FINAL

POND SITING REPORT

I-275 (State Road 93)
Project Development & Environment Study

**From north of Dr. Martin Luther King, Jr. Boulevard (SR 574)
to north of Bearss Avenue (SR 678/CR 582)**

Hillsborough County, Florida

ETDM Number: 13854

**Florida Department of Transportation
District Seven**
Tampa, Florida

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

January 2019

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Hillsborough County, Florida

ETDM Number: 13854
Work Program Item Segment Number: 431821-1

This project evaluates capacity and operational improvements along Interstate 275 including the addition of a general purpose lane in each direction and accommodates transit on the inside shoulders.

Florida Department of Transportation
District Seven
Tampa, Florida

Prepared By:
WSP, Inc.
Tampa, Florida

EXECUTIVE SUMMARY

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate the need for capacity and operational improvements along 7.70 miles of State Road 93 (SR 93)/Interstate 275 (I-275) from north of Dr. Martin Luther King, Jr. Boulevard/SR 574 (MLK Boulevard) to north of Bearss Avenue/SR 678/County Road (CR) 582 in Hillsborough County, Florida.

The objective of the PD&E Study is to assist FDOT in reaching a decision on the type, location, and conceptual design of the I-275 improvements to safely and efficiently accommodate future travel demand. This PD&E Study documents the need for the improvements and the steps taken to develop and evaluate improvement alternatives along with proposed typical sections, and provision of general purpose lanes with transit accommodations. The anticipated social, physical, and natural environmental effects and costs of these improvements are identified, and the alternatives are compared on a variety of factors to identify the alternative that best balances the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs).

The PD&E Study satisfies applicable state and federal requirements, including the National Environmental Policy Act, to qualify this project for federal-aid funding of future phases (design, right of way, and construction). The project was evaluated through FDOT's Efficient Transportation Decision Making (ETDM) process. This project was designated as ETDM Project #13854. An ETDM Final Programming Screen Summary Report was republished on February 7, 2014, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. The lead agency determined the Class of Action to be a Type 2 Categorical Exclusion.

The purpose of this report is to identify and evaluate potential stormwater management facilities (SMF's). Within the project study limits there are 13 roadway drainage basins that will be affected from the proposed improvements. One or two stormwater management facility has been identified for each of the drainage basins. The stormwater management facilities have been designed to treat and attenuate the new impervious area per the Southwest Florida Water Management District criteria. There are 17 proposed stormwater management facilities (swale treatment facilities and/or ponds) for this project. Except for SMF 14B and SMF 15B, all stormwater management facilities are located within the existing right of way. The required right of way for SMF 14B and SMF 15B is 1.40 acres and 2.00 acres respectively. A summary of the preferred pond alternatives for each basin is provided in **Table 1** and **Table 2**.

Table 1: Onsite Storm Water Management Facility's Summary

Basin Name	Pond Name	Pond Size (Ac)	Outfall Location
Basin 1	Swale 1	1.46	Hillsborough River via an existing 54" storm sewer
	Swale 1A	1.49	
Basin 2	Pond 2	2.49	Hillsborough River via an existing 30" pipe
	Swale 2	1.57	
Basin 3	Swale 3A	1.67	Hillsborough River via an existing inlet / pipe
	Swale 3B	1.46	
Basin 4/5	Swale 4/5	1.84	Hillsborough River via an existing 24" pipe
Basin 6/7	Swale 6/7	2.48	Exist. Storage Basin No. 1
Basin 8	Pond 8	5.64	FDOT ROW via Exist. Pond A2
Basin 9	Swale 9	4.96	Exist. Storage Basin No. 2
	Swale 9-1		
Basin 10	Swale 10	3.06	FDOT ROW to existing storm sewer along west side of I-275
Basin 11	Swale 11	1.38	FDOT ROW to existing storm sewer along west side of I-275
Basin 12	Swale 12	1.54	FDOT ditch discharging to Curiosity Creek
Basin 13	SMF 13	3.44	Existing control structure in Exist. Pond No. 1 discharging to Curiosity Creek

Table 2: Recommended Offsite Storm Water Management Facility's Summary

Basin Name	Pond Name	Pond ROW Size (Ac)	Total Pond Cost	Outfall Location
Basin 14	SMF 14B	1.4	$696,900	Cypress Creek
Basin 15	SMF 15B	2.0	$1,913,200	Cypress Creek
Basin 16	No proposed ponds in Basin 16			
Basin 17	No proposed ponds in Basin 17			

It is estimated the project will have minor floodplain encroachment in Basin 14. Compensation for the floodplain encroachment in Basin 14 will be provided on-site within existing right of way. The floodplain impacts and compensation are shown in **Table 3**

Table 3: Summary of Floodplain Impacts and Compensation

Basin Name	100-Year Floodplain Elevation (Ft)	Estimated Impact Volume (acre-feet)	Compensation Volume (acre-feet)	Compensation Site
Basin 14	50.1	1.00	1.00	On-Site within ROW

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1.0 SUMMARY OF PROJECT

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate the need for capacity and operational improvements along 7.70 miles of State Road 93 (SR 93)/Interstate 275 (I-275) from north of Dr. Martin Luther King, Jr. Boulevard/SR 574 (MLK Boulevard) to north of Bearss Avenue/SR 678/County Road (CR) 582 in Hillsborough County, Florida.

The objective of the PD&E Study is to assist FDOT in reaching a decision on the type, location, and conceptual design of the I-275 improvements to safely and efficiently accommodate future travel demand. This PD&E Study documents the need for the improvements and the steps taken to develop and evaluate improvement alternatives along with proposed typical sections and interchange enhancement alternatives.

1.1 Description of Proposed Action

The proposed action evaluates the need to provide capacity and operational improvements along 7.70 miles of State Road 93 (SR 93)/Interstate 275 (I-275) from north of MLK Boulevard to north of Bearss Avenue in Hillsborough County, Florida (see **Figure 1**). This evaluation considers the operational and highway safety benefits of implementing capacity improvements and compares them to the cost savings and minimization of adverse impacts associated with a No-Build Alternative. An evaluation matrix compares the No-Build and Build Alternative on a variety of factors. This process identifies the alternative that best balances the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs).

The Build Alternative includes one additional travel lane in each direction of I-275. The proposed typical section contains four 12-foot general purpose lanes in each direction and accommodates transit on the inside shoulders. The improvements would be constructed on the existing alignment with the same existing horizontal and vertical geometries. All the proposed improvements within the I-275 project corridor would be accomplished within the existing right of way. Minimal right of way may be required at the Bearss Avenue interchange for storm water ponds.

Planning for the Tampa Bay area interstates began in the late 1980s with the Tampa Interstate Study (TIS) Master Plan being approved in late 1980s with improvements outlined to relieve congestion and improve mobility. The TIS Master Plan included additional travel lanes on the Tampa Bay area interstates and included a transit envelope for the east-west movement but not along this segment of I-275.

Figure 1: Project Location Map

In 2013, building upon the original TIS Master Plan, the Tampa Bay Express (TBX) program was developed to provide guidance for improvements to the Tampa Bay interstate system and identified freeway segments (including this segment of I-275) for the addition of tolled express lanes. In 2017, FDOT District Seven reset TBX to Tampa Bay Next (TBNext) to demonstrate its commitment to comprehensive, integrated transportation planning and development. As part of TBNext, FDOT District Seven committed to remove the express lanes from this segment of I-275 and allow the I-75 corridor to provide the north/south express lanes movement. Providing express lanes on I-75 is more regionally focused.

The improvements proposed for this segment of I-275, from north of MLK Boulevard to north of Bearss Avenue, will include one additional general purpose lane in each direction and improvements to the inside shoulder that will allow for the integration of infrastructure for transit.

1.2 Existing Facility

I-275 is a limited access freeway that runs in a north-south direction within the project limits. I-275 is part of the Federal Highway System (National Highway System) Interstate System, Florida's State Highway System, and the Strategic Intermodal System (SIS). Within the project limits there are seven interchanges:

- Hillsborough Avenue
- Sligh Avenue
- Bird Street
- Busch Boulevard
- Fowler Avenue
- Fletcher Avenue
- Bearss Avenue

The existing I-275 is a six-lane divided typical section which varies slightly throughout the project limits (see **Figure 2)**. The posted speed varies from 55 mph to 65 mph. The existing right of way along I-275 ranges from approximately 220 feet between Linebaugh Avenue and Bougainvillea Avenue to approximately 1,400 feet at the Busch Boulevard interchange.

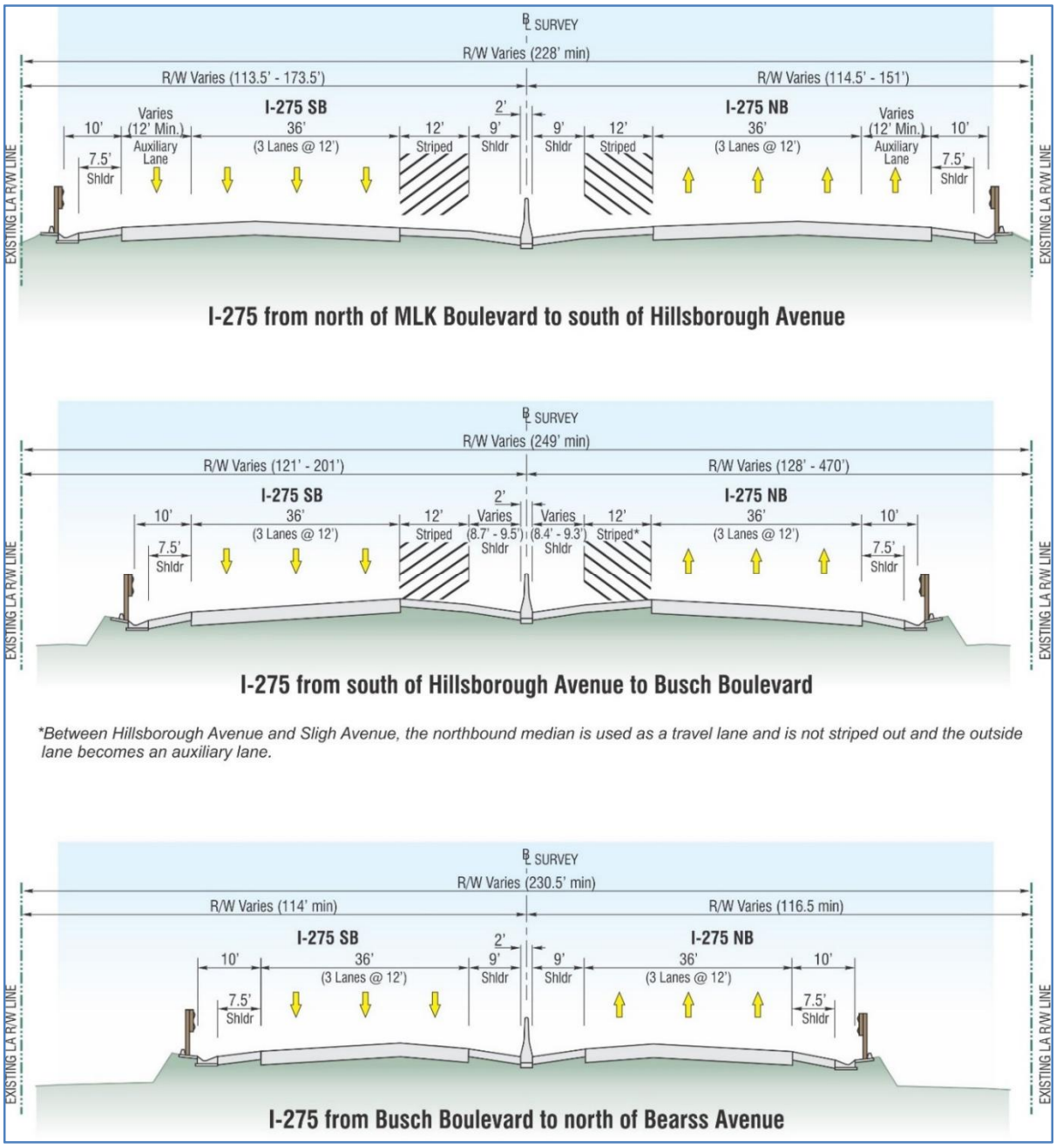
The I-275 corridor contains 18 bridges. Fourteen bridges span roadways, two bridges span both a roadway and railroad tracks, and two bridges span waterways. The 14 bridges over roadways do not meet the required minimum vertical clearance of 16.5 feet. The bridges over Busch Boulevard and US 41/Nebraska Avenue that span both a roadway and a railroad meet the minimum vertical clearance of 16.5 feet over roadways, but do not meet the required minimum vertical clearance of 23.5 feet over railroads.

1.3 Project Purpose and Need

The purpose of the project is to evaluate additional lanes along I-275 from north of MLK Boulevard to north of Bearss Avenue to increase capacity and relieve congestion. These improvements are expected to enhance the overall safety and improve the operating conditions of the facility within the project limits.

Statewide and regional transportation plans and studies by FDOT and the Hillsborough County Metropolitan Planning Organization (MPO) identify the need for interstate improvements.

Figure 2: I-275 Existing Typical Sections



Between Hillsborough Avenue and Sligh Avenue, the northbound median is used as a travel lane and is not striped out and the outside lane becomes an auxiliary lane.

This segment of I-275 provides a vital connection to area tourist and recreational destinations, major employment/activity centers, and the University of South Florida; and is a convenient route for commuters and other work-related travel both north and south of the area. The corridor is also critical to the transport of goods and services. The capacity improvements are needed to accommodate projected future traffic and enhance corridor mobility and safety.

The need for improvements on this segment of I-275 is based on several factors. These factors include plan consistency, regional connectivity, improving safety and capacity, enhancing emergency evacuation, accommodating projected population and employment growth, supporting multi-modal service, and providing access to intermodal and freight centers.

2.0 BUILD ALTERNATIVE

2.1 Mainline I-275

The Build Alternative includes widening I-275 from an existing six-lane divided interstate to an eight-lane divided interstate, plus accommodating transit on the inside shoulder. The Bearss Avenue interchange will be reconfigured and operational improvements will be implemented at Hillsborough Avenue; no other interchange configurations will change with the improvements.

The proposed typical section includes eight 12-foot wide general purpose lanes (four in each direction), two 15-foot wide inside shoulders which accommodate transit, 12-foot wide outside shoulders, and a 2-foot wide concrete barrier separating the two directions of travel. The proposed I-275 mainline typical section is shown **Figure 3**.

The existing horizontal and vertical alignment will be maintained in the Build Alternative to avoid right of way impacts. The proposed improvements for mainline I-275 will take place within the existing right of way. Minimal right of way may be required at the Bearss Avenue interchange for storm water ponds.

2.2 Interchange Build Alternatives

The interchange ramps along the corridor will accommodate the mainline widening of I-275, but the interchange configurations will not change, with the exception of Hillsborough Avenue and Bearss Avenue interchanges. Operational improvements will be included at these two interchanges.

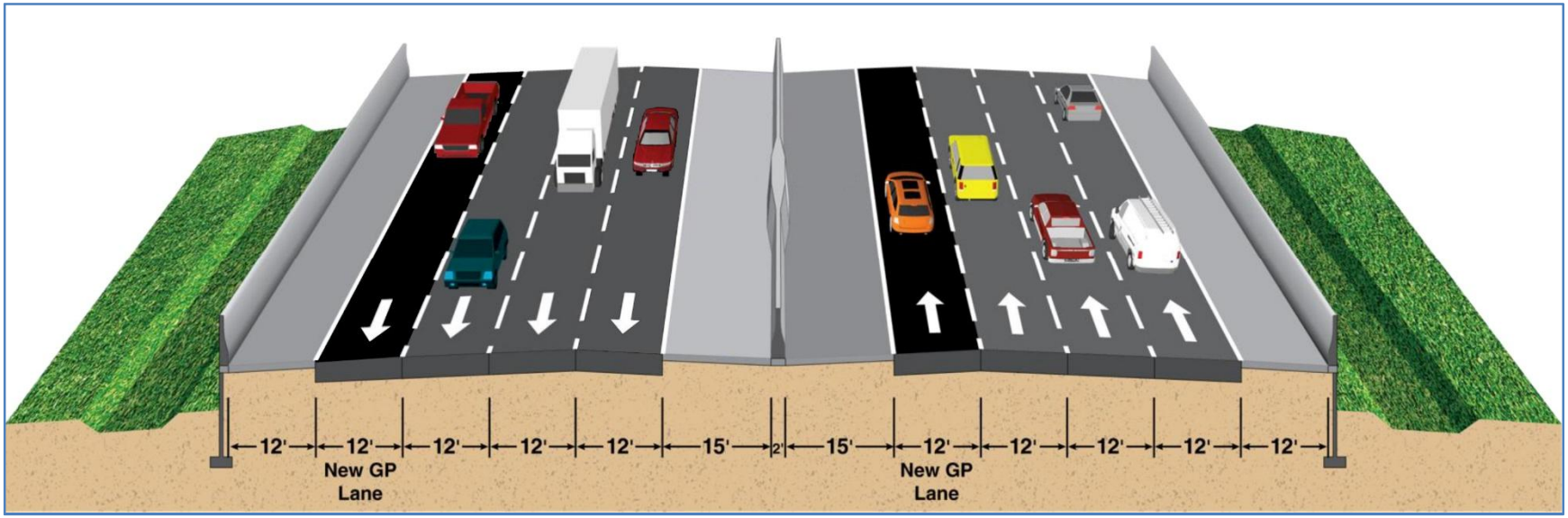
On Hillsborough Avenue, east of I-275, a signal is proposed for the on-ramp for I-275 northbound. An eastbound to northbound dual left will be constructed at this intersection by widening Hillsborough Avenue to accommodate more vehicles entering I-275. Also, the I-275 northbound loop off-ramp will be reconstructed to direct traffic to this proposed signalized intersection.

The vertical and horizontal constraints at the existing bridges at the Bearss Avenue interchange cannot accommodate the proposed improvements; thus, the Bearss Avenue interchange will be reconstructed as a single point urban interchange (SPUI). The design

includes reconstructing the I-275 bridge over Bearss Avenue and reconstructing the on- and off-ramps from the I-275 gores to approximately halfway to the Bearss Avenue intersection. The bridge design will accommodate potential future widening of Bearss Avenue.

The future configuration would have one traffic signal underneath the I-275 bridge to control through traffic on Bearss Avenue and left-turning traffic entering or exiting I-275 at the intersection.

Figure 3: I-275 Proposed Typical Section



3.0 LAND USE

Within 500 feet of the corridor, there are four major existing land uses: high density residential, transportation, commercial/services, medium density residential, and public/semi-public. Future land-use maps from the City of Tampa (effective July 6, 2014) and Unincorporated Hillsborough County (effective October 4, 2014) indicate most the land use along the project corridor is planned to be residential, office/commercial, community commercial, urban mixed use, and public/semi-public. The existing and future land uses are shown in **Figure 4** and **Figure 5**.

4.0 EXISTING ROADWAY DRAINAGE SYSTEM INVESTIGATION

Existing drainage characteristics in the study area were determined from reviewing FDOT construction plans, FDOT Drainage Complaint History, the Straight-Line Diagrams of Road Inventory, Southwest Florida Water Management District (SWFWMD) permitted plans and documentation, Natural Resources Conservation Service (NRCS) Soils data, and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM). Field reviews were conducted to verify existing drainage structures, identify potential pond sites, and determine drainage boundaries.

Figure 4: Existing Land Use

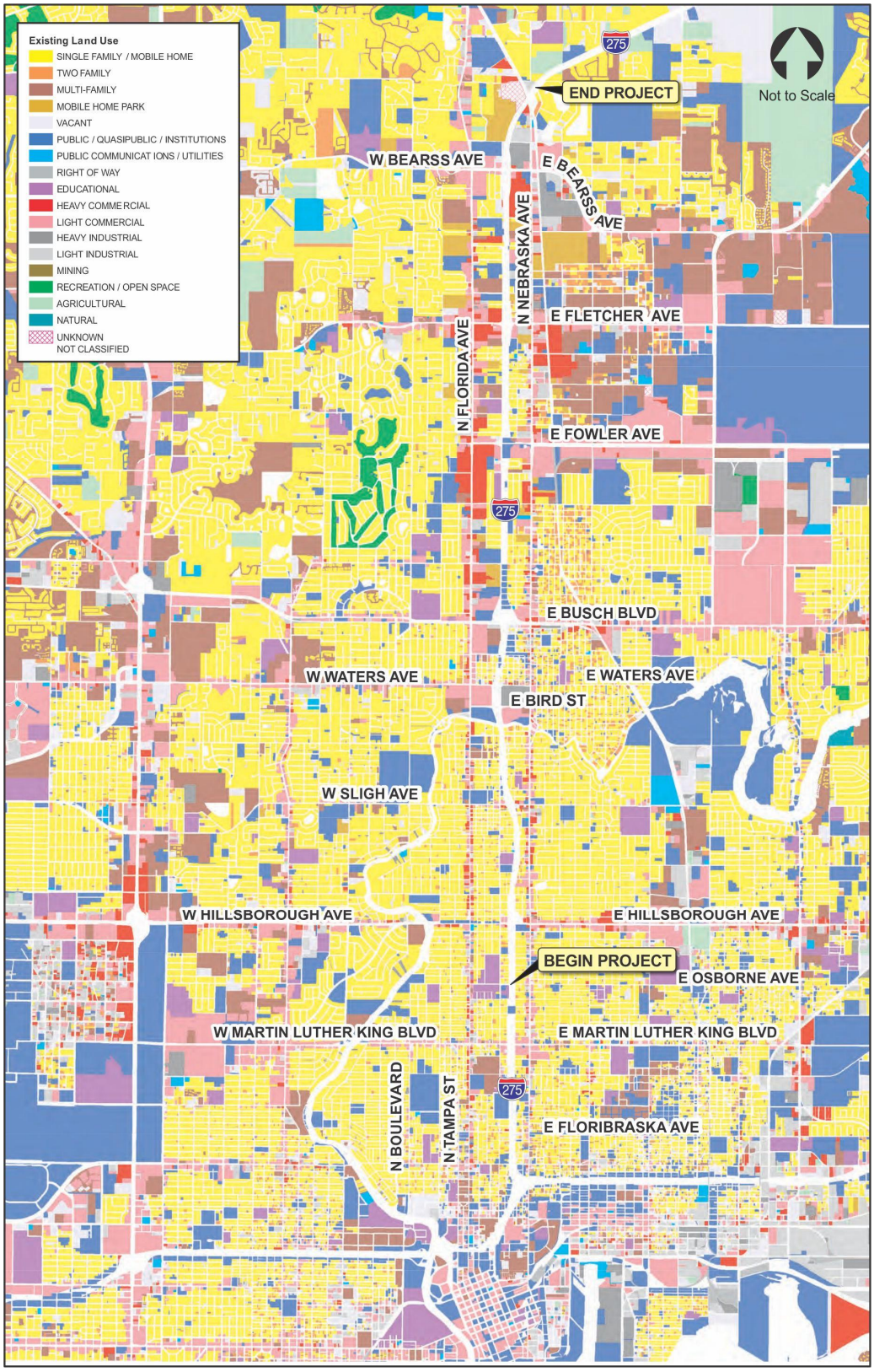
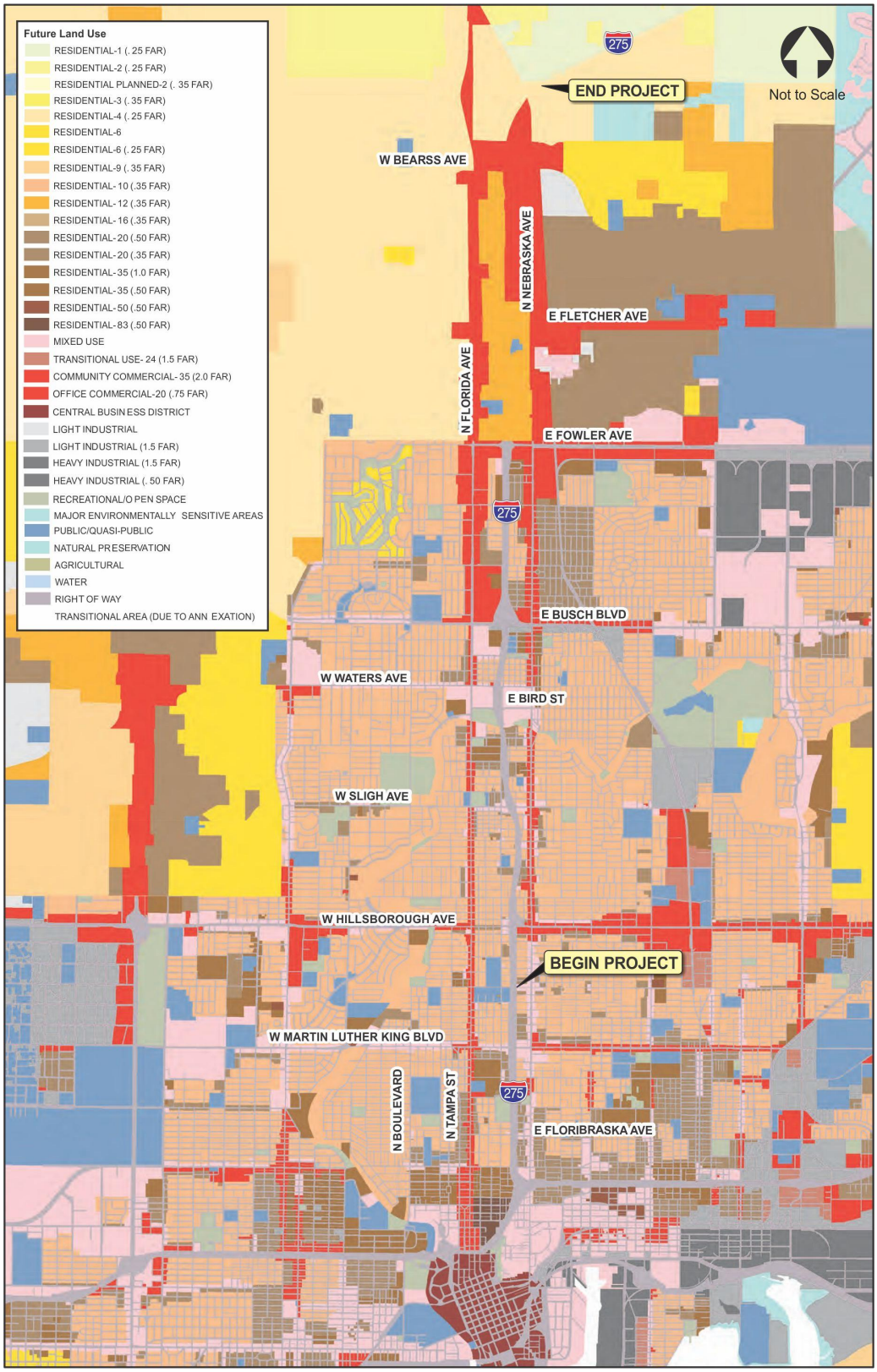


Figure 5: Future Land Use



4.1 Existing Drainage Conditions

The project is located mainly within the Hillsborough Bay Watershed which encompasses 1,282 square miles. The remaining area of the I-275 project lies within the Coastal Old Tampa Bay Watershed which spans 338 square miles. Both watersheds ultimately drain to Tampa Bay. Both Hillsborough Bay and Coastal Old Tampa Bay Watersheds are part of the larger regional Tampa Bay Watershed which encompasses 2,200 square miles. The drainage basins in the study area as delineated by the Southwest Florida Water Management District (SWFWMD) include the Hillsborough River, Sulphur Springs, Curiosity Creek, Chapman Lake Outlet, and Cypress Creek. The only major water body within the project limits is the Hillsborough River.

4.2 Existing Ponds

Within the project limits there are several existing ponds that were either built during the original construction of I-275 or during subsequent improvement projects. **Table 4** summarizes the existing ponds within the project limits.

Table 4: Summary of Existing Pond Names and Associated Projects

Basin Name	Pond Name	Purpose for Existing Stormwater Facility	Proposed Modification
7	Exist. Storage Basin No. 1	Design during the original construction of I-275 to provide attenuation	No Modification
8	Exist. Pond A2	Designed to provide treatment & attenuation for improvements along I-275 at Busch Blvd	No Modification
8	Exist. Pond A3	Designed to provide treatment & attenuation for improvements along I-275 at Busch Blvd	No Modification
9	Exist. Storage Basin No. 2	Design during the original construction of I-275 to provide attenuation	No Modification
9	Exist. Storage Basin No. 3	Historical attenuation site	No Modification
10	Exist. Pond No. 1 East	Designed to provide treatment & attenuation for I-275 improvements between Fowler Ave and Fletcher Ave	Modify to provide additional treatment & attenuation for currently proposed improvements
10	Exist. Pond No. 1 West	Designed to provide treatment & attenuation for I-275 improvements between Fowler Ave and Fletcher Ave	Modify to provide additional treatment & attenuation for currently proposed improvements
13	Exist. Pond No. 1	Designed to provide treatment & attenuation for I-275 improvements between Fowler Ave and Fletcher Ave	Proposed Pond Expansion
14	Exist. Pond No. 2	Designed to provide treatment & attenuation for I-275 improvements between Fowler Ave and Fletcher Ave	Proposed Pond Expansion
16	Exist. Pond No. 3	Designed to provide treatment & attenuation for I-275 north of Bearss Ave	No Modification

4.3 Floodplains

Information obtained from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) shows the project crosses through the limits of the 100-year floodplain at several locations along the project corridor. Segments where potential impacts to the 100-year floodplain could occur are shown on FEMA Map No. 12057C0214H and 12057C0204H. The FEMA maps are provided in **Appendix C**.

