	3%)	= 10,700		
22. Defend.Atty Fe	ees	addit of Lines 10, 17 a rat						
23. Owner Expert	Witness	(Comm.+Unimp.)	0	+	1) x 18,000	= 18,000		
22. Defend.Atty Fe 23. Owner Expert 24. Other Condem	Witness		0 1	*\$1	000	= 1,000		
23. Owner Expert 24. Other Condem 25. SUBTOTAL	Witness			*\$1,		= 1,000	77,200	640E C00
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26.	Witness In. Costs	(Comm.+Unimp.)		* x <u>\$1</u>	000	= 1,000	77,200	\$185,600
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26.	Witness In. Costs ency for da	(Comm.+Unimp.) esian plan stage:	1		(Lines 16 thru 24)	= 1,000 = [TOTAL PHASE 43	77,200	\$185,600
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. <i>Design continge</i> (1) PD&E pla	Witness nn. Costs ency for da ans - 120%	(Comm.+Unimp.) esign plan stage: 5 (2) 30% plans - 115%	1		000	= 1,000 = [TOTAL PHASE 43	77,200	\$185,600
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design continge (1) PD&E pla R/W ACQUISITION	Witness nn. Costs ency for da ans - 120% N CONSUL	(Comm.+Unimp.) esign plan stage: 5 (2) 30% plans - 115% TANT (PHASE 42)	1 (3) 60% plans - 11	0% (4) 90% plans	(Lines 16 thru 24) -105% (5) 268 Date -1009	= <u>1,000</u> = <u>TOTAL PHASE 43</u> %	77,200	
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. <i>Design contingue</i> <i>(1) PD&E pla</i> 37/W ACQUISITION 27. Acquisition Co	Witness In. Costs ency for da ans - 120% N CONSUL onsultant-5	(Comm.+Unimp.) esign plan stage: 5 (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels	1		(Lines 16 thru 24)	= 1,000 = [TOTAL PHASE 43	77,200	
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design continge (1) PD&E pla	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels E 45)	1 (3) 60% plans - 11	0% (4) 90% plans x	000 (Lines 16 thru 24) - <i>105% (5) 268 Date -100</i> 0	= <u>1,000</u> = [TOTAL PHASE 43] % [TOTAL PHASE 42]	77,200	
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. <i>Design contingu</i> <i>(1) PD&E pla</i> 37/W ACQUISITION 27. Acquisition Cos RELOCATION COS	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS	(Comm.+Unimp.) esign plan stage: 5 (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels	1 (3) 60% plans - 11	0% (4) 90% plans	000 (Lines 16 thru 24) - <i>105% (5) 268 Date -100</i> 0	= <u>1,000</u> = [TOTAL PHASE 43] % [TOTAL PHASE 42]	77,200	
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26. 27. Design contingue (1) PD&E plane 28. Avw ACQUISITION COS 28. Owner 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels E 45)	1 (3) 60% plans - 11 \$20,000	0% (4) 90% plans x Num	0000 (Lines 16 thru 24) - <i>105% (5) 268 Date -100</i> 0 0 ber Amount	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t	77,200	
23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. <i>Design contingue</i> <i>(1) PD&E pla</i> 37/W ACQUISITION 27. Acquisition Cos RELOCATION COS 28. Owner	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) - <i>105% (5) 268 Date -100</i> 0 0 ber Amount <u>0</u> =	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0	77,200	
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26. 27. Design continger 28. Owner 29. Tenant 30. Residential 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0	77,200	
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design contingue (1) PD&E plat 37. Acquisition Condition 38. Owner 29. Tenant 30. Residential 31. Business/Farm 	Witness nn. Costs ency for d ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0 0	77,200	
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design contingue (1) PD&E plat 37.W ACQUISITION 27. Acquisition Cost 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Prop 	Witness nn. Costs ency for d ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n perty	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	= <u>1,000</u> = [TOTAL PHASE 43] % [TOTAL PHASE 42] t t <u>0</u> 0 0 0	77,200	Si
 Owner Expert Other Condem SUBTOTAL SUBTOTAL Design contingue (1) PD&E plan Acquisition Cos Acquisition Cos Owner Tenant Residential Business/Farm Personal Prop (Lines 28 thru 3 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n perty 32)	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing ists	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	77,200	\$(
 Owner Expert Other Condem Other Condem SUBTOTAL Design contingue (1) PD&E plan Acquisition Cos Acquisition Cos Owner Tenant Residential Business/Farm Personal Prop (Lines 28 thru 3 Relocation Se 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n perty 32)	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing ists	1 (3) 60% plans - 11 \$20,000 \$35,000 \$55,000 \$40,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	77,200	\$(
 Owner Expert Other Condem SUBTOTAL Design contingue (1) PD&E play Acquisition Cos Acquisition Cos Owner Tenant Residential Business/Farm Personal Prop (Lines 28 thru 3) Relocation Se 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n perty 32)	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing ists	1 (3) 60% plans - 11 \$20,000 \$35,000 \$55,000 \$40,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	77,200	\$(
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26. 27. Acquisition Cost 28. Owner 29. Tenant 20. Residential 21. Business/Farm 22. Personal Prop 23. (Lines 28 thru 3 24. Relocation Se 25. 26. 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n perty 32)	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of percels E 45) ment Housing ists	1 (3) 60% plans - 11 \$20,000 \$35,000 \$55,000 \$40,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		\$0 \$0
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26. 27. Design continger (1) PD&E place 27. Acquisition Cost 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Prop 33. (Lines 28 thru 3 34. Relocation Se 35. 36. 37. 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co m perty 32) ervices Cos	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels E 45) ment Housing ests	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0 10	= <u>1,000</u> = [TOTAL PHASE 43 % [TOTAL PHASE 42 t t <u>0</u> 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		\$0 \$0
 Owner Expert Other Condem SUBTOTAL SUBTOTAL Design continger (1) PD&E place PD&E place PD&E place PD&E place Acquisition Cos Acquisition Cos Owner Tenant Business/Farm Personal Prop (Lines 28 thru 3 Relocation Se 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n perty 32)	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels E 45) ment Housing ests	1 (3) 60% plans - 11 \$20,000 \$35,000 \$55,000 \$40,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0 10	= <u>1,000</u> = [TOTAL PHASE 43 % % TOTAL PHASE 42 t 0 0 0 0 0 0 0 0 0 0 0 0 0		\$(
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26. 27. Design continger (1) PD&E play 28. Owner 29. Tenant 20. Residential 21. Business/Farm 22. Personal Prop 23. (Lines 28 thru 3) 24. Relocation Se 25. 26. 27. 28. Dam. : 28. Balance 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co n Move Co n ervices Cos Stephen	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels E 45) ment Housing sts sts	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	0% (4) 90% plans	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0 10	= <u>1,000</u> = [TOTAL PHASE 43 % % TOTAL PHASE 42 t 0 0 0 0 0 0 0 0 0 0 0 0 0	12/17/18	\$(
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26. 27. Design continger (1) PD&E plate 28. Owner 29. Tenant 20. Residential 31. Business/Farm 32. Personal Prop 33. (Lines 28 thru 3 34. Relocation Se 35. 36. 37. 38. Beal Estate: 39. Dam. : 39. Residential: 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co m perty 32) ervices Cos	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels E 45) ment Housing sts sts	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000 \$3,000 \$3,000	0% (4) 90% plans x Num x	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0 10	= <u>1,000</u> = [TOTAL PHASE 43 % % TOTAL PHASE 42 t 0 0 0 0 0 0 0 0 0 0 0 0 0		\$0 \$0
 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. 26. 27. Acquisition Correction 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Prop 33. (Lines 28 thru 3 34. Relocation Se 35. 36. 	Witness an. Costs ency for da ans - 120% N CONSUL onsultant-5 STS (PHAS Replace Move Co m berty 32) envices Cos Stephen D. Wade	(Comm.+Unimp.) esign plan stage: (2) 30% plans - 115% TANT (PHASE 42) 0% of parcels E 45) ment Housing sts sts	1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	0% (4) 90% plans	000 (Lines 16 thru 24) -105% (5) 268 Date -1005 0 - - - (All Pha	= <u>1,000</u> = [TOTAL PHASE 43 % % TOTAL PHASE 42 t 0 0 0 0 0 0 0 0 0 0 0 0 0	12/17/18	\$185,600 \$0 \$0 \$283,500 12/17/2018

			The second second second second second	TRANSPORTATION VAY COST ESTIMATE			
FM#: County: State Rd.: Project Des.	430051-1 Hernando SR 50/US 98/ SR 700 SR 50 from Brooksville Bypa	Alternate: Segment: FAP#: iss to I-75	SMF-4B N/A N/A		District: Date: C.E. Sequence	Seven 6-Jun-' N/A	18
Parcels Commercial Residential Unimproved Total Parcels	Gross Net 0 0 2 2 1 1 3 3			Estimated Re Business Residential Signs Special Total Relocat		0 3 0 0 3	
R/W SUPPORT CO 1. Direct Labor C 2. Indirect Overh	ost (Parcels	3	x20,000 = x0 =		Amount <u>60,000</u> 0		
3. R/W OPS (PHASE 4. Appraisal Fee				3 Parcels 0 Claims	x 30,000 =	mount 90,000	\$60,000
 Court Reporte Expert Witnes Mediators 	er & Process Servers ss sb. Abate., Survey, etc. is Contracts	<u>50%</u> <u>75%</u> 75%	x <u>3</u> x <u>3</u> x <u>3</u>	= 2 Parcels = 2 Parcels = 2 Parcels = 2 Parcels 2 Imprvmet 1 Per Project	x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 15,000 = x 5,000 =	1,000 60,000 4,800 30,000 15,000 5,000	6005.000
R/W LAND COSTS					TOTAL PHASE 4B Amount S	ubtotal	\$205,800
and Cost to C 14. Water Retenti 15. SUBTOTAL (5 16. Admin. Settle 17. Litigation Aw 18. Business Dan 19. Bus. Damager 20. Owner Appr. 1 21. Owner CPA Fr 22. Defend.Atty Fr 23. Owner Expert	ion & Mit. (0 Ponds) 7,648 SF) ments (Factor ards (Factor nages (Claims 5 Incrs. (Factor Fees (Parcels ees (Claims ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	501,612 0 20% 45% 0 25% 3 0 180,500 0 0	x <u>120%</u> (x <u>60%</u> c		$= \frac{601,900}{0}$ $= \frac{72,200}{108,300}$ $= \frac{0}{0}$ $= \frac{0}{45,000}$ $= \frac{0}{59,600}$ $= \frac{18,000}{0}$	601,900	
24. Other Condem 25. SUBTOTAL 26.	ın. Costs	3	x\$1,000	(Lines 16 thru 24)	= <u>3,000</u> = TOTAL PHASE 43	306,100	\$908,000
* Design conting	ency for design plan stage: ans - 120% (2) 30% plans - 11!	5% (3) 60% plans - 11	0% (4) 90% plans -105	% (5) 268 Date -100%			\$300,000
	N CONSULTANT (PHASE 42) onsultant-50% of parcels	\$20,000	x 0		TOTAL PHASE 42		\$0
RELOCATION COS 28. Owner 29. Tenant 30. Residential 31. Business/Farr	STS (PHASE 45) Replacement Housing Move Costs	\$35,000 \$25,000 \$5,000 \$40,000	Number x 2 x 1 x 3 x 0	Amount = 70,000 = 25,000 = 15,000 = 0			
32. Personal Prop 33. (Lines 28 thru	32)	\$3,000	x0	=0	TOTAL PHASE 45		\$110,000
34. Relocation Se 35.	ervices Cost	_	\$11,000	(Not in Phase Total)			
 Relocation Se 35. 36. 37. Real Estate: 	Odersham Dance	0't	Acres 14 h	(All Phases)	TOTAL ESTIMATE		\$1,283,800
Bus. Dam. : Relocation: Overall Review:	Stephen Cross Stephen Cross D. Wade Brown	Signed: Signed: Signed: Signed:	stand in	~	Date: Date: Date: Date:	06/18/18 06/18/18 06/18/18	
Cost Estimate Sec REMARKS:	uence #: Dated	d: 6/18/2018	In the Amount of \$	\$1,283,800	Data Input Completion	Date:	6/18/2018
The following ind X	icates the estimator's confide Type A - indicates the most o Type B - indicates above ave Type C - indicates below ave Type D - indicates the least o	confidence erage confidence erage confidence	nate:				
The following ind Work Program Up Comments:	icates the Department's purpo date:	se for this estimate: Gaming 1:		Special Purpose:	<u> </u>	ocs to RW:	

County: State Rd.:	430051-1			-	N RIGHT OF V	VAT LUS	I ESTIMAT	TE			
State Rd.: Project Des. Parcels	Hernando		Alternate: Segment:		SMF-4C N/A			Distric Date:	et		Seven
Parcels	SR 50/US 98/ SR 7	00	FAP#:		N/A				equence		6-Jun-18 N/A
	SR 50 from Brooks	sville Bypass t	o 1-75		1872/21			- Marine	1. Cars A		
	Gross Net						Estimated Re	elocatees:			
Residential	0 0						Business			0	
Jnimproved	0 0						Residential Signs		1.1.2	0	
-							Special			0	
Total Parcels	1 1						Total Reloca	itees		0	
W SUPPORT COS	TS (PHASE 41)							Amou	at		
1. Direct Labor Cos		Parcels	1	x	20,000 =	Rate	1	Allou	20,000		
2. Indirect Overhea		Parcels	1	x	0 =			-	20,000		
3.			·			maro		TOTAL	PHASE 41		\$20
R/W OPS (PHASE 4	P)							TOTAL			920
4. Appraisal Fees							Parcels	x	30,000 =	Amount 30,000	
	ge CPA Fees Thro	unh Trial				0	Claims	x	19,000 =	30,000	
6. Court Reporter &			50%	x	1 .	1	Parcels	x	500 =	500	
7. Expert Witness			75%	x	1 .	1	Parcels	x	30,000 =	30,000	
8. Mediators			75%	x	1 :	1	Parcels	x	2,400 =	2,400	
9. Demolition, Asb	. Abate., Survey, e	etc.	1			0	Imprvmet	x	15,000 =	0	
IO. Miscellaneous						1	Per Project		15,000 =	15,000	
1. Appraisal Fee R	eview					0	Parcels	×	5,000 =	0	
2.		_		-			_	TOTAL	PHASE 4B		\$77
R/W LAND COSTS (I								Amour	nt :	Subtotal	
3. Land, Improvem	ents & Severance	Damages									
and Cost to Cur	e Amount		87,278	x	120%	* Design p	nlan stage	÷	104,700		
4. Water Retention	a & Mit. (0 Ponds)		0	x			v/o R/W Acq)		D		
15. SUBTOTAL (57,6			9			(Lines 13		-		104,700	
16. Admin. Settleme			20%	x	60%	f Line 15)		=	12,600		
17. Litigation Award	ds (Factor		45%	×		f Line 15)		-	21,200		
18. Business Damag	and a second second		0	x	0)			_	0		
19. Bus. Damages In			25%	x	\$ -)			-	0		
20. Owner Appr. Fee			1	x	\$15,000)			-	15,000		
21. Owner CPA Fee			0	x	\$16,000)			2	0		
22. Defend.Atty Fee		s 16, 17 & 19)	33,800	x	33%)				11,200		
23. Owner Expert W			0	1	0)	x 18,000	1		0		
		sump.,		x	\$1,000	×	<u>.</u>		1,000		
24. Other Condemn.	00010			^	41,000			-	1,000		
24. Other Condemn. 25. SUBTOTAL						(Lines 16	thru 241	-		61 000	
25. SUBTOTAL						(Lines 16	i thru 24)		PHASE 43	61,000	¢165
25. SUBTOTAL 26.	ncy for design play	stane:				(Lines 16	i thru 24)	-	PHASE 43	61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen</i>	ncy for design plan ns - 120% (2) 30%	n stage: plans - 115%	(3) 60% plans - 11	0% (4) 90% plans -105			-	PHASE 43	61,000	\$165
25. SUBTOTAL 26. * Design contingen (1) PD&E plan	ns - 120% (2) 30%	plans - 115%	(3) 60% plans - 11	0% (4) 90% plans -105			-	PHASE 43	61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen</i> <i>(1) PD&E plan</i> R/W ACQUISITION (<i>s - 120% (2) 30%</i> CONSULTANT (PH	<i>plans - 115%</i> IASE 42)						TOTAL		61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen (1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Con:	os - 120% (2) 30% CONSULTANT (PH sultant-50% of pare	<i>plans - 115%</i> IASE 42)	<i>(3) 60% plans - 11</i> , \$20,000	0% (<i>4) 90% plans -105</i> 0			TOTAL	PHASE 43	61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen (1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS	ns - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45)	<i>plans - 115%</i> IASE 42) cels			0		Date -100%	TOTAL		61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen (1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS	os - 120% (2) 30% CONSULTANT (PH sultant-50% of pare	<i>plans - 115%</i> IASE 42) cels	\$20,000	x	0 Number		Date -100% Amount	TOTAL		61,000	\$165
25. SUBTOTAL 26. <i>Design contingen</i> (1) <i>PD&E plan</i> RAW ACQUISITION (27. Acquisition Const RELOCATION COSTS 28. Owner	ns - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45)	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000	x	0 Number 0		Date -100% Amount	TOTAL		61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen</i> <i>(1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Const RELOCATION COST 28. Owner 29. Tenant	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou	<i>plans - 115%</i> IASE 42) cels	\$20,000	x	0 Number		Date -100% Amount	TOTAL		61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen (1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant	ns - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45)	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000	x	0 Number 0		Date -100% Amount	TOTAL		61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen</i> <i>(1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Cons RELOCATION COST 28. Owner 29. Tenant 30. Residential	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000	x	0 Number 0 0	% (5) 268 D = = =	Amount			61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen</i> <i>(1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Cons RELOCATION COST 28. Owner 29. Tenant 30. Residential 31. Business/Farm	is - 120% (2) 30% CONSULTANT (PH sultant-50% of part S (PHASE 45) Replacement Hou Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x	0 Number 0 0 0	% (5) 268 D = = = =	Amount 0 0 0	TOTAL		61,000	\$165
25. SUBTOTAL 26. * <i>Design contingen</i> <i>(1) PD&E plan</i> R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000	x	0 Number 0 0	% (5) 268 D = = =	Amount		PHASE 42	61,000	\$165
25. SUBTOTAL 26. 4 Design contingen (1) PD&E plan 3/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 20. Residential 21. Business/Farm 22. Personal Proper 23. (Lines 28 thru 32	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x	0 Number 0 0 0 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0 0 0			61,000	\$165
25. SUBTOTAL 26. 4 Design contingen (1) PD&E plan 3/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 29. Tenant 20. Residential 21. Business/Farm 22. Personal Proper 23. (Lines 28 thru 32 24. Relocation Servi	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x	0 Number 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0		PHASE 42	61,000	\$165
25. SUBTOTAL 26. 4 Design contingen (1) PD&E plan 3/W ACQUISITION (27. Acquisition Cons 3ELOCATION COSTS 28. Owner 29. Tenant 20. Residential 21. Business/Farm 22. Personal Proper 23. (Lines 28 thru 32 24. Relocation Serv 25.	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x	0 Number 0 0 0 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0 0 0		PHASE 42	61,000	\$165
25. SUBTOTAL 26. <i>Design contingen</i> (1) PD&E plan 3/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 29. Tenant 20. Residential 21. Business/Farm 22. Personal Proper 23. (Lines 28 thru 32 24. Relocation Serv 25. 26.	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x	0 Number 0 0 0 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 42	61,000	
25. SUBTOTAL 26. 4 Design contingen (1) PD&E plan 3/W ACQUISITION (1) 27. Acquisition Cons 3ELOCATION COSTS 28. Owner 29. Tenant 29. Tenant 20. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37.	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x x x x	0 Number 0 0 0 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0 0 0	TOTAL	PHASE 42		\$165
25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (2) 27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 29. Tenant 29. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate:	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000	x x x x x x	0 Number 0 0 0 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45 ESTIMATE Date:	61,000	
25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate: S 38. Dam. :	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	x x x x x x	0 Number 0 0 0 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45 ESTIMATE Date:		
25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate: S Bus. Dam. : Relocation:	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs Move Costs (ty) ices Cost	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x	0 Number 0 0 0 0 0 \$0	% (5) 268 D = = = = =	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45 ESTIMATE Date: Date: Date:	06/18/13	
25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate: S Bus. Dam. : Relocation:	is - 120% (2) 30% CONSULTANT (PH sultant-50% of pare S (PHASE 45) Replacement Hou Move Costs Move Costs	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	x x x x x x	0 Number 0 0 0 0 0 0	% (5) 268 D = = = = =	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45 ESTIMATE Date:		
25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (27. Acquisition Cons RELOCATION COSTS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Proper 33. (Lines 28 thru 32 34. Relocation Serv 35. 36. 37. Real Estate: S Bus. Dam. : Relocation:	IS - 120% (2) 30% CONSULTANT (PH sultant-50% of paro S (PHASE 45) Replacement Hou Move Costs Move Costs (ty)) ices Cost Stephen Cross D. Wade Brown	<i>plans - 115%</i> IASE 42) cels	\$20,000 \$35,000 \$25,000 \$40,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x	0 Number 0 0 0 0 0 \$0	% (5) 268 D = = = = =	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45 ESTIMATE Date: Date: Date:	06/18/18	

	430051-1	Alternate:	SMF-5A/FPC-5A		District:	Seve	0
State Rd.: Project Des. Parcels	Hernando	Segment:	N/A		Date:	17-D	ec-18
	SR 50/US 98/ SR 700 SR 50 from Brooksvill	FAP#: e Bypass to 1-75	N/A		C.E. Sequence	N/A	
Contraction of the second s	Gross Net			Estimated R	elocatees:	· 1.	
Commercial Residential	0 0			Business Residential	-	0	
Unimproved	2 2			Signs		0	
ommproved				Special		0	
Total Parcels	2 2			Total Reloc		D	
R/W SUPPORT CO 1. Direct Labor C		cels 2	x 20,000 =	Rate)	Amount 40,000		
2. Indirect Overh				10 m			
3.					TOTAL PHASE 41		\$40,00
R/W OPS (PHASE	(4B)				Ar	nount	
4. Appraisal Fee				2 Parcels	x 30,000 =	60,000	
	nage CPA Fees Through			0 Claims	x 19,000 =	0	
 Court Reporte Expert Witnes 	er & Process Servers	<u> </u>		1 Parcels 2 Parcels	x 500 = x 30,000 =	500 60,000	
8. Mediators	55	75%	x 2 =	2 Parcels	x 2,400 =	4,800	
E. C.	sb. Abate., Survey, etc.		· · · · · · · · ·	0 Imprvmet	x 15,000 =	0	
10. Miscellaneou	is Contracts			1 Per Project		15,000	
11. Appraisal Fee	Review			1 Parcels	x 5,000 =	5,000	
12.					TOTAL PHASE 4B		\$145,30
R/W LAND COSTS		0.00		No. of the local distance	Amount Su	ibtotal	
The second second second	ements & Severance Dar		e da la cara a				
and Cost to C		257,420			= 308,900		
	ion & Mit. (0 Ponds)	0	x <u>120%</u> (0	Parcels w/o R/W Acq)	0	000 000	
15. SUBTOTAL (5		án.		(Lines 13 &14)	-	308,900	
16. Admin. Settle		20%		Line 15)	= 37,100		
17. Litigation Aw 18. Business Dan		45%		Line 15)	= 55,600		
 Business Dan Busi Damages 		25%			= 0		
20. Owner Appr. 1		25%			= 30,000		
20. Uwiter Appr. i					= 0		
21 Owner CDA E	cca juidinia	0	a la contra de la co				
	ane ISum al Lines 16	17 8 19) 92 700	¥ 33%)		= 30,600		
21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert				18.000	= 30,600		
22. Defend.Atty Fr 23. Owner Expert	Witness (Comm.+Unin	np.) 0	+ 2)>	K18,000	= 36,000		
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem	Witness (Comm.+Unin		+ 2)>	(Lines 16 thru 24)	= 36,000	191,300	
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL	Witness (Comm.+Unin	np.) 0	+ 2)>	and the same	= <u>36,000</u> = <u>2,000</u>	191,300	\$500,200
22. Defend.Atty Fr 23. Owner Expert 24. Other Conderr 25. SUBTOTAL 26. * Design conting	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i>	np.) 0 2	+2)> x\$1,000	(Lines 16 thru 24)	= <u>36,000</u> = 2,000	191,300	\$500,200
22. Defend.Atty Fr 23. Owner Expert 24. Other Conderr 25. SUBTOTAL 26. * Design conting	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i>	np.) 0 2	+2)> x\$1,000	(Lines 16 thru 24)	= <u>36,000</u> = <u>2,000</u>	191,300	\$500,200
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i>	np.) 0 2 Ige: Is - 115% (3) 60% plans - 1	+2)> x\$1,000	(Lines 16 thru 24)	= <u>36,000</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u>	191,300	\$500,200
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION	Witness (Comm.+Unin nn. Costs ency for design plan sta lans - 120% (2) 30% plan	np.) 0 2 nge: ns - 115% (3) 60% plans - 1 5 42)	+2)> x\$1,000	(Lines 16 thru 24)	= <u>36,000</u> = <u>2,000</u>	191,300	\$500,200
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i> <i>lans - 120% (2) 30% plan</i> N CONSULTANT (PHASE onsultant-50% of parcels STS (PHASE 45)	np.) 0 2 nge: ns - 115% (3) 60% plans - 1 £42) \$20,000	+ 2)> x \$1,000 10% (4) 90% plans - 105% x 0	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i>	= <u>36,000</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u>	191,300	
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition Cost RELOCATION COST	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i> <i>lans - 120% (2) 30% plan</i> N CONSULTANT (PHASE onsultant-50% of parcels	np.) 0 2 nge: ns - 115% (3) 60% plans - 1 £42) \$20,000	+ 2) x \$1,000 10% (4) 90% plans - 105% x 0 Number	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i> Amount	= 36,000 = 2,000 = TOTAL PHASE 43	191,300	
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition COS RELOCATION COS 28. Owner	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i> <i>lans - 120% (2) 30% plan</i> N CONSULTANT (PHASE onsultant-50% of parcels STS (PHASE 45)	np.) 0 2 nge: ns - 115% (3) 60% plans - 1 \$20,000 \$35,000	+ 2)> x \$1,000 10% (4) 90% plans - 105% x 0 Number x 0	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i> Amount	= <u>36,000</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u> TOTAL PHASE 42	191,300	
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition COS RELOCATION COS 28. Owner	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i> <i>lans - 120% (2) 30% plan</i> N CONSULTANT (PHASE onsultant-50% of parcels STS (PHASE 45) Replacement Housing	np.) 0 2 nge: ns - 115% (3) 60% plans - 1 £42) \$20,000	+ 2)> x \$1,000 10% (4) 90% plans - 105% x 0 Number x 0	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i> Amount	= 36,000 = 2,000 = TOTAL PHASE 43	191,300	
22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition COS 28. Owner 29. Tenant	Witness (Comm.+Unin nn. Costs <i>ency for design plan sta</i> <i>lans - 120% (2) 30% plan</i> N CONSULTANT (PHASE onsultant-50% of parcels STS (PHASE 45)	np.) 0 2 1ge: 1s - 115% (3) 60% plans - 1 \$20,000 \$25,000 \$25,000	+ 2)> x \$1,000 10% (4) 90% plans - 105% x 0 Number x 0 x 0 x 0	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i> 6 Amount 6 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	= 36,000 = 2,000 = [TOTAL PHASE 43 [TOTAL PHASE 42]	191,300	
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County:		DISTRICT S		N RIGHT OF W	10. 10 March	ORTATION T ESTIMAT				
The second	430051-1 Hernando SR 50/US 98/ SR 700 SR 50 from Brooksville Bypas	Alternate: Segment: FAP#: s to I-75		SMF-5B/FPC-5B N/A N/A			District Date: C.E. Sec			Seven 17-Dec-18 N/A
Parcels Commercial Residential Unimproved Total Parcels	Gröss Net 0 0 0 0 1 1 1 1					Estimated Re Business Residential Signs Special Total Reloca			0 0 0 0 0	
R/W SUPPORT COS				20000			Amount			
1. Direct Labor Cos 2. Indirect Overhea	22.000.000		x	20,000 =	Rate			20,000		
3.	dine.				_		TOTAL	PHASE 41		\$20,000
R/W OPS (PHASE 4 4. Appraisal Fees					1	Parcels	x	A 30,000 =	mount 30,000	
5. Business Dama	ge CPA Fees Through Trial				o	Claims	x	19,000 =	0	
6. Court Reporter & 7. Expert Witness		50% 75%	×	1=	1	Parcels Parcels	x x	500 = 30,000 =	500 30,000	
8. Mediators	Contraction of the	75%	x		i	Parcels	x	2,400 =	2,400	
	. Abate., Survey, etc.				0	Imprvmet	×	15,000 =	0	
10. Miscellaneous 11. Appraisal Fee R					0	Per Project Parcels	x	15,000 = 5,000 =	15,000 0	
12.	and and					Activition.	TOTAL	PHASE 4B		\$77,900
R/W LAND COSTS (Amount	S	ubtotal	
	ients & Severance Damages	217 042		*200/ *	Design	lan stans		000 500		
and Cost to Cur 14. Water Retention		217,043	x	120% *		/o R/W Acq)		260,500		
15. SUBTOTAL (57,6					(Lines 13		-		260,500	
16. Admin. Settleme		20%	x		Line 15)		•	31,300		
17. Litigation Awar 18. Business Damag		45%	x	45% of 0)	Line 15)		-	52,800 0		
19. Bus. Damages I		25%	x	s -)			-	0		
20. Owner Appr. Fee		1	x	\$15,000)			-	15,000		
21. Owner CPA Fee		0	x	\$16,000)			-	0		
22. Defend.Atty Fee		84,100	X	33%)	18,000		-	27,800		
177 Humar Evnart M					10,000	-	2	1,000		
23. Owner Expert W 24. Other Condemn.	. Costs		x	\$1,000			-	1,000		
24. Other Condemn. 25. SUBTOTAL	. Costs	· · · · · ·	x	\$1,000	(Lines 16	thru 24)	-		145,900	
24. Other Condemn. 25. SUBTOTAL 26.		· · · ·	x	\$1,000	(Lines 16	thru 24)	-	PHASE 43	145,900	\$406,400
24. Other Condemn. 25. SUBTOTAL 26. * Desian contingen	ncv for design plan stage:						-		145,900	\$406,400
 24. Other Condemn. 25. SUBTOTAL 26. * Design contingen (1) PD&E plan 							-		145,900	\$406,400
24. Other Condemn. 25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (ncy for design plan stage: ns - 120% (2) 30% plans - 115%						= TOTAL F		145,900	\$406,400 \$0
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24. Other Condemn. 25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (27. Acquisition Con RELOCATION COST	ncy for design plan stage: ns - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42) isultant-50% of parcels	6 (3) 60% plans - 11 \$20,000	0% (4) 90% plans -105%	; (5) 268 D		= TOTAL F	PHASE 43	145,900	
24. Other Condemn. 25. SUBTOTAL 26. * Design contingen (1) PD&E plan R/W ACQUISITION (27. Acquisition Con RELOCATION COST 28. Owner	ncy for design plan stage: ns - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42) isultant-50% of parcels S (PHASE 45)	6 (3) 60% plans - 11	0% (4) 90% plans -105% 0		late -100%	= TOTAL F	PHASE 43	145,900	
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/				TRANSPORTATION		
FM#: County: State Rd.: Project Des.	430051-1 Hernando SR 50/US 98/ SR 700 SR 50 from Brooksville Bypass t	Alternate: Segment: FAP#: o 1-75	SMF-5C/FPC-5C N/A N/A		District: Date: C.E. Sequence	Seven 17-Dec-18 N/A
Parcels Commercial Residential Unimproved Total Parcels	Gross Net 0 0 1 1 0 0 1 1 1 1 1			Estimated Rel Business Residential Signs Special Total Relocate	Ē	0 2 0 0 2
R/W SUPPORT CO			- Autor		Amount	
1. Direct Labor C 2. Indirect Overh			x <u>20,000</u> = x 0 =	Rate) Rate)	20,000	
3.			×	inde/	TOTAL PHASE 41	\$20,000
 Court Reporte Expert Witnes Mediators Demolition, A Miscellaneou 	s Through Trial nage CPA Fees Through Trial r & Process Servers is sb. Abate., Survey, etc. s Contracts	<u>50%</u> 75% 75%	x <u>1</u> = x <u>1</u> = x <u>1</u> =	0 Claims 1 Parcels 1 Parcels 1 Parcels 2 Imprvmet	x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 15,000 =	ount 30,000 0 500 30,000 2,400 30,000 15,000
11. Appraisal Fee	Review			0 Parcels	x 5,000 =	0
12.	1011100 1-1				TOTAL PHASE 4B	\$107,900
and Cost to C 14. Water Retentit 15. SUBTOTAL (5) 16. Admin. Settler 17. Litigation Awa 18. Business Dam 19. Bus. Damages 20. Owner Appr. F 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl. R/W ACQUISITION	ments & Severance Damages ure Amount on & Mit. (0 Ponds) 7,648 SF) ments (Factor ards (Factor lages (Claims : Incrs. (Factor Fees (Parcels (Claims Des (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) m. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% (. N CONSULTANT (PHASE 42) Desultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty	650,000 0 20% 45% 0 25% 1 0 25% 1 0 255% 1 0 255% 1 0 255% 3 25% 1 0 25% 3 50% plans - 110 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000 \$3,000	x 60% of x 45% of x 0) x \$ - } x \$15,000 x \$16,000 x 33%) + 0) x \$1,000	Parcels w/o R/W Acq) (Lines 13 &14) Line 15) Line 15) 	=	2780,000 350,600 \$1,130,600 \$0 \$0 \$0 \$70,000
34. Relocation Se	rvices Cost	_	\$7,000	(Not in Phase Total)		
35. 36.						
37.				(All Phases)	TOTAL ESTIMATE	\$1,328,500
Real Estate: Bus. Dam. : Relocation: Overall Review:	Stephen Cross Stephen Cross D. Wade Brown	Signed: Signed: Signed: Signed:	Fayer In.	~	Date: Date: Date: Date:	12/17/18 12/17/18 12/17/18
Cost Estimate Seq	uence #: Dated:	12/17/2018	In the Amount of \$	\$1,328,500	Data Input Completion D	ate: 12/17/2018
x	icates the estimator's confidence Type A - indicates the most confi Type B - indicates above average Type C - indicates below average Type D - indicates the least or no icates the Department's purpose fo	idence e confidence e confidence n confidence	nate:			
Work Program Up Comments:		_Gaming 1:		Special Purpose:	X Doc	es to RW:

FM#: County: State Rd.:		DISTRICT	SEVEN RIGHT OF V	NAY COST ESTIMAT	E		
	430051-1 Hernando SP 50/US 08/ SP 700	Alternate: Segment: EAD#	FPC-6-9A N/A		District: Date:	-	Seven 17-Dec-18
roject Des.	SR 50/US 98/ SR 700 SR 50 from Brooksville Bypass	FAP#: s to 1-75	N/A		C.E. Sequence		N/A
arcels	Gross Net			Estimated R	elocatees:		
ommercial esidential				Business Residential		0	
nimproved				Signs	-	0	
minproved				Special	1	0	
otal Parcels	1 1			Total Reloca		0	in the second second
W SUPPORT COS Direct Labor Co			20.000	Petel	Amount 20,000		
. Direct Labor Co Indirect Overhe	•		x <u>20,000</u> = x 0 =	and and a second se	20,000		
. manescoverne	i uiceia		·	indic)	TOTAL PHASE 41		\$20,00
W OPS (PHASE 4	4B)					Amount	
. Appraisal Fees	s Through Trial			1 Parcels	x 30,000 =	30,000	
	age CPA Fees Through Trial		4	0 Claims	x 19,000 =	0	
	& Process Servers	50%	x <u>1</u> =	1 Parcels	x 500 =	500	
Expert Witness Mediators	S	75% 75%	x <u>1</u> =	1 Parcels 1 Parcels	x 30,000 = x 2,400 =	30,000 2,400	
	sb. Abate., Survey, etc.	1376	1	0 Imprvmet	x 15,000 =	2,400	
Miscellaneous	s Contracts			1 Per Project		15,000	
. Appraisal Fee I				0 Parcels	x 5,000 =	0	
				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	TOTAL PHASE 4B		\$77,90
W LAND COSTS	(PHASE 43)				Amount 5	Subtotal	
	ments & Severance Damages	in the	A State	an an an	-		
and Cost to Cu		479,069		Design plan stage	= 574,900		
	on & Mit. (0 Ponds)	0	x <u>120%</u> (Parcels w/o R/W Acq)	0	F74 000	
SUBTOTAL (57,				(Lines 13 & 14)		574,900	
6. Admin. Settlem	and the second sec	20%		f Line 15)	= 69,000		
. Litigation Awa	Contraction of Manager Street and	45%		f Line 15)	= 103,500		
. Business Dama		0	x()		= 0		
. Bus. Damages		25%	x \$ -)		= 0		
. Owner Appr. Fe		1	x \$15,000)				
Owner CPA Fee		172 500	x \$16,000)		= 0 = 56,900		
Defend.Atty Fee		172,500	x <u>33%</u>)	x 18,000	= 18,000		
. Owner Expert v	Witness (Comm.+Unimp.)	1	x \$1,000	x 10,000	= 1,000		
5. SUBTOTAL	n. Costs		x \$1,000	(Lines 16 thru 24)	= 1,000	263,400	
SUBTUTAL				(Lines to und 24)	TOTAL PHASE 43	200,400	\$838,300
	ency for design plan stage:				L'enne chines to		
(1) PD&E pla	ans - 120% (2) 30% plans - 115%	6 (3) 60% plans - 11	0% (4) 90% plans -105%	% (5) 268 Date -100%			
	CONCULTANT (DUASE 42)			and the second second second second		1. A. A.	
and the second straight she had					(mail 1)		
and the second straight she had	insultant-50% of parcels	\$20,000	x 0		TOTAL PHASE 42		\$0
Acquisition Co	nsultant-50% of parcels TS (PHASE 45)	\$20,000			TOTAL PHASE 42		\$1
Acquisition Con ELOCATION COST	nsultant-50% of parcels		Number	Amount			\$1
Acquisition Con ELOCATION COST	nsultant-50% of parcels TS (PHASE 45)	\$35,000	Number x 0		0		SI
Acquisition Con ELOCATION COST Owner Tenant	nsultant-50% of parcels TS (PHASE 45) Replacement Housing		Number	1 (in the second se			\$6
Acquisition Con ELOCATION COST Owner Tenant	nsultant-50% of parcels TS (PHASE 45)	\$35,000 \$25,000	Number x 0		0		\$1
. Acquisition Con ELOCATION COST 6. Owner 6. Tenant 6. Residential	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs	\$35,000 \$25,000 \$5,000	X <u>O</u> X <u>O</u> X <u>O</u>	:	0		\$0
ELOCATION COST). Owner). Tenant). Residential 1. Business/Farm	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs	\$35,000 \$25,000 \$5,000 \$40,000	Number x 0				\$0
Acquisition Con ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty	\$35,000 \$25,000 \$5,000	Number x 0 x 0 x 0 x 0 x 0 x 0				
Acquisition Con ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 82)	\$35,000 \$25,000 \$5,000 \$40,000	Number x 0 x 0 x 0 x 0 x 0 x 0				
Acquisition Con LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 82)	\$35,000 \$25,000 \$5,000 \$40,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0				
Acquisition Con LOCATION COST Owner Tenant Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 82)	\$35,000 \$25,000 \$5,000 \$40,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	=(=(=((Not in Phase Total)	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		\$
Acquisition Con LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 32) rvices Cost	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0		TOTAL PHASE 45	40/49/46	\$
Acquisition Con ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser (Relocation Ser (Relocation Ser	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 82)	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	=(=(=((Not in Phase Total)	0 0 0 TOTAL PHASE 45 TOTAL ESTIMATE Date:	12/17/18	\$1
Acquisition Con LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser Relocation Ser Sal Estate:	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 32) rvices Cost	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	=(=(=((Not in Phase Total)	0 0 0 TOTAL PHASE 45 TOTAL ESTIMATE Date: Date:	12/17/18	ş
Acquisition Con LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser Bal Estate: J. Dam. : Personal Prope	nsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 32) rvices Cost	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	=(=(=((Not in Phase Total)	0 0 0 TOTAL PHASE 45 TOTAL ESTIMATE Date:	12/17/18	\$
Acquisition Con ELOCATION COST Owner Tenant Basidential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser (Basid Basid Basid Costant Basid	Insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs Formation of the second	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	=(=(=(=((Not in Phase Total) (All Phases)	0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	12/17/18	\$0 \$936,200 12/17/2018

-				ARTMENT OF			C		
		DISTRICT S	EVE	N RIGHT OF W	VAY COS	T ESTIMATI			
FM#:	430051-1	Alternate:		FPC-6-9B + Ease	8. 		District:		Seven
County: State Rd.:	Hernando SR 50/US 98/ SR 700	Segment: FAP#:		N/A N/A			Date: C.E. Sequence		17-Dec-18 N/A
Project Des.	SR 50 from Brooksville Bypass							-	
Parcels Commercial	Gross Net					Estimated Re Business	ocatees:	0	
Residential	1 1					Residential		0	
Unimproved	3 3					Signs	1 12	0	
Total Parcels	4 4					Special Total Relocat	- 244	0	
R/W SUPPORT COS			-			Total herocat	Amount		
1. Direct Labor Co		4	x	20,000 =	Rate)	80,000		
2. Indirect Overhe	ad (Parcels	4	x	0 =	Rate)	0		
3.	and the second second		_			-	TOTAL PHASE 41	_	\$80,00
R/W OPS (PHASE 4						Parcels		nount 120,000	
4. Appraisal Fees 5. Business Dama	age CPA Fees Through Trial				4	Claims	x 30,000 = x 19,000 =	120,000	
6. Court Reporter	& Process Servers	50%	x	4 =			x 500 =	1,000	
7. Expert Witness	1	75%	×	=		Parcels Parcels	x 30,000 =	90,000	
8. Mediators 9. Demolition Asl	b. Abate., Survey, etc.	75%	×	4 =	3		x 2,400 = x 15,000 =	7,200	
10. Miscellaneous					1	Per Project	x 15,000 =	15,000	
11. Appraisal Fee F	Review				1	Parcels	x 5,000 =	5,000	4000.00
12.			_				TOTAL PHASE 4B		\$238,20
R/W LAND COSTS							Amount Si	ibtotal	
and Cost to Cu	nents & Severance Damages	457,095	x	120%	* Design p	lan stane	= 548,500		
14. Water Retentio			x		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	/o R/W Acq)	0		
15. SUBTOTAL (57,	a far the second s				(Lines 13		-	548,500	
16. Admin. Settlem	A THE STREET STREET	20%	×		f Line 15)	10.00	= 65,800		
17. Litigation Awa		45%	×		f Line 15)		=98,700		
18. Business Dama 19. Bus. Damages I		25%	×	<u>()</u> () ()			= 0		
20. Owner Appr. Fe		4	x	\$15,000)			= 60,000		
21. Owner CPA Fee	Agend and a grad to be a set of the	0	x	\$16,000)		0	= 0		
22. Defend.Atty Fee		164,500	x	33%)		1 6	= 54,300		
23. Owner Expert V			+ .	3)	x 18,000	-	= 54,000		
24. Other Condemn 25. SUBTOTAL	1. Costs	4	x	\$1,000	(Lines 16		= 4,000	336,800	
26.					Junioo Io	000.24	TOTAL PHASE 43		\$885,30
* Design continge	ncy for design plan stage:					1.			
the state of the s	ns - 120% (2) 30% plans - 115%	(3) 60% plans - 110	1% (4)	90% plans -105%	% (5) 268 D	ate -100%	_		
	CONSULTANT (PHASE 42) nsultant-50% of parcels	\$20,000	x	0			TOTAL PHASE 42		SI
RELOCATION COST	the second s	1	-			-			
	Replacement Housing			Number		Amount			
28. Owner		\$35,000	x	0	÷	0			
29. Tenant	Move Costs	\$25,000	×	0	-	0			
30. Residential	WOVE COSts	\$5,000	x	0		0			
		\$40,000	x	0		0			
	ertv	\$3,000	×	0		0	TOTAL DULLOF IT		
31. Business/Farm 32. Personal Prope						Inter Total	TOTAL PHASE 45		\$
31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 33	2)			to.	(Notin P				
31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 33	2)		_	\$0	(Not in Pl	last fordity			
31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 33	2)		-	\$0	(Not in Pi				
30. Residential 31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Sen 35. 36. 37.	2)			\$0	(Not in Pl	(All Phases)	TOTAL ESTIMATE		\$1,203,50
31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3: 34. Relocation Sen 35. 36. 37.	2)	Signed:	1	\$0	(Not in Pi		Date:	12/17/18	\$1,203,50
31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3: 34. Relocation Sen 35. 36. 37. Real Estate: Bus. Dam. ;	2) vices Cost	Signed:	1	\$0 771/1-1-	(Not in Pi		Date: Date:	12/17/18	\$1,203,50
31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3: 34. Relocation Sen 35. 36. 37. Real Estate: Bus. Dam. ; Relocation:	2) vices Cost Stephen Cross	Signed: Signed:	1-	\$0			Date:	12/17/18	\$1,203,50
31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 44. Relocation Sen 35. 36. 37. Real Estate: Bus. Dam. : Relocation:	2) vices Cost	Signed:	12	\$0	(Not in Pi	(All Phases)	Date: Date: Date:	12/17/18	\$1,203,50

			전신 영상 이 전에 가지 않는 것이 없다.	TRANSPORTATION		
FM#: County: State Rd.: Project Des.	430051-1 Hernando SR 50/US 98/ SR 700 SR 50 from Brooksville Bypass	Alternate: Segment: FAP#: to L-75	FPC-6-9C N/A N/A		District: Date: C.E. Sequence	Seven 17-Dec-18 N/A
Parcels Commercial Residential Unimproved Total Parcels	Gross Net 0 0 0 0 1 1	101973		Estimated Re Business Residential Signs Special Total Reloca	Ę	0 0 0 0 0
R/W SUPPORT C 1. Direct Labor (ost (Parcels	1	x 20,000		Amount 20,000	
2. Indirect Overl 3.	aro <u>stan</u> a	1	x0	= Rate)	0 TOTAL PHASE 41	\$20,00
 Court Reports Expert Witne Mediators 	es Through Trial nage CPA Fees Through Trial er & Process Servers ss sb. Abate., Survey, etc. is Contracts	50% 75% 75%		1 Parcels 0 Claims = 1 Parcels = 1 Parcels = 1 Parcels 0 Imprvmet 1 Per Project 0 Parcels	An x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 5,000 = TOTAL PHASE 4B	mount 30,000 0 500 30,000 2,400 0 15,000 0 \$77,90
R/W LAND COST	S (PHASE 43)					ibtotal
 Land, Improve and Cost to C Water Retent SUBTOTAL (5 Admin. Settle Litigation Aw Business Dan Bus. Damage Owner Appr. Owner CPA F Defend.Atty F Owner Expend Other Conden SUBTOTAL 	ements & Severance Damages ure Amount ion & Mit. (0 Ponds) 7,648 SF) ments (Factor ards (Factor ards (Factor arges (Claims s Incrs. (Factor Fees (Parcels ees (Claims ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	333,484 0 20% 45% 0 25% 1 0 129,000 0 129,000 0	x <u>120%</u> x <u>60%</u>	* Design plan stage O Parcels w/o R/W Acq) (Lines 13 &14) of Line 15) of Line 15) x <u>18,000</u> (Lines 16 thru 24)	= <u>400,200</u> = <u>48,000</u> = <u>81,000</u> = <u>0</u> = <u>0</u> = <u>15,000</u> = <u>15,000</u> = <u>18,000</u> = <u>1,000</u> = <u>1,000</u>	400,200
26. * Design conting	ency for design plan stage: ans - 120% (2) 30% plans - 115%	121 5011 -1 11	0% (4) 00% -1 10	0/ /EL 250 Data 1000/	TOTAL PHASE 43	\$605,80
R/W ACQUISITIO	N CONSULTANT (PHASE 42)	4,000		% (5) 200 Date -100%		
27. Acquisition C RELOCATION COS	onsultant-50% of parcels	\$20,000	x 0		TOTAL PHASE 42	Şi
28. Owner 29. Tenant 30. Residential 31. Business/Farr 32. Personal Proj 33. (Lines 28 thru	Replacement Housing Move Costs n verty	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	Amount = 0 = 0 = 0 = 0 = 0		S
34. Relocation Se			\$0	(Not in Phase Total)		
35. 36. 37.				(All Phases)	TOTAL ESTIMATE	\$703,700
Real Estate: Bus. Dam. : Relocation: Overall Review:	Stephen Cross D. Wade Brown	Signed: Signed: Signed: Signed:	-frequely in	~	Date: Date: Date: Date:	12/17/18 12/17/18
Cost Estimate Sec REMARKS:	uence #: Dated:	12/17/2018	In the Amount of \$	\$703,700	Data Input Completion	Date: 12/17/2011
x	icates the estimator's confidence _Type A - indicates the most con _Type B - indicates above averag _Type C - indicates below averag _Type D - indicates the least or n icates the Department's purpose date: X	fidence je confidence je confidence o confidence	nate:	Special Purpose:	X Do	ocs to RW:

Seven 17-Dec-18 N/A \$20,000 \$20,000
\$20,000
\$11,500
5.
\$328,700
\$320,700
\$0
-
\$0
\$426,600
\$426,600
)

\$20,000
\$20,000
\$20,000
\$20,000
\$20,000
\$107,900
\$213,300
\$0
\$0
\$0
\$341,200
12/17/2018

					ARTMENT OF N RIGHT OF W			E			
FM#: County: State Rd.: Project Des.			Alternate: Segment: FAP#: s to I-75		SMF-6C + Ease N/A N/A			Distric Date: C.E. Se	et: equence		Seven 6-Jun-18 N/A
Parcels Commercial Residential Unimproved Total Parcels	Gross () 1 () () 1	Net 0 1 0 0					Estimated Re Business Residential Signs Special Total Relocat			0 0 0 0 0	
R/W SUPPORT C 1. Direct Labor C 2. Indirect Over	ost	ASE 41) (Parcels (Parcels	1	x x	<u> </u>			Amour	20,000		
3. R/W OPS (PHASE	(ID)			-		_		TOTAL	PHASE 41		\$20,00
4. Appraisal Fee	es Througl nage CPA er & Proce ss sb. Abate us Contrac	Fees Through Trial ss Servers ., Survey, etc.	50% 75%	x x x	<u> </u>	1 0 1 1 0 1 0	Parcels Parcels Parcels Imprvmet Per Project	x x x x x x x x x x x x x	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 5,000 = PHASE 4B	Amount 30,000 0 500 30,000 2,400 0 15,000 0	\$77.00
R/W LAND COST	S (PHASE	43)		-		_		Amour	the second second	Subtotal	\$77,900
	ements & i ure Amou ion & Mit. 7,648 SF) ments ards hages s Incrs. Fees ees ees Witness	Severance Damages nt (O Ponds) (Factor (Factor (Claims (Factor (Parcels (Claims (Sum of Lines 16, 17 & 19)	93,186 0 20% 45% 0 25% 1 0 36,000 0 1	x x x x x x x x x x + x	120% (0 60% o	(Lines 13 f Line 15) f Line 15)	ı/o R/W Acq) 8 &14))		111,800 0 13,400 22,600 0 15,000 0 11,900 0 1,000	<u>111,800</u> 63,900	
25. SUBTUTAL 26.						(Lines 16	thru 24)	-	PHASE 43	63,900	\$175,700
		lesign plan stage: % (2) 30% plans - 115%	(2) 60% plana 11	no/ /	A) 000/ alasa 1050	1 151 200 5					0110,700
and the second		TANT (PHASE 42)	10/ 00/0 prails - 11	0 10 1	4) 50 % pians -105 %	0 (5) 200 D	ale -100%		-	_	
27. Acquisition C			\$20,000	x	0			TOTAL	PHASE 42		\$0
RELOCATION COS 28. Owner 29. Tenant 30. Residential	Replace Move Co	ment Housing	\$35,000 \$25,000 \$5,000	x x x	Number 0 0		Amount 0 0				
31. Business/Farr 32. Personal Prop			\$40,000 \$3,000	x x	0	=	0				
33. (Lines 28 thru	32)			^				TOTAL	PHASE 45		\$0
34. Relocation Se	rvices Co	st		_	\$0	(Not in P	hase Total)				
35. 36.											
37. Real Estate: Bus. Dam. ; Relocation:	Stephen	Cross	Signed: Signed:	7	tep f los	"	(All Phases)	TOTAL	ESTIMATE Date: Date:	06/18/18	\$273,600
Overall Review:	D. Wade	Brown	Signed: Signed:	-	mager	-		-	Date:	06/18/18	
Cost Estimate Sec	uence #:	Dated:	6/18/2018	In th	he Amount of \$	\$273 600		Data lanu	t Completie	n Data:	C/10/2010
No. of Concession, Name of Street, or other	achee m	Dated.	0/10/2010	mu	ie Aniount of a	\$213,000	-	Data Inpu	Completit	on Date:	6/18/2018
Cost Estimate Seq REMARKS:	uence #:	Dated:	6/18/2018	In ti	he Amount of \$	\$273,600		Data Inpu	t Completio	on Date:	6/18/201
The following ind		estimator's confidenc indicates the most con		nate:							
X	Type B - Type C -	indicates the most con indicates above avera indicates below avera indicates the least or	ge confidence ge confidence								
The following ind Work Program Up Comments:		Department's purpose	for this estimate: Gaming 1:			Special F	Purpose:	;	x	Docs to RW:	

County: State Rd.:	1-20.0	DISTRICT S		ARTMENT OF 1 N RIGHT OF W			E			_
	430051-1 Hernando SR 50/US 98/ SR 700	Alternate: Segment: FAP#:		SMF-7A/SMF-8A N/A N/A			District Date: C.E. Ser			Seven 6-Jun-18 N/A
Commercial Residential Unimproved Total Parcels	SR 50 from Brooksville Bypass Gross Net 0 0 0 0 2 2 2 2	101-75				Estimated Rel Business Residential Signs Special Total Relocat		1111	0 0 0 0 0	
R/W SUPPORT COS 1. Direct Labor Cos 2. Indirect Overhe	st (Parcels	2	x x	<u>20,000</u> = 0 =			Amount	t 40,000 0		
3.							TOTAL	PHASE 41		\$40,0
 Court Reporter Expert Witness Mediators Demolition, Asl Miscellaneous Appraisal Fee F 	Through Trial age CPA Fees Through Trial & Process Servers b. Abate., Survey, etc. Contracts	50% 75% 75%	x x x	2 = 2 = 2 =	2 0 1 2 2 0 1 1		x x x x x x x x x x	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 5,000 =	mount 60,000 0 500 60,000 4,800 0 15,000 5,000	
12. R/W LAND COSTS	PHASE 43)						Amount	PHASE 4B	ubtotal	\$145,3
	nents & Severance Damages re Amount n & Mit. (O Ponds) 648 SF) ents (Factor	<u>115,885</u> 0 <u>20%</u> 45%	x x x x	<u> </u>	<i>Design p</i> Parcels w (Lines 13 f Line 15) f Line 15)	/o R/W Acq) &14)		<u>139,100</u> 0 <u>16,700</u> 25,000	139,100	
 Business Dama Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee 	ncrs. (Factor ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19)	0 25% 2 0 41,700	x x x x x x	0) \$) \$15,000) \$16,000) 33%)				0 0 30,000 0 13,800		
24. Other Condemn 25. SUBTOTAL	Vitness (Comm.+Unimp.) 1. Costs	0 2	+ x	2);	x 18,000 (Lines 16		= =	36,000 2,000	123,500	
26. * Design continge	ncy for design plan stage:						TUTAL	PHASE 43		\$262,6
And the second second second	ns - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42)	(3) 60% plans - 110	1% (4	H 90% plans -105%	6 (5) 268 L	late -100%	-			
27. Acquisition Con	nsultant-50% of parcels	\$20,000	x	0			TOTAL	PHASE 42		
RELOCATION COST	TS (PHASE 45) Replacement Housing		1	Number		Amount				
28. Owner 29. Tenant		\$35,000 \$25,000	x x		-	0				
and the second	Move Costs	\$5,000	x							
30. Residential 31. Business/Farm		\$40,000	x	0	-	0				
30. Residential 31. Business/Farm 32. Personal Prope			x x	0 0 0	-	0 0 0	TOTAL	PHASE 45		
30. Residential 31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser	2)	\$40,000	x x		-		TOTAL	PHASE 45		
 Residential Business/Farm Personal Prope (Lines 28 thru 3) Relocation Ser 35. 36. 	2)	\$40,000	x x	0	-	0	TOTAL	PHASE 45		
 Residential Business/Farm Personal Prope (Lines 28 thru 3) Relocation Ser 35. 36. 37. 	2) vices Cost	\$40,000 \$3,000	x	0	-	0		ESTIMATE		\$447,5
 Residential Business/Farm Personal Prope (Lines 28 thru 3) Relocation Ser 35. 36. 37. Real Estate: Bus. Dam. : Relocation: 	2) vices Cost Stephen Cross	\$40,000 \$3,000 Signed: Signed: Signed:	×××	0	-	0 hase Total)		ESTIMATE Date: Date: Date:	06/18/18	
 Residential Business/Farm Personal Prope (Lines 28 thru 3) Relocation Ser 35. 36. 37. Real Estate: Bus, Dam. : Relocation: 	2) vices Cost	\$40,000 \$3,000 Signed: Signed:	××	0	-	0 hase Total)		ESTIMATE Date: Date:	06/18/18	
30. Residential				0	=	0				

						ARTMENT OF N RIGHT OF W			E				
FM#: County: State Rd.: Project Des.		do S 98/ SR 70) ville Bypass	Alternate: Segment: FAP#: to I-75		SMF-7B/SMF-8B N/A N/A	+ Ease		Distric Date: C.E. Se	et: equence		Seven 6-Jun-18 N/A	í.
Parcels Commercial Residential Unimproved Total Parcels	Gross 0 0 1	Net 0	ine Dypuss					Estimated Re Business Residential Signs Special Total Relocat		-	0 0 0 0 0		
R/W SUPPORT CO 1. Direct Labor C 2. Indirect Overh	ost	(P	arcels arcels	1	x x	<u>20,000</u> = 0 =			Amour	nt 20,000 0			
3.	-		1994	1.00			a sex		TOTAL	PHASE 41			\$20,000
 R/W OPS (PHASE 4. Appraisal Fee 5. Business Dan 6. Court Reporte 7. Expert Witnes 8. Mediators 9. Demolition, A 10. Miscellaneou 11. Appraisal Fee 12. 	es Through nage CPA er & Proce ss sb. Abate is Contrac	Fees Throu ss Servers , Survey, et		<u> </u>	x x x	<u>1</u> = <u>1</u> = <u>1</u> =	1 0 1 1 1 0 1 0	Parcels Imprvmet Per Project	x	30,000 = 19,000 = 500 = 2,400 = 15,000 = 15,000 = 5,000 = PHASE 4B	Amount 30,000 500 30,000 2,400 0 15,000 0		\$77,900
R/W LAND COSTS					-				Amoun		Subtotal		<i>11,</i> 500
 Land, Improve and Cost to C Water Retenti SUBTOTAL (5') Admin. Settle Litigation Aw Business Dan Bus. Damages Owner Appr. I Owner CPA Fe Defend.Atty Fe Owner Expert Other Conden SUBTOTAL SUBTOTAL 	ure Amou ion & Mit. 7,648 SF) ments ards hages s Incrs. Fees ees ees Witness	nt (0 Ponds) (Factor (Factor (Claims (Factor (Parcels (Claims (Sum of Lines	16, 17 & 19)	86,432 0 20% 45% 0 25% 1 0 33,400 0 1	x x x x x x x x x x x x x x x x x x x	<u>120%</u> (0	(Lines 13 f Line 15) f Line 15)	//o R/W Acq) &14)	= = = = = = = =	103,700 0 12,400 21,000 0 15,000 0 11,000 18,000 1,000	103,700 78,400		192 100
26. * Design conting	ency for a	lesign plan .	stage:						TOTAL	PHASE 43		\$1	182,100
(1) PD&E pl R/W ACQUISITION	and the second second			(3) 60% plans - 11	0% (*	4) 90% plans -105%	6 (5) 268 D	ate -100%	_	-	_	_	-
27. Acquisition C	onsultant-	50% of parce		\$20,000	x	0		-	TOTAL	PHASE 42			\$0
RELOCATION COS 28. Owner 29. Tenant 30. Residential 31. Business/Farm	Replace Move Co	ment Housi	ng	\$35,000 \$25,000 \$5,000 \$40,000	x x x x x	Number 0 0 0		Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					
32. Personal Prop 33. (Lines 28 thru				\$3,000	x	0	-	0	TOTAL	PHASE 45			\$0
34. Relocation Se		st				\$0	(Not in P	hase Total)	TOTAL	THASE 45			ŞU
35. 36.								-					1
37. Real Estate: Bus. Dam. : Relocation: Overall Review:	Stephen D. Wade			Signed: Signed: Signed: Signed: Signed:	1	anei.	~	(All Phases)	TOTAL	ESTIMATE Date: Date: Date: Date:	06/18/18	\$2	280,000
Cost Estimate Seq	uence #:		Dated:	6/18/2018	In ti	e Amount of \$	\$280,000		Data Inpu	t Completion	Date:	6/1	8/2018
X	_ Type A - _ Type B - _ Type C - _ Type D -	indicates t indicates a indicates b indicates t	he most con bove averag elow averag he least or n	je confidence je confidence o confidence	nate:								
The following ind Work Program Up Comments:	date:	Departmen	t s purpose i	or this estimate: Gaming 1:			Special F	Purpose: _	L L R	x _ D	ocs to RW:		

						ARTMENT OF N RIGHT OF W			E			
FM#: County: State Rd.:		do IS98/SR700		Alternate: Segment: FAP#:		SMF-7C/SMF-8C N/A N/A			Distric Date:	t: quence		Seven 6-Jun-18 N/A
Project Des. Parcels Commercial Residential Unimproved	Gross	Net 0 0 0 0 1	ville Bypass	to 1-75				Estimated Re Business Residential Signs Special			0 0 0 0	
Total Parcels R/W SUPPORT C	(OSTS (PH	and the second second						Total Relocat	ees Amoun	t	0	
1. Direct Labor (2. Indirect Over)			Parcels Parcels	1	x x	<u>20,000</u> = 0 =				<u>20,000</u> 0		
3. R/W OPS (PHASE	4B)	_			-				TOTAL	PHASE 41	Amount	\$20,0
 Appraisal Fee Business Dar Court Reports Expert Witne Mediators Demolition, A Miscellaneou Appraisal Fee 12. 	es Throug nage CPA er & Proce ss Isb. Abate us Contrac	Fees Throu ss Servers ., Survey, e		50% 75% 75%	x x x		1 0 1 1 0 1 0	Claims Parcels Parcels Parcels Imprvmet Per Project	X X X X X X X X X	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 5,000 = PHASE 4B	30,000 0 500 30,000 2,400 0 15,000 0	\$77.9
R/W LAND COST	S (PHASE	43)					-		Amoun		Subtotal	\$77,9
 Land, Improve and Cost to C Water Retent SUBTOTAL (5 Admin. Settle Litigation Aw Bus. Damage Owner Appr. Owner CPA F Defend.Atty F Owner Experi Other Conden SUBTOTAL SUBTOTAL 	ements & Gure Amou ion & Mit. 7,648 SF) ments ards nages s Incrs. Fees ees ees ees t Witness	Severance nt (O Ponds) (Factor (Factor (Claims (Factor (Parcels (Claims (Sum of Lines	s 16, 17 & 19)	72,020 0 20% 45% 0 25% 1 0 27,900 0 1	x x x x x x x x x x x x x x x x x x x	<u> </u>) Parcels v (Lines 1: f Line 15) f Line 15) x <u>18,00</u>			86,400 0 10,400 17,500 0 15,000 0 9,200 18,000 1,000 PHASE 43	<u>86,400</u> 71,100	\$157,5
* Design conting (1) PD&E pl	ency for a lans - 1209	lesign plan % (2) 30% p	stage: plans - 115%	(3) 60% plans - 11	0% 14	4) 90% plans -105%	6 (5) 268 [Date -100%				+10110
R/W ACQUISITIO	N CONSU	TANT (PH	ASE 42)	22.11.1					1			
27. Acquisition C RELOCATION COS			els	\$20,000	x	0			TOTAL	PHASE 42		
28. Owner 29. Tenant 30. Residential 31. Business/Farr 32. Personal Prop	Move C n perty	ement Hous osts	ing	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x x x x	Number 0 0 0 0 0 0		Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				
33. (Lines 28 thru 34. Relocation Se		st				\$0	(Not in P	hase Total)	TOTAL	PHASE 45		
35. 36.							_					
37. Real Estate: Bus. Dam. : Relocation:	Stephen			Signed: Signed: Signed:	7.	legers f som	1	(All Phases)	TOTAL	ESTIMATE Date: Date: Date:	06/18/18	\$255,4
Overall Review:	D. Wade	Brown	5.5	Signed:	1	and the	-		÷	Date:	06/18/18	
Cost Estimate Sec REMARKS:	uence #:		Dated:	6/18/2018	In th	e Amount of \$	\$255,400) 1	Data Input	Completio	n Date:	6/18/201
The following ind			s confidence	in the above estin	nate:							
X	Туре В - Туре С - Туре D -	indicates a indicates l indicates t	above averag below averag he least or n	ge confidence ge confidence o confidence								
The following ind Work Program Up Comments:		Departmer	it's purpose	for this estimate: Gaming 1:			Special I	Purpose: _	X	(I	Docs to RW:	

County: State Rd.: Project Des. Parcels	430051-1	Alternate:	_	SMF-9A		ESTIMAT	District:		Seven
	Hernando SR 50/US 98/ SR 700 SR 50 from Brooksville Bypa:	Segment: FAP#: ss to 1-75		N/A N/A			Date: C.E. Sequence		17-Dec-18 N/A
arcels commercial esidential nimproved otal Parcels	Gross Net 0 0 0 0 1 1 1 1					Estimated Re Business Residential Signs Special Total Relocat		0 0 0 0	
W SUPPORT COS	STS (PHASE 41)		-				Amount		
. Direct Labor Co	ost (Parcels	t	x	20,000 =			20,000		
Indirect Overhe	ead (Parcels	1	x	0 =	Rate)		0 TOTAL PHASE 41		00.003
AN ODC (DUACE A	(D)		_				TUTAL PHASE 41	Amount	\$20,00
i. Court Reporter 7. Expert Witness 8. Mediators	: Through Trial age CPA Fees Through Trial & Process Servers s b. Abate., Survey, etc. s Contracts	50% 75% 75%	x x x	<u></u> :	1 0 1 1 0 1 0	Parcels Claims Parcels Parcels Parcels Imprvmet Per Project Parcels	x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 15,000 = x 5,000 =	30,000 0 500 30,000 2,400 0 15,000 0	\$77,90
W LAND COSTS	(PHASE 43)				-		Amount	Subtotal	
3. Land, Improven and Cost to Cu	nents & Severance Damages ire Amount on & Mit. (0 Ponds)	<u> </u>	x x	<u> </u>		/o R/W Acq)	=	79,200	
6. Admin. Settlem		20%	×		Line 15)		= 9,500		
7. Litigation Awar 8. Business Dama		45%	x	40% of	Line 15)		= 14,300		
9. Bus. Damages I		25%	x	\$ -)			= 0		
0. Owner Appr. Fe		1	×	\$15,000)			= 15,000		
1. Owner CPA Fee 2. Defend.Atty Fee		23,800	×	\$16,000) 33%)			= 0 = 7,900		
	Witness (Comm.+Unimp.)	0	+	1):	x 18,000		= 18,000		
4. Other Condemn	n. Costs	1	x	\$1,000			= 1,000	CE 200	
5. SUBTOTAL 6.					(Lines 16	thru 24)	= TOTAL PHASE 43	65,700	\$144,90
Desian continue	ency for design plan stage:						L		
and the second	ns - 120% (2) 30% plans - 115	% (3) 60% plans - 11	7% (*	4) 90% plans -105%	6 (5) 268 D	ate -100%			
	CONSULTANT (PHASE 42) nsultant-50% of parcels	\$20,000	x	0			TOTAL PHASE 42		s
ELOCATION COST									
	Replacement Housing			Number		Amount			
8, Owner 9. Tenant		\$35,000 \$25,000	x x	0	-	0			
	Move Costs								
Death and a		\$5,000	×		-	0			
		\$3,000	x	0	1.90	0			
1. Business/Farm	21						TOTAL PHASE 45		\$
1. Business/Farm 2. Personal Prope 3. (Lines 28 thru 3			_	\$0	(Not in Pl	ase Total)			
1. Business/Farm 2. Personal Prope 3. (Lines 28 thru 3 4. Relocation Ser		_	_						
1. Business/Farm 2. Personal Prope 3. (Lines 28 thru 3: 4. Relocation Ser 5. 5.		-					- (
1. Business/Farm 2. Personal Prope 3. (Lines 28 thru 3: 4. Relocation Sen 5. 6. 7.	vices Cost			Contra	-	(All Phases)	TOTAL ESTIMATI	State of Lot of	\$242,80
1. Business/Farm 2. Personal Prope 3. (Lines 28 thru 3: 4. Relocation Sen 5. 5. 6. 7. eal Estate:		Signed: Signed:	7	apply in		(All Phases)	TOTAL ESTIMATE	12/17/18	\$242,80
1. Business/Farm 2. Personal Prope 3. (Lines 28 thru 3: 4. Relocation Sen 5. 5. 6. 7. eal Estate: us. Dam. : elocation:	vices Cost Stephen Cross	Signed: Signed:	7	ary m		(All Phases)	Date: Date: Date:	12/17/18	\$242,80
us. Dam. : elocation:	vices Cost	Signed:	7	tegel pro		(All Phases)	Date: Date:	State of Lot of	\$242,80

County: State Rd.:	100071 4	Alternation	SMF-9B				
roject Des	430051-1 Hernando SR 50/US 98/ SR 700	Alternate: Segment: FAP#:	N/A N/A		District: Date: C.E. Sequence		Seven 17-Dec-18 N/A
arcels ommercial esidential nimproved	SR 50 from Brooksville Bypass Gross Net 0 0 0 0 1 1 1	to 1-75		Estimated Re Business Residential Signs Special		0 0 0 0	
otal Parcels	1 1			Total Reloca		0	
/W SUPPORT COS . Direct Labor Cos		1	x 20,000 =	Rate)	Amount 20,000		
. Indirect Overhe	ead (Parcels	1	x	= Rate)		_	\$20,000
3. /W OPS (PHASE 4	(R)				TOTAL PHASE 41	nount	\$20,000
 Appraisal Fees Business Dama Court Reporter Expert Witness Mediators 	s Through Trial Iage CPA Fees Through Trial r & Process Servers	50% 75% 75%	x <u>1</u> x <u>1</u> x <u>1</u>	= 1 Parcels 0 Imprvmet	x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 =	30,000 0 500 30,000 2,400 0	
0. Miscellaneous				1 Per Project 0 Parcels	x 15,000 = x 5,000 =	15,000	
 Appraisal Fee F 2. 	neview			U FOICOIS	TOTAL PHASE 4B		\$77,900
W LAND COSTS	(PHASE 43)					btotal	
3. Land, Improven and Cost to Cu 4. Water Retentio	ments & Severance Damages ure Amount on & Mit. (O Ponds)	<u> </u>		* <i>Design plan stage</i> O Parcels w/o R/W Acq)	= <u>107,500</u> 0		
5. SUBTOTAL (57, 6. Admin. Settlem	ALC: NOT ALL AND ALC	20%	× 60% ((Lines 13 &14) of Line 15)	= 12,900	107,500	
 Admin. Settlem Litigation Awar 		45%		of Line 15)	= 19,400		
8. Business Dama	ages (Claims	0	x)		= 0		
). Bus. Damages I). Owner Appr. Fe		<u> </u>	x \$ -) x \$15,000)		= <u>0</u> = 15,000		
A DAVALUES AND THE PER	CPC		x \$16,000)		= 0		
·	es (Claims						
. Owner CPA Fee 2. Defend.Atty Fee	185 (Sum of Lines 16, 17 & 19)	32,300	x 33%)	× 10.000	= 10,700		
1. Owner CPA Fee 2. Defend.Atty Fee 3. Owner Expert V	es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	32,300 0	x 33%) + 1)	x <u>18,000</u>	= <u>10,700</u> = <u>18,000</u>		
1. Owner CPA Fee 2. Defend.Atty Fee 3. Owner Expert V 4. Other Condemn 5. SUBTOTAL	es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	32,300	x 33%)	x <u>18,000</u> (Lines 16 thru 24)	= <u>10,700</u> = <u>18,000</u> = <u>1,000</u>	77,000	
1. Owner CPA Fee 2. Defend.Atty Fee 3. Owner Expert V 4. Other Condemn 5. SUBTOTAL 6.	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs	32,300 0	x 33%) + 1)		= <u>10,700</u> = <u>18,000</u> = <u>1,000</u>	77,000	\$184,500
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL SuBTOTAL	es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	<u>32,300</u> 0 1	x 33%) + 1) x \$1,000	(Lines 16 thru 24)	= <u>10,700</u> = <u>18,000</u> = <u>1,000</u>	77,000	\$184,500
 Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design contingen (1) PD&E plan W ACQUISITION 	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42)	32,300 0 1 (3) 60% plans - 11	x 33%) + 1) x \$1,000	(Lines 16 thru 24)	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43	77,000	
 Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Substant Contingent (1) PD&E plant WACQUISITION Acquisition Cont 	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels	<u>32,300</u> 0 1	x 33%) + 1) x \$1,000	(Lines 16 thru 24)	= <u>10,700</u> = <u>18,000</u> = <u>1,000</u>	77,000	\$184,500 \$0
 Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Substortal <i>Design contingen</i> (1) PD&E plan WACQUISITION Acquisition Corr ELOCATION COST 	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels	32,300 0 1 (3) 60% plans - 11	x 33%) + 1) x \$1,000	(Lines 16 thru 24)	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43	77,000	
 Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL SuBTOTAL Design contingen (1) PD&E plan Acquisition Corr ELOCATION COST Owner 	Ses (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45)	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 Number x 0	(Lines 16 thru 24) % <i>(5) 268 Date -100%</i> Amount =0	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	77,000	
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Design contingen</i> (1) PD&E plan WACQUISITION Acquisition Corr ELOCATION COST Owner Tenant	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing	32,300 0 1 (3) 60% plans - 11 \$20,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 Number	(Lines 16 thru 24) % <i>(5) 268 Date -100%</i> Amount	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	77,000	
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Owner Contingen (1) PD&E plan</i> WACQUISITION Acquisition Corr ELOCATION COST Owner Tenant	Ses (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45)	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 X 0 Number x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% =0 =0 =0	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	77,000	
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Omegan contingen (1) PD&E plan (1) PD&E plan (2) PD&E plan (1) PD&E plan (2) PD&E plan (1) PD&E plan (1) PD&E plan (2) PD&E </i>	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels ITS (PHASE 45) Replacement Housing Move Costs	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 X 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	77,000	
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Omegan contingen (1) PD&E plan (1) PD&E plan (2) PD&E </i>	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$5,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 X 0 Number x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% = <u>Amount</u> = <u>0</u> = <u>0</u>	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	77,000	\$0
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Design contingen (1) PD&E plan</i> WACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 32	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 X 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	77,000	
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design contingen (1) PD&E plan WACQUISITION Acquisition Cor CLOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 32 Relocation Service	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0 = 0 = 0	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	77,000	\$0
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Osign contingen (1) PD&E plan (1) PD&E plan (2) PD&E plan (1) PD&E plan (2) PD&E plan (1) PD&E plan (2) PD&E plan (1) PD&E plan (2) PD&E p</i>	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0 = 0 = 0	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42	77,000	\$0
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Condemn</i> SUBTOTAL <i>Condemn Condemn Condemn</i>	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000 \$3,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0 (Not in Phase Total)	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE Date:	77,000	\$0 \$0
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Design contingen</i> (1) PD&E plan WACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 32 Relocation Ser .	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32) rvices Cost	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000 \$3,000 \$3,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0 (Not in Phase Total)	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE Date: Date: Date:		\$0 \$0
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL <i>Condemn</i> SUBTOTAL <i>Condemn Condemn Condemn</i>	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32) rvices Cost	32,300 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000 \$3,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0 (Not in Phase Total)	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE Date:		\$0 \$0
Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Owner Expert V Other Condemn SUBTOTAL Owner Contingen (1) PD&E plan WACQUISITION Acquisition Cor ELOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3: A Relocation Sen S. C. eal Estate: us. Dam. : elocation:	Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% A CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32) rvices Cost Stephen Cross D. Wade Brown	32,300 0 1 1 (3) 60% plans - 11 \$20,000 \$25,000 \$25,000 \$40,000 \$33,000 \$33,000 \$33,000	x 33%) + 1) x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount = 0 = 0 = 0 = 0 (Not in Phase Total)	= 10,700 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE Date: Date: Date: Date:	12/17/18	\$0 \$0

						ARTMENT OF			E				
FM#: County: State Rd.: Project Des.				Alternate: Segment: FAP#:		SMF-9C + Ease N/A N/A			Distric Date:	t: quence		Seven 6-Jun-18 N/A	
Parcels Commercial Residential Unimproved Total Parcels	Gross 0 0 2	Net 0 0 0 2 2	vine bypas	5.0175				Estimated Rel Business Residential Signs Special Total Relocat			0 0 0 0 0		
R/W SUPPORT C 1. Direct Labor (2. Indirect Over)	lost	(Pa	arcels	2	x x	<u>20,000</u> = 0 =			Amoun	t 40,000 0			
3.					_	1999 - 1993 - 19			TOTAL	PHASE 41			\$40,00
 R/W OPS (PHASE 4. Appraisal Fee 5. Business Dar 6. Court Reports 7. Expert Witne 8. Mediators 9. Demolition, A 10. Miscellaneou 11. Appraisal Fee 12. 	es Through nage CPA er & Proce ss isb. Abate us Contrac	Fees Throug ss Servers ., Survey, etc		50% 75% 75%	x x x	2 2 2 2	2 0 1 2 2 0 1 1	Parcels Parcels Parcels Imprvmet Per Project	x x x x x x x x x x x x x	30,000 = 19,000 = 500 = 2,400 = 15,000 = 5,000 = PHASE 4B	Amount 60,000 0 500 60,000 4,800 0 15,000 5,000		\$145,30
R/W LAND COST	S (PHASE	43)							Amoun		Subtotal		\$145,300
 Land, Improve and Cost to C Water Retent SUBTOTAL (5 Admin. Settle Litigation Aw Business Dar Bus. Damage Owner Appr. Owner CPA F Defend.Atty F Owner Experi Other Conden SUBTOTAL * Design conting 	ements & : cure Amou ion & Mit, 7,648 SF) ments ards nages s Incrs. Fees ees ees ees t Witness in. Costs	Severance D nt (O Ponds) (Factor (Factor (Claims (Factor (Parcels (Claims (Sum of Lines' (Comm.+Un	16, 17 & 19) imp.)	113,012 0 20% 45% 0 25% 2 5% 0 43,800 0 2 2 2 2 0 2 2 2 0 2 2	x x x x x x x x x x x x x x x x x x x	<u>120%</u> (((Lines 13 f Line 15) f Line 15)	v/o R/W Acq) &14) <u>)</u>		135,600 0 16,300 27,500 0 30,000 0 14,500 36,000 2,000 PHASE 43	135,600		\$261,900
				(3) 60% plans - 11	0% (4) 90% plans -105%	6 (5) 268 L	Date -100%					
R/W ACQUISITIO		ALL PARTY IS TO BE			5	1.1.1		_	1				
27. Acquisition C RELOCATION COS			IS	\$20,000	x	0	-	_	TOTAL	PHASE 42	-		SC
28. Owner 29. Tenant 30. Residential 31. Business/Fan 32. Personal Proj	Replace Move Co n perty	ement Housi	ng	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x x x x x	Number 0 0 0 0 0		Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6	1. Tay 10			
33. (Lines 28 thru 34. Relocation Se		st				\$0	(Not in P	hase Total)	TOTAL	PHASE 45			\$0
35.							(notin)	indate rotary					
36. 37. Real Estate:	Stephen	Cross		Signed:	7	Egolf in		(All Phases)	TOTAL	ESTIMATE Date:	06/18/18		\$447,200
	D. Wade	Brown		Signed: Signed: Signed:	×	ia north			-	Date: Date: Date:	06/18/18		
Cost Estimate Ser	uence #:		Dated:	6/18/2018	In th	he Amount of \$	\$447,200	i I I I I	Data Input	Completio	n Date:		6/18/2018
Relocation: Overall Review: Cost Estimate Sea REMARKS:	juence #:		k.	Signed: Signed: 6/18/2018			\$447,200		 Data Input	Date: Date:			6/18/20
The following ind X	Type A - Type B - Type C -	indicates th indicates a indicates b	ie most con bove averag elow averag	in the above estin fidence ge confidence ge confidence o confidence	nate:								
The following ind Work Program Up Comments:	icates the date:	Department	t's purpose t	for this estimate: Gaming 1:			Special I	^p urpose: _)	()	Docs to RW:		