According to FEMA, the Hillsborough River is a regulated floodway at the I-275 bridge crossing. The base flood elevation North American Vertical Datum of 1988 (NAVD 88) for the Hillsborough River at the bridge crossing is 10.0 feet. There are minor floodplain impacts anticipated at the River due to proposed piles being placed in the River.

4.4 Existing Cross Drains and Bridges

4.4.1 Existing Cross Drains

The *Location Hydraulics Memorandum* (LHM) for this project identified 16 cross drains that traverse I-275 within the study limits. The cross drain sizes and locations were determined using existing drainage maps, Straight Line Diagrams (SLD's), SWFWMD permit research, and field investigations. Additional information on the existing cross drains is provided in the *LHM*. **Table 5** summarizes the existing cross drain data.

Table 5: I-275 Main Storm and Cross Drains

Basin No.	Station (CL of Const.)	Size (inch)	Comment
1	1810+50	(2) 54	Closed Storm Sewer
2	1827+25	30	Closed Storm Sewer
3	1867+60	24	Closed Storm Sewer
4/5	1887+70	24	Closed Storm Sewer
7	1940+00	48	Closed Storm Sewer
8	1974+28	36	Closed Storm Sewer
9	1988+41	42	Closed Storm Sewer
9	1994+71	42	Closed Storm Sewer
9	2016+31	42	Closed Storm Sewer
9	2021+46	36	Closed Storm Sewer
10	2047+95	24	Open Cross Drain
11	2060+69	30	Discharges to Sink Hole
12	2070+46	30	Open Cross Drain
13	2094+70	24	Open Cross Drain
14	2136+24	36	Open Cross Drain
15	2157+27	36	Open Cross Drain

4.5 Existing Bridges over Water Bodies

Within the project corridor, I-275 crosses the Hillsborough River which is the only major water body in the project area. The existing bridge (Bridge No. 100218) over the Hillsborough River was originally constructed in 1967 and later widened in 2011. The current bridge consists of five 60-foot spans with an overall bridge length of 300 feet as measured along the centerline of I-275. The overall out-to-out bridge width is 163 feet 1 inch. The Plan and Elevation Sheet and the Bridge Hydraulics Recommendations Sheet from the existing bridge plans are included in **Appendix A**.

4.6 Flooding Issues

According to the FDOT District Seven Drainage Flood Inventory, there are five documented drainage complaints within the project limits. It is recommended that the flooding complaints within and adjacent to the project area be researched during the design phase of the project. The five drainage complaints are summarized in this section.

During storm events in 2003, Central Avenue (near the I-275 southbound exit ramp) experienced roadway flooding; and, as a result, residential yards and areas adjacent to a house near Fowler Avenue flooded. A recommendation was made to re-grade and lower the ditch to help relieve flooding during storm events. This work was completed and the flooding complaint (#1002042009547) was closed.

In another area on 122nd Avenue adjacent to I-275, a residential property located at 702 E 122nd Avenue is experiencing flooding in the front and back side of the house. Based on the flooding complaint (#1006172010814), Taliaferro Avenue (which intersects with 122nd Avenue) is an area predisposed to flooding. Due to right of way constraints, maintaining this ditch along I-275 is very difficult. Improving the I-275 ditch maintainability may alleviate some of the runoff being sent offsite during heavy rainfall events. This area is likely to be evaluated in more detail during the design phase.

The area at the end of 126th Street, near the noise wall on the east side of I-275 is subject to local roadway flooding. A local resident that lives on the south side of 126th Street was interviewed. According to this resident the roadway area fills with water, then seeps into the ground after the rain stops. FDOT coordinated with Hillsborough County who agreed to survey the area to get a better idea of the existing conditions. Roadway flooding was also reported along 127th Avenue; however, it was addressed by the County. Modification of existing soundwall panel at end of 126th St may still need to be incorporated into this project's design, and design coordination with District Drainage is recommended during design phase. These flooding complaints are referenced as #1003282013398 and #1007022010774 in the District Seven flooding inventory system

There is a flooding complaint (#1012242009952) associated with April Lane and Garland Court west of I-275. It is reported that the construction of a FDOT I-275 stormwater pond has worsened flooding problems in the receiving wetland system and the surrounding residential area. An alternative analysis was performed and the recommendation was to modify the existing control structure to decrease discharge. This flooding complaint is likely to be verified and analyzed during the design phase of this project.

A flooding complaint located south of the intersection of I-275 and Nebraska Avenue was submitted to the FDOT in August 2015. The complaint states that a FDOT pond overtops and floods adjacent properties including Clear Lane. The stormwater pond was created by enlarging an existing surface water to accommodate the stormwater requirements for the widening of I-275 from four to six lanes. An investigation report of the flooding was performed and submitted to FDOT District Seven titled "Pond 3 Drainage Design (I-275/US 41 Apex)". Based on the report's preliminary recommendation, the flooding of the adjacent proprieties is attributed to the fact that the historical overtopping elevation is higher than surrounding properties. Therefore, no action is recommended.

5.0 FLOODPLAINS AND REGULATORY FLOODWAYS

Information obtained from the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) shows the project crosses through the limits of the 100-year floodplain at several locations along the project corridor. Segments where potential impacts to the 100-year floodplain could occur are shown on FEMA Map No. 12057C0214H and 12057C0204H. The FEMA maps are provided in the **Appendix C**.

According to FEMA, the Hillsborough River is a regulated floodway at the I-275 bridge crossing. The base flood elevation North American Vertical Datum of 1988 (NAVD 88) for the Hillsborough River at the bridge crossing is 10.0 feet. There are minor floodplain impacts anticipated at the River due to proposed piles being placed in the River.

6.0 REGULATORY ISSUES AND DESIGN CRITERIA

The design of the SMF's is governed by the rules and criteria set forth by the SWFWMD and FDOT. The criteria are established in the *State Wide Environmental Resource Permit (ERP) Applicants Handbook (2018)* Volumes I and II, the *FDOT Drainage Manual* (January 2018) and the FDOT *Stormwater Management Facility Handbook* (January 2004). The criteria as it pertains to the regulatory agency are discussed in the following sections.

A pre-application meeting was conducted with SWFWMD on Tuesday, July 21st, 2015. Based on the meeting, the project will be required to provide water quality treatment per Section 4.8 of the ERP Applicant's Handbook Volume II. The meeting minutes from the pre-application are provided in **Appendix D**.

6.1 Water Management

Water Quality

- Wet Detention
  - Treatment – One inch of rainfall from the new impervious area
- Dry Retention
  - Treatment – The first one inch of rainfall from the new impervious area

Note: The existing dry ponds within the study limits treat one inch of rainfall from their basin areas. Therefore, the proposed dry ponds were designed to treat one inch of rainfall from the new impervious area.

Water Quantity

- Open Basin
  - Detention of the post-development peak discharge rate to the pre-development peak discharge rate for the SWFWMD 25-year/24-hour storm event.
- Volume Sensitive (Curiosity Creek and Hillsborough Reservoir)

Retain the post-development runoff volume less the pre-development runoff volume for the SWFWMD 100-year/24-hour storm event.

6.2 Florida Department of Transportation

The stormwater ponds were sized based on criteria established in the FDOT Drainage Manual 2018. The criteria used in the pond sizing are:

- A minimum 15-foot wide maintenance berm with at least 1:8 slope or flatter.
- Pond side slopes shall be at least 1:4 from the top of bank to the seasonal high water elevation. A slope of 1:2 shall be used from two feet below the seasonal high water elevation to the pond bottom.
- The radii of the inside edge of the maintenance berm shall be at least 30 feet.

A coordination meeting with FDOT District Seven Drainage staff was conducted on July 1st, 2015 to present the pond locations and their configurations. During the coordination meeting, the exceptions to the above criteria were discussed. The pond typical sections, which include the exceptions, were presented to District Seven Drainage and Maintenance staff for their review. The exceptions to the typical sections were approved by FDOT staff. Any exceptions to the pond typical sections are noted in **Section 7.0**.

6.3 Outstanding Florida Water

Based on the ETDM Programming Screen, portions of the Hillsborough River are an Outstanding Florida Water (OFW). However, these portions of the Hillsborough River are not within the vicinity of this project.

6.4 FDEP Impaired Water Bodies

The project limits were evaluated for impairment as identified by the Florida Department of Environmental Protection (FDEP). FDEP has identified three basins within the project limits that are impaired according to their Water Body Identification Numbers (WBIDs). A map showing the WBIDs and the verified impairment list is provided in **Appendix E**. The WBIDs and the impairments are summarized in **Table 6**. The pollutant loading calculations will be performed during the design phase of the project.

Table 6: Verified Impaired Waters

Planning Unit	Water Body Identification	Water Segment Name	Impairment
Hillsborough River	1523	Curiosity Creek	Fecal Coliform
Hillsborough River	1443H	Hillsborough Reservoir	Nutrients (Total Phosphorus)
Hillsborough River	1402	Cypress Creek	Fecal Coliform

7.0 PROPOSED DRAINAGE BASINS & PONDS

The study area contains 13 separate roadway drainage basins. Stormwater runoff from each basin will be collected by a stormsewer system and conveyed to a proposed pond. The ponds are numbered from south to north with one or two recommended alternatives per drainage basin. All existing basin outfalls will be maintained following the construction of the roadway improvements. The pond sizing calculations and drainage maps are provided in **Appendix F** and **Appendix G**, respectively. The engineering used in the pond sizing is show in **Table 7, Table 8,** and **Table** 9.

7.1 Basin 1, Swale 1, & Swale 1A

7.1.1 Basin 1

Roadway drainage Basin 1 begins at East Osbourne Avenue at station 3787+30 and extends north to East Hillsborough Avenue at station 3814+78. Recent safety improvements along this segment of I-275 began at approximately station 3800+00 and continued to north of Yukon Street. The improvements included an inside shoulder for both the northbound and southbound travel lanes separated by a concrete median barrier wall. The improvements were permitted in February 2011 under SWFWMD Application Number 644130. Based on this permit, the safety improvements were exempt from stormwater treatment. Under the proposed improvements, 2.02 acres of additional pavement will be added to the basin. Treatment and attenuation for the additional runoff will be provide in two proposed roadside swales referred to as Swale 1 and Swale 1A.

7.1.2 Swale 1

Swale 1 is a 0.45-acre dry retention swale located along the east side of I-275 between station 3800+51 and station 3805+62. The United States Department of Agriculture (USDA) Natural Resources Conversation Service (NRCS) has classified the soils at the pond site as Tavares Urban land with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation at 4.75 feet. The swale will provide treatment and attenuation for 0.98 acres of new pavement. The required treatment volume for the additional pavement is 0.08 acre-feet which will be accomplished in 0.32 feet of pond depth. The pond will outfall to a 54-

inch storm sewer located at station 3810+51. The 54-inch storm sewer ultimately discharges to the Hillsborough River.

7.1.3 Swale 1A

Swale 1A is a 0.46-acre dry retention swale located along the west side of I-275 between station 3800+69 and station 3806+44. The NRCS has classified the soils at the pond site as Tavares Urban land with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation at 4.75 feet. The swale will provide treatment and attenuation for 1.04 acres of new pavement. The required treatment volume for the additional pavement is 0.09 acre-feet which will be accomplished in 0.34 feet of pond depth. The pond will outfall to a 54-inch cross drain located at station 3810+51. The 54-inch cross drain ultimately discharges to the Hillsborough River.

Due to right of constraints, the swales were sized with 10-foot maintenance berms and 1:4 side slopes. Construction of Swale 1 and Swale 1A will not require additional right of way.

7.2 Basin 2, Pond 2, & Swale 2

7.2.1 Basin 2

Roadway drainage Basin 2 begins at East Hillsborough Avenue at station 3814+78 and extends to south of East Hanna Avenue at station 3835+00. Recent safety improvements along this segment of I-275 include an inside shoulder for both the northbound and southbound travel lanes that are separated by a concrete median barrier wall. The improvements were permitted in February 2011 under SWFWMD Application Number 644130. Based on this permit, the safety improvements were exempt from stormwater treatment. Under the proposed improvements, 1.03 acres of additional pavement will be added to the basins. Treatment and attenuation for the additional runoff will be provided in an infield pond and roadside swale referred to as Pond 2 and Swale 2, respectively.

7.2.2 Pond 2

Pond 2 is a 1.27-acre dry retention pond located within the loop for the off-ramp interchange from northbound I-275 to westbound East Hillsborough Avenue. According to the NRCS, the soils at the pond site are classified as Tavares Urban land with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation at 4.75 feet. The pond will provide treatment for 0.05 acres of pavement that is currently not treated. The required treatment volume for the additional pavement is 0.004 acre-feet which will be accomplished in 0.10 feet of pond depth. The pond will outfall to a roadside ditch along the northbound on-ramp that discharges to a 30-inch cross drain located at station 3827+26. The 30-inch cross drain ultimately discharges to the Hillsborough River.

The pond was sized with a 15-foot maintenance berm and 1:4 side slopes. Construction of the pond will not require additional right of way.

7.2.3 Swale 2

Swale 2 is a 0.37-acre dry retention pond located along the west side of I-275 from station 3823+72 to station 3827+02. According to the NRCS, the soils at the pond site are classified as Tavares Urban land with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation at 4.75 feet. The swale will provide treatment and attenuation for 0.98 acres of new pavement. The required treatment volume for the additional pavement is 0.08 acre-feet which will be accomplished in 0.39 feet of pond depth. The pond will outfall to a 30-inch cross drain located at station 3827+27. The cross drain ultimately discharges to the Hillsborough River.

Due to right of way constraints, the swale was sized with a 10-foot maintenance berm and 1:4 side slopes. Construction of the swale will not require additional right of way.

7.3 Basin 3, Swale 3A, & Swale 3B

7.3.1 Basin 3

Roadway drainage Basin 3 begins south of East Hanna Avenue at station 3835+00 and extends north to Sligh Avenue at station 3867+55. Recent safety improvements along this segment of I-275 include an inside shoulder for both the northbound and southbound travel lanes that are separated by a concrete median barrier wall. The improvements were permitted in February 2011 under SWFWMD Application Number 644130. Based on this permit, the safety improvements were exempt from stormwater treatment. Under the proposed improvements, 1.33 acres of additional pavement will be added to the basin. Treatment and attenuation for the additional runoff will be provided in two roadside swales referred to as Swale 3A and Swale 3B.

7.3.2 Swale 3A

Swale 3A is a 0.66-acre dry retention facility located south of East Hanna Avenue along the east side of I-275. According to the NRCS, the soils at the swale are classified as Candler Urban land and Tavares Urban land both with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation between 4.75 feet to greater than 6.56 feet. The required treatment volume for the additional pavement is 0.07 acre-feet which will be accomplished in 0.15 feet of pond depth.

7.3.3 Swale 3B

Swale 3B is a 0.34-acre dry retention facility located south of East Hanna Avenue along the west side of I-275. According to the NRCS, the soils at the swale are classified as Candler Urban land and Tavares Urban land both with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation between 4.75 feet to greater than 6.56 feet. The required treatment volume for the additional pavement is 0.04 acre-feet which will be accomplished in 0.19 feet of pond depth.

Due to right of way constraints, both swales were sized with 10-foot maintenance berms and 1:4 side slopes. Construction of the swales will not require additional right of way.

7.4 Basin 4/5 & Swale 4/5

7.4.1 Basin 4/5

Roadway drainage Basin 4/5 begins at Sligh Avenue at station 3867+55 and extends north over the Hillsborough River to station 3905+00. Recent safety improvements along this segment of I-275 include an inside shoulder for both the northbound and southbound travel lanes that are separated by a concrete median barrier wall. The improvements were permitted in February 2011 under ERP Application ID 644130. Based on the permit, the safety improvements were exempt from stormwater treatment. Under the proposed improvements, approximately 1.08 acres of additional pavement will be added to the basin. The additional pavement, or an equivalent amount of previously untreated pavement, will be collected by a proposed storm sewer system and conveyed to a proposed swale referred to as Swale 4/5.

7.4.2 Swale 4/5

Swale 4/5 is a 0.91-acre dry retention facility located south of East Broad Street along the east side of I-275. According to the NRCS, the soils at the swale are classified as Millhopper Urban land with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation at 4.75 feet. The required treatment volume for the additional pavement is 0.09 acre-feet which will be accomplished in approximately 0.32 feet of pond depth.

Due to right of way constraints, the swale was sized with a 10-foot maintenance berm and 1:4 side slopes. Construction of the swale will not require additional right of way.

7.5 Basin 6/7 & Swale 6/7

7.5.1 Basin 6/7

Roadway drainage Basin 6/7 begins north of the bridge over the Hillsborough River at station 3905+00 and extends north to south of East Busch Boulevard at station 3947+57. The basin includes a historical stormwater attenuation facility referred to as Exist. Storage Basin No. 1. The storage basin is located north of East Yukon Street on the east side of I-275 and is hydraulically connected to the storm sewer system that discharges to the Hillsborough River on the west side of I-275. Additional information regarding the storage basin could not be located.

Recent safety improvements along this segment of I-275 include an inside shoulder for both the northbound and southbound travel lanes that are separated by a concrete median barrier wall. The improvements were permitted in February 2011 under ERP Application ID 644130. Based on the permit, the safety improvements were exempt from stormwater treatment. Under the proposed improvements, approximately 1.50 acres of additional pavement will be added on I-275 within the basin limits. A proposed storm sewer system will collect and convey an equivalent amount of untreated roadway runoff to a proposed stormwater management facility referred to as Swale 6/7.

7.5.2 Swale 6/7

Swale 6/7 is a 0.88-acre dry retention facility located southeast of I-275 and East Busch Boulevard. According to the NRCS, the soils at the pond site are classified as Tavares Urban land with Hydrologic Soil Group A. The NRCS estimates the depth to the seasonal high water elevation at 4.75 feet. The swale will treat an equivalent amount of pavement that is currently untreated. The treatment will be accomplished in 0.13 acre-feet of pond volume with a treatment depth of 0.39 feet. The proposed swale will outfall to the existing storage basin located immediately to the south.

The swale was sized using 15-foot maintenance berms and 1:4 side slopes. Construction of the swale will not require additional right of way.

7.6 Basin 8 & Pond 8

7.6.1 Basin 8

Roadway drainage Basin 8 begins south of East Busch Boulevard at station 3947+57 and extends north to East Linebaugh Avenue at station 3988+15. The basin includes two existing stormwater ponds referred to as Exist. Pond A2 and Exist. Pond A3. The ponds are located in the infield area immediately north of East Busch Boulevard on the west and east side of I-275. The existing ponds were constructed during the improvements to I-275 that included the widening of the interstate from four lanes to six lanes, modifying the ramps at the East Busch Boulevard interchange, and modifying the median openings on East Busch Boulevard at the interchange. The total amount of pavement draining to Ponds A2 and A3 is 6.70 acres and 4.71 acres, respectively. The treatment volume required is 1.04 acre-feet while the treatment volume provided is 1.42 acre-feet. These improvements were approved under Application Number 38397 in April 1998. It is not anticipated that the proposed roadway widening will impact the pond volumes which will allow the ponds to continue to treat the same amount of pavement.

The proposed widening in Basin 8 will add approximately 2.78 acres of pavement to I-275. An equivalent amount of untreated pavement will be collected and conveyed to a proposed pond referred to as Pond 8.

7.6.2 Pond 8

Pond 8 is a 1.17-acre dry retention pond located between southbound I-275 and the southbound exit ramp. According to the NRCS, the soils at the pond site are classified as Myakka Urban land and Tavares Urban land with Hydrologic Soil Group B/D and A, respectively. Based on NRCS, the depth to the seasonal high water elevation is at 4.75 feet. The proposed pond will outfall to Exist. Pond A2 through an existing culvert beneath the southbound on-ramp to I-275. The proposed pond will treat an equivalent amount of additional pavement which will be accomplished in 0.23 acre-feet with a treatment depth of 0.39 feet.

The pond was sized using 15-foot maintenance berms and 1:4 side slopes. Construction of the pond will not require additional right of way.

7.7 Basin 9, Swale 9, & Swale 9-1

7.7.1 Basin 9

Roadway drainage Basin 9 begins at East Bougainvillea at station 3988+15 and extends north to East Fowler Avenue at station 4028+50. The basin includes a 9.2-acre historical stormwater attenuation facility referred to as Exist. Storage Basin No. 2. The storage basin is located northeast of East Bougainvillea Avenue and I-275 and was built during the original construction of the interstate. The storage basin is hydraulically connected to the existing storm sewer system on the west side of I-275 that discharges south to the Hillsborough River. Drainage maps for the original interstate construction indicate the high water elevation for the storage basin is 27.0 feet while the low water elevation is 23.0 feet. The seasonal high water elevation is estimated at approximately 25.0 feet. Recent safety improvements along this segment of I-275 include an additional turn lane for the northbound I-275 exist ramp for Fowler Avenue. The additional turn lane is approximately 1,320 feet and was exempt from permitting since the turn lane is less than 0.25 miles. The permit exemption for the safety improvements was approved in March of 2011 under ERP Application ID 645900.

Under the proposed improvements, approximately 2.78 acres of pavement will be added to the basin due to the roadway widening. Treatment and attenuation for the additional pavement will be accomplished from conveying an equivalent amount of untreated pavement to a series of ponds referred to as Swale 9 and Swale 9-1.

7.7.2 Swale 9 & Swale 9-1

Swale 9 is a 0.44-acre dry retention pond located north of East Bougainvillea Avenue along northbound I-275. Swale 9-1 is a 0.60-acre wet detention pond located immediately north of Swale 9. A wall will be required along the east side of I-275 from East Bougainvillea Avenue to approximately station 4001+75 to construct Swale 9 and Swale 9-1. According to the NRCS, a majority of the soil at the pond sites is classified as Zolfo fine sand with Hydrologic Soil Group C. The NRCS estimates the depth to the seasonal high water elevation at 2.75 feet. The proposed swales will outfall to the existing storage basin located at the northeast intersection of East Bougainvillea Avenue and I-275. The proposed swales will treat 1.0 inch of rainfall which will be accomplished in 0.23 acre-feet of pond volume with a treatment depth of 0.49 feet and 0.36 feet for Swale 9 and Swale 9-1, respectively.

The swales were sized using a 10-foot maintenance berm and 1:3 side slopes. Construction of the swales will not require additional right of way.

7.8 Basin 10 & Swale 10

7.8.1 Basin 10

Roadway drainage Basin 10 begins at East Fowler Avenue at station 4028+50 and extends north to 127th Avenue at station 4054+85. The basin includes an existing treatment facility referred to as Exist. Pond No. 1 East. The existing pond is located northeast of I-275 and East Fowler Avenue adjacent to the northbound on-ramp. The pond was constructed to provide treatment for the improvements on I-275 between East Fowler Avenue and East

Fletcher Avenue. The improvements included an additional travel lane in each direction and modification to two acceleration lanes and two deceleration lanes for the access ramps at East Fowler Avenue. The improvements in Basin 10 added approximately 5.76 acres of pavement that required treatment and attenuation. Exist Pond No. 1 East was designed to treat 1.0 inch of rainfall using dry retention. The facility was permitted in October 1998 under ERP Application ID 38398.

Under the proposed improvements, approximately 2.26 acres of pavement will be added to the basin. A proposed storm sewer system will collect and convey an equivalent amount of untreated runoff to a roadside swale referred to as Swale 10.

7.8.2 Swale 10

Swale 10 is a 0.80-acre wet detention facility located southwest of southbound I-275 and 127th Avenue. According to the NRCS, the soils at the pond site are classified as Zolfo fine sand with a Hydrologic Soil Group C. The NRCS estimates the depth to the seasonal high water elevation between 2.0 feet and 3.5 feet. The proposed pond will treat an equivalent amount of untreated pavement. The treatment will be accomplished in 0.19 acre-feet of pond volume with a treatment depth of 0.38 feet. The outfall for the pond is the FDOT right of way and ultimately to the existing stormsewer system along the west side of I-275.

Due to right of way constraints, Swale 10 was sized with a 10-foot wide maintenance berm and 1:4 side slopes. Construction of Swale 10 will not require additional right of way.

7.9 Basin 11 & Swale 11

7.9.1 Basin 11

Roadway drainage Basin 11 begins at 127th Avenue at station 4054+85 and extends north to 131st Avenue at station 4068+00. The basin includes an existing facility located at the southwest corner of Hoffman Boulevard and Central Avenue referred to as Exist. Pond No. 1 West. The existing pond was constructed to provide stormwater management for the improvements on I-275 between East Fowler Avenue and East Fletcher Avenue. The improvements included an additional travel lane in each direction and modification to two acceleration lanes and two deceleration lanes for the access ramps at East Fowler Avenue. The improvements in Basin 11 added approximately 2.32 acres of additional pavement that required treatment and attenuation. The pond was designed to treat 1.0 inch of rainfall from the additional pavement using dry retention. The pond also has the capacity to treat an additional 0.5 acres of pavement. The existing pond was permitted in October 1998 under Application Number 38398.

Under the current widening project, approximately 1.06 acres of pavement will be added to the basin. A storm sewer system will collect and convey an equivalent amount of untreated roadway runoff to a proposed pond referred to as Swale 11.

7.9.2 Swale 11

Swale 11 is a 0.41-acre wet detention facility located adjacent to southbound I-275 between station 4062+00 and station 4064+77. According to the NRCS, the soils at the pond site are classified as Zolfo fine sand with Hydrologic Soil Group C. The estimated depth to the seasonal high water elevation between 2.0 and 3.5 feet. The proposed swale will treat an equivalent amount of untreated pavement that is not currently treated. The treatment for the additional pavement will be accomplished in 0.09 acre-feet of pond volume with a treatment depth of 0.52 feet. The swale will discharge to the FDOT right of way and ultimately to the stormsewer system along the west side of I-275.

Due to right of way constraints, Swale 11 was sized with a 2.5-foot maintenance berm behind the guardrail, a 5-foot maintenance berm adjacent to the noise wall, and 1:4 side slopes. Construction of Swale 11 will not require additional right of way.

7.10 Basin 12 & Swale 12

7.10.1 Basin 12

Roadway drainage Basin 12 begins at station 4068+00 and extends north to Fletcher Avenue at station 4081+44. Previous improvements within the basin include two-lane widening to the inside median, minor shoulder reconstruction, and northbound exit ramp improvements. Based on the permit, there are no existing ponds in this basin since an equivalent amount of water quality, attenuation and volume sensitive storage is provided in the basin north of Fletcher Avenue. The permit also indicates that the roadway improvements should not have a significant impact on the peak rate of runoff discharging off-site nor should it increase the peak stages within roadside areas. The facility was permitted in October 1998 under Application Number 38398.

Under the proposed improvements, approximately 0.96 acres of pavement will be added to the basin. A proposed storm sewer system will collect and convey roadway runoff to a proposed roadside facility referred to as Swale 12.

7.10.2 Swale 12

Swale 12 is a 0.55-acre wet detention facility located adjacent to southbound I-275 between Station 4065+00 and Station 4070+00. According to the NRCS, the soils at the pond site are classified as Zolfo and Myakka fine sand with Hydrologic Soil Group C and B/D, respectively. The estimated depth to the seasonal high water elevation is 2.75 feet. The swale will treat an equivalent amount of pavement that is not currently treated. The treatment will be accomplished in 0.08 acre-feet of pond volume with a treatment depth of 0.34 feet. The proposed swale will outfall to the FDOT right of way and ultimately to Curiosity Creek through a stormsewer system located northwest of I-275 and Fletcher Avenue.

Due to right of way constraints, Swale 12 was sized with a 2.5-foot maintenance berm behind the guard rail, a 5-foot maintenance berm adjacent to the noise wall, and 1:4 side slopes. Construction of Swale 12 will not require additional right of way.

7.11 Basin 13 & SMF 13

7.11.1 Basin 13

Roadway drainage Basin 13 begins at Fletcher Avenue at station 4081+44 and extends north to station 4112+00. The basin includes an existing treatment facility located southwest of 138th Avenue and Central Avenue referred to as Exist. Pond No. 1. The pond was constructed to provide treatment for the I-275 improvements north of East Fletcher Avenue. The improvements included two-lane widening to the inside median, minor shoulder reconstruction, and minor improvements to the southbound off-ramp at East Fletcher Avenue. The improvements added approximately 3.58 acres of pavement which is treated in the existing wet detention facility designed to treat 1.0 inch of rainfall. The pond was also designed to meet volume sensitive requirements since it discharges directly to Curiosity Creek. The facility was permitted in January 1999 under Permit Number 17978.

Under the proposed improvements, approximately 2.57 acres of pavement will be added to the basin. A storm sewer system will collect and convey an equivalent amount of untreated roadway runoff to a proposed facility referred to as SMF 13.

7.11.2 SMF 13

SMF 13 is a 0.87-acre wet detention facility that expands on Exist. Pond No. 1. Modifying the existing pond will not require additional right of way since the expansion will occur on property currently owned by FDOT. The existing pond was designed and permitted as a wet detention pond with a seasonal high water elevation of 38.49 feet and a control structure (weir) elevation of 39.82 feet. Under the proposed improvements, treatment for the additional pavement will be accomplished in 0.21 acre-feet of pond volume with a treatment depth of 0.31 feet.

According to the FIRM's, the existing pond is located in the FEMA 100-year floodplain with an established elevation of 42 feet. The adjacent property where the expansion is proposed is also at elevation 42 feet based on GIS contour elevations. Construction of the pond will not impact the 100-year floodplain since any proposed fill will occur above elevation 42 feet. During the design phase, professional survey will be required to confirm the adjacent property is at elevation 42 feet or higher. If the adjacent property is below elevation 42 feet, compensation for the 100-year floodplain impacts will be required.

The modified pond was sized using a 20-foot maintenance berm and 1:4 side slopes from the top of bank to two feet below the seasonal high water elevation. Construction of SMF 13 will not require additional right of way.

7.12 Basin 14 & SMF 14B

7.12.1 Basin 14

Roadway drainage Basin 14 begins at station 4112+00 and extends north to Bearss Avenue at station 4149+49. The basin includes an existing treatment facility referred to as Exist. Pond No. 2 located southwest of April Lane and the Christian Growth Fellowship property. The pond is a wet detention facility that provides treatment and attenuation for 5.51 acres of

pavement. The additional pavement resulted from roadway improvements that included two additional lanes in the median, minor shoulder reconstruction and improvements to the northbound off-ramp onto Bearss Avenue. The pond discharges directly to the borrow pit located to the southeast. Based on the original drainage design documentation, the pond was designed to reduce the maximum peak discharge rate for the FDOT 100-year and the SWFWMD 25-year storm events by 15 percent and 25 percent, respectively. The facility was permitted in January 1999 under Permit Number 17978.

Under the proposed improvements, approximately 3.76 acres of pavement will be added to the basin. A storm sewer system will collect and convey an equivalent amount of untreated roadway runoff to a proposed facility referred to as SMF 14B.

7.12.2 SMF 14B

Three storm water management facilities were evaluated for Basin 14 and are referred to as SMF14A, SMF14B, and SMF14C. SMF14A will require acquisition of a single parcel northwest of April Lane and I-275. SMF14B proposes to expand the existing pond to the north on a parcel that is currently vacant. SMF 14C proposes extending the I-275 bridge over Bearss Avenue to accommodate a proposed pond. SMF 14B is the preferred due to cost. The three alternatives are summarized in **Table 8**.

SMF 14B is a proposed wet detention facility that expands on Exist. Pond No. 2. The existing pond was designed and permitted as a wet detention pond with a seasonal high water elevation of 48.21 feet and a control structure (weir) elevation of 49.21 feet. Under the proposed improvements, treatment for the additional pavement will be accomplished in 0.31 acre-feet of pond volume with a treatment depth of 0.41 feet. The proposed pond will continue to meet the current treatment and attenuation requirements from the previous improvements project. The environmental assessments and right of way cost estimates for the three alternatives are included in **Appendix H** and **Appendix I**, respectively.

SMF 14B was sized using a 15-foot maintenance berm and 1:4 side slopes from the top of bank to two feet below the seasonal high water elevation. A storm sewer system will collect and convey an equivalent amount of untreated roadway runoff to SMF 14B.

7.13 Basin 15 & SMF 15B

7.13.1 Basin 15

Roadway drainage Basin 15 begins at Bearss Avenue at station 4149+49 and extends north to station 4169+00. Previous roadway improvements within this basin include two-lane widening in the median, minor shoulder reconstruction, and minor improvements to the northbound on-ramp and the southbound off-ramp at the Bearss Avenue interchange. The basin drains to the east side of the interstate where roadside swales convey the runoff to an existing wetland system at the northeast corner of I-275 and Bearss Avenue. No stormwater facilities were constructed in this basin since all required stormwater quality and attenuation was provided in Exist. Pond No. 2. The improvements were permitted in January 1999 under Permit Number 17978.

Under the proposed improvements, approximately 2.29 acres of pavement will be added to the basin. A storm sewer system will collect and convey an equivalent amount of untreated roadway runoff to a proposed facility referred to as SMF 15B.

7.13.2 SMF 15B

Three storm water management facilities were evaluated for Basin 15 and are referred to as SMF 15A, SMF 15B, and SMF 15C. SMF 15A will require acquisition of a single vacant parcel located immediately north of IHOP at the northwest intersection of I-275 and Bearss Avenue. SMF 15B is one potential pond site that was selected from eight available parcels. All eight parcels are owned by the same property owner who is a willing seller of each parcel. The parcel selected for SMF 15B is located northeast of Nebraska Avenue and Sinclair Hills Road. The third option proposes extending the I-275 bridge over Bears Avenue to accommodate a pond beneath the bridge. SMF 15B is the preferred option due to cost and the option for a willing seller.

SMF 15 is a 1.65-acre wet detention facility. According to the NRCS, the soils at the pond site are classified as Basinger and Zolfo fine sand with a Hydrologic Soil Group of D and C respectively. Based on NRCS, the estimated seasonal high water elevation is 2.75 feet below ground. The pond has been sized to provide treatment for the first 1.0 inch of rainfall which will be accomplished in 0.29 acre-feet of pond volume with a treatment depth of 0.38 feet. The pond was sized using a 20-foot maintenance berm and 1:4 side slopes from the top of bank to two feet below the seasonal high water elevation. A storm sewer system will collect and convey an equivalent amount of untreated roadway runoff to SMF 15B. The pond will outfall to Burrell Lake which is located immediately to the east of SMF 15B. The three alternatives are summarized in **Table 9**. The environmental assessments and right of way cost estimates are included in **Appendix H** and **Appendix I**, respectively.

Due to right of way constraints in Basin 16, the additional 1.09 acres of pavement added to Basin 16 will be diverted to Basin 15. SMF 15B has been sized to treat the 1.09 acres of diverted pavement and will retain the 100-year runoff volume. Additional discussion is provided in **Section 7.14**.

7.14 Basin 16

7.14.1 Basin 16

Roadway drainage Basin 16 begins at station 4169+00 and extends north to Nebraska Avenue at station 4183+60. Historically, roadway runoff was directed to a swale along the east side of I-275 that discharged to a wetland system connected to a Hillsborough County borrow pit. The original wetland/borrow pit system did not have a positive outfall and would overtop the northeast berm. The runoff that overtopped the berm would discharge to the east and into the Nebraska Avenue stormsewer system.

Recent improvements within this basin include two additional lanes in the median and shoulder reconstruction. The original wetland/borrow pit system was modified as a stormwater management facility to provide treatment and attenuation for the recent roadway improvements. The stormwater facility was designed using closed basin criteria since the original system did not have a positive outfall. To minimize the amount of discharge over the

pond banks, a control structure was installed with the grate set at the overtopping elevation. The control structure discharges directly to the storm sewer system on Nebraska Avenue. The modified system is referred to as Exist. Pond No. 3 and was permitted in January 1999 under Permit Number 17978.

Under the proposed improvements, approximately 1.09 acres of pavement will be added to Basin 16. An equivalent amount of untreated pavement will be collected and diverted to Basin 15. The intent is to not increase the amount of runoff discharging to Exist. Pond No.3 due to its limited capacity.

7.14.2 Pond Discussion

There are no proposed stormwater management facilities in Basin 16 or proposed modification to the existing facility. As discussed in previous sections, 1.09 acres of pavement will be diverted to Basin 15 due to the limited capacity of Exist Pond No. 3. The intent is to not increase the amount of runoff discharging to the existing pond or the stormsewer system on Nebraska Avenue. SMF 15B will treat 1.0 inch of rainfall from the diverted pavement and will retain the 100-year runoff volume.

There are no proposed right of way requirements in Basin16.

7.15 Basin 17

Roadway drainage Basin 17 begins at station 4183+60 and continues north to station 4193+70. The proposed improvements consist primarily of tapering the proposed roadway to the existing roadway. The proposed taper will add approximately 0.08 acres of additional pavement in the basin. Due to right of way constraints, a proposed stormwater treatment and attenuation facility within the existing right of way is not a viable option. Other options to treat and attenuate are cost prohibitive based on the minimal amount of pavement added to the basin. Therefore, the runoff from the additional 0.08 acres of pavement will discharge offsite as in the existing condition.

8.0 FLOODPLAIN COMPENSATION SITE

The proposed roadway improvements have potential for impacts to the 100-year floodplain from widening the roadway. A preliminary analysis indicates that 1.00 acre-feet of floodplain will be impacted in Basin 14. The impact is proposed to be compensated by grading a linear swale within the existing right of way between station 4110+00 and station 4120+33 on the east side of the roadway. The linear swale created for floodplain compensation is referred to as Floodplain Compensation 14 (FPC-14). The calculations for the estimated floodplain impact and compensation are included in **Appendix F**.

Table 7: Pond Engineering Data & Analysis Summary

Basin Name	Pond Name	Pond Offset Lt / Rt	Estimated SHWT[1] Elevation (Ft)	Low Edge of Pavement (Ft)	10 Year HGL[2] (Ft)	10 Year Pond Stage (Ft)	Outfall Location	Roadway Drainage Basin Area (Ac)	Pond Area at Top of Berm (Ac)	Method of Treatment	Required Treatment / Attenuation Volume (Ac-Ft)	Provided Treatment/ Attenuation Volume (Ac-Ft)	Comments
Basin 1	Swale1	Rt	39.25	46.9	45.71	45.07	Hillsborough River via an existing 54" pipe	1.46	0.45	Dry Ret.	0.08 / 0.45	0.08 / 0.46	
	Swale 1A	Lt	39.25	47.0	45.84	45.60	Hillsborough River via an existing 54" pipe	1.51	0.46	Dry Ret.	0.09 / 0.48	0.09 / 0.49	
Basin 2	Pond 2	Rt	32.25	37.0	35.98	34.19	Hillsborough River via Hillsborough Ave. storm sewer	2.49	1.27	Dry Ret.	0.004 / 0.02	0.08 / 1.62	
	Swale 2	Lt	29.50	39.0	37.51	34.00	Hillsborough River via an existing 30" pipe	1.57	0.37	Dry Ret.	0.08 / 0.45	0.08 / 0.49	
Basin 3	Swale 3A	Rt	36.10	47.3	46.28	38.65	Hillsborough River via an existing inlet / pipe	1.67	0.66	Dry Ret.	0.07 / 0.37	0.07 / 0.39	
	Swale 3B	Lt	32.6	48.1	47.08	38.45	Hillsborough River via an existing inlet / pipe	1.46	0.34	Dry Ret.	0.04 / 0.23	0.04 / 0.28	
Basin 4/5	Swale 4/5	Rt	24.8	39.3	38.27	29.50	Hillsborough River via an existing 24" pipe	1.84	0.91	Dry Ret.	0.09 / 0.44	0.09 / 0.45	
Basin 6/7	Swale 6/7	Rt	15.45	51.0	49.98	18.77	Exist. Storage Basin No. 1	2.48	0.88	Dry Ret.	0.13 / 0.69	0.13 / 0.70	
Basin 8	Pond 8	Lt	19.00	27.0	25.70	21.94	FDOT ROW via Exist. Pond A2	5.64	1.17	Dry Ret.	0.23 / 1.09	0.23 / 1.09	
Basin 9	Swale 9	Rt	23.50	33.0	31.36	26.92	Exist. Storage Basin No. 2	4.96	0.44	Dry Ret.	0.23 / 0.73	0.12 / 0.25	
	Swale 9-1	Rt	25.25	33.0	31.36	26.92	Exist. Storage Basin No. 2		0.60	Wet Det.		0.11 / 0.49	
Basin 10	Swale 10	Lt	30.25	35.0	33.98	32.10	FDOT ROW to existing storm sewer along west side of I-275	3.06	0.80	Wet Det.	0.19 / 0.85	0.19 / 0.85	
Basin 11	Swale 11	Lt	36.25	40.0	38.98	38.06	FDOT ROW to existing storm sewer along west side of I-275	1.38	0.41	Wet Det.	0.09 / 0.30	0.09 / 0.30	
Basin 12	Swale 12	Lt	36.25	40.0	38.98	37.90	FDOT ditch discharging to Curiosity Creek	1.54	0.55	Wet Det.	0.08 / 0.47	0.08 / 0.76	
Basin 13	SMF 13	Lt	38.49	45.0	43.84	39.9	Existing control structure in Exist. Pond No. 1 discharging to Curiosity Creek	3.44	0.87	Wet Det.	0.21 / 0.86	0.21 / 1.86	Expand on existing pond referred to as Exist. Pond No. 1.

Note: [1]Seasonal High Water Table (SHWT)
[2]Hydraulic Grade Line (HGL)

Table 8: Basin 14 Pond Alternatives Matrix

Description	Basin 14 Pond Site Alternatives		
	SMF 14A	SMF 14B	SMF 14C
Side (Lt, Rt)	Lt	Lt	Cl
Pond Area (Ac) (Excluding Easements)	1.24	1.4	1.04
Est. Ground Elevation (Ft) @ Pond Site	50.5	52.0	52.0
Proposed Low Edge of Pavement (LEOP) Within Basin	53.0	53.0	53.0
Est. SHW Elevation/Control Elevation	47.75	48.21	49.25
10 Yr HGL	51.42	51.42	51.42
10 Yr Pond Stage	49.94	49.63	50.88
Treatment System Type	Wet Detention	Wet Detention	Wet Detention
Roadway Drainage Basin Area	4.49	4.76	3.76
Pond Outfall Location	Cypress Creek	Cypress Creek	Cypress Creek
Required Treatment/Attenuation Volume (Ac-Ft)	0.31 / 0.80	0.31 / 0.92	0.31 / 0.89
Provided Treatment/Attenuation Volume (Ac-Ft)	0.31 / 1.19	0.31 / 2.23	0.31 / 0.89
FEMA Flood Zone	N/A	N/A	N/A
Land Use	Single Family	Vacant	Roadway
Archaeological Site Potential	N/A	No Involvement	N/A
Est. Wetland Mitigation Cost ($100K/Ac)	$6,180	0	0
Impact to Federal/State Listed Animal Species	Low	Low	N/A
Potential Contamination Impacts	High	High	N/A
Inflow Pipe Length (Ft)	150	500	N/A
Approximate Inflow Pipe Cost ($120/ Lf)	$18,000	$60,000	N/A
Outfall Pipe Length (Ft)	300	0	N/A
Approximate Outfall Pipe Cost ($60/ Lf)	$18,000	0	N/A
Other Miscellaneous Cost (Pond Liner, Etc.) [3]	0	0	N/A
Potential Utility Impacts	Medium	Medium	Low
Pond Easement Required (Ac)	None	None	None
Number of Parcels	1	1	N/A
Partial (P) or Whole Take (WT)	W	P	N/A
Bridge Cost	N/A	N/A	$3,908,250
ROW Cost Estimate (Includes Easements)	$704,500	$636,900	N/A
Total Estimated Costs (All Costs)	$746,680	$696,900	$3,908,250

Recommended pond site SMF 14B.

Table 9: Basin 15 Pond Alternatives Matrix

Description	Basin 15 Pond Site Alternatives		
	SMF 15A	SMF 15B	SMF 15C
Side (Lt, Rt)	Lt	Rt	Cl
Pond Area (Ac) (Excluding Easements)	1.31	2.00	1.47
Est. Ground Elevation (Ft) @ Pond Site	56.5	51.0	54.0
Proposed Low Edge of Pavement (LEOP) Within Basin	57.0	57.0	57.0
Est. SHW Elevation/Control Elevation	53.75	48.25	50.50
10 Yr HGL	55.92	54.80	54.80
10 Yr Pond Stage	55.42	49.51	51.62
Treatment System Type	Wet Detention	Wet Detention	Wet Detention
Roadway Drainage Basin Area	4.44	5.03	3.38
Pond Outfall Location	Cypress Creek	Cypress Creek	Cypress Creek
Required Treatment/Attenuation Volume (Ac-Ft)	0.29 / 1.71	0.29 / 1.72	0.29 / 1.77
Provided Treatment/Attenuation Volume (Ac-Ft)	0.29 / 1.84	0.29 / 2.16	0.29 / 2.25
FEMA Flood Zone	N/A	N/A	N/A
Land Use	Vacant	Vacant	Roadway
Archaeological Site Potential	N/A	No Involvement	N/A
Est. Wetland Mitigation Cost ($100K/Ac)	0	0	N/A
Impact to Federal/State Listed Animal Species	Low	Low	N/A
Potential Contamination Impacts	Medium	Medium	N/A
Inflow Pipe Length (Ft)	40	1,350	N/A
Approximate Inflow Pipe Cost ($120/ Lf)	$4,800	$62,000	N/A
Outfall Pipe Length (Ft)	40	50	N/A
Approximate Outfall Pipe Cost ($60/ Lf)	$2,400	$3,000	N/A
Other Miscellaneous Cost (Pond Liner, Etc.) [(1)]	0	$100,000	N/A
Potential Utility Impacts	Low	High	Low
Pond Easement Required (Ac)	None	None	None
Number of Parcels	1	1	N/A
Partial (P) or Whole Take (WT)	P	W	N/A
Bridge Cost	N/A	N/A	$5,163,750
ROW Cost Estimate (Includes Easements)	$3,580,000	$1,648,200	N/A
Total Estimated Costs (All Costs)	$3,652,000	$1,913,200	$5,163,750

[1]Includes cost for jack and bore under CSX RR

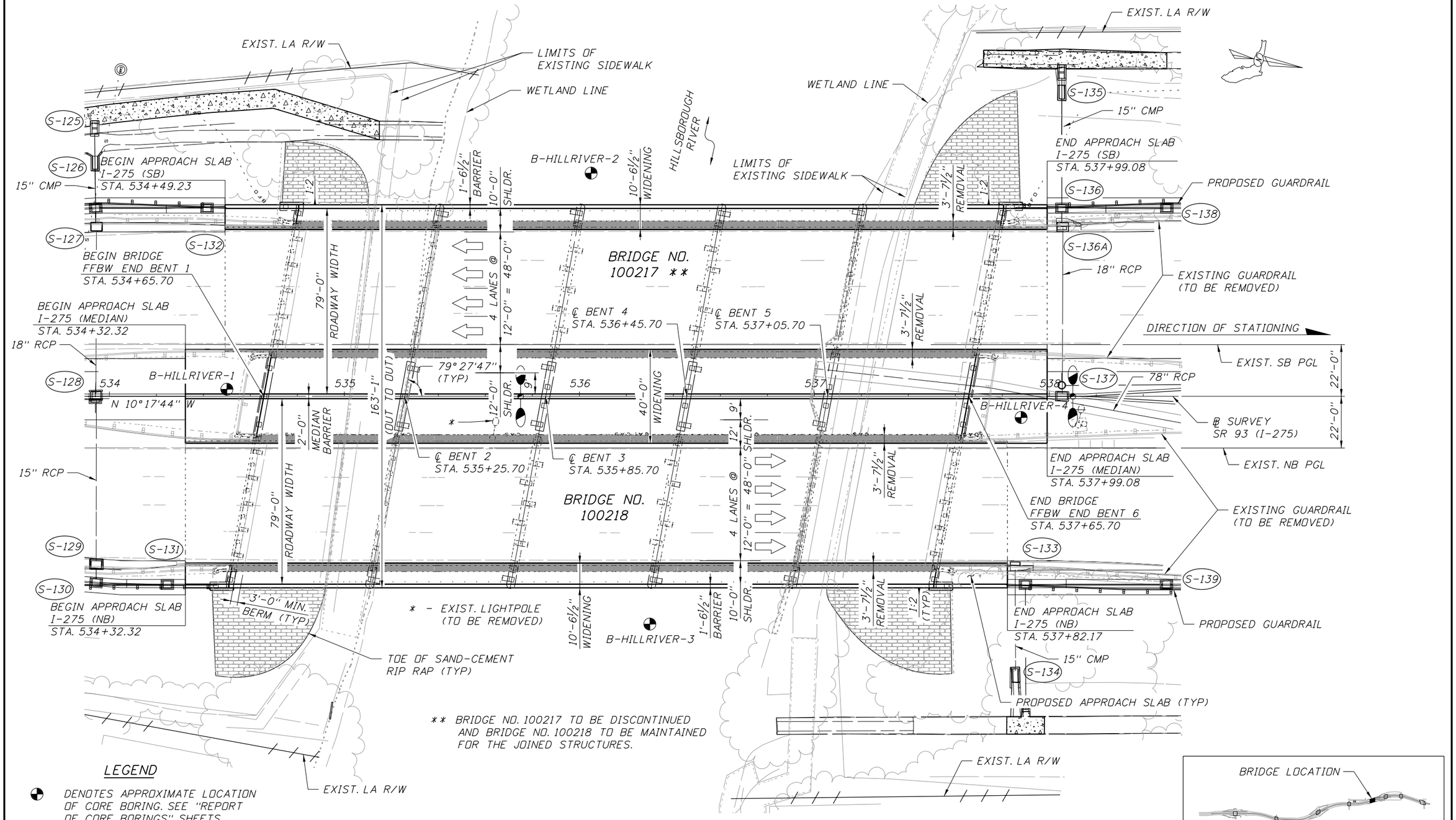
Recommended pond site SMF 15B.

9.0 CONCLUSION

The intent of this report is to identify one or two pond site alternatives per drainage basin. All stormwater management will be maintained within the existing right of way from Basin 1 through Basin 13. Due to right of way constraints, offsite stormwater management facilities will be required for Basin 14 and Basin 15. For Basin 14 and 15, three alternatives were analyzed for each basin. The recommended pond sites for Basin 14 and 15 are SMF 14B and SMF 15B, respectively. The recommend pond sites are based on the right of way cost for each pond site.

It is estimated that the project will impact the 100-year floodplain in Basin 14. The impacts are estimated at 1.00 acre-feet and will be compensated within the existing right of way.

Appendix A:
Existing Bridge Data



PLAN

NOTES:

1. FOR DISPOSITION OF EXISTING UTILITIES, SEE UTILITY ADJUSTMENT SHEETS.

BRIDGE NO. 100218

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kisinger Campo & Associates Corp.
201 N. Franklin Street
Suite 400
Tampa, FL 33602
Florida C.O.A. No.02317
Julian W. Gutierrez, PE No. 48879

DRAWN BY: JBH 10/09
CHECKED BY: ABK 11/09
DESIGNED BY: CEL 12/09
CHECKED BY: KL 12/09

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	258660-2-52-01

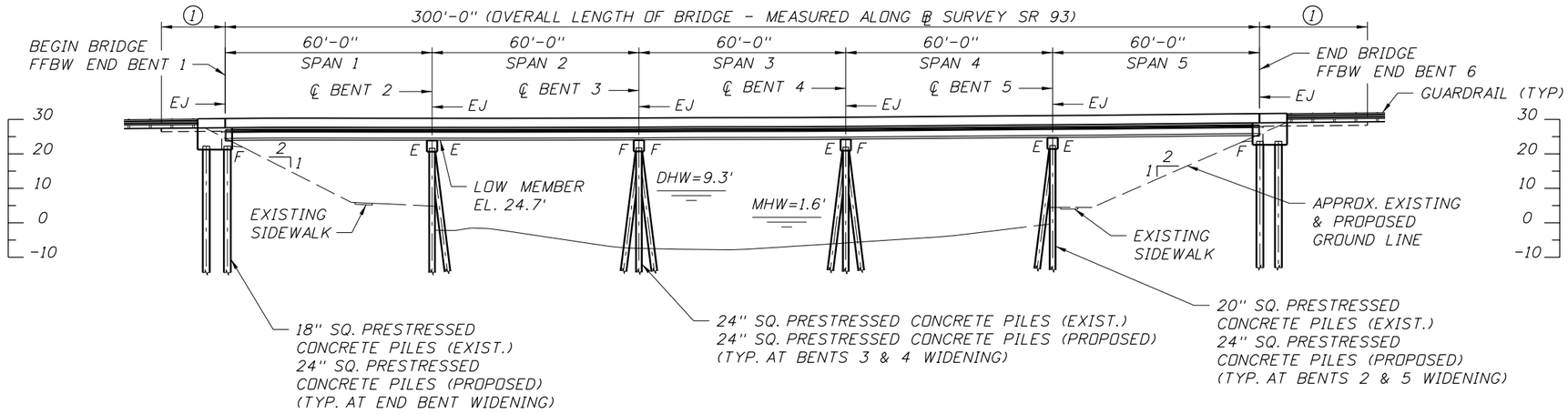
SHEET TITLE: PLAN

REF. DWG. NO.:

PROJECT NAME: I-275 (SR 93) FROM HILLSBOROUGH AVE. TO YUKON ST. NB & SB I-275 (SR 93) OVER HILLSBOROUGH RIVER

SHEET NO.: B5-1

jhartshorn 10/18/2011 7:51:19 AM M:\25866025201\struct\B5-100217_100218\B5PlanElev01.DGN



ELEVATION

TRAFFIC DATA						
ROADWAY	AADT YEAR 2012	AADT YEAR 2032	DESIGN SPEED	K	D	T
SR 93	170,800	204,200	60 MPH	8.44%	57.92%	6.0%

LEGEND

① APPROACH SLAB - LENGTH VARIES (SEE PLANS)

E - EXPANSION BEARING

F - FIXED BEARING

EJ - EXPANSION JOINT

NOTES:

1. FOR VERTICAL PROFILE, SEE SAW-CUT LINE ELEVATIONS ON "FINISH GRADE ELEVATIONS" SHEETS.

BRIDGE NO. 100218

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

Kisinger Campo & Associates Corp.
201 N. Franklin Street
Suite 400
Tampa, FL 33602
Florida C.O.A. No.02317
Julian W. Gutierrez, PE No. 48879

DRAWN BY: JBH 10/09
CHECKED BY: ABK 11/09
DESIGNED BY: CEL 12/09
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	258660-2-52-01

SHEET TITLE: ELEVATION

REF. DWG. NO.:

PROJECT NAME: I-275 (SR 93) FROM HILLSBOROUGH AVE. TO YUKON ST.
NB & SB I-275 (SR 93) OVER HILLSBOROUGH RIVER

SHEET NO.: B5-2

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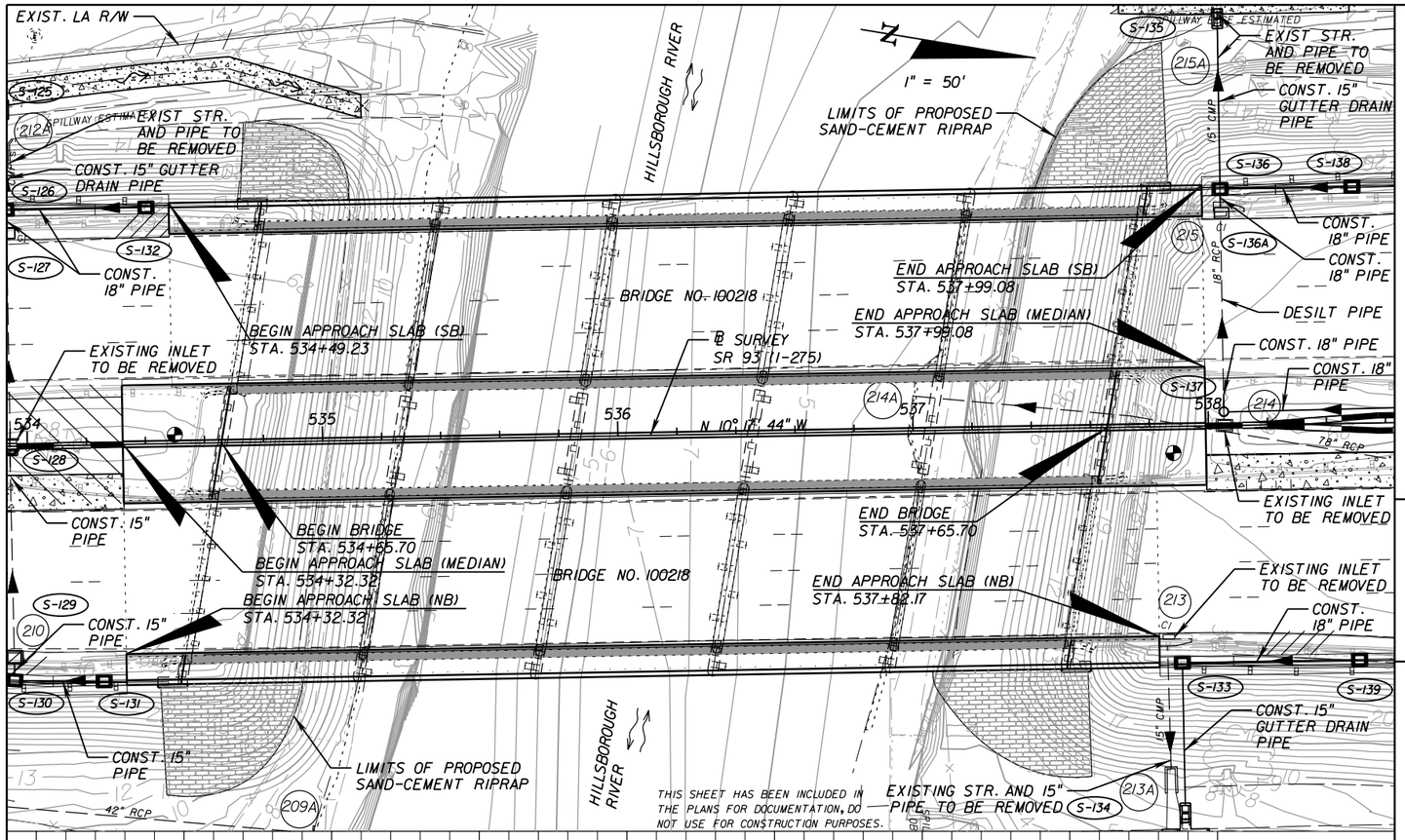
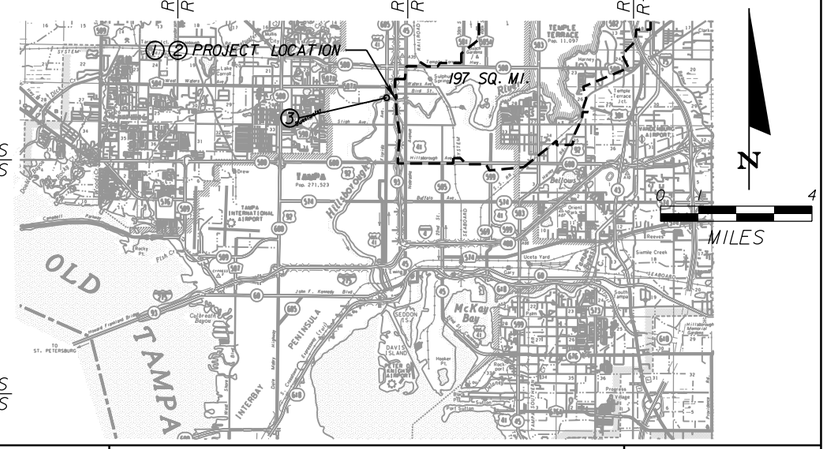




(REFERENCE)	EXISTING STRUCTURES I-275 (1)	I-275 (2)	FLORIDA AVE. (3)	(4)	PROPOSED STRUCTURE
FOUNDATION	20"&24" SQ. CONC. PILE	20"&24" SQ. CONC. PILE	CONC. PIERS ON ROCK		PILE BENT
OVERALL LENGTH	300.0'	300.0'	162.4'		300'-0"
SPAN LENGTH	5 @ 60'-0"	5 @ 60'-0"	40.6'		5 @ 60'-0"
TYPE CONSTRUCTION	CONCRETE	CONCRETE	C-I-P T-BEAMS		CONCRETE
AREA OF OPENING @ D.F.	2085 SQ. FT.	2085 SQ. FT.	3140 SQ. FT.		2085 SQ. FT.
BRIDGE WIDTH	53'-0"	53'-0"	40'-2"		163'-1"
ELEV. LOW MEMBER	24.0' (NB)	24.0' (SB)	13.25'		24.7'

HYDRAULIC DESIGN DATA

NOTE:
The hydraulic data is shown for informational purposes only to indicate the flood discharges and water surface elevations which may be anticipated in any given year. This data was generated using highly variable factors determined by a study of the watershed. Many judgements and assumptions are required to establish these factors. The resultant hydraulic data is sensitive to changes, particularly antecedent conditions, urbanization, channelization and land use. Users of this data are cautioned against the assumption of precision which cannot be obtained.