Project Des. SR 50 Parcels Gross	ndo US 98/ SR 700	Alternate:	the second se	WAY COST ESTIMAT			
Commercial (Residential (Unimproved 1 Total Parcels 1	from Brooksville Bypa:	Segment: FAP#:	SMF-10A N/A N/A		District: Date: C.E. Sequence		Seven 6-Jun-18 N/A
R/W SUPPORT COSTS /PU	0 0 0 0 1 1 1 1			Estimated Ro Business Residential Signs Special Total Reloca		0 0 0 0 0	
 Direct Labor Cost Indirect Overhead 	ASE 41) (Parcels (Parcels	1		= Rate) = Rate)	Amount 		
3. R/W OPS (PHASE 4B)	1.1.1.1			inity	TOTAL PHASE 41	Amount	\$20,0
 Appraisal Fees Througl Business Damage CPA Court Reporter & Proce Expert Witness Mediators Demolition, Asb. Abate Miscellaneous Contract Appraisal Fee Review 2 	Fees Through Trial ess Servers ., Survey, etc.	50% 75% 75%	x 1	1 Parcels 0 Claims = 1 Parcels = 1 Parcels = 1 Parcels = 1 Parcels 0 Imprvmet 1 Per Project 0 Parcels	x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 5,000 = TOTAL PHASE 4B	30,000 0 500 30,000 2,400 0 15,000 0	\$77.0
R/W LAND COSTS (PHASE 13. Land, Improvements & S						Subtotal	\$77,90
and Cost to Cure Amou 14. Water Retention & Mit. 15. SUBTOTAL (57,648 SF) 16. Admin. Settlements 17. Litigation Awards 18. Business Damages	nt	211,926 0 20% 45% 0	x60%	* <i>Design plan stage</i> (0 Parcels w/o R/W Acq) (Lines 13 &14) of Line 15) of Line 15)	$= \underbrace{254,300}_{0}$ = \underbrace{30,500}_{0} = \underbrace{51,500}_{0}	254,300	
 Bus. Damages Incrs. Owner Appr. Fees Owner CPA Fees Defend.Atty Fees Owner Expert Witness Owner Condemn. Costs 	(Factor (Parcels (Claims (Sum of Lines 16, 17 & 19) (Comm.+Unimp.)	25% 1 0 82,000 0 1	x <u>\$</u> - x <u>\$15,000</u> x <u>\$16,000</u> x <u>33%</u> + <u>1</u> x \$1,000	x <u>18,000</u>	= 0 $= 15,000$ $= 0$ $= 27,100$ $= 18,000$ $= 1,000$		
5. SUBTOTAL 6. Design contingency for da	lesign plan stage:			(Lines 16 thru 24)	TOTAL PHASE 43	143,100	\$397,40
(1) DD&F alane _ 1200		101 0001 -1 44		i he he he he he			
W ACQUISITION CONSUL	TANT (PHASE 42)		0% (4) 90% plans -105	% (5) 268 Date -100%			
R/W ACQUISITION CONSUL 7. Acquisition Consultant-5 RELOCATION COSTS (PHAS	TANT (PHASE 42) 50% of parcels E 45) ment Housing	\$20,000 \$35,000 \$25,000	0% (4) 90% plans -105 x 0 Number x 0 x 0 x 0 x 0	Amount = <u>0</u> = 0	TOTAL PHASE 42		S
AVW ACQUISITION CONSUL 7. Acquisition Consultant-5 RELOCATION COSTS (PHAS Replace 8. Owner 9. Tenant Move Co 0. Residential 1. Business/Farm 2. Personal Property	TANT (PHASE 42) 50% of parcels E 45) ment Housing	\$20,000 \$35,000	x 0 Number x 0	Amount = 0	TOTAL PHASE 42		
XW ACQUISITION CONSUL 7. Acquisition Consultant-5 XELOCATION COSTS (PHAS Replace 8. Owner 9. Tenant Move Co 0. Residential 1. Business/Farm 2. Personal Property 3. (Lines 28 thru 32) 4. Relocation Services Cos	TANT (PHASE 42) 50% of parcels E 45) ment Housing osts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x 0 Number x 0 x 0 x 0 x 0 x 0 x 0	Amount = <u>0</u> = <u>0</u> = <u>0</u> = <u>0</u>	TOTAL PHASE 42		\$
XW ACQUISITION CONSUL 7. Acquisition Consultant-5 XELOCATION COSTS (PHAS Replace 8. Owner 9. Tenant Move Co 0. Residential 1. Business/Farm 2. Personal Property 3. (Lines 28 thru 32) 4. Relocation Services Cos 5. 6.	TANT (PHASE 42) 50% of parcels E 45) ment Housing osts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x 0 Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	Amount = 0 = 0 = 0 = 0 = 0 (Not in Phase Total)	TOTAL PHASE 45		\$I \$1
XW ACQUISITION CONSUL 7. Acquisition Consultant-5 RELOCATION COSTS (PHAS Replace 8. Owner 9. Tenant Move Co	TANT (PHASE 42) 50% of parcels E 45) ment Housing osts st	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x 0 Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	Amount = 0 = 0 = 0 = 0 = 0 = 0		06/18/18	

FM#: County:					ARTMENT OF N RIGHT OF W			E			
State Rd.:	430051-1 Hernando SR 50/US 98/ SI		Alternate: Segment: FAP#:		SMF-10B N/A N/A			Distric Date: C.E. Se	t: quence		Seven 6-Jun-18 N/A
Project Des. Parcels Commercial Residential Unimproved Total Parcels	Gross Net	ooksville Bypass t0 2 2	5 to 1-75				Estimated Re Business Residential Signs Special Total Reloca			0 0 0 0 0	
R/W SUPPORT CO 1. Direct Labor C 2. Indirect Overh	Cost	(Parcels (Parcels	2	x	20,000 =			Amoun	t 40,000 0		
3.								TOTAL	PHASE 41		\$40
 Court Reporte Expert Witnes Mediators 	es Through Trial mage CPA Fees Tl er & Process Serv ss Asb. Abate., Surve us Contracts	vers	50% 75% 75%	x x x	2 2 2 2 =	2 0 1 2 2 0 1 1	Parcels Claims Parcels Parcels Parcels Imprvmet Per Project Parcels	x	A: 30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 15,000 = 5,000 = PHASE 4B	mount 60,000 500 60,000 4,800 0 15,000 5,000	\$44E
R/W LAND COSTS	S (PHASE 43)			-	-	-	_	Amoun		ubtotal	\$145,
 Land, Improve and Cost to C Water Retenti SUBTOTAL (5) Admin. Settle Litigation Aw. Business Dam Bus. Damages Owner Appr. I Owner CPA Fe Defend.Atty Fe Owner Expert Other Condem 	ements & Severar Cure Amount ion & Mit. (0 Pono 7,648 SF) ements (Facto vards (Facto nages (Claim s Incrs. (Facto Fees (Parce ees (Claim ees (Sum of t Witness (Comm	ds) r rs r els s s Lines 16, 17 & 19)	340,366 0 20% 45% 0 25% 25% 2 0 122,500 0 122,500 0 2 2	x x x x x x x x x x x x x x x x x x x	<u>60%</u> o) Parcels w (Lines 13) f Line 15) f Line 15) x <u>18,000</u>			408,400 0 73,500 0 30,000 0 40,400 36,000 2,000	408,400	
25. SUBTOTAL						Lines 10	thru 24)	TOTAL	PHASE 43	230,900	\$639
25. SUBTOTAL 26. * <i>Design conting</i> .	ency for design p lans - 120% (2) 30	olan stage: N% plans - 115%	(3) 60% nlans - 11	n% 1	4) 90% plans -1059	6.6		TOTAL	PHASE 43	230,900	\$639,
25. SUBTOTAL 26. * <i>Design conting</i> (1) <i>PD&E pl</i> R/W ACQUISITION	lans - 120% (2) 30 N CONSULTANT (0% plans - 115% (PHASE 42)	(3) 60% plans - 11	0% (*	4) 90% plans -105%	6.6				230,900	\$639,
25. SUBTOTAL 26. * <i>Design conting.</i> <i>(1) PD&E pl.</i> R/W ACQUISITION 27. Acquisition Co	lans - 120% (2) 30 N CONSULTANT (consultant-50% of p	0% plans - 115% (PHASE 42)	<i>(3) 60% plans - 11</i> \$20,000	0% (* x	4) 90% plans -105% 0	6.6			PHASE 43 PHASE 42	230,900	\$639,
25. SUBTOTAL 26. * <i>Design conting</i> .	lans - 120% (2) 3U N CONSULTANT (consultant-50% of p STS (PHASE 45) Replacement H Move Costs m perty	0% plans - 115% (PHASE 42) parcels				6.6		TOTAL		230,900	\$639,
25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition Co RELOCATION COS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Prop 33. (Lines 28 thru 34. Relocation Se	lans - 120% (2) 3U N CONSULTANT (consultant-50% of p STS (PHASE 45) Replacement H Move Costs m perty 32)	0% plans - 115% (PHASE 42) parcels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0	<i>=</i> = = = = =	Amount 0 0	TOTAL	PHASE 42	230,900	\$639,
25. SUBTOTAL 26. * Design conting (1) PD&E pl. R/W ACQUISITION 27. Acquisition Co RELOCATION COS 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Prop 33. (Lines 28 thru 1 34. Relocation Se 35. 36. 37.	lans - 120% (2) 30 N CONSULTANT (consultant-50% of p STS (PHASE 45) Replacement H Move Costs m perty 32) ervices Cost	0% plans - 115% (PHASE 42) parcels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x x x x x	0 Number 0 0 0 0 0 0	<i>=</i> = = = = =	Amount 0 0 0 0	TOTAL	PHASE 42 PHASE 45 ESTIMATE		\$639,
 SUBTOTAL * Design conting. (1) PD&E pl. R/W ACQUISITION Acquisition Cos RELOCATION COS Owner Tenant Residential Business/Farm Personal Prop (Lines 28 thrus) Relocation Se 	lans - 120% (2) 3U N CONSULTANT (consultant-50% of p STS (PHASE 45) Replacement H Move Costs m perty 32)	0% plans - 115% (PHASE 42) Darcels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0 0 0 0	<i>=</i> = = = = =	Amount 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45	06/18/18	
25. SUBTOTAL						Lines 10	thru 24)	=		230,900	
 SUBTOTAL * Design conting (1) PD&E pl. R/W ACQUISITION Acquisition Cos RELOCATION COS Owner Tenant Residential Business/Farm Personal Prop (Lines 28 thrus) Relocation Se Relocation Se 	lans - 120% (2) 3U N CONSULTANT (consultant-50% of p STS (PHASE 45) Replacement H Move Costs m perty 32)	0% plans - 115% (PHASE 42) parcels	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0 0 0 0	<i>=</i> = = = = =	Amount 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45	230,900	\$639,
25. SUBTOTAL 26. * Design conting (1) PD&E pl. R/W ACQUISITION 27. Acquisition Cos 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Prop 33. (Lines 28 thru i 34. Relocation Se 35. 36. 37. Real Estate: Bus. Dam. :	lans - 120% (2) 30 N CONSULTANT (consultant-50% of p STS (PHASE 45) Replacement H Move Costs m perty 32) ervices Cost	0% plans - 115% (PHASE 42) parcels	\$20,000 \$35,000 \$25,000 \$40,000 \$40,000 \$3,000 \$3,000	x x x x x x x	0 Number 0 0 0 0 0 0	<i>=</i> = = = = =	Amount 0 0 0 0 0 0 0 0	TOTAL	PHASE 42 PHASE 45 ESTIMATE Date: Date:		

FM#:		FLORIDA D DISTRICT SE	VEN RIGHT OF W	AY COST ESTIMA	TE		
ounty:	430051-1 Hernando	Alternate: Segment:	FPC-10A N/A		District: Date:		Seven 17-Dec-18
tate Rd.:	SR 50/US 98/ SR 700	FAP#:	N/A		C.E. Sequence		N/A
roject Des. arcels	SR 50 from Brooksville Bypa Gross Net	ss to I-75		Estimated R	alanatase	_	
arceis ommercial	Gross Net			Business	elocatees:	0	
esidential	0 0			Residential		0	
nimproved	1 1			Signs		0	
	10 10 10 10 10 10 10 10 10 10 10 10 10 1			Special		0	
otal Parcels	1 1			Total Reloc		0	
	ISTS (PHASE 41)		00.000	Presi	Amount		
Direct Labor C Indirect Overh	2 2 3 S		x 20,000 = x 0 =		20,000		
	eau (raiceis		^	nate)	TOTAL PHASE 41		\$20,00
W OPS (PHASE	401		_	_		mount	420,00
Appraisal Fee				1 Parcels	x 30,000 =	30,000	
	age CPA Fees Through Trial			0 Claims	x 19,000 =	0	
	r & Process Servers	50%	x 1 =	1 Parcels	x 500 =	500	
Expert Witnes	is .	75%	x <u>1</u> =	1 Parcels	x 30,000 =	30,000	
Mediators	and the second se	75%	x <u>1 </u>	1 Parcels	x 2,400 =	2,400	
	sb. Abate., Survey, etc.			0 Imprvmet	x 15,000 = x 15,000 =	15,000	
 Miscellaneou Appraisal Fee 				1 Per Project 0 Parcels	x 15,000 = x 5,000 =	15,000	
. Appraisai ree	incrition in the second s			e l'ulocio	TOTAL PHASE 4B	v	\$77,90
						htotal	¥77,00
N LAND COSTS					Amount Si	ibtotal	
 A state of the sta	ments & Severance Damages	04 002	4000/	Design plan stage	= 100,800		
and Cost to C		84,003		Parcels w/o R/W Acq)	= 100,800		
	on & Mit. (0 Ponds)	0	x <u>120%</u> (0	(Lines 13 &14)	U	100,800	
. SUBTOTAL (57	1715 C.	600/			= 12,100	100,000	
. Admin. Settle		20%		f Line 15) (Line 15)	= 12,100		
Litigation Awa		45%		f Line 15)	= 18,100		
Business Dam		25%			= 0		
Bus. Damages		23%	and a second		= 15,000		
Owner Appr. F	1977 SCI.3710		x \$15,000) x \$16,000)		= 0		
. Defend.Atty Fe		30,200	x 33%)		= 10,000		
. Owner Expert	the second se		+ 1)	x 18,000	= 18,000		
. Other Condem			x \$1,000	A	= 1,000		
SUBTOTAL	III. 603(3		A	(Lines 16 thru 24)	= 1,000	74,200	
				tennes tennes ent	TOTAL PHASE 43		\$175,000
	ency for design plan stage:						
(1) PD&E pl.	ans - 120% (2) 30% plans - 115%	% (3) 60% plans - 110	% (4) 90% plans -105%	% (5) 268 Date -100%			
W ACQUISITION	N CONSULTANT (PHASE 42)						
Acquisition Co	onsultant-50% of parcels	\$20,000	x 0		TOTAL PHASE 42		\$
LOCATION COS	STS (PHASE 45)		and the state of	100.00			
	Replacement Housing		Number	Amount			
. Owner		\$35,000	x0		0		
. Tenant		\$25,000	x0	=	0		
1.00	Move Costs			1 A			
. Residential		\$5,000	x0		0		
Business/Farm		\$40,000	x 0 x 0		0		
. Personal Prop		\$3,000	x0		TOTAL PHASE 45		\$
. (Lines 28 thru				(Not in Phase Total)	TOTAL PRASE 45		,
Relocation Se	IVICES COST		\$0	(Not in Phase Total)			
				× E			
				(All Phases)	TOTAL ESTIMATE		\$272,90
	Stenhen Cross	Signed:	Flopel 10	11	Date:	12/17/18	
					Date:		
al Estate:		0			Date:		
al Estate: us. Dam. : elocation:		Signed:	and the second se			12/17/18	
al Estate: Is. Dam. : Nocation:	D. Wade Brown	Signed: <	a startely		Date:		
eal Estate: us. Dam. :		Signed: <	In the Amount of \$	\$272,900	Date: Data Input Completion		12/17/201
36.	Stephen Cross	Signed:	flogely in	(All Phases	Date: Date: Date:	12/17/18	

						ARTMENT OF		and the second second second	E		
FM#: County: State Rd.: Project Des. Parcels			lle Bypass	Alternate: Segment: FAP#:		FPC-10B N/A N/A		Estimated Re	District: Date: C.E. Sequence		Seven 17-Dec-18 N/A
Commercial Residential Unimproved Total Parcels	0 2 2 2	0						Business Residential Signs Special Total Relocat		0 2 0 0 2	
R/W SUPPORT CO	STS (PHA	SE 41)			-	1.177			Amount		
1. Direct Labor C	110		cels	4	x	20,000			80,000		
2. Indirect Overh	ead	(Par	cels	4	×	0	= Rate)	0 TOTAL PHASE 41		\$80,000
3. R/W OPS (PHASE		-			-			-		Amount	\$60,000
4. Appraisal Fee		Trial					4	Parcels	x 30,000 =	120,000	
5. Business Dan			Trial				0		x 19,000 =	0	2
6. Court Reporte		ss Servers		<u>50%</u> 75%	×	4	= 2	Parcels Parcels	x 500 = x 30,000 =	1,000 90,000	
7. Expert Witnes 8. Mediators	S			75%	x	4	= 3		x 30,000 = x 2,400 =	7,200	8
9. Demolition, A							2		x 15,000 =	30,000	
10. Miscellaneou		ts					1		x 15,000 =	15,000	2
11. Appraisal Fee 12.	Review							Parcels	x 5,000 = TOTAL PHASE 4B	5,000	\$268,200
R/W LAND COSTS	IDUACE	(0)			-					Subtotal	\$200,200
13. Land, Improve		C	manes						Amount	Subtotal	
and Cost to C			images	596,190	×	120%	* Design p	lan stage	= 715,400		
14. Water Retenti				0	×			/o R/W Acq)	0		
15. SUBTOTAL (5)	7,648 SF)						(Lines 13	&14)	5.6	715,400	
16. Admin. Settle		(Factor		20%	x		of Line 15)		= 85,800		
17. Litigation Aw		(Factor		45%	x		of Line 15)		= 128,800		
18. Business Dan		(Claims (Factor		25%	×	<u> </u>			= 0		
19, Bus. Damages 20. Owner Appr. I		(Parcels		4	x	\$15,000			= 60,000		
21. Owner CPA Fe		(Claims		0	x	\$16,000	·		= 0		
22. Defend.Atty Fo		(Sum of Lines 16	, 17 & 19)	214,600	x	33%	1		= 70,800		
23. Owner Expert		(Comm.+Unit	mp.)	0	+	2	x 18,00	0	= 36,000		
24. Other Condem	in. Costs			4	x	\$1,000			= 4,000		
25. SUBTOTAL							(Lines 16	thru 24)	= TOTAL PHASE 43	385,400	\$1,100.800
26. * Design conting	an au far d	anian alan et							TUTAL PHASE 45		\$1,100,000
(1) PD&E pl	ans - 120%	6 (2) 30% pla	ns - 115%	(3) 60% plans - 11	0% ((4) 90% plans -10	% (5) 268 D	ate -100%			-
R/W ACQUISITION	CONSUL	TANT (PHAS	E 42)								
27. Acquisition C				\$20,000	x	0			TOTAL PHASE 42	-	\$0
RELOCATION COS								A			
	Replace	ment Housing	9	24.15		Number		Amount			
28. Owner				\$35,000	x	2	-	70,000			
29. Tenant	Move Co	nete		\$25,000	×	0	-				
30. Residential	MOVE O	2010		\$5,000	x	2	=	10,000			
31. Business/Farr	n			\$40,000	x	0		0			
32. Personal Prop				\$3,000	×	0	-	0	TOTAL DULLOT IT		Ann 000
33. (Lines 28 thru						to 000	/Mastin D	hana Tatali	TOTAL PHASE 45		\$80,000
	rvices Co	st			-	\$8,000	INDUIT	lase folal)			
35.							_	_			
								(All Phases)	TOTAL ESTIMATE		\$1,529,000
the second se	Stephen	Cross		Signed:	2	Cignet 12	~~		Date:	12/17/18	
	-			Signed:		En la s			Date:	40/47/40	
			_		1	2 and	2.			and the second sec	
Overall neview.	D. Waue	DIUWII	_	_oigueu.			-				a de la
Cost Estimate Sec	uence #:		Dated:	12/17/2018	In t	the Amount of \$	\$1,529,00	0	Data Input Completio	n Date:	12/17/2018
REMARKS:									C		
34. Relocation Se 35. 36. 37. Real Estate: Bus. Dam. : Relocation: Overall Review: Cost Estimate Sec REMARKS:	Stephen Stephen D. Wade	Cross	Dated:	Signed: Signed: Signed:	P I I Int	\$8,000	(Not in P		Date: Date: Date: Date:	12/17/18 12/17/18	
The following ind X The following ind	Type A - Type B - Type C - Type D -	indicates the indicates ab indicates be indicates the Department	e most con ove averag low averag e least or n s purpose f	fidence le confidence je confidence o confidence for this estimate:	nate:	1	Special	Purnnse:	x	Docs to RW:	
Work Program Up Comments:	uate:		(Gaming 1:			abouidi	a. Franci			

Total Parcels 6 6 0 Total Parcels 6 Total Relocatees 5 R/W SUPPORT COSTS (PHASE 41) Amount Amount 1. Direct Labor Cost (Parcels 6 x 20,000 = Rate) 120,000 2. Indirect Overhead (Parcels 6 x 0 = Rate) 0 3. TOTAL PHASE 41	Seven 17-Dec-18 N/A \$120,000
Parcels Gross Net Estimated Relocatees: Commercial 0 0 0 0 Residential 5 5 0 Residential 5 Unimproved 1 1 1 5 5 0 Total Parcels 6 6 6 7 0 0 R/W SUPPORT COSTS (PHASE 41) Amount 0 7 120,000 120,000 1. Direct Labor Cost (Parcels 6 x 0 2 120,000 120,000 120,000 2. Indirect Overhead (Parcels 6 x 0 8 0 120,000	\$120,000
1. Direct Labor Cost(Parcels6x20,000Rate)120,0002. Indirect Overhead(Parcels6x0 a a a 3.TOTAL PHASE 48)TOTAL PHASE 414. Appraisal Fees Through Trial6Parcelsx $30,000$ 180,0005. Business Damage CPA Fees Through Trial0Claimsx $19,000$ a 6. Court Reporter & Process Servers 50% x 6 =3Parcelsx 500 1,5007. Expert Witness 75% x 6 =5Parcelsx $30,000$ =150,000	\$120,000
2. Indirect Overhead (Parcels 6 x 0 0 3. TOTAL PHASE 41 TOTAL PHASE 41 R/W OPS (PHASE 4B) 6 Parcels x 30,000 = 180,000 4. Appraisal Fees Through Trial 6 Parcels x 30,000 = 180,000 5. Business Damage CPA Fees Through Trial 0 Claims x 19,000 = 0 6. Court Reporter & Process Servers 50% x 6 = 3 Parcels x 500 = 1,500 7. Expert Witness 75% x 6 = 5 Parcels x 30,000 = 150,000	\$120,000
TOTAL PHASE 41 Amount R/W OPS (PHASE 4B) Amount 4. Appraisal Fees Through Trial 6 Parcels x 30,000 = 180,000 5. Business Damage CPA Fees Through Trial 0 Claims x 19,000 = 0 6. Court Reporter & Process Servers 50% x 6 = 3 Parcels x 500 = 1,500 7. Expert Witness 75% x 6 = 5 Parcels x 30,000 = 150,000	\$120,000
R/W OPS (PHASE 4B) Amount 4. Appraisal Fees Through Trial 6 Parcels x 30,000 = 180,000 5. Business Damage CPA Fees Through Trial 0 Claims x 19,000 = 0 6. Court Reporter & Process Servers 50% x 6 = 3 Parcels x 500 = 1,500 7. Expert Witness 75% x 6 = 5 Parcels x 30,000 = 150,000	\$1E0,000
4. Appraisal Fees Through Trial 6 Parcels x 30,000 = 180,000 5. Business Damage CPA Fees Through Trial 0 Claims x 19,000 = 0 6. Court Reporter & Process Servers 50% x 6 = 3 Parcels x 500 = 1,500 7. Expert Witness 75% x 6 = 5 Parcels x 30,000 = 150,000	and the second se
6. Court Reporter & Process Servers 50% x 6 = 3 Parcels x 500 = 1,500 7. Expert Witness 75% x 6 = 5 Parcels x 30,000 = 150,000	
7. Expert Witness 75% x 6 = 5 Parcels x 30,000 = 150,000	1 C C
	ő . I
9. Demolition, Asb, Abate., Survey, etc. 2 Imprvmet x 15,000 = 30,000	
10. Miscellaneous Contracts 1 Per Project x 15,000 = 15,000 = 15,000 = 10,000 =	1
11. Appraisal Fee Review 2 Parcels x 5,000 = 10,000 12. TOTAL PHASE 4B	\$398,500
R/W LAND COSTS (PHASE 43) Amount Subtotal	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
13. Land, Improvements & Severance Damages	
and Cost to Cure Amount 1,264,058 x 120% * Design plan stage = 1,516,900	
14. Water Retention & Mit. (0 Ponds) 0 x 120% (0 Parcels w/o R/W Acg) 0	
15. SUBTOTAL (57,648 SF) (Lines 13 &14) 1,516,900	·
16. Admin. Settlements (Factor 20% x 60% of Line 15) = 182,000	-
17. Litigation Awards (Factor 45% x 40% of Line 15) = 273,000 18. Business Damages (Claims 0 x 0 = 0	
19. Bus Damages Incrs. (Factor 25% x \$ -) = 0	
20. Owner Appr. Fees (Parcels 6 x \$15,000) = 90,000	
21. Owner CPA Fees (Claims 0 x \$16,000) = 0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19) 455,000 x 33%) = 150,200	
23. Owner Expert Witness (Comm.+Unimp.) 0 + 1) x 18,000 = 18,000 24. Other Condemn. Costs 6 x \$1,000 = 6,000	
24. Other Condemn. Costs 6 x \$1,000 = 6,000 25. SUBTOTAL (Lines 16 thru 24) = 719,200	
26. TOTAL PHASE 43	\$2,236,100
* Design contingency for design plan stage:	
(1) PD&E plans - 120% (2) 30% plans - 115% (3) 60% plans - 110% (4) 90% plans -105% (5) 268 Date -100%	
R/W ACQUISITION CONSULTANT (PHASE 42) 27. Acquisition Consultant-50% of parcels \$20,000 x 0 TOTAL PHASE 42	\$0
	50
RELOCATION COSTS (PHASE 45) Replacement Housing Number Amount	
28. Owner \$35,000 x 3 = 105,000	
29. Tenant \$25,000 x 2 = 50,000	
Move Costs	
30. Residential \$5,000 x 5 = 25,000	
21 Rusiness/Form \$40,000 x 0 = 0	
\$40,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0	
	\$180,000
32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 34. Relocation Services Cost \$18,000 (Not in Phase Total)	\$180,000
32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 34. Relocation Services Cost \$18,000 (Not in Phase Total)	\$180,000
32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 34. Relocation Services Cost \$18,000 (Not in Phase Total) 35. 36.	\$180,000 \$2,934,600
31. Personal Property \$3,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 1 34. Relocation Services Cost \$18,000 (Not in Phase Total) 35. 36.	
31. Personal Property \$3,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 1 34. Relocation Services Cost \$18,000 (Not in Phase Total) 1 35. 36. (All Phases) TOTAL ESTIMATE 37. (All Phases) TOTAL ESTIMATE Real Estate: Stephen Cross Signed: Date: 12/17/18 Bus, Dam.: Signed: Date: 12/17/18	
31. Personal Property \$3,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 34. Relocation Services Cost \$18,000 (Not in Phase Total) 35. 36. 37. (All Phases) TOTAL ESTIMATE Real Estate: Stephen Cross Signed: Signed: Relocation: Stephen Cross Signed: Total Estate: Date: 12/17/18 Date: 12/17/18	
31. Personal Property \$3,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 34. Relocation Services Cost \$18,000 (Not in Phase Total) 35. \$18,000 (Not in Phase Total) 36. (All Phases) 37. (All Phases) Real Estate: Stephen Cross Signed: Date: 12/17/18 Date: Date:	
31. Personal Property \$3,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) TOTAL PHASE 45 34. Relocation Services Cost \$18,000 (Not in Phase Total) 35. 36. 37. (All Phases) TOTAL ESTIMATE Real Estate: Stephen Cross Signed: Signed: Relocation: Stephen Cross Signed: Total Estate: Date: 12/17/18 Date: 12/17/18	

M#: County:	100054 5			RIGHT OF W		TESTIMAT			
tate Rd.:	430051-1 Hernando SR 50/US 98/ SR 700 SR 50 from Brooksville Bypas	Alternate: Segment: FAP#:		SMF-11A/FPC-11/ N/A N/A	A		District: Date: C.E. Sequence		Seven 17-Dec-18 N/A
roject Des. arcels ommercial esidential nimproved otal Parcels	Sh su from Brooksville Bypas Gross Net 0 0 0 0 1 1	\$ 10 1-75				Estimated Rel Business Residential Signs Special Total Relocat	E	0 0 0 0	
the second s	ISTS (PHASE 41)			-		Total Helocal	Amount	,	
. Direct Labor C	ost (Parcels	1	x	20,000 =			20,000		
2. Indirect Overh 3.	ead (Parcels	1	x	0 =	Rate	9	TOTAL PHASE 41		\$20,00
 Court Reporte Expert Witnes Mediators 	s Through Trial nage CPA Fees Through Trial r & Process Servers ss sb. Abate., Survey, etc. s Contracts	50% 75% 75%	X X X	<u>1</u> = 1 1 =	1 0 1 1 0 1 0	Parcels Parcels Parcels Imprvmet Per Project	Am x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 15,000 = x 5,000 =	ount 30,000 0 500 30,000 2,400 0 15,000 0	\$77.90
/W LAND COSTS	(PHASE 43)		-					total	\$77,50
3. Land, Improve and Cost to Ci	ments & Severance Damages ure Amount ion & Mit. (0 Ponds) 7,648 SF) ments (Factor	93,444 0 20% 45%	x x x	60% of		1.0	= <u>112,100</u> <u>0</u> = <u>13,500</u> = 22,700	112,100	
8. Business Dam 9. Bus. Damages 0. Owner Appr. F 1. Owner CPA Fe	rages (Claims 1 Incrs. (Factor Fees (Parcels	0 25% 1 0	x	(15,000) (15,000) (15,000)			= 0 = 0 = 15,000 = 0		
2. Defend.Atty Fe 3. Owner Expert 4. Other Condem 5. SUBTOTAL	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	36,200 0 1	x + x	33%) 1): \$1,000	x <u>18,00</u> (Lines 16	<u>o</u>	= <u>11,900</u> = <u>18,000</u> = <u>1,000</u>	82,100	
6. Design continge	ency for design plan stage:	(a) anal (1 101 000	D-1- 1000/	TOTAL PHASE 43		\$194,20
	<i>ans - 120% (2) 30% plans - 115%</i> N CONSULTANT (PHASE 42)	(3) 60% plans - 11	0% (4)	90% plans -105%	6 (5) 268 1	Jate -100%			
W ACQUISITION			x	0			TOTAL PHASE 42		1
Acquisition Co	onsultant-50% of parcels	\$20,000	^	the second se	_				
Acquisition Co	onsultant-50% of parcels TS (PHASE 45)	\$20,000	^	Number		Amount			
7. Acquisition Co ELOCATION COS 8. Owner	onsultant-50% of parcels	\$35,000	×	0	×.	Amount 0			
7. Acquisition Co ELOCATION COS 8. Owner	onsultant-50% of parcels ITS (PHASE 45) Replacement Housing		x		ц. н.				
7. Acquisition Co ELOCATION COS 8. Owner 9. Tenant 0. Residential	onsultant-50% of parcels ITS (PHASE 45) Replacement Housing Move Costs	\$35,000 \$25,000 \$5,000	×	0 0 0	÷.	0 0			
7. Acquisition Co ELOCATION COS 3. Owner 3. Tenant 0. Residential 1. Business/Farm	onsultant-50% of parcels ITS (PHASE 45) Replacement Housing Move Costs	\$35,000 \$25,000	×	0	÷.	0			
7. Acquisition Co ELOCATION COS 8. Owner 9. Tenant 0. Residential 1. Business/Fam 2. Personal Prop 3. (Lines 28 thru :	onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	\$35,000 \$25,000 \$5,000 \$40,000	×	0 0 0 0			TOTAL PHASE 45		5
7. Acquisition Co ELOCATION COS 8. Owner 9. Tenant 0. Residential 1. Business/Farm 2. Personal Prop 3. (Lines 28 thru 1 4. Relocation Se	onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	\$35,000 \$25,000 \$5,000 \$40,000	×	0 0 0 0		0 0 0	TOTAL PHASE 45		5
7. Acquisition Co ELOCATION COS 8. Owner 9. Tenant 0. Residential 1. Business/Farm 2. Personal Prop 3. (Lines 28 thrus 4. Relocation Se 5. 6.	onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	\$35,000 \$25,000 \$5,000 \$40,000	×	0 0 0 0		0 0 0 0 0 2 9hase Total)			
7. Acquisition Co ELOCATION COS 8. Owner 9. Tenant 0. Residential 1. Business/Farm 2. Personal Prop 3. (Lines 28 thru : 4. Relocation Se 5. 6.	onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n Jerty 32) rvices Cost	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	×	0 0 0 0	= = = (Not in F		TOTAL PHASE 45 TOTAL ESTIMATE Date:	12/17/18	\$292,10
7. Acquisition Co ELOCATION COS 8. Owner 9. Tenant 0. Residential 1. Business/Fam 2. Personal Prop 3. (Lines 28 thru : 4. Relocation Se 5. 6. 7. eal Estate: tus. Dam. :	onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n erty 32)	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	×	0 0 0 0 0 \$0	= = = (Not in F	0 0 0 0 0 2 9hase Total)	TOTAL ESTIMATE Date: Date:	12/17/18	
7. Acquisition Co ELOCATION COS 8. Owner 9. Tenant 0. Residential 1. Business/Fam 2. Personal Prop 3. (Lines 28 thru : 4. Relocation Se 5. 6. 7. eal Estate: us. Dam. : elocation:	onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs n nerty 32) rvices Cost <u>Stephen Cross</u>	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000	×	0 0 0 0 0 \$0	= = = (Not in F	0 0 0 0 0 2 9hase Total)	TOTAL ESTIMATE Date:	12/17/18	
	Insultant-50% of parcels ITS (PHASE 45) Replacement Housing Move Costs n erty 32) rvices Cost Stephen Cross D. Wade Brown	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	x x x x x	0 0 0 0 0 \$0	= = = (Not in F	0 0 0 0 Phase Total)	TOTAL ESTIMATE Date: Date: Date:	12/17/18	

FM#:	a taken and the second s			the second s	E		
County: State Rd.:	430051-1 Hernando SR 50/US 98/ SR 700	Alternate: Segment: FAP#:	SMF-11B/FPC-1 N/A N/A	18	District: Date: C.E. Sequence		Seven 17-Dec-18 N/A
roject Des. arcels	SR 50 from Brooksville Bypass Gross Net	to 1-75		Estimated Re			
ommercial	0 0			Business	nocatees.	0	
esidential	0 0			Residential		0	
nimproved	1 1			Signs Special		0	
otal Parcels	1 1			Total Reloca	tees	0	
W SUPPORT COS	STS (PHASE 41)				Amount		
Direct Labor Co	the second se	1			20,000		
. Indirect Overhe	ead (Parcels	1	x0	= Rate)	0 TOTAL PHASE 41		\$20,000
/W OPS (PHASE 4	401	-				ount	\$20,000
. Appraisal Fees				1 Parcels	x 30,000 =	30,000	
	age CPA Fees Through Trial			0 Claims	x 19,000 =	0	
	& Process Servers	50%		= 1 Parcels	x 500 =	500	
Expert Witness	S	75%		= 1 Parcels = 1 Parcels	x 30,000 = x 2,400 =	30,000 2,400	
Mediators	b. Abate., Survey, etc.	15%	×	= 1 Parcels 0 Imprvmet	x 2,400 = x 15,000 =	2,400	
Miscellaneous	and the second se			1 Per Project	x 15,000 =	15,000	
. Appraisal Fee I	e, electronic construction			0 Parcels	x5,000 =	0	
					TOTAL PHASE 4B	_	\$77,900
W LAND COSTS					Amount Su	btotal	
	ments & Severance Damages		2		000.000		
and Cost to Cu		183,287		* Design plan stage	= 219,900		
	on & Mit. (0 Ponds)	0	x <u>120%</u>	0 Parcels w/o R/W Acq) (Lines 13 &14)	0	219,900	
. SUBTOTAL (57, Admin. Settlem		20%	× 50%	of Line 15)	= 26,400	213,300	
. Litigation Awa		45%		of Line 15)	= 44,500		
. Linguiton reito		0	x 0		= 0		
Business Dama		25%			= 0		
	Incis. (racior	23 /0	x \$ -		-		
Bus. Damages		1	x \$		= 15,000		
. Bus. Damages . Owner Appr. Fe	ees (Parcels				= <u>15,000</u> = <u>0</u>		
Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19)	1	x \$15,000 x \$16,000 x 33%		= <u>15,000</u> = <u>0</u> = 23,400		
). Bus. Damages). Owner Appr. Fe . Owner CPA Fe 2. Defend.Atty Fe 8. Owner Expert \	ees (Parcels es (Claims es (Sum of Linés 16, 17 & 19) Witness (Comm.+Unimp.)	1 0 70,900 0	x \$15,000 x \$16,000 x 33% + 1	x <u>18,000</u>	= 15,000 = 0 = 23,400 = 18,000		
 Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn 	ees (Parcels es (Claims es (Sum of Linés 16, 17 & 19) Witness (Comm.+Unimp.)	1 0 70,900	x \$15,000 x \$16,000 x 33%	Supplier March	= <u>15,000</u> = <u>0</u> = <u>23,400</u> = <u>18,000</u> = <u>1,000</u>	100 000	
4. Other Condemn 5. SUBTOTAL	ees (Parcels es (Claims es (Sum of Linés 16, 17 & 19) Witness (Comm.+Unimp.)	1 0 70,900 0	x \$15,000 x \$16,000 x 33% + 1	x <u>18,000</u> (Lines 16 thru 24)	= 15,000 = 0 = 23,400 = 18,000 = 1,000	128,300	\$249.200
 Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL S. 	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs	1 0 70,900 0	x \$15,000 x \$16,000 x 33% + 1	Supplier Market	= <u>15,000</u> = <u>0</u> = <u>23,400</u> = <u>18,000</u> = <u>1,000</u>	128,300	\$348,200
 Bus. Damages Owner Appr. Fe Owner CPA Fet Defend.Atty Fet Owner Expert 1 Other Condemn SUBTOTAL Desion continue 	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs	1 0 70,900 0 1	x \$15,000 x \$16,000 x 33% + 1 x \$1,000	(Lines 16 thru 24)	= 15,000 = 0 = 23,400 = 18,000 = 1,000	128,300	\$348,200
 Bus. Damages Owner Appr. Fe Owner CPA Fee Defend. Atty Fee Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla 	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115%	1 0 70,900 0 1	x \$15,000 x \$16,000 x 33% + 1 x \$1,000	(Lines 16 thru 24)	= 15,000 = 0 = 23,400 = 18,000 = 1,000	128,300	\$348,200
 Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION 	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs	1 0 70,900 0 1	x \$15,000 x \$16,000 x 33% + 1 x \$1,000	(Lines 16 thru 24)	= 15,000 = 0 = 23,400 = 18,000 = 1,000	128,300	\$348,200
 Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla WACQUISITION 	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels	1 0 70,900 0 1 (3) 60% plans - 11	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105	(Lines 16 thru 24)	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43	128,300	
 Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert N Other Condemn SUBTOTAL Besign continge (1) PD&E plan W ACQUISITION Acquisition Cont 	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels	1 0 70,900 0 1 (3) 60% plans - 11	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105	(Lines 16 thru 24)	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43	128,300	
Bus. Damages Owner Appr. Fe Owner CPA Fe Owner CPA Fe Owner Expert V Other Condemr SUBTOTAL <i>Design continge</i> (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45)	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$35,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 Number x 0	(Lines 16 thru 24) % <i>(5) 268 Date -100%</i> Amount =0	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000 = TOTAL PHASE 43	128,300	
Bus. Damages Owner Appr. Fe Owner CPA Fe Owner CPA Fe Owner Expert V Other Condemr SUBTOTAL <i>Design continge</i> (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0	(Lines 16 thru 24) % <i>(5) 268 Date -100%</i> Amount	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000 = TOTAL PHASE 43	128,300	
Bus. Damages Owner Appr. Fe Owner CPA Fee Owner CPA Fee Owner Expert N Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST Owner Tenant	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45)	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 Number x 0	(Lines 16 thru 24) (<i>ii</i>) <i>268 Date -100%</i> (<i>ii</i>) <i>268 Date -100%</i>	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000 = TOTAL PHASE 43	128,300	
Bus. Damages Owner Appr. Fe Owner CPA Fee Owner CPA Fee Owner Expert N Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST . Owner Tenant . Residential	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$5,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 Number x 0 x 0 x 0 x 0	(Lines 16 thru 24) % <i>(5) 268 Date -100%</i> Amount =0	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000 = TOTAL PHASE 43	128,300	
Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Configure CONNEr Tenant Residential Business/Farm	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ons - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 Number x 0	(Lines 16 thru 24) (<i>i</i>) <i>268 Date -100%</i> (<i>i</i>) <i>268 Date -100%</i>	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43	128,300	
Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Configure Tenant Residential Business/Farm Personal Prope	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ons - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$5,000 \$40,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (<i>i</i>) <i>268 Date -100%</i> (<i>i</i>) <i>268 Date -100% (<i>i</i>) <i>268 Date -100%)</i></i>	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43	128,300	
Bus. Damages Owner Appr. Fe Owner CPA Fee Defend.Atty Fee Owner Expert \ Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST . Owner Tenant Residential Business/Farm Personal Prope . (Lines 28 thru 3	ees (Parcels es (Claims es (Claims (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs f erty 82)	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$5,000 \$40,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 Number x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (<i>i</i>) <i>268 Date -100%</i> (<i>i</i>) <i>268 Date -100% (<i>i</i>) <i>268 Date -100%)</i></i>	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43	128,300	\$0
Bus. Damages Owner Appr. Fe Defend.Atty Fe Owner CPA Fer Owner Expert V Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Co LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser	ees (Parcels es (Claims es (Claims (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs f erty 82)	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$5,000 \$40,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =0 =0 =0 =0 =0	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43	128,300	\$0
Bus. Damages Owner Appr. Fe Owner CPA Fee Owner CPA Fee Owner Expert N Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST . Owner Tenant Residential Business/Farm . Personal Prope . (Lines 28 thru 3 . Relocation Ser	ees (Parcels es (Claims es (Claims (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs f erty 82)	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$5,000 \$40,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% =0 =0 =0 =0 (Not in Phase Total)	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42	128,300	\$0
Bus. Damages Owner Appr. Fe Owner CPA Fer Owner CPA Fer Owner Expert V Other Condemr SUBTOTAL Design continge (1) PD&E pla WACQUISITION Acquisition Cost LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 82) rvices Cost	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$35,000 \$25,000 \$40,000 \$3,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =0 =0 =0 =0 =0	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43	128,300	\$0 \$0
Bus. Damages Owner Appr. Fe Owner CPA Fer Owner CPA Fer Owner Expert V Other Condemr SUBTOTAL Design continge (1) PD&E pla WACQUISITION Acquisition Cost LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser	ees (Parcels es (Claims es (Claims (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs f erty 82)	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$5,000 \$40,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% =0 =0 =0 =0 (Not in Phase Total)	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000		\$0 \$0
Bus. Damages Owner Appr. Fe Owner CPA Fe Owner CPA Fe Owner Expert V Other Condem SUBTOTAL Design continge (1) PD&E pla WACQUISITION Acquisition Cost LOCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 82) rvices Cost	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$25,000 \$40,000 \$33,000 \$33,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% =0 =0 =0 =0 (Not in Phase Total)	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE Date: Date: Date: Date:	12/17/18	\$0 \$0
Bus. Damages Owner Appr. Fe Owner CPA Fee Owner CPA Fee Owner Expert N Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost COCATION COST Owner Tenant Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser al Estate: Is. Dam. : elocation:	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ens - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 82) rvices Cost	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$25,000 \$40,000 \$33,000 \$33,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% =0 =0 =0 =0 (Not in Phase Total)	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE Date: Date:		\$0 \$0
Bus. Damages Owner Appr. Fe Owner CPA Fee Owner CPA Fee Owner Expert N Other Condemn SUBTOTAL Design continge (1) PD&E pla W ACQUISITION Acquisition Cost OWNER Residential Business/Farm Personal Prope (Lines 28 thru 3 Relocation Ser al Estate: us. Dam. : elocation:	ees (Parcels es (Claims es (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) n. Costs ency for design plan stage: ms - 120% (2) 30% plans - 115% I CONSULTANT (PHASE 42) insultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 32) rvices Cost Stephen Cross D. Wade Brown	1 0 70,900 0 1 (3) 60% plans - 11 \$20,000 \$25,000 \$25,000 \$25,000 \$25,000 \$3,000 \$3,000 \$3,000 \$3,000	x \$15,000 x \$16,000 x 33% + 1 x \$1,000 0% (4) 90% plans -105 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% =0 =0 =0 =0 (Not in Phase Total)	= 15,000 = 0 = 23,400 = 18,000 = 1,000 = 1,000 = TOTAL PHASE 43 TOTAL PHASE 42 TOTAL PHASE 42 TOTAL PHASE 45 TOTAL ESTIMATE Date: Date: Date: Date: Date:	12/17/18 12/17/18	\$0 \$0

						ARTMENT OF			F			
FM#: County: State Rd.:		do S 98/ SR 700		Alternate: Segment: FAP#:		SMF-12A N/A N/A		I LUTIMIAT	Distri Date:	2.12		Seven 6-Jun-18 N/A
Project Des. Parcels Commercial Residential Unimproved Total Parcels	SR 50 f Gross 0 1 0	rom Brooks Net 0 1 0 1 0 1	ville Bypas	s to 1-75				Estimated Re Business Residential Signs Special Total Relocat	locatees		0 0 0 0 0	
R/W SUPPORT C 1. Direct Labor 2. Indirect Over	Cost	(Pa	arcels	1		20,000 = 0 =		e)	Amou	nt 20,000 0		
3. R/W OPS (PHAS					^	0	nate	4	TOTA	L PHASE 41		\$20,0
 Appraisal Fe Business Data Court Report Expert Witnes Mediators Demolition, J Miscellaneo Appraisal Fe 12. 	es Through mage CPA er & Proces ss Asb. Abate. us Contract	Fees Throug ss Servers , Survey, etc		50% 75% 75%	x x x	 	1 0 1 1 1 0 1 0	1	X X X X X X X X X X X X X	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 5,000 = L PHASE 4B	Amount 30,000 0 500 30,000 2,400 0 15,000 0	\$77,9
R/W LAND COST			and the second						Amou		Subtotal	411,5
 Land, Improv and Cost to (Water Retent SUBTOTAL (5 Admin. Settle Litigation Aw Business Dar Bus. Damage Owner Appr. Owner CPA F Defend.Atty F Owner Exper Owner Exper Other Conder 	Cure Amoun tion & Mit. 77,648 SF) ements vards nages s Incrs. Fees ees ees t Witness	nt (O Ponds) (Factor (Factor (Claims (Factor (Parcels (Claims (Sum of Lines 1	16, 17 & 19)	94,757 0 20% 45% 0 25% 1 0 36,600 0 1	x x x x x x x x x + x	<u> </u>	(Lines 13 f Line 15) f Line 15)	v/o R/W Acq) 3 &14)		113,700 0 13,600 23,000 0 15,000 0 12,100 0 1,000	113,700	
25. SUBTOTAL 26.					î	\$1,000	(Lines 16	thru 24)	=		64,700	
* Design conting	ency for de	esign plan s	tage:	(3) 60% plans - 11					TOTAL	PHASE 43		\$178,40
R/W ACQUISITIO	N CONSUL	TANT (PHA:	SE 42)	(5) 00% prans - 11	070 14	4) 90% plans -105%	o (5) 268 L	late - 100%	-			
27. Acquisition C RELOCATION CO:			S	\$20,000	x	0	_	-	TOTAL	PHASE 42		5
28. Owner 29. Tenant 30. Residential 31. Business/Farr 32. Personal Prog	Replace Move Co	ment Housir	Ig	\$35,000 \$25,000 \$5,000 \$40,000 \$3,000	x x x x x x	Number 0 0 0 0 0 0		Amount 0 0 0 0 0				
33. (Lines 28 thru 34. Relocation Se	32)				^	-			TOTAL	PHASE 45		\$
35.	IVICES COS				-	\$0	(Not in P	hase Total)	-	-		
36. 37. Real Estate: Bus. Dam. :	Stephen	Cross		Signed: Signed:	7.	april lin	"	(All Phases)	TOTAL	ESTIMATE Date: Date:	06/18/18	\$276,30
Relocation: Overall Review:	D. Wade	Brown		Signed: Signed:	4	January-	-		2	Date:	06/18/18	
Cost Estimate Sec	uence #:		Dated:	6/18/2018	In th	e Amount of \$	\$276,300		— Data Innu	t Completio	date in the second	6/18/201
REMARKS: The following ind X	_ Type A - i _ Type B - i _ Type C - i	ndicates th ndicates ab ndicates be	e most conf ove averag low averag	in the above estin lidence le confidence le confidence o confidence	ate:							
The following ind Work Program Up Comments:	cates the I date:	Department	s purpose f	or this estimate: _Gaming 1:			Special P	'urpose: _	,	<u>к</u>	Docs to RW:	

FM#: County: State Rd.: Project Des.	430051-1	Alternate:	SMF-12B	AY COST ESTIMAT			
	Hernando SR 50/US 98/ SR 700	Segment: FAP#:	N/A		District: Date:		Seven 6-Jun-18
	SR 50 from Brooksville Byp		N/A		C.E. Sequence		N/A
arcels	Gross Net			Estimated Re	locatees:		
ommercial	0 0			Business		0	
esidential	1 1			Residential	-	2	
Inimproved				Signs Special		0	
otal Parcels	1 1			Total Reloca	tooc -	2	
	A REAL PROPERTY AND ADDRESS OF			Total neloca		2	
. Direct Labor Co	DSTS (PHASE 41) cost (Parcels		00.000		Amount		
Indirect Overhe			x <u>20,000</u> = x 0 =	Rate) Rate)	20,000		
. mullect overne	icau (raiceis		x =	nate)			400.0
					TOTAL PHASE 41		\$20,0
/W OPS (PHASE)						Amount	
Rueingee Dam	nage CPA Fees Through Trial			1 Parcels 0 Claims	x 30,000 =	30,000	
	r & Process Servers	50%		1 Parcels	x 19,000 = x 500 =	0 500	
. Expert Witnes		75%	x 1 =	1 Parcels	x 30,000 =	30,000	
. Mediators		75%	x 1 =	1 Parcels	x 2,400 =	2,400	
	sb. Abate., Survey, etc.		°	1 Imprymet	x 15,000 =	15,000	
. Miscellaneous				1 Per Project	x 15,000 =	15,000	
. Appraisal Fee				0 Parcels	x 5,000 =	0	
					TOTAL PHASE 4B		\$92,9
W LAND COSTS	S (PHASE A2)					Subtat-1	402,0
					Amount S	Subtotal	
	ements & Severance Damage			Section Contraction			
and Cost to Cu		389,648		Design plan stage	= 467,600		
	ion & Mit. (0 Ponds)	0	x <u>120%</u> (0	Parcels w/o R/W Acq)	0		
. SUBTOTAL (57				(Lines 13 &14)	Contradiction of	467,600	
. Admin. Settlen		20%		Line 15)	= 56,100		
. Litigation Awa		45%	x 45% of	Line 15)	= 94,700		
. Business Dam	nages (Claims	0	x0)		= 0		
. Bus. Damages	s Incrs. (Factor	25%	x \$ -)		= 0		
. Owner Appr. F	Fees (Parcels	1	x \$15,000)		= 15,000		
. Owner CPA Fe	ees (Claims	0	x \$16,000)		= 0		
	ees (Sum of Lines 16, 17 & 19	150,800	x 33%)		= 49,800		
. Defend.Atty Fe							
	Witness (Comm.+Unimp.)	0	+ 0)x	18.000	= 0		
3. Owner Expert	Witness (Comm.+Unimp.) nn. Costs	0	+() x \$1.000	18,000	= 0		
4. Other Condemn			+() x()		= 1,000	216 600	
3. Owner Expert 4. Other Condem 5. SUBTOTAL				: <u>18,000</u> (Lines 16 thru 24)	= 1,000	216,600	\$584.20
3. Owner Expert 4. Other Condem 5. SUBTOTAL 5.	nn. Costs				= 1,000	216,600	\$684,20
 Owner Expert Other Condemn SUBTOTAL Design continge 	nn. Costs ency for design plan stage:	1	x \$1,000	(Lines 16 thru 24)	= 1,000	216,600	\$684,20
8. Owner Expert 9. Other Condem 5. SUBTOTAL 6. <i>Design continge</i> (1) PD&E pla	nn. Costs ency for design plan stage: ans - 120% (2) 30% plans - 11	1	x \$1,000	(Lines 16 thru 24)	= 1,000	216,600	\$684,20
 Owner Expert 1 Other Condemn SUBTOTAL SUBTOTAL Design continger (1) PD&E pla W ACQUISITION 	nn. Costs ency for design plan stage: ans - 120% (2) 30% plans - 1 N CONSULTANT (PHASE 42)	1 15% (3) 60% plans - 11	x \$1,000 0% (4) 90% plans -105%	(Lines 16 thru 24)	= <u>1,000</u> = [TOTAL PHASE 43	216,600	
 Owner Expert 1 Other Condemu SUBTOTAL Substantinger <i>Design continger</i> <i>(1) PD&E plater</i> <i>Acquisition Conduction</i> 	nn. Costs ency for design plan stage: ans - 120% (2) 30% plans - 1 N CONSULTANT (PHASE 42) onsultant-50% of parcels	1	x \$1,000	(Lines 16 thru 24)	= 1,000	216,600	
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County: H State Rd.: S Project Des. S	30051-1	and the second	and the second se	AY COST ESTIMAT	E		
Parcels	Hernando SR 50/US 98/ SR 700 SR 50 from Brooksville Bypass	Alternate: Segment: FAP#: to 1-75	FPC-12A N/A N/A		District: Date: C.E. Sequence	1	even 7-Dec-18 I/A
lesidential Inimproved iotal Parcels	Sh so from Brooksvine Bypass Gross Net 0 0 1 1 0 0 1 1 1 1	101-73		Estimated Re Business Residential Signs Special Total Reloca	=	0 0 0 0	
/W SUPPORT COST I. Direct Labor Cost		1	x 20,000 =	Rate)	Amount 20,000		
2. Indirect Overhead		1	x 0 =		0		
3.					TOTAL PHASE 41		\$20,00
5. Court Reporter & 7. Expert Witness 8. Mediators	Through Trial le CPA Fees Through Trial & Process Servers Abate., Survey, etc. Contracts	<u>50%</u> 75% 75%	x <u>1</u> x <u>1</u> x <u>1</u>	1 Parcels 0 Claims 1 Parcels 1 Parcels 1 Parcels 0 Imprvmet 1 Per Project 0 Parcels	Am x 30,000 = x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = x 5,000 = X 5,000 =	100001 30,000 500 30,000 2,400 0 15,000 0	\$77,900
Z. /W LAND COSTS (P	PHASE 43)					btotal	411,500
	ents & Severance Damages a Amount & Mit. (0 Ponds) 48 SF) ents (Factor ls (Factor les (Claims nors. (Factor les (Parcels ls (Claims ls (Sum of Lines 16, 17 & 19) litness (Comm.+Unimp.)	64,821 0 20% 45% 0 25% 1 0 25,100 0 0 25,100	x 120% (x 60% o x 45% o x 0) x 5 -) x \$15,000) x \$16,000) x 33%) + 0)	* <i>Design plan stage</i> 0 Parcels w/o R/W Acq) (Lines 13 &14) of Line 15) of Line 15) x <u>18,000</u>	$= \frac{77,800}{0}$ $= \frac{9,300}{15,800}$ $= \frac{0}{10}$ $= \frac{0}{15,000}$ $= \frac{0}{10}$ $= \frac{8,300}{100}$ $= 0$	77,800	
	Costs	1	x \$1,000		= 1,000		
4. Other Condemn.				(Lines 16 thru 24)	=	49,400	
4. Other Condemn. 5. SUBTOTAL 6.				(Lines 16 thru 24)		49,400	\$127,20
4. Other Condemn. 5. SUBTOTAL 6. Design contingeni	cy for design plan stage: s - 120% (2) 30% plans - 115%	(3) 60% plans - 11	0% (4) 90% plans -105	Second 1	=	49,400	\$127,20
 Other Condemn. SUBTOTAL Design contingent (1) PD&E plans W ACQUISITION C 	s - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42)	1.201.001		Second 1	= TOTAL PHASE 43	49,400	\$127,200
 Other Condemn. SUBTOTAL Design contingent (1) PD&E plans WACQUISITION C Acquisition Cons 	s - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42) sultant-50% of parcels	(3) 60% plans - 110 \$20,000	0% (4) 90% plans -105 x 0	Second 1	=	49,400	\$127,200
4. Other Condemn. 5. SUBTOTAL 6. <i>Design contingen.</i> (1) PD&E plans W ACQUISITION C 7. Acquisition Const ELOCATION COSTS	s - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42) sultant-50% of parcels	\$20,000		% (5) 268 Date -100% Amount	= TOTAL PHASE 43	49,400	
4. Other Condemn. 5. SUBTOTAL 6. <i>Design contingeni</i> (1) PD&E plans W ACQUISITION C 7. Acquisition Cons ELOCATION COSTS 8. Owner	s - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42) sultant-50% of parcels & (PHASE 45)	\$20,000	x 0	% (5) 268 Date -100%	= TOTAL PHASE 43	49,400	
4. Other Condemn. 5. SUBTOTAL 6. <i>Design contingen.</i> <i>(1) PD&E plans</i> /W ACQUISITION C 7. Acquisition Const ELOCATION COSTS 8. Owner 9. Tenant	s - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42) sultant-50% of parcels & (PHASE 45)	\$20,000 \$35,000 \$25,000	x 0 Number x 0	% (5) 268 Date -100% Amount = 0 = 0	TOTAL PHASE 43	49,400	
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4. Other Condemn. 5. SUBTOTAL 5. <i>Design contingent</i> (1) PD&E plans AW ACQUISITION CO 7. Acquisition Const ELOCATION COSTS 8. Owner 9. Tenant 1. Business/Farm 2. Personal Propert	s - 120% (2) 30% plans - 115% CONSULTANT (PHASE 42) sultant-50% of parcels S (PHASE 45) Replacement Housing Move Costs	\$20,000 \$35,000 \$25,000	x 0 Number x 0 x 0 x 0	% (5) 268 Date -100% =0 =0 =0	TOTAL PHASE 43	49,400	Ş
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arcels arcels gh Trial c.	1 1 50% 75% 75% 75% 21,640 0 20%	x x x x x	0= 1= 1=	Rate) 1 0 1 1 1 0 1	Business Residential Signs Special Total Relocat Claims Parcels Parcels Parcels Parcels Imprvmet Per Project	Amount TOTAL X X X X X X X X X X X X X X X X X X X	20,000 0 PHASE 41 30,000 = 500 = 30,000 = 2,400 = 15,000 =	0 0 0 0 0 0 0 0 500 30,000 0 500 30,000 2,400 0 15,000		\$20,000
arcels gh Trial c.	1 50% 75% 75% 21,640 0 20%	x x x x x	0= 1= 1=	Rate) 1 0 1 1 1 0 1	Parcels Claims Parcels Parcels Parcels Imprvmet Per Project	TOTAL X X X X X X X X X X X X	20,000 0 PHASE 41 30,000 = 500 = 30,000 = 2,400 = 15,000 =	30,000 0 500 30,000 2,400 0 15,000		\$20,000
arcels gh Trial c.	1 50% 75% 75% 21,640 0 20%	x x x x x	0= 1= 1=	Rate) 1 0 1 1 1 0 1	Parcels Claims Parcels Parcels Parcels Imprvmet Per Project	x x x x x x x x x x	0 PHASE 41 30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 15,000 =	30,000 0 500 30,000 2,400 0 15,000		\$20,000
c.	75% 75% 21,640 0 20%	x		0 1 1 1 0	Claims Parcels Parcels Parcels Imprvmet Per Project	x x x x x x x x x x	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 =	30,000 0 500 30,000 2,400 0 15,000		\$20,000
c.	75% 75% 21,640 0 20%	x		0 1 1 1 0	Claims Parcels Parcels Parcels Imprvmet Per Project	x x x x x x x	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 =	30,000 0 500 30,000 2,400 0 15,000		
c.	75% 75% 21,640 0 20%	x		1 1 1 0 1	Parcels Parcels Parcels Imprvmet Per Project	x x x x x x	500 = 30,000 = 2,400 = 15,000 =	500 30,000 2,400 0 15,000		
	75% 75% 21,640 0 20%	x		1	Parcels Parcels Imprvmet Per Project	x x x x x	30,000 = 2,400 = 15,000 = 15,000 =	30,000 2,400 0 15,000		
	21,640 0 20%	x		1	Imprvmet Per Project	x x x	15,000 = 15,000 =	0 15,000		
	0	x x		1	Per Project	x	15,000 =	15,000		
Damages	0	x x		Ó		x				
Damages	0	x x	-			1 m m m h h		0		
Damages	0	x x				TOTAL	PHASE 4B	-		\$77,900
Jamages	0	x x				Amount	s s	Subtotal		
	0	x	120%	Design p	lan stane		26,000			
					/o R/W Acq)		0			
				(Lines 13	and the second	_	1.	26,000		
	45%	×		(Line 15)		-	3,100			
	0	x	45% 0	t Line 15)			5,300			
	25%	x	\$ -)			-	0			
	1	x	\$15,000)			-	15,000			
	0	x	\$16,000)				0			
16, 17 & 19) nimp.)	8,400	×	33%)	x 18,000			2,800			
ump./		×	\$1,000	A_10,000		-	1,000			
				(Lines 16	thru 24)	-		45,200		
						TOTAL	PHASE 43			\$71,200
stage: lans - 115%	(3) 60% plans - 11	0% ((4) 90% plans -105	% (5) 268 D	ate -100%					
		-								
	\$20,000	x	0	-		TOTAL	PHASE 42			\$0
		1.1	ALC: NO		100					
ing	ATT 000		Number		Amount					
		x								
	\$5,000	x	0	-	0					
		x	0	-						
	+0,000					TOTAL	PHASE 45			\$0
	_		\$0	(Not in P	hase Total)		1			
					(All Phases)	TOTAL	ESTIMATE			\$169,100
	Signed:	7	april in	~			Date:	12/17/18		
	Signed:	-				201	Date:		-	
_			da nort		-	-		12/17/18		
1.1.1.0			1. 1. 2. 1. 2. 10			-		1		-
Dated:	12/17/2018	In t	the Amount of \$	\$169,100		Data Inpu	t Completio	n Date:	4	12/17/2018
	ASE 42) sels	plans - 115% (3) 60% plans - 11 ASE 42) sets \$20,000 sing \$35,000 \$25,000 \$40,000 \$3,000 \$3,000 \$3,000	plans - 115% (3) 60% plans - 110% (ASE 42) sels \$20,000 x sing \$35,000 x \$25,000 x \$5,000 x \$40,000 x \$3,000 x \$3,000 x \$3,000 x \$3,000 x	plans - 115% (3) 60% plans - 110% (4) 90% plans - 105% ASE 42) sels \$20,000 x 0 sing Number \$35,000 x 0 \$\$25,000 x 0 \$\$5,000 x 0 \$\$1000 x 0 \$\$3,000 x 0 \$\$0 \$\$0 \$\$10 \$\$10	plans - 115% (3) 60% plans - 110% (4) 90% plans - 105% (5) 268 D ASE 42) rels \$20,000 x 0 sing Number \$35,000 x 0 = \$25,000 x 0 = \$5,000 x 0 = \$40,000 x 0 = \$40,000 x 0 = \$0 (Not in P \$0 (Not in P \$100 Signed: \$100	plans - 115% (3) 60% plans - 110% (4) 90% plans - 105% (5) 268 Date - 100% ASE 42) rels \$20,000 x 0 sing Sing Number Amount \$35,000 x 0 = 0 \$30,000 x 0 = 0 \$40,000 x 0 = 0 \$0 (Not in Phase Total)	stage: plans - 115% (3) 60% plans - 100% (4) 90% plans - 105% (5) 268 Date - 100% ASE 42) sels \$20,000 x 0 TOTAL sing Number Amount	plans - 115% (3) 60% plans - 110% (4) 90% plans - 105% (5) 268 Date - 100% ASE 42) rels \$20,000 x 0 TOTAL PHASE 42 sing Number Amount \$35,000 x 0 = 0 \$55,000 x 0 = 0 \$55,000 x 0 = 0 \$55,000 x 0 = 0 \$55,000 x 0 = 0 \$53,000 x 0 = 0 \$50 (Not in Phase Total) TOTAL PHASE 45 \$0 (Not in Phase Total) TOTAL ESTIMATE Signed: Date:	stage: plans - 110% (4) 90% plans - 105% (5) 268 Date - 100% ASE 42) rels \$20,000 x 0 TOTAL PHASE 42 sing Number Amount \$\$25,000 x 0 = 0 \$\$5,000 x 0 = 0 \$\$25,000 x 0 = 0 \$\$3,000 x 0 = 0 \$\$3,000 x 0 = 0 \$\$10 (Not in Phase Total) TOTAL PHASE 45 [TOTAL ESTIMATE \$\$10 (Not in Phases) [TOTAL ESTIMATE [Date: 12/17/18] \$\$10 \$10 Phases) [Date: 2000] [Date: 2000] \$\$10 \$10 Phase Date: 21/17/18] [Date: 21/17/18]	Instage: plans - 110% (4) 90% plans - 105% (5) 268 Date - 100% ASE 42) TOTAL PHASE 42 sing Number Amount \$35,000 x 0 = 0 \$\$5,000 x 0 = 0 \$\$25,000 x 0 = 0 \$\$1000 x 0 = 0

R/W QPS [PNASE 48] Amount Amount 4. Apprisal fees Through Trial 3 Parcels x 30,000 90,000 5. Business Damage CPA fees Through Trial 0 Claims x 15,000 90,000 6. Court Reporter & Process Servers 75%, x 3 = 2 Parcels x 30,000 90,000 8. Mediators 75%, x 3 = 2 Parcels x 30,000 40,000 1. Apprisal Fee Review 75%, x 3 = 2 Parcels x 30,000 40,000 1. Apprisal Fee Review 1 Parcels x 15,000 15,000 50,000 12 12. And Inprovements & Severance Damages and Cost to Cure Amount 443,309 x 120%, * Design plan stage 552,000 522,000 0 532,000 16 15.000 532,000 16 15.000 16.000 16.000 17.101,014,014,014,014 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000 16.000	County: Hernando State Rd.: SR 50/US Project Des. SR 50/US Parcels Gross Commercial 0 Residential 3 Unimproved 0 Total Parcels 3 R/W SUPPORT COSTS (PHAS 1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees Through T 5. Business Damage CPA Fe	98/ SR 700 om Brooksville Bypass Net 0 3 3 3 5E 41) (Parcels	Segment: FAP#. to 1-75		N/A			C2 25 26 4 2 20		Seven
Commercial Desidencial Desidencial <thdesidencial< th=""> <thdesidencial< th=""></thdesidencial<></thdesidencial<>	Commercial 0 Residential 3 Unimproved 0 Total Parcels 3 R/W SUPPORT COSTS (PHAS 1. Direct Labor Cost 2. Indirect Overhead 3. R/W OPS (PHASE 4B) 4. Appraisal Fees Through T 5. Business Damage CPA Fe	0 3 0 3 3 5E 41) (Parcels						C.E. Sequence	1	and the second sec
Direct Labor Cost (Parcels 3 x 20.000 Rate) 60.000 3. x 0 = Rate) 107AL PHASE 41 Soz 3. x 0 = Amount Soz Soz AW OPS (PHASE 48) x 3 Parcels x 20.000 \$Soz 5. Bainess Damage CPA Frees Through Trial 59%, x 3 = 2 Parcels x 20.000 \$Soz \$Soz 2 Parcels x 20.00 \$Soz \$Soz <t< td=""><td> Direct Labor Cost Indirect Overhead R/W OPS (PHASE 4B) Appraisal Fees Through T Business Damage CPA Fe </td><td>(Parcels</td><td></td><td></td><td></td><td></td><td>Business Residential Signs Special</td><td></td><td>2 0 0</td><td></td></t<>	 Direct Labor Cost Indirect Overhead R/W OPS (PHASE 4B) Appraisal Fees Through T Business Damage CPA Fe 	(Parcels					Business Residential Signs Special		2 0 0	
2. Indirect Overhead (Parcels 3 x 0 0 3. X 0 Fate 0 4. Apprisital fees Through Trial 3 Parcels × 30.000 = 90.000 5. Besines Damage CPA Fees Through Trial 3 Parcels × 30.000 = 90.000 6. Court Reporter & Process Servers 59%, x 3 = 2 Parcels × 30.000 = 60.000 8. Mediators 3. 2 Parcels × 30.000 = 60.000 8. Mediators 3. 2 Parcels × 30.000 = 60.000 9. Demolition, Abb. Abate, Survey, etc. 10 Parcels × 10.000 = 15.000 10. Miscellaneous Contracts 1 Parcels × 10.000 = 50.000 11. Apprisal Fee Review 1 Parcels × 10.000 = 50.000 12. More Manuellaneous Contracts 1 Parcels × 50.000 10 50.000 13. Land, Improvements & Staverance Damages and Cost to Cure Amount 443.399 × 120% (0 Parcels Wo	 Indirect Overhead R/W OPS (PHASE 4B) Appraisal Fees Through T Business Damage CPA Fe 	1.0.04.0			20.000 -	Rate				
DW OPS (PHASE 4B) Anount Anount Anount 4. Appriatal frees Through Trial 3 Parcels × 30000 90000 5. Basiness Damage CPA fees Through Trial 0 Claims × 30000 90000 6. Court Reporter & Process Servers 75% X 3 = 2 Parcels × 30000 50000 7. Expert Winness 75% X 3 = 2 Parcels × 30000 50000 10. Miscellaneous Contracts 1 Parcels × 15.000 15.000 15.000 15.000 17.000 15.000 10.000 1 Parcels × 52.000 2000 1 Parcels 52.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 1 10.000 10.000 10.000 10.000 10.000 10.000 <td>R/W OPS (PHASE 4B) 4. Appraisal Fees Through T 5. Business Damage CPA Fe</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0</td> <td></td> <td></td>	R/W OPS (PHASE 4B) 4. Appraisal Fees Through T 5. Business Damage CPA Fe							0		
4. Appriatel fees Through Trial 3 Parcels 3 0 Claims 13,000 50,000 5. Busines Damage CAF ces Through Trial 0 Claims x 13,000 0 6. Court Reporter & Process Servers 75%, x 3 = 2 Parcels x 30,000 = 0 8. Mediators 75%, x 3 = 2 Parcels x 30,000 4,800 9. Demolifion, Ash. Abate, Survey, etc. 1 Per Project x 15,000 15,000 1 11. Appraisal Fee Review 1 Per Project x 15,000 30,000 12. Land, Improvements & Sverence Damages and Cost to Cure Amount 443,309 x 120% (Dearcels w/RAct) 0 522,000 13. Land, Improvements & Sverence Damages and Cost to Cure Amount 443,309 x 120% (Dearcels w/RAct) 522,000 14. Water Retentions & Mit. (D Ponds) 0 x 120% (Dearcels w/RAct) 532,000 522,000 15. SUBTOTAL (15,648 SF) (Lines 15 & K13,160) <	4. Appraisal Fees Through T 5. Business Damage CPA Fe			-	_		-	TOTAL PHASE 41	and the second second	\$60,00
13. Land, Improvements & Severance Damages and Cost to Cure Amount 443,309 x 120% * Design plan stage 532,000 14. Water Retartion & Mit. (10 Ponds) 0 x 120% to Parcels w/o R/W Acq) 0 15. SUBTOTAL (57,648 SF) (Lines 13 & 14) 532,000 16. Admin. Settlements (Factor 20% × 60% of Line 15) = 63,800 17. Litigation Awards (Factor 25% × 3 0) = 0 18. Business Damages (Claims 0 × \$15,000) = 0 0 18. Business Damages (Inters (Factor 25% × 3 - 1 = 0 19. Bas. Damages Intras. (Factor 25% × 3 - 1 = 0 20. Owner Appr. Fees (Parcels 3 × \$15,000) = 0 0 2 20. Defend.Atty Fees (Sam of Lines 16, 17& 19) 159,600 × 33% 1 = 52,700 2 0 0 - 0 2 0 0 - 0 2 0 0 - 0 2 0 0 0 0 0 0 0 0 0 0 0 0 <td>8. Mediators 9. Demolition, Asb. Abate., S 10. Miscellaneous Contracts 11. Appraisal Fee Review</td> <td>ees Through Trial s Servers Survey, etc.</td> <td>75%</td> <td>x</td> <td>3 =</td> <td>0 2 2 2 2</td> <td>Claims Parcels Parcels Parcels Imprvmet Per Project</td> <td>x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = c 15,000 = c 5,000 =</td> <td>90,000 0 1,000 60,000 4,800 30,000 15,000 5,000</td> <td>\$205,80</td>	8. Mediators 9. Demolition, Asb. Abate., S 10. Miscellaneous Contracts 11. Appraisal Fee Review	ees Through Trial s Servers Survey, etc.	75%	x	3 =	0 2 2 2 2	Claims Parcels Parcels Parcels Imprvmet Per Project	x 19,000 = x 500 = x 30,000 = x 2,400 = x 15,000 = c 15,000 = c 5,000 =	90,000 0 1,000 60,000 4,800 30,000 15,000 5,000	\$205,80
and Cost to Cure Amount 443,309 x 120% (* Design plan stage = 532,000 14. Water Retention & Mit. (0 Ponds) 0 x 120% (b Parcels Work RWA Req) 0 15. SUBTOTAL (5,648 SF) (Lines 13 & 14) 532,000 16. Admin. Settlements (Factor 20% × 60% of Line 15) = 63,800 17. Utigation Awards (Factor 45% × 40% of Line 15) = 0 18. Business Damages (Calims 0 × 0 = 0 20. Owner Appr. Fees (Parcels % × \$ - 0 = 0 21. Owner CPA Fees (Calims 0 × 33%) = 52,700 2 22. Oelend.Aty Fees (Sum of Lines 15, 17 & 19) 155,600 × 33%) = 52,700 23. Owner CPA Fees (Claims 3 × \$1,000 = 0 2 24. Other Condemn. Costs 3 × \$1,000 = 0 2 2 60,300 25. SUBTOTAL (Lines 15 thru 24) = 260,300 TOTAL PHASE 43 \$792 7. Acquis	R/W LAND COSTS (PHASE 43	Contraction of the second s						Amount	Subtotal	
31. Business/Farm \$40,000 x 0 = 0 32. Personal Property \$3,000 x 0 = 0 33. (Lines 28 thru 32) 34. Relocation Services Cost \$7,000 (Not in Phase Total) TOTAL PHASE 45 \$70 35. 36.	 Land, Improvements & Se and Cost to Cure Amount Water Retention & Mit. (0 SUBTOTAL (57,648 SF) Admin. Settlements (1) Litigation Awards (1) Business Damages (1) Bus. Damages Incrs. (1) Bus. Damages Incrs. (1) Owner Appr. Fees (1) Owner CPA Fees (2) Defend.Atty Fees (2) Other Condemn. Costs SUBTOTAL SUBTOTAL StubtoTAL StubtoTAL StubtoTAL StubtoTAL R/W ACQUISITION CONSULT Acquisition Consultant-50 RELOCATION COSTS (PHASE Replacem Owner Tenant Move Cos 	Averance Damages 2 Ponds) Factor Factor Factor Claims Factor Parcels Claims Sum of Lines 16, 17 & 19) Comm.+Unimp.) Sign plan stage: (2) 30% plans - 115% ANT (PHASE 42) % of parcels 45) nent Housing	0 20% 45% 0 25% 3 0 159,600 0 3 3 (3) 60% plans - 110 \$20,000 \$25,000	x - x - x - x - x - x - x - x - x - x -	120% (0 <u>60%</u> of <u>40%</u> of <u>0</u>) \$ -) \$15,000 \$16,000 33% <u>33%</u>) <u>0</u>) \$1,000 90% plans -105% 0 Number <u>2</u>	Parcels w/ (Lines 13 & Line 15) Line 15) (Line 15) (Lines 16 t (Lines 16 t (Lines 16 t (Lines 16 t	o R/W Acq) &14) 	532,000 0 63,800 95,800 0 45,000 52,700 0 52,700 0 3,000	260,300	\$792,30
Ball P Drammer Population Total PHASE 45 \$70 33. (Lines 28 thru 32) \$7,000 (Not in Phase Total) 34. Relocation Services Cost \$7,000 (Not in Phase Total) 35. 36. (All Phases) 37. (All Phases) TOTAL ESTIMATE	31. Business/Farm		\$40,000	x	0	-	0			
35. 36. 37. (All Phases) TOTAL ESTIMATE \$1,128	33. (Lines 28 thru 32)		\$3,000	x				TOTAL PHASE 45	i	\$70,00
36				_	\$7,000	(Not in Ph	ase Total)			
									A	
Bus. Dam. : Date:	35. 36.									
P . 40/47/40	35. 36. 37. Real Estate: <u>Stephen C</u> Bus. Dam. : Relocation: <u>Stephen C</u>	Cross	Signed:	1	5-1-1- 5-1-1- 20141-1-	1	(All Phases)	Date: Date: Date:	12/17/18 12/17/18	\$1,128,10
Overall Review: D. Wade Brown Signed: Control Date: 12/17/18	35. 36. 37. Real Estate: Stephen C Bus. Dam. : Relocation: Stephen C Overall Review: D. Wade E	Cross Cross Brown	Signed: Signed: Signed:	1	graf son Sameta			Date: Date: Date: Date: Date:	12/17/18 12/17/18 12/17/18	
Bus. Dam. : Date:	28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32)	sts	\$25,000 \$5,000 \$40,000	x	2 0 0 0 0	E	70,000 0 0 0 0 0 ase Total)	TOTAL PHASE 45		
Bus. Dam. : Signed: Date:	35. 36. 37.		6 1	-1-	toold he	~	(All Phases)		and the second se	\$1,128,10
Relocation: Stephen Cross Signed: Date: 12/17/18	35. 36. 37. Real Estate: <u>Stephen C</u>		Signed:	1	pp from	"	(All Phases)	Date: Date:	12/17/18	\$1,128,10
P . 10/17/40	35. 36. 37. Real Estate: <u>Stephen C</u> Bus. Dam. : Relocation: <u>Stephen C</u>	Cross	Signed: Signed:	1	5-1/2- 5-1/2- 20167	1	(All Phases)	Date: Date: Date:	12/17/18 12/17/18	\$1,128,10
Overall Review: D. Wade Brown Signed: Date: 12/17/18	35. 36. 37. Real Estate: Stephen C Bus. Dam. : Relocation: Stephen C Overall Review: D. Wade E	Cross Cross Brown	Signed: Signed: Signed:	1	Amount of t	51 128 100		Date: Date: Date: Date: Date:	12/17/18 12/17/18 12/17/18	\$1,128,10