TERMS:
Design Flood: Utilized to assure a desired level of hydraulic performance.
Base Flood: Has a 1% chance of being exceeded in any given year (100 year frequency)
Overtopping Flood: Causes flow over the highway, over a watershed divide, or thru emergency relief structures.
Greatest Flood: The most severe that can be predicted where overtopping is not practicable.

WATER SURFACE ELEVATIONS: N.H.W. (Non-Tidal) N/A; M.H.W. (Tidal) 1.6' (NGVD); CONTROL (Non-Tidal) N/A; M.L.W. (Tidal) 0.4' (NGVD)

FLOOD DATA:	MAX. EVENT OF RECORD	DESIGN FLOOD	BASE FLOOD	☐ OVERTOPPING or ☒ GREATEST FLOOD
STAGE ELEV. NGVD (ft)	10.4 (1933)	9.3 (A)	11.0 (A)	14.2 (A)
DISCHARGE (cfs)	UNKNOWN	6210 (B)	7780 (B)	8790 (B)
AVERAGE VELOCITY (f/s)	UNKNOWN	3.3 (C)	3.7 (C)	3.9 (C)
EXCEEDANCE PROB. (%)	UNKNOWN	2	1	0.2
FREQUENCY (yr.)	EXCEEDS 50 YR	50	100	500

SCOUR PREDICTIONS FOR PROPOSED STRUCTURE DESCRIBED ABOVE:

PIER INFORMATION NUMBERS	PIER INFORMATION SIZE AND TYPE	TOTAL SCOUR ELEVATION LONG TERM SCOUR ELEV.	WORST CASE < 100 yr. FREQ. (yr.) 100 YR	WORST CASE < 500 yr. FREQ. (yr.) 500 YR
BENTS 3 & 4	24" SQ CONC PILE	-7.7 (D)	-15.2	-15.6

HYDRAULIC RECOMMENDATIONS

1. BEGIN BRIDGE STATION 534+65.70; END BRIDGE STATION 537+65.70; SKEW ANGLE 10° 32' 13"
2. CLEARANCE PROVIDED: NAV: HORIZ. 52' VERT. 23.1' ABOVE EL. 1.6'; DRIFT: HORIZ. 54' VERT. 14.7' ABOVE EL. 9.3'
3. MINIMUM CLEARANCE: NAV: HORIZ. 52' VERT. 6' ABOVE EL. 1.6'; DRIFT: HORIZ. N/A VERT. 2' ABOVE EL. 9.3'
4. ABUTMENTS:

	BEGIN BRIDGE	END BRIDGE
RUBBLE GRADE:	SAND-CEMENT RIPRAP	SAND-CEMENT RIPRAP
SLOPE:	1:2	1:2
BURIED OR NON-BURIED HORIZ. TOE:	BURIED	BURIED
TOE HORIZ. DISTANCE:	1.5'	1.5'
LIMIT OF PROTECTION:	24.0'	24.0'

5. DECK DRAINAGE: 4" SCUPPERS ON 2.5 FT CENTER SPACING FOR SPAN 1, 5.0 FT CENTER SPACING FOR SPANS 2, 3 AND 4

REMARKS:
(A) ELEV. FROM FEMA FIRM MAP (INFLUENCED BY TIDAL SURGES)
(B) FROM FEMA HYDROLOGIC ANALYSIS (RUNOFF INCLUDING FLOWS FROM TAMPA DAM)
(C) FROM BHR, HEC-RAS ANALYSIS; (D) CHANNEL BOTTOM. = -7.7'
ELEVATIONS SHOWN ARE IN NATIONAL GEODETIC VERTICAL DATUM (NGVD 29)

REVISIONS

DATE	DESCRIPTION	DATE	DESCRIPTION

Kisinger Campo & Associates Corp.
201 N. Franklin Street, Suite 400
Tampa, Florida 33602
Florida Certificate of Authorization No. 02317
Engineer of Record: Tara K. M. Spieler, P.E.
P.E. No.: 55333

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 93	HILLSBOROUGH	258660-2-52-01

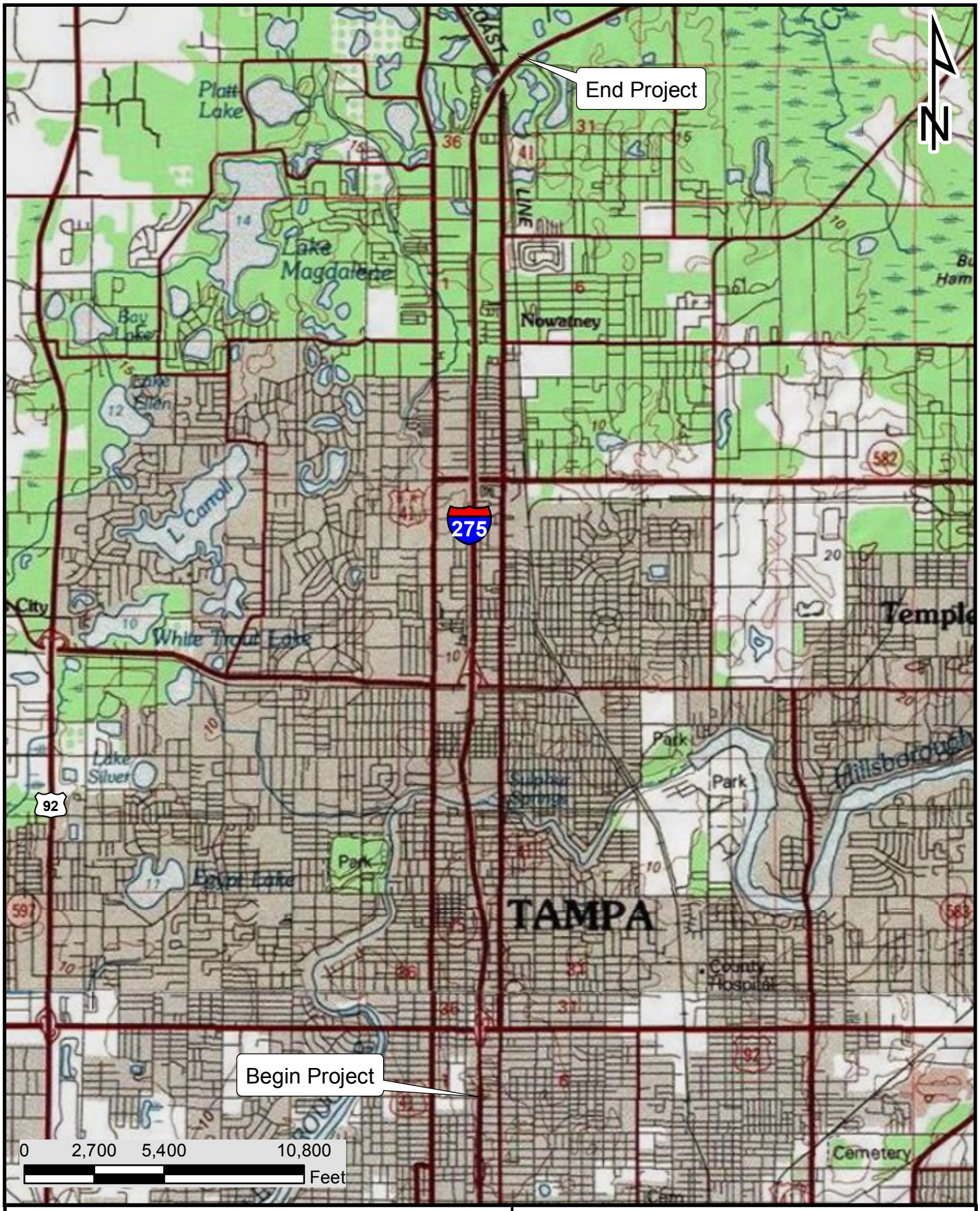
BRIDGE HYDRAULIC RECOMMENDATIONS

SHEET NO. B5-3

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE SIGNED AND SEALED UNDER RULE 61G15-23.003, F.A.C.

dtrew 11/3/2011 5:25:30 PM M:\25866025201\drainage\BRHYRD01.DGN

Appendix B:
Existing Conditions Data Collection

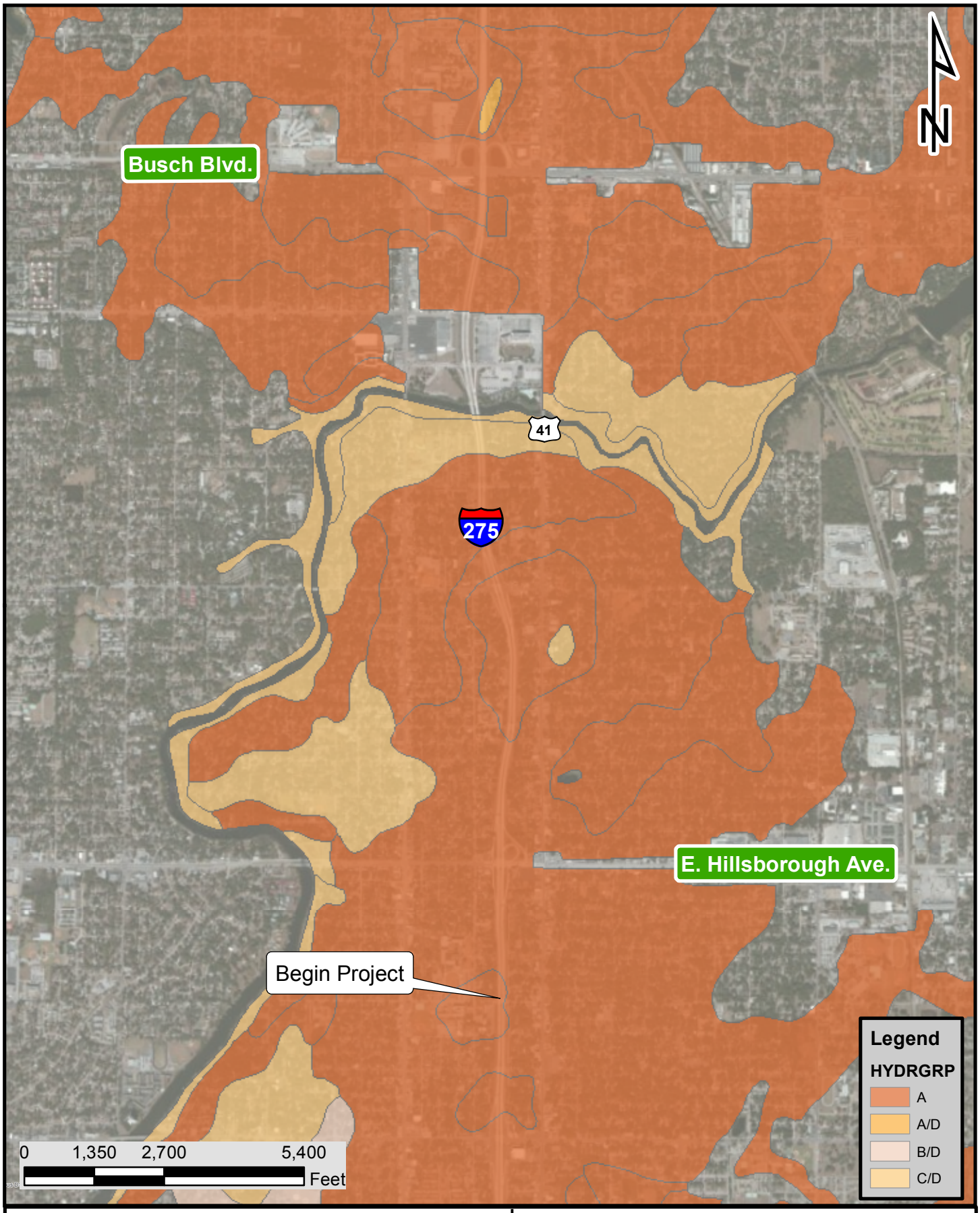


I-275 from North of Martin Luther King Jr. Blvd. to North of Bearss Ave.

FPID: 431821-1
Hillsborough County, Florida

W:\I-275ExpLanesPDE\GIS

USGS QUAD MAP



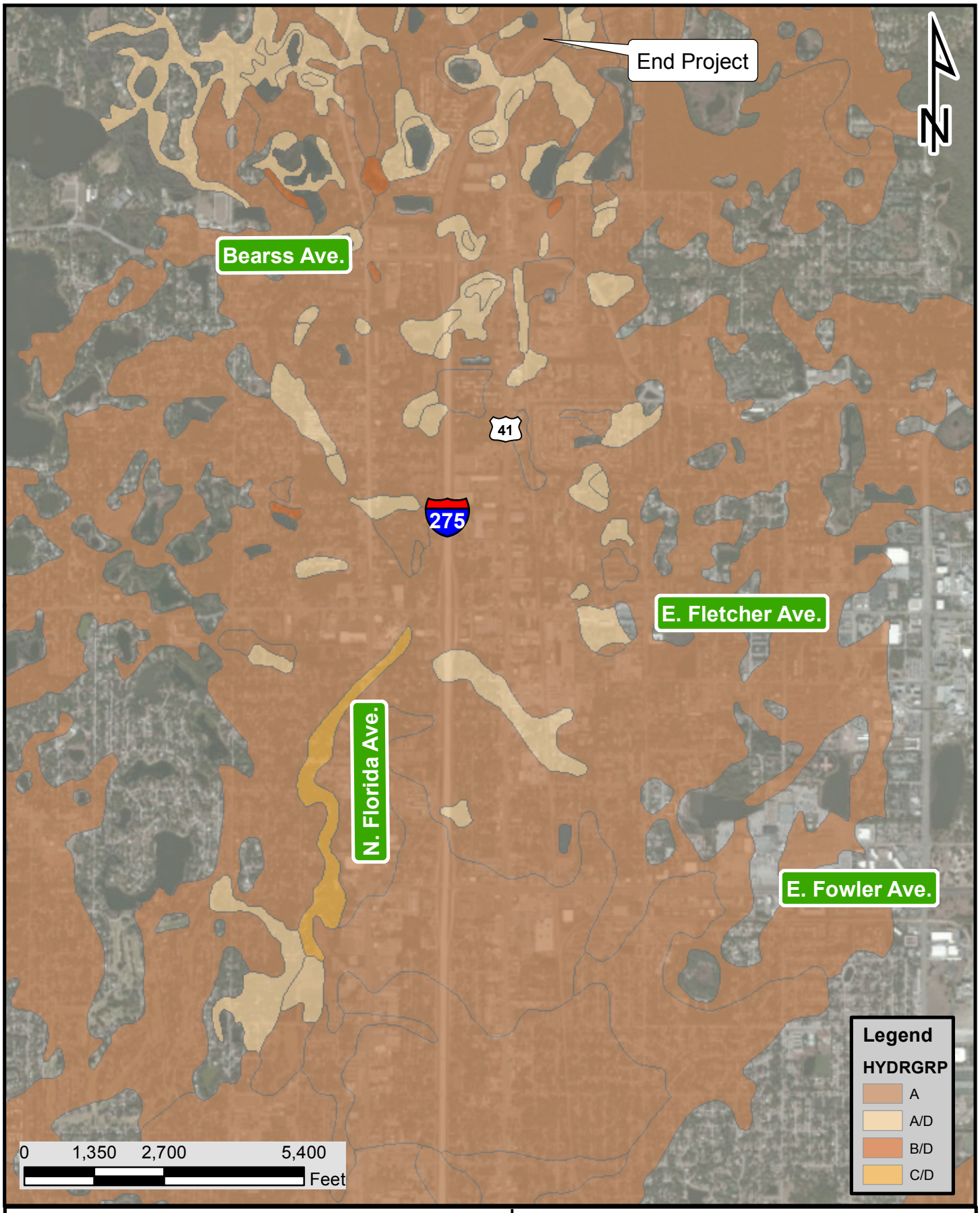
FDOT

I-275 from North of Martin Luther King Jr. Blvd. to North of Bearss Ave.

FPID: 431821-1
Hillsborough County, Florida

W:\I-275ExpLanesPDE\GIS

SOILS MAP (SHEET 1 OF 2)



FDOT

I-275 from North of Martin Luther King Jr. Blvd. to North of Bearss Ave.

FPID: 431821-1
Hillsborough County, Florida

W:\I-275ExpLanesPDE\GIS

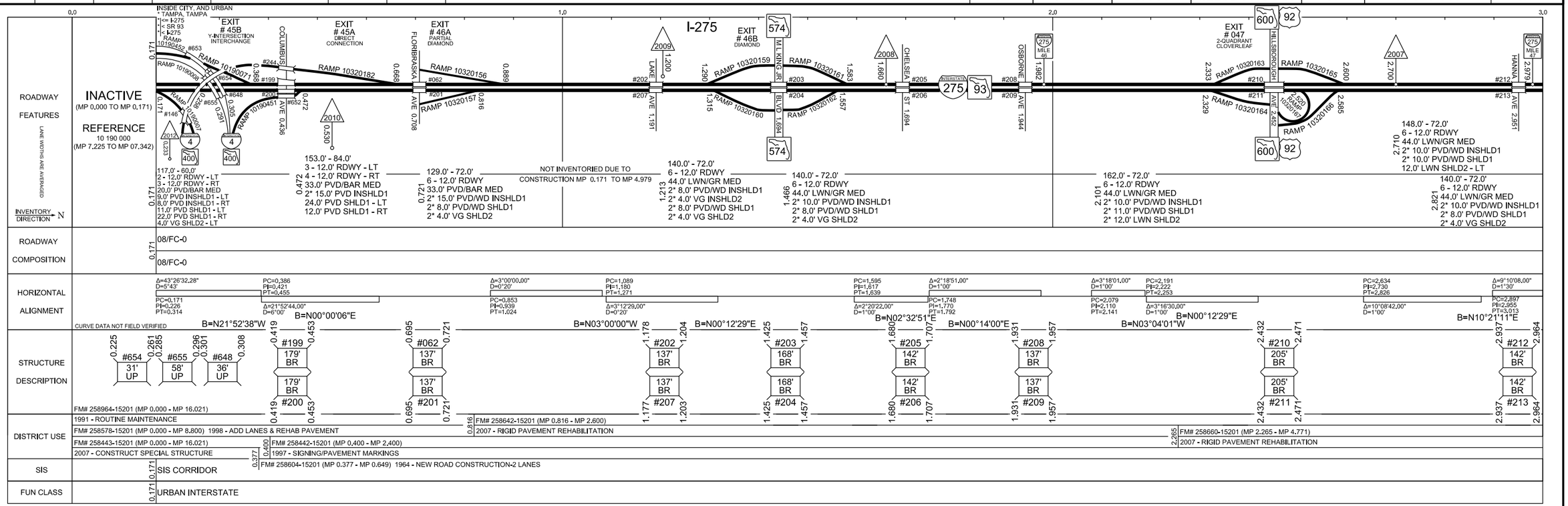
SOILS MAP
(SHEET 2 OF 2)

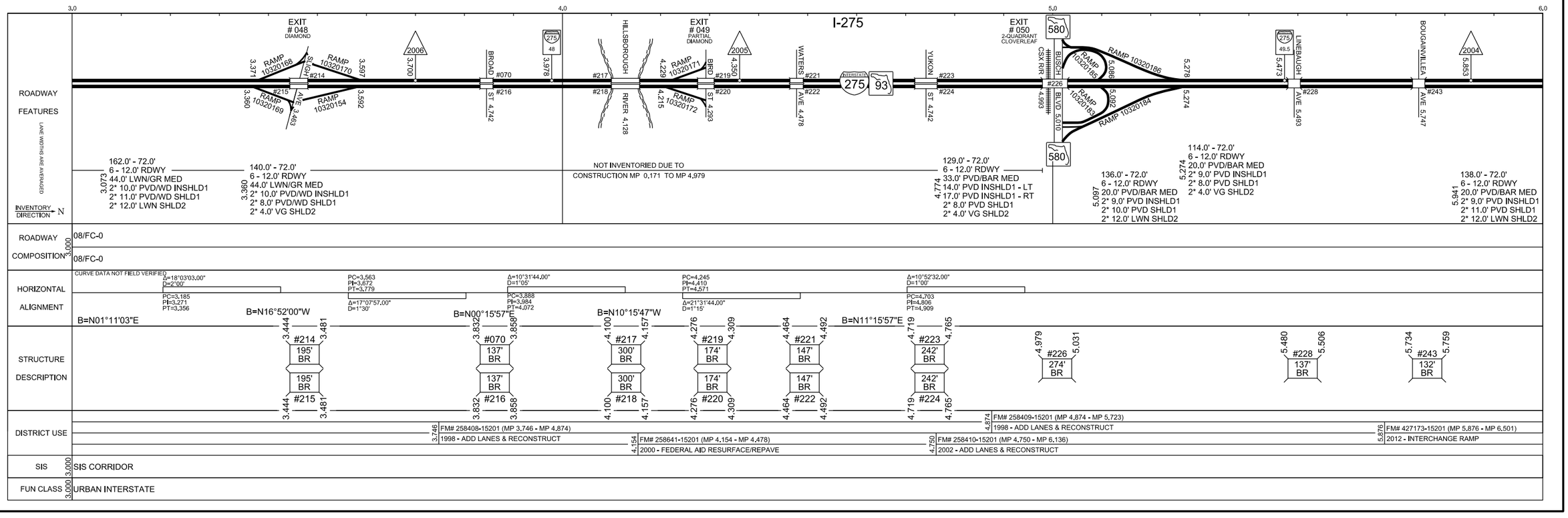
	5 YR INV	SLD REV	INTERIM REVISIONS BMP	EMP	INV	SLD REV
DATE	01 / 25 / 2013	02 / 25 / 2013				
BY	FTE / JW-KA	FTE / KA				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I-275	SR 93	HILLSBOROUGH	07	10 320 000	1 OF 4



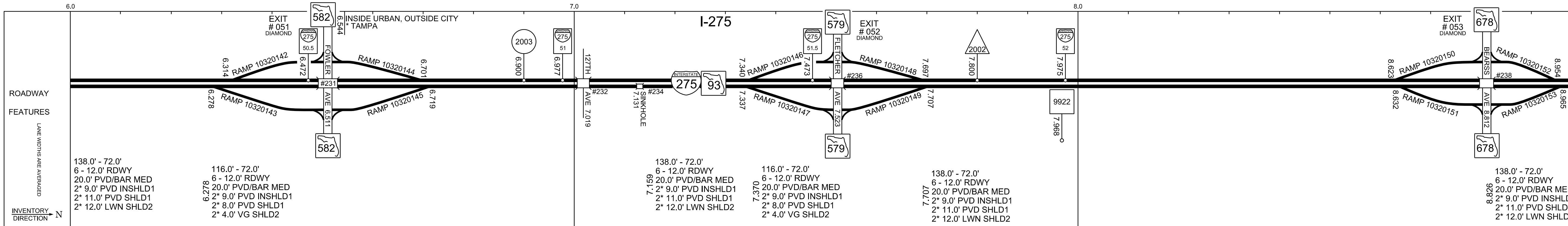


6.0 — 7.0 — 8.0 — 9.0

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

INVENTORY DIRECTION → N



ROADWAY COMPOSITION: 6.000 08/FC-0 | 08/FC-0; 8.607 28/FC-6 | 28/FC-6

HORIZONTAL ALIGNMENT: CURVE DATA NOT FIELD VERIFIED

- PC=6.266, PI=6.362, PT=6.459, Δ=1°42'22.00", D=0°10'
- Δ=1°44'28.00", D=0°10', PC=6.548, PI=6.647, PT=6.746
- Δ=0°31'00.00", D=0°03', PC=7.413, PI=7.511, PT=7.609
- PC=8.901, PI=9.128, PT=9.340, Δ=34°48'24.00", D=1°30'

B=N00°23'43"E — B=N02°06'05"E — B=N00°21'37"E — B=N00°21'15"E — B=N00°09'45"W

STRUCTURE DESCRIPTION:

- 6.492 #231 200' BR 6.530
- 7.006 #232 132' BR 7.031
- 7.124 #234 68' BR 7.137
- 7.510 #236 137' BR 7.536
- 8.797 #238 153' BR 8.826

DISTRICT USE:

- 7.281 FM# 258412-15201 (MP 7.281 - MP 9.450) 2003 - ADD LANES & RECONSTRUCT
- 8.569 FM# 258496-15201 (MP 8.569 - MP 10.633) 1972 - STATE RESURFACE/REPAVE
- 8.802 FM# 407233-75201 (MP 8.802 - MP 15.641) 2012 - ITS FREEWAY MANAGEMENT

SIS: 6.000 SIS CORRIDOR

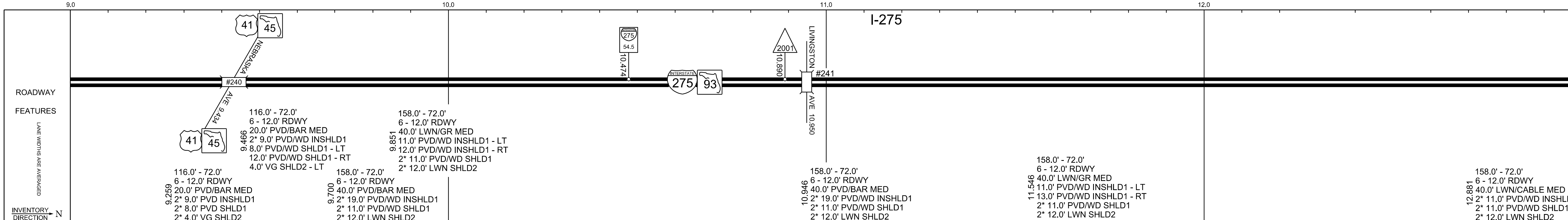
FUN CLASS: 6.000 URBAN INTERSTATE

9.0 — 10.0 — 11.0 — 12.0 — 13.0

ROADWAY FEATURES

LANE WIDTHS ARE AVERAGED

INVENTORY DIRECTION → N



ROADWAY COMPOSITION: 9.000 28/FC-6 | 28/FC-6

HORIZONTAL ALIGNMENT: CURVE DATA NOT FIELD VERIFIED

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- PC=9.526, PI=9.670, PT=9.807, Δ=29°38'31.00", D=2°00'
- Δ=40°01'59.00", D=1°30', PC=10.994, PI=11.257, PT=11.499

B=N34°38'39"E — B=N64°17'10"E — B=N24°15'11"E

STRUCTURE DESCRIPTION:

- 9.402 #240 337' BR 9.466
- 10.946 #241 36' UP 10.953

DISTRICT USE:

- 9.407 FM# 255602-15201 (MP 9.407 - MP 10.407) 2001 - MULTI-LANE RECONSTRUCTION
- 9.460 FM# 403740-15201 (MP 9.460 - MP 13.021) 2003 - RESURFACING
- 9.500 FM# 417465-15201 (MP 9.500 - MP 15.000) 2007 - GUARDRAIL
- 9.859 FM# 258413-15201 (MP 9.859 - MP 12.717) 2012 - ADD LANES & REHAB PAVEMENT
- 11.900 FM# 258655-15201 (MP 11.900 - MP 12.400) 1999 - INTERCHANGE (MAJOR)
- 12.717 FM# 258413-35201 (MP 12.717 - MP 15.733) 2012 - WIDEN/RESURFACE EXISTING LANES

SIS: 9.000 SIS CORRIDOR

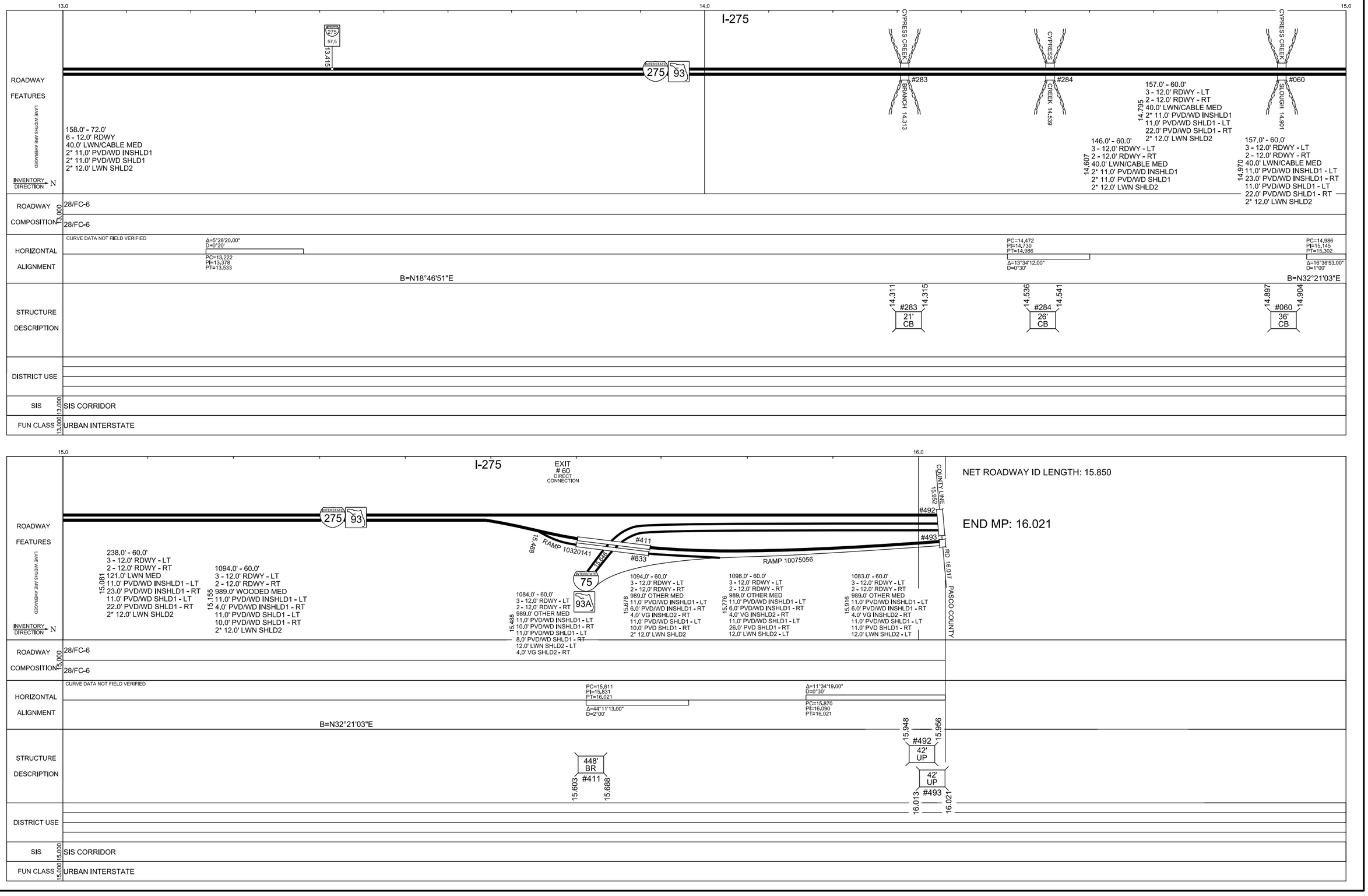
FUN CLASS: 9.000 URBAN INTERSTATE

	5 YR INV	SLD REV	INTERIM REVISIONS BMP	EMP	INV	SLD REV
DATE	01 / 25 / 2013	02 / 25 / 2013				
BY	FTE / JW-KA	FTE / KA				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
02	I-275	SR 93	HILLSBOROUGH	07	10 320 000	3 OF 4



FLOOD INVESTIGATION INVENTORY SHEET

Flood Investigation # 1002042009547

Entry Date: 2/4/2009 11:02:04 AM
Revised Date: 8/13/2010 1:39:47 PM
Completed By: Stephanie Bernard, HDR

SECTION I: LOCATION

County - Hillsborough
State Road - SR 93
Road Description - 2 lane(s), Local Road, Roadside Ditches
Roadway Separation - Undivided
Direction of Travel - Two-Way
Functional System of Road - Rural
Specific Classification of Road - Local Road
Roadway Drainage - Roadside Ditches

Flooding Condition - Off-System

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

Location:
Latitude: 28.05636333333
Longitude: -82.45536666667

Section/Township/Range - 12 / 28S / 18E
Project is Active - No

SECTION II: PROBLEM DESCRIPTION

Date of Original Complaint -
Complainant Name - Amos Castillo
Problem Description - Multiple

Details of the Problem - During recent storm events the roadway floods and floods yards along Central Avenue (SB exit ramp of I-275). Flooding may be due to the elevation differences along the ditch. Occurred several times in 2003. During the storm events in 2003 the roadway floods and as a result floods yards and parts of tile adjacent to a house on Central Avenue near Fowler Avenue.

Frequency of Flooding - Several times per year
Source for Frequency Data - County Maintenance

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

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

History of Problem - From work order 9999-021-09 "Reason: During episodes of heavy rains, water pools along Central Avenue and floods private property owners. Currently, there is no effective means of

draining this water. Therefore the contractor shall construct a swale and install a mitered end setion and 450 mm RCP to channel water to S-222, the existing inlet in this area, and alleviate the flooding problem on Central Avenue."

The contractor was David Nelson Construction Company.

Other Communications

Communication Date	Type	Communication From	Communication To	Communication Attachment Name
1/14/2004	Communication Memo	Megan Arasteh, FDOT Drainage	Bud Nabong, FDOT Maintenance	memo_ central ave.pdf

SECTION III: PROBLEM ANALYSIS

Remedy Efforts

Date	Remedy by	Remedy Effort	Attachment
7/12/2002	Contract	Install or Modify Structure or Pipe	27282434_Work Order.pdf

Current Problem Analysis

Current Problem Analysis:

During recent storm events the roadway floods and ends up flooding a yard adjacent to a house.

Outfall Description: Unknown
Responsible Entity for Maintenance of Outfall: FDOT

Attachments

Attachment	Attachment Type	Attachment Description
27285145_Correspondence.pdf	Other Data	Complaint Inventory sheet, e-mails
27211209_Calculations.pdf	Engineering Calculations	Storm tabs, check slopes
27211299_aerials1.pdf	Aerial Photo	Aerial, SWFWMD contours
272115846_Field Book.pdf	Other Data	Field Book

27212049_Field Book Markups.pdf	Other Data	Field Book containing markups
2729614_summary.pdf	Other Data	Summary sheet
272121311_XS Markups.pdf	Project Plans	Cross Section Markups
27281250_As Builts.pdf	Project Plans	As Builts
2728159_As Builts with Work Order.pdf	Project Plans	As Builts with Work Order added
27281733_final memo.pdf	Other Data	Final memo with recommendations
2728113_SLD.pdf	Other Data	Straight Line Diagram
27281254_crop SWFWMD.pdf	SWFWMD Contour Map	Cropped SWFWMD aerial of flooding area to allow for better clarity
27291013_Original Plans 1999.pdf	Project Plans	Original Plans, 1999 by Parsons Brinckerhoff

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Recommendation: Re-grading and lowering the ditch should somewhat alleviate the water approaching the home during storm events. Recommendations included lowering MES flowline at station 204+56.34, re-grading the ditch to below the inlet grate, and clean the fence area.

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 # 1006172010814

Entry Date: 6/17/2010 7:20:09 AM
Revised Date: 7/16/2010 7:55:35 AM
Completed By: Stephanie Hildreth, HDR

SECTION I: LOCATION

County - Hillsborough
State Road - SR 93
Road Description - 6 lane(s), Arterial Interstate, Multiple
Roadway Separation - Divided w/Non-Traversable Median
Direction of Travel - Two-Way
Functional System of Road - Urban
Specific Classification of Road - Arterial Interstate
Roadway Drainage - Multiple

Flooding Condition - Off-System

Local Road Subject to Flooding - 122nd Avenue
Business Name:
Business/Private Property Address Subject to Flooding -
702 E 122nd Avenue
Tampa , FL 33612

Location:
Latitude: 28.05846
Longitude: -82.454166

Section/Township/Range - 12 / 28S / 18E
Project is Active - Yes

SECTION II: PROBLEM DESCRIPTION

Date of Original Complaint - 7/1/2003
Complainant Name - Ed Browder
Problem Description - Property Flooding

Details of the Problem - Property owner is experiencing flooding in front and back side of his house and the septic tank is not functioning properly due to a high water table.

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

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

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

History of Problem - Frequently recurring flooding problem in this low lying area.

Persons Interviewed

Site Visit Date - 7/1/2003
Site Inspection By - Thomas Gaffney, FDOT Maintenance
Interviewee(s) - Ed Browder, Property Owner
Site Visit Conditions - Not Applicable

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

Site Visit Details - Thomas Gaffney met Mr. Browder on July 1, 2003. Carlos Lopez (FDOT Engineering) met with Mr. Browder on July 28, 2003 and conducted a site review. Mr. Browder indicated the problem was created after the interstate improvements were done in 2002. He indicated the interstate ditch used to be about 4 feet deep and could store the runoff. He also indicated the existing mild swale does not retain the runoff and drains to his site.

Other Communications

Communication Date	Type	Communication From	Communication To	Communication Attachment Name
7/1/2003	Email	Tom Gaffney, FDOT Maintenance	John Powanda, FDOT Drainage	e-mail 1_ bowder.pdf
8/3/2004	Communication Memo	Richard Griffin, FDOT Drainage	Harvey Hunt, FDOT Maintenance	HHuntMemo_ bowder.pdf
7/21/2003	Email	Megan Arasteh, FDOT Drainage	Carlos Lopez, HDR Engineering	correspondence_ bowder.pdf

SECTION III: PROBLEM ANALYSIS

Attachments

Attachment	Attachment Type	Attachment Description
Survey Request7-04.pdf	Other Data	Survey Request Form
Drainage Complaint_ bowder.pdf	Other Data	Drainage Complaint Inventory Sheet
photos_ bowder.pdf	Site Photo	Site photos
cross sections_ bowder.pdf	Project Plans	Ditch Cross Sections
survey_ bowder.pdf	Other Data	Field Survey
final plans_ bowder.pdf	Project Plans	Final plans

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Recommendation:

Area has a long history of flooding, Taliaferro Avenue is a flood prone area. Old FDOT Drainage Maps and SWFWMD aerial maps indicate area is a low-lying area. A summary of our findings is as follows:

Drainage Map (SPN 10320-1460 & 10290-1505) indicates Mr. Browder's residence drains to the east to an existing pond west of Taliaferro Avenue. This pond drains to the south to 120th Avenue, which is in a depression. The HW elevation shown in the map is 35.7 ft. Mr. Browder's back yard elevation is approximately 35.43 ft (from SPN 10320-1466 plans, Sta. 206+00). The maps indicate area is poorly drained, runoff eventually drains to the east to the Nebraska Avenue drainage system.

The Drainage Map (SPN 10320-3466) is consistent with the above map. The construction plans for this project indicate that the I-275 roadside ditch was not filled with the improvements constructed in 2002. The ditch was expanded on the southbound roadside ditch, which is connected by a cross drain (S-233B) at Station 36+50. The low point of the ditch is a Sta. 206+00, which corresponds to Mr. Browder's lot. The ditch has no outfall and sheet flows to the east once it overflows.

Diverting the ditch runoff to the south, to the Fowler Ave. system is not feasible. The existing pipe flow line at this location is above 35.0 ft., therefore no positive drainage will be provided. This storm sewer system would have to be lowered across Fowler Ave. and to the south.

RECOMMENDATIONS:

1. Improvement of the Taliaferro pond/ outfall would improve the flooding conditions. **Contact Hillsborough County, the owner of this system, to perform this work**. Mr. Browder stated that the pond overflows and floods his property front, along 122nd Avenue.
2. **Investigate if the County has plans to improve the drainage of this area**; PBSJ has designed the improvements for an area along Taliaferro Ave. located about eight blocks north of 122nd Ave.
3. **Frequent cleaning of the I-275 ditch by the maintenance forces.**
4. **No solution is recommended within the DOT right-of-way.**

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 # 1003282013398

Entry Date: 3/28/2013 2:23:15 PM
Revised Date: 3/28/2013 2:26:06 PM
Completed By: Richard Griffin, FDOT

SECTION I: LOCATION

County - Hillsborough
State Road - SR 93
Road Description - 8 lane(s), Arterial Interstate, Roadside Ditches
Roadway Separation - Divided w/Non-Traversable Median
Direction of Travel - Two-Way
Functional System of Road - Mixed
Specific Classification of Road - Arterial Interstate
Roadway Drainage - Roadside Ditches

Flooding Condition - Off-System

Local Road Subject to Flooding - 126 th Street
Business Name: NA
Business/Private Property Address Subject to Flooding -
NA
, FL

Location:
Latitude: 28.061365
Longitude: -82.454567

Section/Township/Range - / N / E
Project is Active - Yes

SECTION II: PROBLEM DESCRIPTION

Persons Interviewed

Site Visit Date - 3/27/2013
Site Inspection By - Richard Griffin ,
Interviewee(s) - Local resident last house on the south side ,
Site Visit Conditions - No Standing Water, previous flooding not apparent

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

Site Visit Details - I was asked to meet Walt Williams from Hillsborough County at the end of 126th where it meets the noise wall on the east side of I-275 to look at a local roadway flooding issue.

I talked to the person who lives in the last house on the south side of 126th. When questioned this man told me that he has seen the area hold water since he had lived there; approximately 10 years. He stated that the water fills the roadway area and then the water seeps into the ground once the rain stops. There is

no known flooding of the structures. When promted about the effects of the wall on the flooding he stated that it seems to have added to the problem.

Walt Williams provided no additional information.

SECTION III: PROBLEM ANALYSIS

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Recommendation: I told Mr. Williams that this was an historical problem but that we would look at any mitigation measures that could help the situation. I recomended that the County survey the area to get a better indication of the existing conditions; Mr. Williams agreed that they would survey. Nothing further will be done until we hear back from the County.

Recommendation Date: 3/28/2013

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)**	1
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)**	1
Ranking of the nuisance factor to the public and FDOT. **(Weight Factor = 3)**	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)**	1
Ranking of the costs to cure the problem, if any. **(Weight Factor = 5)**	1
Total Score	**30**

PRIVATE PROPERTY FLOODING MATRIX

Ranking of the potential financial impacts versus the flooding frequency that impacts the private property. **(Weight Factor = 10)**	1
Ranking of the hazard level versus the flooding frequency that	

impacts the private property. **(Weight Factor = 10)**	1
Ranking of the nuisance factor to the private property as well as FDOT. **(Weight Factor = 5)**	5
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)**	1
Total Score	**60**

FLOOD INVESTIGATION INVENTORY SHEET

Flood Investigation # 1007022010774

Entry Date: 7/2/2010 1:10:46 PM
Revised Date: 7/16/2010 8:39:48 AM
Completed By: Stephanie Hildreth, HDR

SECTION I: LOCATION

County - Hillsborough
State Road - SR 93
Road Description - 6 lane(s), Arterial Interstate, Multiple
Roadway Separation - Divided w/Non-Traversable Median
Direction of Travel - Two-Way
Functional System of Road - Urban
Specific Classification of Road - Arterial Interstate
Roadway Drainage - Multiple

Flooding Condition - Off-System

Local Road Subject to Flooding - 127th Avenue
Business Name:
Business/Private Property Address Subject to Flooding -

Location:
Latitude: 28.061969
Longitude: -82.454716

Section/Township/Range - 12 / 28S / 18E
Project is Active - Yes

SECTION II: PROBLEM DESCRIPTION

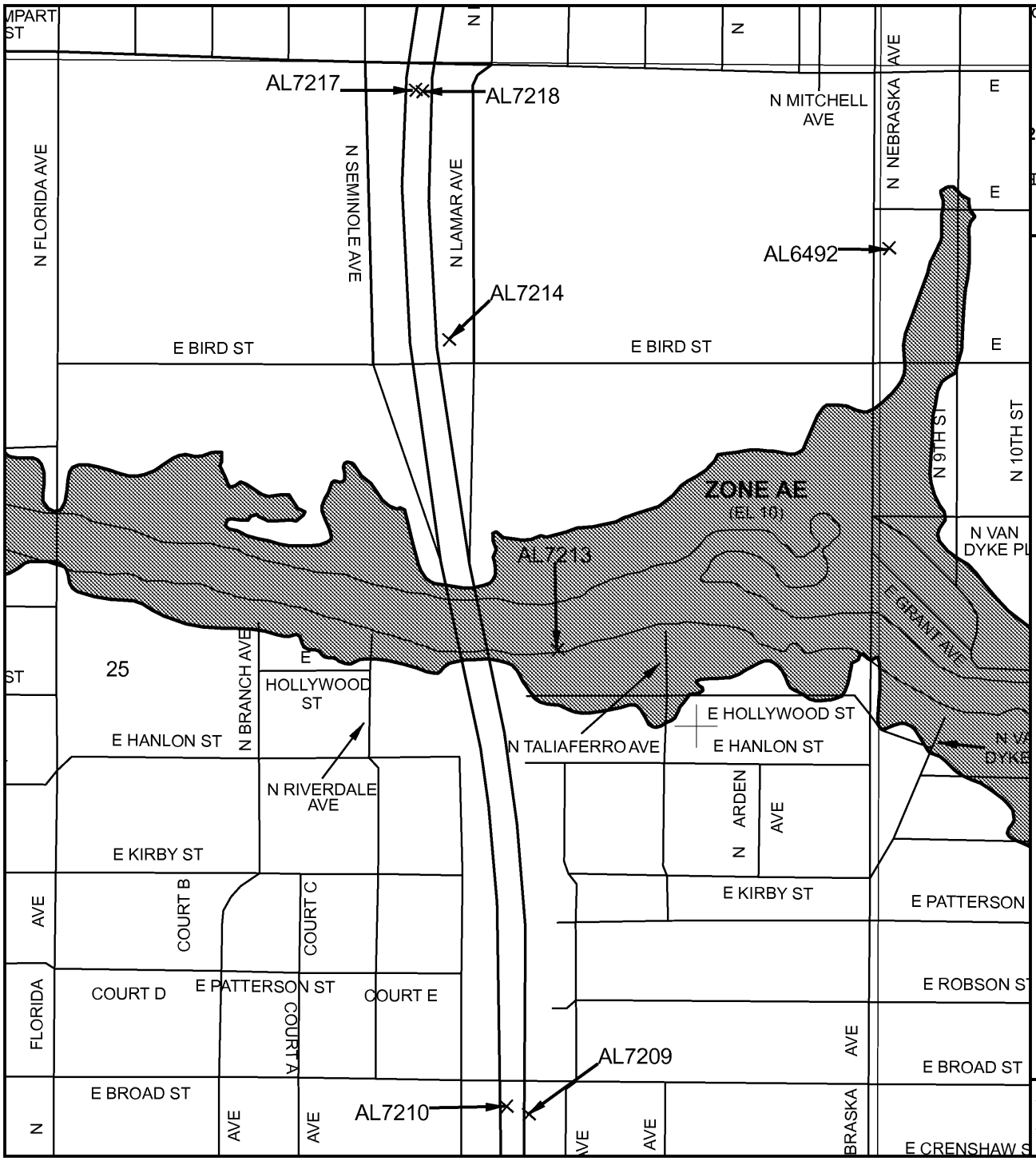
SECTION III: PROBLEM ANALYSIS

Attachments

Attachment	Attachment Type	Attachment Description
map_ 127th.pdf	Site Map	Location map
Meeting_ 127th.pdf	Other Data	Meeting Attendance List and Site photos

SECTION IV: CONCLUSIONS AND RECOMMENDATIONS

Appendix C:
FEMA Maps



onal Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0214H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 214 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

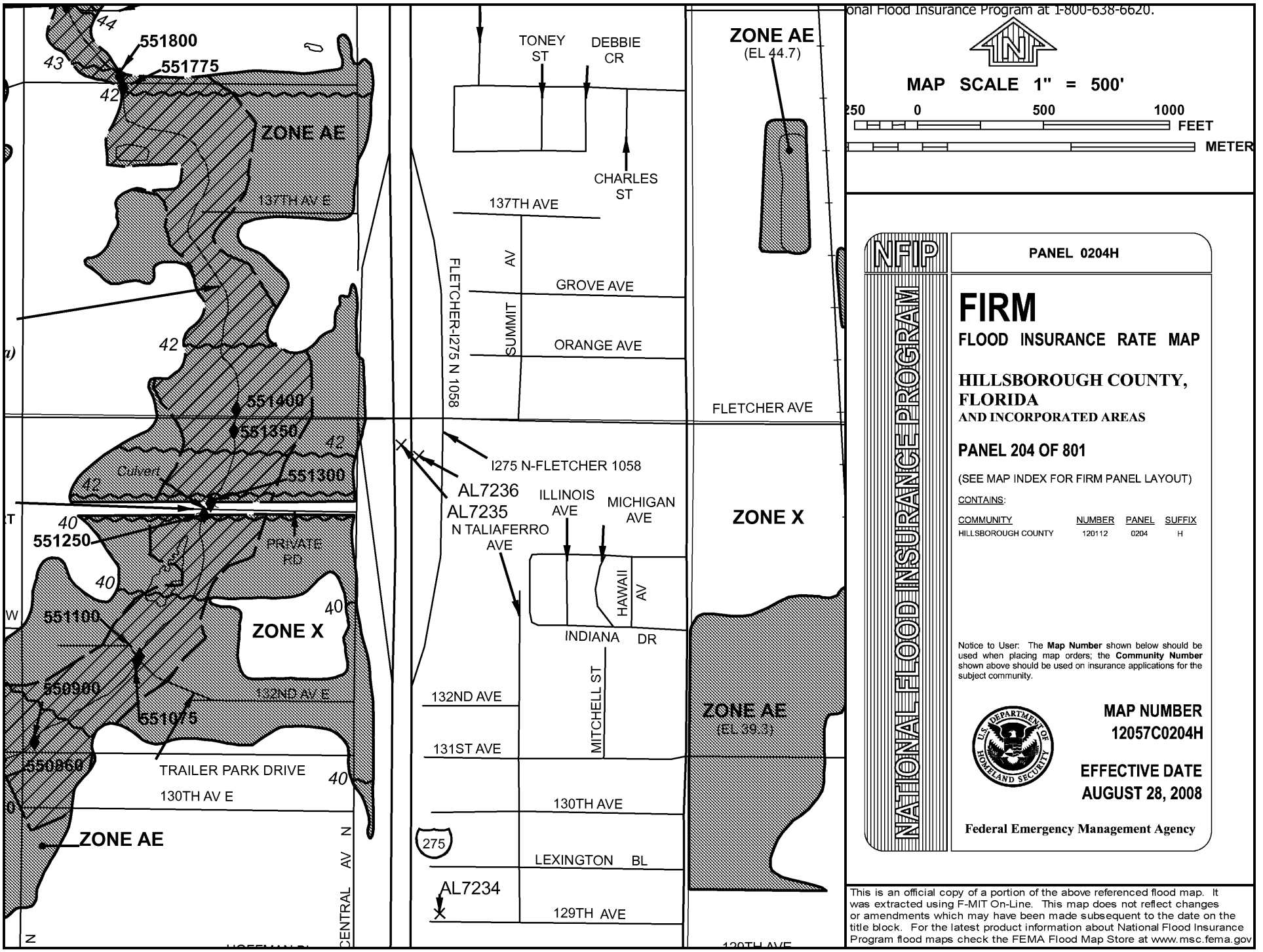
COMMUNITY	NUMBER	PANEL	SUFFIX
TAMPA, CITY OF	120114	0214	H

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

MAP NUMBER
12057C0214H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency



onal Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

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FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0204H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 204 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

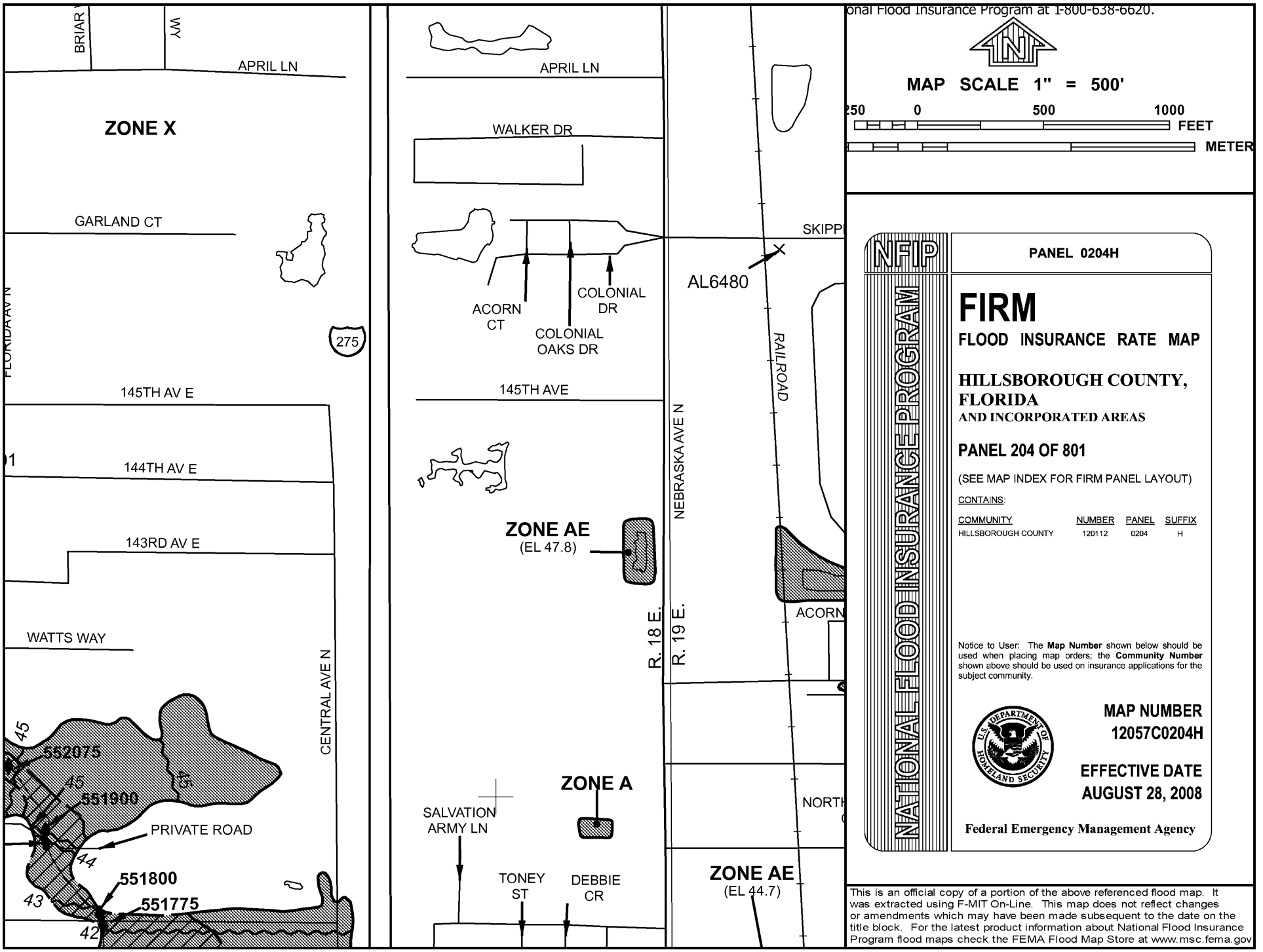
COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0204	H

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

MAP NUMBER
12057C0204H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency


BRIAR
WY
APRIL LN
ZONE X
GARLAND CT
FLORIDA AV N
275
145TH AV E
144TH AV E
143RD AV E
WATTS WAY
CENTRAL AVE N
45
552075
45
551900
PRIVATE ROAD
44
551800
43
551775
42
APRIL LN
WALKER DR
ACORN CT
COLONIAL DR
COLONIAL OAKS DR
145TH AVE
ZONE AE
(EL 47.8)
NEBRASKA AVE N
R. 18 E.
R. 19 E.
SALVATION ARMY LN
ZONE A
TONEY ST
DEBBIE CR
ZONE AE
(EL 44.7)
AL6480
RAILROAD
ACORN
NORTH
onal Flood Insurance Program at 1-800-638-6620.
MAP SCALE 1" = 500'
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FEET
METER
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0204H
FIRM
FLOOD INSURANCE RATE MAP
HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS
PANEL 204 OF 801
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
HILLSBOROUGH COUNTY 120112 0204 H
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
12057C0204H
EFFECTIVE DATE
AUGUST 28, 2008
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