FM#: County:				VAY COST ESTIMAT	-		
sounty.	430051-1 Hernando	Alternate: Segment:	SMF-13A + Ease N/A		District: Date:		Seven 5-Jun-18
tate Rd.:	SR 50/US 98/ SR 700	FAP#:	N/A		C.E. Sequence	1	N/A
roject Des. arcels	SR 50 from Brooksville B Gross Net	ypass to 1-75		Estimated R	elocatees		
Commercial	0 0			Business	ciocatocs.	0	
lesidential	2 2			Residential	1 1	0	
Inimproved	0 0			Signs		0	
Total Parcels	2 2			Special Total Reloca	-	0	
W SUPPORT CO	THE R. LEWIS CO., LANSING, MICH.		-	Total helder		0	
1. Direct Labor Co		2	x 20,000 :	= Rate)	Amount 40,000		
2. Indirect Overhe			x 0:		0		
3.					TOTAL PHASE 41		\$40,000
R/W OPS (PHASE 4	4B)				A	mount	
4. Appraisal Fees				2 Parcels	x 30,000 =	60,000	
	age CPA Fees Through Tri		A	0 Claims	x 19,000 =	0	
 Court Reporter Expert Witness 	r & Process Servers	50%	x 2 x 2	= 1 Parcels	x 500 =	500	
8. Mediators	5	75%		= 2 Parcels = 2 Parcels	x 30,000 = x 2,400 =	60,000 4,800	
	sb. Abate., Survey, etc.	1378	^	0 Imprvmet	x 15,000 =	4,000	
0. Miscellaneous	s Contracts			1 Per Project		15,000	
1. Appraisal Fee	Review			1 Parcels	x 5,000 =	5,000	
2.					TOTAL PHASE 4B		\$145,300
W LAND COSTS	(PHASE 43)				Amount S	ubtotal	
	ments & Severance Dama	jes					
and Cost to Cu	ure Amount	124,812	x 120%	* Design plan stage	= 149,800		
4. Water Retentio	on & Mit. (0 Ponds)	0		0 Parcels w/o R/W Acq)	0		
5. SUBTOTAL (57,	(648 SF)			(Lines 13 &14)		149,800	
16. Admin. Settlen		20%	x60%	of Line 15)	= 18,000		
17. Litigation Awa	ards (Factor	45%	x 45%	of Line 15)	= 30,300		
8. Business Dama		0	x0	0	= 0		
0 Due Demonse		25%	x \$ - 1		=0		
		2	x \$15,000		= 30,000		
20. Owner Appr. Fe							
20. Owner Appr. Fe 21. Owner CPA Fe	ALC: NOT THE PARTY OF THE PARTY	0	x \$16,000		=		
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe	es (Sum of Lines 16, 17	k 19) 48,300	x 33%		= 15,900		
20. Owner Appr. Fo 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1	ves (Sum of Lines 16, 17 Witness (Comm.+Unimp.	k 19) 48,300 0	x 33%	x <u>18,000</u>	= <u>15,900</u> = <u>0</u>		-a.:
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemn	ves (Sum of Lines 16, 17 Witness (Comm.+Unimp.	k 19) 48,300	x 33%		= <u>15,900</u> = <u>0</u> = 2,000	05 000	a.
24. Other Condemn 25. SUBTOTAL	ves (Sum of Lines 16, 17 Witness (Comm.+Unimp.	k 19) 48,300 0	x 33%	x <u>18,000</u> (Lines 16 thru 24)	= <u>15,900</u> = <u>0</u> = <u>2,000</u>	96,200	, \$245 000
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemn 25. SUBTOTAL 26.	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs	k 19) 48,300 0 2	x 33%		= <u>15,900</u> = <u>0</u> = 2,000	96,200	\$246,000
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemn 25. SUBTOTAL 26. * Design continge	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp.	48,300 <u>48,300</u> <u>0</u> 2	x 33% + 0 x \$1,000	(Līnes 16 thru 24)	= <u>15,900</u> = <u>0</u> = <u>2,000</u>	96,200	\$246,000
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemn 25. SUBTOTAL 26. * Design continge (1) PD&E pla	(Sum of Lines 16, 17) Witness (Comm.+Unimp. n. Costs ency for design plan stage	48,300 0 2 115% (3) 60% plans - 11	x 33% + 0 x \$1,000	(Līnes 16 thru 24)	= <u>15,900</u> = <u>0</u> = <u>2,000</u>	96,200	, \$246,000
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend. Atty Fe 23. Owner Expert 1 24. Other Condemn 25. SUBTOTAL 26. <i>Design continge</i> (1) PD&E pla 3/W ACQUISITION	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans	48,300 0 2 115% (3) 60% plans - 11	x 33% + 0 x \$1,000	(Līnes 16 thru 24)	= <u>15,900</u> = <u>0</u> = <u>2,000</u>	96,200	\$246,000 \$0
 20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemi 25. SUBTOTAL 26. * Design continge (1) PD&E plat 37.W ACQUISITION 27. Acquisition Co 	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans CONSULTANT (PHASE 42 onsultant-50% of parcels	48,300 0 2	x 33% + 0 x \$1,000	(Līnes 16 thru 24)	= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u>	96,200	
 20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemi 25. SUBTOTAL 26. * Design continge (1) PD&E plat 37.W ACQUISITION 27. Acquisition Co 	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans CONSULTANT (PHASE 42 onsultant-50% of parcels	48,300 0 2	x 33% + 0 x \$1,000	(Līnes 16 thru 24)	= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u>	96,200	
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 12 24. Other Condemin 25. SUBTOTAL 26. * Design continge (1) PD&E plan 37W ACQUISITION 27. Acquisition Cost RELOCATION COST 28. Owner	(Sum of Lines 16, 17) Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45)	48,300 0 2	x 33% + 0 x \$1,000 10% (4) 90% plans - 105 x 0 Number x 0	(Lines 16 thru 24) % (5) 268 Date -100% Amount =	= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u>	96,200	
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 12 24. Other Condemin 25. SUBTOTAL 26. * Design continge (1) PD&E plan 37W ACQUISITION 27. Acquisition Cost RELOCATION COST 28. Owner	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans N CONSULTANT (PHASE 43) Onsultant-50% of parcels TS (PHASE 45) Replacement Housing	419) 48,300 0 2 115% (3) 60% plans - 11 2) \$20,000	x 33% + 0 x \$1,000 10% (4) 90% plans - 105 x 0 Number	(Lines 16 thru 24) % <i>(5) 268 Date -100%</i> Amount	= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u>	96,200	
 20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 12 24. Other Condemize 25. SUBTOTAL 26. * Design continge (1) PD&E plate 27. Acquisition Cost 28. Owner 29. Tenant 	(Sum of Lines 16, 17) Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans N CONSULTANT (PHASE 42) onsultant-50% of parcels TS (PHASE 45)	419) 48,300 0 2 115% (3) 60% plans - 11 2) \$20,000 \$35,000 \$25,000	x 33% + 0 x \$1,000 10% (4) 90% plans - 105 x 0 Number x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =(= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>TOTAL PHASE 43</u>	96,200	
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 20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert No 24. Other Condemn 25. SUBTOTAL 26. 26. 27. Acquisition Continge 28. Owner 29. Tenant 20. Residential 29. Tenant 20. Residential 29. Personal Prope 20. (Lines 28 thru 3) 24. Relocation Ser 25. 	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans - N CONSULTANT (PHASE 45) TS (PHASE 45) Replacement Housing Move Costs n erty 32)	419) 48,300 0 2 115% (3) 60% plans - 11 3) \$20,000 \$25,000 \$5,000 \$40,000	x 33% + 0 x \$1,000 x \$1,000 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =() =() =()	= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>1000</u> = <u>10000</u> = <u>1000000000000000000000000000000000000</u>	96,200	\$0
 20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemi 25. SUBTOTAL 26. 26. 27. Acquisition Co 28. Owner 29. Tenant 20. Residential 20. Residential 21. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser 35. 36. 37. 37. 38. 39. 39. 30. Residential 31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser 35. 36. 37. 38. 39. 39. 30. 30. 31. 32. 33. 34. 35. 36. 37. 37. 38. 	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans - N CONSULTANT (PHASE 45) TS (PHASE 45) Replacement Housing Move Costs n erty 32)	419) 48,300 0 2 115% (3) 60% plans - 11 3) \$20,000 \$25,000 \$5,000 \$40,000	x 33% + 0 x \$1,000 x \$1,000 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =() =() =() (Not in Phase Total)	= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>1000</u> = <u>10000</u> = <u>1000000000000000000000000000000000000</u>	96,200	\$0 \$0
 20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemi 25. SUBTOTAL 26. 26. 27. Acquisition Co 28. Owner 29. Tenant 20. Residential 20. Residential 21. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser 35. 36. 37. 37. 38. 39. 39. 30. Residential 31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser 35. 36. 37. 38. 39. 39. 30. 30. 31. 32. 33. 34. 35. 36. 37. 37. 38. 	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans - N CONSULTANT (PHASE 42 onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 32) rvices Cost	4 19) 48,300 0 2 115% (3) 60% plans - 1) (1) \$20,000 \$25,000 \$5,000 \$40,000 \$3,000	x 33% + 0 x \$1,000 x \$1,000 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =() =() =() (Not in Phase Total)	= <u>15,900</u> = <u>0</u> = <u>2,000</u> = <u>1000</u> = <u></u>		\$0 \$0
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 20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 1 24. Other Condemi 25. SUBTOTAL 26. 26. 27. Acquisition Co 28. Owner 29. Tenant 20. Residential 21. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser 35. 36. 37. 38. Commer 39. Residential 30. Residential 31. Business/Farm 32. Personal Prope 33. (Lines 28 thru 3 34. Relocation Ser 35. 36. 37. 38. Dam. : 39. Real Estate: 39. Dam. : 39. Relocation: 	ees (Sum of Lines 16, 17 Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans - N CONSULTANT (PHASE 42 onsultant-50% of parcels TS (PHASE 45) Replacement Housing Move Costs erty 32) rvices Cost	4 19) 48,300 0 2 115% (3) 60% plans - 11 2) \$20,000 \$25,000 \$40,000 \$40,000 \$3,000 \$3,000	x 33% + 0 x \$1,000 x \$1,000 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =() =() =() (Not in Phase Total)	= 15,900 = 0 = 2,000 = 2,000 = TOTAL PHASE 43 TOTAL PHASE 42 0 0 0 0 1 TOTAL PHASE 45 - TOTAL ESTIMATE Date: Date: Date:		\$0 \$0
20. Owner Appr. Fe 21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condemn 25. SUBTOTAL 26. * Design continge (1) PD&E pla R/W ACQUISITION	ees (Sum of Lines 16, 17. Witness (Comm.+Unimp. n. Costs ency for design plan stage ans - 120% (2) 30% plans - N CONSULTANT (PHASE 45) Replacement Housing Move Costs n erty 32) rvices Cost Stephen Cross D. Wade Brown	419) 48,300 0 2 115% (3) 60% plans - 11 3) \$20,000 \$25,000 \$40,000 \$40,000 \$3,000 \$3,000 \$3,000	x 33% + 0 x \$1,000 x \$1,000 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0 x 0	(Lines 16 thru 24) (Lines 16 thru 24) (5) 268 Date -100% Amount =() =() =() (Not in Phase Total)	= 15,900 = 0 = 2,000 = 2,000 = TOTAL PHASE 43 TOTAL PHASE 42 0 0 0 1 TOTAL PHASE 45 	06/18/18	\$0 \$0

					ARTMENT OF						
FM#: County: State Rd.: Project Des.	SR 50 f	lo S 98/ SR 700 om Brooksville E	Alternate: Segment: FAP#: Bypass to 1-75		SMF-13B N/A N/A			Distri Date: C.E. S	ct: equence		Seven 6-Jun-18 N/A
Parcels Commercial Residential Unimproved Total Parcels	<u>Gross</u> 0 0 1	<u>Net</u> 0 1 1					Estimated Re Business Residential Signs Special Total Reloca			0 0 0 0 0	
R/W SUPPORT C 1. Direct Labor 2. Indirect Over	Cost	(Parcels		-	20,000 =			Атош	20,000		
3. R/W OPS (PHAS		(Parcels	s1	X	0 =	= Rat	2)	TOTAL	0 . PHASE 41		\$20,00
4. Appraisal Fe	es Through mage CPA er & Proce ess Asb. Abate, us Contrac	Fees Through Tri ss Servers Survey, etc.	al50% 75% 75%	x		1 0 1 1 1 0 1 0	Parcels Claims Parcels Parcels Parcels Imprvmet Per Project Parcels	x x x x x x x x x x	30,000 = 19,000 = 500 = 30,000 = 2,400 = 15,000 = 5,000 = .PHASE 4B	Amount 30,000 0 500 30,000 2,400 0 15,000 0	
R/W LAND COST				-				Amour	and the second	Subtotal	\$77,90
 Land, Improv and Cost to (Water Retent SUBTOTAL (5 Admin. Settle Litigation Aw Business Dar Bus. Damage Owner Appr. Owner CPA F Owner CPA F Owner Exper Owner Exper Other Conder SUBTOTAL SUBTOTAL 	ements & S Cure Amountion & Mit. 57,648 SF) ements vards mages is Incrs. Fees rees rees rees t Witness	everance Damag nt (O Ponds) (Factor (Factor (Claims (Factor (Parcels (Claims (Claims (Sum of Lines 16, 17 8	149,788 0 20% 45% 0 25% 1 0 0 25%	× × × × × × × +	<u> </u>	D Parcels v (Lines 1: f Line 15) f Line 15) x			179,700 0 21,600 36,400 0 15,000 0 19,100 18,000 1,000 PHASE 43	<u> </u>	\$200.80
* Design conting	rency for di lans - 120%	esign plan stage: (2) 30% plans -	115% (3) 60% plans - 1	10% 1	1) 00% plane -105%	(IEL 200)	Data 100%	TUTAL	PHASE 43		\$290,80
R/W ACQUISITIO 27. Acquisition C	N CONSUL	TANT (PHASE 42))			0 10/ 200 1	100 /8		-		
RELOCATION CO 28. Owner 29. Tenant 30. Residential 31. Business/Farr 32. Personal Proj	STS (PHAS Replace Move Co	E 45) ment Housing	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$2,000	x	0 Number 0 0 0		Amount 0 0 0	TOTAL	PHASE 42		5
33. (Lines 28 thru	32)		\$3,000	x		-	0	TOTAL	PHASE 45		\$1
34. Relocation Se 35. 36.	ervices Cos	t		-	\$0	(Not in P	hase Total)	-	-		
87. Real Estate: Bus. Dam. : Relocation:	Stephen	Cross	Signed: Signed: Signed:	7	toply in	//	(All Phases)	TOTAL	ESTIMATE Date: Date:	06/18/18	\$388,700
Overall Review:	D. Wade	Brown	Signed:	- 2	10,000	-		2	Date: Date:	06/18/18	
Cost Estimate Sec REMARKS:	quence #:	Da	ted: 6/18/2018	In th	e Amount of \$	\$388,700		Data Inpu	t Completio	n Date:	6/18/2018
The following ind	Type A - i	ndicates the mos	dence in the above estir st confidence average confidence average confidence	nate:	-						

				TRANSPORTATION AY COST ESTIMATE			
FM#: County: State Rd.:	430051-1 Hernando SR 50/US 98/ SR 700	Alternate: Segment: FAP#:	SMF-13C N/A N/A	1.000	District: Date: C.E. Sequence	Seven 6-Jun N/A	
Project Des. Parcels Commercial Residential Unimproved Total Parcels	SR 50 from Brooksville Bypass Gross Net 0 0 1 1 2 2	to I-75		Estimated Rel Business Residential Signs Special Total Relocat		0 0 0 0	
R/W SUPPORT CO 1. Direct Labor C	ost (Parcels	2	x20,000 =	C. Set	Amount 40,000		
2. Indirect Overh 3.		2	x=	Rate)	0 TOTAL PHASE 41		\$40,000
 Court Reporte Expert Witnes Mediators 	s Through Trial nage CPA Fees Through Trial or & Process Servers ss sb. Abate., Survey, etc. us Contracts	50% 75% 75%	x <u>2</u> x <u>2</u> x <u>2</u> =	2 Parcels 2 Parcels 1 Imprvmet 1 Per Project	Arr x 30,000 = x 19,000 = x 5000 = x 30,000 = x 2,400 = x 15,000 = x 15,000 = x 5,000 = TOTAL PHASE 4B	100000 60,000 500 60,000 4,800 15,000 15,000 5,000	\$160,300
R/W LAND COST						btotal	4105,000
and Cost to C 14. Water Retent 15. SUBTOTAL (5 16. Admin. Settle 17. Litigation Aw 18. Business Dar 19. Bus. Damage 20. Owner Appr. 21. Owner CPA F 22. Defend.Atty F 23. Owner Exper 24. Other Conder	ion & Mit. (0 Ponds) 7,648 SF) ments (Factor ards (Factor nages (Claims s Incrs. (Factor Fees (Parcels ees (Claims ees (Sum of Lines 16, 17 & 19) t Witness (Comm.+Unimp.)	650,000 0 20% 45% 0 25% 2 2 0 234,000 0 234,000 0 23	x <u>120%</u> (x <u>60%</u> o	x <u>18,000</u>	= <u>780,000</u> 0 = <u>93,600</u> = <u>140,400</u> = <u>0</u> = <u>0</u> = <u>30,000</u> = <u>77,200</u> = <u>18,000</u> = <u>2,000</u>	780,000	
25. SUBTOTAL 26.				(Lines 16 thru 24)	= TOTAL PHASE 43	361,200	\$1,141,200
	ency for design plan stage: lans - 120% (2) 30% plans - 115%	(3) 60% plans - 11	0% (4) 90% plans -105	% (5) 268 Date -100%			
and the second	N CONSULTANT (PHASE 42) onsultant-50% of parcels	\$20,000	x 0		TOTAL PHASE 42		\$0
RELOCATION CO	STS (PHASE 45) Replacement Housing	\$35,000	Number x <u>1</u>	Amount = <u>35,000</u>			
29. Tenant 30. Residential 31. Business/Far 32. Personal Pro 33. (Lines 28 thru	aerty 32)	\$25,000 \$5,000 \$40,000 \$3,000	$\begin{array}{c} x \\ x $	= <u>0</u> = <u>5,000</u> = <u>0</u>	TOTAL PHASE 45		\$40,000
34. Relocation So 35.	ervices Cost		\$4,000	(Not in Phase Total)		_	
36. 37. Real Estate:	Stephen Cross	Signed:	tingel no	(All Phases)	TOTAL ESTIMATE Date:	06/18/18	\$1,381,500
Bus. Dam. : Relocation: Overall Review:	D. Wade Brown	Signed: Signed: Signed:	1. 2. M.C.S.		Date: Date: Date:	06/18/18	
Cost Estimate Se REMARKS:	quence #: Dated:	6/18/2018	In the Amount of \$	\$1,381,500	Data Input Completion	Date:	6/18/2018
X	licates the estimator's confidenc Type A - indicates the most con Type B - indicates above avera Type C - indicates below avera Type D - indicates the least or Itoates the Department's purpose	nfidence ge confidence nge confidence no confidence	nate:	Special Purpose:	X Do	ics to RW:	

51-1 nando 50/US 98/ SR 700 50 from Brooksville Bypass 55 Net 0 0 0 0 1 1	Alternate: Segment: FAP#:	FPC-13A			
oss Net 0 0 0 0	to I-/5	N/A N/A		District: Date: C.E. Sequence	Seven 17-Dec-18 N/A
			Estimated Re Business Residential Signs Special Total Reloca		
PHASE 41)				Amount	
(Parcels (Parcels		x 20,0	00 = Rate) 0 = Rate)	20,000	
(Faiceis		^	U = mate)	TOTAL PHASE 41	\$20,00
200 A			CX 73 148	Атош	
					30,000
ocess Servers	50%	x1	= 1 Parcels	x 500 =	500
	75%	x <u>1</u>	= 1 Parcels	x 30,000 =	30,000
ate., Survey, etc.	75%	x1		x 2,400 = x 15,000 =	2,400 0
tracts			1 Per Project	x 15,000 =	15,000
w			0 Parcels		0
					\$77,90
				Amount Subtot	al
i & Severance Damages nount	127 585	x 12	% * Design plan stage	= 153,100	
Mit. (0 Ponds)	0		the second	0	
iF)		1.2	(Lines 13 &14)		153,100
(Factor	20%			the second se	
. (Factor	25%			= 0	
(Parcels	1	x \$15.0	00)	= 15,000	
(Claims	0			=	
		x3.	the second		
	1	x \$1.0			
			(Lines 16 thru 24)	=	95,200
				TOTAL PHASE 43	\$248,30
or design plan stage: 120% (2) 30% plans - 115%	(3) 60% plans - 11	0% (4) 90% plans	-105% (5) 268 Date -100%		
and the second se					
ant-50% of parcels	\$20,000	×	0	TOTAL PHASE 42	\$
HASE 45)					
acement Housing	£25 000	Numt		ю.	
	the second se	x		-	
e Costs				1	
	\$5,000	x		-	
	-	×			
		^		TOTAL PHASE 45	\$
Cost			\$0 (Not in Phase Total)	19	
			(All Phases)	TOTAL ESTIMATE	\$346,20
	Signed:	Flopell.	(All Phases)	TOTAL ESTIMATE Date:	\$346,20
hen Cross	Signed: Signed:	fart.	(All Phases)	Date: Date:	and the second
hen Cross	Signed: Signed:	flord.	(All Phases)	Date: Date: Date:	12/17/18
	Signed:	flipelj. Constant	(All Phases)	Date: Date:	and the second
	ate., Survey, etc. racts w SE 43) & Severance Damages nount Ait. (0 Ponds) F) (Factor (Factor (Claims (Claims) (Sum of Lines 16, 17 & 19) isss (Comm.+Unimp.) ts cor design plan stage: 20% (2) 30% plans - 115% SULTANT (PHASE 42) int-50% of parcels HASE 45) acement Housing	PA Fees Through Trial breess Servers 50% 75% ate., Survey, etc. racts w SE 43) & Severance Damages hount 127,585 Mit (0 Ponds) 0 F) (Factor 20% (Factor 20% (Factor 45% (Claims 0 . (Factor 25% (Parcels 1 (Claims 0 . (Factor 25% (Parcels 1 (Claims 0 . (Sum of Lines 16, 17 & 19) 466,000 iss (Comm.+Unimp.) 0 ts 1 br design plan stage: 20% (2) 30% plans - 115% (3) 60% plans - 11 SULTANT (PHASE 42) int-50% of parcels \$20,000 HASE 45) acement Housing \$35,000 \$25,000 e Costs	PÅ Fees Through Trial 50% × 1 press Servers 75% × 1 ate., Survey, etc. 75% × 1 racts 75% × 1 ate., Survey, etc. 75% × 1 racts 75% × 1 w 8 SE 43) 8 & Severance Damages 127,585 × 120 nount 127,585 × 120 Ait. (0 Ponds) 0 × 120 F) 0 × 120 (Factor 20% × 60 (Claims 0 × . (Factor . (Factor . (Factor . (Claims . 0 × . (Factor . 1 × \$15,0 . (Claims . 0 × \$16,00 </td <td>PÅ Fees Through Trial Docess Servers0Claims P ArcelsDocess Servers50% 75% \times1=1Parcels Parcels75% \times1=1Parcels Parcels0Improved 75% \times1=1Parcels 0Improved 75% \times1=1Parcels 0Improved 75% \times1=1Parcels 0Improved 75% \times11Per Project $0$0SE 43) $\&$ Severance Damages nount127,585 $0$$\times$120% $^{\circ}$ 120% $^{\circ}$Parcels 0SE 43) $\&$ Severance Damages nount0\times120% $^{\circ}$ 120% $^{\circ}$ 120% $^{\circ}$Design plan stage 120% $^{\circ}$ 120% $^{\circ}$ 120% $^{\circ}$Design plan stage 120% $^{\circ}$ 120% $^{\circ}$SE 43) $\&$ Severance Damages nount0\times120% $^{\circ}$ $^{\circ}$ 120% $^{\circ}$ 120% $^{\circ}$Design plan stage 120% $^{\circ}$ $^{\circ}$Set 43) $(Claims$0$\times$$515,000$ $^{\circ}$ $^{\circ}$$^{\circ}$ $^{\circ}$(Claims0$\times$$\$16,000$ $^{\circ}$ $^{\circ}$$\$18,000$ $^{\circ}$ $^{\circ}$(Claims0$\times$$\$16,000$ $^{\circ}$ $^{\circ}$$\$18,000$ $^{\circ}$ $^{\circ}$(Sum of Lines 16, 17 & 19)$46,000$ $\times$$\33% $^{\circ}$ $^{\circ}$$\$18,000$ $^{\circ}$ $^{\circ}$(Sum of Lines 16, 17 & 19)$46,000$ $\times$$\33% $^{\circ}$ $^{\circ}$$\$18,000$ $^{\circ}$ $^{\circ}$(Sup of Lines 16, 17 & 19)$46,000$ \times<!--</td--><td>ugh Trial 1 Parcels x 30,000 = PA Fees Through Trial 0 Claims x 19,000 = press Servers $\overline{75\%}$ x 1 = 1 Parcels x 30,000 = press Servers $\overline{75\%}$ x 1 = 1 Parcels x 30,000 = ate. Survey, etc. 1 = 1 Parcels x 2,400 = ate. Survey, etc. 1 Per Project x 15,000 = TOTAL PHASE 4B St 43) Amount Subtor Nonunt Subtor Subtor & Severance Damages 0 x 120% * Design plan stage = 153,100 for (O Ponds) 0 x 120% * Design plan stage = 153,100 factor 20% × 0 = 0 1 18,400 </td></td>	PÅ Fees Through Trial Docess Servers0Claims P ArcelsDocess Servers 50% 75% \times 1=1Parcels Parcels 75% \times 1=1Parcels Parcels0Improved 75% \times 1=1Parcels 0 Improved 75% \times 1=1Parcels 0 Improved 75% \times 1=1Parcels 0 Improved 75% \times 11Per Project 0 0SE 43) $\&$ Severance Damages nount127,585 0 \times 120% $^{\circ}$ 120% $^{\circ}$ Parcels 0 SE 43) $\&$ Severance Damages nount0 \times 120% $^{\circ}$ 120% $^{\circ}$ 120% $^{\circ}$ Design plan stage 120% $^{\circ}$ 120% $^{\circ}$ 120% $^{\circ}$ Design plan stage 120% $^{\circ}$ 120% $^{\circ}$ SE 43) $\&$ Severance Damages nount0 \times 120% $^{\circ}$ $^{\circ}$ 120% $^{\circ}$ 120% $^{\circ}$ Design plan stage 120% $^{\circ}$ $^{\circ}$ Set 43) $(Claims$ 0 \times $515,000$ $^{\circ}$ $^{\circ}$ $^{\circ}$ $^{\circ}$ (Claims0 \times $$16,000$ $^{\circ}$ $^{\circ}$ $$18,000$ $^{\circ}$ $^{\circ}$ (Claims0 \times $$16,000$ $^{\circ}$ $^{\circ}$ $$18,000$ $^{\circ}$ $^{\circ}$ (Sum of Lines 16, 17 & 19) $46,000$ \times $$33\%$ $^{\circ}$ $^{\circ}$ $$18,000$ $^{\circ}$ $^{\circ}$ (Sum of Lines 16, 17 & 19) $46,000$ \times $$33\%$ $^{\circ}$ $^{\circ}$ $$18,000$ $^{\circ}$ $^{\circ}$ (Sup of Lines 16, 17 & 19) $46,000$ \times </td <td>ugh Trial 1 Parcels x 30,000 = PA Fees Through Trial 0 Claims x 19,000 = press Servers $\overline{75\%}$ x 1 = 1 Parcels x 30,000 = press Servers $\overline{75\%}$ x 1 = 1 Parcels x 30,000 = ate. Survey, etc. 1 = 1 Parcels x 2,400 = ate. Survey, etc. 1 Per Project x 15,000 = TOTAL PHASE 4B St 43) Amount Subtor Nonunt Subtor Subtor & Severance Damages 0 x 120% * Design plan stage = 153,100 for (O Ponds) 0 x 120% * Design plan stage = 153,100 factor 20% × 0 = 0 1 18,400 </td>	ugh Trial 1 Parcels x 30,000 = PA Fees Through Trial 0 Claims x 19,000 = press Servers $\overline{75\%}$ x 1 = 1 Parcels x 30,000 = press Servers $\overline{75\%}$ x 1 = 1 Parcels x 30,000 = ate. Survey, etc. 1 = 1 Parcels x 2,400 = ate. Survey, etc. 1 Per Project x 15,000 = TOTAL PHASE 4B St 43) Amount Subtor Nonunt Subtor Subtor & Severance Damages 0 x 120% * Design plan stage = 153,100 for (O Ponds) 0 x 120% * Design plan stage = 153,100 factor 20% × 0 = 0 1 18,400

County: State Rd.: Project Des.	Hernando	Segment:	N/A		Date:		Seven 17-Dec-18
	SR 50/US 98/ SR 700	FAP#:	N/A		C.E. Sequence		N/A
Parcels	SR 50 from Brooksville Bypass Gross Net	to 1-75		Estimated F	Relocatees:		
Commercial	0 0			Business		0	
Residential				Residential	_	0	
Unimproved	1			Signs Special		0	
Total Parcels	1 1			Total Reloc	atees	0	1
R/W SUPPORT CO	OSTS (PHASE 41)		1.0.0		Amount		
1. Direct Labor C	A CALL AND A	1	x 20,000 =		20,000		
2. Indirect Overh	ead (Parcels	1	x =	Rate)			\$20,0
3.	451				TOTAL PHASE 41		\$20,0
R/W OPS (PHASE 4. Appraisal Fee				1 Parcels	x 30,000 =	mount 30,000	
5. Business Dan	age CPA Fees Through Trial			0 Claims	x 19,000 =	0	
	r & Process Servers	50%	x <u>1</u> =		x 500 =	500	
7. Expert Witnes	55	75%	x <u>1</u> =		x 30,000 =	30,000	
8. Mediators	sb. Abate., Survey, etc.	75%	x <u>1</u> =	1 Parcels 0 Imprvmet	x 2,400 = x 15,000 =	2,400	
10. Miscellaneou				1 Per Project		15,000	
11. Appraisal Fee				0 Parcels	x 5,000 =	0	
12.					TOTAL PHASE 4B		\$77,9
R/W LAND COSTS	G (PHASE 43)				Amount Si	ubtotal	
	ments & Severance Damages						
and Cost to C	70.90/070/000000000000000000000000000000			Design plan stage	= 58,900		
	on & Mit. (0 Ponds)	0	x <u>120%</u> (0	Parcels w/o R/W Acq)	0	متنابعها	
15. SUBTOTAL (5				(Lines 13 &14)		58,900	
16. Admin. Settle	and the second sec	<u>20%</u> 45%		f Line 15) f Line 15)	= <u>7,100</u> = 10,600		
17. Litigation Aw 18. Business Dan			x <u>40%</u> of x 0)	Line (3)	= 10,600		
19. Bus. Damages		25%	x \$ -)		= 0		
		1	x \$15,000)		= 15,000		
20. Owner Appr. I	TEL A. GITCH		#1C 000 1		= 0		
	ees (Claims	0	x \$16,000)		= 0		
21. Owner CPA Fe		17,700	x 33%)		= 0		
21. Owner CPA Fo 22. Defend.Atty Fo 23. Owner Expert	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	17,700 0	x 33%) + 1)	k <u>18,000</u>	= <u>5,800</u> = 18,000		
21. Owner CPA Fo 22. Defend.Atty Fo 23. Owner Expert 24. Other Condem	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	17,700	x 33%)	The second second	= 5,800 = 18,000 = 1,000		
21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condem 25. SUBTOTAL	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.)	17,700 0	x 33%) + 1)	x <u>18,000</u> (Lines 16 thru 24)	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u>	57,500	644C A
21, Owner CPA Fe 22, Defend.Atty Fe 23, Owner Expert 24, Other Condem 25, SUBTOTAL 26,	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs	17,700 0	x 33%) + 1)	The second second	= 5,800 = 18,000 = 1,000	57,500	\$116,40
21. Owner CPA Fe 22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs	17,700 0 1	x 33%) + 1); x \$1,000	(Lines 16 thru 24)	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u>	57,500	\$116,40
21. Owner CPA Fe 22. Defend.Atty Fr 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs	17,700 0 1	x 33%) + 1); x \$1,000	(Lines 16 thru 24)	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u>	57,500	\$116,4
21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115%	17,700 0 1	x 33%) + 1); x \$1,000	(Lines 16 thru 24)	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u>	57,500	\$116,40
21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition C	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels	17,700 0 1 (3) 60% plans - 110%	x 33%) + 1); x \$1,000	(Lines 16 thru 24)	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	57,500	
21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition COS RELOCATION COS	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels	17,700 0 1 (3) 60% plans - 110%	x 33%) + 1); x \$1,000	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i> Amount	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	57,500	
21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition COS RELOCATION COS 28. Owner	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels STS (PHASE 45)	17,700 0 1 (3) 60% plans - 110% \$20,000 \$35,000	x 33%) + 1); x \$1,000 % (4) 90% plans -1059 x 0	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i> Amount	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u> [TOTAL PHASE 42 0	57,500	
21. Owner CPA Fe 22. Defend.Atty Fe 23. Owner Expert 24. Other Condem 25. SUBTOTAL 26. * Design conting (1) PD&E pl R/W ACQUISITION 27. Acquisition COS RELOCATION COS 28. Owner	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels STS (PHASE 45) Replacement Housing	17,700 0 1 (3) 60% plans - 110% \$20,000	x 33%) + 1); x \$1,000 % (4) 90% plans -1059 x 0	(Lines 16 thru 24) 6 <i>(5) 268 Date -100%</i> Amount	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u>	57,500	
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24. Other Condem 25. SUBTOTAL 26. * <i>Design conting</i> <i>(1) PD&E pl</i> R/W ACQUISITION 27. Acquisition C RELOCATION COS 28. Owner 29. Tenant 30. Residential	ees (Sum of Lines 16, 17 & 19) Witness (Comm.+Unimp.) In. Costs ency for design plan stage: ans - 120% (2) 30% plans - 115% N CONSULTANT (PHASE 42) onsultant-50% of parcels STS (PHASE 45) Replacement Housing Move Costs	17,700 0 1 (3) 60% plans - 110% \$20,000 \$35,000 \$25,000	x 33%) + 1); x \$1,000 % (4) 90% plans -1059 x 0	(Lines 16 thru 24) 6 (5) 268 Date -100% Amount = = =	= <u>5,800</u> = <u>18,000</u> = <u>1,000</u> = <u>TOTAL PHASE 43</u> [TOTAL PHASE 42 0	57,500	
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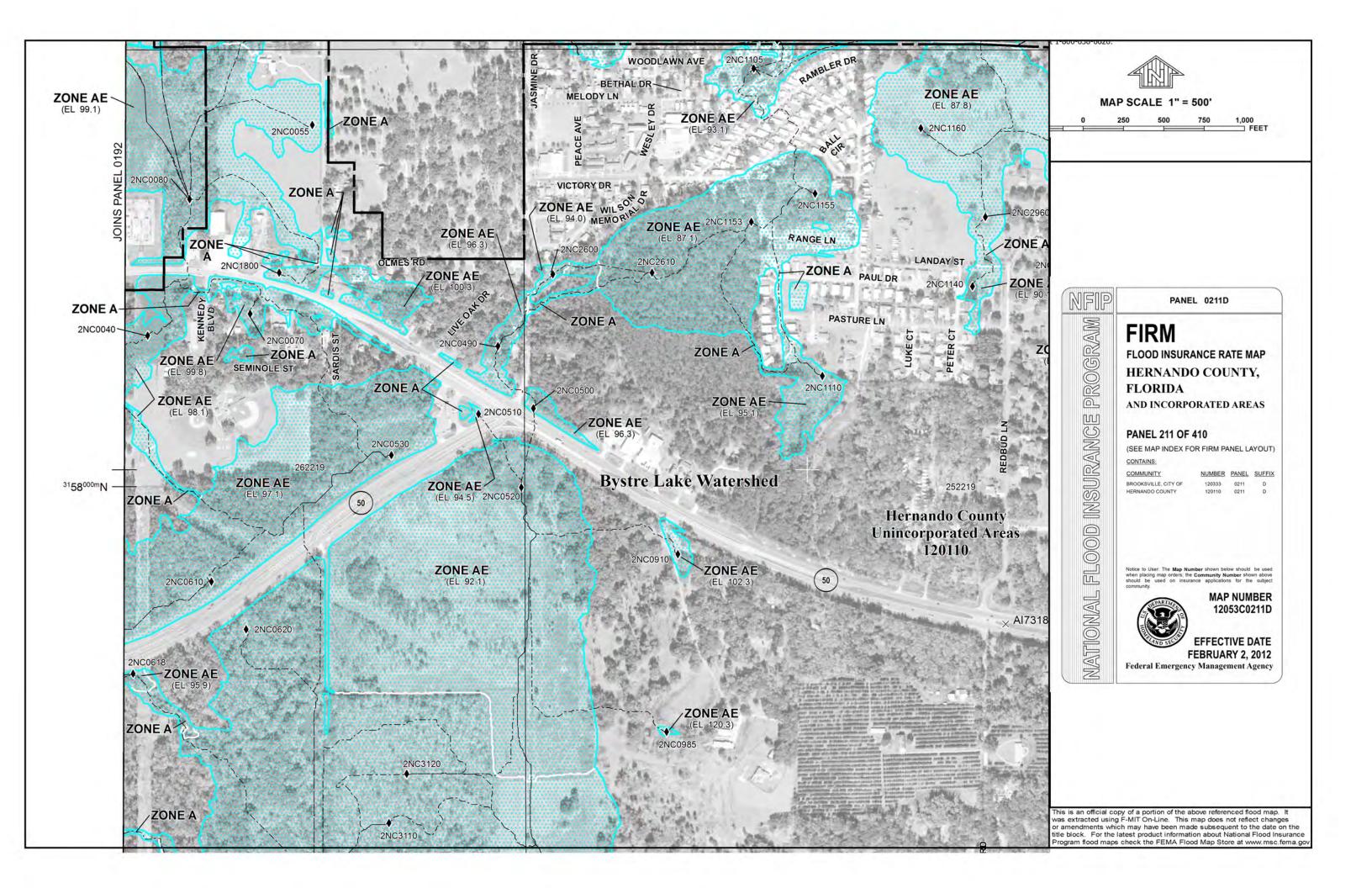
Project Des. SR 50 fr Parcels Gross Commercial 0 Residential 1 Unimproved 0 Total Parcels 1		Alternate:					E				
Parcels Gross Commercial 0 Residential 1 Unimproved 0 Total Parcels 1		Segment: FAP#: sto I-75		FPC-13C N/A N/A			District Date: C.E. Set			Seven 17-Dec-18 N/A	i
	Net 0 1 0 1	10173				Estimated Re Business Residential Signs Special Total Relocat			0 0 0 0 0		
R/W SUPPORT COSTS (PHA			1.5	2.4634	1.67		Amoun				
1. Direct Labor Cost 2. Indirect Overhead	(Parcels (Parcels		x	20,000 =	Rate			20,000			
3.	Tarceis	·	^		nate	·	TOTAL	PHASE 41			\$20,000
R/W OPS (PHASE 4B)							1.	Carl Carl State	Amount		
4. Appraisal Fees Through					1	Parcels	x	30,000 =	30,000		
5. Business Damage CPA F 6. Court Reporter & Proces		50%	x	1 =	0	Claims Parcels	x	19,000 = 500 =	500		
7. Expert Witness	5 0011013	75%	x	1 =	1	Parcels	x	30,000 =	30,000		
8. Mediators	2 million 10 million	75%	x	1 =	1	Parcels	x	2,400 =	2,400		
9. Demolition, Asb. Abate., 10. Miscellaneous Contract					0	Imprvmet Per Project	x	15,000 = 15,000 =	0 15,000		
11. Appraisal Fee Review	5				o	Parcels	x	5,000 =	0		
12.			_			and the second	TOTAL	PHASE 4B	_		\$77,900
R/W LAND COSTS (PHASE 4	3)						Amoun	t ;	Subtotal		
13. Land, Improvements & S						all and a second					
and Cost to Cure Amoun		154,180	x		Design p		-	185,000			
14. Water Retention & Mit. (0 Ponds)	0	x	120% (0	Parcels w (Lines 13	v/o R/W Acq)	-	0	185,000		
15. SUBTOTAL (57,648 SF) 16. Admin. Settlements	(Factor	20%	x	60% of	Line 15)	0(14)	-	22,200	103,000		
	(Factor	45%	x		Line 15)		-	37,500			
	(Claims	0	x	0)			=	0			
	(Factor	25%	x	\$ -)			-	0			
	(Parcels	1	x	\$15,000)				15,000			
	(Claims	<u> </u>	×	\$16,000) 33%)			ī —	0 19,700			
23. Owner Expert Witness	(Sum of Lines 16, 17 & 19) (Comm +Unimn)	0	+	0);	18,000	1		13,700			
24. Other Condemn. Costs	(commercements)	1	x	\$1,000			-	1,000			
25. SUBTOTAL					(Lines 16	thru 24)	=		95,400		_
26.	and an install						TOTAL	PHASE 43		\$	280,400
 Design contingency for de (1) PD&E plans - 120% 	esign plan stage: (2) 30% plans - 115%	(3) 60% plans - 11	000 1								
11/ 1 DOL PIUND 120/0	(L) boropiano riore		120 14	4) 90% plans -105%	6 (5) 268 L	Tate -100%					
A DECEMBER OF A	TANT (PHASE 42)		0% (*	4) 90% plans -105%	6 (5) 268 L	Date -100%	-	_	_		
R/W ACQUISITION CONSUL		\$20,000	x	4) 90% plans -105% 0	6 (5) 268 L	Date -100%	TOTAL	PHASE 42			\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5	0% of parcels	100			5 (5) 268 L	Date -100%	TOTAL	PHASE 42			\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS	0% of parcels	100			6 (5) 268 L	Date -100%	TOTAL	PHASE 42	-		\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replaced 28. Owner	0% of parcels E 45)	\$20,000 \$35,000	x	0 Number 0	5 (5) 268 L	Amount 0		PHASE 42			\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replaced 28. Owner 29. Tenant	0% of parcels E 45) nent Housing	\$20,000		0	= =	Amount		PHASE 42			\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replaced 28. Owner 29. Tenant Move Co	0% of parcels E 45) nent Housing	\$20,000 \$35,000 \$25,000	x	0 Number 0	= = =	Amount 0 0		PHASE 42			\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replace 28. Owner 29. Tenant Move Co 30. Residential	0% of parcels E 45) nent Housing	\$20,000 \$35,000	x	0 Number 0	= = = =	Amount 0		PHASE 42			\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replaced 28. Owner 29. Tenant Move Co 30. Residential 31. Business/Farm 32. Personal Property	0% of parcels E 45) nent Housing	\$20,000 \$35,000 \$25,000 \$5,000	x	0 Number 0 0	= = = = =	Amount 0 0					
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replacer 28. Owner 29. Tenant Move Co 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32)	0% of parcels E 45) nent Housing sts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0 0 0		Amount 0 0 0 0 0		PHASE 42 PHASE 45			\$0 \$0 \$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHASI Replaced 28. Owner 29. Tenant Move Co 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32) 34. Relocation Services Cos	0% of parcels E 45) nent Housing sts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0		Amount 0 0 0					
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHASI Replaced 28. Owner 29. Tenant Move Co 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32) 34. Relocation Services Cos	0% of parcels E 45) nent Housing sts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0 0 0		Amount 0 0 0 0 0					
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHASI Replaced 28. Owner 29. Tenant Move Co 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32) 34. Relocation Services Cos 35.	0% of parcels E 45) nent Housing sts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0 0 0		Amount 0 0 0 0 0	TOTAL				
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replacer 28. Owner 29. Tenant Move Co 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32) 34. Relocation Services Cos 35. 36. 37. Real Estate: Stephen	0% of parcels E 45) ment Housing sts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000	x x x x x x x	0 Number 0 0 0 0 0		Amount 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 45 ESTIMATE Date:	12/17/18		\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replacer 28. Owner 29. Tenant Move Co 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32) 34. Relocation Services Cos 35. 36. 37. Real Estate: <u>Stephen</u> Bus. Dam. :	0% of parcels E 45) ment Housing sts	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000	x x x x x x x	0 Number 0 0 0 0 0		Amount 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 45 ESTIMATE Date: Date:	12/17/18	3	\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replacer 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32) 34. Relocation Services Cos 35. 36. 37. Real Estate: <u>Stephen</u> Bus. Dam. : Relocation:	0% of parcels E 45) ment Housing sts tt	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000	x x x x x x x	0 Number 0 0 0 0 0		Amount 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 45 ESTIMATE Date: Date: Date: Date:			\$0
R/W ACQUISITION CONSUL 27. Acquisition Consultant-5 RELOCATION COSTS (PHAS) Replacer 28. Owner 29. Tenant 30. Residential 31. Business/Farm 32. Personal Property 33. (Lines 28 thru 32) 34. Relocation Services Cos 35. 36. 37. Real Estate: <u>Stephen</u> Bus. Dam. :	0% of parcels E 45) ment Housing sts tt	\$20,000 \$35,000 \$25,000 \$5,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$40,000 \$3,000 \$3,000 \$40,000 \$3,000 \$3,000 \$40,000 \$3,000 \$3,000 \$3,000 \$40,000 \$3,000 \$3,000 \$3,000 \$3,000 \$3,000 \$40,000 \$3,0000 \$3,0000 \$3,000 \$3,0000 \$3,0000 \$3,0000 \$3,0000	x x x x x x	0 Number 0 0 0 0 0 50	= = = = (Not in P	Amount 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	TOTAL	PHASE 45 ESTIMATE Date: Date: Date: Date:	12/17/18		\$0 \$378,300
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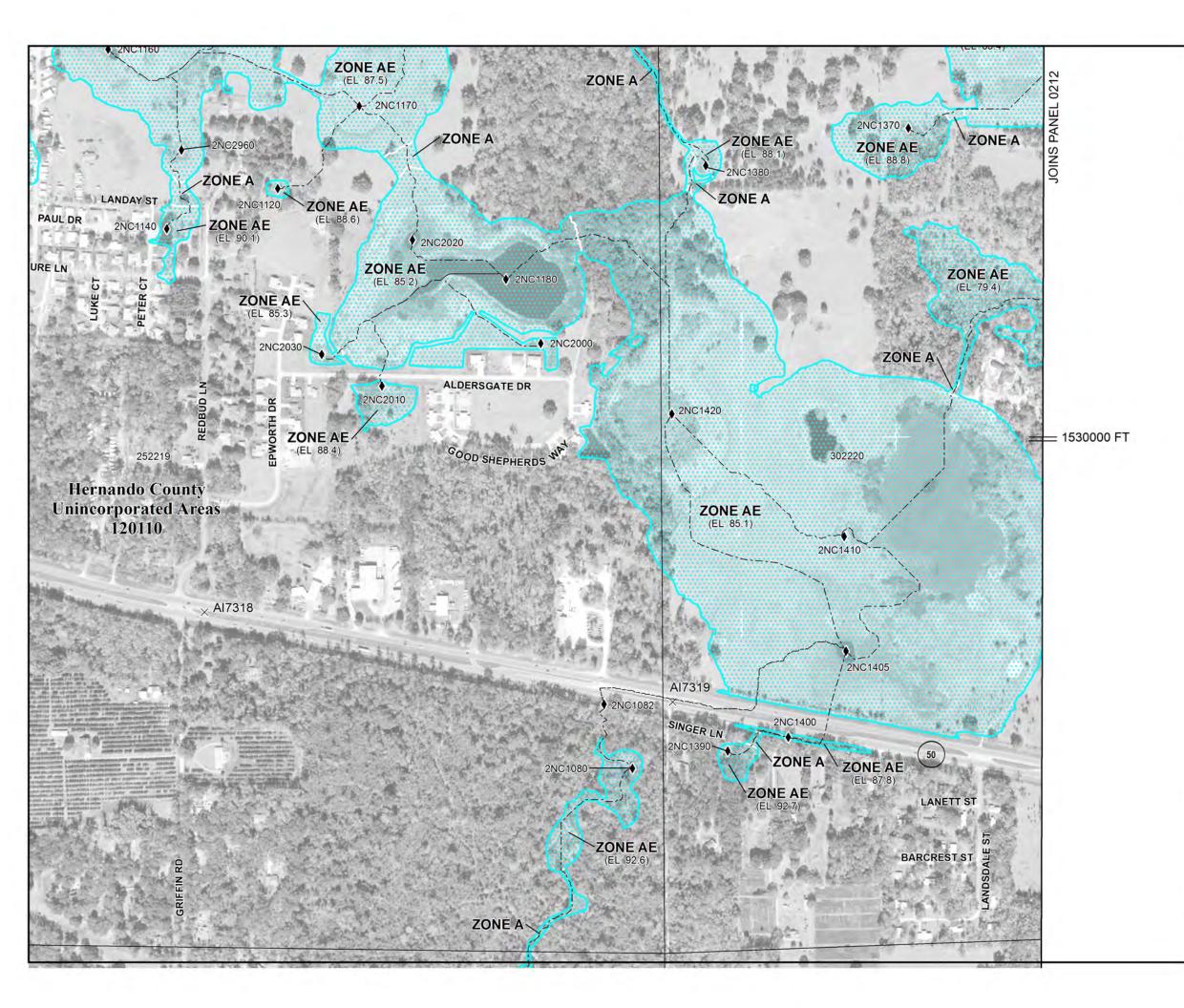
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	County: H State Rd.: S Project Des. S Parcels Commercial Residential	430051-1			IN NIGHT OF V	AY COST	ESTIMATE			
Image: constraint of the state of	Commercial Residential		Segment: FAP#:	1	N/A	A	Estimated Re	Date: C.E. Sequence		17-Dec-18
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Unimproved	0 0 1 1 0 0					Business Residential Signs Special	-	1 0 0	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	R/W SUPPORT COST	TS (PHASE 41)								
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	1. Direct Labor Cost 2. Indirect Overhead									
Amount Amount CPA Fees Through Trial 0 Claims 30,000 30,000 Process Servers 50% x 1 = 1 Parcels x 30,000 0 Process Servers 50% x 1 = 1 Parcels x 30,000 0 Process Servers 75% x 1 = 1 Parcels x 30,000 20,000 Ibate, Survey, etc. 1 Impromet x 15,000 15,000 15,000 iew 0 Parcels x 2,400 2,400 2,400 AKSE 43) 1 Per Project x 15,000 15,000 15,000 15,000 15,000 10 <t< td=""><td>3.</td><td>id (Parcels</td><td></td><td>x</td><td></td><td>nate</td><td>-</td><td>1</td><td></td><td>\$20,000</td></t<>	3.	id (Parcels		x		nate	-	1		\$20,000
CPA Fees Through Trial 0 Claims x 19,000 = 0 Process Servers $\frac{50\%}{75\%}$ x 1 = 1 Parcels x 500 30,000 $\frac{75\%}{75\%}$ x 1 = 1 Parcels x 30,000 30,000 $\frac{75\%}{75\%}$ x 1 = 1 Parcels x 30,000 2,400 abate., Survey, etc. 1 Impromet x 15,000 15,000 15,000 iew 0 Parcels x 5,000 15,000 15,000 ASE 43) ts & Severance Damages x 50,000 x 120% * Design plan stage = 660,000 SF) (Lines 13 & 14) 0 0 560,000 550,000 550,000 120% * Design plan stage = 79,200 560,000<	R/W OPS (PHASE 4B	3)							Amount	
Servers 50% x 1 = 1 Parcels x 500 500 75% x 1 = 1 Parcels x $30,000$ $30,000$ 75% x 1 = 1 Parcels x $30,000$ $30,000$ 75% x 1 = 1 Parcels x $2,400$ ubate., Survey, etc. 1 Impromet x $15,000$ = $15,000$ iew 0 Parcels x $5,000$ = 0 Mast 43) ts Severance Damages Amount Subtotal Monunt $550,000$ x 120% * Design plan stage = $660,000$ st (Factor 20% x 60% of Line 15) = $79,200$ st (Factor 20% x 0) = 0 (Factor 20% x $515,000$) = $133,700$ st (Factor 25% 50 $=$ 0	4. Appraisal Fees T					1				
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$			50%		4 -	0				
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iew 0 Parcels x 5,000 = 0 TOTAL PHASE 4B \$92,900 Amount Subtotal Amount Subtotal SE 43) Amount Subtotal Amount Subtotal Mount Subtotal Mit. (0 Ponds) 0 x 120% (0 Parcels w/o R/W Acq) 0 G60,000 SF) (Lines 13 & 14) 660,000 SF) (Lines 13 & 14) 660,000 St (Factor 20% × 60% of Line 15) = 79,200 (Factor 25% × -) = 0 (Stator 25% × -) = 0 (Factor 25% × -) = 0 (Claims 0 × \$15,000 = 0 . (Sum of Lines 16, 17& 19) 212,900 × \$16,000 = 0 . Stiton =		. Abate., Survey, etc.				1				
TOTAL PHASE 4B \$92,900 ASE 43) Amount Subtotal ts & Severance Damages Amount Subtotal Amount 550,000 x 120% (0 Parcels w/o R/W Acq) 0 ts & Severance Damages (Lines 13 & 14) 660,000 660,000 SF) Ulines 13 & 14) 660,000 660,000 st (Factor 20% × 60% of Line 15) 79,200 (Factor 45% × 45% of Line 15) 133,700 st (Claims 0 × 0) 0 (Parcels 1 × \$15,000 15,000 (Claims 0 × 33%) 9 70,300 (Sun of Lines 15, 17 & 19) 212,900 × 33%) 9 70,300 ness (Comm.+Unimp.) 0 + 0) × 18,000 0 0 util times 16, 17 & 19) 212,900 × 33%) 9 299,200	10. Miscellaneous C 11. Appraisal Fee Re					0		Contraction of the second sec second second sec		
ts & Severance Damages Amount $550,000 \times 120\% * Design plan stage = 660,000$ Mit. (0 Ponds) 0 × 120% (0 Parcels w/o R/W Acq) 0 (Lines 13 & 14) 660,000 SF) (Lines 13 & 14) 660,000 (Factor $20\% \times 60\%$ of Line 15) = 79,200 (Factor $45\% \times 45\%$ of Line 15) = 133,700 s (Claims 0 × 0) = 0 (Parcels 1 × \$15,000) = 0 (Claims 0 × \$16,000) = 15,000 (Claims 0 × \$16,000) = 0 (Sun of Lines 16, 17 & 19) 212,900 × 33% = 70,300 mess (Comm.+Unimp.) 0 + 0 × 18,000 = 0 tosts 16 thru 24) = 299,200	12.						1.0.11.0	TOTAL PHASE 4B		\$92,900
ts & Severance Damages Amount $550,000 \times 120\% * Design plan stage = 660,000$ Mit. (0 Ponds) 0 × 120% (0 Parcels w/o R/W Acq) 0 (Lines 13 & 14) 660,000 SF) (Lines 13 & 14) 660,000 (Factor $20\% \times 60\%$ of Line 15) = 79,200 (Factor $45\% \times 45\%$ of Line 15) = 133,700 s (Claims 0 × 0) = 0 (Parcels 1 × \$15,000) = 0 (Claims 0 × \$16,000) = 15,000 (Claims 0 × \$16,000) = 0 (Sun of Lines 16, 17 & 19) 212,900 × 33% = 70,300 mess (Comm.+Unimp.) 0 + 0 × 18,000 = 0 tosts 16 thru 24) = 299,200	R/W LAND COSTS (P	PHASE 43)						Amount	Subtotal	
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rs. (Factor $25\% \times (-)$ = 0 (Parcels $1 \times (-)$ + $-$) = 0 (Claims $0 \times (-)$ + $-$ 0) $\times (-)$ = $-$ 0 (Sum of Lines 16, 17 & 19) $212,900 \times ()$ + $-$ 0) $\times ()$ = $-$ 0 posts $1 \times ()$ + $-$ 0) $\times ()$ = $-$ 0 (Lines 16 thru 24) = $-$ 299,200	18. Business Damag			C (27)						
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(Lines 16 thru 24) = 299,200	the second of the second state of the second second	second from the second se		Ţ.		10,000	<u>,</u>			
TOTAL PHASE 43 \$959,200		00313	· · · · ·			(Lines 16 t	hru 24)	=	299,200	
	a sea a second a s							TOTAL PHASE 43		\$959,200
for design plan stage:		cy for design plan stage:	101 CON -1 44	001 1		UEL 200 D-	- +000/			
120% (2) 30% plans - 115% (3) 60% plans - 110% (4) 50% plans - 105% (5) 206 Date - 100%		and the second	% (3) 60% plans - 11	0% 14	i) 90% plans - 105%	o (5) 200 Da	10 -100%			
				-	-					
NSULTANT (PHASE 42)	R/W ACQUISITION C	CONSULTANT (PHASE 42)	620.000		0			TOTAL PHASE 42		00 [*]
NSULTANT (PHASE 42) Itant-50% of parcels \$20,000 x 0 TOTAL PHASE 42 \$0	R/W ACQUISITION C 27. Acquisition Cons	sultant-50% of parcels	\$20,000	×	0			TOTAL PHASE 42		\$0
NSULTANT (PHASE 42) (tant-50% of parcels \$20,000 x 0 TOTAL PHASE 42 \$0 PHASE 45)	R/W ACQUISITION C 27. Acquisition Cons RELOCATION COSTS	sultant-50% of parcels S (PHASE 45)	\$20,000	×	Contract.	_	Amount	TOTAL PHASE 42		\$0
NSULTANT (PHASE 42) (tant-50% of parcels \$20,000 x 0 TOTAL PHASE 42 \$0 PHASE 45)	R/W ACQUISITION C 27. Acquisition Cons RELOCATION COSTS R	sultant-50% of parcels	- Culu	×	Contract.			TOTAL PHASE 42		\$0
NSULTANT (PHASE 42) (tant-50% of parcels \$20,000 x 0 TOTAL PHASE 42 \$0 PHASE 45) placement Housing Number Amount	R/W ACQUISITION C 27. Acquisition Cons RELOCATION COSTS	sultant-50% of parcels S (PHASE 45)	\$35,000	x	Number 1		35,000	TOTAL PHASE 42		\$0
NSULTANT (PHASE 42) Itant-50% of parcels \$20,000 x 0 TOTAL PHASE 42 \$0 PHASE 45) Number Amount \$35,000 x 1 = 35,000 \$25,000 x 0 = 0	R/W ACQUISITION C 27. Acquisition Cons RELOCATION COSTS R 28. Owner 29. Tenant W	sultant-50% of parcels S (PHASE 45)	\$35,000 \$25,000	x	Number 1 0	-	35,000	TOTAL PHASE 42		\$0
NSULTANT (PHASE 42) TOTAL PHASE 42 (tant-50% of parcels \$20,000 x 0 TOTAL PHASE 42 \$0 PHASE 45) placement Housing Number Amount \$35,000 x 1 = 35,000 \$25,000 x 0 = 0 we Costs \$5,000 x 1 = 5,000	R/W ACQUISITION C 27. Acquisition Cons RELOCATION COSTS 8 28. Owner 29. Tenant W 30. Residential	sultant-50% of parcels S (PHASE 45) Replacement Housing	\$35,000 \$25,000 \$5,000	x	Number 1 0 1	=	35,000 0 5,000	TOTAL PHASE 42		\$0
NSULTANT (PHASE 42) TOTAL PHASE 42 (tant-50% of parcels \$20,000 x 0 TOTAL PHASE 42 \$0 PHASE 45) placement Housing Number Amount \$\$25,000 x 1 = 35,000 \$\$25,000 x 0 = 0 we Costs \$\$5,000 x 1 = 5,000 \$\$440,000 x 0 = 0	R/W ACQUISITION C 27. Acquisition Cons RELOCATION COSTS 8 28. Owner 29. Tenant 30. Residential 31. Business/Farm	sultant-50% of parcels S (PHASE 45) Replacement Housing Nove Costs	\$35,000 \$25,000 \$5,000 \$40,000	x x x x	Number 1 0 1 0	-	<u>35,000</u> 0 <u>5,000</u> 0	TOTAL PHASE 42		\$0
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for design plan stage: 120% (2) 30% plans - 115% (3) 60% plans - 110% (4) 90% plans -105% (5) 268 Date -100%	22. Defend.Atty Fees 23. Owner Expert Wi 24. Other Condemn. 0 25. SUBTOTAL 26. * Design contingent	s (Sum of Lines 16, 17 & 19) litness (Comm.+Unimp.) Costs <i>ccy for design plan stage:</i> <i>s - 120% (2) 30% plans - 115</i>	<u>212,900</u> <u>0</u> <u>1</u>	x + x	33%) 0) \$1,000	(Lines 16 t	<u>)</u> hru 24)	= <u>70,300</u> = <u>0</u> = <u>1,000</u>	299,200	
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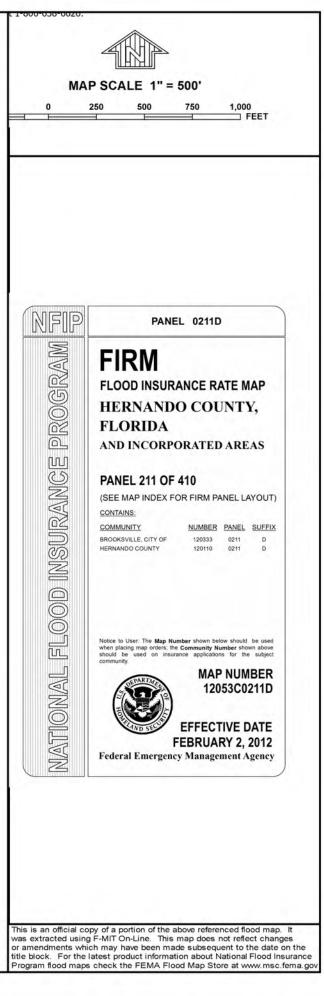
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. Expert Witness		75%	x <u>5</u> =	4 Parcels	x 30,000 =	120,000	
Mediators	sb. Abate., Survey, etc.	75%	x <u>5</u> =	4 Parcels 0 Imprvmet	x 2,400 = x 15.000 =	9,600	
). Miscellaneous	s Contracts			1 Per Project	x 15,000 =	15,000	
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). Owner Appr. Fe	and a local state of the second state of the s	5	x \$15,000)		= 75,000		
1. Owner CPA Fee		271,300	x \$16,000) x 33%)		= 0 = 89,500		
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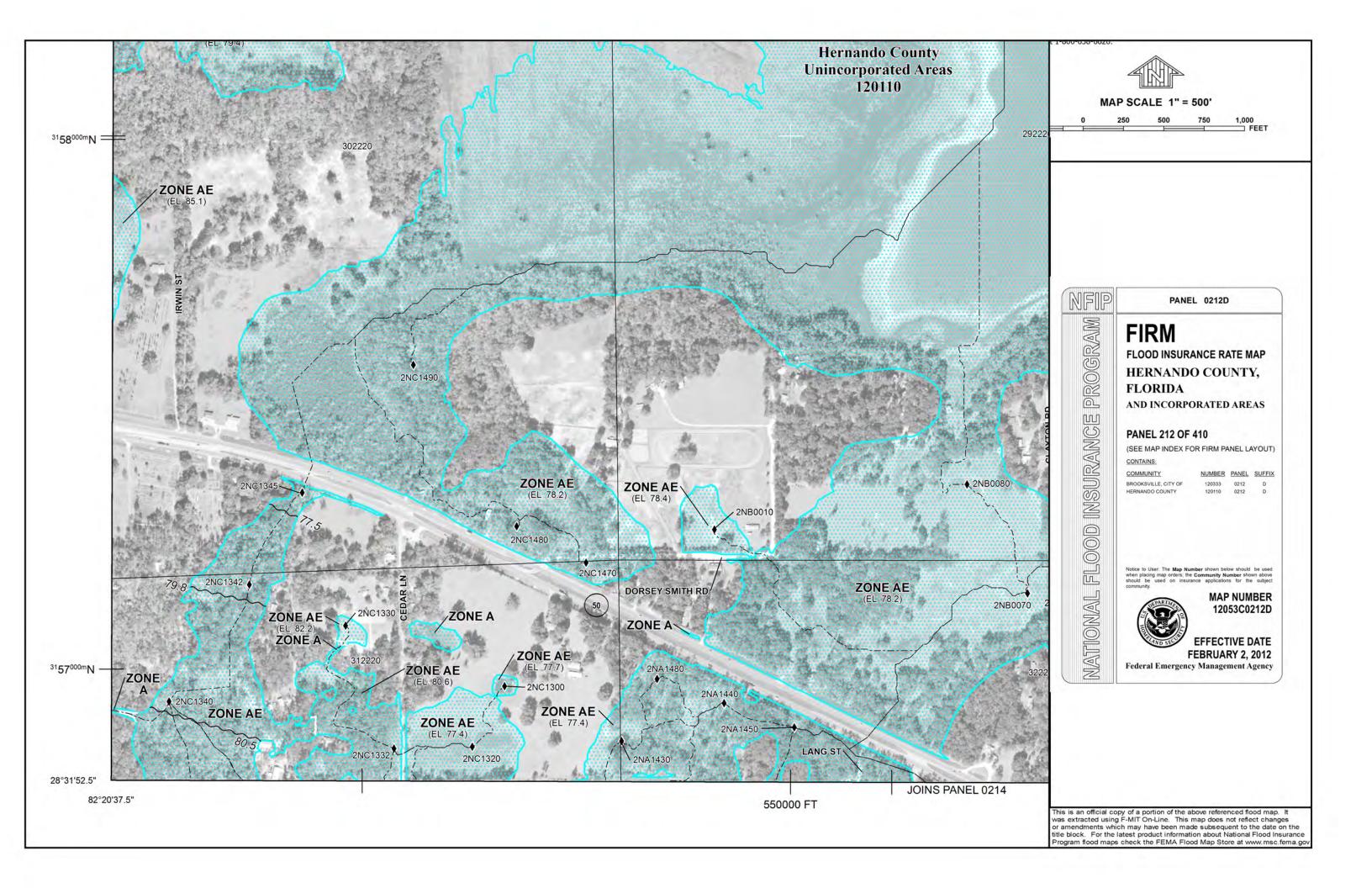
APPENDIX D

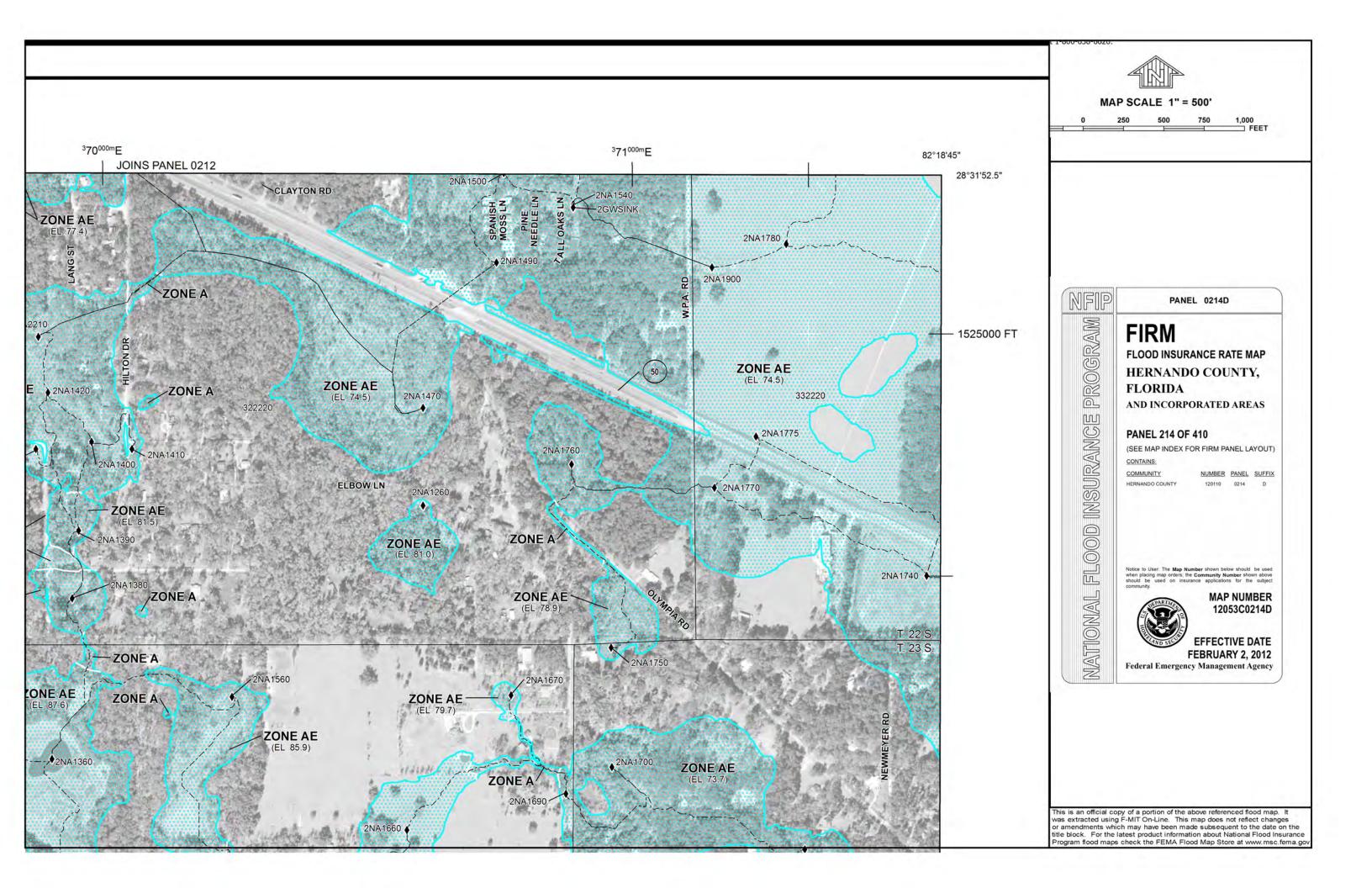
FEMA FIRM Maps/Flood Investigation Documentation

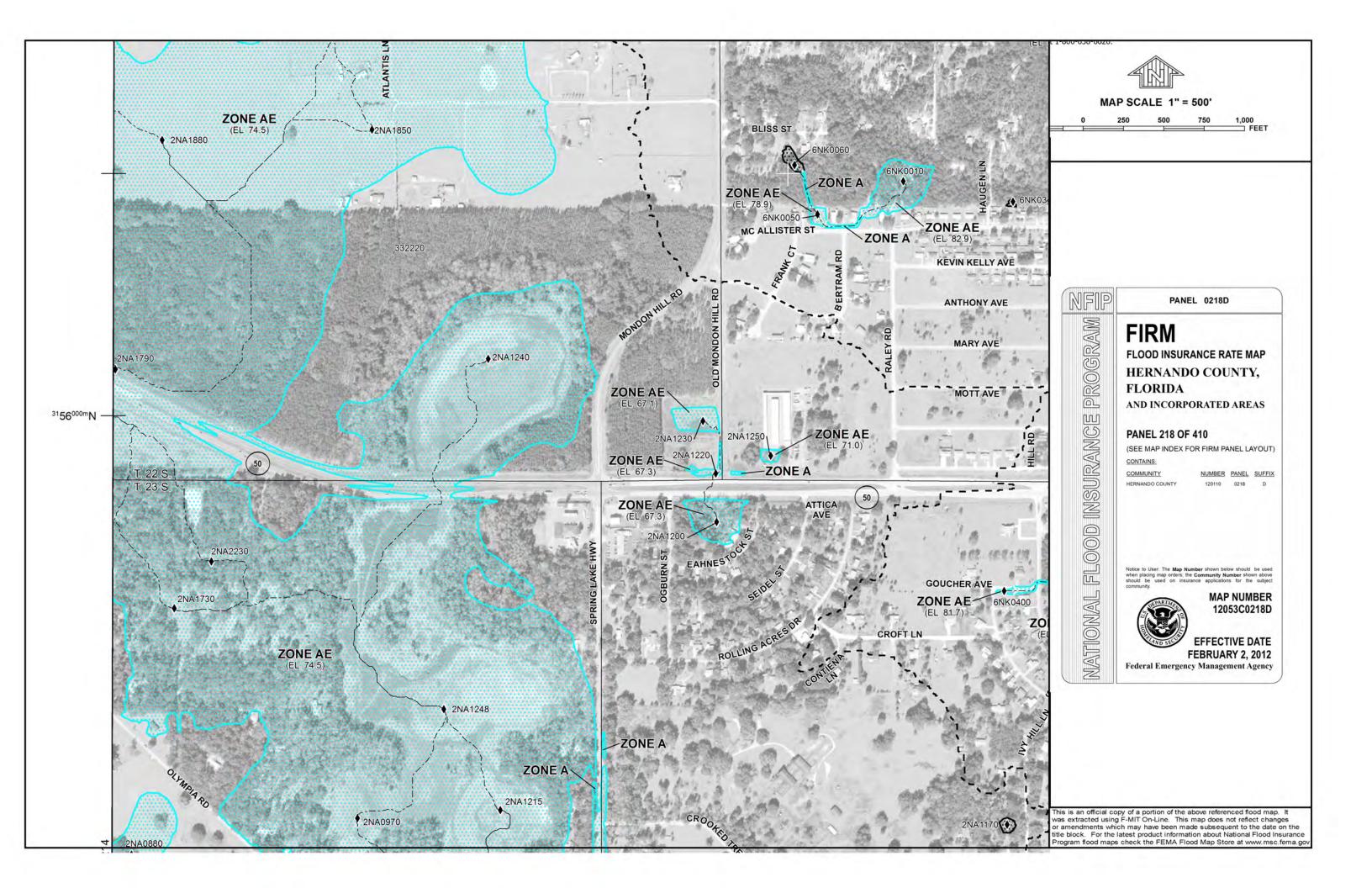


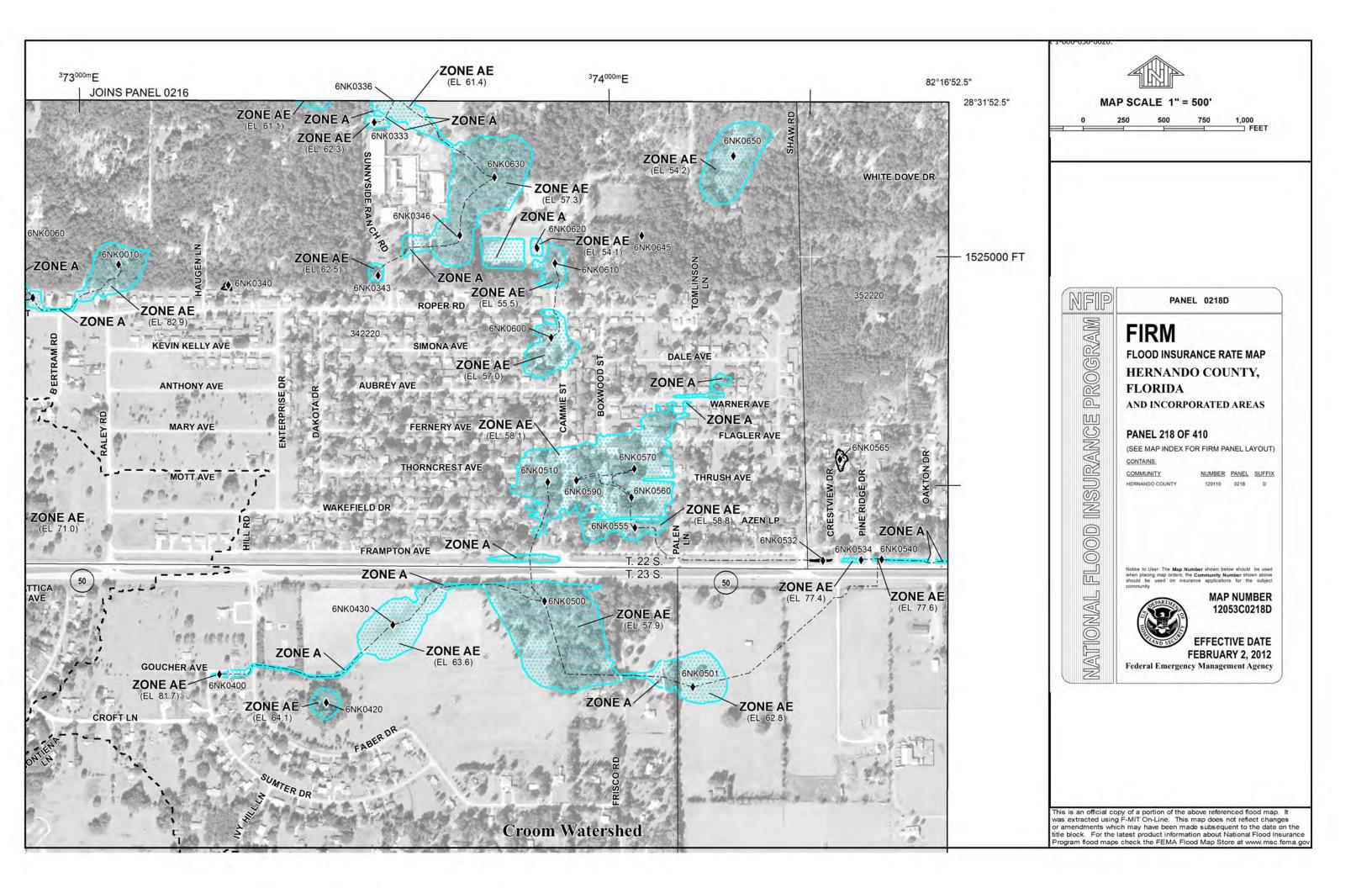




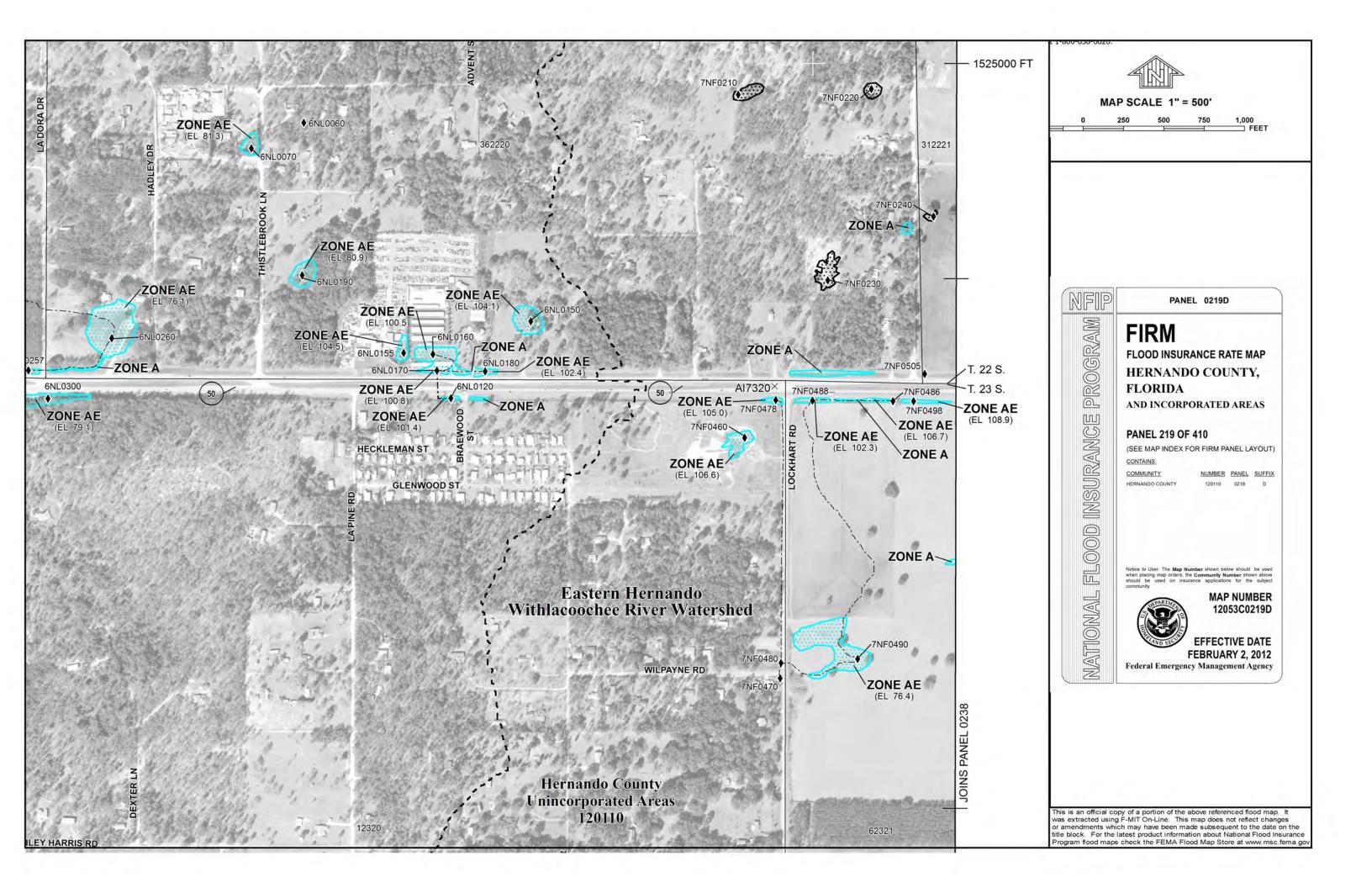












Flood Investigation Complaint Locations



FLOOD INVESTIGATION INVENTORY SHEET

Flood Investigation # 0806192006827

Entry Date: 6/19/2006 5:05:05 PM Revised Date: 7/8/2010 8:35:26 AM Completed By: Tom Ward, PBS&J

SECTION I: LOCATION

County - Hernando State Road - SR 50, SR 50A, SR 700 Road Description - 4 lane(s), Principal Arterial, Roadside Ditches Roadway Separation - Divided w/Traversable Median Direction of Travel - Two-Way Functional System of Road - Rural Specific Classification of Road - Principal Arterial Roadway Drainage - Roadside Ditches

Flooding Condition - On-System

Local Road Subject to Flooding - Dorsey Smith Rd Business Name: Business/Private Property Address Subject to Flooding -

Location: Latitude: 28.535084 Longitude: -82.335649

Section/Township/Range - 30 / 22S / 20E Project is Active - Yes

SECTION II: PROBLEM DESCRIPTION

Date of Original Complaint -Complainant Name -Problem Description - Unknown

Details of the Problem - On April 27, 2000 a field review was conducted at the subject project. Present at the site were Carlos Lopez, Laura Mcintosh and Kristine Kaub. The existing drainage system consist of roadside swales with ditch blocks for stormwater management purposes. The crossdrain at Dorsey Smith Road was observed to be in good condition. The crossdrain under SR 50 was also in good condition except at the pipe outfall. Runoff has created about a one foot sump at the downstream headwall. No siltation was found and a highwater stain was seen about three inches above the pipe flowline. This section of SR 50 was constructed about four years ago and there is no evidence or history of drainage problems within the right-of-way.