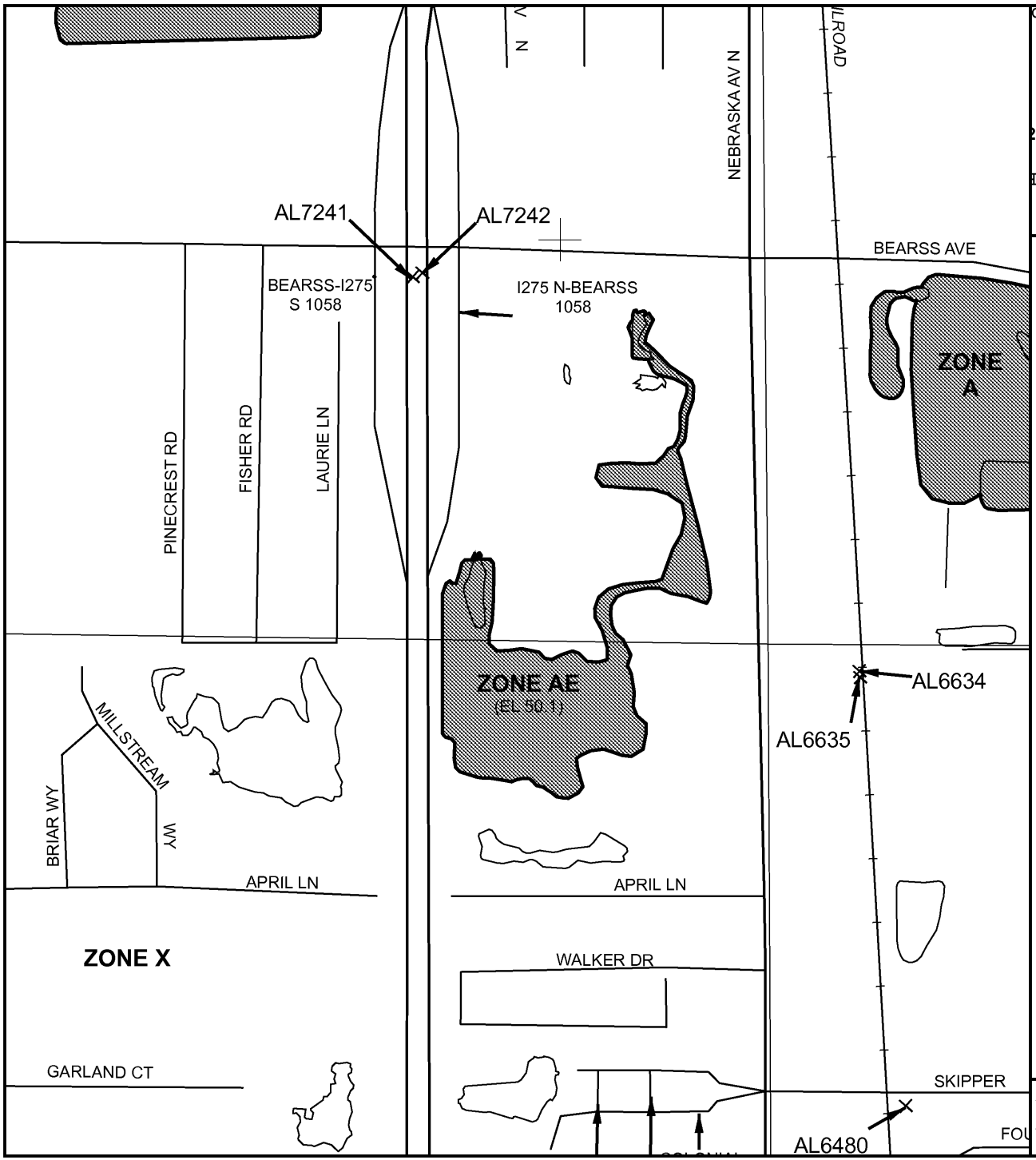
onal Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000

FEET

METER



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0204H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 204 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0204	H

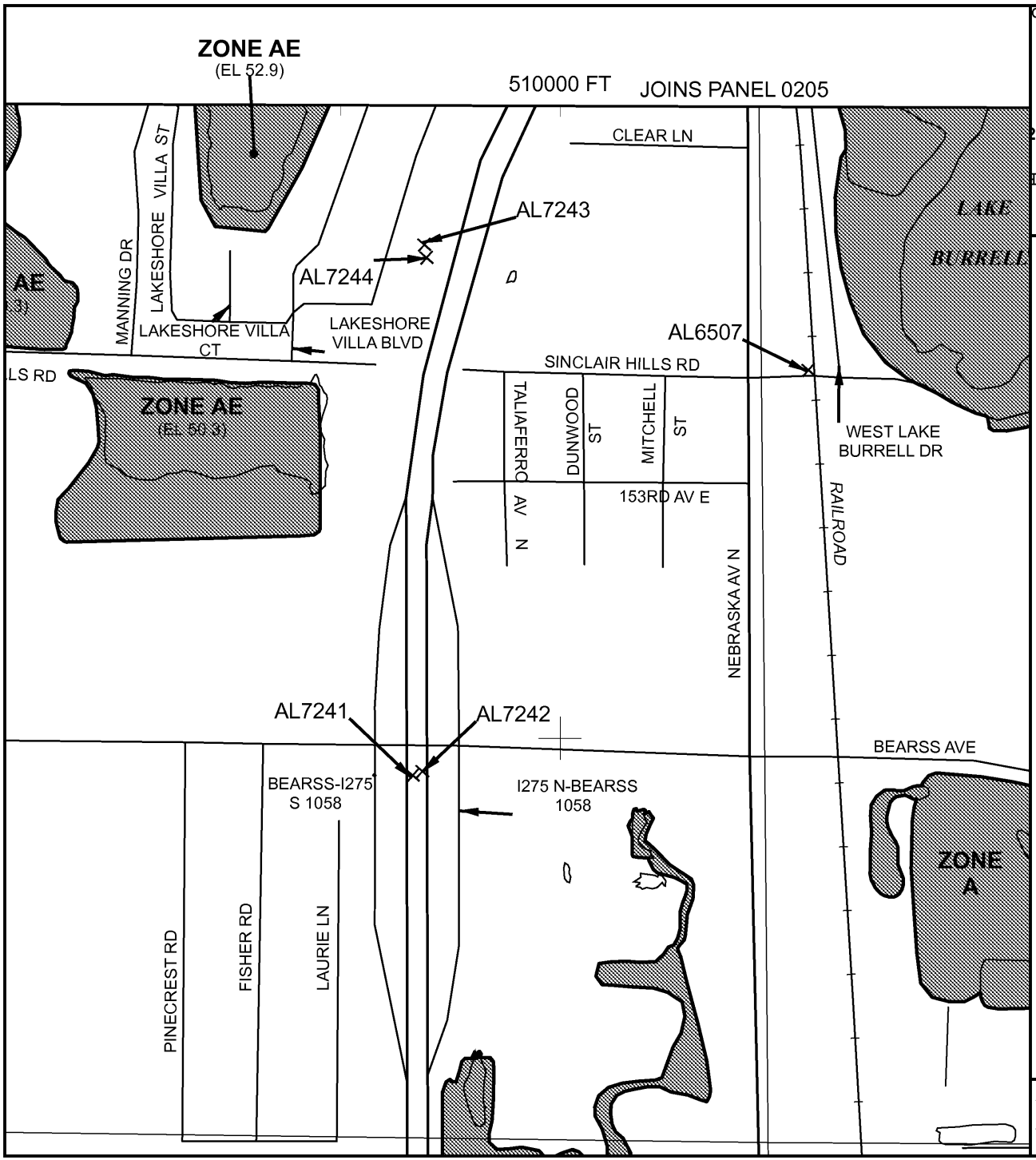
Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12057C0204H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

onal Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'

250 0 500 1000

FEET

METER

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0204H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA

AND INCORPORATED AREAS

PANEL 204 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0204	H

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

MAP NUMBER
12057C0204H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

Appendix D:
SWFWMD Pre-Application 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.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES

FILE NUMBER:

PA 402440

Date:	7/21/2015
Time:	10:00
Project Name:	FDOT I275 Express Lanes Project Development & Environmental Study
Attendees:	Richard Alt, Al Gagne, Tom Anderson - Parsons Brinckerhoff andersont@pbworld.com Virginia Creighton, John Littlefield

County:	Hillsborough	**Sec/Twp/Rge:**	1/29/18 – 36/27/18
Total Land Acreage:	ROW	**Project Acreage:**	ROW

Prior On-Site/Off-Site Permit Activity:

- Existing interstate

Project Overview:

- Construct one lane each direction for express lane project with dynamic tolling
- From Hillsborough to Sligh – 2 basins, south basin will treat all to compensate for north basin
- From Busch to Bearss – widen 12 feet to outsides on both sides
- Will provide floodplain comp for Curiosity Creek area
- Reconstruct Bearss interchange to meet FDOT clearance standards

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.
- 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 located in a county which is listed as a coastal county under the Coastal Zone Management Act (CZM) and the project has wetland impacts, it will require a noticing period once the permit application is deemed complete. Wetland and/or surface waters impacts less than 1 acre in size will require a 10 day noticing period, prior to the issuance of the permit. Wetland and/or surface water impacts greater than 1 acre in size will require a 30 day noticing period, prior to the issuance of the permit. Permits could be issued as early as the 11th or 31st day, but staffs' schedule and workload will determine the actual issuance date.

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 – 1523 not impaired, 1443H and others
- Possibly discharging to impaired waters.
- Discharge to one volume sensitive basin area – Curiosity Creek.

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.
- Demonstrate that project 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.

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)

- Provide water quality treatment for required project area per Section 4.8 Applicant's Handbook Volume II.
- 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.
- 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 FDOT.
- 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.
- < 640 acres of project area and less than 50 acres of wetland or surface water impacts - $3,105.75

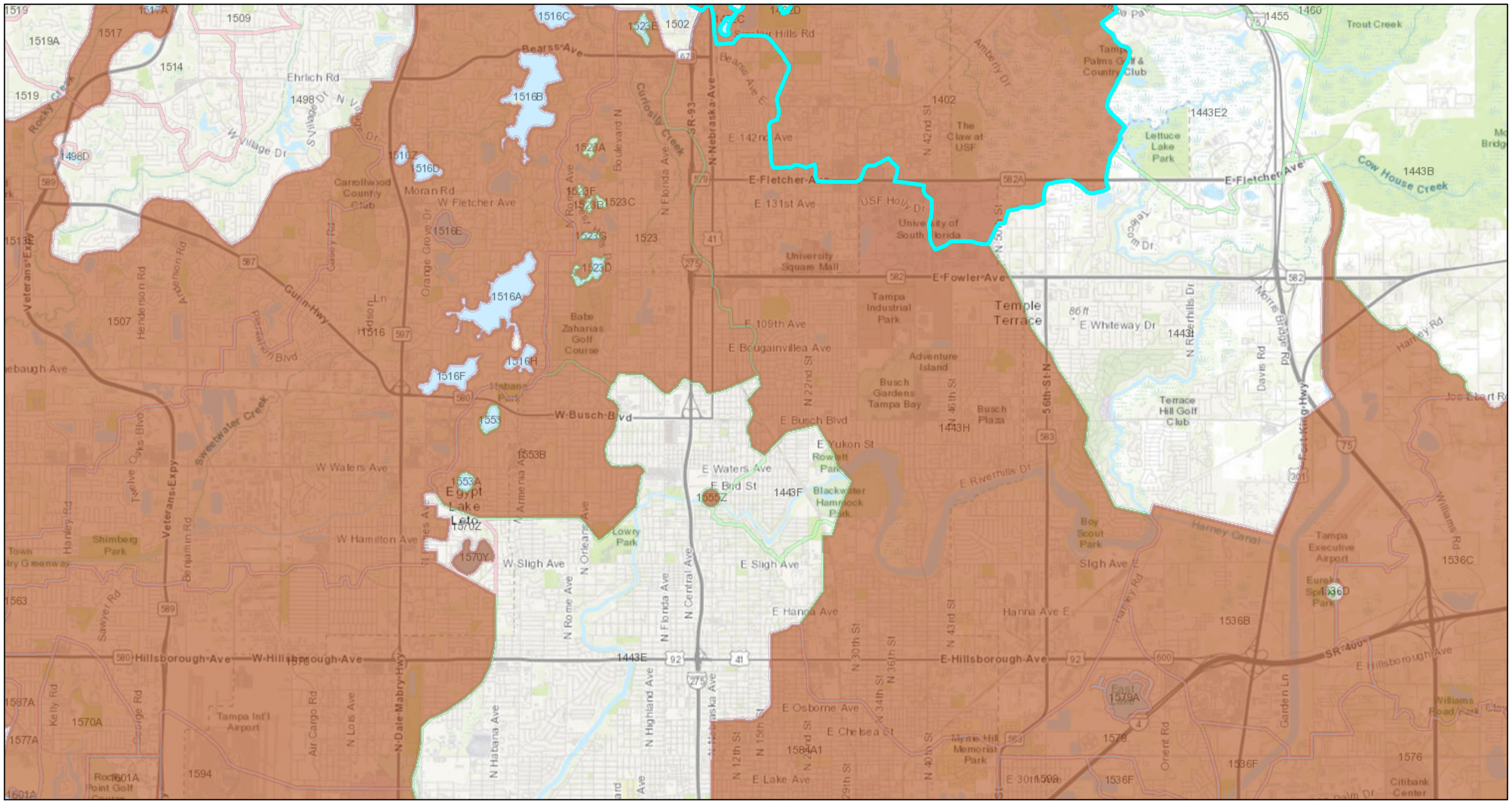
Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

- 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(10), 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(12), 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(12) – "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 50.041and 50.051, F.S., before the application will be considered complete and the applicable timeframe for taking agency action on the application will commence."

Appendix E:
FDEP WBID Map & Impaired List

Verified List WBIDs and TMDLs Map



November 19, 2018

Waterbody IDs (WBIDs)

- Group 1
- Group 2
- Group 3
- Group 4
- Group 5
- Verified List WBIDs

FDEP, DEAR, Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User Community, FDEP,DEAR

Map created by Map Direct, powered by ESRI.

Cycle	Group	OGC Case Number	Group Name	Planning Unit	County (-ies)	WBID	Water Segment Name	Water-body Type	Water-body Class[1]	1998 303(d) Parameters of Concern	Parameters Assessed Using the Impaired Waters Rule (IWR)	Dissolved Oxygen/Biology Pollutant of Concern	Concentration of Criterion or Threshold Not Met	Priority for TMDL Development[3]	Projected Year For TMDL Development[3]	Verified Period Assessment Data[8]	Comments[7,8]
2	2	09-2293	Tampa Bay Tributaries	Hillsborough River	Hillsborough, Pasco	1402	Cypress Creek	Stream	3F	Coliforms	Fecal Coliform		≤ 400 Counts / 100 mL	Low		11/64	Delisted from the 1998 303(d) list in Cycle 1, re-listed in Cycle 2.
3	2	15-0826	Tampa Bay Tributaries	Hillsborough River	Hillsborough	1443H	Hillsborough Reservoir	Lake	1		Nutrients (Total Phosphorus)		Chl-a AGM ≤ 20 µg/L, TP AGM ≤ 0.49 mg/L; If Chl-a has Insufficient or No Data to calculate AGM or if Chl-a AGM > 20 µg/L, TP AGM ≤ 0.05 mg/L	Medium		Annual Geometric Mean(s) 2007 (0.09 mg/L) 2008 (0.09 mg/L) 2009 (0.09 mg/L) 2010 (0.13 mg/L) 2011 (0.13 mg/L)	This waterbody is impaired for this parameter. The annual geometric means exceeded the nutrient threshold more than once in a three year period. This parameter is being added to the 303(d) List. WBID 1443H was previously assessed as a part of retired WBID 1443E1 as impaired for Nutrients (TSI) and is retaining the impairment status.
3	2	15-0847	Tampa Bay Tributaries	Hillsborough River	Hillsborough	1523	Curiosity Creek	Stream	3F		Fecal Coliform		≤ 400 Counts / 100 mL	Low		25/28	This waterbody is impaired for this parameter based on the number of exceedances for the sample size and is being added to the 303(d) List.

[1] Florida's waterbody classifications are defined as:
1 - Potable water supplies
2 - Shellfish propagation or harvesting
3F - Recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife in fresh water
3M - Recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife in marine water
4 - Agricultural water supplies
5 - Navigation, utility, and industrial use

[2] n is equal to the number of samples. When samples are collected at the same location less than 4 days apart, the median of those results represents a single sample for the purpose of determining n.

[3] Where a parameter was identified as impaired under the IWR, a priority of "medium" was assigned. Exceptions are waters where the impairment poses a threat to potable water or human health, which have been assigned a "high" priority, and fecal coliform impairments, which have been assigned a "low" priority. All other listings are prioritized based on the following: it is our intent that listings with a "High" priority be addressed within the next 5 years, listings with a "Medium" priority be addressed within 5-10 years as resources allow, and listings with a "Low" priority be addressed within the next 10 years.

[7] **PP** - Planning Period (10 year period; beginning and ending date vary by group/cycle combination); Where data are presented as x/y, x represents the number of exceedances and y represents the total number of samples.

[8] **VP** - Verified Period (7.5 year period; beginning and ending date vary by group/cycle combination); Where data are presented as x/y, x represents the number of exceedances and y represents the total number of samples. A statewide TMDL for mercury, that will address this waterbody, is scheduled to be completed in 2012.

N/A = Not Applicable, does not apply, or was not assessed in the previous cycle (i.e. it's a new WBID, waterbody type change, etc.).

^ Beach advisories are based on FL Dept of Health Enterococcus criterion of >103 CFU/100mL.

Appendix F:
Pond Sizing, 100-Year Floodplain Calculations, and Bridge Cost Estimate

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 1	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 1

COMPUTED BASIN AREA (Ac) 1.46

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space	A	49	1.11	54.39
Sub-total for Pervious Land Uses			1.11	54.39
Swale				
Open Space	A	49	0.35	17.15
Sub-total for Swale Land Uses			0.35	17.15
		TOTAL	1.46	71.54

COMPOSITE CN **49.0**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	10.41	1.58	0.19
25 yr / 24 hr	SWFWMD	8.00	10.41	2.15	0.26

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	10.41

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	2.15

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.26

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 1

COMPUTED BASIN AREA (Ac)	1.46

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	0.98	96.04
Sub-total for Impervious Land Uses			0.98	96.04
Pervious				
Open Space	A	49	0.13	6.37
Sub-total for Pervious Land Uses			0.13	6.37
Swale				
Open Space (Swale)	A	49	0.35	17.15
Sub-total for Swale Land Uses			0.35	17.15
		TOTAL	1.46	119.56

COMPOSITE CN	**81.9**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	2.21	4.90	0.60
25 yr / 24 hr	SWFWMD	8.00	2.21	5.85	0.71

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	2.21

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	5.85

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.71

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	4.75	44.0	39.25
		Estimated SHWT	39.25

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.46	AREA (AC):	1.46
CN:	49.0	CN:	81.9
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	0.98
PERVIOUS AREA (AC):	1.46	PERVIOUS AREA (AC):	0.48
		NEW IMPERVIOUS AREA (AC):	0.98

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.19	0.60	**0.40**
SWFWMD	25 yr / 24 hr	0.26	0.71	**0.45**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.08

VI ***SWALE VOLUME CALCULATIONS***

Swale 1

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	44.00	0.23	0.00
Weir Crest Elevation	44.32	0.24	0.08
Freeboard Elevation	46.00	0.31	0.54
Top of Bank Elevation	47.00	0.35	0.87
Top of Berm	47.01	0.45	0.87

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.08

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	0.46

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	46.9 Ft	Station/Location: Edge of northbound mainline at station 805+50 (Rt).
1.0' of Clearance =	45.9 Ft	
Distance from EOP to Pond =	243 Ft	
Hydraulic Grade Line (HGL) at EOP =	.19 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	45.71 Ft	
10 year Pond Stage =	45.07 Ft	**HGL Below EOP**

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 1	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 1

COMPUTED BASIN AREA (Ac) 1.51

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space	A	49	1.16	56.84
Sub-total for Pervious Land Uses			1.16	56.84
Swale				
Open Space	A	49	0.35	17.15
Sub-total for Swale Land Uses			0.35	17.15
		TOTAL	1.51	73.99

COMPOSITE CN **49.0**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	10.41	1.58	0.20
25 yr / 24 hr	SWFWMD	8.00	10.41	2.15	0.27

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	10.41

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	2.15

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.27

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 1

COMPUTED BASIN AREA (Ac)	1.51

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	1.04	101.92
Sub-total for Impervious Land Uses			1.04	101.92
Pervious				
Open Space	A	49	0.12	5.88
Sub-total for Pervious Land Uses			0.12	5.88
Swale				
Open Space (Swale)	A	49	0.35	17.15
Sub-total for Swale Land Uses			0.35	17.15
		TOTAL	1.51	124.95

COMPOSITE CN	**82.7**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	2.08	5.00	0.63
25 yr / 24 hr	SWFWMD	8.00	2.08	5.95	0.75

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	2.08

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	5.95

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.75

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	4.75	43.0	38.25
		Estimated SHWT	38.25

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.51	AREA (AC):	1.51
CN:	49.0	CN:	82.7
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	1.04
PERVIOUS AREA (AC):	1.51	PERVIOUS AREA (AC):	0.47
		NEW IMPERVIOUS AREA (AC):	1.04

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.20	0.63	**0.43**
SWFWMD	25 yr / 24 hr	0.27	0.75	**0.48**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.09

VI ***SWALE VOLUME CALCULATIONS***

Swale 1A

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	44.00	0.25	0.00
Weir Crest Elevation	44.34	0.26	0.09
Freeboard Elevation	46.00	0.32	0.57
Top of Bank Elevation	47.00	0.35	0.90
Top of Berm	47.01	0.46	0.90

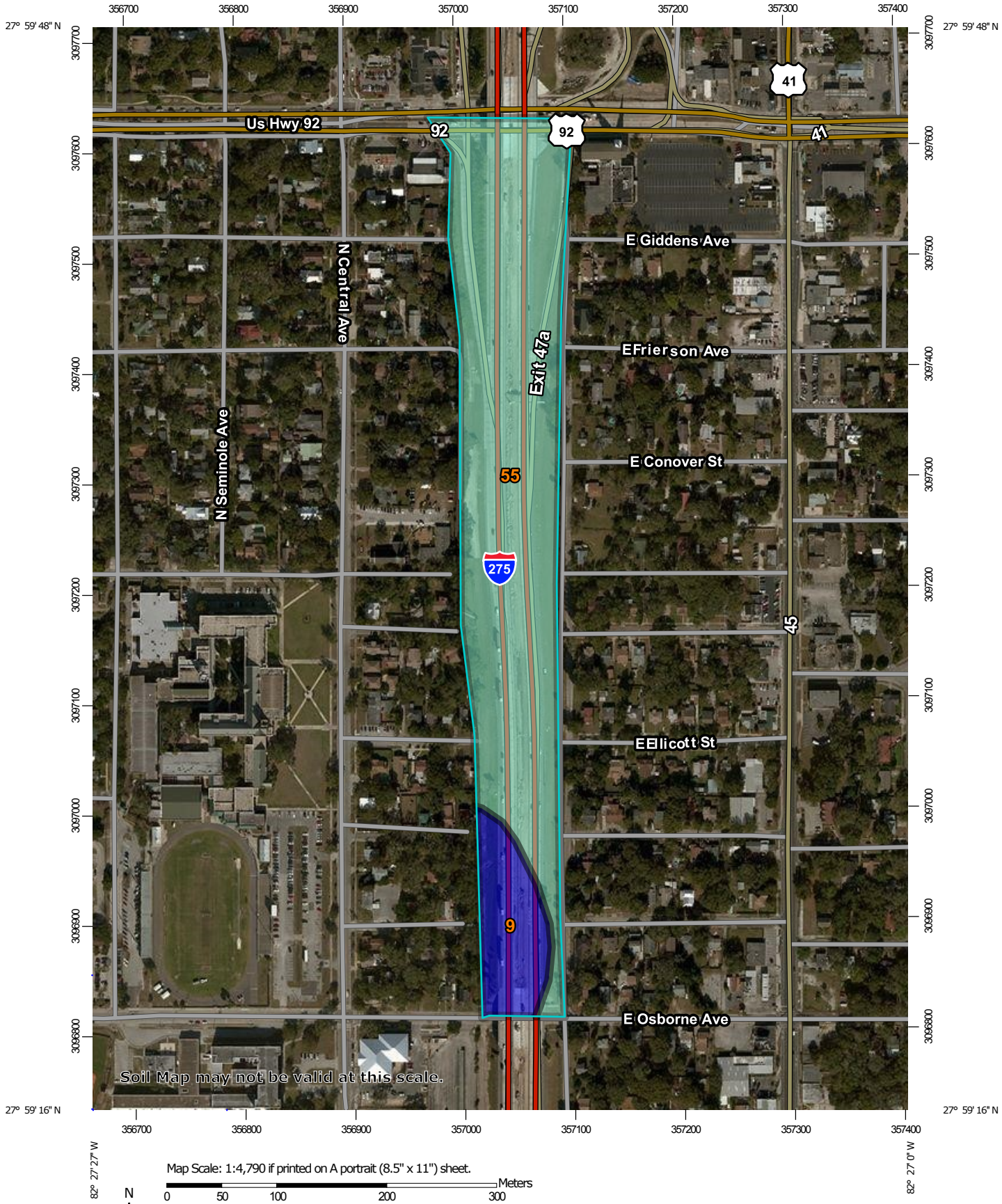
PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.09

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	0.48

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	47.0 Ft	Station/Location: Edge of southbound mainline at station 805+30 (Lt).
1.0' of Clearance =	46.0 Ft	
Distance from EOP to Pond =	200 Ft	
Hydraulic Grade Line (HGL) at EOP =	.16 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	45.84 Ft	
10 year Pond Stage =	45.6 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida



Map Scale: 1:4,790 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 2A	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 2A

COMPUTED BASIN AREA (Ac) 2.49

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.69	67.62
Sub-total for Impervious Land Uses			0.69	67.62
Pervious				
Open Space	A	49	0.82	40.18
Sub-total for Pervious Land Uses			0.82	40.18
Pond				
Open Space	A	49	0.98	48.02
Sub-total for Pond Land Uses			0.98	48.02
		TOTAL	2.49	155.82

COMPOSITE CN **62.6**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	5.98	2.86	0.59
25 yr / 24 hr	SWFWMD	8.00	5.98	3.62	0.75

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	5.98

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	3.62

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.75

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 2A

COMPUTED BASIN AREA (Ac)	2.49

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	0.74	72.52
Sub-total for Impervious Land Uses			0.74	72.52
Pervious				
Open Space	A	49	0.77	37.73
Sub-total for Pervious Land Uses			0.77	37.73
Pond				
Open Space (Pond)	A	49	0.98	48.02
Sub-total for Pond Land Uses			0.98	48.02
		TOTAL	2.49	158.27

COMPOSITE CN	**63.6**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	5.73	2.96	0.61
25 yr / 24 hr	SWFWMD	8.00	5.73	3.73	0.77

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	5.73

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	3.73

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.77

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	4.75	37.0	32.25
		Estimated SHWT	32.25

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	2.49	AREA (AC):	2.49
CN:	62.6	CN:	63.6
IMPERVIOUS AREA (AC):	0.69	IMPERVIOUS AREA (AC):	0.74
PERVIOUS AREA (AC):	1.80	PERVIOUS AREA (AC):	1.75
		NEW IMPERVIOUS AREA (AC):	0.05

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.59	0.61	**0.02**
SWFWMD	25 yr / 24 hr	0.75	0.77	**0.02**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.004

VI ***POND VOLUME CALCULATIONS***

Pond 2

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	34.00	0.78	0.00
Weir Crest Elevation	34.10	0.79	0.08
Freeboard Elevation	36.00	0.91	1.69
Top of Bank Elevation	37.00	0.98	2.64
Top of Berm	37.01	1.27	2.65

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Pond Bottom and Weir Crest Elevation	0.08

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	1.62

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	37.0 Ft	Station/Location: Northbound exit ramp at Hillsborough Ave. (Rt.)
1.0' of Clearance =	36.0 Ft	
Distance from EOP to Pond =	30 Ft	
Hydraulic Grade Line (HGL) at EOP =	.02 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	35.98 Ft	
10 year Pond Stage =	34.19 Ft	**HGL Below EOP**

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 2B	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 2B

COMPUTED BASIN AREA (Ac) 1.57

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space	A	49	1.29	63.21
Sub-total for Pervious Land Uses			1.29	63.21
Swale				
Open Space	A	49	0.28	13.72
Sub-total for Swale Land Uses			0.28	13.72
		TOTAL	1.57	76.93

COMPOSITE CN **49.0**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	10.41	1.58	0.21
25 yr / 24 hr	SWFWMD	8.00	10.41	2.15	0.28

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S = 10.41

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R = 2.15

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] = 0.28

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 2B

COMPUTED BASIN AREA (Ac)	1.57

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	0.98	96.04
Sub-total for Impervious Land Uses			0.98	96.04
Pervious				
Open Space	A	49	0.31	15.19
Sub-total for Pervious Land Uses			0.31	15.19
Swale				
Open Space (Swale)	A	49	0.28	13.72
Sub-total for Swale Land Uses			0.28	13.72
		TOTAL	1.57	124.95

COMPOSITE CN	**79.6**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	2.57	4.65	0.61
25 yr / 24 hr	SWFWMD	8.00	2.57	5.58	0.73

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	2.57

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	5.58

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.73

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	2.50	32.0	29.50
		Estimated SHWT	29.50

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.57	AREA (AC):	1.57
CN:	49.0	CN:	79.6
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	0.98
PERVIOUS AREA (AC):	1.57	PERVIOUS AREA (AC):	0.59
		NEW IMPERVIOUS AREA (AC):	0.98

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.21	0.61	**0.40**
SWFWMD	25 yr / 24 hr	0.28	0.73	**0.45**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.08

VI ***SWALE VOLUME CALCULATIONS***

Swale 2

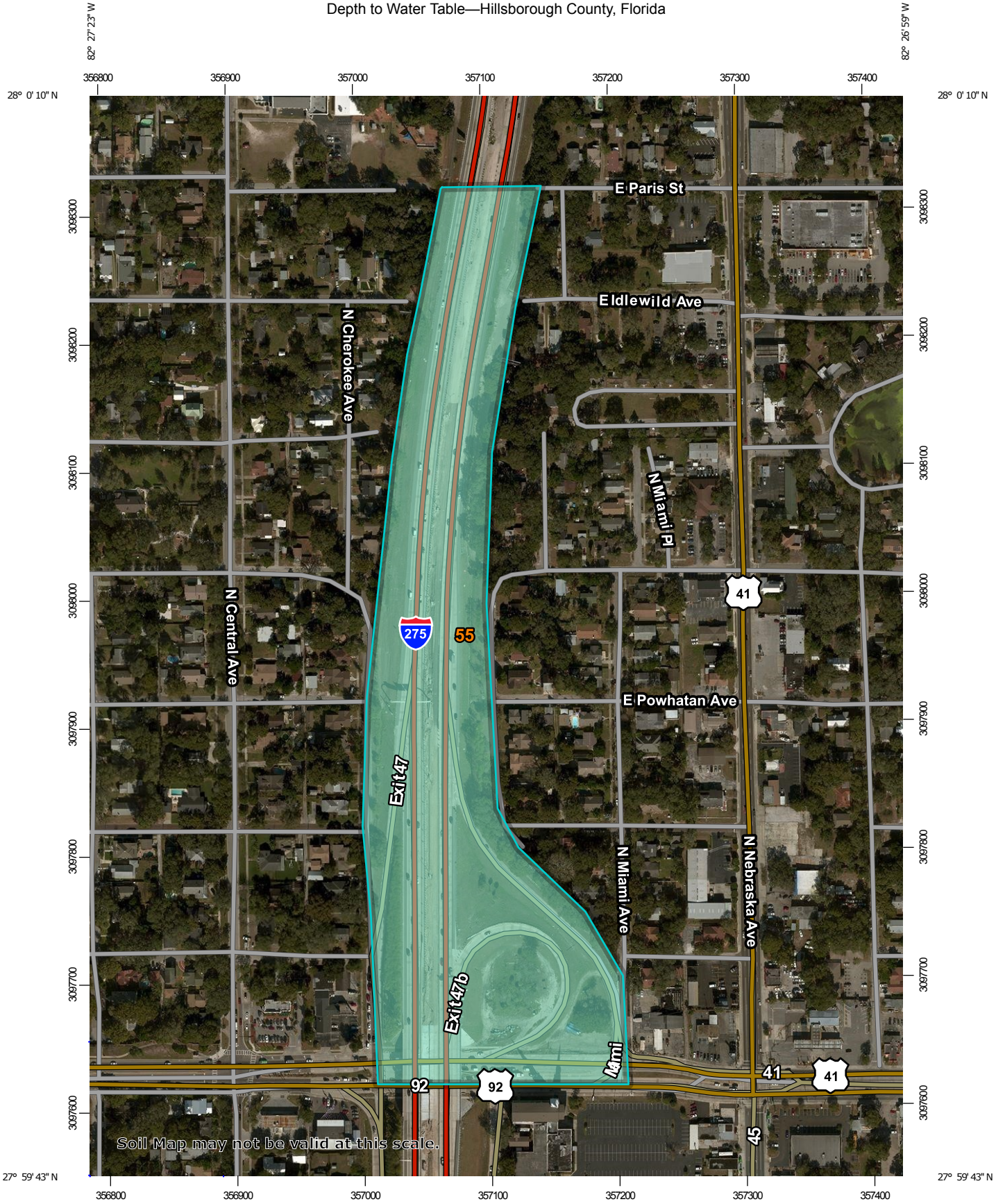
POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	32.00	0.19	0.00
Weir Crest Elevation	32.39	0.20	0.08
Freeboard Elevation	34.50	0.27	0.57
Top of Bank Elevation	35.00	0.28	0.71
Top of Berm	35.01	0.37	0.71

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.08

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	0.49

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	39.0 Ft	Station/Location: Edge of southbound at station 824+50 (Lt).
1.0' of Clearance =	38.0 Ft	
Distance from EOP to Pond =	615 Ft	
Hydraulic Grade Line (HGL) at EOP =	.49 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	37.51 Ft	
10 year Pond Stage =	34.0 Ft	**HGL Below EOP**



Map Scale: 1:4,120 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 3A	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 3A

COMPUTED BASIN AREA (Ac) 1.67

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space	A	49	1.14	55.86
Sub-total for Pervious Land Uses			1.14	55.86
Swale				
Open Space	A	49	0.53	25.97
Sub-total for Swale Land Uses			0.53	25.97
		TOTAL	1.67	81.83

COMPOSITE CN **49.0**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	10.41	1.58	0.22
25 yr / 24 hr	SWFWMD	8.00	10.41	2.15	0.30

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S = 10.41

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R = 2.15

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] = 0.30

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 3A

COMPUTED BASIN AREA (Ac)	1.67

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	0.82	80.36
Sub-total for Impervious Land Uses			0.82	80.36
Pervious				
Open Space	A	49	0.32	15.68
Sub-total for Pervious Land Uses			0.32	15.68
Swale				
Open Space (Swale)	A	49	0.53	25.97
Sub-total for Swale Land Uses			0.53	25.97
		TOTAL	1.67	122.01

COMPOSITE CN	**73.1**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.69	3.94	0.55
25 yr / 24 hr	SWFWMD	8.00	3.69	4.82	0.67

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	3.69

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	4.82

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.67

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	4.75	41.5	36.75
> 6.0	6.0	41.5	35.50
		Estimated SHWT	36.1

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.67	AREA (AC):	1.67
CN:	49.0	CN:	73.1
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	0.82
PERVIOUS AREA (AC):	1.67	PERVIOUS AREA (AC):	0.85
		NEW IMPERVIOUS AREA (AC):	0.82

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.22	0.55	**0.33**
SWFWMD	25 yr / 24 hr	0.30	0.67	**0.37**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.07

VI ***SWALE VOLUME CALCULATIONS***

Swale 3A

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	38.00	0.43	0.00
Weir Crest Elevation	38.15	0.44	0.07
Freeboard Elevation	39.00	0.48	0.46
Top of Bank Elevation	40.00	0.53	0.96
Top of Berm	40.01	0.66	0.97

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.07

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	0.39

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	47.3 Ft	Station/Location: Northbound barrier wall at station 834+95 (Rt).
1.0' of Clearance =	46.3 Ft	
Distance from EOP to Pond =	20 Ft	
Hydraulic Grade Line (HGL) at EOP =	.02 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	46.28 Ft	
10 year Pond Stage =	38.65 Ft	**HGL Below EOP**

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 3B	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 3B

COMPUTED BASIN AREA (Ac) 1.46

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.09	8.82
Sub-total for Impervious Land Uses			0.09	8.82
Pervious				
Open Space	A	49	1.11	54.39
Sub-total for Pervious Land Uses			1.11	54.39
Swale				
Open Space	A	49	0.26	12.74
Sub-total for Swale Land Uses			0.26	12.74
		TOTAL	1.46	75.95

COMPOSITE CN **52.0**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	9.22	1.85	0.22
25 yr / 24 hr	SWFWMD	8.00	9.22	2.46	0.30

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	9.22

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	2.46

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.30

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 3B

COMPUTED BASIN AREA (Ac)	1.46

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	0.60	58.80
Sub-total for Impervious Land Uses			0.60	58.80
Pervious				
Open Space	A	49	0.60	29.40
Sub-total for Pervious Land Uses			0.60	29.40
Swale				
Open Space (Swale)	A	49	0.26	12.74
Sub-total for Swale Land Uses			0.26	12.74
		TOTAL	1.46	100.94

COMPOSITE CN	**69.1**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	4.46	3.53	0.43
25 yr / 24 hr	SWFWMD	8.00	4.46	4.37	0.53

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	4.46

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	4.37

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.53

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	4.75	38.0	33.25
> 6.0	6.0	38.0	32.00
		Estimated SHWT	32.6

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.46	AREA (AC):	1.46
CN:	52.0	CN:	69.1
IMPERVIOUS AREA (AC):	0.09	IMPERVIOUS AREA (AC):	0.60
PERVIOUS AREA (AC):	1.37	PERVIOUS AREA (AC):	0.86
		NEW IMPERVIOUS AREA (AC):	0.51

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.22	0.43	**0.20**
SWFWMD	25 yr / 24 hr	0.30	0.53	**0.23**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.04

VI ***SWALE VOLUME CALCULATIONS***

Swale 3B

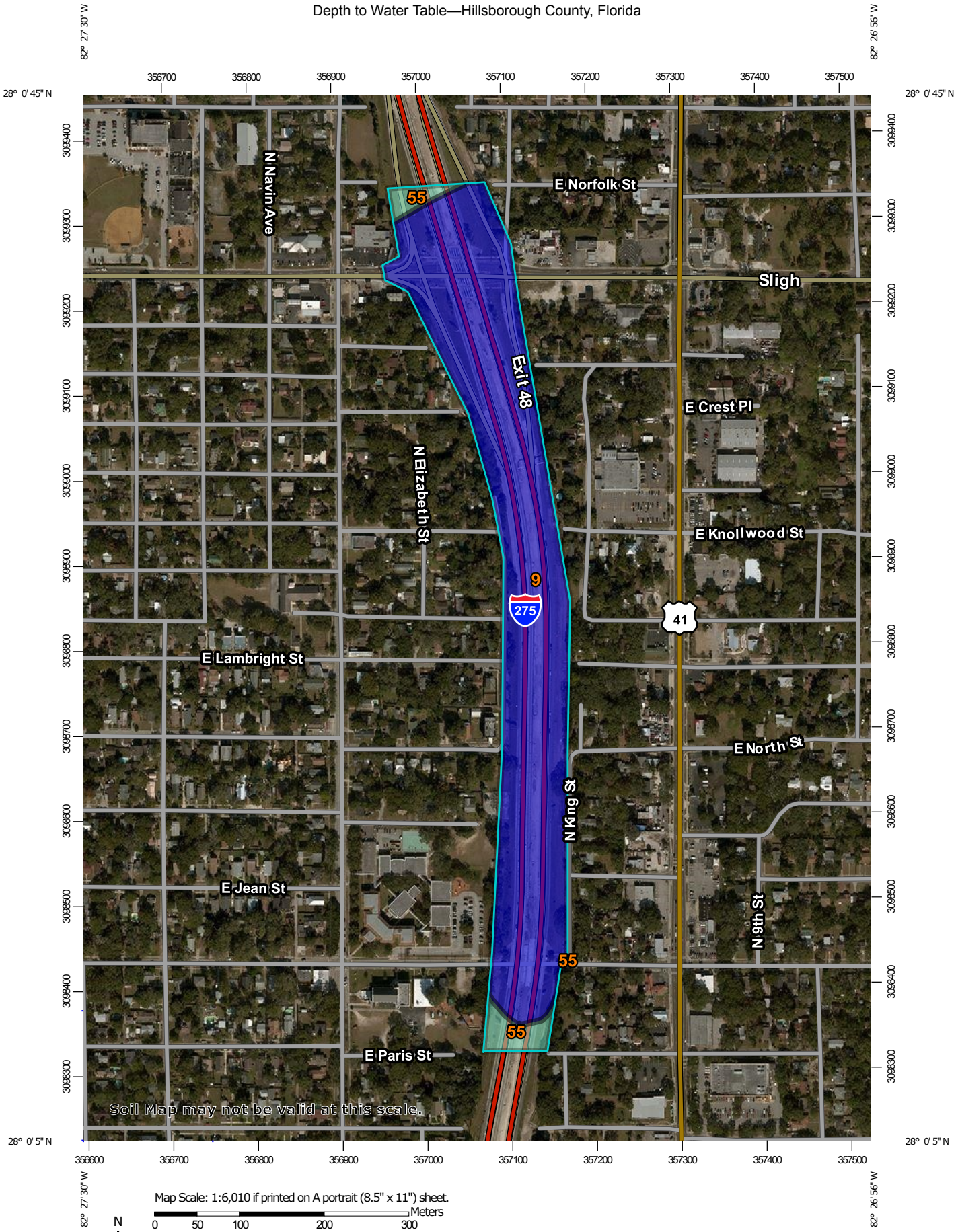
POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	37.50	0.19	0.00
Weir Crest Elevation	37.69	0.20	0.04
Freeboard Elevation	39.00	0.23	0.32
Top of Bank Elevation	40.00	0.26	0.56
Top of Berm	40.01	0.34	0.57

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.04

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	0.28

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	48.1 Ft	Station/Location: Southbound barrier wall at station 834+95 (Lt).
1.0' of Clearance =	47.1 Ft	
Distance from EOP to Pond =	20 Ft	
Hydraulic Grade Line (HGL) at EOP =	.02 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	47.08 Ft	
10 year Pond Stage =	38.45 Ft	**HGL Below EOP**



Map Scale: 1:6,010 if printed on A portrait (8.5" x 11") sheet.

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

N

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 4/5	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 4/5

COMPUTED BASIN AREA (Ac) 1.84

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space	A	49	1.11	54.39
Open Space	B/D	80	0.20	16.00
Sub-total for Pervious Land Uses			1.31	70.39
Swale				
Open Space	A	49	0.53	25.97
Sub-total for Swale Land Uses			0.53	25.97
		TOTAL	1.84	96.36

COMPOSITE CN **52.4**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	9.10	1.88	0.29
25 yr / 24 hr	SWFWMD	8.00	9.10	2.50	0.38

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	9.10

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	2.50

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.38

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 4/5

COMPUTED BASIN AREA (Ac)	1.84

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	1.08	105.84
Sub-total for Impervious Land Uses			1.08	105.84
Pervious				
Open Space	A	49	0.23	11.27
Sub-total for Pervious Land Uses			0.23	11.27
Swale				
Open Space (Swale)	A	49	0.53	25.97
Sub-total for Swale Land Uses			0.53	25.97
		TOTAL	1.84	143.08

COMPOSITE CN	**77.8**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	2.86	4.45	0.68
25 yr / 24 hr	SWFWMD	8.00	2.86	5.36	0.82

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	2.86

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	5.36

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.82

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	4.75	29.5	24.75
		Estimated SHWT	24.8

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.84	AREA (AC):	1.84
CN:	52.4	CN:	77.8
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	1.08
PERVIOUS AREA (AC):	1.84	PERVIOUS AREA (AC):	0.76
		NEW IMPERVIOUS AREA (AC):	1.08

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.29	0.68	**0.39**
SWFWMD	25 yr / 24 hr	0.38	0.82	**0.44**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.09

VI ***SWALE VOLUME CALCULATIONS***

Swale 4/5

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	28.40	0.25	0.00
Weir Crest Elevation	28.72	0.28	0.09
Freeboard Elevation	30.00	0.42	0.54
Top of Bank Elevation	31.00	0.53	1.01
Top of Berm	31.01	0.91	1.02

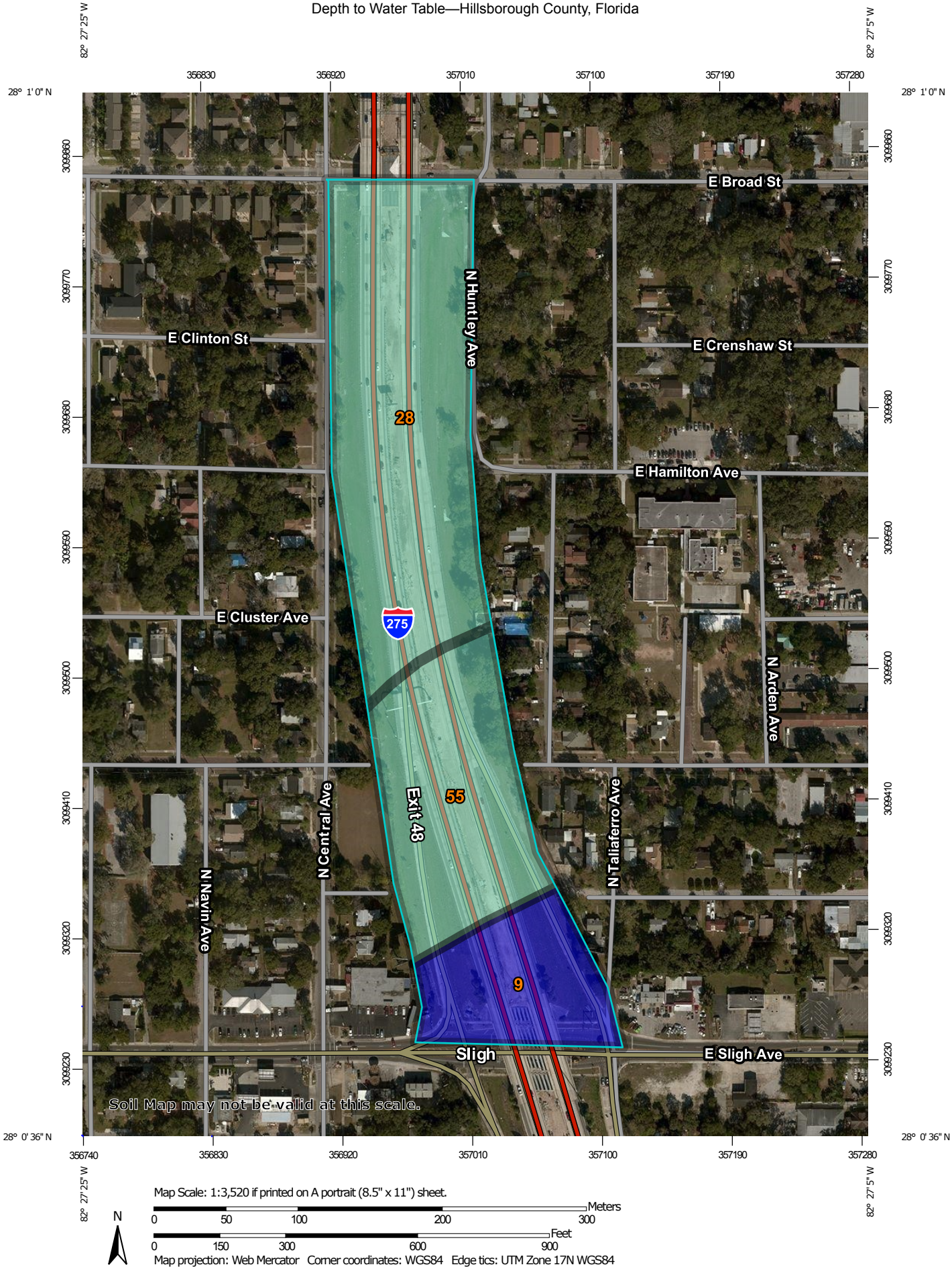
PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.09

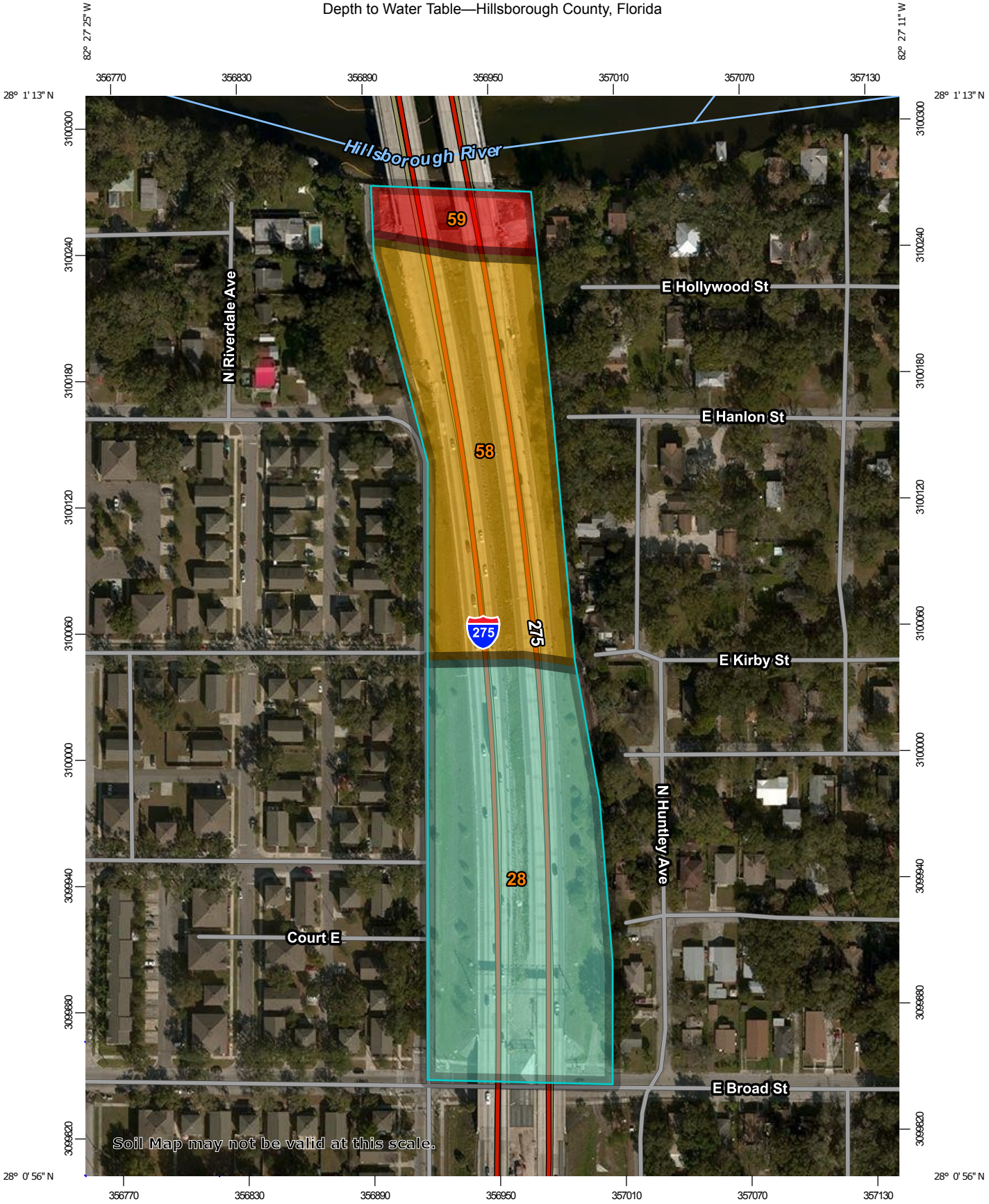
PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	0.45

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	39.3 Ft	Station/Location: Northbound barrier wall at station 883+25 (Rt).
1.0' of Clearance =	38.3 Ft	
Distance from EOP to Pond =	40 Ft	
Hydraulic Grade Line (HGL) at EOP =	.03 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	38.27 Ft	
10 year Pond Stage =	29.5 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida





Map Scale: 1:2,510 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 6/7	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 6/7

COMPUTED BASIN AREA (Ac) 2.48

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.16	15.68
Sub-total for Impervious Land Uses			0.16	15.68
Pervious				
Open Space	A	49	1.76	86.24
Sub-total for Pervious Land Uses			1.76	86.24
Swale				
Open Space	A	49	0.56	27.44
Sub-total for Swale Land Uses			0.56	27.44
		TOTAL	2.48	129.36

COMPOSITE CN **52.2**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	9.17	1.86	0.38
25 yr / 24 hr	SWFWMD	8.00	9.17	2.48	0.51

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	9.17

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	2.48

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.51

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 6/7

COMPUTED BASIN AREA (Ac)	2.48

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	1.66	162.68
Sub-total for Impervious Land Uses			1.66	162.68
Pervious				
Open Space	A	49	0.26	12.74
Sub-total for Pervious Land Uses			0.26	12.74
Swale				
Open Space (Swale)	A	49	0.56	27.44
Sub-total for Swale Land Uses			0.56	27.44
		TOTAL	2.48	202.86

COMPOSITE CN	**81.8**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	2.23	4.89	1.01
25 yr / 24 hr	SWFWMD	8.00	2.23	5.84	1.21

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	2.23

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	5.84

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	1.21

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	4.75	20.2	15.45
		Estimated SHWT	15.45

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	2.48	AREA (AC):	2.48
CN:	52.2	CN:	81.8
IMPERVIOUS AREA (AC):	0.16	IMPERVIOUS AREA (AC):	1.66
PERVIOUS AREA (AC):	2.32	PERVIOUS AREA (AC):	0.82
		NEW IMPERVIOUS AREA (AC):	1.50

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.38	1.01	**0.63**
SWFWMD	25 yr / 24 hr	0.51	1.21	**0.69**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.13

VI ***SWALE VOLUME CALCULATIONS***

Swale 6/7

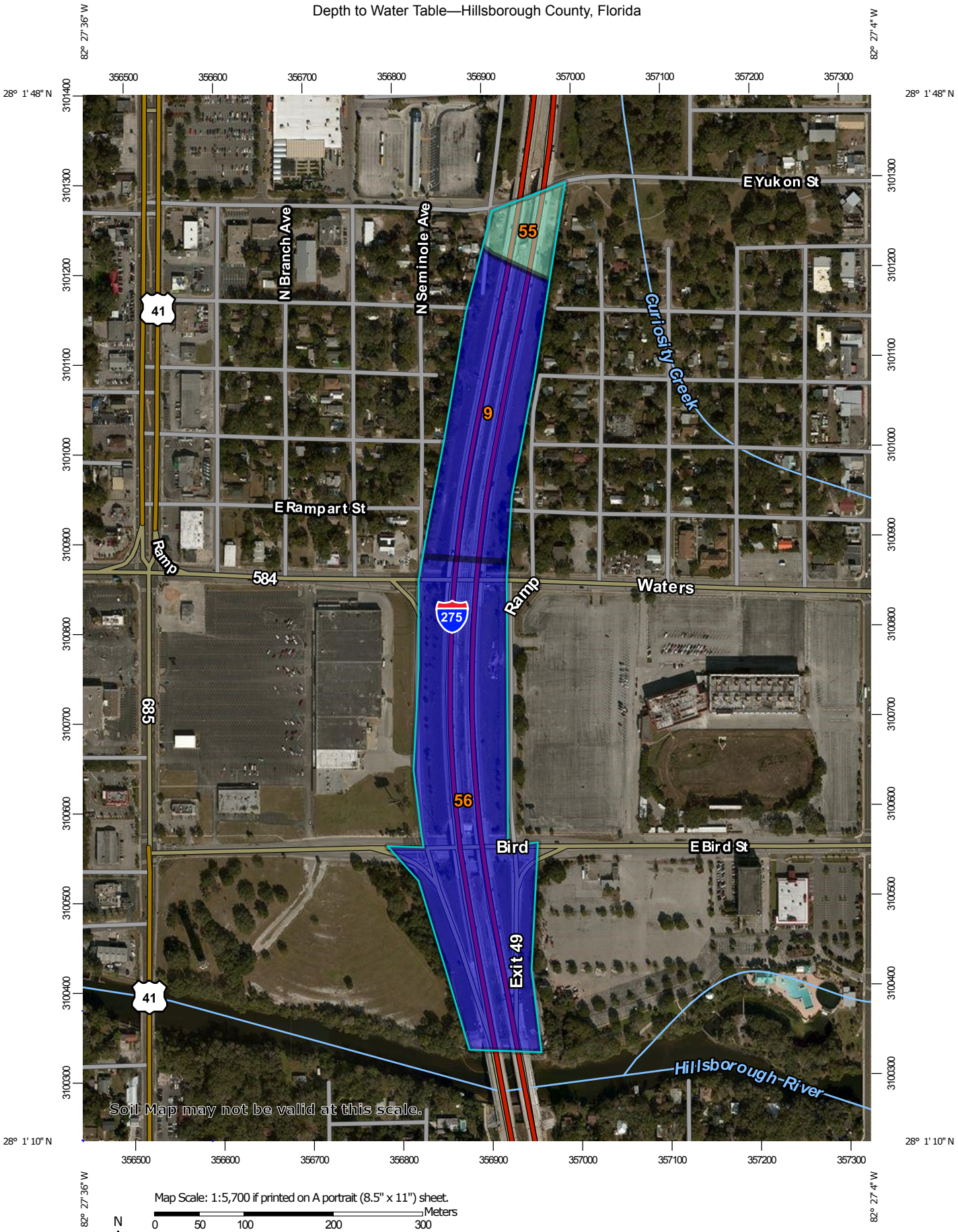
POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	17.50	0.32	0.00
Weir Crest Elevation	17.89	0.36	0.13
Freeboard Elevation	19.50	0.51	0.83
Top of Bank Elevation	20.00	0.56	1.10
Top of Berm	20.01	0.88	1.11

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.13

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	0.70

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	51.0 Ft	Station/Location: Edge of northbound mainline at station 578+00 (Rt).
1.0' of Clearance =	50.0 Ft	
Distance from EOP to Pond =	28 Ft	
Hydraulic Grade Line (HGL) at EOP =	.02 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	49.98 Ft	
10 year Pond Stage =	18.77 Ft	**HGL Below EOP**