Frequency of Flooding - Unknown Source for Frequency Data - Unknown

Historic High Water - No historic high water data was available. A highwater stain was seen about three inches above the pipe flowline. **Flooding Event High Water -** No event high water was recorded.

History of Problem -

Other Communications								
Communication Date	Туре	Communication From	Communication To	Communication Attachment Name				
5/23/2000	Communication Memo	Carlos Lopez, FDOT, District Drainage Engineer	John Escobio, FDOT, Project Manager	<u>SR50 @ Dorsey</u> <u>Rd Memo.pdf</u>				

SECTION III: PROBLEM ANALYSIS

Attachments								
Attachment	Attachment Type	Attachment Description						
SR 50 Cross Sections.pdf	Project Plans	Cross Sections						
SWFWMD_Sect 29.pdf	SWFWMD Contour Map	SWFWMD Map. Section 29						
SWFWMD_Sect 32.pdf	SWFWMD Contour Map	SWFWMD Map. Section 32						
Plan Sheets.pdf	Project Plans	Plan sheets including design recommendations in red.						
SWFWMD_Sect 30.pdf	SWFWMD Contour Map	SWFWMD Map Section 30						
SWFWMD_Sect 31.pdf	SWFWMD Contour Map	SWFWMD Map Section 31						
<u>192114031_Drainage Map</u> <u>1.pdf</u>	FDOT Drainage Map	Drainage Map 1						
<u>192114055_Drainage Map</u> 2.pdf	FDOT Drainage Map	Drainage Map 2						

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Recommendation: Below are the design recommendations for the project: 1. Construct 5 ft x 5 ft. sand cement riprap at culvert outfall, Sta. 673+83 Lt, with D-4 filter fabric, index No. 199 & 281. 2. Sta. 673+55, 20 ft. Lt; construct ditch bottom inlet Type C (traversable (w)), grate elevation 80.2 ft., flow line elevation 77.0 ft. Label inlet as S-I. 3.Construct 30 ft. of 18" RCP from S-1 to existing manhole at Sta. 673+83, 15ft Rt. Set flow line elevation at existing manhole at 76.6 ft.

Recommendation Date: 5/23/2000

Project Ranking:

ROADWAY FLOODING MATRIX

Ranking of the roadway hazard level based on accident data, ADT, depth and location of water, and site specific factors. (Weight Factor = 10)	3
Ranking of the operational impacts (i.e. magnitude of vehicle speed reduction, ADT, frequency of flooding, availability of detour route, and cost to FDOT to handle problem, etc.) (Weight Factor = 7)	6
Ranking of the nuisance factor to the public and FDOT. (Weight Factor = 3)	6
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract.	
(Weight Factor = 5)	2
Ranking of the costs to cure the problem, if any. (Weight Factor = 5)	9
Total Score	145

PRIVATE PROPERTY FLOODING MATRIX

Ranking of the potential financial impacts versus the flooding frequency that impacts the private property. (Weight Factor = 10)	0
Ranking of the hazard level versus the flooding frequency that impacts the private property. (Weight Factor = 10)	0
Ranking of the nuisance factor to the private property as well as FDOT. (Weight Factor = 5)	0
Ranking of the costs to FDOT to cure the problem versus the financial impact to the private property if not cured. (Weight Factor = 10)	0
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract.	0
(Weight Factor = 5)	0
Total Score	0

FLOOD INVESTIGATION INVENTORY SHEET

Flood Investigation # 0806192006317

Entry Date: 6/19/2006 4:56:17 PM Revised Date: 7/8/2010 8:29:41 AM Completed By: Tom Ward, PBS&J

SECTION I: LOCATION

County - Hernando State Road - SR 50, SR 50A, SR 700 Road Description - 4 lane(s), Principal Arterial, Roadside Ditches Roadway Separation - Divided w/Traversable Median Direction of Travel - Two-Way Functional System of Road - Rural Specific Classification of Road - Principal Arterial Roadway Drainage - Roadside Ditches

Flooding Condition - Off-System

Local Road Subject to Flooding - Tall Oaks Lane Business Name: Blanche's Project I Business/Private Property Address Subject to Flooding -25143 Cortez Boulevard

Brooksville , FL 34601

Location:

Latitude: 28.529489 Longitude: -82.322319

Section/Township/Range - 32 / 22S / 20E Project is Active - Yes

SECTION II: PROBLEM DESCRIPTION

Date of Original Complaint -Complainant Name - Ray Bome Problem Description - Property Flooding

Details of the Problem - Description of Problem was not available. Photos of property give the only evidence.

Frequency of Flooding - Unknown Source for Frequency Data - Unknown

Historic High Water - No historic high water data was available.

Flooding Event High Water - No event high water was recorded.

History of Problem -

SECTION III: PROBLEM ANALYSIS

Attachments			
Attachment	Attachment Type	Attachment Description	
Survey Log.pdf	Site Map	Survey Log of Project	
siteelevations.pdf	Site Map	Site elevations	
191105644_DrainageMap01.pdf	FDOT Drainage Map		
191105823_ROW.pdf	Other Data	Right of Way Map	
191105851_SWFWMD01.pdf	SWFWMD Contour Map		

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Recommendation: Can not draw conlusion or give recommendation base on evidence given.

Recommendation Date: 12/7/2006

Project Ranking:

ROADWAY FLOODING MATRIX

Ranking of the roadway hazard level based on accident data, ADT, depth and location of water, and site specific factors. (Weight Factor = 10)	0
Ranking of the operational impacts (i.e. magnitude of vehicle speed reduction, ADT, frequency of flooding, availability of detour route, and cost to FDOT to handle problem, etc.) (Weight Factor = 7)	0
Ranking of the nuisance factor to the public and FDOT. (Weight Factor = 3)	0
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract.	
(Weight Factor = 5)	0
Ranking of the costs to cure the problem, if any. (Weight Factor = 5)	0
Total Score	0

PRIVATE PROPERTY FLOODING MATRIX

Ranking of the potential financial impacts versus the flooding
frequency that impacts the private property.0(Weight Factor = 10)0

Ranking of the hazard level versus the flooding frequency that impacts the private property. (Weight Factor = 10)	0
Ranking of the nuisance factor to the private property as well as FDOT. (Weight Factor = 5)	0
Ranking of the costs to FDOT to cure the problem versus the financial impact to the private property if not cured. (Weight Factor = 10)	0
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract.	0
(Weight Factor = 5)	0
Total Score	0

FLOOD INVESTIGATION INVENTORY SHEET

Flood Investigation # 0806042010344

Entry Date: 6/4/2010 7:41:09 AM **Revised Date:** Completed By: Stephanie Hildreth, HDR

SECTION I: LOCATION

County - Hernando State Road - SR 50, SR 700 **Road Description -** 4 lane(s), Principal Arterial, Roadside Ditches **Roadway Separation -** Divided w/Traversable Median Direction of Travel - Two-Way Functional System of Road - Rural **Specific Classification of Road -** Principal Arterial **Roadway Drainage -** Roadside Ditches

Flooding Condition - Off-System

Local Road Subject to Flooding -**Business Name:** Business/Private Property Address Subject to Flooding -

Location: Latitude: 28.522931 Longitude: -82.300753

Section/Township/Range - 3 / 23S / 20E Project is Active - Yes

SECTION II: PROBLEM DESCRIPTION

Date of Original Complaint -Complainant Name -Problem Description - Standing Water

Details of the Problem - The flooding site is a depression on the south side of SR 50 approximately 750 feet east of Spring Lake Highway (Mondon Hill Road on north side of SR 50).

Local residents began complaining of higher water levels in the low area at the time of construction of SR 50. The improvements included four additional lanes and the project was accepted August 24, 1995.

Two drainage related features were included within the subject basin to mitigate for the added lanes. A large pit north of SR 50 has been constructed to mitigate for floodplain impacts associated with embankment placed within the floodplain and a series of ditch blocks have been constructed in the roadway ditches to attenuate for runoff increases associated with new pavement area.

The site is located at the bottom of a large depression which has no outlet other than seepage. The drainage basin is developed with subdivision streets, houses, businesses, parking lots, and SR 50. Ponding is to be expected in this low area.

Frequency of Flooding - Several times per year Source for Frequency Data - Local Resident/Person Interviewed

Historic High Water - A historic high water of 68.5 ft located at Unknown was documented by Drainage Maps.

State Project 08070-3514 Drainage Map indicates the 100-year Design Highwater elevation to be 68.5 feet in the flooding area. These stages would result in water depths over 5 feet. Source of this stage is unknown. However, it is supported by information included on the Drainage Map of the original Mondon Hill Road project (State Project 0863-250). That map is based on a survey done in 1955 and it indicates the extreme high water to be 69.1 feet. It was normal practice at that time to obtain these elevations from high water marks or information provided by local residents. It should be noted that most of the development within this drainage basin has probably occurred since that map was produced. **Flooding Event High Water -** No event high water was recorded.

History of Problem -

SECTION III: PROBLEM ANALYSIS

<u>Attachments</u>							
Attachment	Attachment Type	Attachment Description					
Hernando_SR 50 east Spring Lake RD.pdf	Other Data	Drainage Report Regarding Flooding Complaint					
Exist Road & Pond Plan.PDF	Project Plans	Project Plans					
map_gaines.pdf	Site Map	Мар					

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Recommendation:

In consideration of the total basin size, terrain relief, and the numerous storage cells provided in the roadway ditches, it is believed that the high water stages experienced during and after the roadway project were most significant due to the abnormal rainfall.

If improvements are deemed necessary, the following modifications will provide some benefit:

* Place a weir immediately east of the north end of S-7 with a 0.5' notch at elevation 64.5 and a top elevation of 66.0. This will force more water into the pond where it will remain long enough to provide filtration which will supplement that provided in the flooding area.

* Inspect storage cells to determine which are not infiltrate in an acceptable manner. Remove the top 0.2' of soil from the bottom of those identified.

Recommendation Date:

Project Ranking:

ROADWAY FLOODING MATRIX

Ranking of the roadway hazard level based on accident data, ADT, depth and location of water, and site specific factors. (Weight Factor = 10)	0
Ranking of the operational impacts (i.e. magnitude of vehicle speed reduction, ADT, frequency of flooding, availability of detour route, and cost to FDOT to handle problem, etc.) (Weight Factor = 7)	0
Ranking of the nuisance factor to the public and FDOT. (Weight Factor = 3)	0
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract.	
(Weight Factor = 5)	0
Ranking of the costs to cure the problem, if any. (Weight Factor = 5)	0
Total Score	0
PRIVATE PROPERTY FLOODING MATRIX	
Ranking of the potential financial impacts versus the flooding frequency that impacts the private property. (Weight Factor = 10)	0
Ranking of the hazard level versus the flooding frequency that impacts the private property. (Weight Factor = 10)	0
Ranking of the nuisance factor to the private property as well as	
FDOT. (Weight Factor = 5)	0
Ranking of the costs to FDOT to cure the problem versus the financial impact to the private property if not cured. (Weight Factor = 10)	0
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract.	
(Weight Factor = 5)	0
Total Score	0

FLOOD INVESTIGATION INVENTORY SHEET

Flood Investigation # 0806092017259

Entry Date: 6/9/2017 5:49:21 PM **Revised Date:** 8/21/2017 1:52:22 PM **Completed By:** Anita Wang, FDOT

SECTION I: LOCATION

County - Hernando State Road - SR 50, SR 700 Road Description - 4 lane(s), Principal Arterial, Roadside Ditches Roadway Separation - Divided w/Traversable Median Direction of Travel - Two-Way Functional System of Road - Rural Specific Classification of Road - Principal Arterial Roadway Drainage - Roadside Ditches

Flooding Condition - Off-System

Local Road Subject to Flooding - WPA Road Business Name: Gordon Farm Business/Private Property Address Subject to Flooding -SWC Cortez & WPA Brooksville , FL

Location: Latitude: 28.52614 Longitude: -82.31619

Section/Township/Range - 33 / 22N / 20E Project is Active - Yes

SECTION II: PROBLEM DESCRIPTION

Date of Original Complaint - 1/25/2016 **Complainant Name -Problem Description -** Property Flooding

Details of the Problem - Parcel owner claims that site flooding caused by cross drain and undefined ROW ditch.

Frequency of Flooding - Unknown **Source for Frequency Data -** FDOT Maintenance Historic High Water - No historic high water data was available.

Flooding Event High Water - The original complaint was made by , Gordon Farm on 1/25/2016. An event high water of was recorded by null on unkonown date.

History of Problem - Brooksville maintenance staff reported this

Persons Interviewed

Site Visit Date - 1/25/2016 Site Inspection By - , Interviewee(s) - Chuck Greif , Site Visit Conditions - Not Applicable

Observed High Water - No observed high water was observed on the date of the site visit.

Site Visit Details -

SECTION III: PROBLEM ANALYSIS

Current Problem Analysis

Current Problem Analysis:

Front half of parcel low topographically and under flood zone AE (flood EL 74.5). ROW ditch may need more analysis to better contain ROW drainage

Outfall Description: Closed Basin Responsible Entity for Maintenance of Outfall: Property Owner

	<u>Attachments</u>	
Attachment	Attachment Type	Attachment Description

http://dotsd7gispro.d7.dot.state.fl.us/drainage/FloodInventory_PrintFloodComplaint.aspx?i... 8/21/2017

1_____

0

GIS contours.pdf	Other Data	contour map
fema-gis.JPG	FEMA Flood Map	FEMA zone AE

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Recommendation:

When scoping for upcoming resurfacing or other roadway project in this area, please add in this location for analysis of our ditch system

(currently PD&E project #430051-1 ongoing)

Recommendation Date: 8/21/2017

Project Ranking:

ROADWAY FLOODING MATRIX

Ranking of the roadway hazard level based on accident data, ADT, depth and location of water, and site specific factors. (Weight Factor = 10)	0
Ranking of the operational impacts (i.e. magnitude of vehicle speed reduction, ADT, frequency of flooding, availability of detour route, and cost to FDOT to handle problem, etc.) (Weight Factor = 7)	0
Ranking of the nuisance factor to the public and FDOT. (Weight Factor = 3)	0
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract. (Weight Factor = 5)	0
Ranking of the costs to cure the problem, if any. (Weight Factor = 5)	0
Total Score	0
PRIVATE PROPERTY FLOODING MATRIX	
Ranking of the potential financial impacts versus the flooding frequency that impacts the private property.	

mpaces	me priv	and prop
(Weight	t Factor	· = 10)

Ranking of the hazard level versus the flooding frequency that impacts the private property. (Weight Factor = 10)

Ranking of the nuisance factor to the private property as well as FDOT. (Weight Factor = 5)	2
Ranking of the costs to FDOT to cure the problem versus the financial impact to the private property if not cured. (Weight Factor = 10)	1
Ranking of the length of time before scheduled roadway improvements that will also provide remedy, are to be let to contract. (Weight Factor = 5)	4
Total Score	50

APPENDIX E

Bystre Lake Watershed Floodplain Justification Report

BYSTRE LAKE WATERSHED FLOODPLAIN JUSTIFICATION REPORT

Prepared for:

Southwest Florida Water Management District &

Hernando County





Prepared by:



7650 West Courtney Campbell Causeway Tampa, Florida 33607-1462

March 31, 2010

Watershed Management Program Final Results Disclaimer

This information was developed in accordance with the Southwest Florida Water Management District's Watershed Management Program Guidelines and Specifications (G&S). The G&S define the watershed parameters used to develop a computer model that simulates projected surface water levels. The model includes watershed and rainfall event simulation parameters such as a design rainfall event and associated antecedent moisture conditions. This information, including projected surface water levels, was reviewed for substantial conformance with G&S, through a public review and comment period, and refined based on comments. The parameters and models are revised periodically based upon updated information and issued Environmental Resource Permits (ERPs). The District will consider site specific details and other refinements during the regulatory review process to revise model parameters and results. Therefore, the District cannot guarantee its completeness and shall not be liable for any damages suffered as a result of using this information. Those interested in using this information should contact the District for the current version of a model and results for a specific watershed. ERP applicants are encouraged to schedule a pre-application meeting(s) with the District's Regulatory staff to discuss the use of any watershed study/model in a subsequent ERP application. If you have questions, please contact the Southwest Florida Water Management District's Engineering Section at 352-796-7211 ext. 4232.

Link to the District's G&S: http://www.swfwmd.state.fl.us/documents/plans/watershed_guidesspecs.pdf

L:\Res Mgmt\Eng\LIBRARY\Guidelines+Specs\DisclaimerData\Final\Watersed Study Disclaimer Rev. MBM 7 13 07_Final Results.doc 7/16/2007

Proje	ect Name:	Bystre Lake Watershed					
Stat	tement of Work No.;	Mapping Activity Statement 1A (contract 06CC0000045)					
Inte	eragency Agreement No.:	Not Applicable					
CTF	P Agreement No.:	EMA-2002-GR-5067 and EMA-2004-GR-5021					
Stat	tement/Agreement Date:	June 25, 2004					
Cer	tification Date:	March 31, 2010					
	Tasks/Activities Covere	d by This Certification (check all that apply)					
\boxtimes	Entire Project						
\boxtimes	Topographic Data Develo	pment					
\boxtimes	Hydrologic Analyses						
	Hydraulic Analyses						
	Coastal Flood Hazard Analyses						
	Floodplain Mapping						
	Other (Specify):						
	This is to certify that the work summar above and all amendments thereto, togo Officer and/or Assistance Officer or the agreement, and that all such work has be Specifications for Flood Hazard Mappin	ized above was completed in accordance with the statement/agreement cited ether with all such modifications, either written or oral, as the Regional Project eir representative have directed, as such modifications affect the statement een accomplished in accordance with the provisions contained in <i>Guidelines and g Partners</i> cited in the contract document, and in accordance with sound and e contract provisions for respective phases of the work.					
Nam	ne: Elizabeth R. Geurink, P.	.E.					
Title	e: Senior Water Resources	Engineer					
Firm	n/Agency Represented: UR	RS AND					
Reg	istration No.: 51941						
-	nature:	NII A					

tification of m FIY e w compliance r

PROFESSIONAL SEAL

I hereby certify that the report Bystre Lake Watershed Floodplain Justification and associated floodplain elevations and extents for Bystre Lake Watershed (K765) contained within the attached external hard drive dated March 31, 2010 has been completed in accordance with the requirements and guidelines specified in <u>Southwest Florida Water</u> <u>Management District's – Watershed Management program – Guidelines and</u> <u>specifications for watershed management Plan (August 2002)</u>.

The attached engineering calculations were prepared by URS Corporation Southern (URS) within the limits prescribed by our client using standard engineering procedures in a manner consistent with the skill and level of professional care exercised by other professionals practicing in the same locality under similar circumstances. Information provided to URS by client representatives, agents and other consultants has been accepted in good faith and is assumed to be accurate.

Signed:

Elizabeth R. Geurink, P.E. Registered Professional Engineer Florida License No. 51941

Date: 3/31/2010

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BYSTRE LAKE WATERSHED FLOODPLAIN JUSTIFICATION REPORT (K765)

1.0 INTRODUCTION

The Southwest Florida Water Management District (SWFWMD) together with Hernando County contracted the URS team to develop watershed management plan for the Bystre Lake Watershed. The purpose of the Floodplain Justification Report is to detail the reasonableness of modeled floodplain elevations generated using updated model data for the watershed. This report modifies and updates the previous floodplain developed in 2006. This report also addresses peer review comments supplied by Halcrow, Inc. (Halcrow, 2009) and by District internal reviews.

1.1 Project Location and General Description

Located in eastern Hernando County, just southeast of Brooksville, the Bystre Lake Watershed is primarily rural with the majority of development concentrated in the City of Brooksville. The watershed is a closed basin with all runoff collecting in Bystre Lake and surrounding low-lying areas. The watershed comprises approximately 27.5 square miles and includes a portion of the City of Brooksville, which lies in the northwest part of the watershed (see Figure 1-1: Location Map). With the exception of some urban areas in the northwest, the watershed is primarily undeveloped and is characterized by rolling hills and populated by upland hardwood hammocks. State Road (SR) 50, which runs from east to west, bisects the watershed.

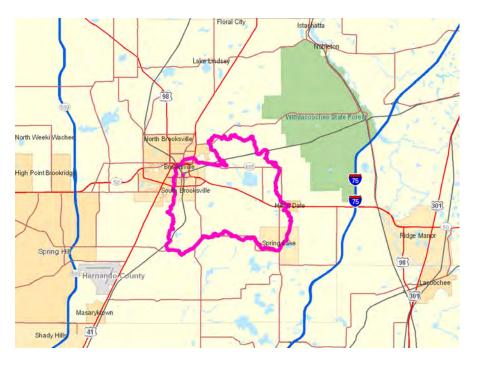


Figure 1.1 Location Map

2.0 WATERSHED DESCRIPTION

2.1 Characterization of the Watershed

Physiographically, the watershed is located on the Brooksville Ridge, which tends to be characterized by rolling terrain, upland hardwood tree species, and thicker sections of clay layers. Elevations range from 23 to 271 feet-NAVD88. Although it is essentially a closed basin, the Bystre Lake Watershed is part of the larger Withlacoochee River Basin. During exceptionally large storm events, or during an exceptionally heavy rainy season, levels within Bystre Lake could possibly stage up high enough so that low lying wet prairies are inundated and eventually overtop the basin divides flowing north towards Blue Sink.

There are no major rivers or streams within the watershed as indicated by its internally drained characteristics. Most man made hydrologic features occur towards the City of Brooksville. The large number of small lakes, sinkholes, wetlands, prairie, and depressions define the surface water resources of this watershed, as seen in Figure 2-1. Seven open waterbodies larger than 5 acres lie within the watershed. Bystre Lake is the largest open waterbody, encompassing 139 acres, followed by Garrison Lake and Irvin Lake each comprising roughly 21 acres.

Table 2-1 shows the number and size of waterbodies larger than 5 acres by subwatershed (subwatershed regions are presented in Figure 3.1):

Table 2-1. Summary Statistics of Large Waterbody Features (acres)										
		SUBWATERSHED					Total			
WATERBODIES	А	В	С	D	Е	F	G	Н	Ι	(acres)
Bystre Lake	139.2									139.2
Garrison Lake			21.3							21.3
Irvin Lake			21.1							21.1
Unnamed Lake (north of Lk Meadows Drive)			13.6							13.6
Unnamed Lake (east of WPA Road) NA1930 -HW	12.2									12.2
Cedar Lane Detention NC1334			6.2							6.2
Golf Course Pond NC1920			6.2							6.2
Tot. Lake Area, acre	151.4	0	68.4	0	0	0	0	0	0	219.8

 Table 2-1:
 Summary Statistics of Large Waterbody Features (acres)

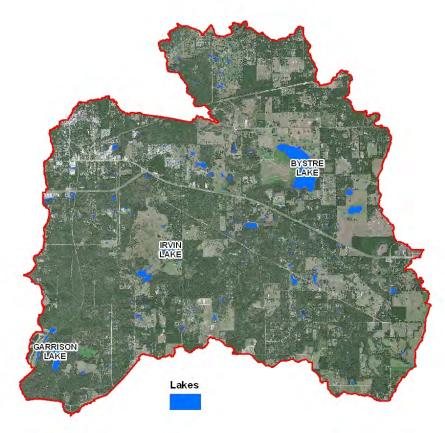


Figure 2.1 Lakes

2.2 Soil Characterization

The General Soils Map found within the US Department of Agriculture's Soil Conservation Service documents describes two different soil associations within the watershed. The divide between the two soil associations is generally located east of Bystre Lake. The western association is described as Nobleton-Bichton-Flemington. It includes nearly level to sloping, well drained and somewhat poorly drained and poorly drained fine sandy loams to sands less than 40 inches thick over loamy clayey material. The east and southwest portion of the watershed is classified as Arrndondo-Sparr-Kendrick. It includes nearly level to sloping; well drained and somewhat poorly drained soils that are sandy to a depth of 20 to more than 40 inches over loamy material.

Hydrologic soil group A accounts for 18% of the watershed (primarily in subwatersheds A and G), B/D soils account for 14%. Hydrologic soil group C makes up 34% of the watershed, while D soils and water account for 34% (see Figure 2-2: Soils).

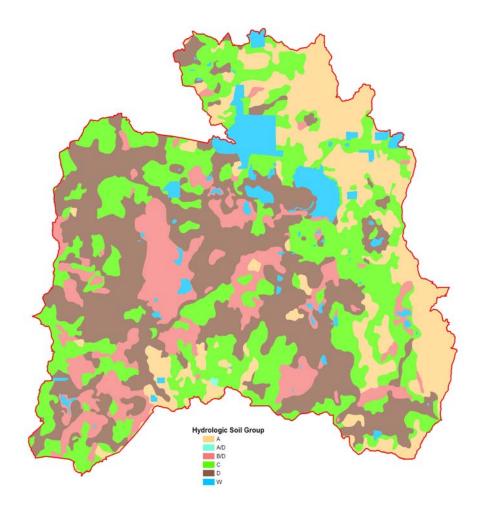


Figure 2.2 Soils

2.3 Land Use Characterization

The Bystre Lake Watershed is primarily rural with urban areas being represented by the City of Brooksville in the west (see Figure 2-3: Land Use). Roughly 36% of the watershed remains in Upland Forest, while Urban and Agriculture land uses comprise 32% and 24%, respectively. Water land use accounts for only 2%, and 4% are classified as wetland. Transportation and Utilities land use comprise 1% of the watershed.

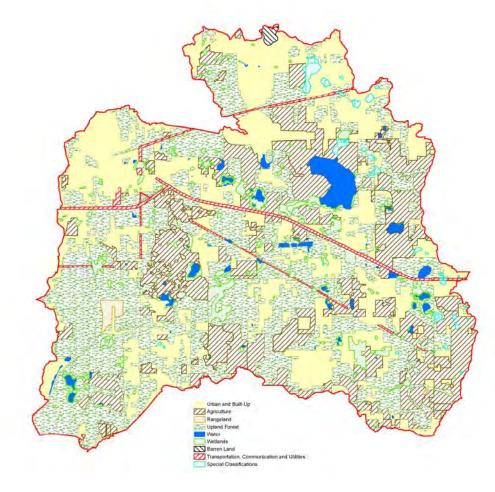


Figure 2.3 Land Use

3.0 WATERSHED MODEL DEVELOPMENT

The following sections describe the development of the Bystre Lake Watershed model. Stagearea curves for simulating flooded surface storage were estimated using the Arc-Hydro tool "Drainage Area Characterization" and a 5-foot grid created from the Bystre Lake Terrain. Stage increments are typically defined at 1-foot intervals, except where greater detail was desired at the lower end of the curve. Irregular cross-sections for channels and basin-to-basin weirs were extracted from the Bystre Lake Terrain, incorporating the thinning tool provided by SWFWMD at a 0.25 ft thinning tolerance. Culvert inverts were established from field survey, as-built plans, construction plans, and estimated from DTM where necessary.

The Bystre Lake Watershed Model includes the following:

- ✓ 446 Subbasins
- ✓ 522 Junction Nodes (including boundary nodes)
- ✓ 1029 Reaches
 - o 183 Culvert reaches (some of which are multiple-pipe)
 - o 740 Weir reaches
 - o 79 Channel reaches
 - o 21 Drop Structures
 - 2 Drainage well discharges
 - o 4 Sinkhole/Floridan discharges
- ✓ 36 Percolation Links (not included in geodatabase network_arc feature)

3.1 Subbasin Delineation Process

Subbasins were delineated using a raster grid created from the Bystre Lake Terrain. The raster image was created from the Terrain using a 5 foot pixel base. This created a coverage of 25 square feet per pixel. The grid was used in Arc_Hydro, established for ESRI ArcMap 9.2. The process for creation of Bystre Lake subbasins included (but was not limited to) the following steps. Once the listed steps were concluded, additional subbasin delineation was done manually in GIS using permit and survey data. (See Figure 3.1)

- 1. Level DEM
- 2. DEM Reconditioning
- 3. Assign Stream Slope
- 4. Sink Prescreening
- 5. Sink Evaluation
- 6. Depression Evaluation
- 7. Sink Selection
- 8. Fill Sinks
- 9. Flow Direction
- 10. Flow Direction with Sinks
- 11. Adjust Flow Direction in Lakes

- 12. Flow Accumulation
- 13. Stream Definition
- 14. Stream Segmentation
- 15. Drainage Line from Stream
- 16. Stream Segmentation from Drainage Line
- 17. Sink Segmentation
- 18. Catchment Grid Delineation
- 19. Catchment Polygon Processing

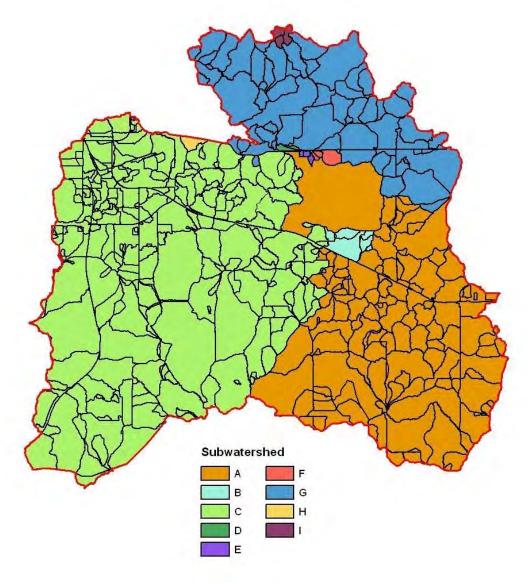


Figure 3.1 Subbasins

3.2 Hydrologic and Hydraulic

In the previous (2006) Watershed Study and Floodplain Analysis, the primary source for elevation model/topography used in subbasin delineation and runoff characterization were SWFWMD aerial maps at 1"=200' scale with 1-foot contours and limited spot elevations. Some structure survey data, provided primarily from the SWFWMD, were also utilized for hydraulic definition. Surface runoff (rainfall excess) was computed using SCS curve number methodology and did not account for percolation discharges through sandy excessively drained (HSG A) soils.

The 2008-2010 watershed maintenance update revised the digital elevation model using a 2007 LiDAR-based DTM. The level of subbasin discretization was also increased to explicitly model isolated storage areas (wetlands, dry depressions) of 1-acre or greater surface area, with a capacity to retain at least 2-feet of water. Additional survey was collected in some areas and ERP files were used to define new stormwater management areas and connectivity in recently developed areas. Green-Ampt infiltration was used to estimate runoff instead of the SCS method in the previous model. This was accomplished by using ICPR PercPack, which is designed to model percolation at appropriate natural depressions and retention ponds. SSURGO data was used to define reasonable values for percolation parameters.

3.2.1 Green-Ampt Methodology

The methodology for calculating rainfall excess was the Green-Ampt rainfall excess method using the SCS Unit Hydrograph Method. Rainfall was based on Florida Type II Modified Distribution for the 24-hour events, while the 5-day events were distributed according to G&S Table 4: 5 – Day Rainfall Distribution. Subbasin hydrographs were based on the dimensionless 256 Unit Hydrograph. The Green-Ampt rainfall excess is calculated in 3 parts:

- 1. Rain falling on directly connected impervious areas (DCIA). After subtracting an initial abstraction of 0.1" for each independent rainfall event, 100% runoff occurs from the DCIAs
- 2. Impervious areas that are not directly connected are assumed to drain on pervious area. This area is equal to the percent impervious minus the percent DCIA. Like DCIA, 0.1" is subtracted from each independent rainfall event for the initial abstraction.
- 3. The Green-Ampt equation is used to determine infiltration rates for pervious area. Rainfall excess is the amount of rainfall plus flow from impervious areas draining onto pervious areas minus the amount of infiltration.

3.2.2 Green-Ampt Procedures- Options

There are several options available when using Arc Hydro to support Green-Ampt modeling in ICPR. The options are grouped in two major categories:

- 1 Where the excess rainfall is calculated:
 - Arc Hydro
 - ICPR

Bystre Lake Watershed Floodplain Justification Report

- 2 Which rainfall event is analyzed:
 - Design event with uniform rain over all subbasins
 - Design event with distributed rain over each subbasin
 - Observed rain event

The combination of the two groups provides six separate options for modeling.

- 1. Data preparation for Green-Ampt processing
- 2. Spatial Processing for Green-Ampt Analyses
- 3. Arc Hydro Green-Ampt excess rainfall computations
- 4. Arc Hydro Green-Ampt with design rainfall over each subbasin
- 5. Arc Hydro Green-Ampt with observed (radar) rainfall
- 6. ICPR Green-Ampt excess rainfall computations

Land use and soils data were provided and available in the enterprise geodatabase by SWFWMD. This includes both spatial components (soil and land use polygon layers) and corresponding parameter tables (Landuse Lookup that defines land use parameters and Soil Lookup that defines soil parameters – See table 3-2-1 for a partial example of the Soil Lookup table and 3-2-2 for a partial example of the Landuse Lookup tables used).

The subbasins for analyses are derived using Arc Hydro tools. Only the subbasin polygon feature class, with proper HydroID assigned, is needed to support basic Green-Ampt computations.

			Ksat		SSt	SSu	
MUKEY	COMP_NAME	HYDGRP	inch/hr	Porosity	(in)	(in)	WTDAnnMin
321046	Pompano	D	13.00	0.45	0.00	2.05	0.00
321047	Tavares	А	28.02	0.43	14.63	2.05	145.00
321048	Immokalee	B/D	13.00	0.44	0.12	2.05	7.00
321049	Okeelanta	B/D	13.00	0.44	0.00	11.81	0.00
321050	Lake	А	13.00	0.45	24.32	2.05	203.00
321051	Lake	А	13.00	0.45	24.32	2.05	203.00
321052	Arredondo	А	13.00	0.41	17.44	2.05	203.00
321053	Arredondo	А	13.00	0.41	17.44	2.05	203.00
321054	Kendrick	А	13.00	0.42	12.07	2.05	203.00

 Table 3-2-1:
 Example of Soil Lookup Table

FLUCCSCODE	Description	Manning	DCIA	%Impervious
1100	Residential-Low Density	0.16	0.00	10.00
1190	Low Density Under Construction	0.16	0.00	5.00
1200	Residential-Med Density	0.13	5.00	15.00
1290	Med Density Under Construction	0.13	2.00	20.00
1300	Residential-High Density	0.08	20.00	70.00
1400	Commercial	0.05	50.00	70.00
	Commercial And Services Under			
1490	Construction	0.05	50.00	70.00
1500	Industrial	0.07	72.00	77.00
1600	Extractive	0.30	0.00	0.00

 Table 3-2-2:
 Example of Landuse Lookup Table

Manual revisions were made to a small number of subbasins for Cutoff Depth, DCIA and % Impervious default parameters, using aerial mapping as a basis. Typically adjustments were made to wet ponds, reducing cutoff depth to less than 1- foot, and increasing DCIA and % Impervious to 100 for the wet pond area. Notes are included in the model files in all cases where Green-Ampt parameters have been manually revised.

Affected subbasins include:

0	A1210
0	C0780
0	G0220
0	G1270
0	G1345

3.3 Verification Rainfall

Successful calibration of model parameters requires accurate and reliable historical records for both rainfall and stream or lake stage data. Research was done to obtain rainfall and stream/lake data for the Bystre Lake Watershed. Unfortunately, only intermittent data has been collected at several locations, typically as part of a special purpose or limited data collection effort (program). Due to the lack of major rivers, streams, creeks or other discharge points, there are no discharge gauging stations within the Bystre Lake watershed. Bystre Lake has several staff gages, one of which (Station 147) has a substantial period of record dating back to 1985 and is part of the ongoing monitoring program of the SWFWMD. Even those records, however, are not continuous or daily stage records.

With the understanding that selected model parameters would be based on reasonable literature and SWFWMD database values, a verification rainfall was selected for use in validating model results against what little observed data were available. The 2004 Hurricane Frances Doppler (NEXRAD) data were used to develop a rainfall input for model simulation and peak stage comparison. As only ten subbasins have 2004 high water mark records, it was concluded that there was a lack of accurate and reliable historical data available to truly calibrate or verify the Bystre Lake Watershed Model.

3.4 Runoff Hydrograph Generation

3.4.1 Time of Concentration

The time of concentration is defined as the time for runoff to travel from the hydraulically most distant point of the watershed to a point of interest (node point) within the watershed. The time of concentration for each subbasin was the sum of one or more of the following types of flow regimes; sheet flow, shallow concentrated flow and open channel flow. Characteristics that influence time of concentration are surface roughness, channel shape, and slope.

3.4.2 Rainfall

The rainfall amounts for the 100- year, 24, 72, 120-hour and 168-hour storm events are shown in Table 3.3.2. The 24-hour rainfall amount is from SWFWMD's Environmental Resource Permitting Information Manual. The 100-year, 120-hour was obtained from *Table 3: Rainfall Volumes for 1-Day, 500-Year; and 5-Day Events by County* located in the SWFWMD's Watershed Management Program Guidelines and Specifications. The 100-year, 72- and 168–hour events are from the US Department of Commerce Technical Paper No. 49.

Frequency (Year)	Duration (Hour)	Rainfall (in)
100	24	12.5
100	72	14.3
100	120	16.8
100	168	18.0

 Table 3-4-2:
 Frequency, Duration and Rainfall Used in Analysis

3.4.3 Rainfall Distribution

Distribution of the volume for the 24-hour event is based on the Florida Type II Modified Distribution. The volumes for the 120-hour are based on the 5-day dimensionless curve *Table 4: 5-Day Rainfall Distribution* located in the SWFWMD's Watershed Management Program Guidelines and Specifications. The distributions for the 72-hour and 168-hour events are based on the FDOT distributions.

3.4.4 Shape Factor

The shape factor accounts for the effect of watershed storage. A shape factor of 256, widely

accepted for modeling projects throughout Hernando County, was utilized because of the mild to moderate slopes that occur within the subject project.

3.5 Hydraulics

The Bystre Lake watershed was subdivided into 446 subbasins. Each subbasin is connected to the whole by pipes, drop structures, weirs and/or channels. The predominant hydraulic connection type is the irregular weir, representing overtopping of closed subbasins through topographic saddles read from the DEM. Where overland travel paths were very long and/or where overtopping flows have cut relatively shallow concentrated flow channels, hydraulic conveyance has been modeled as open channel flow. As previously stated, the hydraulic network comprised 740 weirs, 183 culverts, 79 channels and 21 drop structures.

3.6 Storage

3.6.1 Lake and Pond Storage

The stage-area curves defining surface storage were calculated using Arc Hydro tools developed in ArcGIS 9.0 (ArcMap) and the 3D Analyst extension based on the 2007 LiDAR topographic data provided by SWFWMD. Completion of the staging area program creates a spreadsheet in a geodatabase for each subbasin. Each subbasin has the minimum and maximum elevation, a listing of all elevations between the minimum and maximum in increments of 1 foot, and the subbasin area (2D area - not 3D area) corresponding to each elevation.

3.6.2 Open Channel Storage

There are no major channels within the watershed; however minor channels have been added within some subbasins to provide a more accurate basis for floodplain delineation between semiclosed subbasins. The open channels added to the model have been defined with a bank-to-bank cross section and vertical wall end points. The area defined by the channel width and length within each subbasin has been subtracted from the subbasin stage-area curves to prevent duplication of simulated storage. The following subbasins have had adjustments made to the Arc Hydro-generated stage-area curves:

A0773	C0430	C0983
A0777	C0440	C1212
A0830	C0460	C1217
A1150	C0480	C1220
A2040	C0560	C1222
C0026	C0570	C1275
C0030	C0840	C1280
C0090	C0855	C1340
C0150	C0860	C2700
C0390	C0920	C3320
C0395	C0930	
C0400	C0950	

0

3.7 Percolation as an Outfall

Unlike the previous 2006 model, percolation was included as an outfall in areas of the watershed dominated by Type A soils. The following criteria were applied to determine whether percolation would be simulated:

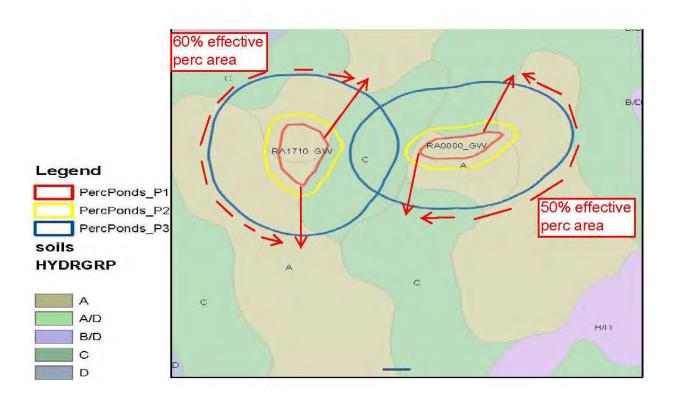
- 1 HSG A soils present in 70% of subbasin
 - If "yes", does simulated inundation area lie predominantly on HSG A soils/pervious surfaces?

Percolation modeled

- If "no", does simulated inundation area lie over HSG A soil/pervious surfaces?
 - If "yes" percolation modeled
 - If "no" percolation not modeled
- 2 For subbasins passing Criteria 1:
 - Seasonal High Water Table elevation > 3 below land surface?
 - If "yes" horizontal and vertical flow simulated
 - If "no" percolation not modeled

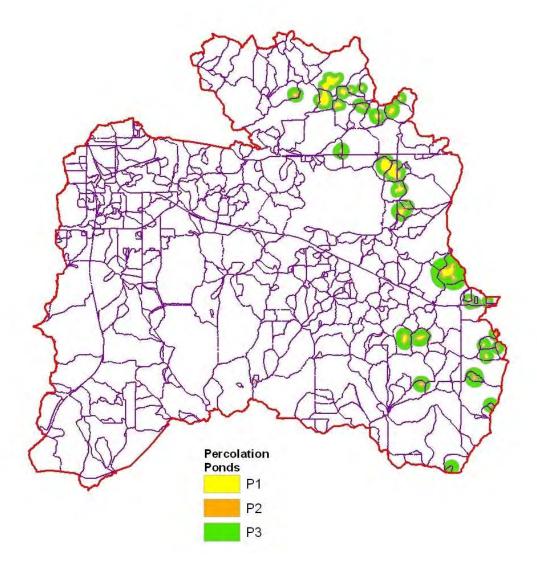
Percolation was included at 36 natural depressions and dry ponds within the watershed (see Figure 3.7). Table 3-7 presents the major percolation parameters input to the model. Percolation was modeled using the Perc-Pack ICPR module, applying methods consistent with Streamline Technologies technical guidance (Singhofen, 2009). Percolation polygons located close together or with overlapping horizontal percolation (P2,P3) zones have been subjected to perimeter reduction for model input. Effective percolation perimeter values (P1_EFF, P2_EFF and P3_EFF) were computed as the fraction of the polygon not competing with adjacent percolation nodes or poorly drained soils. The "Effective Perimeter" values have been input to the model rather than the GIS-generated perimeter values (P1, P2, and P3), as shown in the example graphic below. Percolation polygons and attributes associated with model input parameterization are included in the geodatabase. This method is slightly more conservative than the Singhofen method, as it discounts the significantly reduced percolation that may yet take place along the intersected percolation zones.

Where available, geotechnical information from SWFWMD Environmental Resource Permits (ERPs) was utilized. In most areas general information from the SSURGO database was used to obtain and/or compute the percolation parameters. Vertical and horizontal conductivity values were derived using District-supplied methodology supplied in Appendix B.



OBJECTID	Name	AquiferBE	WTE	Ann Recharge	HorCond	VertCond	EffPor	SuctionH	LayThick
31	RA1710_GW	30.00	60.00	0.00	52.51	35.01	0.39	2.05	6.80
32	RA0880_GW	30.00	62.00	0.00	36.00	24.00	0.38	2.05	7.00

OBJECTID	Name	P1	P2	P3	D12	D23	N12	N23	FRAC_EFF	P1_EFF	P2_EFF	P3_EFF
31	RA1710_GW	1534.53	2162.59	4674.80	100	400	20	40	0.60	920.719	1297.554	2804.883
32	RA0880_GW	1394.40	2022.54	4535.11	100	400	20	40	0.50	697.200	1011.271	2267.554





Reach	From Node	To Node	Water Table (FtNAVD88)	Horiz. Cond. (ft/day)	Vert. Cond. (ft/day)	Porosity (fraction)	Suction Head (inch)	Notes
RA0610_GW	NA0610	GWSink	69.11	19.56	13.04	0.37	2.05	SSURGO data
RA0660_GW	NA0660	GWSink	80.00	19.56	13.04	0.38	2.05	SSURGO data
RA0880_GW	NA0880	GWsink	62.00	36.00	24.00	0.38	2.05	SSURGO data
RA0960_GW	NA0960	GWSink	71.00	19.56	13.04	0.37	2.05	SSURGO data
RA0990_GW	NA0990	GWSink	63.84	19.56	13.04	0.37	2.05	SSURGO data
RA1000_GW	NA1000	GWSink	67.67	19.56	13.04	0.37	2.05	SSURGO data
RA1020_GW	NA1020	GWSink	65.20	19.56	13.04	0.37	2.05	SSURGO data
RA1160_GW	NA1160	GWSink	64.30	36.00	24.00	0.37	2.05	SSURGO data
RA1170_GW	NA1170	GWSink	62.70	19.56	13.04	0.38	2.05	SSURGO data
RA1210_GW	NA1210	GWSink	60.00	52.51	35.01	0.39	2.05	SSURGO data
RA1220_GW	NA1220	GWSink	61.00	52.51	35.01	0.39	2.05	SSURGO data
RA1230_GW	NA1230	GWSink	60.80	52.51	35.01	0.39	2.05	SSURGO data
RA1250_GW	NA1250	GWSink	60.80	52.51	35.01	0.39	2.05	SSURGO data
RA1710_GW	NA1710	GWSink	60.00	52.51	35.01	0.39	2.05	SSURGO data
RA1850_GW	NA1850	GWSink	59.24	52.51	35.01	0.39	2.05	SSURGO data
RA1970_GW	NA1970	GWSink	55.58	19.56	13.04	0.37	2.05	SSURGO data
RA1980_GW	NA1980	GWSink	55.90	19.56	13.04	0.38	2.05	SSURGO data
RC1010_GW	NC1010	GWsink	223.00	19.56	13.04	0.37	2.05	SSURGO data
RG0060_GW	NG0060	GWSink	53.17	19.56	13.04	0.37	2.05	SSURGO data
RG0220_GW	NG0220	GWSink	53.51	19.56	13.04	0.37	2.05	SSURGO data
RG1090_GW	NG1090	GWSink	49.42	36.00	24.00	0.39	2.05	SSURGO data
RG1235_GW	NG1235	GWSink	67.60	52.51	35.01	0.39	2.05	SSURGO data
RG1250_GW	NG1250	GWSink	51.14	19.56	13.04	0.37	2.05	SSURGO data
RG1280_GW	NG1280	GWSink	61.25	52.51	35.01	0.39	2.05	SSURGO data
RG1300_GW	NG1300	GWSink	52.96	19.56	13.04	0.37	2.05	SSURGO data
RG1320_GW	NG1320	GWSink	49.88	19.56	13.04	0.37	2.05	SSURGO data
RG1355_GW	NG1355	GWSink	49.85	19.56	13.04	0.37	2.05	SSURGO data
RG1360_GW	NG1360	GWSink	49.72	19.56	13.04	0.37	2.05	SSURGO data
RG1365_GW	NG1365	GWSink	49.47	52.51	35.01	0.39	2.05	SSURGO data

Table 3-7: Percolation Parameterization

Reach	From Node	To Node	Water Table (FtNAVD88)	Horiz. Cond. (ft/day)	Vert. Cond. (ft/day)	Porosity (fraction)	Suction Head (inch)	Notes
RG1850_GW	NG1850	GWSink	47.60	19.56	13.04	0.38	2.05	SSURGO data
RG1970_GW	NG1970	GWSink	48.36	19.56	13.04	0.37	2.05	SSURGO data
RG1980_GW	NG1980	GWSink	48.32	19.56	13.04	0.37	2.05	SSURGO data
RG1990_GW	NG1990	GWSink	48.25	19.56	13.04	0.37	2.05	SSURGO data
RG2030_GW	NG2030	GWSink	47.70	19.56	13.04	0.40	2.05	SSURGO data
RG2040_GW	NG2040	GWSink	48.80	19.56	13.04	0.37	2.05	SSURGO data
RG2050_GW	NG2050	GWSink	48.00	19.56	13.04	0.37	2.05	SSURGO data

3.8 Other Outfalls to Groundwater

Additional outfalls to the Floridan Aquifer are included in the model to define:

- Existing 8-inch diameter drainage wells (2) in Griffin Prairie subbasin C0990 The first drainage well is modeled using a rating curve based on an 8-inch diameter orifice opening with a control elevation of 82.0 feet-NAVD88 and free discharge conditions. The second well is reported to be poorly maintained/damaged and is assumed to have 95% reduction in discharge capacity, based on the same rating curve.
- Field identified sinks within subbasins A0910, A1540, C0740 and C0994 flow through the sinks are estimated using rating curves derived from equivalent orifice discharge. Orifice size has been adjusted for subbasin A0910, C0740, and C0994 sinks using Hurricane Frances (2004) high water marks collected by SWFWMD based on vegetative indicators on the subject properties. The A1540 sink equivalent orifice diameter is estimated using anecdotal Hurricane Frances flood stage information received from Country Lake Estates residents during the June 16, 2009 public meeting.

3.9 Boundary Conditions

A surface water boundary condition for Bystre Lake Watershed was defined at two locations. Information from consultants evaluating adjacent watersheds was used to verify whether or not overtopping watershed flow from Bystre Lake Watershed to adjacent watersheds would be subject to backwater effects, based on their modeling and whether adjacent watersheds would contribute flow into Bystre Lake Watershed. In each case, relatively free outfall conditions are anticipated, and a reasonable constant tailwater stage condition was established using SWFWMD contour data and digital orthography. No flood flow contribution from adjacent watersheds was indicated.

The following potential surface water outfall locations were defined for the watershed:

- Subwatershed H to the Blue Sink Watershed: via roadway overtopping and a small crossdrain under Mondon Hill Road. A time variable stage-history dataset supplied by TBE Inc has been utilized for the Blue Sink tailwater condition. Bystre Lake Watershed will contribute flow to Blue Sink Watershed under 100-year and 500-year flood conditions. Flow time series were supplied to TBE for 100-year and 500-year single and multi-day events.
- Subwatershed G to the Croom Watershed: via overland flow near Richbarn Road. A constant tailwater stage of 77.0 feet-NAVD88 has been assigned. Modeling indicates no watershed interchange up through the 500-year, 5-day event.

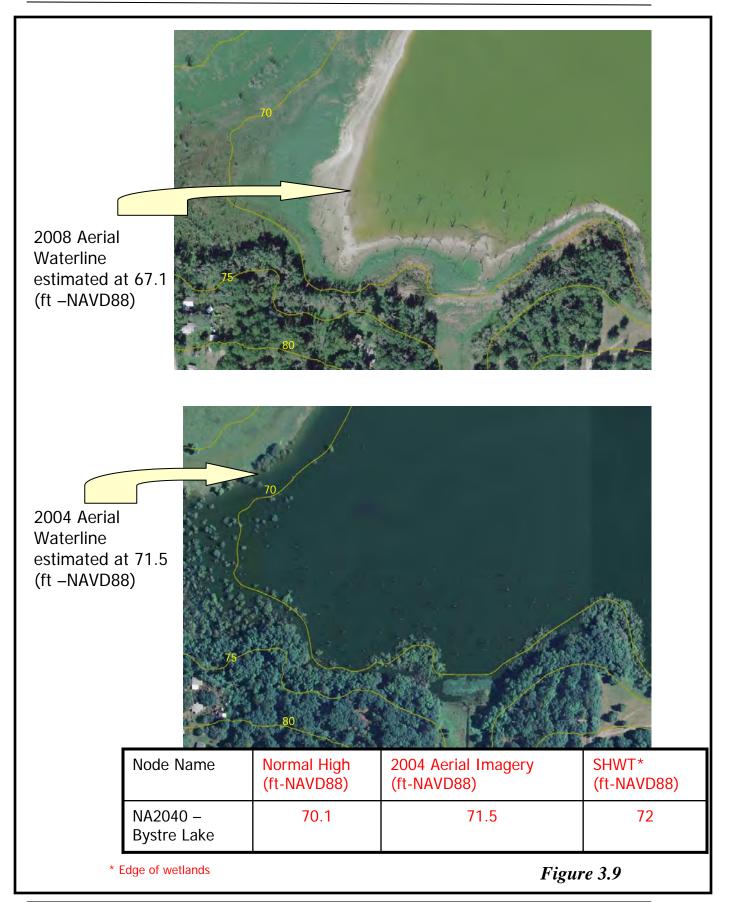
3.10 Initial Water Elevations

For the Bystre Lake Watershed, the 2004 aerials were overlain onto the DTM. The resolution of these aerials is sufficient to distinguish between upland and wetland vegetation. In many instances, a clear distinction between wetland and upland vegetation is visible. This technique is frequently used in the delineation of wetlands for planning purposes. The elevation at which this transition or boundary occurs was read from the DTM and utilized as the starting elevation. This would represent the seasonal high water elevation.

In instances where there is no vegetative indication, surface water boundaries were also used. It is known that in the month and year in which the aerials were flown, the county was experiencing normal to wet conditions, and the use of water surface boundaries would be a good indication of normal water levels within the watershed. In instances where no vegetative or water boundaries were present, the lowest point as indicated by the DTM was used for the starting condition.

ERP data was utilized, as available, for seasonal high water table/starting elevations for stormwater management areas. A final source, September 2004 potentiometric surface maps supplied by SWFWMD, were compared to lowest point values from the DTM to further adjust starting elevations where appropriate.

Starting elevations were determined on a subbasin basis; therefore, each subbasin could theoretically have a different starting elevation. However, this was not universally true as some of the subbasins are hydraulically connected and thus would exhibit the same starting elevation. Figure 3.9 serves as an illustration of starting elevation determination for Bystre Lake (Node NA2040).



4.0 MODEL VALIDATION

Insufficient data were available to either calibrate or verify the model, as previously discussed; however several methods have been applied to validate the reasonableness of simulated flood stages. These methods are described in the following sections.

4.1 Flood Problem Areas

Table 4-1 shows flooding complaints compiled and provided by the SWFWMD. While the complaint records are not an exhaustive account of flooding within the Bystre Lake Watershed, they provide a corroboration of the model results where simulated inundation areas coincide with complaint records. It should be noted that the X-Y coordinates are based on owner property locations and are not necessarily located at the precise flood location. For example, reported flooding at Patrick Street is simulated over the low saddle of the roadway, but the complaint location points provided are not correlated to the low road area. Associated modeled subbasins are therefore noted in the table.

4.2 High Water Mark Database

In addition to flood complaint records, a database of high water marks (October 2009) was supplied by the SWFWMD, containing within the Bystre lake watershed, 195 high water points of various types and sources, ranging from 1949 to 2009. Some marks were of questionable quality due to unknown vertical datum and others represented basin conditions prior to significant hydraulic improvements along major roadways, yet good correlation was observed between simulated and historic high water stages in many areas. In general, 100-year design event flood stages would be expected to be at least as high as observed high water elevation to date. High water marks for the 2004 Hurricane season were also used in conjunction with the Hurricane Frances model simulation to corroborate simulated stages and to estimate discharge through identified sinks. Table 4-2 lists those high water marks recorded from 1960 forward. Point types are defined as follows:

DHW-Design high water	NHW – Normal high water	EHW-Extreme high water
PWL-Present Water level	HW- High water	PEAK- Peak water level
IND- Indicator (typically stat	in lines or bio-indicators)	NR – Not recorded

Table 4-1: Bystre Lake watershed Flooding Complaints								
Location	Owner Name	Date	XCoord	YCoord	Subbasin			
Spring Lake Highway	Lee Ann Owen	07/24/2007	558613.34	1511362.28	A0670			
Artis Property		09/22/1998	555167.37	1513410.28	A0710			
Dauphin Dr/Neff Lake Rd	Anna Messenger	06/15/2004	553414.52	1514223.90	A0010			
Casey Road		11/12/1998	549016.07	1515244.83	A0770			
Casey Road	Dreama Schuler	08/27/2002	548148.86	1515564.39	A0730			
Kaufman Road		10/05/1998	549823.21	1516757.57	A0830			
Mccray Property		09/22/1998	550002.76	1517161.06	A0830			
Garmisch Hills	Dave Millendorf	07/03/2002	538196.51	1518180.11	C0950			
Olymia Road		02/16/1998	558840.28	1519258.69	A1150			
Neff Lake Rd	Marilyn Bates	08/14/2002	552358.64	1521696.51	A1650			
Singer Lane	Gary Weeks	01/28/2003	544410.34	1525006.24	C1275			
Countryside Estates MHP pond	Syl Tenbarge	07/01/2002	552917.93	1526351.02	A1500			
Witmore Property-drainage ditch		12/02/1996	531211.67	1527418.24	C0330			
Mitchell Road	Laray Mott	09/15/2004	531700.68	1528043.86	C0337			
Jersey Lily Restaurant	Earl Ferguson	12/30/1997	531482.19	1528326.35	C1650			
Oxley Road	George Feaster	08/16/2001	534132.20	1528388.56	C0378			
Oxley Road	Dwain Erickson	05/21/2002	533856.35	1528589.41	C0355			
Wpa Rd	Evelyn Henderson	07/10/2002	554923.55	1528935.28	A1960			
Mitchell Road		03/12/1996	531455.36	1529131.40	C0360			
Pasture Lane	Rev Foltz	06/17/2002	541619.43	1530121.92	C2030			
Patrick Street	Steve Maniaci	10/01/2004	542050.97	1540008.42	G1610			
Patrick Street	Steve Maniaci	09/26/2001	542087.56	1540921.34	G1550			

Table 4-1:	Bystre Lake W	atershed Flooding	Complaints
	Dysere Lane ,	attra i looung	Compranto

		Table 4-2. Dystie Lake Watershed I	Elev.		Point	Subbasin
XCoord	YCoord	Source	Ft_NAVD	Event Date	Туре	
537604.720	1529883.880	FDOT 08002-3502	87.84	1964A	PWL	C0520
534784.610	1528399.660	FDOT_08002-3502	99.17	1964A	PWL	C0378
531647.250	1529918.980	 FDOT_08002-3502	112.97	NR	EHW	C0370
532124.200	1532381.690	 FDOT_08002-3502	120.37	NR	EHW	C0395
532808.200	1531210.080	FDOT_08002-3502	110.27	NR	EHW	C0401
533142.220	1530255.740	FDOT 08002-3502	104.67	NR	EHW	C0580
533842.070	1531218.030	FDOT_08002-3502	109.17	NR	EHW	C0560
533481.090	1532657.640	FDOT_08002-3502	125.87	NR	EHW	C0450
535595.510	1533388.270	FDOT_08002-3502	106.97	NR	EHW	C0032
536117.970	1531235.110	FDOT_08002-3502	98.77	NR	EHW	C0040
531679.160	1527556.420	FDOT_08002-3502	110.07	NR	HW	C0330
532063.890	1527570.610	FDOT_08002-3502	113.27	NR	HW	C0340
531647.250	1529918.980	FDOT_08002-3502	111.67	NR	HW	C0370
532098.340	1532477.380	FDOT_08002-3502	125.67	NR	HW	C0390
533142.220	1530255.740	FDOT_08002-3502	99.87	NR	HW	C0580
533985.220	1529866.050	FDOT_08002-3502	97.47	NR	HW	C2700
533026.570	1534922.820	FDOT_08002-3502	152.27	NR	HW	C0425
533185.400	1535181.430	FDOT_08002-3502	157.67	NR	HW	C0420
536117.970	1531235.110	FDOT_08002-3502	97.67	NR	HW	C0040
537604.720	1529883.880	FDOT_08002-3502	94.67	NR	HW	C0520
532808.200	1531210.080	FDOT_08002-3502	106.77	NR	NHW	C0401
533842.070	1531218.030	FDOT_08002-3502	108.67	NR	NHW	C0560
533481.090	1532657.640	FDOT_08002-3502	121.77	NR	NHW	C0450
535595.510	1533388.270	FDOT_08002-3502	104.77	NR	NHW	C0032
535677.330	1525643.240	FDOT_08002-3502	114.17	NR	HW	C0670
535639.150	1524120.140	FDOT_08002-3502	140.17	NR	HW	C0960
536979.720	1528659.920	FDOT_08002-3502	94.57	NR	HW	C0700
531479.827	1532849.098	FDOT_08520-3603	133.77	NR	HW	C3320
532667.325	1531847.831	FDOT_08520-3603	117.17	NR	EHW	C0400

 Table 4-2:
 Bystre Lake Watershed High Water Marks

	Table 4-2: Bystre Lake Watersneu High Water Marks								
			Elev.		Point	Subbasin			
XCoord	YCoord	Source	Ft_NAVD	Event Date	Туре				
532667.325	1531847.831	FDOT_08520-3603	115.07	NR	HW	C0400			
532356.093	1530547.256	FDOT_08520-3603	109.57	NR	EHW	C0380			
532358.037	1530543.980	FDOT_08520-3603	100.57	NR	NHW	C0380			
533552.595	1532399.592	FDOT_08520-3603	123.07	NR	EHW	C0460			
533552.595	1532399.592	FDOT_08520-3603	117.27	NR	NHW	C0460			
532427.812	1532204.807	FDOT_08520-3603	120.97	NR	EHW	C0399			
532427.812	1532204.807	FDOT_08520-3603	118.87	NR	HW	C0399			
532427.812	1532204.807	FDOT 08520-3603	116.60	NR	PWL	C0399			
559523.080	1523067.553	FDOT 08070-3514	67.67	NR	DHW	A1220			
552734.146	1531510.635	SWFWMD Engineering FB#19/1, page 20	80.39	1960	HW	A2040			
551572.691	1528580.598	SWFWMD Engineering FB#19/1, page 21	79.06	1960	HW	A2040			
550983.522	1528299.049	SWFWMD Engineering FB#19/1, page 21	75.02	1974	HW	A2040			
552343.925	1531214.169	SWFWMD Engineering FB#19/1, page 20	70.42	05/06/1980	PWL	A2040			
		SWFWMD Engineering FB#15/3, page 21,				C0255			
532562.398	1515683.477	SWFWMD	103.13	2004	IND				
		SWFWMD Engineering FB#15/3, page 21,				C0255			
532603.213	1515615.701	SWFWMD	103.14	2004	IND				
504004 004	4545400 570	SWFWMD Engineering FB#15/3, page 21,	100.44			C0165			
531864.001	1515489.572	SWFWMD SWFWMD Engineering FB#15/3, page 21,	102.44	NR	IND	C0165			
531864.357	1515446.932	SWFWMD Engineering FB#15/5, page 21,	102.54	NR	IND	0105			
001004.007	1010440.002	SWFWMD Engineering FB#15/3, page 21,	102.04			C0255			
532610.889	1515623.506		102.50	NR	IND	00100			
540715.314	1523650.626	SWFWMD Hydrologic Data Section	90.30	9/6/1988	PEAK	C2900			
551086.377	1532406.772	SWFWMD Hydrologic Data Section	71.39	9/21/1994	PEAK	A2040			
551898.352	1528619.150	SWFWMD Hydrologic Data Section	76.25	9/28/2004	PEAK	A2040			
		SWFWMD, LiDAR referenced elevation from				G0220			
554192.941	1532291.950	photo	75.11	2004	HW				
		SWFWMD, LiDAR referenced elevation from				G1345			
552891.346	1534268.270		75.67	2004	HW	100.10			
FF0 400 000	4500704547	SWFWMD Engineering FB# 15/3, page 53.	70.47	0004		A2040			
552438.690	1528704.517	Gage referenced elevation.	76.47	2004	IND	D0070			
549907.380	1526832.835	SWFWMD Engineering FB# 15/3, page 54.	76.12	2004	IND	B0070			

 Table 4-2:
 Bystre Lake Watershed High Water Marks

		Table 4-2. Dystre Lake Watersheu H	Elev.		Point	Subbasin
XCoord	YCoord	Source	Ft_NAVD	Event Date	Туре	
		LiDAR referenced elevation.			J 1 -	
		SWFWMD Engineering FB# 15/3, page 54.				B0070
549937.189	1526742.332	LiDAR referenced elevation.	76.06	2004	IND	
		SWFWMD, LiDAR referenced elevation from				A1380
550282.340	1523541.981	photo	84.15	1998	HW	
532926.952	1523950.266	SWFWMD Engineering FB#10/11, page 60	106.49	2004	IND	C0740
532925.133	1523958.236	SWFWMD Engineering FB#10/11, page 60	106.52	2004	IND	C0740
532902.874	1523981.191	SWFWMD Engineering FB#10/11, page 60	106.52	2004	IND	C0740
532958.749	1523959.024	SWFWMD Engineering FB#10/11, page 60	106.49	2004	IND	C0740
532965.166	1523958.975	SWFWMD Engineering FB#10/11, page 60	106.52	2004	IND	C0740
532787.963	1523880.411	SWFWMD Engineering FB#10/11, page 60	106.44	2004	IND	C0740
532793.571	1523868.225	SWFWMD Engineering FB#10/11, page 60	106.44	2004	IND	C0740
532769.104	1523876.800	SWFWMD Engineering FB#10/11, page 60	106.45	2004	IND	C0740
533156.799	1525031.854	SWFWMD Engineering FB#15/4, page 11	105.08	2004	IND	C0994
533156.291	1525039.604	SWFWMD Engineering FB#15/4, page 11	105.28	2004	IND	C0994
532940.744	1516801.778	SWFWMD Engineering FB#15/4, page 13	103.31	2004	IND	C0840
532914.268	1516798.350	SWFWMD Engineering FB#15/4, page 13	103.24	2004	IND	C0840
533257.873	1516806.404	SWFWMD Engineering FB#15/4, page 13	103.10	2004	IND	C0860
533253.711	1516828.566	SWFWMD Engineering FB#15/4, page 13	103.27	2004	IND	C0860
533267.119	1516836.637	SWFWMD Engineering FB#15/4, page 13	103.44	2004	IND	C0860
533271.108	1516843.591	SWFWMD Engineering FB#15/4, page 13	103.26	2004	IND	C0860
533599.562	1517354.720	SWFWMD Engineering FB#15/4, page 14	103.04	2004	IND	C0860
533564.814	1517484.998	SWFWMD Engineering FB#15/4, page 14	103.04	2004	IND	C0860
533527.241	1517544.471	SWFWMD Engineering FB#15/4, page 14	103.04	2004	IND	C0860
533626.652	1517426.127	SWFWMD Engineering FB#15/4, page 14	94.09	07/07/2009	PWL	C0860
533284.215	1516805.968	SWFWMD Engineering FB#15/4, page 14	96.71	07/07/2009	PWL	C0860
532007.785	1515960.624	SWFWMD Engineering FB#15/4, page 15	97.09	07/07/2009	PWL	C0840
532077.007	1515815.710	SWFWMD Engineering FB#15/4, page 13	97.61	07/07/2009	PWL	C0255
		LiDAR-derived elev per location from	0.101			C1340
546613.012	1526625.482	landowner: Tammy Schmaltz, 7187 Cedar Ln	77.18	2004	HW	-
		LiDAR-derived elev per location from				C1340
546660.242	1526467.122	landowner: Tammy Schmaltz, 7187 Cedar Ln	77.22	2004	HW	

 Table 4-2:
 Bystre Lake Watershed High Water Marks

	Elev.					Subbasin
XCoord	YCoord	Source	Ft_NAVD	Event Date	Point Type	
555870.921	1518596.518	SWFWMD Engineering FB#15/4, page 16	76.24	2004	IND	A0910
555938.185	1518527.432	SWFWMD Engineering FB#15/4, page 16	76.26	2004	IND	A0910
555961.463	1518389.872	SWFWMD Engineering FB#15/4, page 16	76.26	2004	IND	A0910
555877.805	1518501.186	SWFWMD Engineering FB#15/4, page 16	76.34	2004	IND	A0910
556277.612	1518474.052	SWFWMD Engineering FB#15/4, page 16	76.08	2004	IND	A0910
556233.923	1518411.925	SWFWMD Engineering FB#15/4, page 16	76.18	2004	IND	A0910
556182.393	1518421.832	SWFWMD Engineering FB#15/4, page 17	76.14	2004	IND	A0910
556286.340	1518423.747	SWFWMD Engineering FB#15/4, page 17	76.18	2004	IND	A0910
556357.293	1518638.313	SWFWMD Engineering FB#15/4, page 17	76.08	2004	IND	A0910
556448.585	1518585.606	SWFWMD Engineering FB#15/4, page 17	75.98	2004	IND	A0910
556776.436	1518943.388	SWFWMD Engineering FB#15/4, page 17	74.14	2004	IND	A0940
556948.906	1518872.179	SWFWMD Engineering FB#15/4, page 17	74.48	2004	IND	A0940
556983.242	1518877.595	SWFWMD Engineering FB#15/4, page 17	74.12	2004	IND	A0940
556789.566	1519046.937	SWFWMD Engineering FB#15/4, page 17	74.21	2004	IND	A0940
556267.713	1518598.569	SWFWMD Engineering FB#15/4, page 16	74.88	07/08/2009	PWL	A0910
556918.170	1519100.780	SWFWMD Engineering FB#15/4, page 17	69.32	07/08/2009	PWL	A0940

 Table 4-2:
 Bystre Lake Watershed High Water Marks

4.3 Hurricane Frances (2004)

Although not considered a calibration or verification event, the model input was run under Doppler radar-generated rainfall datasets from Hurricane Frances (2004) to review resultant peak stages for reasonability and comparison to recorded flood complaints and high water marks. A comparison of simulated flood stages at locations with high water or flood complaint data are presented in Table 4-3. Comparison of simulated and observed values shows good correlation for most values (0.2 to 0.9 feet variance). Poorest correlation (underestimation) is observed at Preston Road (NG1345) where the culvert may have become obstructed during the storm and at WPA Road (NG0220). The WPA Road high water mark is cited as the edge of water on the road from a photo, subsequently tied into the DEM using the photo location. Simulated Frances flood stages do approach the low road elevation of 73.1 north of the data point. It is possible the photo location is imprecise. Initial condition assumptions made for design event modeling were typically based on September 2004 potentiometric data and aerial mapping and thus were not adjusted for the Frances simulation.

	10	ble 4-3:	rances High w		
				Frances	
				Simulated	
		Point	HWM Elev.	Peak Stage	
Basin	Node	Туре	Ft_NAVD88	Ft_NAVD88	Comment
A0910	NA0910	IND	76.2	76.4	Lane property
A0910	NA0910	IND	76.3	76.4	Lane property
A0910	NA0910	IND	76.3	76.4	Lane property
A0910	NA0910	IND	76.3	76.4	Lane property
A0910	NA0910	IND	76.1	76.4	Lane property
A0910	NA0910	IND	76.2	76.4	Lane property
A0910	NA0910	IND	76.1	76.4	Lane property
A0910	NA0910	IND	76.2	76.4	Lane property
A0910	NA0910	IND	76.1	76.4	Lane property
A0910	NA0910	IND	76.0	76.4	Lane property
A0940	NA0940	IND	74.1	74.5	Lane property
A0940	NA0940	IND	74.5	74.5	Lane property
A0940	NA0940	IND	74.1	74.5	Lane property
A0940	NA0940	IND	74.2	74.5	Lane property
A2040	NA2040	PEAK	77.1	75.3	HWM is peak recorded stage at gage
A2040	NA2040	IND	76.5	75.3	Bystre Lake
B0070	NB0070	IND	76.1	75.3	
B0070	NB0070	IND	76.1	75.3	
G0220	NG0220	HW	75.1	72.4	Edge of water C/L WPA Rd
G1345	NG1345	HW	75.7	68.4	Edge of water C/L Preston Rd
G1550	NG1550	FC		76.0	Reported flooding of Patrick Rd – low elev =75.7 ft NAVD88
C0255	NC0255	IND	103.1	102.9	2007 source date, McAteer property
C0255	NC0255	IND	103.1	102.9	2007 source date, McAteer property
C0740	NC0740	IND	106.5	106.5	Dorsett property

 Table 4-3:
 Hurricane Frances High Water Marks

				Frances Simulated	
		Point	HWM Elev.	Peak Stage	
Basin	Node	Туре	Ft_NAVD88	Ft_NAVD88	Comment
C0740	NC0740	IND	106.5	106.5	Dorsett property
C0740	NC0740	IND	106.5	106.5	Dorsett property
C0740	NC0740	IND	106.5	106.5	Dorsett property
C0740	NC0740	IND	106.5	106.5	Dorsett property
C0740	NC0740	IND	106.4	106.5	Dorsett property
C0740	NC0740	IND	106.4	106.5	Dorsett property
C0740	NC0740	IND	106.5	106.5	Dorsett property
C0994	NC0994	IND	105.1	106.4	Dorsett property rock pit
C0994	NC0994	IND	105.3	106.4	Dorsett property rock pit
C0840	NC0840	IND	103.3	102.8	2009 field review, McAteer property
C0840	NC0840	IND	103.2	102.8	2009 field review, McAteer property
C0860	NC0858	IND	103.1	102.8	2009 field review, McAteer property
C0860	NC0858	IND	103.3	102.8	2009 field review, McAteer property
C0860	NC0858	IND	103.3	102.8	2009 field review, McAteer property
C0860	NC0858	IND	103.4	102.8	2009 field review, McAteer property
C0860	NC0858	IND	103.0	102.8	2009 field review, McAteer property
C0860	NC0858	IND	103.0	102.8	2009 field review, McAteer property
C0860	NC0858	IND	103.0	102.8	2009 field review, McAteer property
C1340	NC1340	HW	77.2	78.6	Landowner estimate tied to LiDAR
C1340	NC1340	HW	77.2	78.6	Landowner estimate tied to LiDAR

G2095

5.0 JUSTIFICATION

For the justification of Bystre Lake Watershed floodplain, URS evaluated various 100-year storm events. In most subbasin areas, the 100-year, 24-hour event was used if no high water mark or other irrefutable flood data were available to compare with model results. The 100-year, 24 hour event also correlated well with existing high water marks in many subbasins.

The 100-year, multi-day event was applied to large closed subbasins and hydraulically connected systems of similar hydrology (i.e. poorly draining soils and similar land cover). The Bystre Lake subbasin (A2040), had high water marks recorded above the 100-year, 24-hour simulated stage. The multi-day event was also applied to the Griffin Prairie region. The 100-year, 5-day event was selected to represent the multi-day scenario since it was used in previous model evaluations and had reasonable correlation to the high water mark data. Figure 5.1 identifies the subbasins proposed for flood stage delineation using multi-day versus single-day rainfall events.

The following 82 subbasins were mapped using the 5-day event:

• A0940	• A1930	
 A0950 	 A1940 	• C1490
 A0970 	 A1960 	• C2900
 A1145 	 A1970 	 C2950
 A1150 	 A1980 	• C3100
 A1190 	 A1990 	• C3110
 A1215 	 A1995 	• C3120
 A1240 	 A2030 	• F0040
 A1248 	 A2030 A2040 	• G0030
 A1470 	 A2230 	• G0040
 A1490 	 B0010 	• G0050
A1490A1500	B0040	• G0110
 A1500 A1520 	 B0040 B0050 	• G0160
A1520A1540	B0030B0070	• G0170
	B0070B0080	• G0220
A1730A1740	 C0620 	• G0220 • G1240
• A1750	• C0650	• G1270
 A1760 A1770 	• C0700	• G1280
 A1770 	• C0910	• G1300
• A1775	• C0940	• G1310
• A1780	• C0950	• G1345
• A1790	• C0960	• G1870
 A1850 	• C0985	• G1990
 A1860 	• C0990	• G2030
 A1880 	• C1212	• G2040
• A1900	• C1215	• G2050
• A1920	• C1470	• G2085

5.1 Comparison of Storm Events and High Water Marks

As part of the multi-day event evaluation, several 100-year return frequency events were simulated with various durations. Table 5-1 shows the comparison of peak 100-year stage for all Bystre Lake Watershed subbasins with high water mark data.

Appendix A contains a similar comparison of peak nodal stages for all simulated 100-year events, regardless of whether high water mark data were available.

	NM denotes "Not Modeled"								
Node	SWFWMD 100 YR 24 Hour (FT NAVD88)	SWFWMD 100 YR 3 Day (FT – NAVD88)	SWFWMD 100 YR 5 Day (FT – NAVD88)	SWFWMD 100 YR 7 Day (FT – NAVD88)	Туре	High Water Mark (FT – NAVD88)	Location		
NA0910	77.90	77.13	77.75	77.06	PWL	74.88	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.24	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.26	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.26	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.34	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.08	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.18	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.14	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.18	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	76.08	Lane Property		
NA0910	77.90	77.13	77.75	77.06	IND	75.98	Lane Property		
NA0940	76.31	75.34	76.11	75.27	PWL	69.32	Lane Property		
NA0940	76.31	75.34	76.11	75.27	IND	74.14	Lane Property		
NA0940	76.31	75.34	76.11	75.27	IND	74.48	Lane Property		
NA0940	76.31	75.34	76.11	75.27	IND	74.12	Lane Property		
NA0940	76.31	75.34	76.11	75.27	IND	74.21	Lane Property		
NA1220	67.21	68.82	67.94	70.13	DHW	67.67	Cortez Blvd (SR50)@ Old Mondon Hill Road		
NA1380	84.74	84.55	84.74	84.53	HW	84.15	Holden Dr @ Sun Hill Ln		
NA2040	77.47	77.79	78.17	78.48	HW	75.02	Bystre Lake		
NA2040	77.47	77.79	78.17	78.48	HW	79.06	Bystre Lake		
NA2040	77.47	77.79	78.17	78.48	PEAK	76.25	Bystre Lake		
NA2040	77.47	77.79	78.17	78.48	IND	76.47	Bystre Lake		
NA2040	77.47	77.79	78.17	78.48	PWL	70.42	Bystre Lake		
NA2040	77.47	77.79	78.17	78.48	HW	80.39	Bystre Lake		
NA2040	77.47	77.79	78.17	78.48	PEAK	71.39	Bystre Lake		
NB0070	77.47	77.79	78.16	78.47	IND	76.06	Cortez Blvd(SR50) west of Lang St		

Table 5-1:	Comparison of Storm Events with High Water Marks
	NM denotes "Not Modeled"

	NM denotes "Not Modeled"								
	SWFWMD	SWFWMD	SWFWMD	SWFWMD		High Water			
Node	100 YR 24 Hour (FT NAVD88)	100 YR 3 Day (FT - NAVD88)	100 YR 5 Day (FT – NAVD88)	100 YR 7 Day (FT – NAVD88)	Туре	Mark (FT – NAVD88)	Location		
Tiouc		$(\mathbf{\Gamma} \mathbf{I} - \mathbf{I} \mathbf{A} \mathbf{V} \mathbf{D} 0 0)$	$(\mathbf{F}\mathbf{I} - \mathbf{N}\mathbf{A} \vee \mathbf{D}00)$	$(\mathbf{F}\mathbf{I} - \mathbf{N}\mathbf{A} \vee \mathbf{D}00)$	Турс	$(\mathbf{\Gamma} \mathbf{I} - \mathbf{I} \mathbf{A} \mathbf{V} \mathbf{D} 0 0)$	Cortez Blvd(SR50) west of Lang		
NB0070	77.47	77.79	78.16	78.47	IND	76.12	St		
NC0032	107.55	105.58	106.97	104.94	EHW	106.97	Power easement north of Tanglewood Dr		
NC0032	107.55	105.58	106.97	104.94	NHW	104.77	Power easement north of Tanglewood Dr		
NC0040	98.04	97.84	97.95	97.82	EHW	98.77	Jefferson St (SR50A) nr Kennedy Blvd		
NC0040	98.04	97.84	97.95	97.82	НW	97.67	Jefferson St (SR50A) nr Kennedy Blvd		
NC0165	104.02	104.69	104.60	105.01	IND	102.54	McAteer property		
NC0165	104.02	104.69	104.60	105.01	IND	102.44	McAteer property		
NC0255	104.02	104.69	104.60	105.01	IND	103.14	McAteer property		
NC0255	104.02	104.69	104.60	105.01	IND	102.5	McAteer property		
NC0255	104.02	104.69	104.60	105.01	IND	103.13	McAteer property		
NC0255	104.02	104.69	104.60	105.01	PWL	97.61	McAteer property-pond		
NC0265	104.02	104.69	104.61	105.01	PWL	97.09	McAteer property-ditch		
NC0330	113.46	110.14	112.64	109.74	HW	110.07	Mitchell Road		
NC0340	113.42	109.46	111.79	108.83	HW	113.27	RR east of Mitchell Rd		
NC0370	114.69	112.85	114.46	112.47	EHW	112.97	Main St (CR445)		
NC0370	114.69	112.85	114.46	112.47	HW	111.67	Main St (CR445)		
NC0378	99.54	95.74	97.88	95.46	PWL	99.17	Cortez Blvd west of Emerson		
NC0380	112.61	107.76	111.66	106.99	NHW	100.57	RR culvert		
NC0380	112.61	107.76	111.66	106.99	EHW	109.57	Ditch south of Russell St & east of Main St		
NC0390	128.23	124.31	126.79	123.77	HW	125.67	Ditch south of Russell St & east of Main St		
NC0395	123.51	120.04	122.42	119.43	EHW	120.37	Ditch south of Russell St & east of Main St		
NC0399	123.06	119.54	122.03	118.99	EHW	120.97	Ditch south of Russell St & east of Main St		

Table 5-1: Comparison of Storm Events with High Water Marks NM denotes "Not Modeled"

	NM denotes "Not Modeled"								
Node	SWFWMD 100 YR 24 Hour	SWFWMD 100 YR 3 Day	SWFWMD 100 YR 5 Day	SWFWMD 100 YR 7 Day	Type	High Water Mark	Location		
noue	(FT NAVD88)	(FT – NAVD88)	(FT – NAVD88)	(FT – NAVD88)	Туре	(FT – NAVD88)	Ditch south of Russell St & east		
NC0399	123.06	119.54	122.03	118.99	НW	118.87	of Main St		
NC0399	123.06	119.54	122.03	118.99	PWL	116.6	Ditch south of Russell St & east of Main St		
NC0400	113.78	112.95	113.59	112.72	EHW	117.17	Ditch south of Scott St @ Hazel Ave		
NC0400	113.78	112.95	113.59	112.72	HW	115.07	Ditch south of Scott St @ Hazel Ave		
NC0401	111.61	105.95	108.48	105.52	EHW	110.27	MLK Jr Blvd E. nr Hazel Ave		
NC0401	111.61	105.95	108.48	105.52	NHW	106.77	MLK Jr Blvd E. nr Hazel Ave		
NC0420	152.20	148.85	150.16	148.61	HW	157.67	Ft Dade Ave E. (CR 484)		
NC0425	150.00	146.21	148.21	145.9	HW	152.27	Jefferson St (SR50A) east of Bell Ave		
NC0450	123.74	120.73	123.21	119.77	EHW	125.87	ACL Street west of JeffersonSt		
NC0450	123.74	120.73	123.21	119.77	NHW	121.77	ACL Street west of JeffersonSt		
NC0460	117.06	114.33	116.59	113.68	EHW	123.07	South Street west of Jefferson St		
NC0460	117.06	114.33	116.59	113.68	NHW	117.27	South Street west of Jefferson St		
NC0520	92.01	91.74	92.71	92.44	HW	94.67	Cortez Blvd (SR50) west of Jefferson St.		
NC0520	92.01	91.74	92.71	92.44	PWL	87.84	Cortez Blvd (SR50) west of Jefferson St.		
NC0560	103.80	101.68	103.09	101.13	EHW	109.17	MLK Jr Blvd E. east of Twigg St		
NC0560	103.80	101.68	103.09	101.13	NHW	108.67	MLK Jr Blvd E. east of Twigg St		
NC0580	102.23	101.61	101.80	101.46	EHW	104.67	Josephine St		
NC0580	102.23	101.61	101.80	101.46	HW	99.87	Josephine St		
NC0670	118.63	112.69	113.76	112.41	HW	114.17	Emerson Rd (CR581) north of Mitchell Rd		
NC0700	92.01	91.74	92.71	92.44	HW	94.57	South of Cortez Blvd (SR50)		
NC0740	109.43	111.06	109.84	112.2	IND	106.49	Dorsett Property		
NC0740	109.43	111.06	109.84	112.2	IND	106.52	Dorsett Property		
NC0740	109.43	111.06	109.84	112.2	IND	106.52	Dorsett Property		

Table 5-1: Comparison of Storm Events with High Water Marks NM denotes "Not Medaled" Not Medaled"

	NM denotes "Not Modeled"									
	SWFWMD	SWFWMD	SWFWMD	SWFWMD		High Water				
Node	100 YR 24 Hour	100 YR 3 Day	100 YR 5 Day	100 YR 7 Day	Tuno	Mark	Location			
NC0740	(FT NAVD88)	(FT – NAVD88)	(FT – NAVD88)	(FT – NAVD88)	Туре	(FT – NAVD88)				
	109.43	111.06	109.84	112.2	IND	106.49	Dorsett Property			
NC0740	109.43	111.06	109.84	112.2	IND	106.52	Dorsett Property			
NC0740	109.43	111.06	109.84	112.2	IND	106.44	Dorsett Property			
NC0740	109.43	111.06	109.84	112.2	IND	106.44	Dorsett Property			
NC0740	109.43	111.06	109.84	112.2	IND	106.45	Dorsett Property			
NC0960	92.01	91.74	92.71	92.45	НW	140.17	Emerson Rd (CR581) south of Mitchell Rd			
NC0994	109.42	NM	109.83	NM	IND	105.08	Dorsett Property rock pit			
NC0994	109.42	NM	109.83	NM	IND	105.28	Dorsett Property rock pit			
NC0840	104.02	104.69	104.60	105.01	IND	103.31	McAteer property			
NC0840	104.02	104.69	104.60	105.01	IND	103.24	McAteer property			
NC0858	103.98	104.68	104.59	104.99	IND	103.1	McAteer property			
NC0858	103.98	104.68	104.59	104.99	IND	103.27	McAteer property			
NC0858	103.98	104.68	104.59	104.99	IND	103.44	McAteer property			
NC0858	103.98	104.68	104.59	104.99	IND	103.26	McAteer property			
NC0858	103.98	104.68	104.59	104.99	IND	103.04	McAteer property			
NC0858	103.98	104.68	104.59	104.99	IND	103.04	McAteer property			
NC0858	103.98	104.68	104.59	104.99	IND	103.04	McAteer property			
NC0858	103.98	104.68	104.59	104.99	PWL	94.09	McAteer property			
NC0858	103.98	104.68	104.59	104.99	PWL	96.71	McAteer property			
NC1340	80.54	NM	80.59	NM	HW	77.18	Schmaltz property			
NC1340	80.54	NM	80.59	NM	HW	77.22	Schmaltz property			
NC2700	101.22	100.56	100.95	100.1	HW	97.47	Newgate St east of Twigg St			
NC2900	92.00	91.73	92.71	92.44	PEAK	90.3	Irvin Lake			
NC3320	133.19	131.64	132.62	131.14	HW	133.77	Central Ave west of Main St			
NG0220	77.43	71.29	77.98	76.76	HW	75.11	WPA Road south of O'Neill Rd			
NG1345	77.44	74.94	77.99	77.28	HW	75.67	Preston Road north of Mondon Hill Rd (CR484)			

Table 5-1: Comparison of Storm Events with High Water Marks NM denotes "Not Modeled"

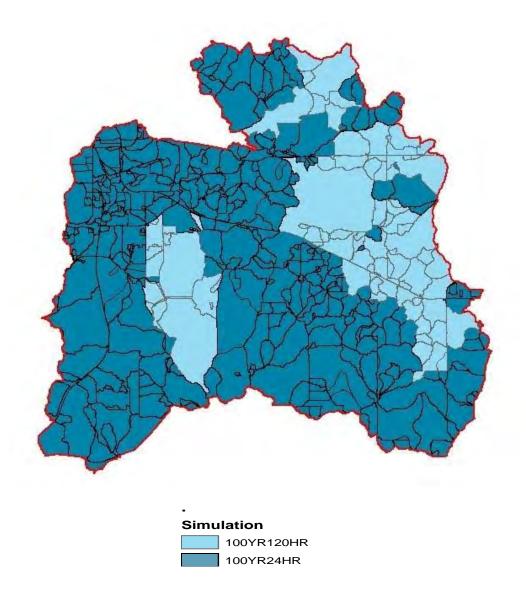


Figure 5.1 Rainfall Events Utilized in Floodplain Delineation

6.0 FLOODPLAIN DELINEATION

Based on physical parameters, the ICPR model produces stage elevation data for the various storm events for nodes throughout the watershed. Each subbasin was processed to determine the areal extent of flood mapping through comparison of nodal flood stages to the DEM. Preliminary floodplains were plotted for single day and multiday events and compared to high water mark data to identify the most appropriate storm event.

Floodplain delineation is based on several factors, depending on the terrain. For closed and semi-closed subbasins, level pool flood stages are assigned throughout the subbasin. For channel systems, flood zone extent is based on flood stages at each channel node, with flood stages interpolated between channel nodes based on modeled channel flow depth and the terrain. Transition flood zone is delineated to denote shallow overland flow paths where flooded depressions overtop and spillover to the next downstream pool. The extent of transition flood zone is determined using engineering judgment with consideration of peak flow being carried and underlying terrain.

The 100-year, 24-hour storm event was selected for the proposed floodplain throughout most of the watershed, being considered as providing reasonable indication of flood hazard. The 120-hour duration event was applied to large closed basins, the Bystre Lake subbasin (A2040) being the most notable, where high water marks were recorded above the 100-year, 24-hour simulated stage and to subbasins that were hydraulically connected and of similar hydrology (i.e. poorly draining soils and similar land cover). The multi-day event was applied as well to the Griffin Prairie region. The 100-year, 5-day event was selected to represent the multi-day scenario since it was used in previous model evaluations and had reasonable correlation to the high water mark data. Figure 5.1 identifies the subbasins proposed for flood stage delineation using multi-day versus single-day rainfall events.

The resultant 2010 floodplain map presented in Figure 6.1-1 is an inundation graphic representing a combination of 1-day and multi-day peak flood elevations. The eighty-two (82) multi-day subbasins shown in Figure 5-1 are listed specifically in Section 5.0 of this report. The total acreage of 2010 modeled floodplain (Figure 6.1-1) is 4,200 acres which comprises both the base flood and transition flood zone designations.

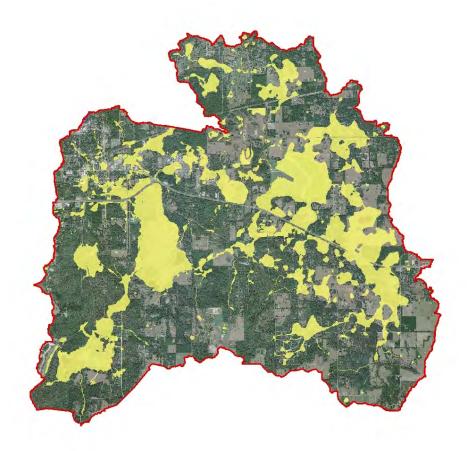


Figure 6.1-1 2010 Modeled Floodplain

6.1 Comparison to FEMA BFE

The currently effective FEMA floodplain (Figure 6.1-2) shows a total floodplain area within the watershed to be approximately 1,644 acres. The comparison shows an increase in the total area that is considered to be within the 100-year floodplain. The 2010 model, utilizing the techniques outlined in this report, shows a total zone AE floodplain area of approximately 4,094 acres. Estimated and transitional floodplain zones comprise an additional 106 acres (refer to Table 6-1). The majority of the new floodplain area is associated with ponds, depression areas and transitional flow areas that were not mapped previously by FEMA.

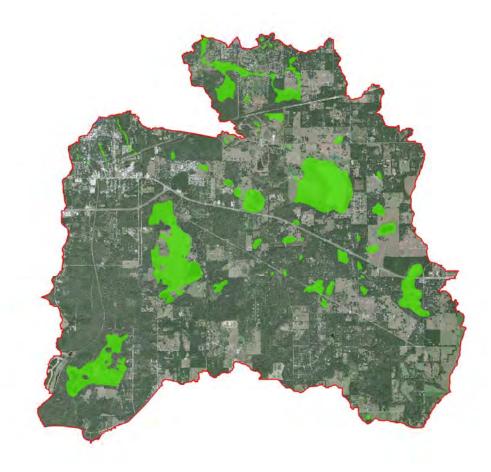


Figure 6.1-2 Existing FEMA Floodplain

14510 0 11	1 loouplain (Joinparison
Floodplain	Area	Area
	(acres)	(sq. miles)
FEMA	1,645	2.57
2006	5,602	8.75
2010	4,200	6.56

Table 6-1:	Floodplain	Comparison
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7.0 CONCLUSIONS

URS has updated the Bystre Lake Watershed model utilizing the Green-Ampt methodology and percolation as an outfall for predominantly HSG A soil areas and comparisons to high water marks to evaluate various 100-year storm events for developing the floodplain. In most subbasin areas, the 100-year, 24-hour event was used if no high water mark or irrefutable flood data was available to compare with model results. The 100-year, multi-day event was used for 82 subbasins, generally the larger closed basin areas that had high water mark data that provided better stage match than the 100-year, 24-hour event and hydrologically similar basins with hydraulic connections to those basins. The 100-year, 5-day event was selected to represent the

multi-day scenario because it was used in previous model evaluations and had better correlation to the high water mark data.

The mapped floodplain represents the culmination of a physically-based, dynamic hydrologic and hydraulic model and the best available terrain data.

Due to limited gage data within the watershed, there is a need for additional monitoring of lake levels and known flood areas within the watershed, especially following major storm or El Nino type events. The need for additional monitoring is supported by the following:

- The majority of the Bystre Lake watershed is closed or semi-closed basins
- There is significant depression storage within the watershed
- There are significant areas of HSG A soils

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APPENDIX A

	(Note: NM denotes "N 100YR1D	100YR3D	100YR5D	100YR7D
NODE	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)
NA0005	198.35	197.89	198.12	197.84
NA0010	153.24	151.01	152.61	150.72
NA0030	139.79	138.26	139.40	138.08
NA0040	123.98	120.46	122.85	120.11
NA0600	160.53	160.30	160.39	160.29
NA0610	174.86	174.31	173.96	174.28
NA0620	161.59	161.27	161.41	161.25
NA0630	77.74	76.05	76.59	76.33
NA0640	185.73	185.24	185.49	185.27
NA0650	175.07	NM	174.98	NM
NA0660	200.71	201.67	201.69	201.68
NA0667	114.57	112.82	113.90	112.64
NA0670	153.84	151.94	153.20	152.39
NA0680	187.75	187.49	187.63	187.57
NA0690	116.19	113.70	115.40	113.40
NA0700	87.98	86.87	87.57	86.86
NA0710	87.99	86.87	87.58	86.87
NA0715	208.95	209.77	210.55	211.40
NA0720	85.11	84.04	84.76	84.00
NA0730	120.81	120.40	120.63	119.22
NA0740	125.14	124.76	125.06	124.74
NA0745	121.36	120.44	121.28	120.43
NA0746	116.38	NM	116.30	NM
NA0747	109.03	NM	108.93	NM
NA0748	99.46	NM	99.34	NM
NA0749	96.03	NM	95.91	NM
NA0750	106.66	106.00	106.51	105.97
NA0751	92.96	NM	92.65	NM
NA0760	113.13	112.72	113.02	112.70
NA0770	110.51	106.96	109.77	106.32
NA0773	122.61	NM	122.01	NM
NA0774	106.45	NM	106.23	NM
NA0775	107.86	104.35	106.64	104.16
NA0776	106.13	NM	104.88	NM
NA0777	103.57	NM	102.75	NM
NA0778	99.70	NM	98.90	NM
NA0779	95.49	NM	94.71	NM
NA0780	93.42	NM	92.94	NM
NA0820	163.73	163.46	163.58	163.44
NA0830	92.93	92.04	92.63	91.96
NA0840	92.90	92.04	92.60	91.96
NA0860	89.27	88.17	88.91	88.07
NA0870	85.82	83.66	85.13	83.45
NA0880	71.50	73.36	72.78	74.20

Comparison of Node Results for Four 100-Year Return Frequency Simulations (Note: NM denotes "Not Modeled")				
NODE	100YR1D (Ft NAVD)	100YR3D (Ft NAVD)	100YR5D (Ft NAVD)	100YR7D (Ft NAVD)
NA0890	107.01	106.86	106.97	106.84
NA0900	85.65	85.38	85.58	85.34
NA0910	77.90	77.13	77.75	77.06
NA0920	83.61	82.81	83.31	82.77
NA0925	83.35	80.92	82.37	80.81
NA0926	80.75	NM	79.60	NM
NA0927	77.22	NM	76.92	NM
NA0928	75.11	NM	74.81	NM
NA0930	78.97	78.82	78.92	78.80
NA0940	76.31	75.34	76.11	75.27
NA0950	73.93	73.28	74.43	73.70
NA0960	86.74	87.10	87.24	87.21
NA0970	71.71	71.55	74.43	73.70
NA0990	105.74	106.02	105.44	106.47
NA1000	90.29	90.38	90.18	90.44
NA1020	86.09	85.89	85.65	85.91
NA1140	73.55	72.09	74.43	73.70
NA1145	73.30	NM	74.43	NM
NA1150	72.42	72.02	74.43	73.70
NA1160	86.77	87.63	86.60	88.04
NA1170	110.42	111.15	110.51	111.45
NA1190	71.74	71.57	74.43	73.70
NA1200	67.23	68.82	67.94	70.13
NA1210	93.69	93.70	93.68	93.69
NA1215	71.72	71.56	74.43	73.70
NA1220	67.21	68.82	67.94	70.13
NA1230	67.09	68.82	67.94	70.13
NA1240	70.68	71.30	74.43	73.08
NA1248	71.71	71.55	74.43	73.70
NA1250	71.00	73.06	71.60	73.05
NA1260	80.96	81.62	82.36	82.76
NA1280	119.06	118.84	118.89	118.81
NA1290	170.51	170.32	170.39	170.31
NA1319	87.61	87.28	87.59	87.23
NA1320	87.58	87.25	87.55	87.21
NA1330	101.35	101.34	101.48	101.57
NA1340	91.75	91.80	91.84	91.79
NA1350	87.56	87.25	87.54	87.21
NA1360	87.55	87.24	87.53	87.20
NA1380	84.74	84.55	84.74	84.53
NA1390	81.44	81.23	81.44	81.21
NA1400	80.77	80.87	81.04	80.84
NA1410	80.77	80.87	81.04	80.84
NA1420	80.77	80.87	81.04	80.84

Comparison	of Node Results for I (Note: NM denotes "N		eturn Frequency	Sillulations
	100YR1D	100YR3D	100YR5D	100YR7D
NODE	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)
NA1430	77.40	77.56	77.71	77.78
NA1440	77.40	77.56	77.71	77.78
NA1450	77.40	77.56	77.71	77.78
NA1460	77.40	77.56	77.71	77.78
NA1470	72.73	73.64	74.45	75.69
NA1480	77.40	77.56	77.71	77.78
NA1490	70.68	71.03	74.43	73.72
NA1500	70.68	71.03	74.43	73.72
NA1510	76.17	76.14	76.23	76.12
NA1520	70.68	71.03	74.43	73.72
NA1540	70.68	71.03	74.43	73.72
NA1560	85.87	85.61	85.77	85.57
NA1570	80.77	80.84	81.13	80.85
NA1580	84.32	84.26	84.40	84.22
NA1600	84.33	84.26	84.40	84.22
NA1610	83.31	83.16	83.32	83.12
NA1630	80.77	80.83	81.11	80.84
NA1640	80.76	80.83	81.11	80.84
NA1650	80.76	80.83	81.11	80.84
NA1660	80.75	80.82	81.09	80.82
NA1670	79.63	79.55	79.61	79.54
NA1690	73.66	74.85	76.16	76.37
NA1700	73.66	74.85	76.16	76.37
NA1710	70.05	72.06	71.78	75.48
NA1720	73.66	74.85	76.16	76.36
NA1730	71.64	71.52	74.43	73.70
NA1740	71.60	71.50	74.43	73.70
NA1750	78.73	78.65	78.81	78.61
NA1760	71.77	71.60	74.43	73.71
NA1770	71.60	70.92	74.43	73.71
NA1775	70.68	NM	74.43	NM
NA1780	70.68	71.03	74.43	73.72
NA1790	70.68	71.03	74.43	73.71
NA1850	70.68	71.03	74.43	73.71
NA1860	70.68	71.03	74.43	73.71
NA1880	70.68	71.03	74.43	73.71
NA1900	70.68	71.03	74.43	73.72
NA1920	65.21	64.93	74.43	73.73
NA1930	64.13	62.56	74.43	73.73
NA1940	73.31	74.23	76.07	76.66
NA1960	73.90	74.33	76.08	76.68
NA1970	76.56	76.89	76.93	76.91
NA1980	71.58	73.93	76.10	76.71
NA1990	71.58	73.93	76.10	76.71

Comparison of	of Node Results for 1 (Note: NM denotes "N		eturn Frequency	Simulations
	100YR1D	100YR3D	100YR5D	100YR7D
NODE	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)
NA1995	71.58	73.93	76.11	76.72
NA2030	71.58	73.93	76.11	76.73
NA2031	97.77	NM	97.71	NM
NA2032	92.16	98.20	92.10	98.08
NA2033	89.16	NM	89.10	NM
NA2034	85.33	NM	86.32	NM
NA2035	85.33	86.46	86.32	86.43
NA2040	77.47	77.79	78.17	78.48
NA2100	85.22	85.07	85.22	85.04
NA2200	80.77	80.87	81.04	80.84
NA2210	80.76	80.86	81.03	80.84
NA2220	82.27	82.09	82.28	82.04
NA2230	71.62	71.51	74.43	73.70
NB0010	78.23	78.28	78.32	78.47
NB0030	82.50	82.80	82.83	83.33
NB0040	79.81	79.78	79.86	79.76
NB0050	77.47	77.79	78.16	78.47
NB0070	77.47	77.79	78.16	78.47
NB0080	77.47	77.79	78.16	78.48
NC0000	195.02	195.02	195.04	195.02
NC0001	150.33	149.43	150.01	149.25
NC0005	145.77	145.55	145.65	145.53
NC0010	140.52	133.93	136.56	133.67
NC0020	139.08	133.23	135.99	132.82
NC0023	133.32	131.76	132.62	131.59
NC0026	124.57	119.14	121.87	118.64
NC0028	119.88	117.98	118.95	117.42
NC0029	114.48	NM	113.55	NM
NC0030	113.50	107.05	113.04	106.17
NC0032	107.55	105.58	106.97	104.94
NC0040	98.04	97.84	97.95	97.82
NC0050	103.18	102.30	102.68	102.25
NC0055	99.09	98.78	98.87	98.76
NC0060	98.76	98.26	98.52	98.17
NC0065	97.56	96.97	97.67	96.79
NC0067	96.48	NM	96.69	NM
NC0070	99.72	99.72	99.75	99.72
NC0080	99.08	98.41	98.77	98.32
NC0090	96.46	96.17	96.66	96.10
NC0092	96.43	NM	96.60	NM
NC0100	190.03	188.65	189.46	188.57
NC0101	187.01	NM	186.94	NM
NC0103	157.72	NM	157.62	NM
NC0105	140.69	NM	140.59	NM

Comparison o	of Node Results for 1 (Note: NM denotes "N		eturn Frequency	Simulations
	100YR1D	100YR3D	100YR5D	100YR7D
NODE	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)
NC0107	121.41	NM	121.26	NM
NC0109	110.88	NM	110.79	NM
NC0110	98.54	96.17	98.02	96.10
NC0120	109.35	108.79	109.15	108.74
NC0130	115.02	114.83	116.11	114.81
NC0140	117.91	117.50	117.68	117.46
NC0146	104.02	104.69	104.60	105.01
NC0150	104.03	104.70	104.61	105.01
NC0160	104.03	104.70	104.61	105.01
NC0165	104.02	104.69	104.60	105.01
NC0170	112.69	112.93	113.17	113.21
NC0180	104.03	104.70	104.61	105.01
NC0190	111.12	110.60	110.89	110.54
NC0210	167.43	167.06	167.23	167.07
NC0220	114.81	114.54	114.67	114.51
NC0240	104.02	104.69	104.60	105.01
NC0250	104.02	104.69	104.60	105.01
NC0255	104.02	104.69	104.60	105.01
NC0265	104.02	104.69	104.61	105.01
NC0275	145.40	145.23	145.30	145.21
NC0280	206.91	206.98	207.01	207.00
NC0290	109.44	111.06	109.84	112.20
NC0300	109.44	111.06	109.84	112.20
NC0315	133.33	132.89	133.08	132.85
NC0320	126.48	123.88	124.90	123.55
NC0330	113.46	110.14	112.64	109.74
NC0335	103.32	103.81	104.45	104.75
NC0337	114.73	111.75	113.45	111.66
NC0340	113.42	109.46	111.79	108.83
NC0345	105.39	102.60	104.97	101.92
NC0355	105.27	104.78	105.02	104.71
NC0360	112.62	110.46	111.66	110.38
NC0370	114.69	112.85	114.46	112.47
NC0375	98.72	96.93	97.42	96.99
NC0376	98.72	96.93	97.42	96.99
NC0378	99.54	95.74	97.88	95.46
NC0380	112.61	107.76	111.66	106.99
NC0385	130.64	128.16	129.67	127.97
NC0390	128.23	124.31	126.79	123.77
NC0393	126.96	122.65	124.85	122.16
NC0394	124.80	121.59	123.56	121.30
NC0395	123.51	120.04	122.42	119.43
NC0398	117.97	116.97	117.77	116.82
NC0399	123.06	119.54	122.03	118.99

Comparison o	of Node Results for 1 (Note: NM denotes "N		eturn Frequency	Simulations
	100YR1D	100YR3D	100YR5D	100YR7D
NODE	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)
NC0400	113.78	112.95	113.59	112.72
NC0401	111.61	105.95	108.48	105.52
NC0402	106.08	104.18	105.12	103.99
NC0404	104.98	NM	104.33	NM
NC0410	160.56	156.88	158.20	156.67
NC0420	152.20	148.85	150.16	148.61
NC0425	150.00	146.21	148.21	145.90
NC0428	145.22	140.70	142.89	140.35
NC0429	142.86	139.90	141.42	139.70
NC0430	132.81	125.84	130.56	125.37
NC0431	135.34	NM	133.59	NM
NC0434	127.70	NM	127.70	NM
NC0435	113.51	107.08	113.05	106.29
NC0438	128.98	125.36	127.14	125.04
NC0440	126.75	124.34	126.14	123.80
NC0450	123.74	120.73	123.21	119.77
NC0455	118.89	116.17	118.00	115.76
NC0458	121.27	NM	120.87	NM
NC0460	117.06	114.33	116.59	113.68
NC0465	115.50	112.52	114.37	112.23
NC0480	110.39	104.96	106.89	104.62
NC0485	106.90	104.44	105.81	104.17
NC0490	96.27	94.81	95.96	94.65
NC0500	96.27	94.46	95.78	94.01
NC0510	94.50	91.74	92.71	92.44
NC0520	92.01	91.74	92.71	92.44
NC0530	97.06	93.76	95.58	93.66
NC0535	105.72	105.51	105.66	105.48
NC0540	104.58	103.49	104.24	103.44
NC0550	98.79	96.04	98.12	95.76
NC0555	99.40	99.35	99.42	99.41
NC0560	103.80	101.68	103.09	101.13
NC0565	102.31	101.25	102.01	100.89
NC0570	104.53	103.26	104.17	102.81
NC0580	102.23	101.61	101.80	101.46
NC0585	101.61	100.83	101.25	100.59
NC0590	101.17	100.44	100.89	99.89
NC0594	106.04	106.10	106.14	106.10
NC0598	101.13	100.44	101.04	99.55
NC0599	100.87	NM	100.01	NM
NC0600	98.80	96.04	98.12	95.76
NC0610	97.06	94.09	95.58	94.07
NC0618	95.88	95.29	95.75	95.20
NC0620	92.01	91.74	92.71	92.44

		(Note: NM denotes "Not Modeled")				
	100YR1D	100YR3D	100YR5D	100YR7D		
NODE	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)		
NC0650	92.04	91.74	92.71	92.44		
NC0660	138.54	135.55	137.07	135.30		
NC0670	118.63	112.69	113.76	112.41		
NC0680	107.96	100.63	107.59	100.50		
NC0700	92.01	91.74	92.71	92.44		
NC0710	142.30	141.19	141.59	141.13		
NC0720	92.01	91.74	92.71	92.45		
NC0730	153.02	152.73	152.85	152.70		
NC0740	109.43	111.06	109.84	112.20		
NC0745	109.43	NM	109.84	NM		
NC0748	110.74	NM	110.55	NM		
NC0780	193.79	192.34	193.83	193.86		
NC0790	186.42	185.66	186.15	185.86		
NC0791	183.74	183.42	183.61	183.52		
NC0800	218.04	217.99	218.04	218.06		
NC0815	161.14	163.59	160.52	163.65		
NC0816	154.55	NM	154.42	NM		
NC0817	139.87	NM	139.73	NM		
NC0818	128.89	NM	128.74	NM		
NC0820	123.27	122.97	123.05	122.91		
NC0830	104.02	104.69	104.60	105.01		
NC0835	118.13	117.85	117.98	117.82		
NC0840	104.02	104.69	104.60	105.01		
NC0845	115.46	114.08	115.06	113.91		
NC0850	103.99	104.69	104.60	105.00		
NC0855	113.83	110.54	113.70	110.70		
NC0858	103.98	104.68	104.59	104.99		
NC0860	103.94	104.66	104.54	104.95		
NC0862	103.81	NM	104.44	NM		
NC0900	147.77	141.91	142.57	141.81		
NC0910	102.43	102.17	102.28	102.15		
NC0920	103.76	101.68	104.42	102.81		
NC0921	102.89	NM	103.54	NM		
NC0922	101.52	NM	102.16	NM		
NC0924	98.72	NM	99.23	NM		
NC0930	96.89	96.90	97.08	97.26		
NC0935	95.43	95.03	95.65	97.20		
NC0937	92.41	NM	93.05	95.76 NM		
NC0940	92.01	91.74	93.03	92.44		
NC0940 NC0950	92.01	91.74	92.71	92.44		
NC0960	92.01	91.74	92.71	92.45		
NC0970	124.66	124.36	124.49	124.34		
NC0980 NC0981	104.95 102.05	104.33 99.65	104.65 100.91	104.24 99.42		

Comparison of Node Results for Four 100-Year Return Frequency Simulations (Note: NM denotes "Not Modeled")				
NODE	100YR1D (Ft NAVD)	100YR3D (Ft NAVD)	100YR5D (Ft NAVD)	100YR7D (Ft NAVD)
NC0982	99.76	NM	98.60	NM
NC0983	95.44	94.83	95.12	94.76
NC0984	95.43	94.81	95.11	94.74
NC0985	120.40	120.11	120.22	120.09
NC0990	92.01	91.74	92.71	92.44
NC0994	109.42	NM	109.83	NM
NC1000	181.57	181.58	181.67	181.56
NC1010	256.29	258.18	256.02	258.63
NC1020	252.03	252.06	252.08	252.06
NC1030	208.74	207.99	208.81	207.96
NC1045	107.42	106.64	107.09	106.32
NC1050	106.04	105.30	105.62	105.24
NC1052	92.82	NM	92.71	NM
NC1060	112.53	111.93	112.24	111.86
NC1070	120.77	120.13	120.50	120.05
NC1080	92.58	85.91	90.10	86.36
NC1082	88.91	85.64	88.12	86.02
NC1090	96.42	96.16	96.59	96.10
NC1100	88.69	88.51	88.65	88.51
NC1105	93.10	92.93	93.04	92.90
NC1110	95.05	94.56	94.88	94.45
NC1120	88.54	88.56	88.61	88.54
NC1130	87.45	87.32	87.57	87.31
NC1140	90.03	89.70	89.86	89.67
NC1153	87.04	87.54	88.27	88.85
NC1155	87.04	87.54	88.27	88.85
NC1160	87.79	87.52	88.01	87.53
NC1170	87.44	87.31	87.56	87.31
NC1180	85.15	85.27	85.65	85.48
NC1190	100.16	98.66	99.84	97.88
NC1200	112.33	111.60	112.04	111.50
NC1210	112.06	111.23	111.61	111.16
NC1212	92.01	91.74	92.71	92.45
NC1215	92.00	91.73	92.71	92.44
NC1216	146.69	NM	146.80	NM
NC1217	139.77	NM	139.86	NM
NC1218	91.92	91.62	92.59	92.29
NC1219	110.08	NM	109.90	NM
NC1220	91.59	88.71	92.29	88.82
NC1221	91.22	NM	91.92	NM
NC1222	90.65	NM	91.30	NM
NC1223	89.91	NM	90.45	NM
NC1225	88.54	NM	88.68	NM
NC1230	90.63	90.16	90.38	90.51

Comparison of Node Results for Four 100-Year Return Frequency Simulations (Note: NM denotes "Not Modeled")				
NODE	100YR1D (Ft NAVD)	100YR3D (Ft NAVD)	100YR5D (Ft NAVD)	100YR7D (Ft NAVD)
NC1240	99.94	99.64	99.77	99.62
NC1250	89.65	90.16	90.20	90.50
NC1260	89.65	90.16	90.20	90.50
NC1270	88.12	87.86	87.99	88.17
NC1272	87.28	87.54	87.94	87.94
NC1275	86.79	78.74	87.40	78.88
NC1277	86.01	NM	86.21	NM
NC1280	85.32	NM	85.24	NM
NC1282	80.62	NM	80.67	NM
NC1290	88.62	88.31	88.52	88.26
NC1300	77.62	77.63	77.71	77.78
NC1310	77.40	77.56	77.71	77.78
NC1320	77.40	77.56	77.71	77.78
NC1330	82.20	82.06	82.12	82.05
NC1332	80.58	NM	80.63	NM
NC1334	80.59	77.85	80.64	78.65
NC1335	80.57	77.85	80.62	78.65
NC1336	80.57	NM	80.62	NM
NC1340	80.54	77.85	80.59	78.65
NC1342	79.81	NM	79.86	NM
NC1345	77.48	NM	78.23	NM
NC1350	73.61	NM	74.16	NM
NC1360	83.39	82.15	85.23	83.79
NC1370	88.77	88.82	88.88	88.82
NC1380	88.02	87.63	87.83	87.61
NC1390	92.63	92.34	92.47	92.32
NC1400	87.74	85.25	85.62	85.46
NC1405	85.08	85.24	85.61	85.45
NC1410	85.08	85.24	85.61	85.45
NC1420	85.08	NM	85.62	NM
NC1440	79.40	79.50	84.99	85.39
NC1470	73.19	73.81	78.17	78.48
NC1480	73.19	73.81	78.17	78.48
NC1490	77.47	77.79	78.17	78.48
NC1500	99.00	98.93	99.13	98.89
NC1510	88.25	88.84	89.31	89.83
NC1600	134.36	134.11	134.24	134.09
NC1610	131.53	131.44	131.47	131.43
NC1620	131.23	130.03	130.96	130.02
NC1630	127.72	125.80	127.57	125.78
NC1640	148.54	147.61	148.19	147.51
NC1650	126.57	126.22	126.36	126.19
NC1700	115.98	115.63	115.77	115.60
NC1710	113.25	113.54	113.65	113.72

Comparison of Node Results for Four 100-Year Return Frequency Simulations (Note: NM denotes "Not Modeled")				
NODE	100YR1D (Ft NAVD)	100YR3D (Ft NAVD)	100YR5D (Ft NAVD)	100YR7D (Ft NAVD)
NC1800	100.27	100.27	100.30	100.26
NC1900	147.46	147.25	147.36	147.22
NC1910	126.29	125.94	126.11	125.91
NC1920	140.12	140.31	140.55	140.32
NC2000	85.15	85.27	85.65	85.48
NC2010	88.37	85.99	87.12	85.77
NC2020	85.16	85.28	85.65	85.48
NC2030	85.29	85.28	85.65	85.48
NC2100	109.45	108.96	109.21	108.94
NC2110	109.41	108.96	109.19	108.94
NC2200	114.70	113.70	114.47	113.67
NC2210	115.95	115.46	115.68	115.42
NC2220	140.65	140.16	140.38	140.12
NC2230	122.50	122.28	122.38	122.26
NC2240	121.81	121.40	121.57	121.37
NC2250	112.61	110.05	111.66	110.01
NC2260	107.57	107.96	108.42	108.61
NC2300	128.24	128.27	128.35	128.25
NC2310	124.20	124.04	124.10	124.03
NC2400	137.63	137.26	137.46	137.20
NC2500	127.46	126.50	127.17	126.28
NC2510	126.66	123.88	126.08	123.88
NC2600	93.95	93.76	93.85	93.74
NC2610	87.04	87.54	88.27	88.85
NC2700	101.22	100.56	100.95	100.10
NC2710	101.29	100.56	100.99	100.09
NC2800	88.68	88.51	88.65	88.51
NC2810	92.46	92.40	92.45	92.39
NC2820	93.14	92.94	93.07	92.91
NC2830	94.07	93.67	93.87	93.63
NC2900	92.00	91.73	92.71	92.44
NC2910	95.67	93.68	95.74	93.66
NC2920	90.83	90.65	90.76	90.62
NC2930	86.01	83.61	86.21	83.60
NC2940	88.62	88.31	88.53	88.26
NC2950	93.09	93.42	93.69	94.03
NC2960	87.79	87.66	88.01	87.63
NC3000	112.03	110.38	111.67	109.75
NC3010	162.93	162.50	162.71	162.45
NC3100	92.24	91.92	92.71	92.44
NC3110	92.01	91.74	92.71	92.44
NC3120	92.01	91.74	92.71	92.44
NC3130	96.42	96.17	96.60	96.10
NC3200	98.81	97.79	98.15	97.77

Comparison of Node Results for Four 100-Year Return Frequency Simulations (Note: NM denotes "Not Modeled")				
NODE	100YR1D (Ft NAVD)	100YR3D (Ft NAVD)	100YR5D (Ft NAVD)	100YR7D (Ft NAVD)
NC3300	138.60	137.90	138.22	137.84
NC3310	136.30	135.52	136.19	135.28
NC3315	136.07	134.73	135.32	134.59
NC3320	133.19	131.64	132.62	131.14
NC3330	131.31	130.89	131.07	130.86
ND0010	103.88	103.64	103.75	103.62
ND0020	101.66	99.36	100.59	99.10
ND0030	100.49	99.31	100.33	99.06
NE0010	96.43	96.98	97.57	98.02
NE0020	102.73	102.56	102.66	102.54
NE0030	95.74	96.53	97.26	97.94
NF0010	100.06	100.03	100.11	100.02
NF0020	98.98	98.88	98.94	98.87
NF0040	77.47	77.79	78.17	78.48
NG0030	77.43	74.90	77.98	76.76
NG0040	77.43	72.02	77.98	76.77
NG0050	77.43	72.02	77.98	76.77
NG0060	76.45	76.75	76.20	76.83
NG0110	91.25	86.61	93.27	88.10
NG0160	77.44	72.29	77.99	77.27
NG0170	77.44	72.29	77.99	77.27
NG0180	94.55	94.30	94.43	94.29
NG0190	77.82	77.85	78.13	78.67
NG0220	77.43	71.29	77.98	76.76
NG0999	77.00	77.00	77.00	77.00
NG1090	79.51	80.88	79.70	80.96
NG1235	77.49	77.74	78.13	78.67
NG1240	77.47	77.78	78.16	78.48
NG1250	80.48	80.45	80.46	80.46
NG1270	77.44	74.97	77.99	77.29
NG1280	77.43	67.56	77.98	76.76
NG1300	77.43	69.93	77.98	76.76
NG1310	77.43	73.83	77.98	76.77
NG1320	73.33	73.84	73.06	76.10
NG1340	101.96	101.74	101.83	101.72
NG1345	77.44	74.94	77.99	77.28
NG1355	72.26	72.72	71.63	72.73
NG1360	70.89	71.08	70.88	72.37
NG1365	74.88	75.58	74.41	76.10
NG1520	95.64	95.75	95.84	95.79
NG1530	114.98	114.61	114.79	114.56
NG1540	94.71	94.72	94.85	94.78
NG1550	78.74	79.30	79.36	79.84
NG1560	101.46	101.50	101.52	101.52

Comparison of Node Results for Four 100-Year Return Frequency Simulations (Note: NM denotes "Not Modeled")							
	100YR1D	100YR3D	100YR5D	100YR7D			
NODE	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)	(Ft NAVD)			
NG1580	93.83	93.66	93.74	93.64			
NG1590	89.37	88.96	89.18	88.92			
NG1600	81.02	81.80	82.43	82.77			
NG1610	78.74	79.30	79.36	79.84			
NG1630	97.18	NM	97.28	NM			
NG1640	89.55	91.96	91.29	93.30			
NG1650	98.87	99.66	100.50	101.13			
NG1660	102.79	102.53	102.63	102.52			
NG1680	104.29	105.11	105.98	106.73			
NG1720	93.30	93.98	94.68	95.27			
NG1730	87.53	87.35	87.66	87.29			
NG1740	76.23	78.10	80.06	81.64			
NG1750	77.85	78.54	79.26	79.85			
NG1820	61.33	61.16	61.27	61.27			
NG1850	61.06	60.95	61.04	61.27			
NG1870	58.78	59.53	60.38	61.27			
NG1880	74.87	75.68	76.45	77.21			
NG1890	72.55	73.35	74.17	74.90			
NG1910	98.35	97.95	98.14	97.91			
NG1920	78.74	79.30	79.36	79.83			
NG1930	77.11	76.90	76.99	77.34			
NG1940	69.69	68.11	69.51	69.81			
NG1950	68.27	67.43	68.07	68.40			
NG1970	63.92	62.55	62.21	64.70			
NG1980	56.01	NM	55.40	NM			
NG1990	56.35	55.91	56.13	61.27			
NG2030	58.78	59.53	60.38	61.27			
NG2040	58.80	60.07	59.02	61.27			
NG2050	58.78	59.53	60.38	61.27			
NG2070	63.26	62.92	63.14	63.24			
NG2085	59.75	59.53	60.38	61.28			
NG2095	64.19	64.10	64.24	64.07			
NH0010	96.34	96.11	96.50	96.05			
NH0999	89.53	89.00	88.63	89.00			
NI0010	62.89	68.76	66.20	70.36			
NI0020	69.32	NM	70.70	NM			
NI0030	69.66	NM	70.71	NM			

APPENDIX B



Name NK7900_GW	From Node	NK7900	-
Group Perc_K	To Node	GW_NODE	
Count 1	Flow	Both	<u>•</u>
Surface Area Option User Specified	Ý	Bottom Elevation	18.19
		Surface Area	0.131827
Vertical Flow Termination Constant Rate	2	Constant Rate	0
Aquifer Base Elevation	and the second sec		
Water Table Elevation			
Annual Recharge Rate			
Horizontal Conductivity	Party of the Party		
Vertical Conductivity Effective Porosity	A second s		
Suction Head			
Layer Thickness			
Layer Millions	Prose rol		
hanged the Perimeters to GIS values 12/18/2	008Changed percolation parameter	's to corrected WT	01-19-2009
326 of 455 Enter Name	Enter Name		

2

Identify from: SOILSDETAILED_NRCS				
SOILSDETAILED_NRCS Candler fine sand, 0 to 5 percent slopes	Location:			
SOILSDETAILED_COMPONENT	Field	Value		
 Tavates Candler SOILSDETAILED_HORIZON IF E and Bt IF A IF A IF Astatula IF Arredondo 	OBJECTID Component Key Component Horizon Key Horizon Name Horizon Top Depth Low Value (cm) Horizon Top Depth Representative Value (cm) Horizon Bottom Depth High Value (cm) Horizon Bottom Depth Representative Value (cm) Horizon Bottom Depth High Value (cm) Horizon Bottom Depth High Value (cm) Horizon Thickness Low Value (cm) Horizon Thickness Representative Value (cm) Horizon Thickness High Value (cm) Horizon Thickness High Value (cm) Permeability Low Value (micrometers/second) Permeability Representative Value (cntimeters/second) Permeability High Value (micrometers/second) Available Water Capacity Low Value (centimeters/centimeter) Available Water Capacity High Value (centimeters/centimeter) Available Water Capacity High Value (centimeters/centimeter)	588 322076;394511 322076;879844 A <null> 0 <null> 10 <null> 10 <null> <null> 11 247 353 0.04 0.06 0.08</null></null></null></null></null>		

з

Unit Conversion :

1 micrometer = 0.000001 meters

1 meter = 3.28084 feet

1 day = 86400 seconds

1 micrometer/second = 0.000001 x 3.28084 x 86400 = 0.283464576 feet/day

Then, cut it in half (safety factor = 0.5)

The conversion factor = 0.5 x 0.283464576 = 0.141732288

Therefore, the VERTICAL CONDUCTIVITY for Candler fine sand with 0 to 5 percent slopes is:

247 micrometers/second = 247 x 0.141732288 = 35.007875136 ft/day

Then, HORIZONTAL CONDUCTIVITY = 1.5 x VERTICAL CONDUCTIVITY = 1.5 x 35.01 = 52.51 ft/day

APPENDIX F

Justification for Updates to the FEMA Floodplain as a Result of Watershed Management Program for the Croom Watershed (B206)

FINAL

JUSTIFICATION FOR UPDATES TO THE FEMA FLOODPLAIN AS A RESULT OF WATERSHED MANAGEMENT PROGRAM FOR THE CROOM WATERSHED (B206)



Prepared for

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT 2379 Broad Street Brooksville, Florida 34604-6899

> HERNANDO COUNTY 1525 East Jefferson Street Brooksville, Florida 34601



Prepared by

Watershed Concepts with:

TBE Group, Inc. 20203 Cortez Boulevard Brooksville, Florida 34601

March 3, 2010

Thomas A. Shoopman, P.F. Florida P.E. #32332



AECOM 7785 Baymeadows Way Suite 201 Jacksonville, FL 32256 www.aecom.com 904 271 2900 tel 904 271 2899 fax

March 3, 2010

Mr. Gene Altman, PE Southwest Florida Water Management District 2379 Broad Street Brooksville, Florida 34604-6899

RE: Agreement 06CC0000049 Refinement of Watershed Parameters and Models Croom Watershed Final Justification Report Dated March 3, 2010, Final Supporting Geodatabase and Final Simulation Model

Dear Mr. Altman:

We are pleased to submit the enclosed Final Justification Report, final supporting geodatabase and final simulation models for the Watershed Update for the Croom Watershed.

We appreciate this opportunity working with you and look forward to completion of the project.

Should there be any questions regarding this report please contact me at your convenience.

Respectfully Submitted,

Watershed Concepts

180 Thomas A. Shoopman Senior Engineer Florida P.E. #32332 March 3, 2010.

12725

cc: John Burnett

WEER?

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1.0 INTRODUCTION

Croom Watershed Evaluation is a multi-year Watershed Management Program project for the Southwest Florida Water Management District (SWFWMD). The study consists of Digital Topographic Information, Watershed Evaluation, and Watershed Management Plan elements. The Federal Emergency Management Agency (FEMA) is a cooperative funding agency with the District for completing this watershed management program and developing preliminary Digital Flood Insurance Rate Maps (DFIRM) and its supporting documentation. TBE Group, Inc. originally received authorization from the District to develop the Croom Watershed Management Program under project number M105. Under current work order (B206), Watershed Concepts and TBE updated the Croom watershed evaluation and floodplain modeling, which includes the following:

- Updating the Croom model based on the latest LiDAR data that were not available when the original model was developed
- Computing the hydrological component of the model utilizing the Green & Ampt runoff method while the original model used CN method
- Incorporating percolation for natural depressions and retention ponds in type A soil.

Current floodplain mapping was developed based on the updated Croom model. This report outlines the justification for the model results.

2.0 GUIDELINES & SPECIFICATIONS

The watershed management activities used to develop floodplain data were conducted in general accordance with the following documents:

- SWFWMD Guidelines & Specifications (G&S), August 2002 with addendums
- FEMA Guidelines & Specifications for Flood Mapping Partners, 2003

3.0 WATERSHED DESCRIPTION

The Croom Watershed is approximately 24.6 square miles and is located in east central Hernando County (**Figure 1**). State Road 50 is a major highway that runs across the southern portion of the watershed. The Croom watershed is roughly bounded by a high ridge with no major cross-watershed boundary flows. Ground elevations in the watershed range from 257.4' (NAVD 88) on the boundary to 37.3' (NAVD 88) in northern depressional areas (**Figure 2**). There are no major named hydrographic features in the watershed. There are various smaller hydrographic features including 3

incised channels, wetland areas, wet ponds, DRAs, etc. distributed throughout the watershed. The watershed consists of a majority of A type deep sandy soils with sections of poorly drained C and D type soils located primarily in the west portion where wetland features and significant water bodies are prevalent (**Figure 3**). Landuse types include mostly forest and agricultural use with sparsely distributed low-density residential and commercial use (**Figure 4**). There are approximately 228 acres of Effective Approximate FEMA flood hazard (Zone A) delineated in the Croom Watershed (**Figure 5**). FEMA Zone A delineations were taken directly from quad map data for select areas in the watershed.

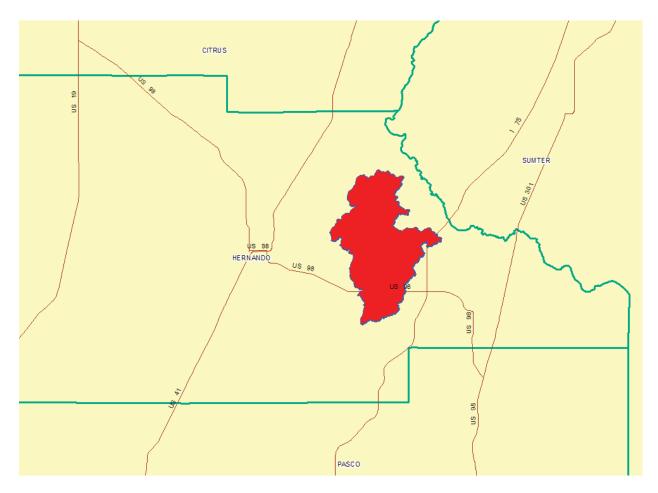


Figure 1 – Location Map

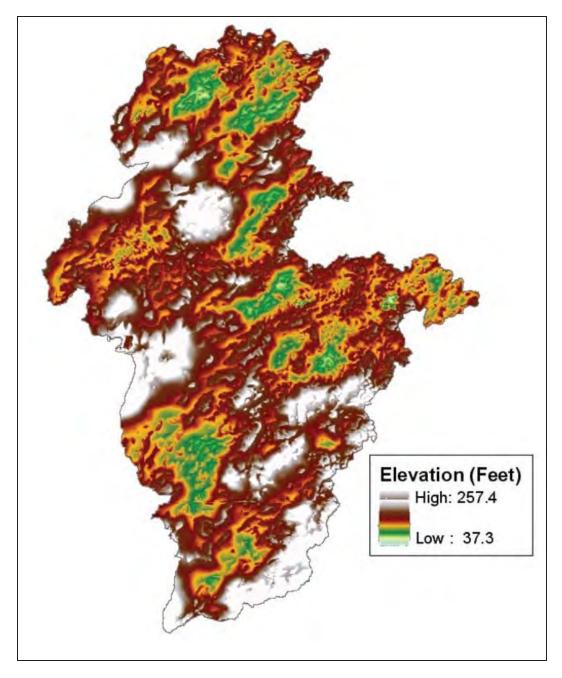


Figure 2 - Topography

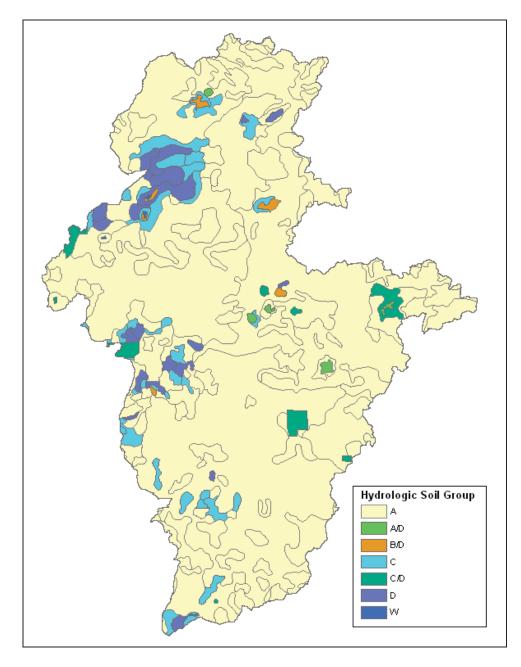


Figure 3 – Soils data

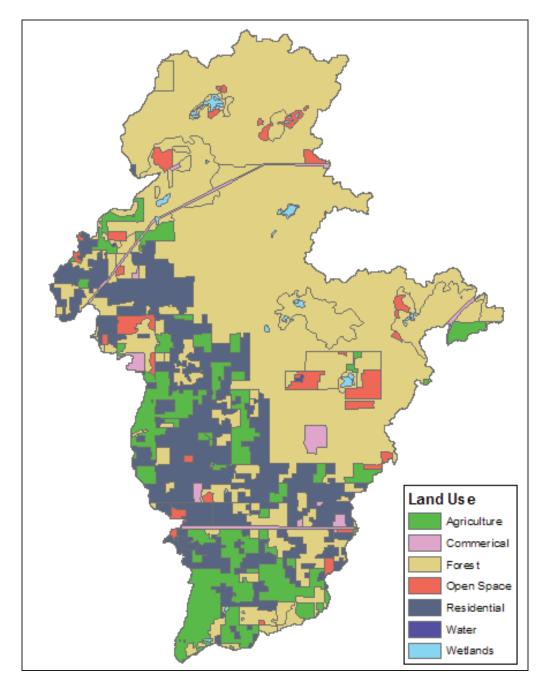


Figure 4 - Landuse

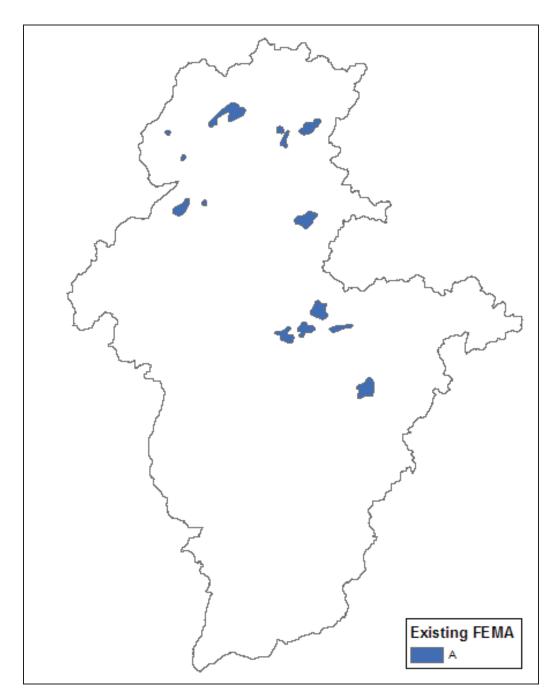


Figure 5 – FEMA Flood Hazard

4.0 FLOODPLAIN MODEL DEVELOPMENT METHODOLOGY

To provide a greater level of detail to the determination of flood risk in the Croom Watershed, several aspects of the Watershed Management Program have been revised. The following section will touch on some of the notable changes from the previous (2006) update, in addition to outlining any assumptions made in the process.

The SWFWMD provided the consultants with LiDAR data acquired during the month of January, 2007. Also flown at the same time are 1 foot pixel size natural color aerial photography. ESRI Terrain feature classes were built by SWFWMD for each watershed and 5 foot pixel size rasters were exported from these for use with ArcHydro. The LiDAR terrain datasets are not updated with recent (Post-January 2007) as-built data.

Surveys performed for the 2006 effort were utilized in the current modeling to maintain a minimum level of detail. Additional site visits for field verification were performed to verify some other locations. No additional surveys were performed for the current effort.

ArcHydro geoprocessing was used with input of the raster representation of the LiDAR to create catchments, junctions, and reaches for the watershed. Additional functions within ArcHydro were utilized to calculate other necessary features and parameters for model development. These parameters include Time of Concentration longest flow paths, node storage, irregular weir and cross section points, Green and Ampt runoff parameters, and real storm event (Hurricane Frances Doppler) data development.

Hydrologic parameterization was performed with guidance from the SWFWMD G&S. Subbasins were delineated where depressional storage was at or above 2 feet and where drainage area was at or above 1 acre. Impervious area was based on the latest Landuse coverage available from SWFWMD and a lookup table provided by SWFWMD. Reasonableness of table values were verified throughout the watershed by comparing the Landuse polygons versus the 2007 aerial imagery. Time of Concentration was estimated using the longest travel time flow path (TR-55 methodology). A peaking factor of 256 was used throughout the watershed due to the rural nature of the subbasin.

For determination of initial conditions for water bodies in the watershed, a combination of methods was used to determine initial stages. These methods include comparison of historic aerial photographs (El Nino 1998, 2004) in known wet seasons versus current 2007 aerial and tree line (biological) indicators. For Type A soil depressions, the starting water surface elevations are set to the lowest ground elevation.

The hydrologic model used to calculate Base Flood Elevations is ICPR v3.10 sp 2, by Streamline Technologies. This model was preferred by the SWFWMD because of its ability to accurately model ponding areas and ease of use. Also, the recently added percolation and Green and Ampt runoff integration make the model an all-encompassing package for this modeling effort.

Attendees to the Public meetings held at SWFWMD offered their opinions of the newly calculated flood risk represented by the new floodplain mapping. Dale Tracy, a newly impacted property owner, expressed an opinion that the flooding calculated on his parcel appeared unreasonable. Field reconnaissance of the property by Larry Fluty of Cardno TBE was conducted to assess the soil characteristics of the area. Soil samples taken at the site revealed the presence of Candler fine sands of hydrologic group 'A' where the NRCS soil base map shows a Nobleton fine sand of hydrologic group 'C'. Adjustment was made to the soils layer and percolation was modeled for this area with the final results shown in Figure 6.



Figure 6 – Tracy Property

5.0 VERIFICATION AND VALIDATION DATA

The Croom model results were verified and validated based on the High Water Mark data available within the watershed. SWFWMD provided Watershed Concepts with a high-water-mark geodatabase from numerous sources. This data was used for the Croom model verification and validation.

5.1 MODEL VERIFICATION

The verification is based on comparison of the design storm event results and the Hurricane Frances event which occurred from September 4, 2004 to September 7, 2004. The rainfall in each of the sub-basins in this watershed was calculated from recorded National Weather Service (NWS) Doppler radar at the Tampa and Melbourne sites. The rainfall amounts were recorded by the several rain gauges throughout the county. The Doppler radar of the rainfall was also recorded during this time period. These recording data were used to calculate the rainfall within each of the sub-basins throughout the watershed. The rain gauge data was used to adjust the Doppler radar rain to provide input for the watershed model. Gauge-adjusted radar rainfall data maintains volume accuracy at the gauge locations while retaining special information from the radar data.

The rainfall acquired for Hurricane Frances was 15-minute incremental data for the four days, 385 data points for each sub-basin. The incremental rainfall data provided was reformatted to the cumulative rainfall input file format for ICPR and imported into a hydrograph library for the watershed. The hydrograph library was then imported into the ICPR model for the watershed.

5.2 MODEL VALIDATION

For this report, validation is defined as the comparison of the design storm event results with high water marks within the watershed. Table 1 summarizes the 100-year-1-day, 3-day, 5-day, 7-day and Hurricane Frances modeling results and available high water marks for Croom watershed.

NODE	100-YR	100-YR	100-YR	100-YR			
NAME	1-day	3-day	5-day	7-day	Frances	HWM	Date
NM0130	59.46	59.21	59.40	59.06	57.72	58.17	1964
NC0460	117.88	115.13	117.06	115.64	113.58	117.17	1958
NC0450	122.87	122.52	122.69	122.52	122.14	140.97	1958
NK0120	73.56	73.22	73.50	73.33	70.99	73.17	1958
NM0112	59.56	58.40	58.68	58.35	58.31	62.17	1964

Table 1 - Summary of Model Results and the Available High Water Marks (provided bySWFWMD) in Croom

For nodes NM0130, NC0460, NK0120, AND NM0112 the modeled 100-year 1-Day model flood stages are near the actual gaged flood stages. Therefore, the modeled 100-year 1-Day model flood stage is considered a reasonable projection of flood stage.

5.3 FLOOD COMPLAINTS

There are two flood complaints listed in the geodatabase that has been provided by SWFWMD. There were no flood elevations or detailed descriptions associated with the complaints. The cause of the flooding is unclear.

The illustrations following show flood complaints the first which consisted of water in house, and based on various field inspections, this area of the Hill 'n Dale subdivision had a history of storm water problems (**Figure 6**), and the second which was a general flood complaint, which consists of an area located in a depression (**Figure 7**).



Figure 7 – Area of Hill 'n Dale Subdivision



Figure 8 - General flood complaint located in a depression

The mapped flood plain based on the model data show that the two flood complaints within the Croom watershed have been identified as flooding areas. In conclusion with the results of the model verification and validation the model results are reasonable based on the level of detail and assumptions used to develop the model.

6.0 FLOODPLAIN JUSTIFICATION

For the SWFWMD WMP projects, the floodplains are delineated based on the100-year 1-day storm event unless evidence available supports using multi-day events. For the Croom watershed, the peak stages resulting from the 100-year 1-day storm event were used to determine the 100-year floodplain in all subbasins for lack of sufficient high water mark data to justify mapping a multi-day event.

7.0 CONCLUSIONS

The existing FEMA flood hazard covers 227.7 acres, and the new 2009 modeled floodplain covers approximately 646 acres. The graphic below illustrates the areas of the two floodplains and the following discussion provides a summary of the reasons for the differences.

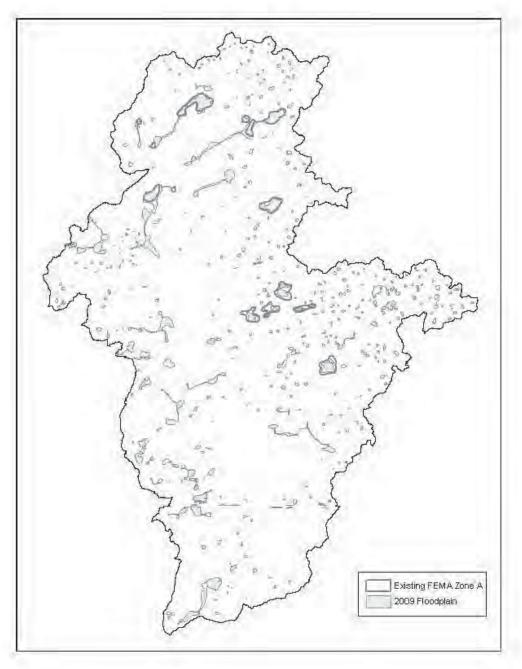


Figure 9 – Existing Zone A compared to 2009 Floodplain

The main reason for the differences between the existing FEMA flood hazard and the 2009 Floodplain are as follows:

- FEMA mapped the areas based on very basic approximate methods, which was based identifying major lakes, and wetland areas and did not identify smaller depressions
- The 2009 effort identifies additional flood risk, based on better detailed topographic information, and more detailed modeling techniques.

The justification for each subbasin and its associated flood polygons is shown in the following Appendix B.

Appendix A

	Comments	Response	Source
	Blue Sink, Bystre Lake, Toachodka watershed boundaries are collinear with Croom, Withlacoochee River boundary not		
	available at time of review.	This has been reviewed. Croom is topologically correct with its neighbor watersheds	SWFWMD
	100Yr-24Hr ICPR mass balance report % error checks okay.	This has been verified	SWFWMD
	No file delais della sete d'2004 este discussion e la setier in 177 El tes este etc. 174 Cl	Standing water was found in 1998 aerials for this location. Initial conditions have been adjusted to match 1998 inundation	
	No floodplain delineated, 2004 potentiometric surface elevation is ~57.5', topograghy ~ 51.6'	elevation and perc has been turned off at this location.	SWFWMD
4	Reviewer notes no standing water in 1998 imagery and no floodplain delineated. 2004 potentiometric surface is ~57.5'. Confirm model input and explain why no floodplain in subbasin K0660.	Model input confirmed correct. No water on 2004 aerials either - it is likely that the 2004 pot map surface at this basin is the result of an interpolation between known elevations and not a true reading.	SWFWMD
. I	No floodplain delineated in waterbody, 2004 pot surface ~58.7', water surface elevation ~57.2'.	Initial stage for node has been set to pot surface elevation of ~58.7'	SWFWMD
	No hoodplain deimeated in waterbody, 2004 pot surface ~56.7, water surface elevation ~57.2.	Elevations for 1 day and 5 day storms are often different with one being higher than the other in certain situations. In this	SVVFVVIVID
	Check 1 day elevation as compared to 5 day. 1 day and 5 day elevations for junctions in area are close.	area, conditions came together which resulted in very similar peak stages for both storm events.	SWFWMD
	Potential missing culvert, 2006 imagery indicates drop inlet in median with headwall on north side of SR50.	Culvert data added based on available as-built and field recon data	SWFWMD
	No flow in culvert, culvert inverts in model are ~ 73' and 76', terrain information indicates gound elevations ~ 53' to 55'.		SVVFVVIVID
1	Correct culvert, culvert, explain why they are set ~ 20' higher than terrain.	Culvert data was incorrectly translated from roadway plans. The correct data is now included in the model and GIS	SWFWMD
. I	Missing culvert as noted in previous review.	Culvert is entirely in basin K0510 and serves as drainage for the median which has been hydrologically routed	SWFWMD
	missing curvert as noted in previous review.	In many areas floodplains were reduced or removed completely due to the use of GreenAmp hydrology and precolation	SVVI VVIVID
	Floodplain not delineated, this issue is noted in numerous locations but comments were not added to review.	groundwater routing.	SWFWMD
.1	NK0532 floodplain elevation is 76.79' and is above terrain elevation 76.04'. Why is floodplain not delineated?	Floodplain does not meet mapping criteria based on 1:500 map scale	SWFWMD
	Missing culvert as previously identified. SR 50 collection system data from ERP was not included.	ERP data does not show pipe cross at this location. Site visit performed July 11th also verified no structure present.	SWFWMD
1	What was the results of 07/11/08 site visit indentified in Comment # 9? Edit response to Comment #No.9.	Response has been updated	SWFWMD
0	Many missing cross drains at intersection of side roads along SR50.	A site visit was performed on July 11th and culvert information was gathered.	SWFWMD
0.1	Was information collected on 07/11/08 added to GIS and model?	Culvert RK0532 was input into GIS and Model based on findings of July 11th field recon	SWFWMD
1	ERP information not used for catchment delineation, etc.	Basin, node, and link added based on ERP data.	SWFWMD
2	SR50 runoff being routed to ERP #017107000.	Basin, houe, and min added based on Enri data. Basin subdivided and appropriate nodes and links added.	SWFWMD
-		Area was studied in the model but was found to not have significant flooding when GreenAmp and percolation were taken	3111 1110
3	FEMA Flood Hazard Zone, no floodplain identified in current study.	into account.	SWFWMD
4	Glass wall -0.5'	Transition A zone added	SWFWMD
5	Glass wall >0.5'	Transition A zone added	SWFWMD
6	Review was not all encompassing as much of the geodatabase was not populated.	Database has been populated	SWFWMD
7	Basin in GIS not in ICPR	basin name typo has been resolved	KHA
•	May need to verify DCIA and IA %s assumed from land use. A rough check of the impervious coverage for this basin	Wetlands in the landuse file have been taken into account in the determination of DCIA and percent impervious in this	10.01
8	resulted in approx. 8% coverage, 19.206% IA coverage was assumed.	basin and this has produced reasonable floodplain results	KHA
0	May need to verify DCIA and IA %s assumed from land use. A rough check of the impervious coverage for this basin		NIA
9	resulted in approx. 35-40% coverage. 68.12% IA coverage was assumed.	Impervious area has been reduced for this subbasin	KHA
0	May need to verify DCIA and IA %s assumed from land use. A rough check of the impervious coverage for this basin	Wetlands in the landuse file have been taken into account in the determination of DCIA and percent impervious in this	14174
20	resulted in approx. 0.9% coverage. 5.073% IA coverage was assumed.	basin and this has produced reasonable floodplain results	KHA
.0	DS Inv = 63.72 and DS Nd IS and Low stage = 67.3, may need to adjust IS.	Initial stage has been adjusted	KHA
2	DS Inv = 68.92 and DS Nd IS and Low stage = 68.93, may need to adjust IS.	Initial stage has been adjusted	KHA
2	Link has no US and DS node information in GIS	Link Usage needed to be addressed to be addres	KHA
			10.01
24	Manning's value of 0.023. Are these the only CMPs that are in the basin; all other pipes have Manning's values of 0.013?	These are the only CMPs that are modeled in the watershed	KHA
25	Link has no US and DS node information in GIS	Link US node and DS node information is available in related table REACHGN	KHA
26	Link has no US and DS node information in GIS	Link US node and DS node information is available in related table REACHGN	KHA
			NIA
27	Manning's value of 0.023. Are these the only CMPs that are in the basin: all other pipes have Manning's values of 0.013?	These are the only CMPs that are modeled in the watershed	
27 28	Manning's value of 0.023. Are these the only CMPs that are in the basin; all other pipes have Manning's values of 0.013? Link has no US and DS node information in GIS	These are the only CMPs that are modeled in the watershed Link US node and DS node information is available in related table REACHGN	KHA
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9 0 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 9 9 0 0 1 1 2 2 3 3 4 4 5 5 6 6 7 7	Link has no US and DS node information in GIS Link has no US and DS node information in GIS Link has no US and DS node information in GIS DS Inv = 74.3 and DS Nd IS and Low stage = 75.66, may need to adjust IS. Link name in GIS does not match ICPR. Also nodes associated with this link do not match between ICPR and GIS. Link has no US and DS node information in GIS Link has no US and DS n	Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Initial stage and storage have been adjusted for this node Naming discrepancies for these elements have been resolved in the latest Geodatabase Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in related table REACHGN Link US node and DS node information is available in relate	КНА КНА КНА КНА КНА КНА КНА КНА КНА КНА

Comment No	Commonte	Response	Source
Comment_No	Comments	Time of concentration values have been calculated using the TR-55 methodology, utilizing average slope along each	Source
52	ICPR Tc = 58.8, KHA Tc = 49.8	flowpath. Values have been reviewed and appear to be reasonable	KHA
53	Clarify Multiple Flood Zones within Basin	Disconnected flood zones in smaller depressions have been mapped at node elevation and set as approximate A zones	КНА
55		Disconnected nood zones in smaller depressions have been mapped at node elevation and set as approximate A zones	КПА
54	Clarify Multiple Flood Zones within Basin	Disconnected flood zones in smaller depressions have been mapped at node elevation and set as approximate A zones	KHA
55	Clarify Multiple Flood Zones within Basin	Disconnected flood zones in smaller depressions have been mapped at node elevation and set as approximate A zones	КНА
56	ICPR Tc = 40.7, KHA Tc = 29.0	Time of concentration values have been calculated using the TR-55 methodology, utilizing average slope along each flowpath. Values have been reviewed and appear to be reasonable	КНА
		Time of concentration values have been calculated using the TR-55 methodology, utilizing average slope along each	
57	ICPR Tc = 44.0, KHA Tc = 34.3	flowpath. Values have been reviewed and appear to be reasonable	KHA
58	Clarify Multiple Flood Zones within Basin	Disconnected flood zones in smaller depressions have been mapped at node elevation and set as approximate A zones	KHA
59	Clarify Multiple Flood Zones within Basin	Disconnected flood zones in smaller depressions have been mapped at node elevation and set as approximate A zones	KHA
60	ICPR Tc = 33.0, KHA Tc = 28.6	Time of concentration values have been calculated using the TR-55 methodology, utilizing average slope along each flowpath. Values have been reviewed and appear to be reasonable	КНА
60	ICPR 10 = 33.0, KTA 10 = 26.0	nowparn. Values have been reviewed and appear to be reasonable	КПА
61	Clarify Multiple Flood Zones within Basin	Disconnected flood zones in smaller depressions have been mapped at node elevation and set as approximate A zones	KHA
62	ICPR Tc = 40.8, KHA Tc = 31.9	Time of concentration values have been calculated using the TR-55 methodology, utilizing average slope along each flowpath. Values have been reviewed and appear to be reasonable	КНА
02	Time of Concentration values generally seem high. Verify maximum length used for sheet flow, the roughness coefficient,	Time of concentration values have been reviewed and appear to be reasonable	IN IA
63	and the rainfall intensity.	flowpath. Values have been reviewed and appear to be reasonable	KHA
64	Node name in ICPR does not match GIS	Node name is now consistent between GIS and Model	KHA
65	The aquifer depth was modeled at a constant elevation of 0. This assumption may not be appropriate in all cases.	The aquifer elevation has been set to 10' below water table elevation per SWFWMD guidance	KHA
	The study assumes no "perching affect of clays or other restrictive layers. The depth to aquifer & water table may be over	Best available data has been used in the application of percolation in Croom. Parameters used to model percolation are	
66	estimated in some areas.	influenced by evidence suggesting adjustment of parameters is needed, like, soil test data, water on orthos, tree lines, etc	KHA
66.1	Provide response to Comment #66.	Comment #66 has been responded to.	SWFWMD
	Tc's generally seem high. Please verify max length used in sheet flow calculation and evaluate applicability on a basin by	Time of concentration values have been calculated using the TR-55 methodology, utilizing average slope along each	
67	basin basis.	flowpath. Values have been reviewed and appear to be reasonable	KHA
68 69	100yr 1 day storm peak in ICPR does not match GIS, please confirm results shown in GIS. 100yr 1 day storm peak in ICPR does not match GIS, please confirm results shown in GIS.	Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation	KHA KHA
70	100yr 1 day storm peak in ICPR does not match GIS, please confirm results shown in GIS.	Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation	KHA
71	100yr 1 day storm peak in ICPR does not match GIS, please confirm results shown in GIS.	Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation	KHA
72	It would be beneficial to validate the 2008 model using high water marks and rainfall data from a storm event with a rainfall depth and duration similar to the 100yr, 24hr storm; however, this data does not appear to be available for this watershed.	Agreed	КНА
12	Please Clarify why some of the 7-day results are highlighted and noted as unavailable results in Table 4 of Justification	The 7-day simulation had not been run for these particular nodes at the time of the report, however, now the simulation	NHA
73	Report.	information is provided	KHA
74	Please add discussion in Justification Report regarding the basins which utilize multi-day events in establishment of flood elevations.	There are no basins in the Croom watershed which have highwatermark data available to justify using a multi-day storm event for establishing floodplain.	КНА
75	Please verify that the extents of all mapped floodplains correspond to the elevations from the ICPR model.	Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation	KHA
76	Please ensure that floodplain elevations in GIS correspond to ICPR results.	Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation	KHA
		These approximate transitional zones are hand drawn to represent a smooth transition between an US floodplain flowing to	
	How are the widths of transition flood zones established, is it related to mas top width of flow over overland flow weirs in	a floodplain DS. They have been drawn starting with the top with at overflow and tapering to reasonably meet the DS	
//	ICPR model? Methodology for sizing of these areas should be explained.	floodplain. Transition zones were delineated where flow between catchments exceeds 5 cfs and the length of the zone is not excessive	KHA
77.1	Provide discussion on criteria used to delineate transition zones.	for the amount of flow being conveyed.	SWFWMD
		The SWFWMD 5 day rainfall distribution is used for the 3-,5-, and 7-day storm events and the rainfall totals for the storms	
78	Please document the source of the rainfall distribution and depths used in modeling of the multi-day events.	were derived from TP-49 isopluvial maps	KHA
78.1	This is follow-up to the response to Comment #78. The SWFWMD does not have 3 & 7-day rainfall distributions. If the 5- day distribution was used for the 3 & 7-day simulations then the model should be ran using FDOT distributions.	The FDOT 72- and 168 hour distibutions are being used for the 3- and 7-day runs.	SWFWMD
70.1	Mapped floodplain appears to extend to approximately 57.75, while the ICPR and GIS models note the flood elevation to be		own while
79	57.04. Please verify floodplain extents.	Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation	KHA
00	Mapped floodplain appears to extend to approximately 63.35, while the ICPR and GIS models note the flood elevation to be		12114
80	62.83. Please verify floodplain extents. R1642220000001300000 - Louis Smolie - In the Flooplain? Request Screenshot of Floodzone with aerial in background.	Mapping shown in GIS now matches latest model peak stages for 100-year 1-day simulation	KHA
81	Pictures submitted facing North. Please scan and return.	Screenshot was created but not sent to resident	Public Meeting
	R0342320000002200000 - Dale Tracy - Is my structure in floodplain? Parcel has floodplain. Requests screenshot of his		
82	parcel. Watershed Concepts to mail screenshot.	Screenshot was created but not sent to resident. Resident has been contacted since public meeting regarding his property.	Public Meeting
82.1	Comment date 07/30/09; Mr. Tracy attended will provide vertical elevation information surveyed by Green PLS and geotechnical information including soil borings.	Mr. Tracy did not provide the referenced by him at the public meeting. Larry Fluty visited his property to gather the data in the field.	Public Meeting
02.1	Comment date 10/26/09; Mr. Tracy did not provide data discussed in Comment No 82.1. TBE met with Mr. Tracy and	Larry Flluty took soil samples and determined that current NRCS soil delineation is incorrect. Model and GIS layers have	Public Meeting
82.2	conducted site visit. What was the results?	been revised to reflect field observations. Flooding has decreased on the Tracy Property.	SWFWMD
	Comment No. 82 Response is "Screenshot was created and sent to resident". Watershed Concepts did not transmit		
82.3	screenshots as response fields indicate. Correct all response fields to reflect who & when maps were transmitted.	Response fields have been corrected	SWFWMD
0.0	R0242320701600000110 - Terrence Watkinson - Culvert missing - need field verification at White Rd and Paddock Dr. John	John Burnett furnished info for additional structure. The information reduced the flood elevation for one parcel. This change	Dublic Mastir -
83	Burnett to will investigate and coordinate with Watershed Concepts R1142320000001100030 - James Blackburn - Mr Blackburn was inquiring about a letter he recieved stating he was in the	is reflected in the model and GIS	Public Meeting
84	proposed floodplain. He would like documentation stating he is out of the floodzone(a letter)	Letter was provided to resident	Public Meeting
	R1642220705600000080 - Walter Eastmond - Manufactured home is in 2008 preliminary floodplain. Would like someone		Ŭ
85	from regulartory dept. to come out and see what can be done to raise property Provide justification for transition zone or remove it.	Photos were provided to Mark Fulkerson and resident was relayed to a member of the SWFWMD Regulatory group Transition zone has been edited to terminate in approximate Zone A	Public Meeting SWFWMD
86			

Comment	_No Comments	Response	Source
87	Justification report is to be specific to Croom Watershed. Remove references and information left over from other watersheds unless it is specific to interaction with Croom.	References to McKethan Watershed have been removed	SWFWMD
	Report identifies multi-day event was used to delineate the 100-year floodplain. If so, identify specific subbasins that it was		
88	used to delineate the 100-year floodplain. If not, then identify the multi-day was not used.	Report has been revised to say that only the 1-day results were mapped in Croom.	SWFWME
89	Add Hernando County acknowledgment on the Justification Report cover page.	Hernando County is acknowledged on Justification Report cover.	SWFWM
90	Include a copy of the final Peer Review report in the Report Directory.	The Peer review report has been moved to the reports folder in the submittal package	SWFWME
91	Transition zone indicates Oakton Drive is inundated	Transition Zone has been revised	SWFWM
92	Floodplain is extensive in this area. Verify that DCIA & impervious parameters are correct; identify what if any chnages are made.	Floodplain has been reduced by adjusting DCIA values for this area based on the results of our Weeki Wachee DCIA sensitivity analyses.	SWFWM

Appendix B

				SUBBASIN PRIMARY MODELED FLOOD FEATURE	DISCHARGE	SUBBASIN	SUBBASIN PERCOLATION		MODELED	MODELED		FEMA	FEMA	MODEL	ED	MODELED	MODELED	TRANSITIONAL	TOTAL FLOODPLAIN AREA -		FLOODPLAIN	
	JUNCTION	AREA	SUBBASIN PREDOMINANT LANDUSE (RESIDENTIAL, COMMERCIAL, INSTITUTIONAL,	(DEPRESSION, WET POND WETLAND, DRA,	BASIN OR POSITIVE	STAGE	INCORPORATED IN MODELING	FLOODPLAIN			SUBBASIN VERIFICATION/VALIDATION DATA AVAILABLE	(A, X500, A	CRES ARE	A ELEVAT			F FLOODPLAIN MAX DEPTH	(ESTIMATED) FLOODPLAIN ARE		TOTAL FLOODPLAIN		MODELED FLOODPLAIN PPARENT REASONABLE BASED ON OOD IMPACT AVAILABLE INFORMATION?
A0010	NA0010	(ACRES) 4.38	AGRICULTURAL, OPEN SPACE OTHERS) Forests	ROADSIDE SWALE) DEPRESSION DEPRESSION	OUTFALL) CLOSED BASIN	ASSUMPTION DRY	(Y OR N) N	STORM EVENT 100 YR / 24 HR	(INCHES) 12.4	DISTRIBUTION SCS II FLMOD	(YES OR NO - IF YES PROVIDE DETAILS) NO		ACRES) (ACRE 0.00 0.00	81.88	3 0.10	(ACRES) 2.25%	(FEET) 1.68	(ACRES) 0.00	(ACRES) 0.10	OF TOTAL AREA (ACRI 2.25%	0.10	YES
A0020 A0030 A0040	NA0020 NA0030 NA0040	4.07 11.17 4.93	Forests Forests	DEPRESSION DEPRESSION DEPRESSION			N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	80.56	6 0.27	4.96% 2.39%	0.89	0.00 0.00 0.00	0.20 0.27 0.00	4.96% 2.39% 0.00%	0.20	YES YES
A0050	NA0050	21.89	Forests	DEPRESSION	CLOSED BASIN	DRY	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO		0.00 0.00	60.3	0.00	0.00%	0.10	0.00	0.00	0.01%	0.00	YES
A0060 A0070	NA0060 NA0070	4.65 12.92	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 70.55		0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES
A0080 A0090	NA0080 NA0090	13.02 14.66	Forests Forests	DEPRESSION DEPRESSION			N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 76.03	0.00	0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES
A0100 A0110	NA0100 NA0110	26.99 41.88	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 73.68		0.22%	0.51 0.80	0.00	0.06	0.22%	0.06	YES YES
A0120 A0130	NA0120 NA0130	22.63 9.69	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 76.37 % 79.11	0.16	0.73%	0.42	0.00	0.16	0.73%	0.16 0.00	YES YES
A0140 A0150		42.44 3.54	Forests Forests	DEPRESSION DEPRESSION			N Y	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00			0.86%	1.57	0.00	0.36 0.23	0.86%	0.36 0.23	YES YES
A0160 A0170	NA0160 NA0170	3.32 63.88	Forests Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 50.27	0.12	3.73% 6.71%	2.05 5.29	0.00	0.12 4.29	3.73% 6.71%	0.12 4.29	YES YES
A0175 A0180	NA0175 NA0180	57.37 2.86	Forests	WETLAND DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 50.66 % 93.02	0.57	0.99%	1.09	0.00	0.57	0.99%	0.57	YES
A0100 A0190 A0200		19.40 34.64	Forests	DEPRESSION DEPRESSION	CLOSED BASIN		N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 79.48	3 0.04	0.21%	0.16	0.00	0.04 0.87	0.21%	0.04	YES
A0220	NA0220	42.99	Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO		0.00 0.00 0.00 0.00 0.00 0.00	% 80.02 % 80.02	2 0.00	0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES
A0230 A0240		32.87 61.36	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY	N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD	NO NO		0.00 0.00	% 89.57	7 1.04	4.66% 1.69%	3.20 1.40	0.00	1.53 1.04	4.66% 1.69%	1.53 1.04	YES YES
A0250 A0260	NA0260	40.30 22.13	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY	Y N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 98.55	5 0.00	3.84% 0.00%	2.36 0.00	0.00	1.55 0.00	3.84% 0.00%	1.55 0.00	YES YES
A0263 A0266	NA0266	19.97 5.71	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO	A	0.06 0.30	% 60.85 % 41.79	0.10	0.73% 1.84%	6.58 4.00	0.00	0.15 0.10	0.73% 1.84%	0.09 -1.68	YES YES
A0270 A0275	NA0270 NA0275		Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY	Y N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.73 1.72	62.12		4.53% 0.46%	17.45 1.82	1.01 0.00	2.94 0.04	6.91% 0.46%	2.21 0.04	YES YES
A0280 A0290	NA0280	5.89 44.76	Forests Forests	DEPRESSION	CLOSED BASIN	DRY	Y	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 70.6 ⁴	0.23	3.85% 1.25%	1.06 0.97	0.00	0.23	3.85% 1.25%	0.23 0.56	YES
A0300		46.84	Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	+ +	0.00 0.00	% 70.17	7 0.00	0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES
A0305	NA0305	11.10	Wetland/Marshes/Mixed	WETLAND	POSITIVE OUTFAL	Initial stage set to 44' NAVD88 based on comparison of El Nino imagery and 1' LiDAR Contours	Ν	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A	5.81 52.34	% 49.62	2 4.71	42.44%	7.86	0.00	4.71	42.44%	-1.10	YES
A0310	NA0310	4.58	Forests		CLOSED BASIN		N	100 YR / 24 HR		SCS II FLMOD	NO		0.00 0.00	% 77.2 ⁴		0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES
A0320	NA0320 NA0330		Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN		N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 75.19		0.00% 34.37%	0.00 9.24	0.00	0.00 5.39	0.00% 34.38%	0.00 5.39	YES YES
A0332	NA0332	127.75	Forests	WETLAND	POSITIVE OUTFAL	imagery and 1' LiDAR Contours	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A	5.34 4.18	% 49.62	2 4.41	3.45%	6.38	5.16	9.57	7.49%	4.24	YES
A0334	NA0334	11.08	Forests	WETLAND	POSITIVE OUTFAL	Initial stage set to 46.6' NAVD88 based on comparison of El Nino imagery and 1' LiDAR Contours Initial stage set	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A	2.28 20.53	% 49.62	2 1.29	11.60%	5.93	0.00	1.29	11.60%	-0.99	YES
A0336	NA0336	7.56	Forests	WETLAND	POSITIVE OUTFAL	to 46.5' NAVD88 based	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A	3.15 41.66	% 49.62	2 1.95	25.79%	5.37	0.00	1.95	25.79%	-1.20	YES
A0337	NA0337	14.86	Forests	WETLAND	POSITIVE OUTFAL	Initial stage set to 44' NAVD88 based on Comparison of El Nino imagery and 1' LiDAR Contours	Ν	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A	7.46 50.22	% 49.62	2 6.13	41.23%	8.97	0.00	6.13	41.23%	-1.34	YES
A0338	NA0338	74.06	Forests	WETLAND	POSITIVE OUTFAL	L Initial stage set to 44.4' NAVD88 based of El Nino imagery and 1' LiDAR Contours	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A	1.39 1.88	% 49.62	2 2.73	3.69%	7.14	0.00	2.73	3.69%	1.34	YES
A0340	NA0340	83.52	Forests	WETLAND	POSITIVE OUTFAL	Initial stage set to 44' NAVD88 based on L comparison of El Nino imagery and 1' LiDAR Contours	Ν	100 YR / 24 HR	12.4	SCS II FLMOD	ΝΟ	A	16.62 19.90	% 49.62	2 15.51	18.57%	10.37	0.00	15.51	18.57%	-1.10	YES
A0350 A0400	NA0350 NA0400	51.42 7.92	Open Lands Forests	DEPRESSION DEPRESSION	POSITIVE OUTFAL CLOSED BASIN		N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO		2.21 4.31 0.00 0.00			6.69% 3.86%	13.35 1.04	0.00	3.44 0.31	6.69% 3.86%	1.23 0.31	YES
A0410	NA0410	8.07	Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN		N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 95.76	6 0.20	2.53%	0.93	0.00	0.20	2.53%	0.20	YES
A0420 A0430	NA0420 NA0430	7.91	Forests	DEPRESSION	CLOSED BASIN	DRY	N	100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO		0.00 0.00	% 91.79	0.28	3.53%	1.30	0.00	0.28	3.53%	0.28	YES
A0440 A0450	NA0450	3.97	Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD	NO		0.00 0.00	% 90.45	0.17	5.98% 4.28%	0.90	0.00	0.20	5.98% 4.28%	0.20	YES YES
A0455 A0460	NA0460	4.74 26.93	Forests Forests	DEPRESSION DEPRESSION		DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00 0.00 0.00 0.00 0.00	% 84.47 % 76.21	0.05	0.95% 2.08%	0.78 0.94	0.00	0.05	0.95% 2.08%	0.05	YES YES
A0470 A0480	NA0470	5.91 47.59	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY	N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO	+	0.00 0.00	% 85.5 % 74.96	0.25	4.23% 0.82%	0.72	0.00	0.25 0.39	4.23% 0.82%	0.25	YES
A0490	NA0490	6.82	Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY DRY	N	100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO		0.00 0.00	% 70.85		0.84%	0.75	0.00	0.06	0.84%	0.06	YES YES YES YES
A0495 A0500	NA0500	19.92 7.52	Forests Forests				N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD	NO		0.00 0.00			0.85%	0.66	0.00	0.17	0.85%	0.00	
A0505 A0510	NA0510	2.78 15.55	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00	% 76.9	0.30	0.01%	0.00	0.00	0.00	0.01%	0.00 0.30	YES YES
A0520	NA0520	20.86	Forests	DEPRESSION	CLOSED BASIN	DRY	Ν	100 YR / 24 HR		SCS II FLMOD	NO		0.00 0.00			1.70%	1.29	0.00	0.35	1.70%	0.35	YES

Image Image <th< th=""><th>MODEL MODEL SUBBASIN SUBBASIN JUNCTION AREA</th><th>SUBBASIN PREDOMINANT LANDUSE (RESIDENTIAL, COMMERCIAL, INSTITUTIONAL)</th><th>FEATURE (DEPRESSION, WET POND, WETLAND, DRA, BJ</th><th>SUBBASIN DISCHARGE NDTHONS (CLOSED BASIN OR POSITIVE</th><th>SUBBASIN PI INITIAL IN STAGE II</th><th>N MODELING FLO</th><th>MODELI ELED FLOODPL DPLAIN STORM DE</th><th>AIN FLOODPLAIN PTH STORM</th><th>SUBBASIN VERIFICATION/VALIDATION DATA AVAILABLE</th><th>(A, X500, AC</th><th>CRES AREA</th><th>ELEVATION</th><th>FLOODPLAIN</th><th>MODELED LOODPLAIN % OF TOTAL AREA</th><th>MODELED FLOODPLAIN MAX DEPTH</th><th>TRANSITIONAL (ESTIMATED) FLOODPLAIN AREA</th><th></th><th></th><th></th><th>MODELED FLOODPLAIN REASONABLE BASED ON</th></th<>	MODEL MODEL SUBBASIN SUBBASIN JUNCTION AREA	SUBBASIN PREDOMINANT LANDUSE (RESIDENTIAL, COMMERCIAL, INSTITUTIONAL)	FEATURE (DEPRESSION, WET POND, WETLAND, DRA, BJ	SUBBASIN DISCHARGE NDTHONS (CLOSED BASIN OR POSITIVE	SUBBASIN PI INITIAL IN STAGE II	N MODELING FLO	MODELI ELED FLOODPL DPLAIN STORM DE	AIN FLOODPLAIN PTH STORM	SUBBASIN VERIFICATION/VALIDATION DATA AVAILABLE	(A, X500, AC	CRES AREA	ELEVATION	FLOODPLAIN	MODELED LOODPLAIN % OF TOTAL AREA	MODELED FLOODPLAIN MAX DEPTH	TRANSITIONAL (ESTIMATED) FLOODPLAIN AREA				MODELED FLOODPLAIN REASONABLE BASED ON
bit bit <th>A0530 NA0530 7.00 A0540 NA0540 12.67</th> <th>Forests</th> <th>DEPRESSION C DEPRESSION C</th> <th>CLOSED BASIN CLOSED BASIN</th> <th>DRY DRY</th> <th>Y 100 Y Y 100 Y</th> <th>24 HR 12.4 2/24 HR 12.4</th> <th>SCS II FLMOE SCS II FLMOE</th> <th>0 NO 0 NO</th> <th>(</th> <th>0.00 0.00% 0.00 0.00%</th> <th>63.13 63.11</th> <th>0.28</th> <th>4.07% 3.55%</th> <th>1.18</th> <th>0.00</th> <th>0.28</th> <th>4.07% 3.55%</th> <th>0.28</th> <th>D IMPACT AVAILABLE INFORMATION? YES YES</th>	A0530 NA0530 7.00 A0540 NA0540 12.67	Forests	DEPRESSION C DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY DRY	Y 100 Y Y 100 Y	24 HR 12.4 2/24 HR 12.4	SCS II FLMOE SCS II FLMOE	0 NO 0 NO	(0.00 0.00% 0.00 0.00%	63.13 63.11	0.28	4.07% 3.55%	1.18	0.00	0.28	4.07% 3.55%	0.28	D IMPACT AVAILABLE INFORMATION? YES YES
1 1	A0600 NA0600 16.75 A0610 NA0610 5.92	Forests	DEPRESSION C	CLOSED BASIN		N 100 Y	2/ 24 HR 12.4	SCS II FLMO			0.00 0.00% 0.00 0.00%	84.91		2.03%		0.00	0.12	2.03%	0.36 0.12	YES YES
No. No. No. No. No.	A0640 NA0640 17.87 A0650 NA0650 10.95	Forests Forests	DEPRESSION C DEPRESSION C	CLOSED BASIN	DRY DRY	Y 100 Y Y 100 Y	24 HR 12.4 2/24 HR 12.4	SCS II FLMOE SCS II FLMOE	NO	(0.00 0.00% 0.00 0.00%	67.84 71.3	0.74	2.54% 6.75%	1.12	0.00	0.45 0.74	2.54% 6.75%	0.45 0.74	YES YES YES
	A0660 NA0660 14.58	Forests	DEPRESSION C	CLOSED BASIN	DRY	Y 100 \	2/ 24 HR 12.4	SCS II FLMOD	NO	(0.00 0.00%	58.77	0.49	3.33%	1.16	0.00	0.49	3.33%	0.49	YES YES YES
Des Des Des Des Des Des	A0700 NA0700 23.11 A0705 NA0705 8.73	Forests Forests	DEPRESSION C DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY DRY	N 100 Y N 100 Y	2/24 HR 12.4 2/24 HR 12.4	SCS II FLMOE SCS II FLMOE	0 NO 0 NO	0	0.00 0.00% 0.00 0.00%	67.44 68.31	0.00	0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES YES
No. No. No. No. No.	A0720 NA0720 18.10	Forests	DEPRESSION C	CLOSED BASIN		N 100 Y	2/ 24 HR 12.4	SCS II FLMOD	NO	(0.00 0.00%	59.43		0.00%				0.00%	0.00	YES YES
No. No. No. No. No.	A0724 NA0724 13.11 A0726 NA0726 3.60	Forests Forests	DEPRESSION C	CLOSED BASIN	DRY	N 100 Y Y 100 Y	24 HR 12.4 2/24 HR 12.4	SCS II FLMOE SCS II FLMOE	NO NO	(0.00 0.00% 0.00 0.00%	66.08 61.68	0.05	0.36% 1.45%	4.26	0.00	0.05	0.36% 1.45%	0.05	YES YES
DAD DAD DAD <thdad< th=""> <thdad< th=""> <thdad< th=""> <</thdad<></thdad<></thdad<>	A0729 NA0729 7.24	Forests	DEPRESSION	CLOSED BASIN	DRY	N 100 \	2/ 24 HR 12.4	SCS II FLMOD	NO	(0.00 0.00%	62.47	0.30	4.12%	1.26	0.00	0.30	4.12%	0.30	YES YES
No. A.B. No. No. <th>A0740 NA0740 18.19 A0750 NA0750 9.19</th> <th>Forests Forests</th> <th>DEPRESSION C DEPRESSION C</th> <th></th> <th>DRY DRY</th> <th>N 100 Y Y 100 Y</th> <th>2/24 HR 12.4 2/24 HR 12.4</th> <th>SCS II FLMO</th> <th>NO</th> <th>(</th> <th>0.00 0.00% 0.00 0.00%</th> <th>63.93 62.67</th> <th>0.19 0.26</th> <th>1.06% 2.83%</th> <th>0.68 1.53</th> <th>0.00</th> <th>0.19 0.26</th> <th>1.06% 2.83%</th> <th>0.19 0.26</th> <th>YES YES YES</th>	A0740 NA0740 18.19 A0750 NA0750 9.19	Forests Forests	DEPRESSION C DEPRESSION C		DRY DRY	N 100 Y Y 100 Y	2/24 HR 12.4 2/24 HR 12.4	SCS II FLMO	NO	(0.00 0.00% 0.00 0.00%	63.93 62.67	0.19 0.26	1.06% 2.83%	0.68 1.53	0.00	0.19 0.26	1.06% 2.83%	0.19 0.26	YES YES YES
No. No. No. No. No.	A0770 NA0770 23.14	Forests	DEPRESSION C DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY	N 100 \	2/ 24 HR 12.4	SCS II FLMOD	NO	(0.00 0.00%	76.73	1.06	4.59%	1.83	0.00	1.06	4.59%	1.06	YES YES
No. No. No. No. No.	A0790 NA0790 18.64 A0800 NA0800 15.70	Forests Forests	DEPRESSION C DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY DRY	Y 100 Y Y 100 Y	2/ 24 HR 12.4 2/ 24 HR 12.4	SCS II FLMOE SCS II FLMOE	0 NO 0 NO		0.00 0.00%	53.66 55.9	0.68 0.62	3.67% 3.92%	1.79 1.04	0.00	0.68	3.67% 3.92%	0.68 0.62	YES YES
	A0820 NA0820 33.57	Forests	DEPRESSION C	CLOSED BASIN	DRY	N 100 Y	2/ 24 HR 12.4	SCS II FLMOE SCS II FLMOE	NO NO	(0.00 0.00%			1.54%	1.52	0.00		1.54%	0.52	YES YES YES
No.0 NO.0 NO.0 NO.0 N	A0840 NA0840 20.17 A0850 NA0850 15.99	Forests Forests	WETLAND CO WETLAND CO	CLOSED BASIN	DRY DRY	N 100 Y N 100 Y	2/24 HR 12.4 2/24 HR 12.4	SCS II FLMOE SCS II FLMOE	0 NO 0 NO	A C	6.81 33.76% 3.75 23.44%	49.39	3.77	29.46% 23.58%	9.01 8.22	0.00	3.77	29.46% 23.58%	-0.87 0.02	YES YES
JAME Diff Diff Diff Diff D	A0870 NA0870 31.31	Forests	DEPRESSION C	CLOSED BASIN	DRY	N 100 \	2/ 24 HR 12.4	SCS II FLMO	NO	(0.00 0.00%	69.68	0.63	2.02%	1.52	0.00	0.63	2.02%	0.63	YES YES YES
No. No. <th>A0880 NA0880 75.36</th> <th>Forests</th> <th>WETLAND C</th> <th>CLOSED BASIN</th> <th>DRY</th> <th>N 100 Y</th> <th>2/ 24 HR 12.4</th> <th></th> <th></th> <th>A 1</th> <th>0.03 13.32%</th> <th></th> <th>9.33</th> <th>12.38%</th> <th>8.08</th> <th>0.27</th> <th>9.60</th> <th>12.74%</th> <th>-0.43</th> <th>YES YES YES</th>	A0880 NA0880 75.36	Forests	WETLAND C	CLOSED BASIN	DRY	N 100 Y	2/ 24 HR 12.4			A 1	0.03 13.32%		9.33	12.38%	8.08	0.27	9.60	12.74%	-0.43	YES YES YES
Nove 10 Nove 10 Nove 10 Nove 10 10 10 </th <th></th> <th></th> <th></th> <th></th> <th>to 46' NAVD88 based on comparison of El Nino imagery and 1' LiDAR Contours</th> <th></th> <th>YES</th>					to 46' NAVD88 based on comparison of El Nino imagery and 1' LiDAR Contours															YES
	A0910 NA0910 9.19	Forests	DEPRESSION C	CLOSED BASIN	DRY	Y 100 Y	24 HR 12.4	SCS II FLMOR	NO	(0.00 0.00%	77.24	0.29	3.11%	2.16	0.00	0.29	3.11%	0.29	YES YES YES
Norm Norm Norm Norm	A0930 NA0930 236.55	Forests	DEPRESSION C DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY	Y 100 Y	24 HR 12.4	SCS II FLMO	NO		0.00 0.00% 0.00 0.00%	61.23	11.58	4.90%	9.98	5.70	17.28	7.31%	17.28	YES
No. No. No. No. No. No. No. No.	A0955 NA0955 52.08	Forests	DEPRESSION PO	OSITIVE OUTFALL	DRY	N 100 Y	2/ 24 HR 12.4	SCS II FLMOR	NO	(0.00 0.00%	102.46	2.48	4.77%	4.42	0.00	2.49	4.77%	2.49	YES YES
No. No. Open Open Open Open No.	A0963 NA0963 30.85	Forests	CHANNEL PO CHANNEL PO	DSITIVE OUTFALL	DRY	N 100 Y N 100 Y	2/24 HR 12.4 2/24 HR 12.4	SCS II FLMOE SCS II FLMOE	NO NO		0.00 0.00%	86.69 80.2	0.77	2.49% 17.77%	1.42	0.95	1.72	5.57% 17.77%	1.72	YES
No. No. <th>A0975 NA0975 4.60</th> <th>Forests</th> <th>DEPRESSION C</th> <th>CLOSED BASIN</th> <th>DRY</th> <th>Y 100 Y</th> <th>2/ 24 HR 12.4</th> <th>SCS II FLMO</th> <th>NO</th> <th>(</th> <th>0.00 0.00%</th> <th>72.95</th> <th>0.87</th> <th>18.99%</th> <th>3.37</th> <th>0.00</th> <th>0.88</th> <th>19.03%</th> <th>0.88</th> <th>YES YES YES</th>	A0975 NA0975 4.60	Forests	DEPRESSION C	CLOSED BASIN	DRY	Y 100 Y	2/ 24 HR 12.4	SCS II FLMO	NO	(0.00 0.00%	72.95	0.87	18.99%	3.37	0.00	0.88	19.03%	0.88	YES YES YES
No. No. <th>A0990 NA0990 12.15</th> <th>Forests</th> <th>DEPRESSION PO DEPRESSION PO</th> <th>DSITIVE OUTFALL</th> <th>DRY</th> <th>N 100 Y</th> <th>24 HR 12.4</th> <th>SCS II FLMOE SCS II FLMOE</th> <th>NO NO</th> <th>A 1</th> <th>2.10 17.32%</th> <th></th> <th>3.73</th> <th>30.69%</th> <th>5.96</th> <th>0.00</th> <th>3.73</th> <th>30.70%</th> <th>1.63</th> <th>YES</th>	A0990 NA0990 12.15	Forests	DEPRESSION PO DEPRESSION PO	DSITIVE OUTFALL	DRY	N 100 Y	24 HR 12.4	SCS II FLMOE SCS II FLMOE	NO NO	A 1	2.10 17.32%		3.73	30.69%	5.96	0.00	3.73	30.70%	1.63	YES
No. State S	B0015 NB0015 1.71	Open Lands	DEPRESSION PO DEPRESSION PO	DSITIVE OUTFALL	DRY	N 100 Y	24 HR 12.4	SCS II FLMO	NO		0.00 0.00%	173.13	0.36	21.19%	5.81	0.00	0.36	21.19%	0.36	YES YES YES
NMM AM Free MITHOM COURDAND UP A SUITAND CourDAND CourDANDD CourDADDD CourDADDD CourDAND	B0030 NB0030 22.93 B0040 NB0040 31.89	Forests Forests	DEPRESSION C DEPRESSION PO	CLOSED BASIN DSITIVE OUTFALL	DRY DRY	N 100 Y N 100 Y	2/ 24 HR 12.4 2/ 24 HR 12.4	SCS II FLMOE SCS II FLMOE	NO NO		0.00 0.00% 0.00 0.00%	146.43	0.26 0.00	1.13% 0.00%	0.78 0.00	0.00	0.26 0.00	1.13%	0.26 0.00	YES YES
NBM 1.45 Furne Different Different <thdifferent< th=""></thdifferent<>	B0060 NB0060 34.70	Forests	WET POND C		DRY	N 100 Y	2/ 24 HR 12.4	SCS II FLMOR	NO	(0.00 0.00%		2.93	8.44%	9.61	0.00	2.93	8.44%	2.93	YES YARD YES YES
bit bit<	B0080 NB0080 18.55 B0090 NB0090 24.10	Forests	DEPRESSION C	CLOSED BASIN		N 100 Y	24 HR 12.4	SCS II FLMOD	0 NO 0 NO	(0.00 0.00%			0.88%	1.87			0.88%	0.16 0.12	YES
NB/02 S09 Result OPPO COUND MARK PU N OVER 211 COUND 201 S00 S00 S00 S00 S00	B0100 NB0100 58.82	Forests	DEPRESSION C			N 100 Y	2/ 24 HR 12.4				0.00 0.00%	64.74			0.00	0.00	0.00 0.00 0.00		0.00	YES YES YES
Name Treesh DPRESSION CLOSED BASN DPV V 1007/2148 12.4 CS3 FM.000 ADD 0.000 97.01 CAS 1.010	B0120 NB0120 5.09 B0130 NB0130 3.38	Residential	DEPRESSION C DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY	N 100 Y	24 HR 12.4	SCS II FLMO	NO		0.00 0.00% 0.00 0.00%	71.27 72.88		0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES
B8020 11.42 Age/dmail OPPR SSION CLOSE DASM DRV V 100 M7/24/H 12.4 SSIF HADO NO 0.00 0.05 2.16% 1.66 0.00 0.63 2.10% 0.03 0.25 2.10% 0.03 0.05 0.25 0.05 0.05 0.05 <	B0210 NB0210 13.36	Forests	DEPRESSION C	CLOSED BASIN	DRY	Y 100 \	2/ 24 HR 12.4	SCS II FLMO	NO	(0.00 0.00%	97.61		1.91%	1.54	0.00	0.26	1.91%	0.26	YES YES YES
Bood NB0200 3.12 Residential DEPRESSION C.CORED BASIN DRV N 100 YR (241R) 12.4 SCSI FLMOD NO 0.00 0.00% 74.16 0.00 0.00 0.00 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.00% 74.16 0.00 0.01% 0.01 0.01% <t< th=""><th>B0230 NB0230 11.42 B0240 NB0240 7.33</th><th>Agricultural Residential</th><th>DEPRESSION C</th><th>CLOSED BASIN CLOSED BASIN</th><th>DRY DRY</th><th>Y 100 Y N 100 Y</th><th>2/ 24 HR 12.4 2/ 24 HR 12.4</th><th>SCS II FLMOD</th><th>NO</th><th></th><th>0.00 0.00% 0.00 0.00%</th><th>83.46 67.35</th><th>0.25</th><th>0.76%</th><th>0.80</th><th>0.00</th><th>0.25 0.06</th><th>2.16% 0.76%</th><th>0.25</th><th>YARD YES YES</th></t<>	B0230 NB0230 11.42 B0240 NB0240 7.33	Agricultural Residential	DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY DRY	Y 100 Y N 100 Y	2/ 24 HR 12.4 2/ 24 HR 12.4	SCS II FLMOD	NO		0.00 0.00% 0.00 0.00%	83.46 67.35	0.25	0.76%	0.80	0.00	0.25 0.06	2.16% 0.76%	0.25	YARD YES YES
NB030 NB030 A f4 ye V forests U/Y f1 ye Y 10 Ye / 24 ke 12 k SC 1 H, MO MO MO MO MO MO MO YARD YARD </th <th>B0260 NB0260 3.12</th> <th>Residential</th> <th>DEPRESSION C</th> <th>CLOSED BASIN</th> <th>DRY</th> <th>N 100 Y</th> <th>2/ 24 HR 12.4</th> <th>SCS II FLMOR</th> <th>NO</th> <th>(</th> <th>0.00 0.00%</th> <th>74.16</th> <th>0.00</th> <th>0.01%</th> <th>0.00</th> <th>0.00</th> <th>0.00</th> <th>0.01%</th> <th>0.00</th> <th>YES YES YES</th>	B0260 NB0260 3.12	Residential	DEPRESSION C	CLOSED BASIN	DRY	N 100 Y	2/ 24 HR 12.4	SCS II FLMOR	NO	(0.00 0.00%	74.16	0.00	0.01%	0.00	0.00	0.00	0.01%	0.00	YES YES YES
B0305 N0306 6.28 Residential DEPRESSION ORIV N 100 YR /24 R 12.4 SCS IF LMOD NO 0.00 0.00*//2 7.36 0.00 0.01*//2 0.00 0.01*/2 0.00 0.01*/2 0.00 0.01*/2 0.00 0.01*/2 0.00 0.01*/2 0.00 0.01*/2 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01																			17.87	ARD YES
C0010 5.33 Open Lands DEPRESSION POSITIVE OUTFALL DRY N 100 YR/24 IR 12.4 SCSI FLMOD NO 1.24 34.9% 4.28 0.00 1.24 35.0% 35.1 1.03 47.0% 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1.04 1	C0007 NC0007 1.02	Residential	DEPRESSION C DEPRESSION PO	CLOSED BASIN DSITIVE OUTFALL	DRY	N 100 Y	24 HR 12.4	SCS II FLMO	NO	(0.00 0.00%	73.06	0.00	0.01%	0.00	0.00	0.00	0.01%	0.00	YES YES ARD YES
C0035 ND0035 11.49 Anticultural DEPKESSION POSITIVE OUTFALL DRY N 100 YR /24 R 12.4 SCS II FLMOD NO 0.00 0.00% 143.51 12.5 10.92% 3.46 0.00 1.52 10.92% 1.52 10.92% 1.56 10.92% 1.56 10.92% 1.57 5.38% 5.27 COMM C0050 NC0060 59.80 Anticultural DEPKESSION POSITIVE OUTFALL DRY N 100 YR /24 R 12.4 SCS II FLMOD NO 0.00 0.00% 83.78 9.24 18.14% 8.54 0.91 10.15 19.37% 10.15 19.37% 10.15 19.37% 10.15 19.37% 12.12 NO NO 0.00 0.00% 83.78 9.24 18.14% 8.54 0.01 10.15 19.37% 12.12 NO NO 0.00 0.00% 83.78 2.72 19.37% 2.12 NO NO 0.00 0.00% 85.78 0.00 0.04% <t< th=""><th>C0010 NC0010 3.53 C0015 NC0015 21.79</th><th>Open Lands Residential</th><th>DEPRESSION PO DEPRESSION PO</th><th>DSITIVE OUTFALL</th><th></th><th>N 100 Y</th><th>24 HR 12.4</th><th>SCS II FLMOD</th><th>NO</th><th></th><th>0.00 0.00% 0.00 0.00%</th><th>99.27 94.73</th><th>0.92</th><th>4.23%</th><th>2.50</th><th>0.10</th><th>1.03</th><th>4.71%</th><th>1.24 1.03</th><th></th></t<>	C0010 NC0010 3.53 C0015 NC0015 21.79	Open Lands Residential	DEPRESSION PO DEPRESSION PO	DSITIVE OUTFALL		N 100 Y	24 HR 12.4	SCS II FLMOD	NO		0.00 0.00% 0.00 0.00%	99.27 94.73	0.92	4.23%	2.50	0.10	1.03	4.71%	1.24 1.03	
Codes No.0060 5.90 Agricultural DEPRESSION POSITIVE OUTFALL DRY Y 100 YR /24 R 12.4 SCS II FLMOD NO 0.00% 83.78 9.24 18.14% 8.54 0.91 10.15 19.33% 10.15 HOUSE, YARD YC C0070 NC0070 14.03 Forests DEPRESSION POSITIVE OUTFALL DRY Y 100 YR /24 R 12.4 SCS II FLMOD NO 0.00% 83.78 9.24 18.14% 8.54 0.91 12.7 19.33% 17.2 H3.4% 5.58 0.00 10.01 19.33% 10.15 H9.33% 10.15 H9.33% 10.15 H9.33% 12.4 SCS II FLMOD NO 0.00 0.00% 83.78 9.24 18.14% 6.58 0.00 10.01 19.33% 10.97 N 100 YR /24 R 12.4 SCS II FLMOD NO 0.00 0.00% 65.55 0.00 0.00 0.00% 0.00 0.00% 0.00 0.00 0.00% 0.01 <	C0035 NC0035 11.49	Agricultural Agricultural	DEPRESSION PO WETLAND C	OSITIVE OUTFALL CLOSED BASIN	DRY	N 100 Y	2/ 24 HR 12.4	SCS II FLMOR	NO	(0.00 0.00%	113.61	1.25	10.92%	3.46	0.00	1.25	10.92%	1.25	YES YES
C0090 5.45 Forests DEPRESSION CLOSED BASIN DRY N 100 YR /24 IR 12.4 SCS II FLMOD NO 0.00 0.00% 79.22 0.04 0.80% 0.00 0.04 0.00% 0.04 0.00 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04 0.00% 0.04	C0060 NC0060 50.90 C0070 NC0070 14.03	Agricultural Forests	DEPRESSION PO DEPRESSION PO	DSITIVE OUTFALL		Y 100 Y Y 100 Y	2/24 HR 12.4 2/24 HR 12.4	SCS II FLMOE SCS II FLMOE	NO NO	(0.00 0.00% 0.00 0.00%	83.78 83.78	2.72	18.14% 19.37%	5.58	0.91 0.00	10.15 2.72	19.93% 19.37%	10.15 HOU 2.72	YES
C010 NC010 6.03 Residential DEPRESSION CLOSED BASIN DRY N 100 YR /24 HR 12.4 SCS II FLMOD NO 0.00 0.00% 77.38 0.23 3.84% 0.72 0.00 0.23 3.84% 0.23 3.84% 0.23 0.00 0.03 0.00 0.00% 77.38 0.23 3.84% 0.72 0.00 0.023 3.84% 0.23 0.01 0.02 0.00 0.00% 0.01 0.00 0.00% 0.01 0.00 0.00% 0.01 0.00 0.023 3.84% 0.23 3.84% 0.23 3.84% 0.23 3.84% 0.23 3.84% 0.23 3.84% 0.23 3.84% 0.23 3.84% 0.23 3.84% 0.23 3.84% 0.23 0.01 0.02 0.00 0.00% 0.01 0.00 0.00% 0.01 0.00 0.00% 0.01 0.01 0.02 0.01 0.02 0.01 0.01 0.02 0.01 0.01 0.02<	C0090 NC0090 5.45	Forests	DEPRESSION C	CLOSED BASIN	DRY	N 100 Y	2/ 24 HR 12.4	SCS II FLMOR	NO	(0.00 0.00%	79.22	0.04	0.80%	0.50	0.00	0.04	0.80%	0.04	YES YES
C0140 NC0140 2.33 Residential DEPRESSION CLOSED BASIN DRY N 100 YR / 24 HR 12.4 SCS II FLMOD NO 0.00 0.00% 77.77 0.07 3.14% 0.33 0.00 0.07 3.14% 0.07	C0110 NC0110 6.03 C0120 NC0120 40.29	Residential Residential	DEPRESSION C DEPRESSION C	CLOSED BASIN CLOSED BASIN	DRY DRY	N 100 Y N 100 Y	12.4 12.4 12.4 R 12.4	SCS II FLMO	NO NO		0.00 0.00% 0.00 0.00%	77.38 69.58	0.23	3.84% 0.28%	0.72 0.46	0.00	0.23 0.11	3.84% 0.28%	0.23 0.11	YES YES
C0150 NC0150 18.12 Forests DEPRESSION CLOSED BASIN DRY Y 100 YR/24 HR 12.4 SCS II FLMOD NO 0.00 72.36 0.61 3.36% 2.03 0.00 0.61 3.36% 0.61 <	C0140 NC0140 2.33	Residential	DEPRESSION C	CLOSED BASIN	DRY	N 100 Y	2/24 HR 12.4	SCS II FLMO	NO	(0.00 0.00%	77.77	0.07	3.14%	0.33	0.00	0.07	3.14%	0.07	YES YES YES
C0160 NC0160 1.96 Residential DEPRESSION CLOSED BASIN DRY N 100 YR/24 IR 12.4 SCS II FLMOD NO 0.00 0.00% 75.89 0.00 0.00% 0.00 0.00% 0.00% 0.00% 0.00 0.00% 0.00	C0160 NC0160 1.96 C0170 NC0170 10.24	Residential Forests	DEPRESSION C ROADSIDE SWALE C	CLOSED BASIN CLOSED BASIN	DRY DRY	N 100 Y N 100 Y	2/24 HR 12.4 2/24 HR 12.4	SCS II FLMOD	NO		0.00 0.00%	75.89 71.34	0.00	0.02% 0.77%	0.00	0.00	0.00 0.08	0.02%	0.00 0.08	YES YES
C0180 NC0180 38.83 Residential DEPRESSION CLOSED BASIN DRY Y 100 YR/24 R 12.4 SCS II FLMOD NO 0.00 82.83 0.57 1.55% 0.57 1.55% 0.57	C0180 NC0180 36.83	Residential	DEPRESSION C	CLOSED BASIN	DRY	Y 100 Y	2/ 24 HR 12.4	SCS II FLMO	NO	(0.00 0.00%	82.83	0.57	1.55%	0.58	0.00	0.57	1.55%	0.57	YES YES YES
C0200 NC0200 69.71 OpenLands ROADSIDE SWALE CLOSED BASIN DRY Y 100 YR/24 HR 12.4 SCS II FLMOD NO 0.00 0.00% 76.79 0.13 0.19% 0.13 0.19% 0.13 C0210 NC0210 50.11 Residential ROADSIDE SWALE CLOSED BASIN DRY N 100 YR/24 HR 12.4 SCS II FLMOD NO 0.00% 76.79 0.13 0.19% 0.13 0.19% 0.13 0.19% 0.13 0.19% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.13 0.13 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10% 0.13 0.10%<	C0200 NC0200 69.71 C0210 NC0210 50.11	Open Lands Residential	ROADSIDE SWALE CO ROADSIDE SWALE CO	CLOSED BASIN CLOSED BASIN	DRY DRY	Y 100 Y N 100 Y	2/ 24 HR 12.4 2/ 24 HR 12.4	SCS II FLMO	NO NO		0.00 0.00% 0.00 0.00%	76.79 74.37	0.13 0.55	0.19% 1.09%	1.19 1.31	0.00	0.13 0.55	0.19% 1.09%	0.13 0.55	YES YES
C0220 NC0220 35.10 Residential ROADSIDE SWALE CLOSED BASIN DRY N 100 YR/24 HR 12.4 SCS II FLMOD NO 0.00 83.36 0.14 0.40% 0.10% 0.00% 0.00% <th>C0225 NC0225 12.41</th> <th>Residential</th> <th>ROADSIDE SWALE CO DEPRESSION CO</th> <th>CLOSED BASIN CLOSED BASIN</th> <th>DRY</th> <th>N 100 Y</th> <th>24 HR 12.4</th> <th>SCS II FLMOR</th> <th>NO</th> <th>(</th> <th>0.00 0.00%</th> <th>74.57</th> <th>0.00</th> <th>0.00%</th> <th>0.00</th> <th>0.00</th> <th>0.00</th> <th>0.00%</th> <th>0.00</th> <th>YES YES YES</th>	C0225 NC0225 12.41	Residential	ROADSIDE SWALE CO DEPRESSION CO	CLOSED BASIN CLOSED BASIN	DRY	N 100 Y	24 HR 12.4	SCS II FLMOR	NO	(0.00 0.00%	74.57	0.00	0.00%	0.00	0.00	0.00	0.00%	0.00	YES YES YES
C0240 NC0240 8.70 Forests DEPRESSION CLOSED BASIN DRY N 100 Y/24 HR 12.4 SCS II FLMOD 0.00 0.00/6 66.47 0.31 3.61% 1.39 0.00 0.31 3.61% 0.31	C0240 NC0240 8.70 C0250 NC0250 17.27		DEPRESSION CO	CLOSED BASIN CLOSED BASIN		N 100 Y	2/24 HR 12.4	SCS IL ELMOR	NO		0.00 0.00%	66.47	0.31	3.61%	1.39	0.00	0.31	3.61%	0.31	YES YES YES

				SUBBASIN PRIMARY	SUBBASIN		SUBBASIN						FEMA %						TOTAL FLOODPLAIN				
	JUNCTION	SUBBASIN AREA	SUBBASIN PREDOMINANT LANDUSE (RESIDENTIAL, COMMERCIAL, INSTITUTIONAL,	FEATURE (DEPRESSION, WET POND, WETLAND, DRA,	DISCHARGE CONDITIONS (CLOSE BASIN OR POSITIVE	STAGE	PERCOLATION INCORPORATED IN MODELING	MODELED FLOODPLAIN	MODELED FLOODPLAIN STORM DEPTH	MODELED FLOODPLAIN STORM	SUBBASIN VERIFICATION/VALIDATION DATA AVAILABLE	(A, X500, AC	RES AREA		FLOODPLAIN	MODELED FLOODPLAIN % OF TOTAL AREA	MODELED FLOODPLAIN MAX DEPTH	TRANSITIONAL (ESTIMATED) FLOODPLAIN AREA		TOTAL FLOODPLAIN %	FLOODPLAIN DIFFERENCE - MODELED MINUS		MODELED FLOODPLAIN REASONABLE BASED ON
ID C0260 C0270	ID NC0260 NC0270	(ACRES) 22.82 6.87	AGRICULTURAL, OPEN SPACE OTHERS) Residential Residential	ROADSIDE SWALE) ROADSIDE SWALE DEPRESSION DEPRESSION	OUTFALL) CLOSED BASIN CLOSED BASIN CLOSED BASIN	ASSUMPTION DRY DRY DRY	(Y OR N) N N	STORM EVENT 100 YR / 24 HR 100 YR / 24 HR	(INCHES) 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD	(YES OR NO - IF YES PROVIDE DETAILS) NO NO	0.	RES) (ACRES) 00 0.00% 00 0.00%		AREA (ACRES) 0.41 0.00	(ACRES) 1.78% 0.00%	(FEET) 2.16 0.00	(ACRES) 0.00 0.00	(ACRES) 0.41 0.00	OF TOTAL AREA (ACRES 1.78% 0.00%) FEMA (ACRES) 0.41 0.00	FLOOD IMPACT	AVAILABLE INFORMATION? YES YES YES
C0280 C0285 C0290	NC0280 NC0285 NC0290	14.21 2.46 11.44	Residential Residential Residential	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%	74.69 75.2 73.59	0.00 0.00 0.00	0.00% 0.00%	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00% 0.00%	0.00 0.00 0.00		YES YES YES
C0300 C0310 C0320	NC0300 NC0310 NC0320	19.71 5.06 5.06	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%		0.18 0.05 0.03	0.90% 0.99% 0.65%	0.78 0.56 0.69	0.00 0.00	0.18 0.05 0.03	0.90% 0.99% 0.65%	0.18 0.05 0.03		YES YES YES
C0330	NC0330 NC0340 NC0350	13.70 5.39 9.33	Residential Residential	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00%	69.43 67.65 65.8	0.47	3.45% 0.00%	2.35 0.00 1.39	0.12	0.60	4.36% 0.00% 2.43%	0.60		YES YES
C0355 C0360	NC0355 NC0360	6.57 46.19	Residential Forests Residential	DEPRESSION DEPRESSION DEPRESSION		DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00% 00 0.00%	89.82 71.76	0.23	2.43% 0.01% 0.00%	0.00	0.00	0.23 0.00 0.00	0.01% 0.00%	0.23 0.00 0.00		YES
	NC0365 NC0370 NC0380	8.91 4.61 11.52	Residential Residential Residential	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY		100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%	70.06	0.00 0.00 0.15	0.00% 0.01% 1.34%	0.00 0.00 0.52	0.00 0.00 0.00	0.00 0.00 0.15	0.00% 0.01% 1.34%	0.00 0.00 0.15		YES YES YES
C0390 C0400 C0405	NC0390 NC0400 NC0405	4.99 59.52 10.46	Forests Forests Agricultural	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%	66.59 127.04 200.84	0.28 8.13 0.26	5.59% 13.66% 2.48%	0.73 27.01 1.80	0.00 0.00 0.00	0.28 8.13 0.26	5.59% 13.66% 2.48%	0.28 8.13 0.26	YARD	YES YES YES
C0410				WETLAND	CLOSED BASIN	Initial stage set to 147' NAVD88 based on comparison	N		12.4	SCS II FLMOD	NO			149.04	1.20	7.36%			1.20	7.36%			YES
	NC0410	16.26	Agricultural			of El Nino imagery and 1' LiDAR Contours	N	100 YR / 24 HR					00 0.00%				7.70	0.00			1.20		
C0430	NC0420 NC0430 NC0440	20.23 1.50 15.33	Agricultural Residential Agricultural	DEPRESSION DEPRESSION ROADSIDE SWALE	POSITIVE OUTFALL CLOSED BASIN CLOSED BASIN	L DRY DRY DRY	N Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%		1.82 0.09 0.66	9.01% 6.32% 4.29%	4.05 3.55 2.80	0.01 0.00 0.00	1.84 0.09 0.66	9.07% 6.32% 4.29%	1.84 0.09 0.66	ROAD	YES YES YES
C0450	NC0450	51.35	Agricultural	ROADSIDE SWALE	CLOSED BASIN	DRY	Y	100 YR / 24 HR	12.4	SCS II FLMOD	A High Water Elevation of 140.95' is referenced from SWFWMD HWM database. The model result of 122.93' is lower in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these	0.	00 0.00%	122.87	0.82	1.59%	2.55	3.43	4.25	8.27%	4.25	ROAD	YES
C0460	NC0460	31.29	Residential	DEPRESSION	POSITIVE OUTFALL	L DRY	Y	100 YR / 24 HR	12.4	SCS II FLMOD	levels. A High Water Elevation of 117.15 is referenced from SWFWMD HWM database. The model result of 117.87 is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard	0.	00 0.00%	117.88	5.88	18.78%	7.47	0.34	6.21	19.86%	6.21	HOUSE, ROAD	YES
C0463	NC0463	36.76	Forests	DEPRESSION	CLOSED BASIN	DRY	Y	100 YR / 24 HR	12.4	SCS II FLMOD	elevation near these levels. NO		00 0.00%		1.14	3.11%	2.07	0.00	1.14	3.11%	1.14	ROAD	YES
C0467 C0470 C0475	NC0467 NC0470 NC0475	1.49 10.65 54.03	Forests Forests Residential	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%	116.51 121.44 90.12	0.05 0.23 1.69	3.21% 2.12% 3.14%	1.32 0.76 1.76	0.00	0.05 0.23 1.69	3.21% 2.12% 3.14%	0.05 0.23 1.69		YES YES
C0478 C0480	NC0478 NC0480	10.86 25.07	Forests Forests	DEPRESSION DEPRESSION	POSITIVE OUTFALL	DRY L DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00%		0.51	4.72% 3.84%	2.92 7.88	0.00	0.51 1.70 0.71	4.72% 6.79%	0.51 1.70	BOAD	YES YES
C0600 C0610	NC0490 NC0600 NC0610	38.87 4.38 25.38	Residential Forests Forests	DEPRESSION DEPRESSION DEPRESSION DEPRESSION	POSITIVE OUTFALL POSITIVE OUTFALL CLOSED BASIN CLOSED BASIN	L DRY L DRY DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%	97.53 84.05	0.71 0.00 0.00	1.82% 0.01% 0.00%	2.66 0.00 0.00	0.00 0.00 0.00	0.71 0.00 0.00	1.83% 0.01% 0.00%	0.71 0.00 0.00	ROAD	YES YES YES
	NC0615 NC0620 NC0630	11.59 11.65 7.56	Residential Residential Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%	80.11	0.00 0.00 0.00	0.00% 0.00% 0.01%	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00% 0.00% 0.01%	0.00 0.00 0.00		YES YES YES
C0640 C0650 C0670	NC0640 NC0650 NC0670	5.22 6.62 9.60	Forests Forests Residential	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	2 Z Z	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%		0.00 0.00	0.01% 0.01% 0.00%	0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.01% 0.01% 0.00%	0.00 0.00 0.00		YES YES YES
C0680 C0690	NC0680 NC0690	18.19 15.25	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	. z z :	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00%		0.00	0.00%	0.00	0.00	0.00	0.00%	0.00		YES
C0710	NC0700 NC0705 NC0710	36.57 2.28 48.85	Residential Forests Residential	DEPRESSION DEPRESSION DEPRESSION		DRY DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%		0.00 0.00 0.89	0.00% 0.00% 1.83%	0.00 0.77	0.00	0.00 0.00 0.89	0.00% 0.00% 1.83%	0.00 0.00 0.89		YES YES YES
	NC0720 NC0730 NC0735	32.99 29.09 12.71	Forests Residential Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00%	82.68	0.00 1.14 0.13	0.00% 3.91% 1.06%	0.00 1.13 0.89	0.00 0.15 0.00	0.00 1.29 0.13	0.00% 4.44% 1.06%	0.00 1.29 0.13		YES YES YES
C0737 C0740	NC0737 NC0740	1.43 163.09	Residential Residential	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		00 0.00% 00 0.00%	84.44 84.44	0.66	46.11% 8.50%	12.33 11.39	0.00	0.66 16.84	46.11% 10.33%	0.66 16.84	YARD HOUSE, ROAD, YARD	YES YES
C0750 C0760	NC0750 NC0760 NC0770	1.99 1.81	Commercial/Industrial Commercial/Industrial	DEPRESSION DEPRESSION	CLOSED BASIN POSITIVE OUTFALL	DRY L DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		00 0.00% 00 0.00%	119.27 113.54	0.55	27.46% 16.77%	4.14 5.41	0.00	0.55 0.30	27.46% 16.77%	0.55		YES YES
D0010 D0015	ND0010 ND0015		Residential Residential		CLOSED BASIN	L DRY L DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD		0.	00 0.00% 00 0.00% 00 0.00%	75.18	0.40 0.00	23.12% 1.51% 0.01%	11.45 1.03 0.00	0.17 0.00 0.00	0.40 0.00	23.78% 1.51% 0.01%	0.40	YARD	YES YES YES
D0025	ND0020 ND0025 ND0030	6.49	Agricultural Forests Residential	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0.	00 0.00% 00 0.00% 00 0.00%	82.88	0.00 0.07 1.29	0.00% 1.13% 0.99%	0.00 2.63 1.82	0.00 0.00 0.00	0.00 0.07 1.29	0.00% 1.13% 0.99%	0.00 0.07 1.29		YES YES YES
D0040 D0050	ND0040 ND0050 ND0060	9.58 6.01	Forests Residential Residential		CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY DRY	N Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD		0.	00 0.00% 00 0.00% 00 0.00%	72.84	0.93 0.27 0.38	9.71% 4.46% 4.64%	8.45 1.67 0.94	0.00 0.00 0.00	0.93 0.27 0.38	0.99% 9.71% 4.46% 4.64%	0.93 0.27 0.38	YARD	YES YES YES YES
D0070 E0010	ND0070 NE0010	5.59 36.07	Residential Forests	ROADSIDE SWALE DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y	100 YR/24 HR 100 YR/24 HR 100 YR/24 HR 100 YR/24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD		0.	00 0.00% 00 0.00%	77.28 92.04	0.38	9.91% 2.48% 4.81%	1.26 1.74 1.16	0.00	0.55 0.89 1.69	9.91% 2.48% 4.81%	0.55 0.89	HOUSE	YES YES YES
E0030 E0040	NE0020 NE0030 NE0040	35.03 17.14 26.20	Forests Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY DRY DRY	NN	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO	0.	00 0.00% 00 0.00% 00 0.00%	87.22	0.57	4.81% 3.33% 2.08%	0.81	0.00	0.57	4.81% 3.33% 2.08%	1.69 0.57 0.54		YES YES
E0060	NE0050 NE0060 NE0070	4.42 10.14 3.60	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0.	00 0.00% 00 0.00% 00 0.00%	94.87 80.81 91.68	0.14 0.00 0.00	3.21% 0.00% 0.01%	1.11 0.00 0.00	0.00 0.00 0.00	0.14 0.00 0.00	3.21% 0.00% 0.01%	0.14 0.00 0.00		YES YES YES
E0090	NE0080 NE0090 NE0110		Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	2 Z Z	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0.	00 0.00% 00 0.00% 00 0.00%	95.5	0.00 0.00 0.00	0.00% 0.00%	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00%	0.00 0.00 0.00		YES YES YES
E0120 E0130	NE0120 NE0130	22.20 16.48	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00% 00 0.00%	81.29	0.00	0.00%	0.00	0.00	0.00 0.01	0.00%	0.00 0.01		YES YES
E0150 E0160	NE0140 NE0150 NE0160	79.04 8.39 15.06	Forests Forests Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0	00 0.00%	93.95	0.97 0.48 0.67	1.23% 5.66% 4.44%	3.36 0.93 1.08	0.00 0.00 0.00	0.97 0.48 0.67	1.23% 5.66% 4.44%	0.97 0.48 0.67		YES YES YES
E0170 E0180	NE0170 NE0180 NE0190	11.30 17.44	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION		DRY DRY DRY	Y N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.	00 0.00% 00 0.00% 00 0.00% 00 0.00%	91.58 65.38 122.68	0.33 0.18 0.00	2.94% 1.05% 0.01%	1.29 5.04 0.17	0.00 0.00 0.00	0.33 0.18 0.00	2.94% 1.05% 0.01%	0.33 0.18 0.00		YES YES YES
E0200 E0210	NE0200 NE0210	4.92 19.20	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00%	90.77 88.42	0.00	3.28% 0.00%	1.20 0.00	0.00	0.16 0.00	3.28% 0.00%	0.16 0.00		YES YES
E0230	NE0220 NE0230 NE0240	38.68	Forests Forests Forests		CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0.	00 0.00% 00 0.00% 00 0.00%		0.00 0.00 0.00	0.00% 0.00% 0.00%	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00% 0.00% 0.00%	0.00 0.00 0.00		YES YES YES
E0260	NE0250 NE0260 NE0270	9.65 28.33 18.78	Forests Forests Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD		0.	00 0.00% 00 0.00% 00 0.00%	85.87 75.44	0.00 0.22 0.00	0.00% 0.77% 0.00%	0.00 3.12 0.00	0.00 0.00	0.00 0.22 0.00	0.00% 0.77% 0.00%	0.00 0.22 0.00		YES YES YES
E0280 E0285	NE0280 NE0285	6.84 59.47	Forests Forests	DEPRESSION		DRY DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00%	82.97 84.55	0.00	0.00% 0.47%	0.00	0.00	0.00 0.28	0.00%	0.00 0.28		YES
E0310 E0320	NE0290 NE0310 NE0320	77.65 39.28 5.25	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN POSITIVE OUTFALL CLOSED BASIN CLOSED BASIN	DRY L DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00% 00 0.00% 00 0.00%	71.44	0.43 0.87 0.21	0.55% 2.22% 3.99%	0.89 2.58 0.98	0.00 0.00 0.00	0.43 0.87 0.21	0.55% 2.22% 3.99%	0.43 0.87 0.21		YES YES YES
E0330 E0335	NE0330 NE0335 NE0340	10.91 5.62	Forests Forests Forests		CLOSED BASIN	DRY	Y Y V	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0.	00 0.00% 00 0.00% 00 0.00%	64.54	0.46 0.32 0.43	4.24% 5.71% 1.31%	1.07 3.31 2.83	0.00 0.00 0.00	0.46 0.32 0.43	4.24% 5.71% 1.31%	0.46 0.32 0.43		YES YES YES YES
E0350	NE0350	3.38	Forests	DEPRESSION	CLOSED BASIN	DRY	Ŷ	100 YR / 24 HR		SCS II FLMOD			00 0.00%		0.43	7.08%	1.11	0.00	0.43	7.08%	0.43		YES

3

				SUBBASIN PRIMARY MODELED FLOOD FEATURE	SUBBASIN DISCHARGE		SUBBASIN PERCOLATION		MODELED	MODELED		FEMA	FEMA % OF	MODELED		MODELED	MODELED	TRANSITIONAL	TOTAL FLOODPLAIN AREA -		FLOODPLAIN		
	IN JUNCTION	SUBBASIN N AREA (ACRES)	SUBBASIN PREDOMINANT LANDUSE (RESIDENTIAL, COMMERCIAL, INSTITUTIONAL, AGRICULTURAL, OPEN SPACE OTHERS)	(DEPRESSION, WET POND, WETLAND, DRA, ROADSIDE SWALE)	CONDITIONS (CLOSED BASIN OR POSITIVE OUTFALL)		NCORPORATED IN MODELING (Y OR N)	MODELED FLOODPLAIN STORM EVENT	FLOODPLAIN STORM DEPTH (INCHES)	FLOODPLAIN STORM DISTRIBUTION	SUBBASIN VERIFICATION/VALIDATION DATA AVAILABLE (YES OR NO - IF YES PROVIDE DETAILS)	(A, X500, AC	RES AREA	FLOODPLAIN ELEVATION (FEET NAVD)		FLOODPLAIN % OF TOTAL AREA (ACRES)	FLOODPLAIN MAX DEPTH (FEET)	(ESTIMATED) FLOODPLAIN ARE. (ACRES)	MODELED PLUS TRANSITIONAL (ACRES)	TOTAL FLOODPLAIN	DIFFERENCE - MODELED MINUS (S) FEMA (ACRES)	APPARENT R	MODELED FLOODPLAIN REASONABLE BASED ON VAILABLE INFORMATION?
E0360 E0370	NE0360 NE0370	10.95 4.88	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	89.47	0.48 0.20	4.38% 4.06%	1.15 1.31	0.00	0.48	4.38% 4.06%	0.48 0.20		YES YES
E0380 E0385	NE0380 NE0385	29.06	Forests Forests	DEPRESSION	CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	63.32	0.87	3.00% 5.77%	1.45 2.04	0.00	0.87 0.17 1.17	3.00% 5.77%	0.87 0.17		YES YES
	NE0390 NE0400 NE0410	49.08	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0	0.00 0.00%	56.42	1.17 1.14 0.14	1.25% 2.32% 1.50%	1.64 1.29 0.83	0.00	1.14	1.25% 2.32% 1.50%	1.17 1.14 0.14		YES YES
E0420	NE0420	2.20 33.47	Forests Forests			DRY DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00% 0.00 0.00% 0.00 0.00%		0.00 0.51	1.50% 0.00% 1.52%	0.83 0.00 0.61	0.00 0.00 0.00	0.14 0.00 0.51	1.50% 0.00% 1.52%	0.00 0.51		YES YES YES
E0440	NE0430 NE0440	108.52	Forests Forests	DEPRESSION WETLAND	POSITIVE OUTFALL CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	51.85	0.39 1.96	2.91% 1.80%	1.05 4.69	0.00	0.39 1.96	2.91% 1.80%	0.39 1.96		YES YES
E0443 E0445	NE0445	14.94	Forests Forests			DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	1.64 5.16% 0.00 0.00%	57.22	3.19 0.47	3.55% 3.14%	3.67 1.71	0.00	3.19 0.47	3.55% 3.14%	-1.44 0.47		YES YES
	NE0447 NE0448 NE0450	25.75	Forests Forests Forests	WETLAND DEPRESSION WETLAND	CLOSED BASIN CLOSED BASIN POSITIVE OUTEAU	DRY DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0	0.60 10.22% 0.00 0.00% 1.92 22.70%	81.45	7.18 0.38 8.37	7.64% 1.49% 15.93%	4.62 2.18 5.10	0.00	7.18 0.38 8.37	7.64% 1.49% 15.93%	-2.43 0.38 -3.55		YES YES YES
F0010	NF0010 NF0030	51.92	Residential	DEPRESSION DEPRESSION	CLOSED BASIN	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	1.92 22.70% 0.00 0.00% 0.00 0.00%	87.79	0.60	1.16%	1.25	0.00	0.60	1.16%	0.60	YARD	YES
F0035	NF0035 NF0040	4.95	Agricultural Residential	DEPRESSION DEPRESSION		DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	122.6	0.16 5.05	3.21% 3.87%	2.67 4.35	0.00	0.16 6.43	3.27% 4.92%	0.16 6.43	HOUSE, YARD	YES YES
	NF0060	16.99	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY	Y N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	79.37 89.68	1.49 0.00	2.30% 0.00%	1.96 0.00	0.63	2.12 0.00 0.07	3.28% 0.00%	2.12 0.00		YES YES
F0070 F0080	NF0070 NF0080		Agricultural Residential	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00% 0.00 0.00%		0.07 0.56	0.31% 3.82%	0.17 0.62	0.00	0.07 0.56	0.31% 3.82%	0.07 0.56		YES YES
F0085	NF0085 NF0090		Residential	DEPRESSION	CLOSED BASIN	DRY	Y	100 YR / 24 HR	12.4	SCS II FLMOD	NO		0.00 0.00%		3.95	5.15% 5.87%	3.73	0.00	3.96	5.15%	3.96 1.42	HOUSE, ROAD, YARD ROAD	YES
F0100	NF0100		Residential	DEPRESSION DEPRESSION	CLOSED BASIN	DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	73.89	0.72	1.27% 1.64%	1.19	0.00	0.72 0.56	1.27%	0.72		YES
F0110 F0120	NF0110 NF0120	29.45 51.51	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	73.41 71.01	0.64 0.19	2.16% 0.36%	1.55 0.68	0.00	0.64 0.19	2.16% 0.36%	0.64 0.19		YES YES
	NF0140	1.94	Forests Forests			DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	71.07 97.87	0.00	0.00% 9.47%	0.00	0.00	0.00 0.18	0.00% 9.47%	0.00 0.18		YES YES
F0160	NF0150 NF0160 NF0165	21.65 11.28 61.34	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y Y N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	A 1	0.00 0.00% 0.88 16.65% 0.00 0.00%	54.75	0.56 0.99 0.28	2.57% 8.77% 0.46%	1.86 2.05 0.47	0.00 0.00 0.00	0.56 0.99 0.28	2.57% 8.77% 0.46%	0.56 -0.89 0.28		YES YES YES
10103	141 0103	01.04	Toreata	DEFICEOSION	OLOGED DAGIN	Initial stage set	N N	100 1107 24110	12.7	CCC III EMOD	No			12.00	0.20	0.4078	0.47	0.00	0.20	0.4078	0.20		120
						to 46' NAVD88 based on																	
F0170	NF0170	172.14	Forests	WETLAND	CLOSED BASIN	comparison of El Nino imagery and 1' LiDAR	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A 16	6.31 9.47%	50.43	7.57	4.40%	8.16	0.00	7.57	4.40%	-8.73		YES
						Contours																	
F0180 F0185	NF0180 NF0185		Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	72.68	0.65 0.62	5.39% 18.18%	1.03 9.25	0.00	0.65 0.62	5.39% 18.18%	0.65 0.62		YES YES
F0190 F0200	NF0190 NF0200	39.39 10.95	Forests Forests	DEPRESSION WETLAND DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	A 11	1.11 28.22% 0.00 0.00%	49.8	4.90 0.63	12.43% 5.74%	5.20 12.83	0.00	4.90 0.63	12.43% 5.74%	-6.22 0.63		YES YES
F0220		4.18	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN POSITIVE OUTFALL	DRY DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	83.4 89.67	0.40 0.12	7.84% 2.84% 2.77%	2.00 1.53	0.00	0.40 0.12	7.84% 2.84% 2.77%	0.40 0.12		YES YES
F0240	NF0230 NF0240 NF0285	83.89	Forests Forests Forests		CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y N V	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	A 6	0.00 0.00% 0.62 7.89% 0.00 0.00%	48.27	0.58 2.55 0.40	2.77% 3.04% 8.18%	1.88 4.95 0.98	0.00 0.00 0.00	0.58 2.56 0.40	2.77% 3.05% 8.18%	0.58 -4.06 0.40		YES YES YES
F0300	NF0300 NF0305	7.96	Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	89.98	0.25	3.10% 6.56%	1.43 1.19	0.00	0.25	3.10% 6.56%	0.25		YES
	NF0310 NF0315		Forests Forests		CLOSED BASIN CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	87.31 89.67	0.79 0.31	6.72% 2.52%	1.17 1.61	0.00	0.79 0.31	6.72% 2.52%	0.79 0.31		YES YES
F0325	NF0325		Forests Forests	DEPRESSION DEPRESSION	POSITIVE OUTFALL	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	69.79	0.77	2.49% 3.98%	1.44 0.94	0.00	0.77	2.49% 3.98%	0.77		YES YES
	NF0330 NF0340 NF0350	14.67	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0	0.00 0.00% 0.00 0.00%	68.23	0.62 0.46 0.26	2.09% 3.11% 9.42%	2.33 1.62 0.87	0.00 0.00 0.00	0.62 0.46 0.26	2.09% 3.11% 9.42%	0.62 0.46 0.26		YES YES YES
F0375	NF0375 NF0380	4.24	Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY	Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	88.78	0.32	7.45% 2.55%	1.08	0.00	0.32	7.45%	0.32		YES
F0385 F0400	NF0385	4.51	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Ý Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	79.8 80.56	0.35 0.58	7.79%	1.04 1.11	0.00	0.35 0.58	7.79% 3.70%	0.35		YES YES YES
F0415	NF0410 NF0415	1.26	Forests Forests	DEPRESSION	CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	77.36	0.42 0.05	6.42% 3.72%	1.24 2.17	0.00	0.42 0.05	6.42% 3.72%	0.42 0.05		YES YES
F0430	NF0420 NF0430	23.59	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD	NO NO	0	0.00 0.00%		0.14 0.56	1.56% 2.37%	3.57 1.43	0.00	0.14 0.56	1.56% 2.37%	0.14 0.56		YES YES
F0435 F0440 F0444	NF0440	1.33	Forests Forests		CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%		0.40	5.39% 3.55%	1.05	0.00	0.40	5.39% 3.55%	0.40		YES
F0446 F0448	NF0446 NF0448	10.33	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	A 0	0.09 0.91%	55.08 69.65	0.12	1.14%	6.86 1.39	0.00	0.12 0.32	1.14% 2.74%	0.02		YES YES
F0452	NF0450 NF0452	7.26	Forests Forests	DEPRESSION	CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	A 2	.56 18.68% 2.79 38.47%	44.37	0.12 0.22	1.43% 3.09%	4.31 4.11	0.00	0.12 0.22	1.43% 3.09%	-1.44 -2.57		YES YES
F0456	NF0454 NF0456	1.90	Forests Forests	DEPRESSION	CLOSED BASIN POSITIVE OUTFALL	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	A 1	.38 91.84% .62 85.10%	45.39	0.12 0.48	7.84% 25.29%	5.01 6.88	0.00	0.12 0.48	7.84%	-1.27 -1.14		YES YES YES
F0458 F0460 F0470	NF0458 NF0460 NF0470	6.41	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO		0.87 14.68% 0.48 54.24% 0.00 0.00%		0.25 0.79 0.06	4.20% 12.39% 4.82%	7.96 11.30 1.43	0.00 0.00 0.00	0.25 0.79 0.06	4.20% 12.39% 4.82%	-0.62 -2.68 0.06		YES YES YES
F0475 F0480	NF0475 NF0480	20.89 26.43	Forests Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY	Ý Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	79.69 76.21	0.56 0.77	2.70% 2.93%	1.42 1.20	0.00	0.56 0.77	2.70% 2.93%	0.56 0.77		YES
F0485 F0490	NF0485 NF0490	8.37	Forests Forests	DEPRESSION	CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	65.51 76.52	0.10 0.43	1.20% 4.02%	4.09 1.23	0.00	0.10 0.43	1.20% 4.02%	0.10 0.43		YES YES YES
G0010	NG0010	83.90 23.44 24.52	Forests Forests	WETLAND DEPRESSION	CLOSED BASIN	DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	9.10 22.77% 0.00 0.00%	73.43	7.14 0.70	8.51% 2.98%	6.93 1.58	0.11 0.00	7.24 0.70	8.63% 2.98%	-11.86 0.70		YES YES
G0030	NG0020 NG0030 NG0040		Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0	0.00 0.00% 0.00 0.00% 0.00 0.00%	68.15	0.74 0.25 4.22	3.46% 6.07% 4.74%	1.21 0.66 2.25	0.00	0.74 0.25 4.22	3.46% 6.07% 4.74%	0.74 0.25 4.22		YES YES YES
G0050	NG0050	18.12	Open Lands Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	67.36	0.55	3.05%	1.50	0.00	0.55	3.05% 9.07%	0.55		YES
G0100		2.47	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	98.68	0.00	0.00%	0.00	0.00	0.00 0.00	0.00% 0.00%	0.00		YES YES
G0130	NG0120 NG0130	4.57	Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00%	71.78	0.33	1.27% 5.99%	1.30 0.91	0.00	0.33 0.27	1.27% 5.99%	0.33 0.27		YES YES
G0180	NG0140 NG0180 NG0200	24.38	Open Lands Open Lands Forests		CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N V	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0	0.00 0.00% 0.00 0.00%	56.92	0.13 0.64 3.86	1.69% 2.64% 4.20%	0.68 1.13 2.40	0.00	0.13 0.64 3.86	1.69% 2.64% 4.20%	0.13 0.64 3.86		YES YES
H0010	NH0010	91.81 9.37 15.98	Forests Forests Forests	DEPRESSION DEPRESSION		DRY DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0	0.00 0.00% 0.00 0.00%	92.38	0.22 0.00	4.20% 2.36% 0.00%	0.88 0.00	0.00	0.22	4.20% 2.36% 0.00%	0.22		YES YES YES
H0030	NH0030	33.64 12.96	Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY	N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	72.24	0.19	0.55%	0.72	0.00	0.19	0.55%	0.19 0.30		YES
H0050 H0060	NH0050 NH0060	3.87 7.06	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN	DRY DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD	NO NO NO	0	0.00 0.00% 0.00 0.00% 0.00 0.00%	91.75	0.27 0.43	6.92% 6.06%	1.12	0.00 0.00 0.00	0.27 0.43	6.92% 6.06%	0.27 0.43		YES YES YES YES
H0110	NH0110	14.04 6.91	Forests Forests	DEPRESSION	CLOSED BASIN	DRY	N Y	100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO	0	0.00 0.00%	82.42	0.34	2.45% 6.70%	0.96	0.00	0.34 0.46	2.45% 6.70%	0.34 0.46		YES
H0145	NH0143 NH0145 NH0150	2.71	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0	0.00 0.00% 0.00 0.00% 0.00 0.00%	91.97	0.22 0.26 2.37	2.47% 9.73% 2.87%	2.33 0.79	0.00	0.22 0.26 2.37	2.47% 9.73% 2.87%	0.22 0.26 2.37		YES YES YES
H0192	NH0192 NH0195	11.36	Forests	DEPRESSION WETLAND		DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0	0.00 0.00% 0.00 0.00%	92.48	0.86 2.91	7.62% 17.83%	2.28	0.00	0.86	7.62% 17.83%	0.86		YES
	NH0198 NH0200		Forests Forests		CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO		0.00 0.00% 0.00 0.00%		0.34 5.73	8.49% 17.70%	4.19 10.47	0.00	0.34 5.78	8.52% 17.85%	0.34 5.78		YES

4

				SUBBASIN PRIMARY MODELED FLOOD	SUBBASIN	SUBBASIN	SUBBASIN			MODELED			FEMA %						TOTAL FLOODPLAIN AREA -		FLOODPLAIN		
			SUBBASIN PREDOMINANT LANDUSE (RESIDENTIAL COMMERCIAL INSTITUTIONAL	FEATURE (DEPRESSION, WET POND WETLAND, DRA.	DISCHARGE CONDITIONS (CLOS BASIN OR POSITIVE	SED	INCORPORATED IN MODELING	MODELED FLOODPLAIN	MODELED FLOODPLAIN STORM DEPTH	FLOODPLAIN	SUBBASIN VERIFICATION/VALIDATION DATA AVAILABLE		MA TOTAL	MODELED FLOODPLAIN	MODELED FLOODPLAIN	MODELED FLOODPLAIN % OF TOTAL AREA	MODELED FLOODPLAIN MAX DEPTH	TRANSITIONAL (ESTIMATED) FLOODPLAIN AREA	MODELED PLUS	OTAL FLOODPLAIN	DIFFERENCE -		MODELED FLOODPLAIN
ID H0210	ID		AGRICULTURAL, OPEN SPACE OTHERS) Forests	ROADSIDE SWALE) DEPRESSION	OUTFALL)	ASSUMPTION	(Y OR N) Y	STORM EVENT 100 YR / 24 HR	(INCHES)	DISTRIBUTION SCS II FLMOD	(YES OR NO - IF YES PROVIDE DETAILS)	ETC.) (ACR		(FEET NAVD)	AREA (ACRES) 1.50	(ACRES) 5.98%	(FEET) 1.45	(ACRES) 0.00		F TOTAL AREA (ACRE 5.98%	S) FEMA (ACRES) 1.50	FLOOD IMPACT AV	VAILABLE INFORMATION? YES
H0220 H0230	NH0230	30 5.05	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN		N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00%	80.75	0.98 1.33	18.43% 26.40%	7.41 2.68	0.00	0.98 1.33	18.43% 26.40%	0.98		YES YES
H0292 H0295	NH0295	95 8.69	Forests Forests	DEPRESSION	POSITIVE OUTFA POSITIVE OUTFA	LL DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	0.00%	81.11 76.01	0.21 0.34	3.69% 3.91%	1.02 1.11	0.00	0.21 0.34	3.69% 3.91%	0.21 0.34		YES
H0300 J0020	NJ0020	20 65.22	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	I DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00%		8.87 1.38	19.35% 2.11%	5.29 2.14	0.27	9.15 1.38	19.94% 2.11%	9.15 1.38		YES YES
J0050 J0055	NJ0055	55 6.55	Forests Forests		POSITIVE OUTFA	LL DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00%		0.74 0.37	2.55% 5.72%	1.48 1.29	0.00	0.74 0.37	2.55% 5.72%	0.74 0.37		YES YES
J0060 J0080	NJ0080	80 23.69	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	I DRY	Y N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00%		0.49 0.34	6.54% 1.45%	1.17 0.70	0.00	0.49 0.34	6.54% 1.45%	0.49 0.34		YES YES
J0090 J0100	NJ0100	37.15	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY I DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00% 00 0.00%	121.23 89.15 78.99	0.22 1.19 0.32	1.85% 3.21% 1.99%	1.21 0.92 1.70	0.00	0.22 1.19 0.32	1.85% 3.21% 1.99%	0.22		YES YES
J0110 J0120	NJ0120	20 19.80	Forests Forests	DEPRESSION	CLOSED BASIN	I DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD	NO	0.0	0.00%	74.6	0.60	3.02%	1.08	0.00	0.60	3.02%	0.32		YES
J0160 J0162	NJ0162	5.86	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	I DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.0	00 0.00%	83.94	0.29 0.19	0.94% 3.27%	1.06 1.29	0.00	0.29 0.19	0.94% 3.27%	0.29 0.19 1.94		YES YES
J0165 J0170			Forests Open Lands	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	Initial stage set to 47' NAVD88	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD	NO	0.0	00 0.00%	80.21 57.75	1.94 1.41	6.96% 1.79%	3.46	0.00	1.94	6.96% 1.79%	1.41		YES
J0180	NJ0180	80 34.65	Forests	LAKE	CLOSED BASIN	based on comparison of El Nino imagery and 1' LiDAR Contours	Ν	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A 6.6	60 19.04%	48.81	1.49	4.30%	7.59	0.00	1.49	4.30%	-5.11		YES
J0190 J0195	NJ0195	95 6.28	Forests Forests	DEPRESSION DEPRESSION		I DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00%		0.17 0.40	0.73% 6.44%	0.73 1.80	0.00	0.17 0.40	0.73% 6.44%	0.17 0.40	HOUSE	YES YES
J0200 J0210	NJ0200 NJ0210	00 12.15 10 7.03	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	I DRY DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00%	86.66	0.44 0.44	3.65% 6.21%	0.87 1.29	0.00	0.44 0.44	3.65% 6.21%	0.44		YES YES
J0220 J0292	NJ0220 NJ0292	20 2.18 92 20.25	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	ILL DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	0 0.00%	55.62 62.49	0.08 0.24	3.69% 1.19%	2.54 6.26	0.00	0.08 0.24	3.69% 1.19%	0.08 0.24		YES YES
J0295 J0298	NJ0298	98 16.36	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	I DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00%		0.39 0.16	1.99% 0.95%	1.83 3.61	0.00 0.00	0.39 0.16	1.99% 0.97%	0.39 0.16		YES YES
J0300 J0310	NJ0310	10 7.69	Forests Agricultural	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY I DRY	Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00% 00 0.00%	59.39 56.23	1.51 0.91	2.10% 11.78%	2.52 3.26	1.15 0.06 0.00	2.66 0.96	3.70% 12.54%	2.66 0.96		YES YES
J0320 J0330	NJ0330	30 7.86	Forests Forests	DEPRESSION	POSITIVE OUTFA	ILL DRY	Y N	100 YR / 24 HR	12.4 12.4	SCS II FLMOD	NO	0.0	0.00%		0.38 0.34	8.60% 4.30%	0.94	0.00	0.38	8.60% 4.30%	0.38		YES YES
J0340 J0350 J0360	NJ0350	50 4.91	Forests Forests	DEPRESSION		I DRY	Y N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.0	0000%	63.21	0.25 0.34	3.49% 6.89% 4.58%	0.86	0.00	0.25 0.34 0.71	3.49% 6.89% 4.58%	0.25 0.34 0.71		YES YES
J0400	NJ0400	00 8.99	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY	Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO NO	0.0	0 0.00%	65.42 100.02 94.73	0.71 1.30 0.00	4.58% 14.49% 0.00%	2.15	0.00 0.02 0.00	0.71 1.32 0.00	4.58% 14.72% 0.00%	1.32		YES
J0410 J0420	NJ0420	20 2.21	Forests Forests	DEPRESSION	CLOSED BASIN	I DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO		0 0.00%	94.73 113.68 123.03	0.00	0.00%	0.00 0.94	0.00	0.00	0.00%	0.00		YES YES
J0423 J0430 J0440		30 24.85	Residential Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN POSITIVE OUTFA CLOSED BASIN	LL DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00% 00 0.00%	106.09	0.22 0.40	1.60%	0.49	0.00	0.22 0.40	1.60%	0.22 0.40 0.00		YES YES
J0450 J0455	NJ0450	50 107.41	Forests Commercial/Industrial		CLOSED BASIN CLOSED BASIN	DRY	Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00%	85.16	3.41 1.27	3.17% 4.40%	5.98 7.14	2.17	5.57	5.19% 4.41%	5.57		YES
J0460 J0465	NJ0460	60 13.84	Forests Commercial/Industrial	DEPRESSION	CLOSED BASIN	I DRY	Y	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	0.00%		0.98	7.05%	1.58 4.39	0.31	1.29	9.31% 11.25%	1.29 0.56		YES
J0480 J0490	NJ0480	80 4.42	Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN POSITIVE OUTFA	LL DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00% 00 0.00%	113.09 79.36	0.00	0.00%	0.00	0.00	0.00	0.00%	0.00		YES
J0500 J0505	NJ0500	20.37	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN POSITIVE OUTFA		N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		00 0.00%	80.32 80.04	0.00	0.00%	0.09	0.00	0.00	0.00%	0.00		YES YES
J0520 J0540			Forests Forests	DEPRESSION DEPRESSION		I DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	0.00%	78.12 82.59	1.05 0.17	8.48% 1.14%	0.73 0.38	0.00	1.05 0.17	8.48% 1.14%	1.05 0.17		YES YES
J0555 J0600	NJ0600	00 53.02	Commercial/Industrial Forests	DEPRESSION DEPRESSION	CLOSED BASIN	I DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0	00 0.00% 00 0.00%		0.34 1.14	7.91% 2.15%	11.30 2.99	0.00	0.34 1.14	7.91% 2.15%	0.34		YES YES
J0620 J0700	NJ0620		Forests	LAKE	CLOSED BASIN	Initial stage set to 47' NAVD88 based on	N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD	NO		0 <u>0</u> 0.00%	60.71 48.81	0.81	2.03% 6.51%	6.37	0.00	0.81	2.03% 6.51%	-9.76		YES
K0010 K0050	NK0010 NK0050		Open Lands Residential	DEPRESSION	POSITIVE OUTFA																		1
K0050 K0060 K0070	NK0060	60 20.16	Residential Residential		CLOSED BACIN		N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	0.0	0 0.00%	82.84	2.19	8.21%	2.36	0.00	2.20	8.22%	2.20	HOUSE, YARD	YES
K0080 K0085	NK0080			DEPRESSION	CLOSED BASIN	I DRY	N Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.0	00 0.00% 00 0.00% 00 0.00%		2.19 0.24 0.26 1.51	8.21% 1.60% 1.27% 7.10%	2.36 4.87 0.48 1.00	0.00 0.12 0.07 0.00	2.20 0.36 0.33 1.51	8.22% 2.42% 1.63% 7.10%	2.20 0.36 0.33 1.51	HOUSE, YARD YARD HOUSE	YES YES YES YES
K0090		80 39.67	Residential Agricultural	DEPRESSION DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY I DRY I DRY	N Y Y N Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0.0 0.0 0.0	00 0.00% 00 0.00% 00 0.00%	76.71 76.35 70.96	0.26 1.51 5.79	1.27% 7.10% 14.59%	0.48 1.00 3.98	0.00 0.00	0.33 1.51 5.79	1.63% 7.10% 14.59%	0.33 1.51 5.79	HOUSE BUILDING	YES YES
	NK0090	80 39.67 85 16.50	Residential	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY DRY DRY DRY	N Y N Y Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.0 0.0 0.0	00 0.00%	76.71 76.35 70.96	0.26	1.27% 7.10%	0.48	0.00	0.33	1.63% 7.10%	0.33	HOUSE	YES
K0120	NK0120	80 39.67 85 16.50 90 135.99 20 16.17	Residential Agricultural Agricultural Agricultural Forests	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY I DRY I DRY I DRY I DRY I DRY	N Y Y Y Y Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO A High Water Elevation of 73.15 is referenced from SWFWID HWM database. The model result of 73.56' is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels.	0.0 0.0 0.0 0.0 0.0 0.0	00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00%	76.71 76.35 70.96 71.01 73.58 73.56	0.26 1.51 5.79 3.05 4.65 2.18	1.27% 7.10% 14.59% 18.48% 3.42%	0.48 1.00 3.98 2.54 4.65 4.65	0.00 0.00 0.00 0.00 0.00 0.00	0.33 1.51 5.79 3.05 4.65 2.18	1.63% 7.10% 14.59% 18.46% 3.42%	0.33 1.51 5.79 3.05 4.65 2.18	HOUSE BUILDING	YES YES YES YES YES
K0130 K0150	NK0120 NK0130 NK0130	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82	Residential Agricultural Agricultural Agricultural Forests Residential Agricultural	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION WETLAND	CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY	N Y Y Y Y Y Y N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4 12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO NO NO A High Water Elevation of 7.3.5 i's referenced from SWFWMD HWM database. The model result of 73.58 i's slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 68.59 126.57	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22	1.27% 7.10% 14.59% 18.46% 3.42% 13.51% 1.06% 1.33%	0.48 1.00 3.98 2.54 4.65 4.63 2.49 3.15	0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22	1.63% 7.10% 14.69% 18.46% 3.42% 13.51% 1.06% 1.34%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22	HOUSE BUILDING	YES YES YES YES YES YES YES
K0130	NK0120 NK0130 NK0150 NK0155	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14	Residential Agricultural Agricultural Agricultural Forests Residential	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY	N Y Y Y Y Y Y Y Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO NO NO A High Water Elevation of 73.58 is referenced from SWFWMD HWM database. The model result of 73.58 is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO Location is a Documented Flooding Area where a record of a flooding complaint has been logged by SWFWMD. There is an area of flooding in delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore where one would consider it reasonable	0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 68.59	0.26 1.51 5.79 3.05 4.65 2.18 0.31	1.27% 7.10% 14.59% 18.46% 3.42% 13.51%	0.48 1.00 3.98 2.54 4.65 4.63	0.00 0.00 0.00 0.00 0.00	0.33 1.51 5.79 3.05 4.65 2.18 0.31	1.63% 7.10% 14.59% 18.46% 3.42% 13.51%	0.33 1.51 5.79 3.05 4.65 2.18 0.31	HOUSE BUILDING	YES YES YES YES YES
K0130 K0150 K0155 K0160 K0175	NK0120 NK0130 NK0155 NK0160 NK0175	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75	Residential Agricultural Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION WETLAND DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	I DRY	N Y Y Y Y Y Y Y Y Y N N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4 12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO NO A High Water Elevation of 73.15 is referenced from SWFWMD HWM database. The model result of 73.55 is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO Location is a Documented Flooding Area where a record of a flooding complaint has been logged by SVFVMD. There is an area of floodplain delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding	0.00 0.00	00 0.00% 01 0.00% 02 0.00% 03 0.00% 04 0.00% 05 0.00% 06 0.00% 07 0.00% 08 0.00% 09 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 68.59 126.57 112.14	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13	1.27% 7.10% 14.59% 18.46% 3.42% 13.51% 1.06% 1.33% 1.57%	0.48 1.00 3.98 2.54 4.65 4.65 2.49 3.15 5.53	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.21 1.02 0.00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00	1.63% 7.10% 14.69% 18.46% 3.42% 13.51% 1.06% 1.34% 4.10% 6.96% 0.00%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00	HOUSE BUILDING BUILDING HOUSE	YES
K0130 K0150 K0155 K0160 K0175 K0180 K0190	NK0120 NK0130 NK0150 NK0160 NK0175 NK0175 NK0180 NK0190	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75 80 58.78 90 31.14	Residential Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	I DRY	N Y Y Y Y Y Y Y Y N N N N N N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4 12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO NO NO A High Water Elevation of 73.15 is referenced from SWFWMD HWM database. The model result of 73.56 is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO Location is a Documented Flooding Area where a record of a flooding complaint has been logged by SWFWMD. Three is an area of floodplain delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore one would consider it reasonable to consider it reasonable to have a flood hazard. NO	0.00 0.00	00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00% 00 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 88.59 126.57 112.14 89.58 76.29 72.87 72.87 81.99	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71	1.27% 7.10% 14.69% 18.46% 3.42% 13.51% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41% 2.28%	0.48 1.00 3.98 2.54 4.65 4.63 2.49 3.15 5.53 8.35 0.00 0.41 1.11	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.21 1.02 0.00 0.00 0.00 0.00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71	1.63% 7.10% 14.69% 18.46% 3.42% 13.51% 1.351% 1.06% 1.34% 4.10% 6.96% 0.00% 0.41% 2.28%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71	HOUSE BUILDING BUILDING HOUSE	YES
K0130 K0150 K0155 K0160 K0175 K0180	NK0120 NK0130 NK0155 NK0155 NK0160 NK0175 NK0180 NK0190 NK0200 NK0200	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75 80 58.78 90 31.44 00 34.82 10 20.83	Residential Agricultural Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural Forests Residential Residential Residential Residential	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	I DRY ILL DRY I DRY I DRY I DRY I DRY I DRY I DRY	N Y Y Y Y Y Y Y Y Y N N N N N N N N N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4 12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO NO A High Water Elevation of 73.16 is referenced from SWFWMD HWM database. The model result of 73.56 is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO Location is a Documented Flooding Area where a record of a flooding complaint has been logged by SVFVMD. There is an area of floodplain delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore where one would consider it reasonable to have a flood hazard. NO	0.00 0.00	0 0.00% 0 0.00%	76.71 76.35 70.96 71.01 73.56 73.56 68.59 126.57 112.14 89.58 76.29 72.87 81.99 77.15 71.47 84.07	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71 1.00 0.62 0.00	1.27% 7.10% 14.59% 14.45% 3.42% 13.51% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41%	0.48 1.00 3.98 2.54 4.63 4.63 2.49 3.15 5.53 8.35 0.00 0.41	0 00 0 00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24	1.63% 7.10% 14.59% 14.59% 3.42% 3.42% 13.51% 1.06% 1.34% 4.10% 6.96% 0.00% 0.41% 2.88% 2.88% 2.96%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00	HOUSE BUILDING BUILDING HOUSE HOUSE	YES
K0130 K0150 K0155 K0160 K0175 K0180 K0190 K0200 K0210	NK0120 NK0130 NK0155 NK0155 NK0160 NK0190 NK0200 NK0200 NK0250	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75 80 58.78 90 31.4 00 34.82 10 20.83 45 1.53 50 1.28.85	Residential Agricultural Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural Agricultural Forests Residential Residential	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	I DRY	N Y Y Y Y Y Y Y Y N N N N N N N N N N N	100 YR / 24 HR 100 YR / 24 HR	124 124 124 124 124 124 124 124 124 124	SCS II FLMOD SCS II FLMOD	NO High Water Elevation 73.58' is slightly higher in elevation. This data can be used qualitatively as an indicator of where one would consider it reasonable to have a flood hazard elevation near these levels. NO Location is a Documented Flooding Area where a record of a flooding complaint thas been logged by SWFWMD. There is an area of floodpial delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore where one would consider it reasonable to have a flood hazard. NO NO	0.00 0.00	0 0.00% 0 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 88.59 126.57 112.14 89.58 76.29 72.87 72.87 72.87 77.15 71.147 84.07 64.27	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71 1.00	1.27% 7.10% 14.69% 18.46% 3.42% 13.51% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41% 2.28% 2.88% 2.96%	0.48 1.00 3.98 2.54 4.65 4.63 2.49 3.15 5.53 8.35 0.00 0.41 1.11 1.06 1.15	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.21 1.02 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62	1.63% 7.10% 14.69% 13.45% 3.42% 13.51% 1.06% 1.34% 4.10% 6.96% 0.00% 0.41% 2.28% 2.88%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62	HOUSE BUILDING BUILDING HOUSE HOUSE	YES
K0130 K0150 K0155 K0160 K0175 K0180 K0190 K0200 K0245 K0250 K0260 K0260 K0260	NK0120 NK0130 NK0155 NK0155 NK0160 NK0175 NK0180 NK0180 NK0200 NK0220 NK0220 NK0220 NK0220 NK0220	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75 80 58.78 90 31.14 00 34.82 10 20.83 45 1.53 50 72.51 70 11.14 80 8.60	Residential Agricultural Agricultural Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Residential	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	I DRY	N Y Y Y Y Y Y Y Y Y N N N N N N N N N N	100 YR / 24 HR 100 YR / 24 HR	124 124 124 124 124 124 124 124 124 124	SCS II FLMOD SCS II FLMOD	NO NO NO NO A High Water Elevation of 73.15 is referenced from SWFWMD HWM database. The model result of 73.58 is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO Location is a Documented Flooding Area where a record of a flooding compaint has been looged by SWFWMD. There is an area of floodplain delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore where one would consider it reasonable to have a flood in compaint has been by NO	0.00 0.00	0 0.00% 0 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 68.59 126.57 112.14 89.58 76.29 72.87 81.99 77.15 71.47 71.47 84.07 64.27 55.46 65.4	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71 1.00 0.62 0.00 0.62 0.00 5.67 0.00 0.00	1.27% 1.4.59% 14.59% 14.59% 13.46% 3.42% 13.51% 1.06% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41% 2.28% 2.96% 0.00% 4.37% 0.00%	0.48 1.00 3.98 2.54 4.65 4.63 2.49 3.45 5.53 8.35 0.00 0.41 1.11 1.06 1.15 0.00 2.67 0.00 0.00	0 00 0 00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 6.63 0.00 0.00 0.00 0.00	1.63% 7.10% 14.59% 14.59% 3.42% 13.51% 1.351% 1.06% 1.34% 4.10% 6.96% 0.00% 0.41% 2.88% 2.98% 2.98% 0.00% 5.10% 0.00%	0.33 1.51 1.51 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 6.63 0.00 0.00	HOUSE BUILDING BUILDING HOUSE HOUSE HOUSE	YES
K0130 K0150 K0155 K0160 K0175 K0180 K0210 K0220 K0250 K0250 K0250 K0250	NK0120 NK0130 NK0150 NK0155 NK0160 NK0190 NK0260 NK0245 NK0260 NK0260 NK0275 NK0260 NK0275 NK0260 NK0275 NK0275 NK0275	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75 80 58.78 90 31.14 00 34.82 10 20.83 45 1.53 50 72.51 70 11.14 80 8.60	Residential Agricultural Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural Residential Residential Residential Residential Residential Residential Residential Residential Residential Residential	DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	I DRY	Y N N N	100 YR / 24 HR 100 YR / 24 HR	124 124 124 124 124 124 124 124 124 124	SCS II FLMOD SCS II FLMOD	NO NO NO NO NO NO NO A High Water Elevation of 73.15 is referenced from SWFWMD HWM database. The model result of 73.58 is slightly higher in older the used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO Location is a Documented Flooding Area where a record of a flooding compaint has been looged by SWFWD. There is an area of floodplain delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore where one would consider it reasonable to have a flood hazard. NO NO NO NO <	0.00 0.00	0 0.00% 0 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 68.59 126.57 112.14 89.58 76.29 72.87 81.99 77.15 71.47 71.47 84.07 64.27 55.46 65.4	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71 1.00 0.62 0.00 5.67 0.00	1.22% 7.10% 7.10% 14.59% 14.59% 14.59% 14.59% 13.51% 1.06% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41% 2.88% 2.88% 2.88% 2.88% 2.88% 0.00% 0.00%	0.48 1.00 3.98 2.54 4.63 4.63 4.63 4.63 2.49 3.15 5.53 8.35 0.00 0.41 1.11 1.06 1.15 0.00 2.67 0.00	0 00 0.00 0.00 0.00 0.00 0.00 0.00 0.21 1.02 0.00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 0.62 0.00 0.63 0.00 0.00	1.63% 7.10% 14.59% 14.59% 3.42% 3.42% 13.51% 1.06% 4.10% 6.96% 0.00% 0.41% 2.88% 2.96% 0.00% 5.10% 0.00%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 6.63 0.00	HOUSE BUILDING BUILDING HOUSE HOUSE HOUSE	YES
K0130 K0150 K0155 K0160 K0175 K0180 K0210 K0220 K0250 K0250 K0250 K0250	NK0120 NK0150 NK0155 NK0160 NK0175 NK0260 NK0260 NK0226 NK0226 NK0228 NK0228	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75 80 58.78 90 31.14 00 34.82 10 20.83 50 72.51 70 11.14 80 8.60 85 7.03 90 3.81	Residential Agricultural Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Residential R	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	I DRY Initial stage set to 49 NAVD88	Y N N N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4 12.4 12.4 12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD	NO High Water Elevation 673.15 is referenced from SWFWMD HWM database. The model result of 73.58 is slightly higher in elevation. This data can be used qualitatively as an indicator of where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO NO NO Location is a Documented Flooding Area where a record of a flooding complaint has been logged by SWFWMD. Three is an area of floodplain delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore where one would consider it reasonable to have a flood hazard. NO NO	0.00 0.00	0 0.00% 0 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 68.59 126.57 112.14 89.58 76.29 72.87 81.99 77.15 71.47 71.47 84.07 64.27 55.46 65.4	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71 1.00 0.62 0.00 0.62 0.00 5.67 0.00 0.00	1.27% 1.4.59% 14.59% 14.59% 13.46% 3.42% 13.51% 1.06% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41% 2.28% 2.96% 0.00% 4.37% 0.00%	0.48 1.00 3.98 2.54 4.65 4.63 2.49 3.45 5.53 8.35 0.00 0.41 1.11 1.06 1.15 0.00 2.67 0.00 0.00	0 00 0 00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 0.63 0.00 0.00 0.00 0.00 0.00	1.63% 7.10% 14.59% 14.59% 3.42% 13.51% 1.351% 1.06% 1.34% 4.10% 6.96% 0.00% 0.41% 2.88% 2.98% 2.98% 0.00% 5.10% 0.00%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 0.00 0.00 0.00 0.00 0.00	HOUSE BUILDING BUILDING HOUSE HOUSE HOUSE	YES
K0130 K0150 K0155 K0160 K0175 K0190 K0210 K0220 K0220 K0220 K0220 K0220 K0220 K0230	NK0120 NK0130 NK0150 NK0150 NK0160 NK0175 NK0180 NK0180 NK0180 NK0180 NK0180 NK0180 NK0260 NK0280 NK0280 NK0280 NK0280 NK0280 NK0320 NK0320	80 39.67 85 16.50 90 135.99 20 16.17 30 29.27 50 16.82 55 8.14 60 92.15 75 40.75 80 58.78 90 31.14 00 34.82 10 20.83 50 72.51 70 11.14 80 8.60 85 7.03 90 3.81	Residential Agricultural Agricultural Agricultural Forests Residential Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Agricultural Residential	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	I DRY Initial stage set to 49 NAVD88 based on I ORY I DRY	Y N N N N N	100 YR / 24 HR 100 YR / 24 HR	124 124 124 124 124 124 124 124 124 124	SCS II FLMOD SCS II FLMOD	NO NO NO NO NO NO NO NO NO A High Water Elevation of 73.15 is referenced from SWFWMD HWM database. The model result of 73.58 is slightly higher in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels. NO NO Location is a Documented Flooding Area where a record of a flooding compliant has been looged by SWFWD. There is an area of floodplain delineated at depression of this location. This data can be used qualitatively as an indicator of where flooding could occur and therefore where one would consider it reasonable to have a flood hazard. NO NO NO NO <tr< th=""><th>0.00 0.00</th><th>0 0.00% 0 0.00%</th><th>76.71 76.35 70.96 71.01 73.58 73.56 68.59 126.57 112.14 89.58 76.29 72.87 81.99 77.15 71.47 84.07 64.47 55.46 65.54 61.4 60.37 60.18</th><th>0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71 1.00 0.62 0.00 0.00 0.00 0.00 1.39 1.39</th><th>1.27% 7.10% 14.59% 14.59% 13.42% 13.51% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41% 2.28% 2.88% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00%</th><th>0.48 0.48 1.00 3.98 2.54 4.63 4.63 4.63 4.63 2.49 3.15 5.53 8.35 0.00 0.41 1.11 1.06 1.15 0.00</th><th>0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.21 1.02 0.00</th><th>0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 0.62 0.00 0.62 0.00</th><th>1.63% 7.10% 14.69% 13.45% 3.42% 13.51% 1.06% 1.34% 4.10% 6.96% 0.00% 0.41% 2.88% 2.86% 2.86% 0.00% 5.10% 5.10% 5.10% 5.00% 0.00% 0.00% 0.00%</th><th>0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.63 0.00 0.00 0.00 0.00 0.00 0.00</th><th>HOUSE BUILDING BUILDING HOUSE HOUSE HOUSE</th><th>YES YES YES</th></tr<>	0.00 0.00	0 0.00% 0 0.00%	76.71 76.35 70.96 71.01 73.58 73.56 68.59 126.57 112.14 89.58 76.29 72.87 81.99 77.15 71.47 84.07 64.47 55.46 65.54 61.4 60.37 60.18	0.26 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.13 5.40 0.00 0.24 0.71 1.00 0.62 0.00 0.00 0.00 0.00 1.39 1.39	1.27% 7.10% 14.59% 14.59% 13.42% 13.51% 1.06% 1.33% 1.57% 5.86% 0.00% 0.41% 2.28% 2.88% 0.00% 0.00% 0.00% 0.00% 0.00% 0.00%	0.48 0.48 1.00 3.98 2.54 4.63 4.63 4.63 4.63 2.49 3.15 5.53 8.35 0.00 0.41 1.11 1.06 1.15 0.00	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.21 1.02 0.00	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.00 0.62 0.00 0.62 0.00	1.63% 7.10% 14.69% 13.45% 3.42% 13.51% 1.06% 1.34% 4.10% 6.96% 0.00% 0.41% 2.88% 2.86% 2.86% 0.00% 5.10% 5.10% 5.10% 5.00% 0.00% 0.00% 0.00%	0.33 1.51 5.79 3.05 4.65 2.18 0.31 0.22 0.33 6.42 0.00 0.24 0.71 1.00 0.62 0.63 0.00 0.00 0.00 0.00 0.00 0.00	HOUSE BUILDING BUILDING HOUSE HOUSE HOUSE	YES YES

| | | |
 | SUBBASIN PRIMARY
MODELED FLOOD | SUBBASIN |

 | SUBBASIN | | | | | | FEMA % | |
 | | |
 | TOTAL FLOODPLAIN | | | | |
---	--	--
--
--
---|------------------------------|---|--|--|---
--|---|--|--
--|--|--
--|--|--|---|---|
| MODEL | MODEL | SUBBASIN | SUBBASIN PREDOMINANT LANDUSE
 | FEATURE
(DEPRESSION, WET POND | |

 | PERCOLATION
INCORPORATED | MODELED | MODELED
FLOODPLAIN | MODELED
FLOODPLAIN | | | | MODELED
FLOODPLAIN | MODELED F
 | MODELED
LOODPLAIN % OF | MODELED
FLOODPLAIN | TRANSITIONAL
(ESTIMATED)
 | AREA -
MODELED PLUS | | FLOODPLAIN
DIFFERENCE - | | MODELED FLOODPLAIN |
| K0336 | I JUNCTION
ID
NK0336 | AREA
(ACRES)
6.51 | (RESIDENTIAL, COMMERCIAL, INSTITUTIONAL,
AGRICULTURAL, OPEN SPACE OTHERS)
 | WETLAND, DRA,
ROADSIDE SWALE)
DEPRESSION | BASIN OR POSITIVE
OUTFALL)
CLOSED BASIN | ASSUMPTION

 | IN MODELING
V (Y OR N) | FLOODPLAIN
STORM EVENT
100 YR / 24 HR | STORM DEPTH
(INCHES)
12.4 | STORM
DISTRIBUTION
SCS II FLMOD | (YES OR NO - IF YES PROVIDE DETAILS) | ETC.) (ACRES) | (ACRES) | ELEVATION
(FEET NAVD)
61.38 | FLOODPLAIN
AREA (ACRES)
1.54
 | TOTAL AREA
(ACRES)
23.59% | MAX DEPTH
(FEET)
1.89 | FLOODPLAIN AREA
(ACRES)
 | | TOTAL FLOODPLAIN
DF TOTAL AREA (ACR
24.11% | % MODELED MINUS
FEMA (ACRES)
1.57 | | EASONABLE BASED ON
AILABLE INFORMATION?
YES |
| K0340
K0343 | | 3.82 | Commercial/Industrial
Residential
Residential
 | DEPRESSION | POSITIVE OUTFA |

 | Y | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD | NO
NO | 0.00 | | 87.31
62.43 | 0.04
 | 1.07% | 0.29 | 0.03
 | 0.04 | 1.07% | 0.04 | PARKINGLOT | YES |
| K0346
K0350 | NK0346
NK0350 | 6.29 35.15 | Commercial/Industrial
Residential
 | DEPRESSION | CLOSED BASIN
POSITIVE OUTFA |

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 57.23
65.94 | 1.71
 | 27.12%
9.22% | 3.41 | 0.28
 | 1.99 | 31.61%
9.23% | 1.99 | PARKING LOT | YES |
| K0400
K0420 | NK0400
NK0420 | 27.04
23.36 | Residential
Residential
 | ROADSIDE SWALE
WETLAND | |

 | Y | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | | 0.06 0.59
 | 0.24%
2.51% | 2.42
10.79 | 0.00
 | 0.07
0.59 | 0.25%
2.51% | 0.07 | | YES
YES |
| K0430
K0440 | NK0430
NK0440 | 30.18
101.48 | Agricultural
Agricultural
 | DEPRESSION
DEPRESSION | POSITIVE OUTFA
CLOSED BASIN | ILL DRY
DRY

 | N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 63.52
82.85 | 3.14
1.28
 | 10.39%
1.26% | 2.97
0.82 | 0.42
 | 3.56
1.28 | <u>11.78%</u>
1.26% | 3.56
1.28 | ROAD, YARD | YES
YES |
| K0500
K0501 | NK0500
NK0501 | 118.29
57.65 | Residential
Open Lands
 | DEPRESSION
DEPRESSION | CLOSED BASIN
POSITIVE OUTFA |

 | N
Y | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | | 57.89
62.74 | 8.80
2.24
 | 7.44%
3.89% | 8.87
1.28 | 0.49 0.00
 | 9.28
2.24 | 7.85%
3.89% | 9.28
2.24 | YARD | YES
YES |
| K0510 | NK0510 | 42.92 | Residential
 | DRA
ROADSIDE SWALE | CLOSED BASIN |

 | N | 100 YR / 24 HR | 12.4 | SCS II FLMOD | | 0.00 | 0.00% | 58.06
76.75 | 2.97
 | 6.91%
2.15% | 10.60 | 0.00
 | 2.97 | 6.91%
2.15% | 2.97 | HOUSE, ROAD,
YARD | YES |
| K0532
K0534
K0536 | NK0532
NK0534
NK0536 | 1.21
1.98
8.81 | Residential
Residential
Forests
 | ROADSIDE SWALE
ROADSIDE SWALE
ROADSIDE SWALE | CLOSED BASIN | I DRY

 | Y | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD
SCS II FLMOD | NO | 0.00 | | 77.32 | 0.03 0.08 0.19
 | 2.15%
3.87%
2.11% | 0.71
1.95
2.55 | 0.00 0.00 0.00
 | 0.03
0.08
0.19 | 2.15%
3.87%
2.11% | 0.03 0.08 0.19 | | YES
YES
YES |
| K0538
K0540 | NK0538
NK0540 | 1.15 | Residential
 | ROADSIDE SWALE
ROADSIDE SWALE | |

 | Y | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | | 94.91
94.21
77.51 | 0.19
 | 10.79% | 3.09 | 0.00 0.18
 | 0.13 | 10.93% | 0.13 0.22 | | YES |
| K0545
K0550 | NK0545
NK0550 | 11.36 40.40 | Forests
 | ROADSIDE SWALE
DEPRESSION | CLOSED BASIN | I DRY

 | Y | 100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD | NO
NO | 0.00 | 0.00% | 98.77 | 0.00
 | 0.00% | 0.97 | 0.00
 | 0.22 | 0.00% | 0.00 | | YES |
| K0555 | NK0555 | 5.69 | Residential
 | DEPRESSION | CLOSED BASIN |

 | N | 100 YR / 24 HR | 12.4 | SCS II FLMOD | | | 0.00% | 58.74 | 1.19
 | 20.85% | 2.74 | 0.00
 | 1.19 | 20.85% | 1.19 | HOUSE, ROAD,
YARD | YES |
| K0560 | NK0560 | 10.96 | Residential
 | DRA | POSITIVE OUTFA | ILL DRY

 | Ν | 100 YR / 24 HR | 12.4 | SCS II FLMOD | NO | 0.00 | 0.00% | 58.07 | 2.15
 | 19.62% | 12.53 | 0.00
 | 2.15 | 19.62% | 2.15 | HOUSE, ROAD,
YARD | YES |
| K0565
K0570 | NK0565
NK0570 | 19.40 | Residential
 | DEPRESSION | CLOSED BASIN
POSITIVE OUTFA |

 | Y | 100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD | NO
NO | | 0.00% | 82.77
58.07 | 0.14
 | 0.71% | 0.45 | 0.00
 | 0.14 | 0.71% | 0.14 3.68 | HOUSE, ROAD, | YES
YES |
| K0570
K0590 | NK0570
NK0590 | 4.01 | Residential
 | DEPRESSION | POSITIVE OUTFA |

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD | | | 0.00% | 58.07 | 3.68
2.40
 | 59.96% | 4.51
3.76 | 0.00
 | 2.40 | 59.96% | 2.40 | YARD
HOUSE, ROAD, | YES |
| 10000 | | |
 | | |

 | | | | | Location is a Documented Flooding Area where a record of a | 0.00 | | |
 | | 2.70 |
 | | 22.0070 | 2.10 | YARD | |
| K0600 | NK0600 | 43.75 | Residential
 | DRA | CLOSED BASIN | I DRY

 | N | 100 YR / 24 HR | 12.4 | SCS II FLMOD | flooding complaint has been logged by SWFWMD. There is an
area of floodplain delineated at this location. This data can be used
qualitatively as an indicator of where flooding could occur and | 0.00 | 0.00% | 56.93 | 1.90
 | 4.33% | 9.78 | 0.00
 | 1.90 | 4.33% | 1.90 | HOUSE, ROAD,
YARD | YES |
| | | |
 | | |

 | | | | | qualitatively as an indicator of where flooding could occur and
therefore where one would consider it reasonable to have a flood
hazard. | | | |
 | | |
 | | | | TARD | |
| K0610
K0620 | NK0610
NK0620 | 9.86 | Commercial/Industrial
Open Lands
 | DEPRESSION | POSITIVE OUTFA |

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD | | 0.00 | 0.00% | 55.43
54.04 | 0.81
 | 8.20%
42.88% | 1.48 | 0.00
 | 0.81 | 8.20%
42.88% | 0.81 | | YES
YES |
| K0620
K0630
K0640 | NK0620
NK0630
NK0640 | 19.46
1.78 | Forests
 | DEPRESSION | POSITIVE OUTFA
POSITIVE OUTFA | LL DRY

 | N | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO | 0.00 | 0.00% | 57.23 | 4.70
 | 42.88%
24.17%
0.00% | 3.53 | 0.00
 | 5.10 | 26.21%
0.00% | 5.10 | | YES
YES |
| K0645
K0650 | NK0645
NK0650 | 2.36
79.91 | Forests
Forests
 | DEPRESSION
WETLAND | CLOSED BASIN
CLOSED BASIN |

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 56.13
54.11 | 0.01 3.20
 | 0.62%
4.00% | 0.99 8.00 | 0.00
 | 0.01 3.20 | 0.62%
4.00% | 0.01 3.20 | YARD | YES
YES |
| K0660
K0700 | NK0660
NK0700 | 18.42
10.21 | Residential
Forests
 | DEPRESSION
DEPRESSION | CLOSED BASIN | DRY
DRY

 | N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 51.56
95.9 | 0.00 0.00
 | 0.00% | 0.00 | 0.00
 | 0.00
0.00 | 0.00% | 0.00 | | YES
YES |
| K0705
K0710 | NK0705
NK0710 | 1.02
105.63 | Residential
Residential
 | DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN |

 | N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | | 83.08
69.97 | 0.00
 | 0.04% | 0.00 | 0.00
 | 0.00 | 0.04% | 0.00 | | YES
YES |
| K0720
K0730 | NK0720
NK0730 | 57.84
46.08 | Residential
Residential
 | DEPRESSION
DEPRESSION | CLOSED BASIN | I DRY

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 90.27
88.05 | 0.00
 | 0.00% | 0.00 | 0.00
 | 0.00 | 0.00% | 0.00 | | YES
YES |
| K0740
K0750 | NK0740
NK0750 | 20.49
30.04 | Residential
Residential
 | DEPRESSION
DEPRESSION | |

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 76.29
83.61 | 0.00
 | 0.00% | 0.00 | 0.00
 | 0.00 0.00 | 0.00% | 0.00 | | YES
YES |
| K0760
K0800 | NK0760
NK0800 | 122.66
11.07 | Residential
Forests
 | DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | DRY

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 47.51
93.35 | 0.00
 | 0.00% | 0.00 | 0.00
 | 0.00 | 0.00% | 0.00 | | YES
YES |
| K0805
K0810
K0830 | NK0805
NK0810 | 9.60
34.91 | Residential
Residential
Residential
 | DEPRESSION
DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN
CLOSED BASIN | I DRY

 | N | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 0.00 0.00 | 0.00% | 92.66
85.66
77.15 | 0.00 0.00 0.00
 | 0.00% | 0.00 | 0.00
 | 0.00 0.00 0.00 | 0.00% | 0.00 | | YES
YES
YES |
| K0830
K0840
K0850 | NK0830
NK0840
NK0850 | 16.28
17.80
12.21 | Agricultural
Agricultural
 | DEPRESSION
DEPRESSION
DEPRESSION | | I DRY

 | N | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD
SCS II FLMOD
SCS II FLMOD | NO
NO
NO | 0.00 0.00 | 0.00% | | 0.00
 | 0.00% | 0.00 | 0.00
 | 0.00 | 0.00% | 0.00 0.00 0.00 | | YES
YES
YES |
| K0855
K0860 | NK0855 | | Residential
 | | CLOSED BASIN | I DRY

 | N | 100 YR / 24 HR | 12.4 | SCS II FLMOD | NO | 0.00 | 0.00% | 77.64 | 0.00
 | 0.00% | 0.00 0.14 | 0.00
 | 0.00 | 0.00% | 0.00 | | YES |
| K0870 | | 9.33 |
 | DEPRESSION | CLOSED BASIN | DRY

 | N | | 12.4 | SCS ILFLMOD | NO | 0.00 | | |
 | | | 0.00
 | | 0.16% | 0.04 | | YES |
| R0870 | NK0855
NK0860
NK0870 | 9.33
23.84
10.56 | Forests
Agricultural
 | DEPRESSION
DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | I DRY
I DRY

 | N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 68.34 | 0.04
 | 0.01% | 0.00 | 0.00
 | 0.04
0.00 | 0.16% | 0.04
0.00 | | YES
YES |
| 10070 | NK0860 | 23.84 | Forests
 | DEPRESSION
DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | I DRY
DRY
Initial stage se
to 49' NAVD88

 | N N
N
et
3 | 100 YR / 24 HR | 12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO | 0.00 | 0.00% | 68.34 | 0.00
 | 0.01% | 0.00 | 0.00
 | 0.04 | 0.16% | 0.04
0.00 | | YES |
| K0870 | NK0860 | 23.84 | Forests
 | DEPRESSION
DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN
CLOSED BASIN | I DRY
I DRY
Initial stage set
to 49' NAVD88
based on
I comparison of

 | N
N
st
f
N | 100 YR / 24 HR | | SCS II FLMOD
SCS II FLMOD
SCS II FLMOD | NO
NO
NO | 0.00 | 0.00% | 68.34 | 0.00
 | 0.01% | 0.00 | 0.00
0.00
 | 0.04 | 0.16%
0.01% | 0.04
0.00 | | YES
YES
YES |
| | NK0860
NK0870 | 23.84
10.56 | Forests
Agricultural
 | DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | I DRY
I DRY
Initial stage set
to 49' NAVD88
based on
Comparison of
EI Nino imager
and 1' LiDAR

 | f N
V | 100 YR / 24 HR
100 YR / 24 HR | | | NO
NO | 0.00 | | |
 | 0.01% | 0.00 |
 | 0.04 | 0.16%
0.01% | 0.04 | | |
| | NK0860
NK0870 | 23.84
10.56 | Forests
Agricultural
 | DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | I DRY
I DRY
Initial stage se
to 49' NAVD86
based on
I comparison of
El Nino imager
and 1' LiDAR
Contours

 | f N
V | 100 YR / 24 HR
100 YR / 24 HR | | | NO
NO | 0.00 | | |
 | 0.01% | 0.00 |
 | 0.04 | 0.16%
0.01% | 0.04 | | |
| | NK0860
NK0870 | 23.84
10.56 | Forests
Agricultural
 | DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | I DRY
I DRY
Initial stage se
to 49' NAVD88
based on
Comparison of
El Nino imager
and 1' LIDAR
Contours
Initial stage se
to 48.8'

 | f N
V | 100 YR / 24 HR
100 YR / 24 HR | | | NO
NO | 0.00 | | |
 | 0.01% | 0.00 |
 | 0.04 | 0.16%
0.01% | 0.04 | | |
| K0895 | NK0860
NK0870
NK0895 | 23.84
10.56
26.78 | Forests
Agricultural
Residential
 | DEPRESSION
DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN
CLOSED BASIN | I DRY
I DRY
Initial stage se
to 49 NAVD84
based on
I comparison of
El Nino imager
and 1' LiDAR
Contours
Initial stage se
to 48.8'
NAVD88 base
on comparisor

 | f N
Y
H
d | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD | | 0.00 0.00 0.00 | 0.00% | 49 | 0.46
 | 0.01% | 0.00 | 0.00
 | 0.04 | 0.16%
0.01% | 0.04 0.00 0.46 | | YES |
| | NK0860
NK0870 | 23.84
10.56 | Forests
Agricultural
 | DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49 NAVD8 based on comparison of El Nino imager and 11 LiDAR Contours Initial stage se to 48.8° NAVD88 base on comparison fel Nino imagery and 1

 | f N
Y
H
d | 100 YR / 24 HR
100 YR / 24 HR | 12.4 | | | 0.00 0.00 0.00 | | |
 | 0.01% | 0.00 |
 | 0.04 | 0.16%
0.01% | 0.04 | | |
| K0895 | NK0860
NK0870
NK0895
NK0900 | 23.84
10.56
26.78
8.87 | Forests
Agricultural
Residential
Residential
 | DEPRESSION DEPRESSION DEPRESSION DEPRESSION | CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49' NAVD8t based on comparison of El Nino imager and 1' LIDAR Contours Initial stage se to 48.8' NAVD8tB base or omparison of El Nino imagery and 1 LIDAR Contours

 | f N
Y
H
d | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4 | SCS II FLMOD | | 0.00 0.00 0.00 0.00 | 0.00% | 49
48.8 | 0.46
 | 0.01% | 0.00 | 0.00
 | 0.04 0.00 0.46 0.50 | 0.16%
0.01%
1.74%
5.60% | 0.04 0.00 0.46 0.50 | | YES |
| K0895
K0900
L0010
L0020 | NK0860
NK0870
NK0895
NK0900
NK0900
NL0010
NL0020 | 23.84
10.56
26.78
8.87
14.20
14.71 | Forests
Agricultural
Residential
Residential
Agricultural
Residential
 | DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION | CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49 NAV08 based on comparison of El Nino imager and 11 LIDAR Contours Initial stage se to 48.8' NAVD88 base or ocmparison of El Nino imagery and 1 LIDAR Contours IDAR Contours IDRY

 | f N
Y
H
d | 100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD
SCS II FLMOD
SCS II FLMOD | NO
NO
NO | 0.00 0.00 0.00 0.00 0.00 0.00 | 0.00% | 49
48.8
104.9
87.84 | 0.46
0.50
0.00
0.00
 | 0.01%
1.74%
5.60%
0.01% | 0.00
0.44
2.71
0.00
0.00 | 0.00
 | 0.04
0.00
0.46
0.50 | 0.16%
0.01%
1.74%
5.60%
0.01% | 0.04 0.00 0.46 0.50 0.50 0.00 | | YES
YES
YES
YES |
| K0895
K0900
L0010
L0020
L0020
L0040 | NK0860
NK0870
NK0895
NK0900
NL0010
NL0020
NL0020
NL0030 | 23.84
10.56
26.78
8.87
14.20
14.71
14.71
14.71
16.40 | Forests
Agricultural
Residential
Residential
Agricultural
Residential
Residential
Residential
Residential
 | DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION | CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN | i DRY
i DRY
i DRY
i DRY
i DRY
i DRY
i DRY
i DRN
i DRY
i DRY
i DRY
i DRY
i DRY

 | f N
y
d
d
N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4
12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD
SCS II FLMOD
SCS II FLMOD
SCS II FLMOD | NO
NO
NO
NO | 0.00
0.00
0.00
0.00
0.00
0.00
0.00 | 0.00%
0.00%
0.00%
0.00% | 49
48.8
104.9
87.84
99.7
89.22 | 0.46
0.50
0.00
0.00
0.00
0.00
 | 0.01%
1.74%
5.60%
0.01%
0.01%
0.00% | 0.00
0.44
2.71
0.00
0.00
0.00
0.00 | 0.00
0.00
0.00
0.00
0.00
0.00
 | 0.04
0.00
0.46
0.50
0.50
0.00
0.00
0.00
0.00 | 0.16%
0.01%
1.74%
5.60%
0.01%
0.01%
0.00% | 0.04
0.00
0.46
0.50
0.50
0.00
0.00
0.00 | | YES
YES
YES
YES
YES
YES |
| K0895
K0900
L0010
L0020
L0030
L0040
L0070 | NK0860
NK0870
NK0895
NK0895
NK0900
NL0010
NL0020
NL0030
NL0030
NL0030 | 23.84
10.56
26.78
8.87
14.20
14.71
14.71
14.71
16.40
40.63
27.29 | Forests
Agricultural
Residential
Residential
Agricultural
Residential
Residential
Residential
Residential
Residential
Residential
Residential
 | DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION DEPRESSION | CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49 NAVD85 based on comparison 0 El Nino imager and 1' LiDAR Contours Initial stage se to 48.8' NAVD88 base to

 | f N
y
d
d
N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4
12.4
12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD
SCS II FLMOD
SCS II FLMOD
SCS II
FLMOD
SCS II FLMOD | NO
NO
NO
NO
NO
NO | 0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.0 | 0.00%
0.00%
0.00%
0.00%
0.00% | 49
48.8
104.9
87.84
99.7
89.22
82.93 | 0.46
0.50
0.00
0.00
0.00
0.00
0.00
 | 0.01%
1.74%
5.60%
0.01%
0.01%
0.00%
0.00%
0.00% | 0.00
0.44
2.71
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0 | 0.00
0.00
0.00
0.00
0.00
0.00
0.00 | 0.04
0.00
0.46
0.50
0.50
0.00
0.00
0.00
0.00
0.00
0.0
 | 0.16%
0.01%
1.74%
5.60%
0.01%
0.01%
0.00%
0.00% | 0.04
0.00
0.46
0.50
0.50
0.00
0.00
0.00
0.00 | YARD | YES
YES
<u>YES</u>
YES
YES
YES |
| K0895
K0900
L0010
L0030
L0040
L0060
L0070
L0110 | NK0860
NK0870
NK0895
NK0895
NK0900
NL0010
NL0020
NL0030
NL0040
NL0050
NL0100 | 23.84
10.56
26.78
26.78
8.87
14.20
14.71
22.11
16.40
40.63
27.29
20.86 | Forests
Agricultural
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Forests
 | DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION
DEPRESSION | CLOSED BASIN
CLOSED BASIN | i DRY
i DRY
i DRY
i DRY
i Not Stage set
to 49 NAVDB2
based on
comparison of
El Nino imager
and 1 LIDAR
Contours
i Initial stage se
to 48,8'
NAVDB3 base
to 4

 | f N
y
d
d
N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4
12.4
12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO
NO
NO
NO
NO
NO
NO
NO
 | 0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.0 | 0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00% | 49
48.8
104.9
87.84
99.7
89.22
88.23
81.22
133.93
119.6 | 0.46
0.50
0.00
0.00
0.00
0.00
0.00
0.25
0.00 | 0.01%
1.74%
5.60%
0.01%
0.00%
0.00%
0.00%
0.00%
0.00%
 | 0.00
0.44
2.71
0.00
0.00
0.00
0.00
0.00
1.43
0.00
0.00 | 0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.0 | 0.04
0.00
0.46
0.50
0.50
0.00
0.00
0.00
0.00
0.00
0.0
 | 0.16%
0.01%
1.74%
5.60%
0.01%
0.01%
0.00%
0.00%
0.00%
0.00%
0.00% | 0.04
0.00
0.46
0.46
0.50
0.50
0.00
0.00
0.00
0.00
0.00
0.0 | YARD | YES
YES
YES
YES
YES
YES
YES
YES
YES
YES |
| K0895
K0900
L0020
L0020
L0040
L0070
L0710
L0710
L0120
L0120 | NK0860
NK0870
NK0895
NK0895
NK0900
NL0010
NL0040
NL0040
NL0040
NL0040
NL0100
NL0110
NL0110 | 23.84
10.56
26.78
8.87
14.20
14.71
22.11
16.40
40.63
27.29
20.86
46.63
42.30
13.32 | Forests Agricultural Residential Residential Agricultural Residential
 | DEPRESSION | CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49 NAVD85 based on comparison 0 El Nino imager and 1' LiDAR Contours Initial stage se to 48.8' NAVD88 base no comparison El Nino imagery and 1 LiDAR Contours DRY

 | f N
y
d
d
N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4
12.4
12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO | 0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.0
 | 0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00% | 49
48.8
104.9
87.84
99.7
89.22
82.93
81.22
113.93
119.6
101.36 | 0.46
0.50
0.00
0.00
0.00
0.00
0.25
0.00
0.00 | 0.01%
1.74%
5.60%
0.01%
0.01%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
 | 0.00
0.44
2.71
0.00
0.00
0.00
0.00
0.00
0.00
0.00
0 | 0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.0 | 0.04
0.00
0.46
0.50
0.50
0.00
0.00
0.00
0.00
0.00
0.0 | 0.16%
0.01%
1.74%
5.60%
0.01%
0.01%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.22%
4.43%
 | 0.04
0.00
0.46
0.50
0.50
0.50
0.00
0.00
0.00
0.25
0.25 | YARD | YES
YES
YES
YES
YES
YES
YES
YES |
| K0895
K0900
L0010
L0020
L0040
L0040
L0070
L0100
L0155
L0160 | NK0860
NK0870
NK0895
NK0895
NK0900
NL0010
NL0040
NL0040
NL0040
NL0040
NL0100
NL0110
NL0110 | 23.84
10.56
26.78
26.78
8.87
14.20
14.71
22.11
16.40
40.63
27.29
20.86
46.63
42.30
13.32
2.20
15.23 | Forests
Agricultural
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Residential
Commercial/Industrial
 | DEPRESSION | CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49 NAUDB3 based on comparison 0 El Nino imager and 1' LiDAR Contours Initial stage se to 48.8' NAVD88 base on comparison of El Nino imagery and 1 LIDAR Contours I DRY

 | f N
y
d
d
N
N | 100 YR / 24 HR
100 YR / 24 HR | 12.4
12.4
12.4
12.4
12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
N
 | 0.00
0.00
0.00
0.00
0.00
0.00
0.00
0.0 | 0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00% | 49
48.8
104.9
87.84
99.7
88.22
88.23
81.22
133.93
1119.6
101.36
104.02
104.41
100.41 | 0.46
0.50
0.00
0.00
0.00
0.00
0.00
0.25
0.00
0.00
0.00
0.00
0.00
0.25
0.00
0.00
0.59
0.53 |
0.01%
1.74%
5.60%
5.60%
0.01%
0.05%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
0.00%
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0.00
1.43
1.5
1.38
8.73 | 0.00
0.00
0.00
0.00
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0.00
0.00
0.0 | 0.04
0.00
0.46
0.50
0.50
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 | 0.16%
0.01%
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5.60%
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0.00
0.46
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0.00
0.00
0.00
0.25
0.00
0.00 | YARD
BUILDING | YES
YES
YES
YES
YES
YES
YES
YES
YES
YES |
| K0895
K0900
L0010
L0020
L0020
L0020
L0100
L0100
L0100
L0155
L0160
L0155 | NK0860
NK0870
NK0895
NK0895
NK0900
NL0010
NL0030
NL0030
NL0030
NL0040
NL0040
NL0100
NL01100
NL01100
NL0115
NL0155
NL0155
NL0155 | 23.84
10.56
26.78
26.78
8.87
14.20
14.71
22.11
16.40
40.63
27.29
20.86
24.63
44.63
42.30
13.32
2.20
15.23
2.88
2.36 | Forests
Agricultural
Residential
Residential
Residential
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Residential
Residential
Residential
Residential
Residential
Residential
Commercial/Industrial
Commercial/Industrial
Commercial/Industrial
 | DEPRESSION | CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49 NAUDB3 based on comparison 0 El Nino imager and 1' LiDAR Contours Initial stage se to 48.8' NAUDB8 base to

 | f N
y
d
d
N
N | 100 YR / 24 HR | 12.4
12.4
12.4
12.4
12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
N | 0.00
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0.00
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0.00% | 49
48.8
104.9
87.84
99.7
88.22
88.23
81.22
133.93
1119.6
101.36
104.02
104.41
100.74
100.74 | 0.46
0.50
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0.0 | 0.01%
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5.60%
5.60%
0.01%
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1.65%
5.61% | 0.00
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0.0 | 0.04
0.00
0.46
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0.0 | 0.16%
0.01%
1.74%
5.60%
5.60%
0.01%
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2.33%
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YES |
| K0895
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L0070
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L0170 | NK0860
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NL | 23.84
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14.20
14.71
14.71
14.71
22.11
16.40
40.63
27.29
20.86
46.63
42.30
13.322
2.20
15.23
2.28
2.36
18.48
27.20
10.18 | Forests
Agricultural
Residential
Residential
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Commercial/Industrial
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Residential
 | DEPRESSION | CLOSED BASIN
CLOSED BASIN | DRY DRY Initial stage se to 49 NAVD85 based on comparison 0 El Nino imager and 1' LIDAR Contours Initial stage se to 48.8' NAVD88 base on comparison fel Nino DRY

 | f N
y
d
d
N
N | 100 YR / 24 HR 100 YR / 24 HR | 12.4
12.4
12.4
12.4
12.4
12.4
12.4
12.4 | SCS II FLMOD
SCS II FLMOD | NO
NO
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NO
NO
NO
NO
NO
NO
NO
NO
NO
NO
N | 0.00
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0.00% | 49
48.8
48.8
99.7
89.22
82.93
81.22
113.93
113.6
101.36
104.02
104.41
100.74
100.74
100.74
100.74
100.74
100.74
88.89
87.72
81.55 | 0.46
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0.09
0.59
0.19
0.53
0.34
0.34
0.34
0.44
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0.00 | 0.01%
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5.60%
5.60%
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0.0 | YARD
BUILDING | YES
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YES
YES
YES
YES
YES
YES
YES |
| K0895
K0900
L0010
L0020
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L0070
L0100
L0110
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L0110
L0115
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L0120
L0220
L0230 | NK0860 NK0870 NK0870 NK0895 NK0900 NL0010 NL0010 NL0010 NL0010 NL0110 NL0110 NL0110 NL0110 NL0110 NL0112 NL0155 NL0160 NL0161 NL0161 NL0161 NL0155 NL0160 NL0230 NL0252 NL0252 | 23.84
10.56
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26.78
8.87
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14.71
14.71
22.11
16.40
40.63
27.29
20.86
46.63
42.30
13.32
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CLOSED BASIN | i DRY
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SCS II FLMOD | NO NO |
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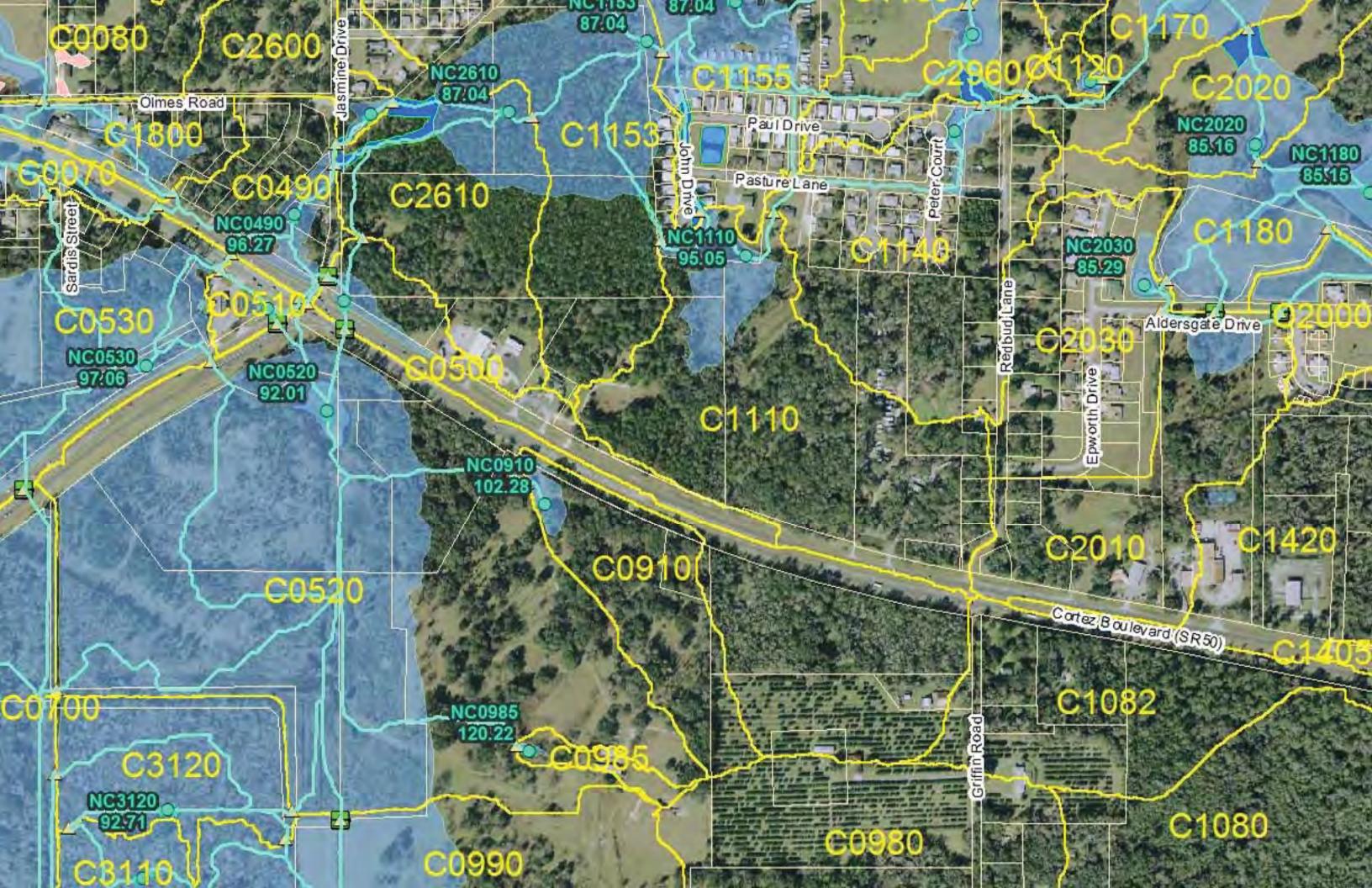
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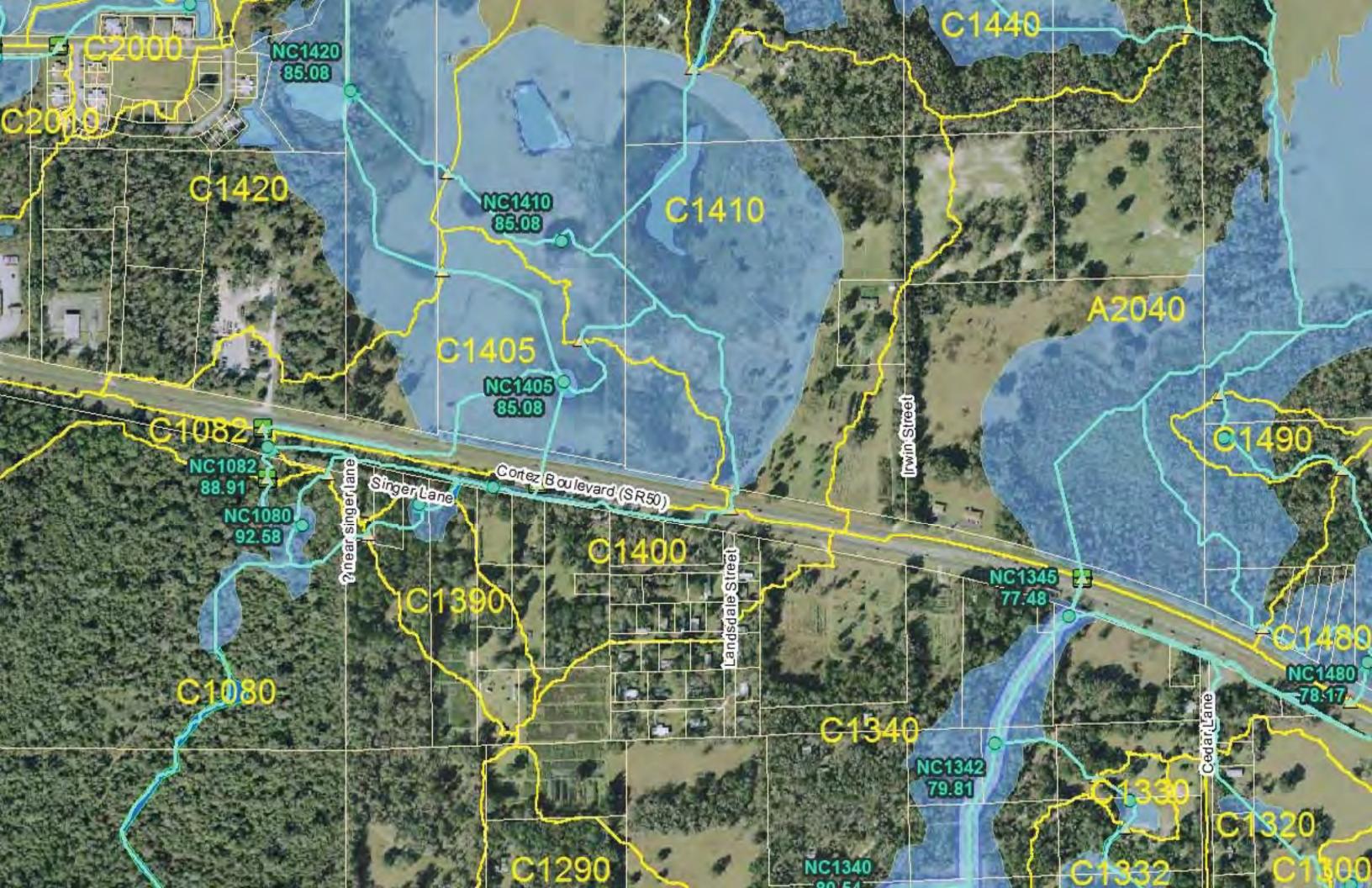
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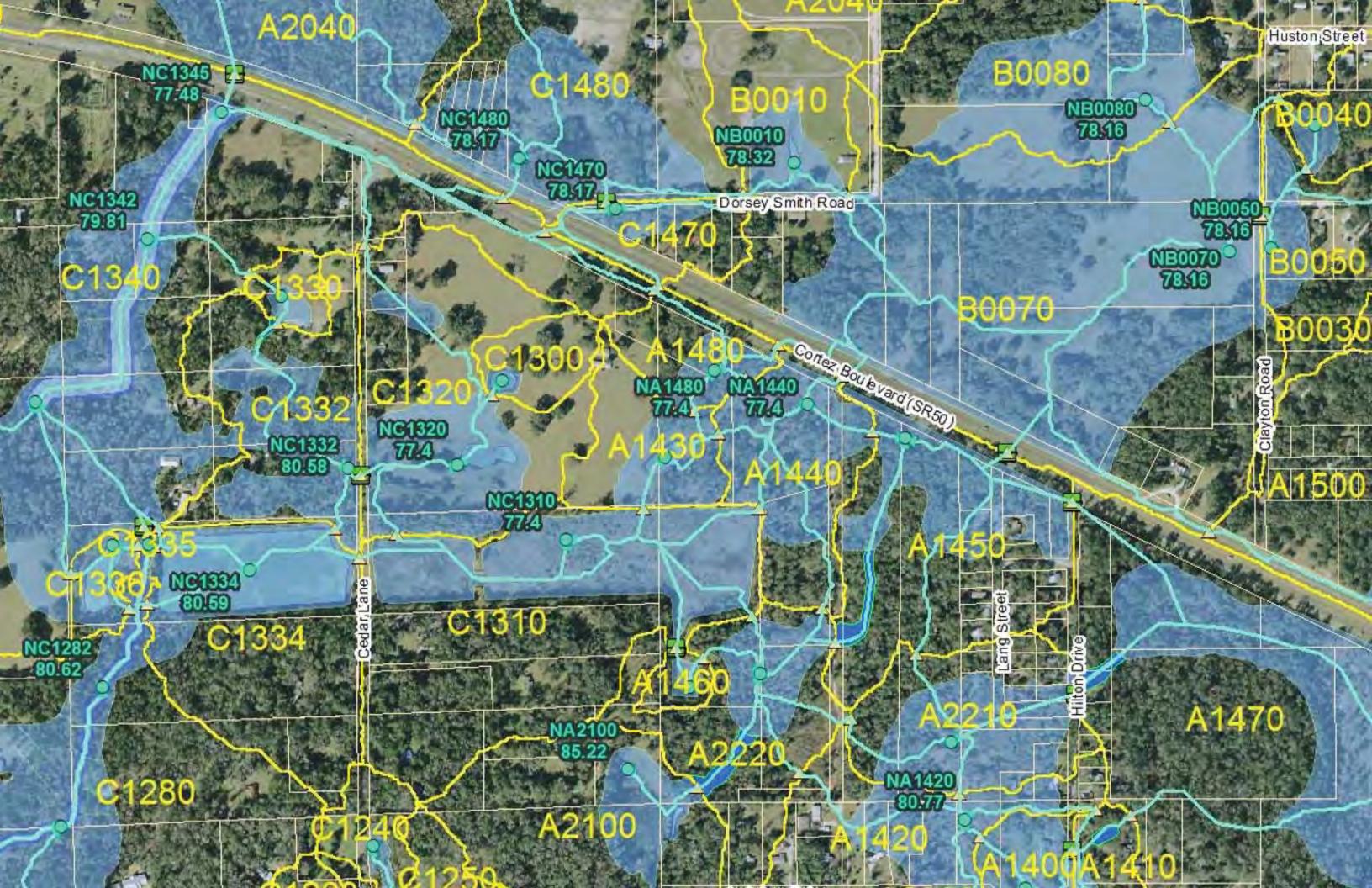
				SUBBASIN PRIMARY MODELED FLOOD	SUBBASIN		SUBBASIN						FEMA %						TOTAL FLOODPLAIN				
		SUBBASIN AREA	SUBBASIN PREDOMINANT LANDUSE (RESIDENTIAL COMMERCIAL INSTITUTIONAL	FEATURE (DEPRESSION, WET POND, WETLAND, DRA.	DISCHARGE CONDITIONS (CLOSED BASIN OR POSITIVE		PERCOLATION INCORPORATED IN MODELING	MODELED FLOODPLAIN	MODELED FLOODPLAIN STORM DEPTH	MODELED FLOODPLAIN STORM	SUBBASIN VERIFICATION/VALIDATION DATA AVAILABLE	FEMA ZONE FEMA (A. X500, ACRES		MODELED FLOODPLAIN ELEVATION	MODELED	MODELED FLOODPLAIN % OF TOTAL AREA	MODELED FLOODPLAIN MAX DEPTH	TRANSITIONAL (ESTIMATED) FLOODPLAIN ARE	AREA - MODELED PLUS A TRANSITIONAL	TOTAL FLOODPLAIN	FLOODPLAIN DIFFERENCE - % MODELED MINUS	APPARENT	MODELED FLOODPLAIN REASONABLE BASED ON
	ID NL0550	(ACRES) 91.22	AGRICULTURAL, OPEN SPACE OTHERS) Agricultural	ROADSIDE SWALE) DEPRESSION	OUTFALL) CLOSED BASIN	ASSUMPTION DRY	<mark>(Y OR N)</mark> N	STORM EVENT 100 YR / 24 HR	(INCHES) 12.4	DISTRIBUTION SCS II FLMOD	(YES OR NO - IF YES PROVIDE DETAILS) NO	ETC.) (ACRES) 0.00	(ACRES) 0.00%	(FEET NAVD) 127.11	AREA (ACRES) 0.63	(ACRES) 0.69%	(FEET) 1.92	(ACRES) 0.00	(ACRES) 0.63	OF TOTAL AREA (ACRI 0.69%	0.63	FLOOD IMPACT	AVAILABLE INFORMATION? YES
L0570 L0600 L0625	NL0570 NL0600 NL0625		Forests Forests Agricultural	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y Y N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.00 0.00 0.00	0.00%	125.61 159.54 118.25	0.58 0.12 0.09	1.59% 3.96% 0.73%	2.57 2.18 0.88	0.00 0.00	0.58 0.12 0.09	1.59% 3.96% 0.73%	0.58 0.12 0.09		YES YES
L0630 L0650		156.43	Agricultural Agricultural	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	74.99	1.17	0.75%	1.11	0.00	1.17	0.75%	1.17		YES
L0670	NL0660 NL0670	22.99	Agricultural Residential	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	53.42 58.86	0.00 0.54	0.00% 2.34%	0.00 1.41	0.00 0.00	0.00 0.54	0.00% 2.34%	0.00 0.54		YES YES
L0700 L0720 L0730	NL0700 NL0720 NL0730	101.31	Agricultural Agricultural Residential	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.00	0.00%	82.13 62.76 62.62	1.13 2.42 3.06	3.16% 2.39% 16.66%	1.44 2.21 6.21	0.00 0.00 0.00	1.13 2.42 3.06	3.16% 2.39% 16.66%	1.13 2.42 3.06	ROAD	YES YES YES
L0750 L0760		3.12	Agricultural Agricultural	DEPRESSION	CLOSED BASIN POSITIVE OUTFALL	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00%	181.64 176.95	0.41	13.14% 15.37%	3.28	0.00	0.41	13.14% 15.37%	0.41	ROAD	YES
L0770 L0821	NL0770 NL0821	22.91	Agricultural Agricultural	WETLAND CHANNEL	POSITIVE OUTFALL POSITIVE OUTFALL	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00%	175.81 130.27	1.05 0.13	27.07% 0.57%	8.29 1.74	0.00	1.05 0.13	27.07% 0.57%	1.05 0.13		YES YES
	NL0822 NL0823		Forests Agricultural	CHANNEL	POSITIVE OUTFALL POSITIVE OUTFALL	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00%	119.82 110.81	1.23 4.05	11.05% 27.35%	1.56 1.42	0.00	1.23 4.05	11.05% 27.35%	1.23 4.05	YARD	YES YES
						Initial stage set to 47' NAVD88 based on																	
L0824	NL0824	33.10	Agricultural	DEPRESSION	POSITIVE OUTFALL	 comparison of El Nino imagery and 1' LiDAR Contours 	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	0.00	0.00%	102.29	4.36	13.16%	1.52	0.01	4.37	13.19%	4.37		YES
L0825 L0826	NL0825 NL0826	4.21 3.47	Forests Forests	CHANNEL	POSITIVE OUTFALL POSITIVE OUTFALL	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00%	99.61 94.08	0.63	14.95% 27.00%	3.09 2.63	0.10	0.73 0.94	17.43% 27.00%	0.73 0.94		YES YES
L0827	NL0827 NL0828	2.72 9.14	Forests Forests	CHANNEL CHANNEL	POSITIVE OUTFALL POSITIVE OUTFALL	DRY DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	86.38 77.93	1.22 4.11	44.91% 44.99%	2.43 1.39	0.00	1.22 4.11	44.91% 44.99%	1.22	ROAD	YES YES YES
L0829 L0830	NL0829 NL0830	3.76 151.27	Agricultural Agricultural	CHANNEL WET POND	POSITIVE OUTFALL POSITIVE OUTFALL	DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	71.92 64.02	3.07 2.65	81.64% 1.76%	2.84 7.26	0.00	3.07 2.66	81.64% 1.76%	3.07 2.66	ROAD	YES YES
L0850 L0860	NL0850 NL0860		Agricultural Residential Forests	DEPRESSION DEPRESSION DEPRESSION	POSITIVE OUTFALL	DRY DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.00 0.00 0.00	0.00%	85.56 79.92 111.05	0.85	1.26% 7.17% 2.98%	0.92 4.34 2.42	0.00 0.00	0.85 0.32 0.17	1.26% 7.17% 2.98%	0.85 0.32 0.17		YES YES YES
L0870 L0880	NL0870 NL0880 NL0892	2.60	Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY	Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00% 0.00%	97.39 110.05	0.12 0.06	4.53% 3.91%	2.42 2.21 2.38	0.00	0.17 0.12 0.06	4.53% 3.91%	0.12		YES
	NL0895		Residential	DEPRESSION DEPRESSION	CLOSED BASIN	DRY DRY Initial stage set to 54.4'	Ň	100 YR / 24 HR	12.4	SCS II FLMOD	NO	0.00		62.62	0.58	4.51%	5.51	0.00	0.58	4.51%	0.06 0.58	ROAD	YES
L0900	NL0900	91.54	Agricultural	DEPRESSION	CLOSED BASIN	NAVD88 based on comparison of El Nino imagery and 1' LiDAR	Ν	100 YR / 24 HR	12.4	SCS II FLMOD	NO	0.00	0.00%	62.62	13.26	14.48%	10.37	0.05	13.31	14.54%	13.31	ROAD	YES
M0010	NM0010	5.51	Forests	DEPRESSION	CLOSED BASIN	Contours	N	100 YR / 24 HR	12.4	SCS II FLMOD	NO	0.00	0.00%	76.52	1.64	29 73%	7.07	0.00	1.64	29.73%	1.64		YES
	NM0025 NM0030	2.80	Forests		CLOSED BASIN CLOSED BASIN	DRY	Y	100 YR / 24 HR 100 YR / 24 HR		SCS II FLMOD SCS II FLMOD	NO NO		0.00%		0.20	29.73% 7.03% 3.44%	1.14	0.00	0.20	7.03%	0.20		YES YES YES
M0050 M0060		46.55	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00%	70.89 68.79	0.33	1.87% 2.43%	0.83 1.40	0.00	0.33 1.13	1.87% 2.43%	0.33		YES YES
M0070 M0072	NM0070 NM0072	33.57 4.54 1.73	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.00	0.00%	62.15 77.79 78.44	0.58 0.25 0.18	1.74% 5.43% 10.41%	1.95 1.28 0.60	0.00 0.00	0.58 0.25 0.18	1.74% 5.43% 10.41%	0.58 0.25 0.18		YES YES YES
M0080	NM0075 NM0080 NM0095	13.70	Forests Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO	0.00	0.00%	66.51	0.18 0.46 0.52	10.41% 3.35% 5.72%	0.60 1.23 1.37	0.00	0.18 0.46 0.52	3.35% 5.72%	0.18 0.46 0.52		YES YES YES
	NM0100		Forests	DEPRESSION	CLOSED BASIN	DRY	Ŷ	100 YR / 24 HR	12.4	SCS II FLMOD	NO A High Water Elevation of 62.15' is referenced from SWFWMD		0.00%	68.54	1.21	8.17%	1.01	0.00	1.21	8.17%	1.21		YES
M0112	NM0112	3.08	Forests	DEPRESSION	CLOSED BASIN	DRY	Y	100 YR / 24 HR	12.4	SCS II FLMOD	HWM database. The model result of 59.64' is tower in elevation. This data can be used qualitatively as an indicator of where flood stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near these levels.	0.00	0.00%	59.56	0.14	4.51%	1.34	0.00	0.14	4.51%	0.14		YES
M0120	NM0115 NM0120	49.98	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN		Y N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO		0.00%	60.29 51.74	0.37 1.83	3.54% 3.66%	1.22 5.72	0.00	0.37 1.83	3.54% 3.66%	0.37 1.83		YES YES
M0125 M0130	NM0125 NM0130	7.67	Forests	DEPRESSION	CLOSED BASIN POSITIVE OUTFALL		Y	100 YR / 24 HR	12.4	SCS II FLMOD	NO A High Water Elevation of 58.17° is referenced from SWFWMD HWM database. The model result of 59.48° is higher in elevation. This data can be used qualitatively as an indicator of where flood	0.00	0.00%	62.73 59.46	0.25	3.20%	2.96	0.00	0.25	3.20%	0.25		YES
	NM0140		Commercial/Industrial	DEPRESSION	CLOSED BASIN	DRY	N	100 YR / 24 HR		SCS II FLMOD	stages could be expected to occur and therefore where one would consider it reasonable to have a flood hazard elevation near or above these levels.			68.83	0.00	0.00%	1.19	0.00	0.00	0.00%	0.00		YES
M0141 M0142	NM0141 NM0142	6.79 11.18	Forests Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD		0.00		67.61	0.48 0.79	7.11% 7.07%	1.71 0.89	0.00	0.48 0.79	7.11% 7.07%	0.48 0.79		YES YES
M0150 M0152 M0155	NM0150 NM0152 NM0155	1.74	Agricultural Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y Y V	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO NO		0.00% 0.00%	68.02 59.03 63.76	0.24 0.06 1.39	4.56% 3.34% 5.86%	0.52 2.54 3.06	0.00	0.24 0.06 1.60	4.56% 3.34% 6.73%	0.24 0.06 1.60		YES YES YES
M0160	NM0160 NM0170	34.24	Agricultural Agricultural	DEPRESSION DEPRESSION		DRY DRY	Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD		0.00	0.00%	64.79	1.50	4.38% 6.44%	1.62 1.30	0.00	1.50 0.55	4.38% 6.44%	1.50		YES
M0175	NM0175 NM0180	8.61	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO	0.00	0.00%	77.17	0.63	7.35% 2.98%	1.06	0.00	0.63 0.73	7.35% 2.98%	0.63		YES
M0195 M0200	NM0195 NM0200	23.80 14.01	Forests Agricultural	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	60.55 58.85	0.76 0.64	3.18% 4.54%	2.46 1.49	0.00	0.76 0.64	3.18% 4.54%	0.76		YES YES
N0030	NN0010 NN0030	2.54	Residential Commercial/Industrial	DEPRESSION	CLOSED BASIN	DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO	0.00	0.00%	115.18	0.00	0.00%	0.00 3.09	0.00	0.00	0.00%	0.00		YES
N0050	NN0035 NN0050 NN0060	12.04	Commercial/Industrial Forests	DEPRESSION	POSITIVE OUTFALL CLOSED BASIN CLOSED BASIN	DRY DRY DRY DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD		0.00	0.00%	118.59 118.86 108.62	0.91 0.00 0.42	4.89% 0.01% 1.38%	9.99 0.00 1.54	0.00 0.00 0.00	0.91 0.00 0.42	4.90% 0.01% 1.38%	0.91 0.00 0.42		YES YES YES
N0070	NN0070 NN0080	41.15	Forests Forests Forests		CLOSED BASIN	DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4	SCS II FLMOD SCS II FLMOD	NO	0.00		90.23	0.42	1.66%	1.65	0.00	0.42	1.66%	0.42		YES
N0120 N0130	NN0120 NN0130	19.98 22.56	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	130.74 122.23	0.15 0.24	0.76% 1.05%	1.07 0.85	0.00	0.15 0.24	0.76% 1.05%	0.15		YES YES
N0150		31.36	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY DRY	Y N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	100.91 98.91	0.67	2.16% 1.86%	1.37 1.34	0.00	0.67 0.58	2.16% 1.86%	0.67		YES
N0170	NN0160 NN0170 NN0200	5.39	Forests Forests	DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	Y Y V	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0.00	0.00%	95.19	0.37 0.18 1.28	3.97% 3.28%	1.19 1.08 1.94	0.00	0.37 0.18 1.28	3.97% 3.28% 1.99%	0.37 0.18 1.28		YES YES
N0220	NN0200 NN0220 NN0230	6.15	Forests Residential Commercial/Industrial	DEPRESSION	POSITIVE OUTFALL CLOSED BASIN	DRY DRY DRY	Y Y V	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO	0.00	0.00%	102.89	1.28 0.11 0.14	1.99% 1.73% 7.33%	1.94 2.35 2.78	0.00 0.00 0.00	0.11 0.14	1.99% 1.73% 7.33%	1.28 0.11 0.14		YES YES YES
N0240	NN0240 NN0250	3.05	Agricultural Commercial/Industrial	DEPRESSION	CLOSED BASIN	DRY	Y Y Y	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4 12.4	SCS II FLMOD		0.00	0.00%		0.14	6.87% 3.28%	1.13 4.55	0.00	0.14 0.21 0.15	6.87% 3.28%	0.14 0.21 0.15	YARD	YES
N0270 N0280	NN0270 NN0280	3.31 10.05	Forests Forests	DEPRESSION DEPRESSION DEPRESSION	CLOSED BASIN CLOSED BASIN CLOSED BASIN	DRY DRY DRY	N N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	113.83 111.02	0.00	0.01% 0.24%	0.00 0.13	0.00	0.00	0.01%	0.00		YES YES YES
N0300 N0320	NN0300 NN0320	5.36 6.20	Forests Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY	N	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD	NO NO	0.00	0.00%	99.76	0.00	0.00%	0.00	0.00	0.00	0.00%	0.00		YES
N0400	NN0395 NN0400	159.68	Agricultural Forests	DEPRESSION DEPRESSION	CLOSED BASIN	DRY DRY	N Y	100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD		0.00	0.00%	65.86	0.00 5.10	0.02% 3.20%	0.02	0.00 2.43	0.00 7.53	0.02% 4.72%	0.00 7.53		YES YES
P0030	NP0020 NP0030	12.67	Forests Forests	DEPRESSION	CLOSED BASIN CLOSED BASIN	DRY	N	100 YR / 24 HR 100 YR / 24 HR 100 YR / 24 HR	12.4 12.4	SCS II FLMOD SCS II FLMOD		0.00	0.00%		0.24 0.46	1.98% 3.59%	1.14 0.99	0.00	0.24 0.46	1.98% 3.59%	0.24 0.46		YES YES
P0040	NP0040	02.10	Forests	DEFREGSION	CLOSED BASIN	DRY	IN	100 YR / 24 HR	12.4	SCS II FLMOD	NO	A 4.95	1.09%	50.16	1.53	2.43%	4.44	0.00	1.53	2.43%	-3.42		YES

APPENDIX G

Bystre Lake and Croom Watersheds Nodal Diagrams and Contours

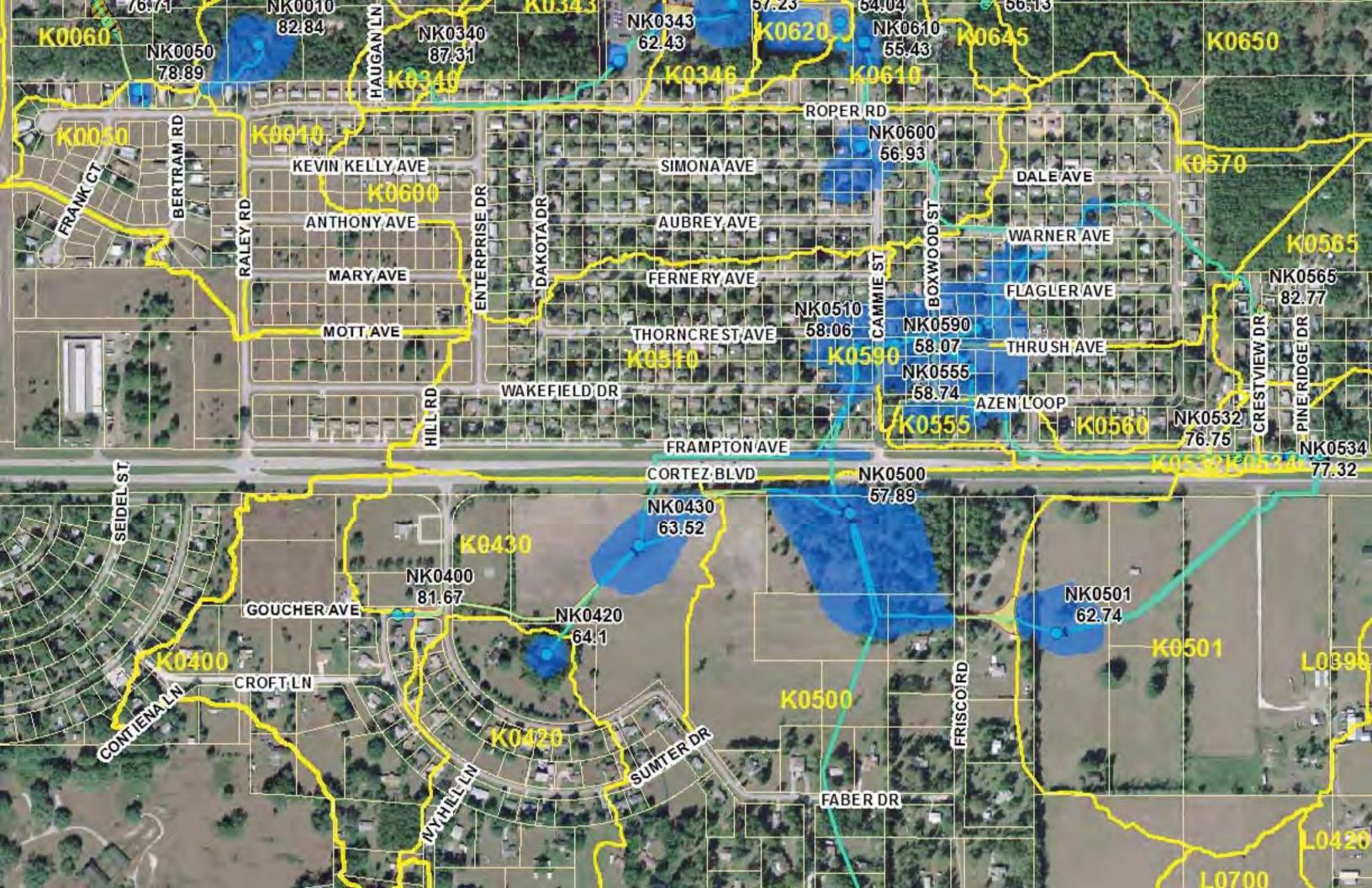


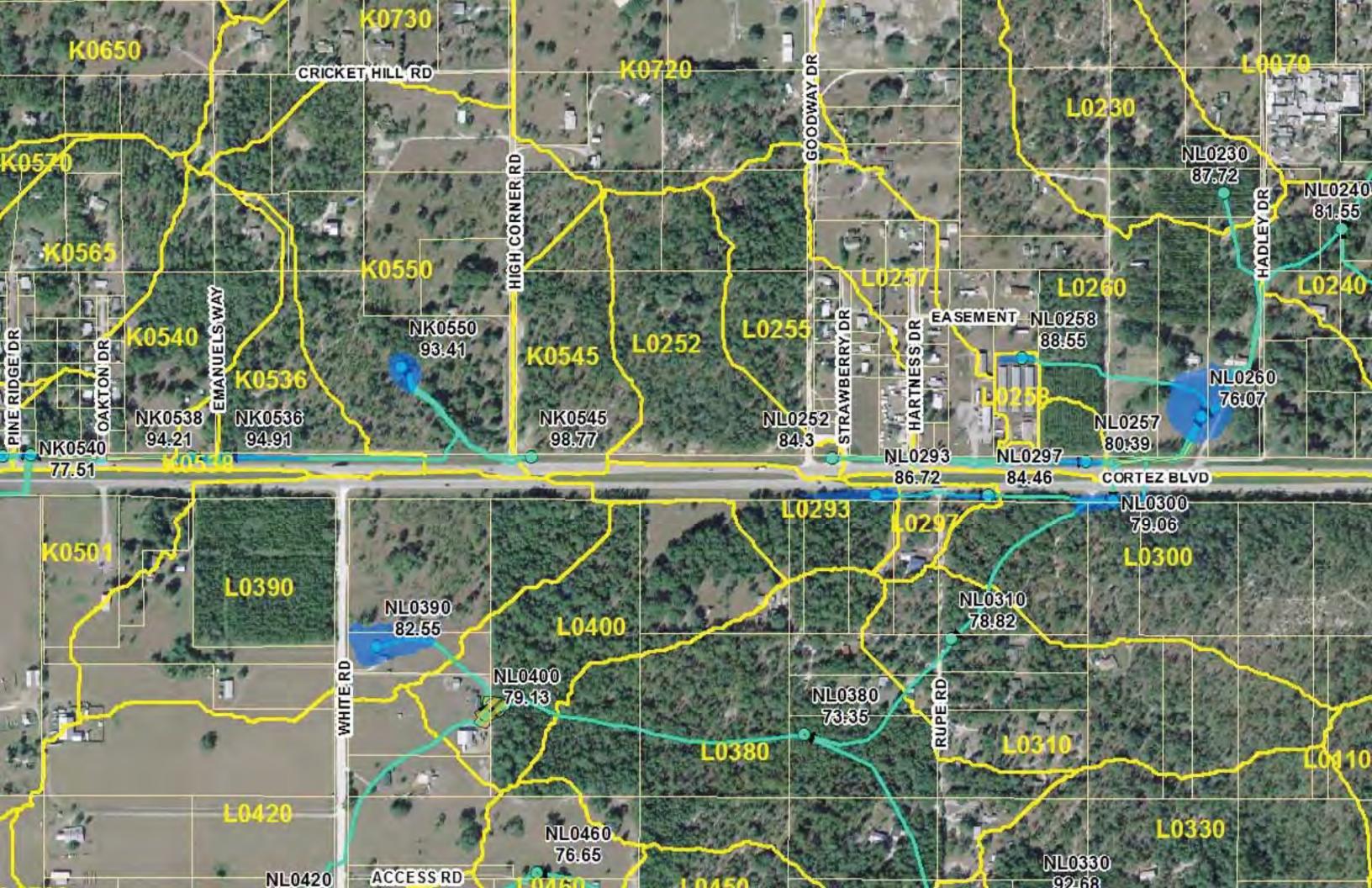


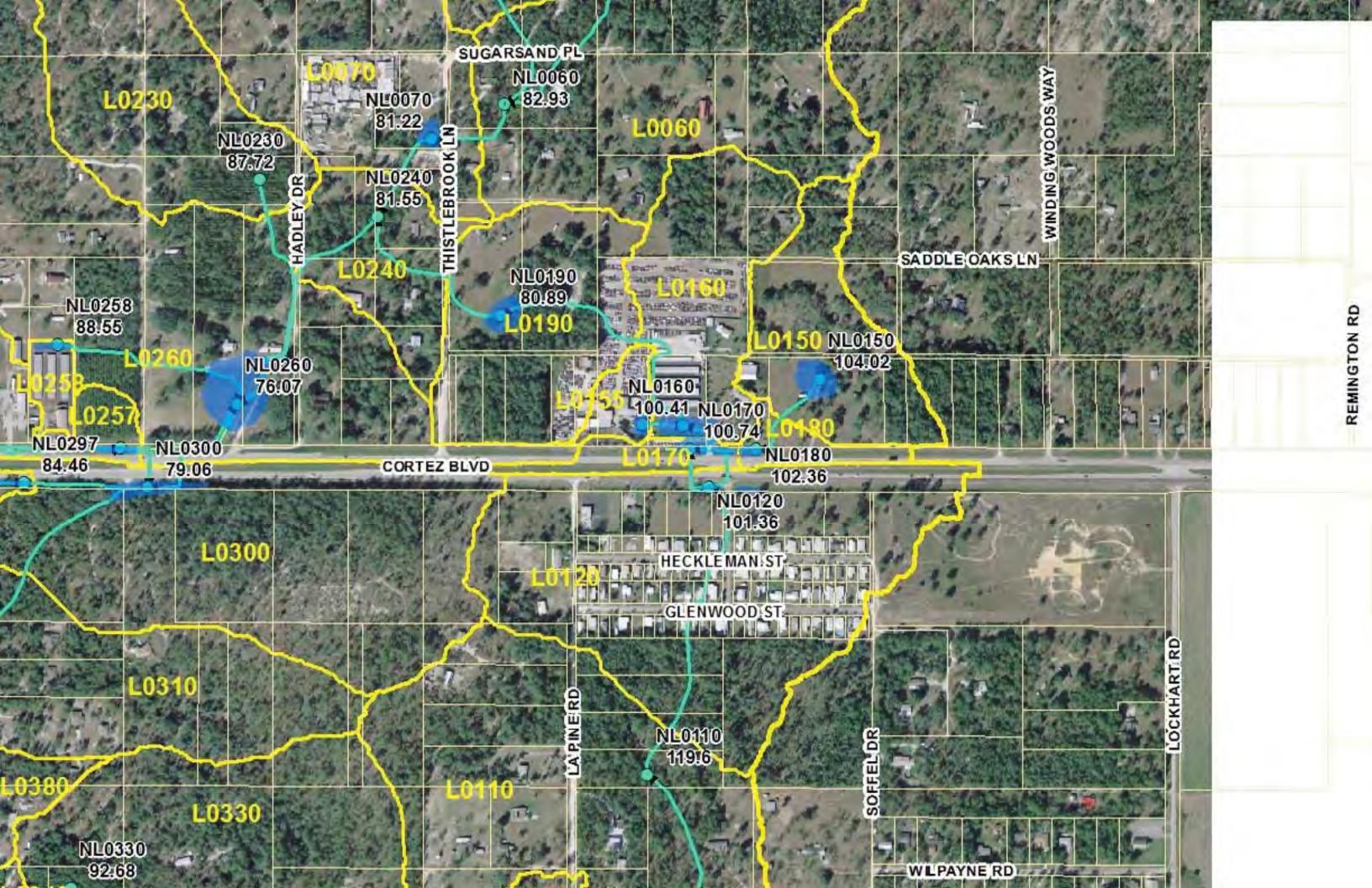


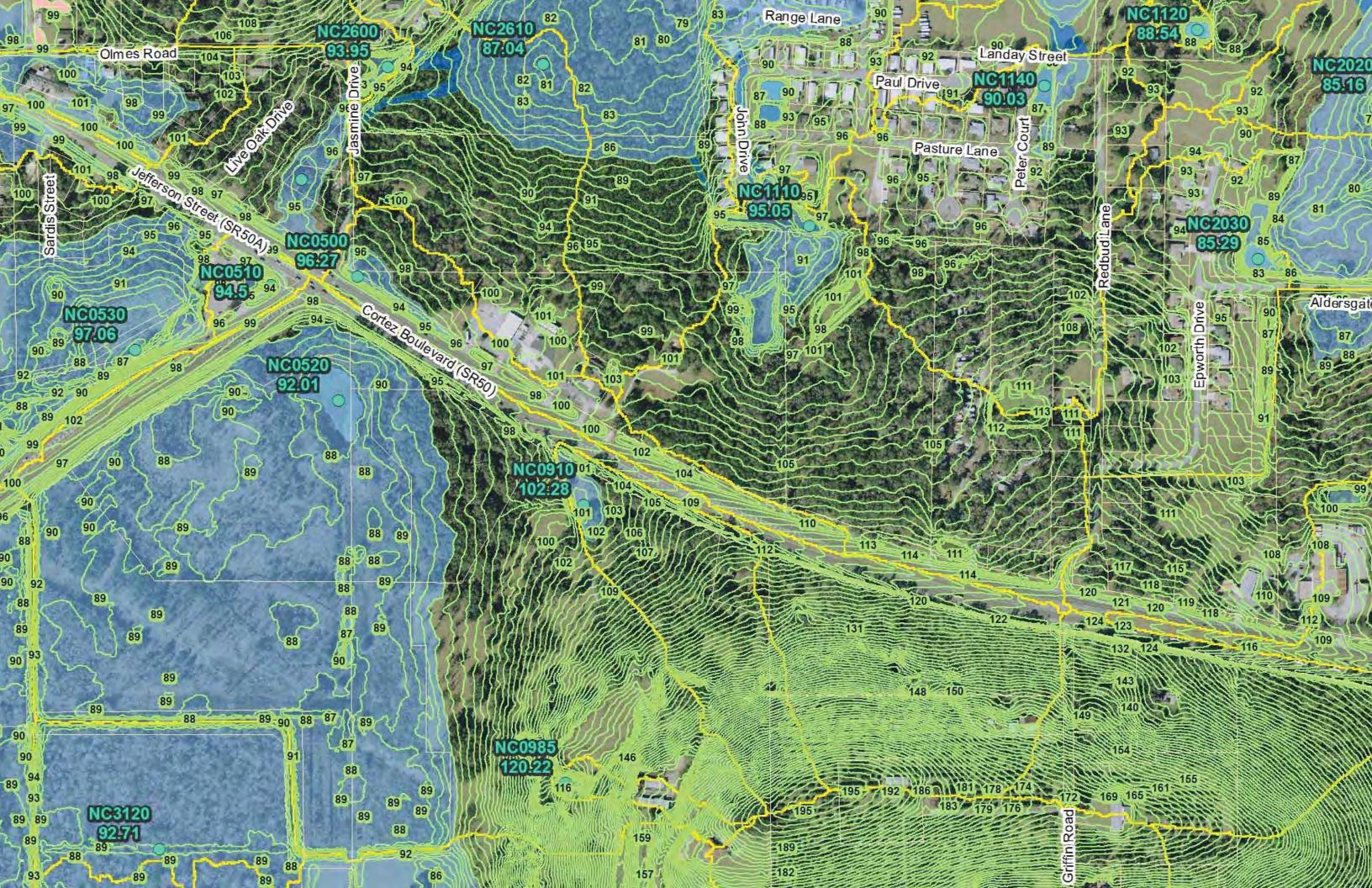


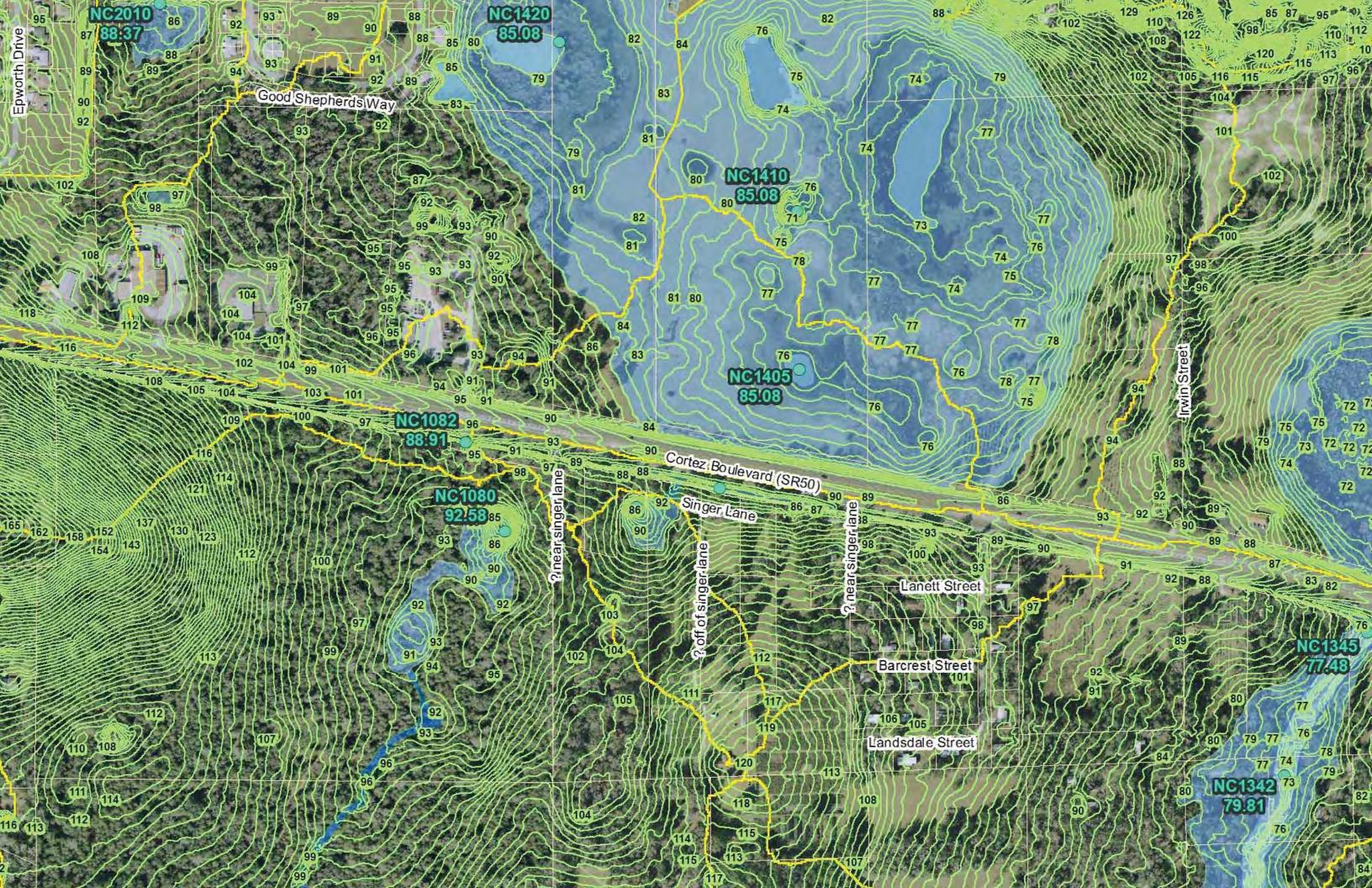


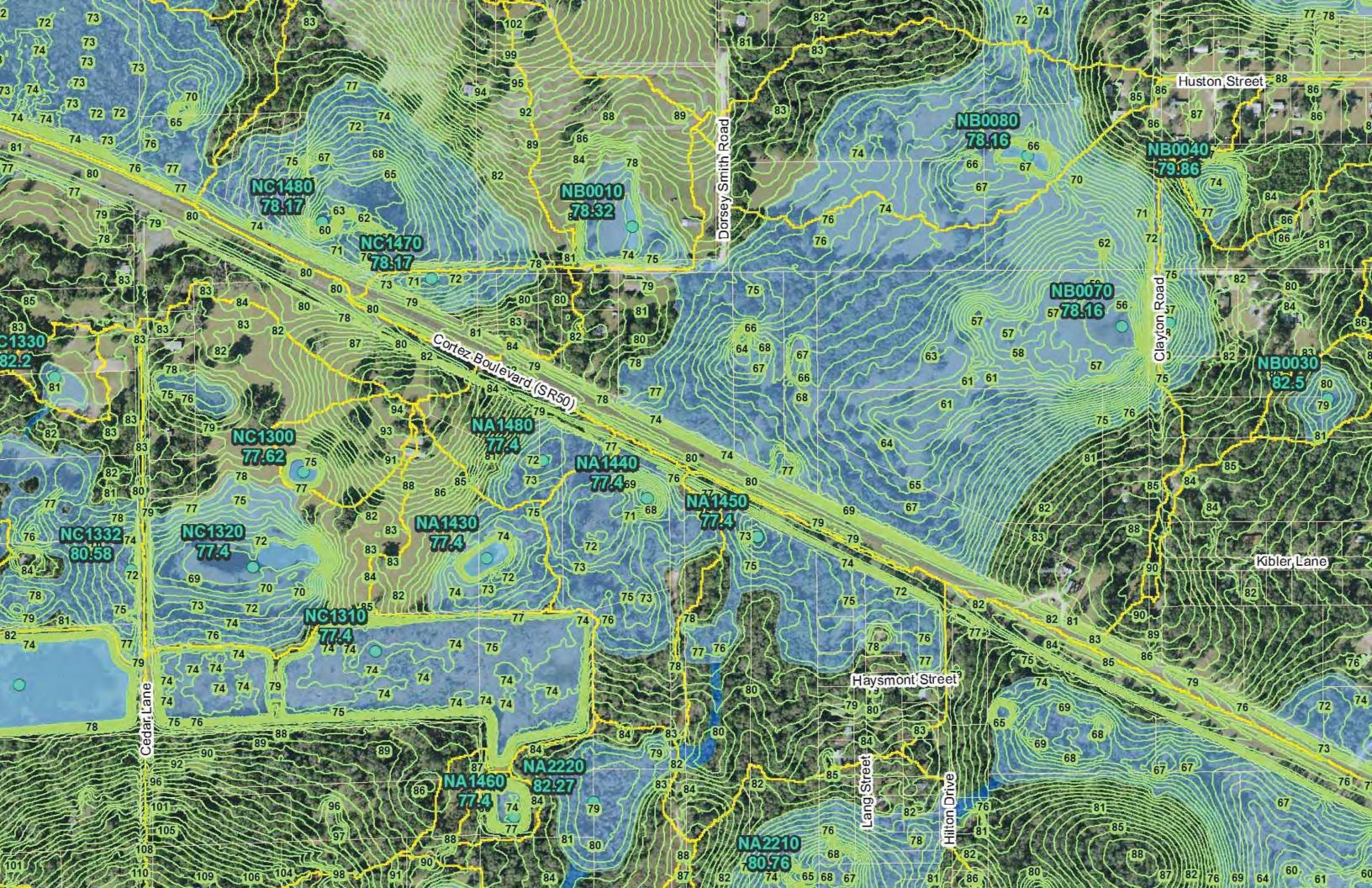


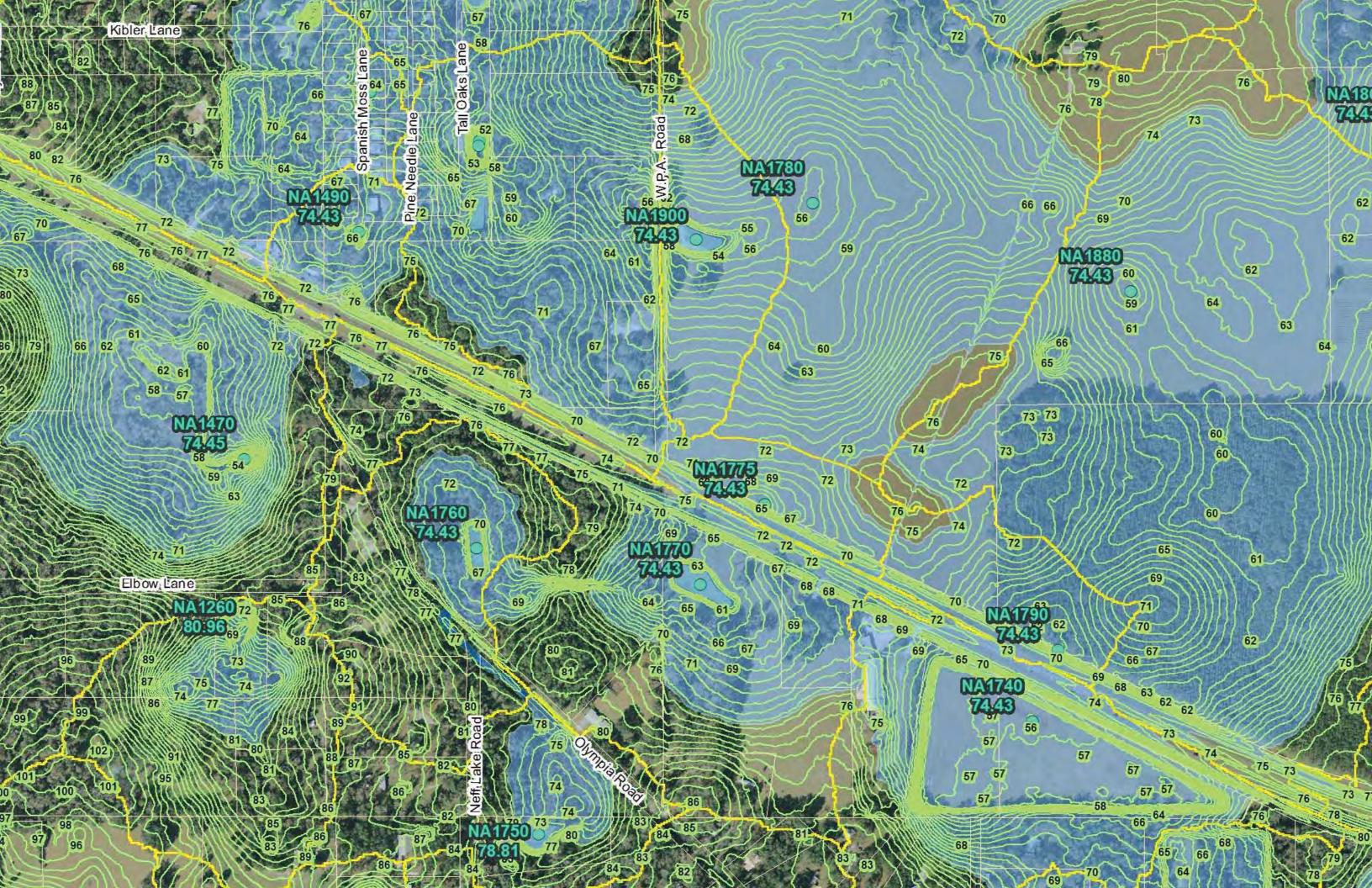


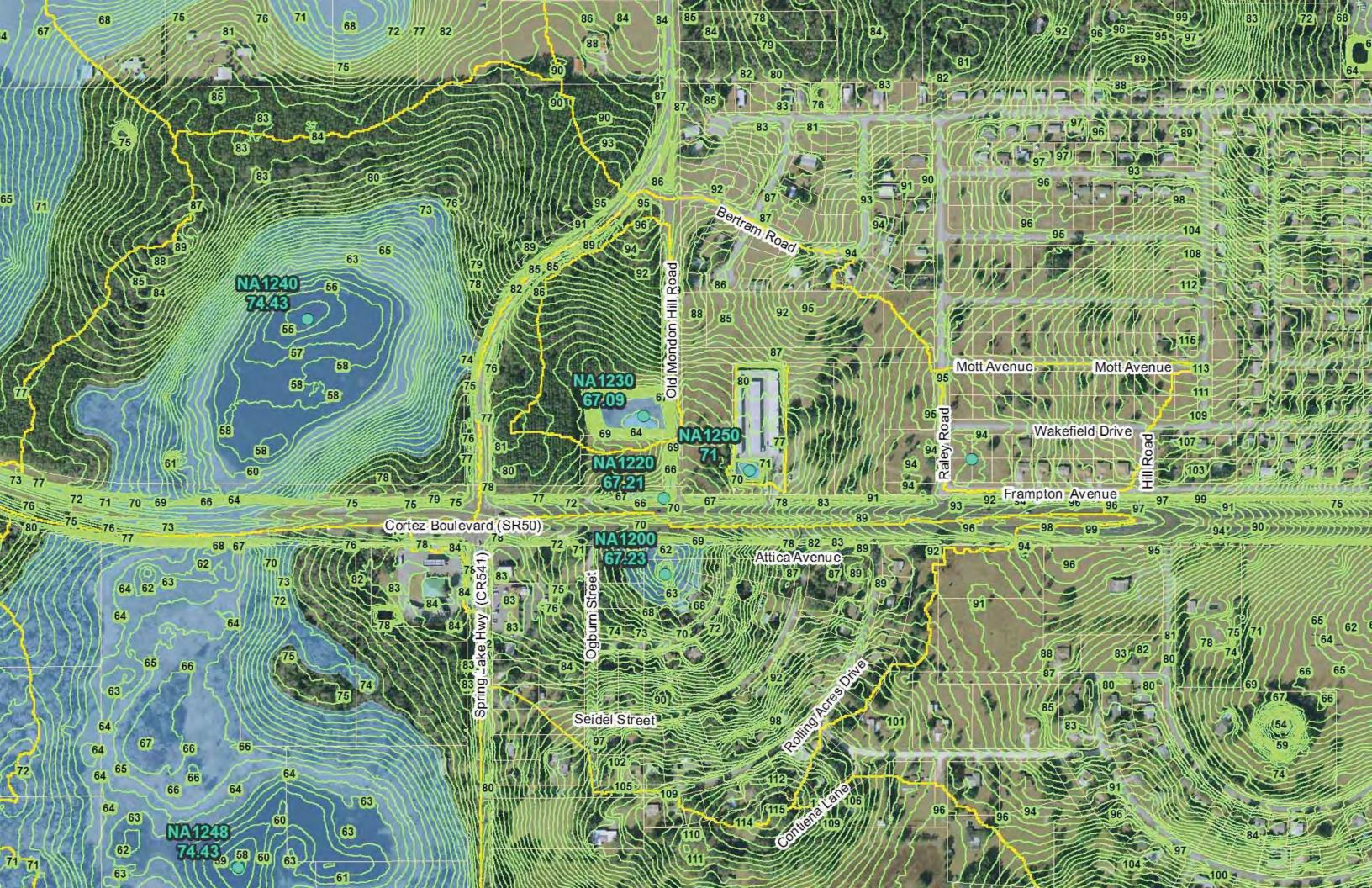


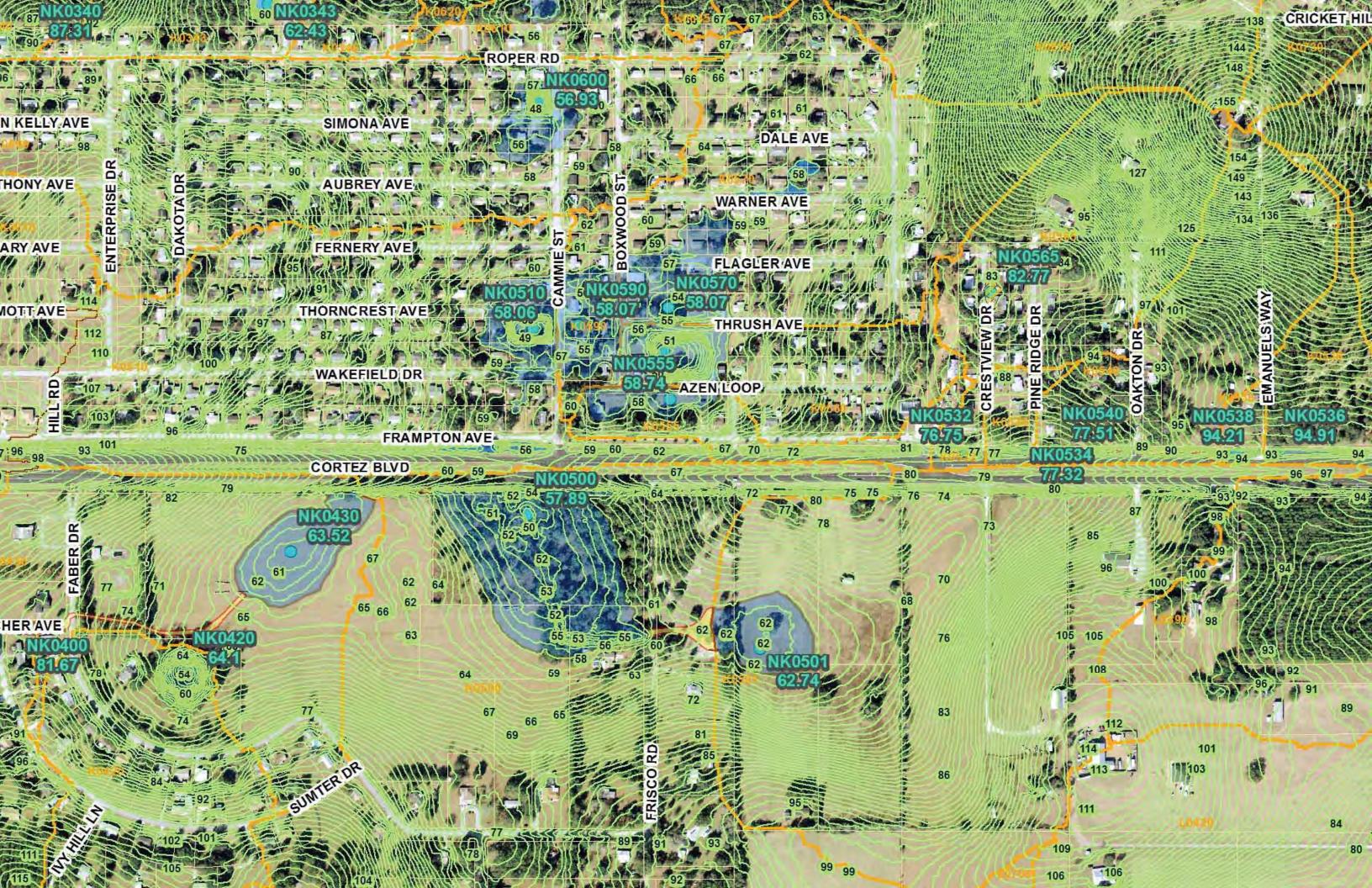




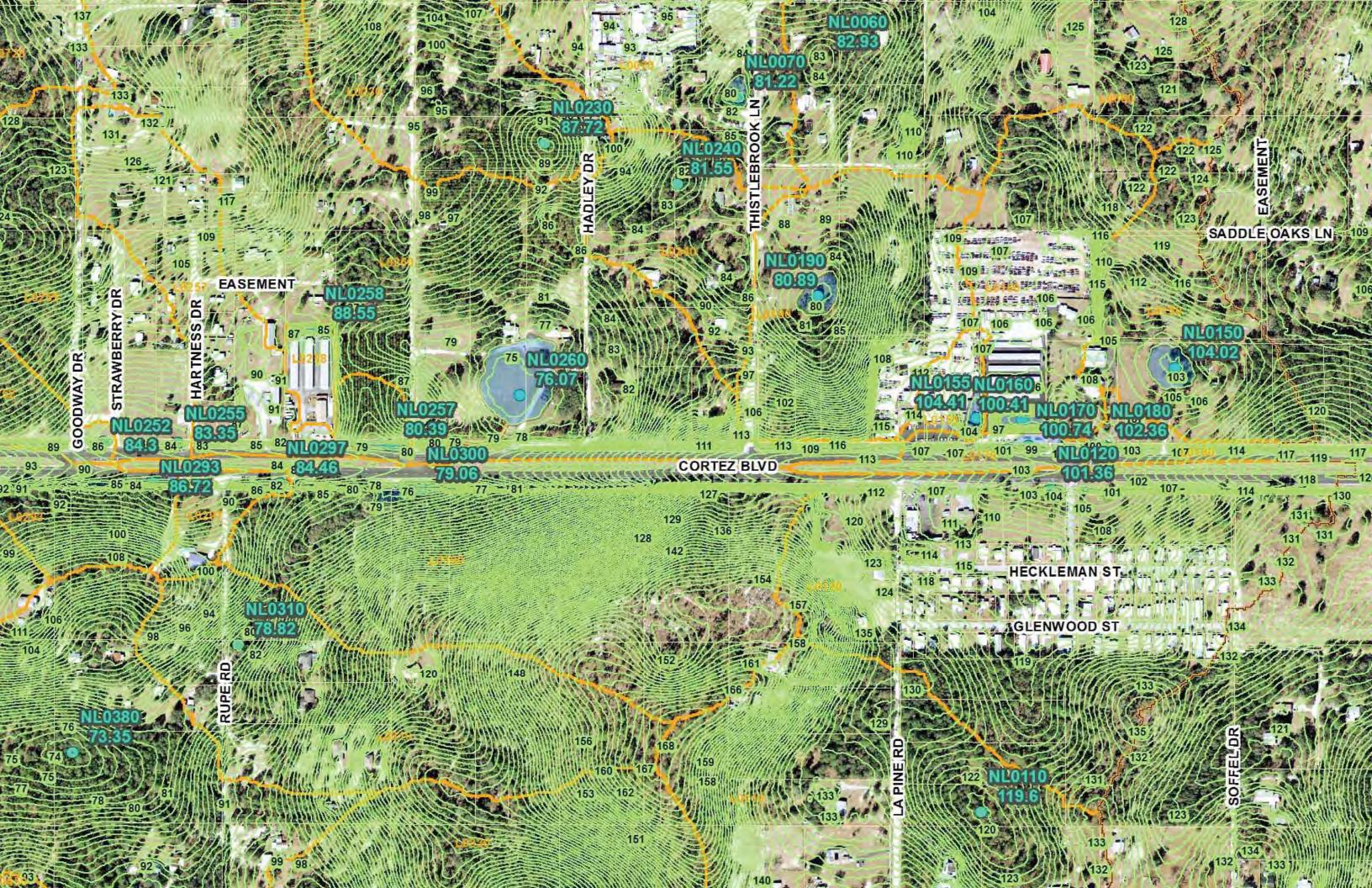


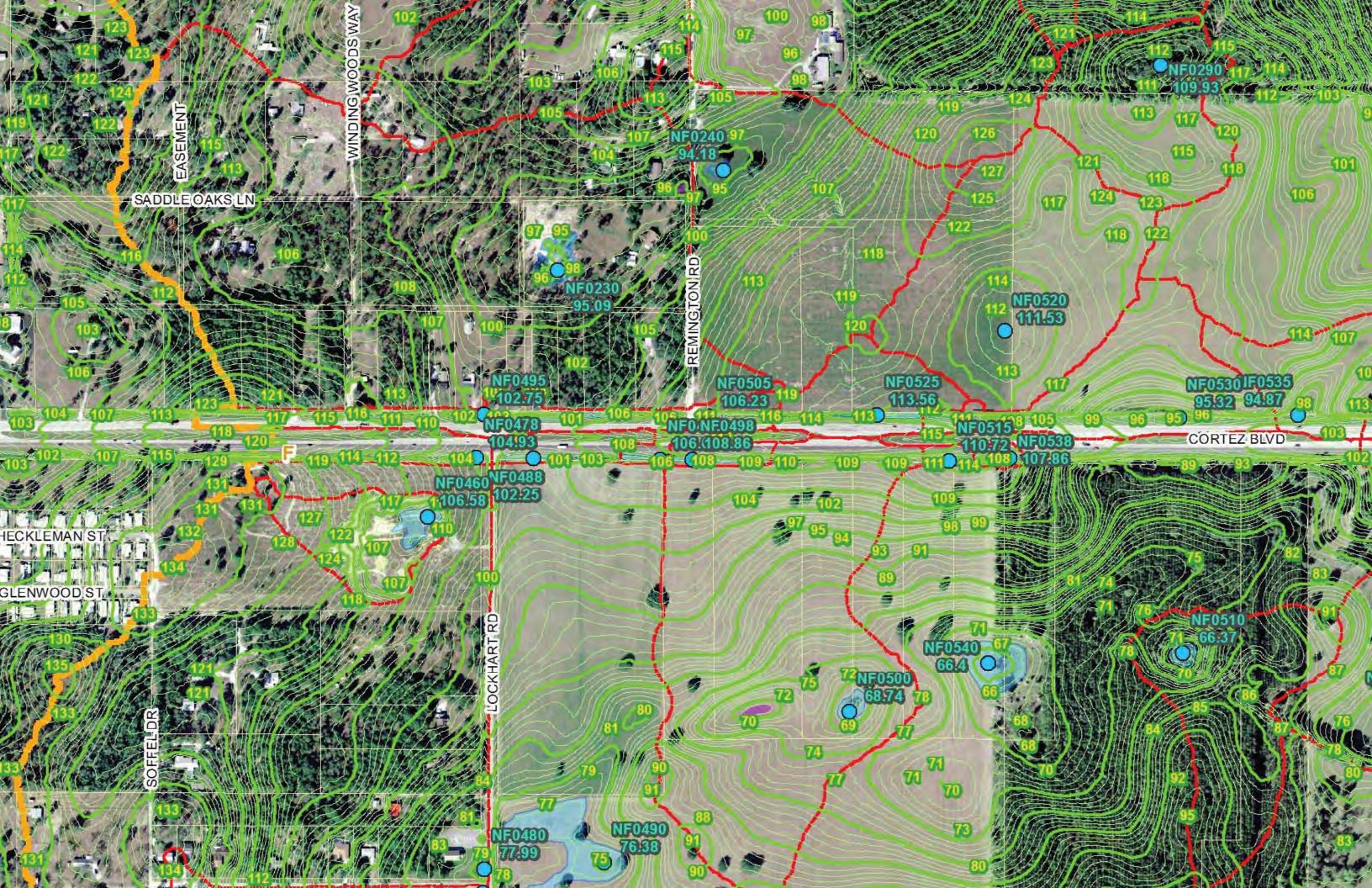






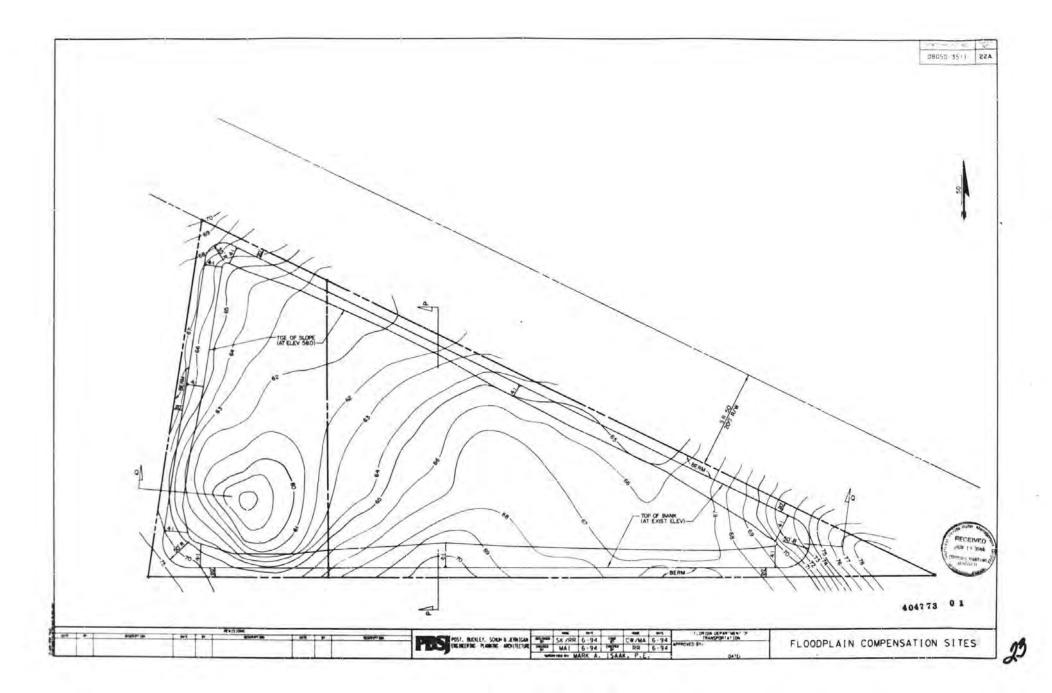


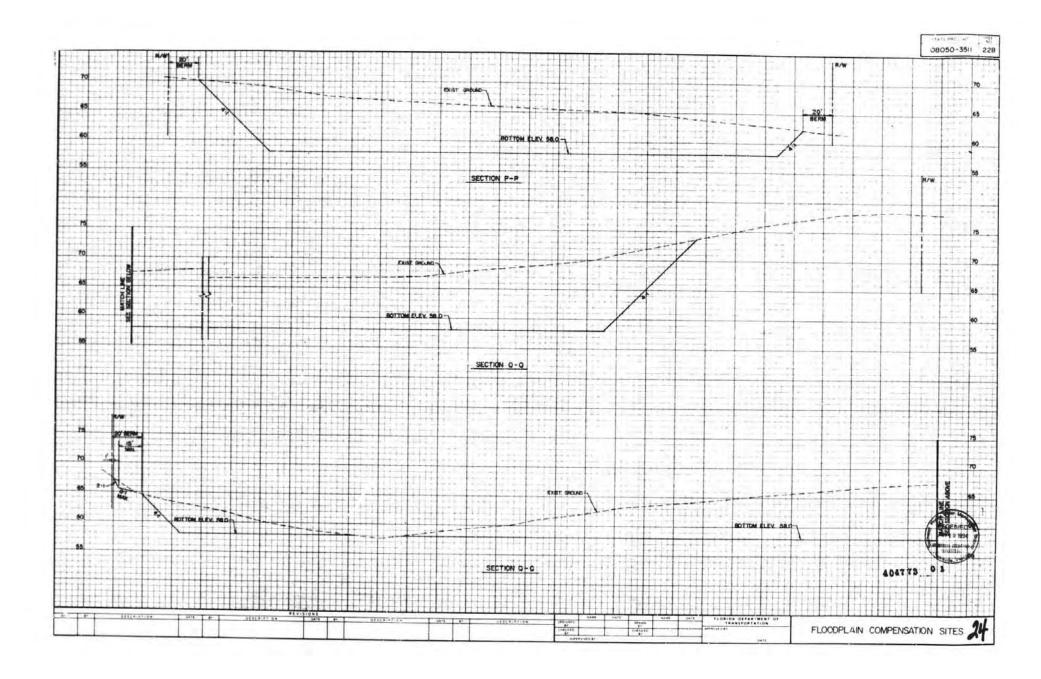




APPENDIX H

ERP: #4773.001





L	BASIN NO	- POND NO.	O OR C	1 202	302	409	TOTALS	1
		POND BOTTOM E	LEVATION	74.0	75.0	58.0	Innina	-
	SEASON	AL HIGH WATER E	EVATION	74.01	75.0 ¹	58.0 ¹	-	
P	C	ONTROL DEVICE E	EVATION	N/A	N/A	N/A	-	
ON		IGN LOW WATER EI	EVATION	N/A	N/A	N/A	-	
D		WEIR INVERT EL	EVATION	N/A	N/A	N/A	-	
2	DESIGN HIGH WATER ELEVATION TOP OF BANK ELEVATION			80.03	79.83	75.90	-0.00	1777 T
r				Existing GrndVari	es 85.0	Existing	-	2222X
	AREA AT TOP OF BANK (AC)			18.41	/	GrndVarie		2
	VOLUME AT DHW (AC-FT)		61.0*	60.2*	33.2*	TRANSPORT OF		
	VOLUME AT TOB (AC-FT)		*Additiona	l volume adde in listed sub	d to SMMM			
	25YR/24HR	WEIR WIDTH (F	r)		licable - Clo			
	DISCHARGE	PRE-DEVELOPED	(CFS)		applies			uniter
	RATES	POST-DEVELOPED	(CFS)					C. U.S. A.
	1COYR/24HR PROVIDED (AC-FT		T)	See 100-	yr. floodpla	in data		1
	VOLUMES	REQUIRED (AC-F	т)	Shown De				1. Condition
	TREATMENT	TREATMENT AREA (AC) OFW? Y OR N			T	1		
	TREATMENT	TREATMENT VOL. REQUIRED (AC-FT)		See SWFW	D engineerin	worksheets		
	TREATMENT	VOL. PROVIDED (AC-FT)	and the second second	side swale tr	and the second second second		
	METHOD OF	TREATMENT			Will Dervers	/		
	CONTROL DE	VICE TYPE			100000000000000000000000000000000000000	- Division and the		3
2	CONTROL DE	VICE DIMENSIONS				,		
-	RECOVERY T	IME (HRS)						
0	O YEAR	ENCROACHMENT (A	C-FT)	68.64 AF	for entire p	roject	68:64:111	
	OODPLAIN	COMPENSATION (A	C-FT)	61.0	60.2	33.2	154.40	4
16	ents:						17717983381	5
	ator:							

ASIN 102	BA	SIN 302	BASIN	409
M ACRES			ELEVATION	ACRE
4.0	72.0	9.0	58.0	11.4
11.2	74.0	90	60.0	11.3
11.4	76.0	116	62.0	10.0
11.6	77 0	11.8	65.0	5.5
10.7	78.0	11.3	66.0	1.5
9.9	79.0	9.7		
8.4	80.0	4.6		
	4.0 11.2 11.4 11.6 10.7 9.9	4.0 72.0 11.2 74.0 11.4 76.0 11.6 77.0 10.7 78.0 9.9 79.0	4.0 72.0 90 11.2 74.0 90 11.4 76.0 11.6 11.6 77.0 11.8 10.7 78.0 11.3 9.9 79.0 9.7	4.0 72.0 9.0 58.0 11.2 74.0 9.0 60.0 11.4 76.0 11.6 62.0 11.6 77.0 11.8 65.0 10.7 78.0 11.3 66.0 9.9 79.0 9.7 11.3

25 . 1

APPENDIX I

Preliminary Cultural Resource Assessment Probability Analysis Technical Memorandum

PRELIMINARY CULTURAL RESOURCE ASSESSMENT PROBABILITY ANALYSIS TECHNICAL MEMORANDUM

PROPOSED STORMWATER MANAGEMENT FACILITIES (SMF) & FLOODPLAIN COMPENSATION (FPC) SITES STATE ROAD (SR) 50 FROM BROOKSVILLE/SR 50A/ JEFFERSON STREET TO I-75 HERNANDO COUNTY, FLORIDA

Financial Project ID No.: 430051-1-22-01

Prepared for:

Florida Department of Transportation District Seven 11201 North McKinley Drive Tampa, Florida 33612-6456

January 2019

PRELIMINARY CULTURAL RESOURCE ASSESSMENT PROBABILITY ANALYSIS TECHNICAL MEMORANDUM

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Prepared for:

Florida Department of Transportation District Seven 11201 North McKinley Drive Tampa, Florida 33612-6456

Prepared by:

Archaeological Consultants, Inc. 8110 Blaikie Court, Suite A Sarasota, Florida 34240

In association with:

American Consulting Engineers of Florida, LLC 2818 Cypress Ridge Boulevard, Suite 200 Wesley Chapel, FL 33544

January 2019

PRELIMINARY CULTURAL RESOURCE ASSESSMENT PROBABILITY ANALYSIS TECHNICAL MEMORANDUM PROPOSED STORMWATER MANAGEMENT FACILITIES (SMF) & FLOODPLAIN COMPENSATION (FPC) SITES STATE ROAD (SR) 50 FROM BROOKSVILLE/SR 50A/ JEFFERSON STREET TO I-75 HERNANDO COUNTY, FLORIDA Financial Project ID No.: 430051-1-22-01

1.0 INTRODUCTION

The purpose of this study was to determine, preliminarily, if any significant or potentially significant cultural resources, including archaeological sites and historic resources, will be impacted by the construction of a total 61 proposed Stormwater Management Facilities (SMF) and Floodplain Compensation (FPC) sites associated with improvements to the State Road (SR) 50 from Brooksville/SR 50A/Jefferson Street to I-75 in Hernando County (**Figure 1**). Known or potentially significant cultural resources are defined as those sites that are listed, determined eligible, or considered potentially eligible for listing in the National Register of Historic Places (NRHP). All work was conducted in compliance with the provisions of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended, and the implementing regulations 36 CFR 800, as well as with the provisions contained in the revised Chapter 267, *Florida Statutes (FS)*.

The study methodology included a review of Florida Master Site File (FMSF) records, NRHP listings, relevant cultural resource assessment survey (CRAS) reports, the U.S. Department of Agriculture's (USDA) *Soil Survey of Hernando County, Florida* (USDA 1977), as well as the United States Geological Survey (USGS) Brooksville SE and St. Catherine quadrangle maps (USGS 1954a, 1954b). Relevant CRAS reports included the Project Development and Environment (PD&E) Study for SR 50 from the Brooksville Bypass to I-75 (Archaeological Consultants, Inc. [ACI] 2015), the 1989 archaeological survey of SR 50/50A (Ballo 1989), the CRAS for SR 50 PD&E Study Reevaluation from US 19 to the East of the SR 50/50A Intersection (ACI 2003), and the CRAS of Cortez Boulevard (Dickinson 2007). Survey of pond sites and mitigation areas were also reviewed (ACI 1993, 1994, 2019), as well as a historic building update (ACI 2012).

As a result of the preliminary study, there are two previously recorded archaeological sites and one historic resource (50 years of age or older) identified within the proposed SMF/FPC sites. There are also two archaeological sites and one historic resource recorded adjacent the SMF/FPC sites. In addition, several SMF/FPC sites have either a low to moderate or moderate potential for the discovery of additional archaeological sites. Twenty-nine of the proposed SMF/FPC sites either have historic resources within or adjacent that will need to be recorded and or updated in the FMSF. This information is summarized in **Tables 1 and 2 and Figures 2-7**.

In conclusion, no proposed SMF/FPC site should be avoided due to cultural resource issues. Following the selection of preferred SMF/FPC sites, systematic archaeological field survey is recommended; historical/architectural field survey is also recommended.

1

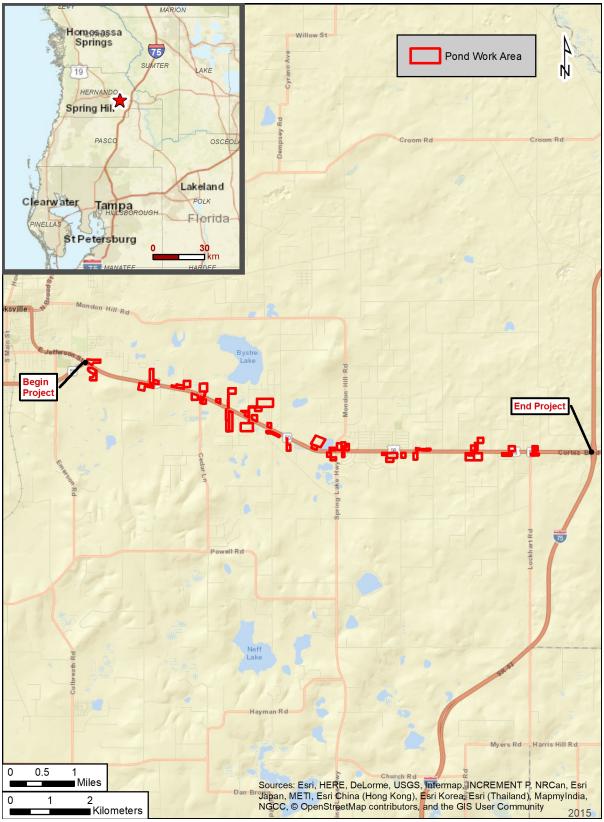


Figure 1. Location of the proposed SMF/FPC Sites, Hernando County.

2.0 DESCRIPTION OF KNOWN ARCHAEOLOGICAL AND HISTORIC RESOURCES AND SITE POTENTIAL

<u>Archaeological Sites</u>: A check of the FMSF digital database (January 2018) indicated that two previously recorded archaeological sites are located within several of the proposed SMF/FPC sites, three are adjacent, and others are within one half mile to them (**Figures 2-7; Table 1**).

Based upon the results of previous archaeological surveys in the vicinity, an understanding of known patterns of aboriginal settlement in the general region, as well as an examination of the USGS quadrangle maps (USGS 1954a, 1954b) and the USDA soil survey for Hernando County (USDA 1977), each of the proposed SMF/FPC sites was evaluated for archaeological site potential. Each was reviewed and assigned to one of three site potential categories: low, low to moderate, and moderate; there were no high potential areas.

Many environmental factors had a direct influence upon site location selection. Among these variables are soil drainage, distance to freshwater, relative topography, and proximity to food and other resources including stone and clay. On the basis of the aforementioned projects, it has been repeatedly demonstrated that archaeological sites are most often located near permanent or semipermanent sources of water. In addition, prehistoric sites are found, more often than not, on better drained soils, and at the better drained margins of wetland features such as swamps, sinkholes, wet prairies, lakes and ponds. In areas characterized by poorly drained soils, sites tend to be located in areas of slightly higher elevation.

SITE #	SITE NAME	SITE TYPE	CULTURE	SHPO EVAL.
8HE00240	Sardis Road	Artifact scatter	Prehistoric	Not evaluated
8HE00229	Lockhart Borrow	Single artifact	Prehistoric	Not evaluated
8HE00230	FDOT Park	Artifact scatter	Prehistoric	Not evaluated
8HE00231	Pond Edge	Single artifact	Prehistoric	Not evaluated
8HE00232	Hidden Pond	Single artifact	Prehistoric	Not evaluated
8HE00233	WPA Road	Artifact scatter	Prehistoric	Not evaluated
8HE00234	Clayton Road	Artifact scatter	Prehistoric	Not evaluated
8HE00235	Dorsey Smith Road	Artifact scatter	Prehistoric	Not evaluated
8HE00236	Hilton Cedar	Lithic scatter	Prehistoric	Not evaluated
8HE00270	Choacachatte Town	Historic town	Seminole	Not evaluated
8HE00272	Experimental Farm	Building remains	Spanish-American War, 1898-1916	Not evaluated
8HE00280	Sicily	Habitation	Spanish-American War, 1898-1916	Not evaluated
8HE00630	Desolation Row	Artifact scatter	20 th c. American, 1900- present	Insufficient information

Table 1. Previously recorded archaeological sites located within, adjacent to, or within one half mile of the proposed SMF/FPC sites. Grey indicates sites within the proposed SMF/FPC sites.

<u>Historic Resources:</u> Background research indicated one previously recorded historic resource (50 years of age or older) located within the proposed SMF/FPC sites and one immediately adjacent (**Table 2**). Historic resource 24321 Cortez Blvd (8HE00720) is located within proposed SMF-4B and was also evaluated by the State Historic Preservation Officer (SHPO) as ineligible for listing in the NRHP. In addition, one linear resource, SR 50 (8HE00742) is located adjacent to most proposed SMF/FPC sites and was also evaluated by the SHPO as ineligible for listing in the NRHP.

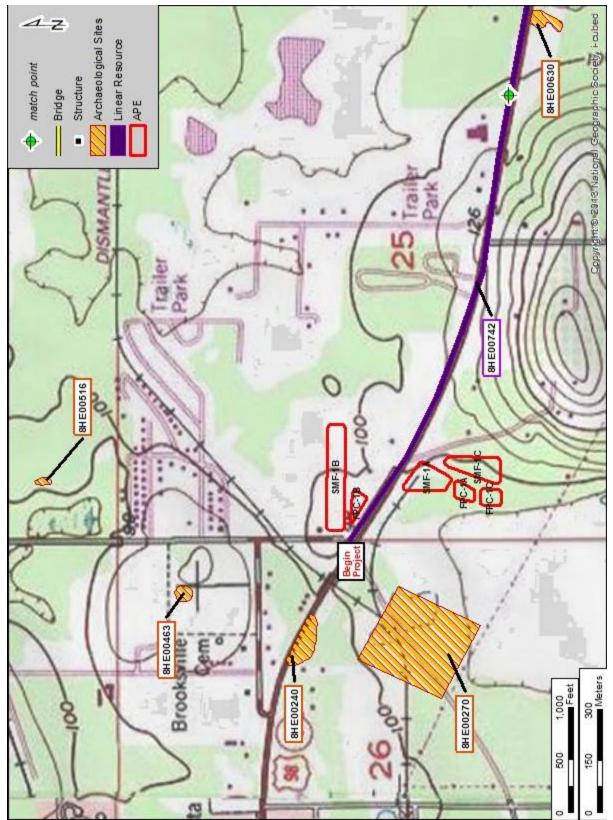


Figure 2. Previously recorded cultural resources within or in close proximity to the proposed SMF/FPC sites.

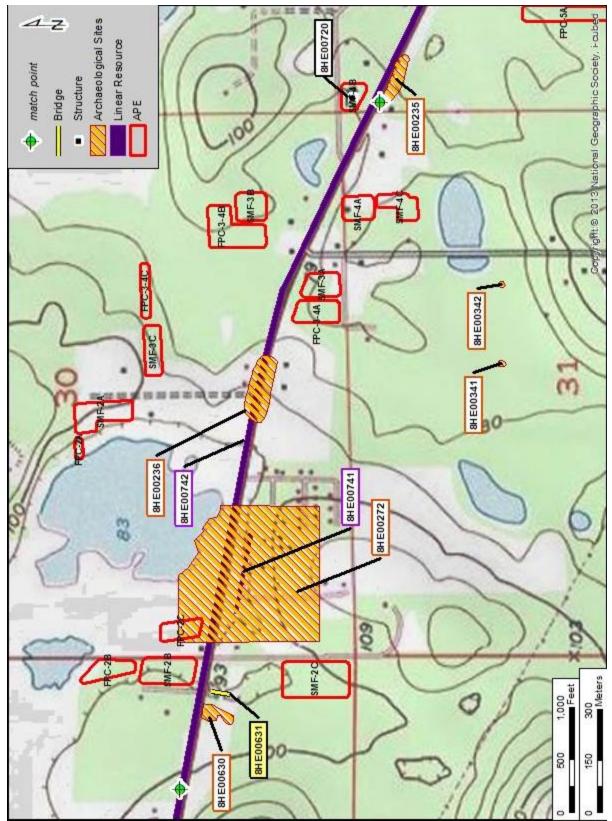


Figure 3. Previously recorded cultural resources within or in close proximity to the proposed SMF/FPC sites.

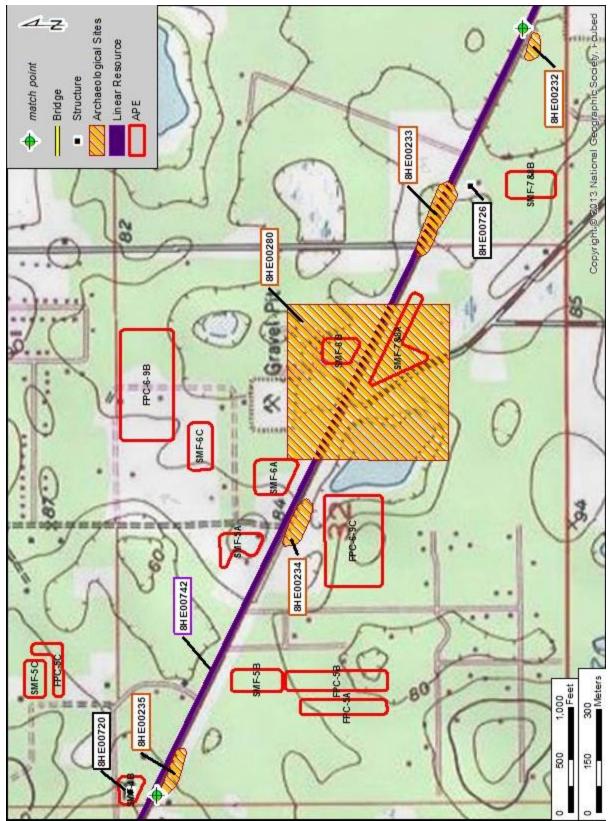


Figure 4. Previously recorded cultural resources within or in close proximity to the proposed SMF/FPC sites.

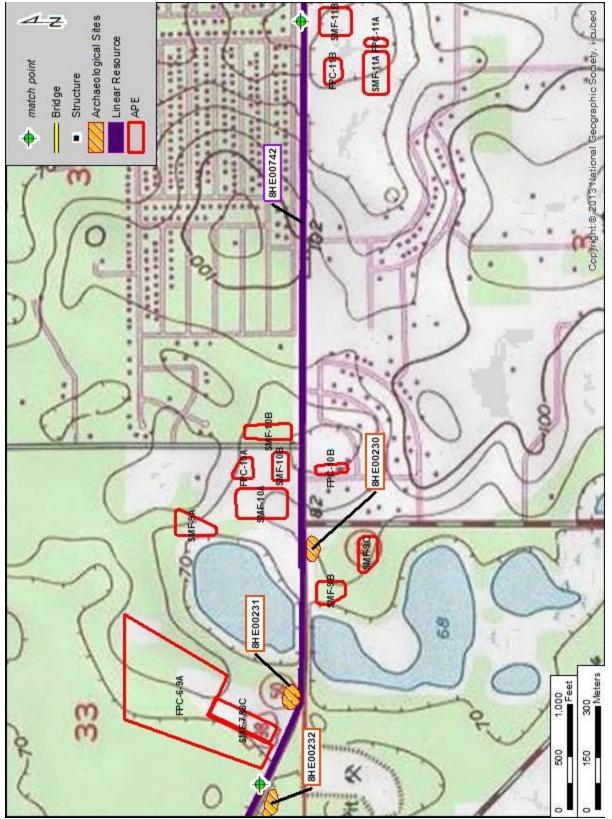


Figure 5. Previously recorded cultural resources within or in close proximity to the proposed SMF/FPC sites.

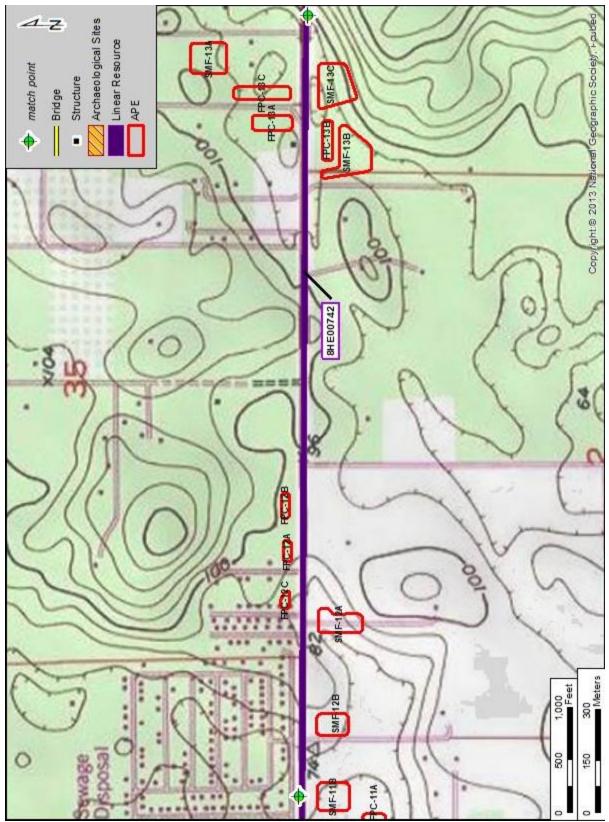


Figure 6. Previously recorded cultural resources within or in close proximity to the proposed SMF/FPC sites.

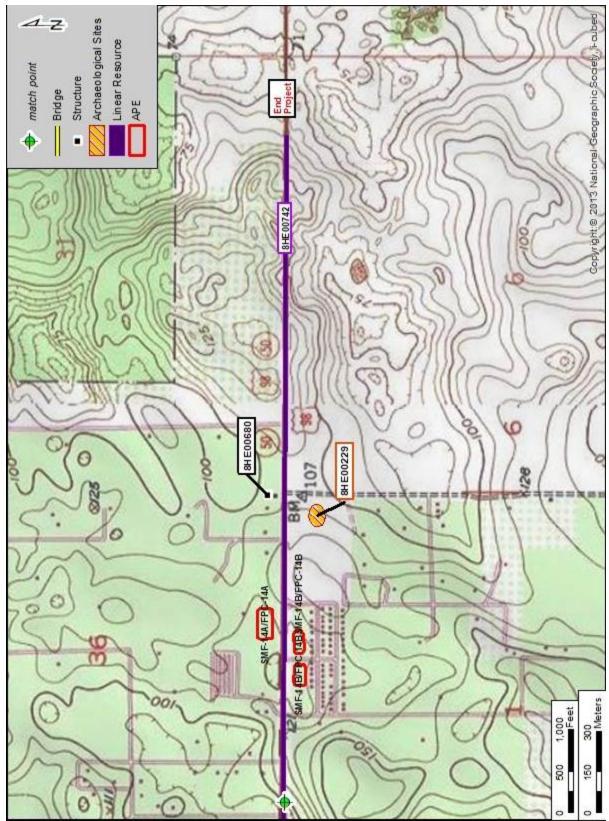


Figure 7. Previously recorded cultural resources within or in close proximity to the proposed SMF/FPC sites.

The potential for newly identified historic resources was determined by examining the appropriate USGS quadrangle maps, property appraiser records (Emerson 2017 and updated in January 2019), historic aerial imagery, and the SR 50 CRAS (ACI 2015). Based on this research, approximately 29 historic resources were identified within or adjacent to the proposed SMF/FPC sites.

SMF/ FPC	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
	Low -	Prehistoric Archaeological: no previously recorded sites within or adjacent to
SMF-1A	Moderate Low	APE; adjacent to a relic sink Historic Archaeological: no previously recorded sites within or adjacent to
	Low	APE; portion of old RR bed within SMF
	Low	Historical: no previously recorded sites; 8HE00742 adjacent
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands north of a relic sink
SMF-1B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE two historic buildings adjacent
	Moderate	Historical: no previously recorded sites; two historic buildings adjacent
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands adjacent to a relic sink
SMF-1C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands adjacent to a relic sink
FPC-1A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
FPC-1B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites; 8HE00742 adjacent and one historic building adjacent
	Low-	Prehistoric Archaeological: no previously recorded sites within or adjacent to
FPC-1C	Moderate	APE; on uplands adjacent to a relic sink
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Moderate Low	Prehistoric Archaeological: on uplands adjacent to freshwater Historic Archaeological: no previously recorded sites within or adjacent to APE
SMF-2A		
	Low Low	Historical: no previously recorded sites Prehistoric Archaeological: no previously recorded sites within or adjacent to
SMF-2B	Low	APE; partially within a relic sinkHistoric Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites; 8HE00742 adjacent
	Low -	Prehistoric Archaeological: no previously recorded sites, shi 200/42 adjacent
	Moderate	APE; partially within a relic sink and on uplands
SMF-2C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands adjacent to freshwater
FPC-2A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	1	

 Table 2. Archaeological and historic data.

SMF/ FPC	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
FPC-2B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Moderate	Prehistoric Archaeological: 8HE00272 within a portion of FPC
FPC-2C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-3A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within; 8HE00742 and one historic building adjacent
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-3B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands east of freshwater
SMF-3C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
FPC-3-4A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
FPC-3-4B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands east of a relic sink
FPC-3-4C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-4A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within or adjacent to APE; one historic building adjacent
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within APE; northeast of a wetland on uplands and north of 8HE00235
SMF-4B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: 8HE00720 within; 8HE00742 adjacent
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-4C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE

SMF/ FPC	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-5A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within or adjacent to APE; 8HE00742 and one historic building adjacent and one within
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-5B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands west of a relic sink
SMF-5C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within or adjacent to APE; one historic building adjacent
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE on uplands adjacent to relic sinks
FPC-5A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands north of relic sink
FPC-5B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within or adjacent to APE; one historic building adjacent
	Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands west of relic sink
FPC-5C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within; 8HE00280 (general vicinity site) adjacent
SMF-6A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within APE; 8HE00742 adjacent
	Low - Moderate	Prehistoric Archaeological: SMF is within site 8HE00280 (a general vicinity site type site)
SMF-6B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-6C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
EDC 6 0 A	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands between relic sinks
FPC-6-9A	Low Low	Historic Archaeological: no previously recorded sites within or adjacent to APE Historical: no previously recorded sites within or adjacent to APE

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SMF/ FPC	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
	Low- Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands north of relic sink
FPC-6-9B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within or adjacent to APE; one historic building within
FPC-6-9C	Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands west of a relic sink
110-0-90	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
SMF-	Low - Moderate	Prehistoric Archaeological: SMF within 8HE00280 (a general vicinity type site)
7&8A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands adjacent to a relic sink
SMF-	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
7&8B	Moderate	Historical: no previously recorded sites within or adjacent to APE; one historic building adjacent
SMF-	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands between two relic sinks
7 & 8C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands adjacent to lake
SMF-9A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands adjacent to lake
SMF-9B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands east of lake
SMF-9C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low -	Prehistoric Archaeological: no previously recorded sites within or adjacent to
SMF-10A	Moderate	APE; on uplands east of lake
	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; on uplands adjacent to relic sink
SMF-10B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within of adjacent to APE Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low -	Prehistoric Archaeological: no previously recorded sites within or adjacent to
FPC-10A	Moderate	APE; on uplands east of lake
ITC-IUA	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE

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SMF/ FPC	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
	Low -	Prehistoric Archaeological: no previously recorded sites within or adjacent to
FPC-10B	Moderate	APE; on uplands east of lake
110 102	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
SMF-11A	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within a relic sink
SMF-ITA	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within relic sink
SMF-11B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within a relic sink
FPC 11A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within relic sink
FPC 11B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
	Low -	Prehistoric Archaeological: no previously recorded sites within or adjacent to
C) (T) 10 (Moderate	APE; uplands between relic sinks
SMF-12A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low -	Prehistoric Archaeological: no previously recorded sites within or adjacent to
	Moderate	APE; on uplands adjacent to relic sink
SMF-12B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
FPC-12A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within; 8HE00742 and one historic building adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within relic sink
FPC-12B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
FPC-12C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within; 8HE00742 and two historic buildings adjacent to APE
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands adjacent to relic sink
SMF-13A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
5111 15/1	Moderate	Historical: no previously recorded sites within or adjacent to APE; one historic building adjacent

SMF/ FPC	ZAP*	Comments (i.e. soils, vegetation, drainage, previously recorded sites, etc.)
	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands adjacent to a relic sink
SMF-13B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within or adjacent to APE
ON JE 120	Low - Moderate	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; uplands adjacent to a relic sink
SMF-13C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within a relic sink
FPC-13A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Moderate	Historical: no previously recorded sites within; 8HE00742 and one historic building adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within a relic sink
FPC-13B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within a relic sink
FPC-13C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
SMF-14A/	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; partially within relic sink
FPC-14A	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE; within relic sink
SMF-14B/ FPC-14B	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
FFC-14D	Moderate	Historical: no previously recorded sites within; 8HE00742 and one historic building adjacent to APE
	Low	Prehistoric Archaeological: no previously recorded sites within or adjacent to APE
SMF-14C/ FPC-14C	Low	Historic Archaeological: no previously recorded sites within or adjacent to APE
	Low	Historical: no previously recorded sites within; 8HE00742 adjacent to APE

* Zone of Archaeological Potential

3.0 CONCLUSIONS AND RECOMMENDATIONS

In conclusion, no proposed SMF/FPC site should be avoided due to cultural resource issues. Following the selection of preferred SMF/FPC sites, systematic archaeological field survey is recommended in accordance with the guidelines and standards promulgated by the Florida Department of Transportation (FDOT) and Florida Division of Historical Resources (FDHR). The selected SMF/FPC sites considered to have a low potential also should be surveyed and judgmentally tested. Historical/architectural field survey is also recommended.

4.0 **BIBLIOGRAPHY**

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- 1994 Cultural Resource Assessment Survey Technical Memorandum SR 50 Ponds-13 Site Alternatives (Plus Ditch Treatment) Hernando County, Florida. ACI, Florida.
- 2003 Cultural Resource Assessment Survey SR 50 Project Development and Environment 9PE&E) Study Reevaluation from US 19 (SR 55) to the East of SR 50/50A Intersection, Hernando County, Florida. ACI, Sarasota.
- 2010 Cultural Resource Assessment Survey Technical Memorandum Stormwater Management (SMF) Alternatives, I-75 from the Pasco/Hernando County Line to North of SR 50, Hernando County, Florida. ACI, Sarasota.
- 2012 Historic Structures Update Survey Technical Memorandum, SR 50 from Lockhart Road to US 301, Hernando County, Florida. ACI, Sarasota.
- 2015 Cultural Resource Assessment Survey SR 50 from the Brooksville Bypass/SR 50A/East Jefferson Street to I-75, Hernando County, Florida. ACI, Sarasota.

Ballo, George R.

1989 Archaeological Assessment of SR 50/50A in Hernando County Including National Register of Historic Places Determination of Eligibility for 8HE00241, the Colorado Site, Hernando County, Florida. FDOT, Tallahassee.

Dickinson, Martin F.

2007 Cultural Resources Survey and Assessment, Cortez Boulevard, Hernando County, Florida. FDHR, Tallahassee.

Emerson, John C.

2017 Hernando County Property Appraisers, Spring Hill; updated January 2019.

Florida Master Site File (FMSF)

Var. Various site file forms. FDHR, Tallahassee.

United States Department of Agriculture (USDA)

1977 Soil Survey of Hernando County, Florida. Soil Conservation Service, Washington, D.C.

United States Geological Survey (USGS)

- 1954a Brooksville SE, Florida. Photorevised 1988.
- 1954b St. Catherine, Florida. Photorevised 1988.

APPENDIX J

Meeting Minutes

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.							
SOUTHW	/EST FLORIDA WATER RESOURCE REGULA PRE-APPLICATION M	TION DIVISION	STRICT	FILE NUMBER: PA 401872			
Date: Time: Project Name: Attendees:	1/28/2015 11:00 FDOT SR50 Brooksville B Richard Alt, Chaz LaRiche agoldsmith@acp-fl.com, C Stephanie Pierce, FDOT	e, Andrew Goldsmith	 American Consultin 	5 5			
County: Total Land Acreage:	Hernando ROW	Sec/Twp/Rge: Project Acreage:	22/25/19 30/22/20 35, 36 / 22 / 20 acres	& 25, 32, 33, 34,			
Prior On-Site/Off-Site • Existing 4 lane • 40004773.001,	rural highway						
Project Overview:Widen to 6 lane	urban and rural						
 Setbacks, Justification, Eliminat Habitats, Site Visit, etc.) Provide the limit Provide appropriation Demonstrate elition Maintain minimuti impacts. If the project is In Management Address permit application will require a 100 impacts greater 	 Provide the limits of jurisdictional wetlands. Provide appropriate mitigation using UMAM for impacts, if applicable. Demonstrate elimination and reduction of wetland impacts. Maintain minimum 15 foot, average 25 foot wetland conservation area setback or address secondary impacts. 						
 Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.) Existing roadway/intersections WBIDs need to be independently verified by the consultant WBID – 1329E and 1329F – impaired for 							
 Demonstrate the 24-hour storm e For projects or p discharge volun Demonstrate the Demonstrate the d	 mercury. Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.) Demonstrate that discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event. For projects or portions of projects that discharge to a closed basin, limit the post-development 100-year discharge volume to the pre-development 100-year, 24-hour volume. Demonstrate that site will not impede the conveyance of contributing off-site flows. Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s). Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if 						

- Provide water quality treatment for entire project area and all contributing off-site flows.
- In addition, if the project discharges to an impaired water body, must provide a net environmental improvement.
- Applicant must demonstrate a net improvement for the parameters of concern by performing a pre/post pollutant loading analysis based on existing land use and the proposed land use.
- Also replace treatment function of existing ditches to be filled.
- Will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project area that cannot be physically treated.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

• N/A

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to the property owner(s).
- Provide proof of ownership in the form of a deed or contract for sale.
- Provide appropriate O&M instructions.
- Provide detailed construction surface water management plan.

Application Type and Fee Required:

- SWERP Sections A, C, and E of the ERP Application.
- < 10 acres of project area and no wetland or surface water impacts \$273.00 Online Submittal</p>
- < 10 acres of project area and < 1 acre of wetland or surface water impacts \$</p>

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

In accordance with Rule 40D-1.603(2), F.A.C., no later than 30 days after submittal of an initial application of an Individual surface water management permit the applicant shall publish at the applicant's expense a notice of the District's receipt of the application in a newspaper having general circulation as defined in Chapter 50, F.S., in the county or counties in which the activity is proposed. Please provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP must be in accordance with the language provided in Rule 40D-1.603(11), F.A.C., and receipt of an affidavit establishing proof of this publication will be considered a completeness item of this ERP Application. Per Rule 40D-1.603(13), F.A.C., this must be received before the application will be considered complete and the 60-day timeframe for taking agency action on the application will commence.

40D-1.603(13) – "Applicants required to publish a notice of receipt of application must provide to the District a publisher's affidavit establishing proof of publication pursuant to Sections 50.041 and 50.051, F.S., before the application will be considered complete and the applicable timeframe for taking agency action on the application will commence."

- provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
 - a. Deed with complete Legal Description attachment.
 - b. Plat.
 - c. Boundary survey of the property(s) with a sketch.

Disclaimer: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT RESOURCE REGULATION DIVISION PRE-APPLICATION MEETING NOTES

FILE NUMBER:

PA 406543

Date:	03/21/2019			
Time:	11:00			
Project Name:	FDOT SR50 BKV Bypass	- I75 PD&E Study		
District Engineer:	Buddy Wood			
District ES:	Al Gagne			
Attendees:	Andrew Goldsmith, Chris	Salicco, Bill Adams (Ar	merican Consulting Eng	jineers)
County:	Hernando	Sec/Twp/Rge:	22/25/19; 25,30,32,3	3,34,35,36/22/20
Total Land Acreage:	200 acres	Project Acreage:	200 acres	

Prior On-Site/Off-Site Permit Activity:

• MSSW No. 40004773.001; ERP No. 4404306.002

Project Overview:

• Widening an existing 4-lane road to 6-lanes.

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)

- Provide the limits of jurisdictional wetlands and surface waters.
- Provide appropriate mitigation using UMAM for impacts, if applicable. Entire site is located within the Withlacoochee River ERP Basin. Mitigation banks that serve this area include the Boars Head, Green Swamp, Crooked River, Hilochee and Withlacoochee Mitigation banks.
- Demonstrate elimination and reduction of wetland impacts.
- Maintain minimum 15 foot, average 25 foot wetland conservation area setback or address secondary impacts.
- If the project is proposing to attenuate/treat in wetlands. Please demonstrate that adverse impacts to the wetland hydro-periods will not occur by providing hydrographs of the 2.33 year mean annual storm. The graph should start and end at the pop-off elevation with Existing Condition and Proposed Condition hydrographs superimposed for comparison. Please provide a supporting narrative for the hydrographs explaining any variations that are shown. The invert of the agricultural ditches may be the existing 'pop-off' elevation, or SHWL of the wetland and may need to be considered when designing the storm water management system.
- Determine SHWL's at pond locations, wetlands, and OSWs.
- Determine normal pool elevations of wetlands.
- Determine 'pop-off' locations and elevations of wetlands.
- As of October 1, 2017, the District will no longer send a copy of an application that does not qualify for a State Programmatic General Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

Existing roadway

- Watersheds- Bystre Lake (WBID 1329W)- appears to be impaired for nutrients; Withlacoochee River (WBID 1329E)- does not appear to be impaired for nutrients; Withlacoochee River (WBID 1329F)- does not appear
- to be impaired for nutrients.WBIDs need to be independently verified by the consultant
- Possibly discharging to impaired waters.
- May discharge to a closed basin
- Document/justify SHWE's at pond locations, wetlands, and OSWs.

- Determine normal pool elevations of wetlands.
- Determine 'pop-off' locations and elevations of wetlands.
- Provide documentation to support tailwater conditions for quality and quantity design
- Proposed control structures in wetlands should be consistent with existing 'pop-off' elevations of wetlands; demonstrate no adverse impacts to wetland hydroperiod for up to 2.33yr mean annual storm.
- Any wells on site should be identified and their future use/abandonment must be designated.
- Stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be constructed within 100 feet of an existing public water supply well and shall not be constructed within 75 feet of an existing private drinking water well. Subsection 4.2, A.H.V.II.
- District GIS identifies existing Well Construction Permits (WCP) in the area.
- District data collection sites may be impacted by proposed construction. Contact the District's Data Steward at Data.Maps@watermatters.org under the subject line "PRIORITY ERP Data Evaluation" to coordinate relocation of District data collection site.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- Demonstrate that post development peak discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
- For projects or portions of projects that discharge to a closed basin, limit the post-development 100-year discharge volume to the pre-development 100-year, 24-hour volume.
- Demonstrate that site will not impede the conveyance of contributing off-site flows.
- Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
- Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation- if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100year, 24-hour storm events for the pre- and post-development conditions.
- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]
- It appears, from District GIS layers, that there are known flooding complaints along this portion of right-ofway.

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- Provide water quality treatment for any existing permitted area and any new travel lanes.
- In addition, if the project discharges to an impaired water body, must provide a net environmental improvement.
- Applicant must demonstrate a net improvement for the parameters of concern by performing a pre/post pollutant loading analysis based on existing land use and the proposed land use.
- Also, replace treatment function of existing ditches to be filled.
- <u>Presumptive Water Quality Treatment for Alterations to Existing Public Roadway Projects:</u>
 -Refer to Section 4.5 A.H.V.II for Alterations to Existing Public Roadway Projects.
 -Refer to Sections 4.8, 4.8.1 and 4.8.2 A.H.V.II for Compensating Stormwater Treatment, Overtreatment, and Offsite Compensation.

-All co-mingled existing & new impervious that is proposed to be connected to a treatment pond will require treatment for an area equal to the co-mingled existing & new impervious (times $\frac{1}{2}$ " for dry treatment or 1" for wet treatment). This applies whether or not equivalent treatment concepts are used.

-However, if equivalent treatment concepts are used it is possible to strategically locate the pond(s) so that the minimum treatment requirement may be for an area equivalent to the new impervious area only. That is, co-mingled existing & new impervious that is not connected to a treatment pond may bypass treatment (as per Section 4.5(2), A.H.V.II); if the 'total impervious area' that is connected to the treatment pond(s) is at least equivalent to the area of new impervious only. The 'total impervious area' that is connected to the pond(s) may be composed of co-mingled existing & new impervious.

-Offsite impervious not required to be treated; but may be useful to be treated when using equivalent treatment concepts.

-Existing treatment capacity displaced by any road project will require additional compensating volume. Refer to Subsection 4.5(c), A.H.V.II.

- Will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project area that cannot be physically treated.
- Net improvement

-Refer to rule 62-330.301(2), F.A.C.

-WBID _____ impaired for ______. Please verify accuracy of WBID boundaries and status of impairment. -The application must demonstrate a net improvement for nutrients. Applicant may demonstrate a net improvement for the parameters of concern by performing a pre/post pollutant loading analysis based on existing land use and the proposed land use. Refer to ERP Applicant's Handbook Vol. II Subsection 4.1(g). -Effluent filtration is known to be ineffective for treating nutrient related impairments, unless special nutrient adsorption media provided. However, please note special nutrient adsorption media has extremely low conductivity values compared to typical sand type effluent filtration filter media. Note: if treatment volume required for net improvement is less than the treatment volume required for 'presumptive' treatment, then use of effluent filtration is ok.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- If the project is located within state owned sovereign submerged lands (SSSL), a title determination will be required from FDEP to verify the presence and/or location of SSSL.
- If use of SSSL is proposed, authorization will be required. Refer to Chapter 18-21, F.A.C. and Chapter 18-20, F.A.C. for guidance on projects that impact SSSL and Aquatic Preserves.

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to entity that owns or controls the property.
- Provide evidence of ownership or control by deed, easement, contract for purchase, etc. Evidence of ownership or control must include a legal description. A Property Appraiser summary of the legal description is NOT acceptable.

Application Type and Fee Required:

- SWERP Sections A, C, and E of the ERP Application.
- Major Modification: < 640 acres of project area and < 50 acre of wetland or surface water impacts -\$1,552.88 Online Submittal
- Consult the fee schedule for different thresholds.

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

- An application for an individual permit to construct or alter a dam, impoundment, reservoir, or appurtenant work, requires that a notice of receipt of the application must be published in a newspaper within the affected area. Provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP can be in accordance with the language provided in Rule 40D-1.603(10), F.A.C.
- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

ELECTRONIC (Manifest): [NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here 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

DIGITAL: [NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here using a Digital Signature; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- Demonstrate that excavation of any stormwater ponds does not breach an aquitard (see Subsection 2.1.1, A.H.V.II) such that it would allow for lesser quality water to pass, either way, between the two systems. In those geographical areas of the District where there is not an aquitard present, the depth of the pond(s) shall not be excavated to within two (2) feet of the underlying limestone which is part of a drinking water aquifer. [Refer to Subsection 5.4.1(b), A.H.V.II]

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