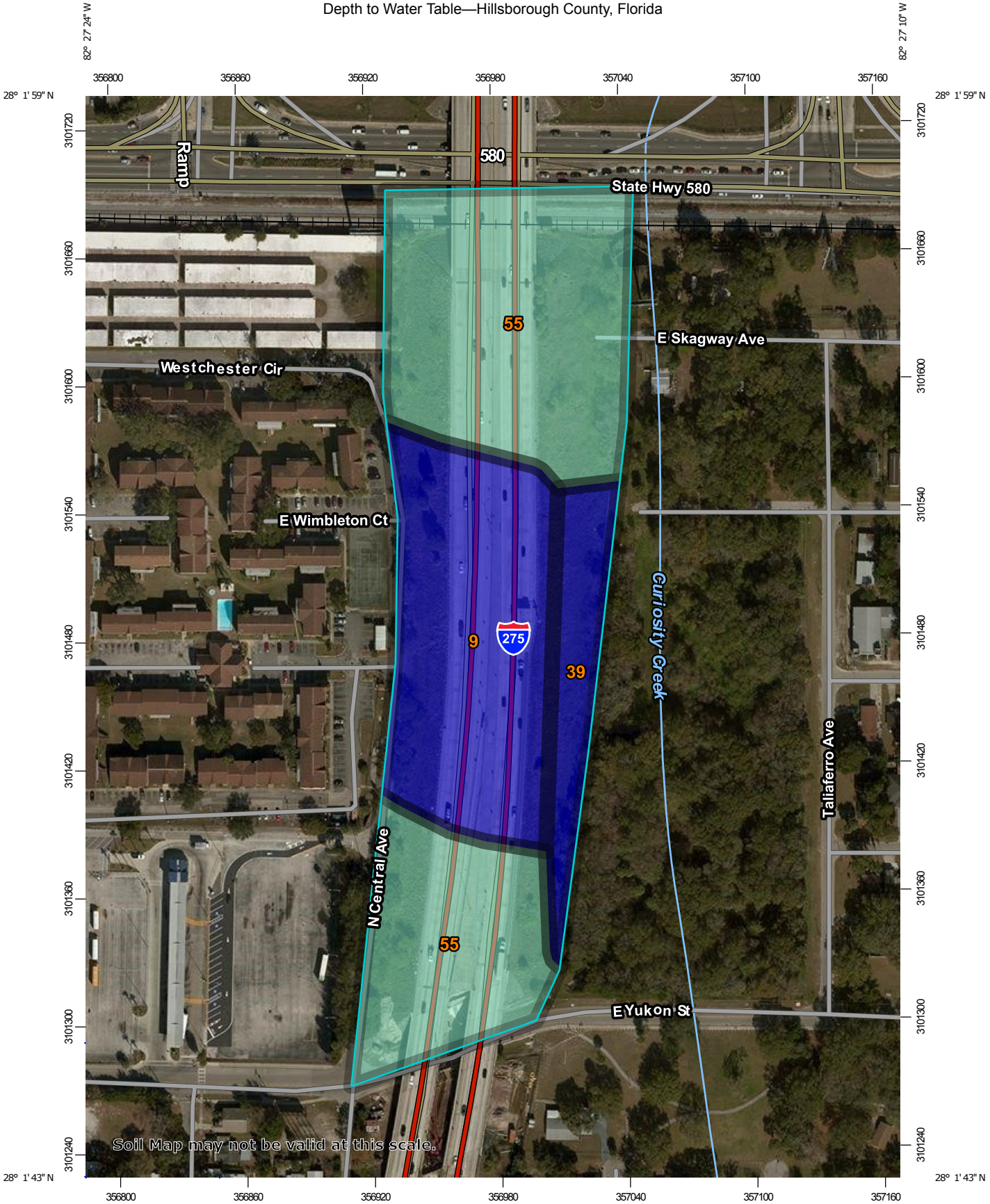
Map Scale: 1:5,700 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84



Map Scale: 1:2,480 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 (I-275) from N. of MLK Blvd. to N. of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 8	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 8

COMPUTED BASIN AREA (Ac) 5.64

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space	A	49	2.03	99.47
Open Space (Post Imp. Area)	A	49	2.12	103.88
Open Space (Post Imp. Area)	C	79	0.66	52.14
Sub-total for Pervious Land Uses			4.81	255.49
Pond				
Open Space	A	49	0.83	40.67
Sub-total for Pond Land Uses			0.83	40.67
		TOTAL	5.64	296.16

COMPOSITE CN **52.5**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	9.04	1.89	0.89
25 yr / 24 hr	SWFWMD	8.00	9.04	2.52	1.18

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	9.04

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	2.52

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	1.18

II ***POST DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 8

COMPUTED BASIN AREA (Ac)	5.64

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	2.78	272.44
Sub-total for Impervious Land Uses			2.78	272.44
Pervious				
Open Space	A	49	2.03	99.47
Sub-total for Pervious Land Uses			2.03	99.47
Pond				
Open Space (Pond)	A	49	0.83	40.67
Sub-total for Pond Land Uses			0.83	40.67
		TOTAL	5.64	412.58

COMPOSITE CN	**73.2**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.67	3.95	1.86
25 yr / 24 hr	SWFWMD	8.00	3.67	4.83	2.27

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	3.67

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	4.83

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	2.27

III ***GEOTECHNICAL INFORMATION***

Hillsborough County Soil Survey			
Avg. Depth to SHWT (Ft)	**Depth Used (Ft)**	**Ground Elevation (Ft)**	**Estimated SHWT (Ft)**
3.5 - 6.0	3.50	22.5	19.00
	Permit No. 4417641 00 (Pond A2 & Pond A3)		16.40
		Estimated SHWT	19.00

IV ***AREA & ATTENUATION SUMMARY***

REQUIRED ATTENUTATION CACULATION			
PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	5.64	AREA (AC):	5.64
CN:	52.5	CN:	73.2
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	2.78
PERVIOUS AREA (AC):	5.64	PERVIOUS AREA (AC):	2.86
		NEW IMPERVIOUS AREA (AC):	2.78

AGENCY	**DESIGN STORM**	**RUNOFF VOLUME V[R]**		
		PRE [AC-FT]	**POST [AC-FT]**	**TOTAL RETENTION [AC-FT]**
SWFWMD	10 yr / 24 hr	0.89	1.86	**0.97**
SWFWMD	25 yr / 24 hr	1.18	2.27	**1.09**

V ***SUMMARY OF REQUIRED TREATMENT VOLUME***

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from the New Impervious Area	0.23

VI ***POND VOLUME CALCULATIONS***

Pond 8

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	21.00	0.57	0.00
Weir Crest Elevation	21.39	0.60	0.23
Freeboard Elevation	23.00	0.74	1.31
Top of Bank Elevation	24.00	0.83	2.10
Top of Berm	24.01	1.17	2.11

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Pond Bottom and Weir Crest Elevation	0.23

PROVIDED ATTENUATION VOLUME	AC-FT
Attenuation Volume Provided = Volume between Weir Crest Elevation and Freeboard Elevation	1.09

VII ***BASIN HYDRAULICS - VERIFY SWALE DOES NOT ADVERSELY IMPACT BASIN INLETS***

Low Edge of Pavement in Basin =	27.0 Ft	Station/Location: Edge of northbound mainline at Station 594+50 (Lt.)
1.0' of Clearance =	26.0 Ft	
Distance from EOP to Pond =	380 Ft	
Hydraulic Grade Line (HGL) at EOP =	.3 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	25.7 Ft	
10 year Pond Stage =	21.94 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 9	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 9

COMPUTED BASIN AREA (Ac) 4.96

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	3.92	290.08
				0.00
Sub-total for Pervious Land Uses			3.92	290.08
Pond				
Open Space, Fair Condition - Urban Land Soil Type	C	74	1.04	76.96
Sub-total for Pervious Land Uses			1.04	76.96
		TOTAL	4.96	367.04

COMPOSITE CN **74**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.51	4.04	1.67
25 yr / 24 hr	SWFWMD	8.00	3.51	4.93	2.04
100 yr / 24 hr	SWFWMD	11.00	3.51	7.68	3.17

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) | S | 3.51

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) | R | 4.93

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) | V[R] | 2.04

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 9	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 9

COMPUTED BASIN AREA (Ac) 4.96

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	2.78	272.44
Sub-total for Impervious Land Uses			2.78	272.44
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	1.88	138.83
Sub-total for Impervious Land Uses			1.88	138.83
Pond				
Wet Area		100	0.30	30.40
Sub-total for Impervious Land Uses			0.30	30.40
		TOTAL	4.96	441.66

COMPOSITE CN **89**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	1.23	5.71	2.36
25 yr / 24 hr	SWFWMD	8.00	1.23	6.69	2.77
100 yr / 24 hr	SWFWMD	11.00	1.23	9.65	3.99

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) | S | 1.23

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) | R | 6.69

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) | V[R] | 2.77

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 9	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

Estimated SHWT - NRCS SOIL SURVEY			
Facility	**Approximate Depth to SHWT (Ft)**	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
SMF 9	3.5	27.0	23.50
SMF 9-1	2.75	28.0	25.25

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Basin 9

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	4.96	AREA (AC):	4.96
CN:	74	CN:	89
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	2.78
PERVIOUS AREA (AC):	3.92	PERVIOUS AREA (AC):	1.88
		NEW IMPERVIOUS AREA (AC):	2.78

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.67	2.36	**0.69**
SWFWMD	25 yr / 24 hr	2.04	2.77	**0.73**

REQUIRED TREATMENT VOLUME CALCULATION		AC-FT
Dry Retention Treatment =	1.0 inch of runoff from New Impervious Area	0.23

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 9

Swale 9

POND STAGE, AREA & STORAGE for Swale 9			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	25.60	0.24	0.00
Weir Crest Elevation	26.09	0.26	0.12
DHW 10	26.92	0.30	0.35
DHW 25	27.00	0.30	0.38
Top of Bank Elevation	27.50	0.32	0.53
Top of Berm	27.51	0.44	0.54

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Swale Bottom and Weir Crest Elevation	0.12

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.23
DHW 25	Provided between Weir Crest and 25 Year Stage	0.25

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 9	**CHECKED BY:**	TDA

Swale 9-1

POND STAGE, AREA & STORAGE for Swale 9-1			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	24.25	0.21	0.00
SHWT	25.25	0.28	0.25
Weir Crest Elevation	25.61	0.30	0.35
DHW 10	26.92	0.39	0.81
DHW 25	27.00	0.40	0.84
Top of Bank Elevation	27.00	0.40	0.84
Top of Berm	28.00	0.60	1.34

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.11

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.46
DHW 25	Provided between Weir Crest and 25 Year Stage	0.49

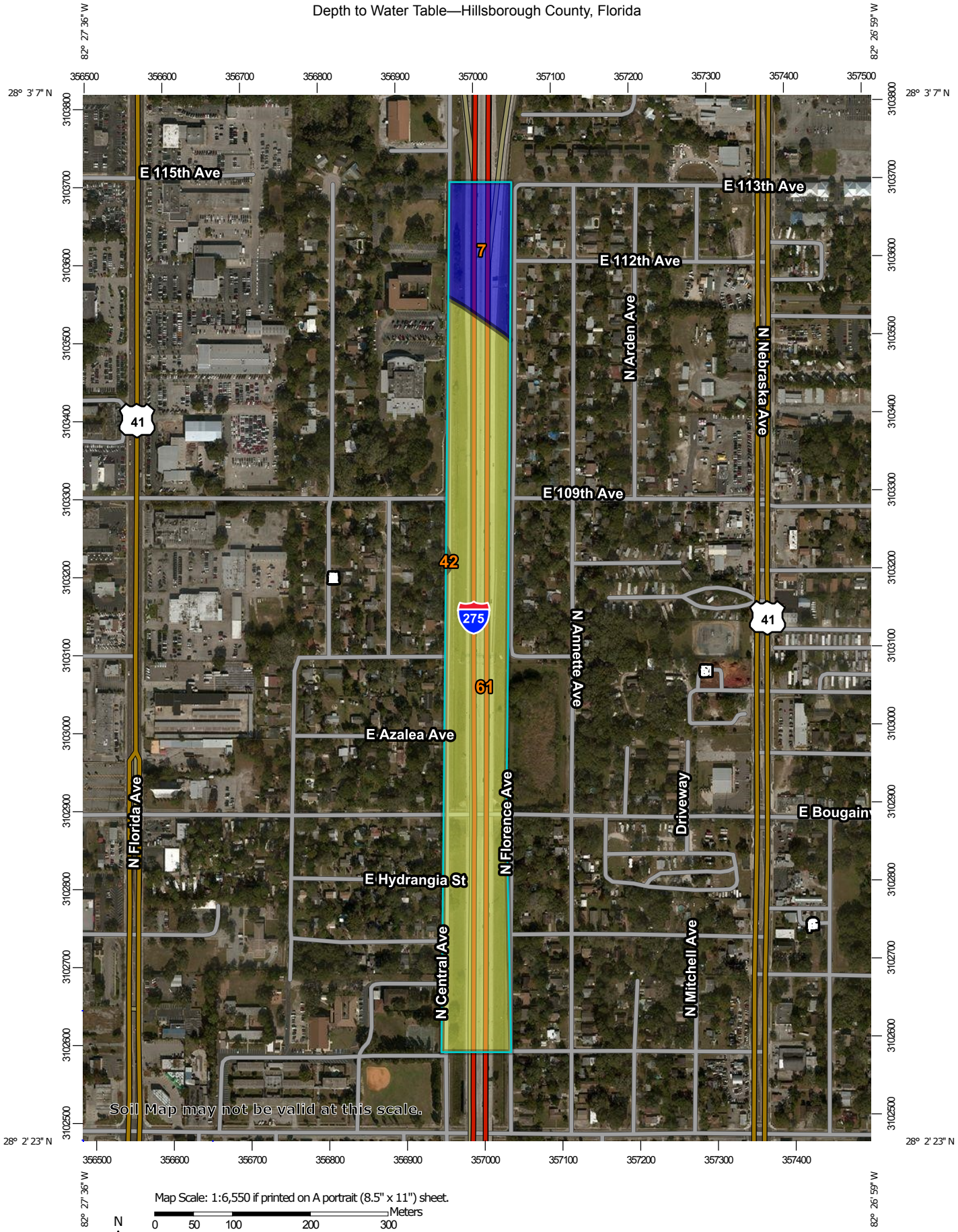
TOTAL PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.69
DHW 25	Provided between Weir Crest and 25 Year Stage	0.74

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***

Basin 9

Low Edge of Pavement in Basin =	33.0 Ft	Station/Location: Edge of existing northbound exit ramp at Sta. 4007+00.
1.0' of Clearance =	32.0 Ft	
Distance from EOP to Pond =	800 Ft	
Hydraulic Grade Line (HGL) at EOP =	.64 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	31.36 Ft	
10 year Pond Stage =	26.92 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida



Map Scale: 1:6,550 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 10	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 10

COMPUTED BASIN AREA (Ac) 3.06

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	A	49	0.80	39.20
Open Space, Fair Condition - Urban Land Soil Type	C	74	1.37	101.38
Open Space, Fair Condition - Urban Land Soil Type	B/D	80	0.09	7.20
Sub-total for Pervious Land Uses			2.26	147.78
Pond				
Open Space, Fair Condition - Urban Land Soil Type	C	74	0.80	59.20
Sub-total for Pervious Land Uses			0.80	59.20
		TOTAL	3.06	206.98

COMPOSITE CN **68**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	4.78	3.37	0.86
25 yr / 24 hr	SWFWMD	8.00	4.78	4.19	1.07
100 yr / 24 hr	SWFWMD	11.00	4.78	6.80	1.73

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S = 4.78

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R = 4.19

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] = 1.07

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 10	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 10

COMPUTED BASIN AREA (Ac) 3.06

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	2.26	221.48
Sub-total for Impervious Land Uses			2.26	221.48
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	0.29	21.70
Sub-total for Impervious Land Uses			0.29	21.70
Pond				
Wet Area		100	0.51	50.68
Sub-total for Impervious Land Uses			0.51	50.68
		TOTAL	3.06	293.86

COMPOSITE CN **96**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.41	6.53	1.66
25 yr / 24 hr	SWFWMD	8.00	0.41	7.52	1.92
100 yr / 24 hr	SWFWMD	11.00	0.41	10.52	2.68

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.41

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.52

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 1.92

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 10	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2.75	33.0	30.25
	Estimated SHWT	30.25

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Basin 10

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	3.06	AREA (AC):	3.06
CN:	68	CN:	96
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	2.26
PERVIOUS AREA (AC):	0.80	PERVIOUS AREA (AC):	0.29
		NEW IMPERVIOUS AREA (AC):	2.26

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	0.86	1.66	**0.80**
SWFWMD	25 yr / 24 hr	1.07	1.92	**0.85**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Requirement = 1.0 inch of runoff from New Impervious Area	0.19

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 10

Swale 10

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	29.25	0.44	0.00
SHWT	30.25	0.49	0.47
Weir Crest Elevation	30.63	0.51	0.65
DHW 10	32.10	0.58	1.45
DHW 25	32.19	0.58	1.50
Top of Bank Elevation	34.00	0.67	2.64
Top of Berm	34.01	0.80	2.64

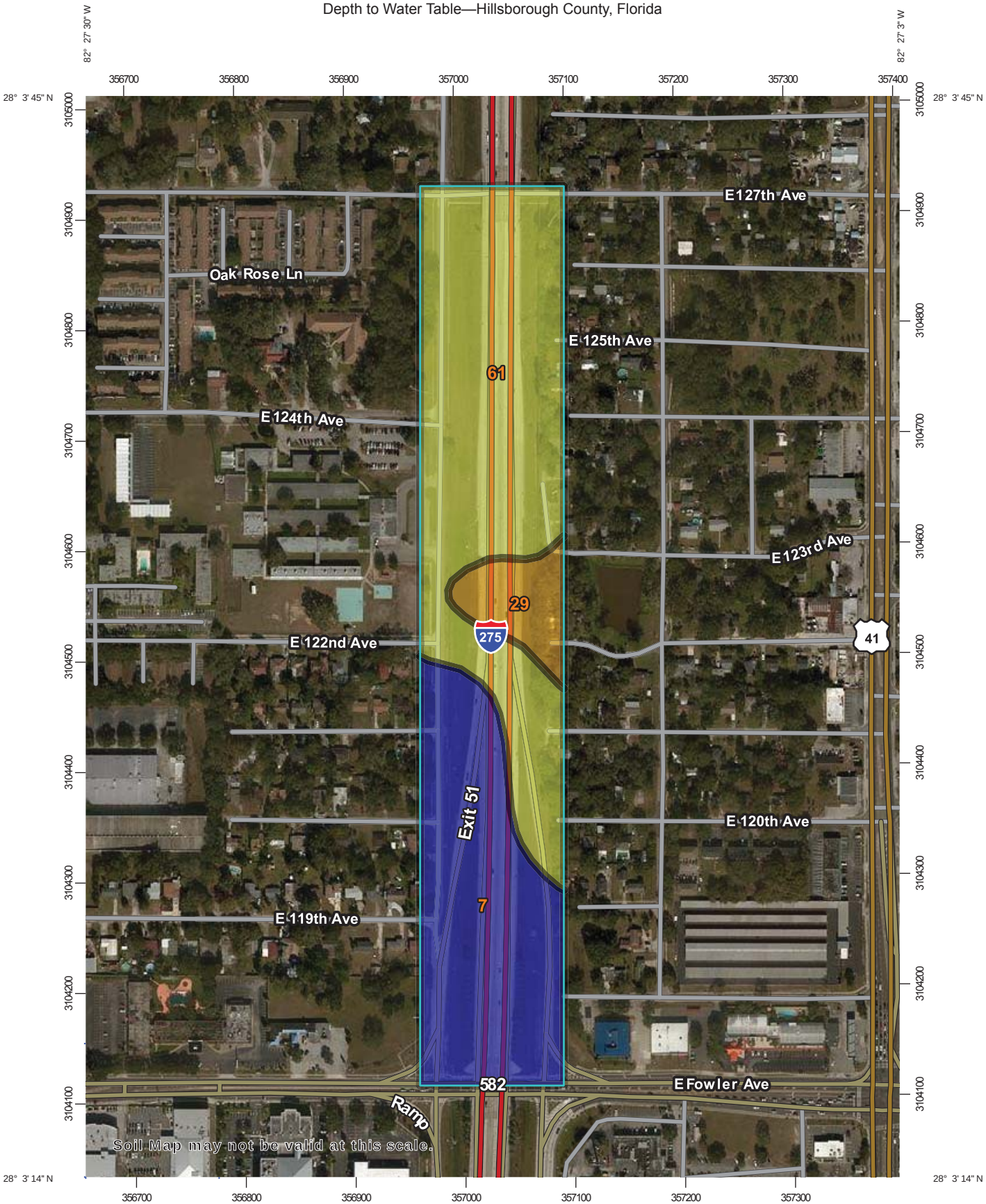
PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.19

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.80
DHW 25	Provided between Weir Crest and 25 Year Stage	0.85

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 10	**CHECKED BY:**	TDA

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***
Basin 10

Low Edge of Pavement in Basin =	35.0 Ft	Station/Location: Edge of north bound on ramp adjacent to pond
1.0' of Clearance =	34.0 Ft	
Distance from EOP to Pond =	20 Ft	
Hydraulic Grade Line (HGL) at EOP =	.02 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	33.98 Ft	
10 year Pond Stage =	32.1 Ft	**HGL Below EOP**



Map Scale: 1:4,780 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 11	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 11

COMPUTED BASIN AREA (Ac) 1.38

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	0.97	71.78
Sub-total for Pervious Land Uses			0.97	71.78
Pond				
1/8 acre residential lots	C	74	0.41	30.34
Sub-total for Pervious Land Uses			0.41	30.34
		TOTAL	1.38	102.12

COMPOSITE CN **74**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.51	4.04	0.46
25 yr / 24 hr	SWFWMD	8.00	3.51	4.93	0.57
100 yr / 24 hr	SWFWMD	11.00	3.51	7.68	0.88

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.51

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 4.93

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 0.57

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 11	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 11

COMPUTED BASIN AREA (Ac) 1.38

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	1.06	103.88
Sub-total for Impervious Land Uses			1.06	103.88
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	0.14	10.36
Sub-total for Impervious Land Uses			0.14	10.36
Pond				
Wet Area		100	0.18	18.00
Sub-total for Impervious Land Uses			0.18	18.00
		TOTAL	1.38	132.24

COMPOSITE CN **96**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.44	6.50	0.75
25 yr / 24 hr	SWFWMD	8.00	0.44	7.50	0.86
100 yr / 24 hr	SWFWMD	11.00	0.44	10.49	1.21

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.44

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.50

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 0.86

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 11	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2.75	39.0	36.25
	Estimated SHWT	36.25

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***
Basin 11

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.38	AREA (AC):	1.38
CN:	74	CN:	96
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	1.06
PERVIOUS AREA (AC):	0.97	PERVIOUS AREA (AC):	0.14
		NEW IMPERVIOUS AREA (AC):	1.06

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	0.46	0.75	**0.28**
SWFWMD	25 yr / 24 hr	0.57	0.86	**0.30**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Requirement = 1.0 inch of runoff from New Impervious Area	0.09

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***
Basin 11

Swale 11

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	35.25	0.10	0.00
SHWT	36.25	0.15	0.13
Weir Crest Elevation	36.77	0.18	0.21
DHW 10	38.06	0.25	0.49
DHW 25	38.14	0.25	0.51
Top of Bank Elevation	40.00	0.35	1.07
Top of Berm	40.01	0.41	1.07

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.09

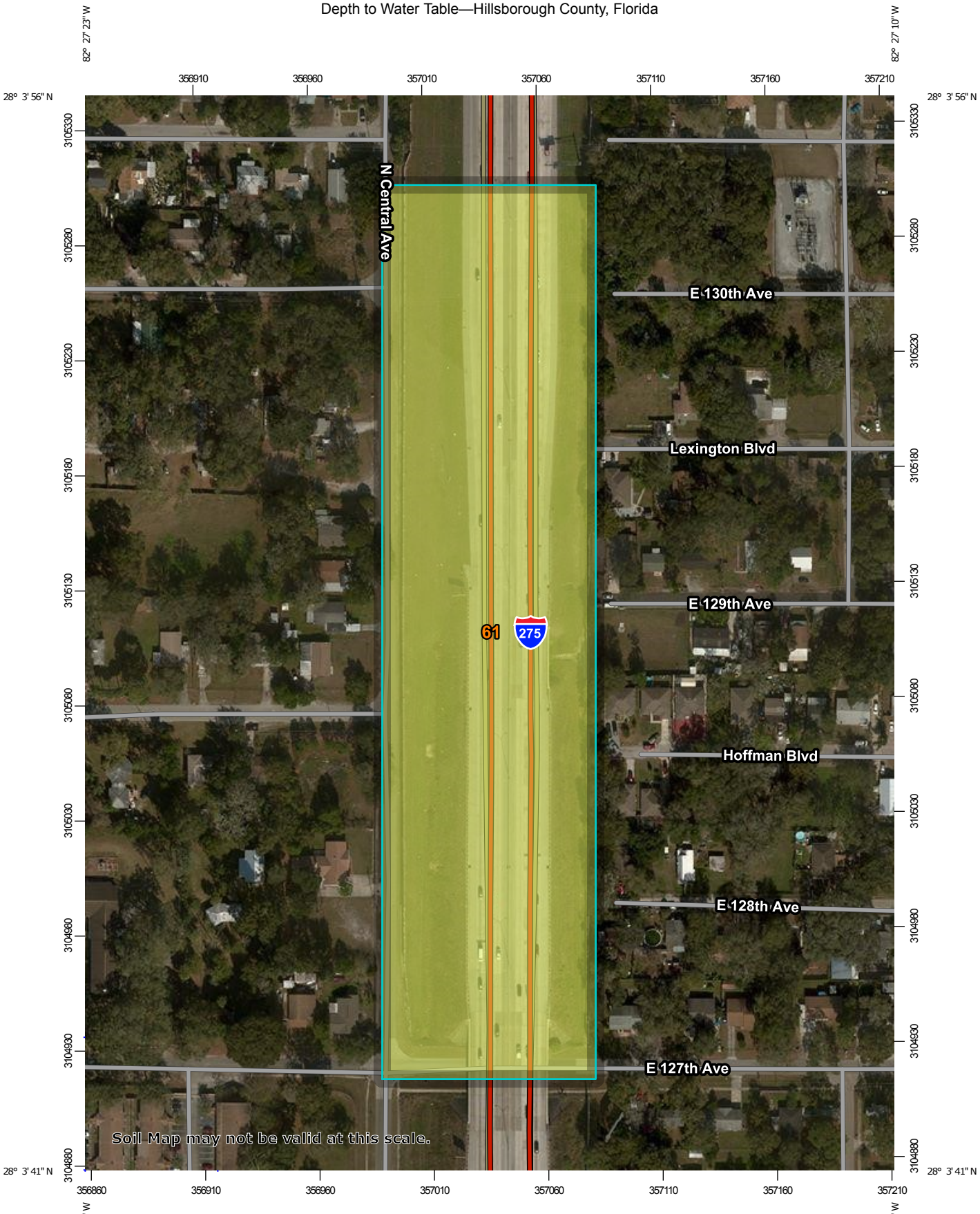
PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.28
DHW 25	Provided between Weir Crest and 25 Year Stage	0.30

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 11	**CHECKED BY:**	TDA

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***
Basin 11

Low Edge of Pavement in Basin =	40.0 Ft	Station/Location: Edge of southbound I-275 at Sta. 4064+50.
1.0' of Clearance =	39.0 Ft	
Distance from EOP to Pond =	30 Ft	
Hydraulic Grade Line (HGL) at EOP =	.02 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	38.98 Ft	
10 year Pond Stage =	38.06 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida



Map Scale: 1:2,280 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 30 60 120 180

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 12	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 12

COMPUTED BASIN AREA (Ac) 1.54

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	0.78	57.72
Open Space, Fair Condition - Urban Land Soil Type	B/D	80	0.21	
Sub-total for Pervious Land Uses			0.99	57.72
Pond				
Open Space, Fair Condition - Urban Land Soil Type	B/D	80	0.55	44.08
Sub-total for Pervious Land Uses			0.55	44.08
		TOTAL	1.54	101.80

COMPOSITE CN **66**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	5.14	3.21	0.41
25 yr / 24 hr	SWFWMD	8.00	5.14	4.01	0.52
100 yr / 24 hr	SWFWMD	11.00	5.14	6.58	0.85

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 5.14

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 6.58

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 0.85

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 12	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 12

COMPUTED BASIN AREA (Ac) 1.54

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	0.96	94.08
Sub-total for Impervious Land Uses			0.96	94.08
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C / B/D	77	0.34	26.39
Sub-total for Impervious Land Uses			0.34	26.39
Pond				
Wet Area		100	0.24	23.82
Sub-total for Impervious Land Uses			0.24	23.82
		TOTAL	1.54	144.30

COMPOSITE CN **94**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.68	6.25	0.80
25 yr / 24 hr	SWFWMD	8.00	0.68	7.24	0.93
100 yr / 24 hr	SWFWMD	11.00	0.68	10.22	1.31

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) | S | 0.68

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) | R | 10.22

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) | V[R] | 1.31

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 12	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2.75	39.0	36.25
	Estimated SHWT	36.25

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Basin 12

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	1.54	AREA (AC):	1.54
CN:	66	CN:	94
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	0.96
PERVIOUS AREA (AC):	0.78	PERVIOUS AREA (AC):	0.34
		NEW IMPERVIOUS AREA (AC):	0.96

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	0.41	0.80	**0.39**
SWFWMD	25 yr / 24 hr	0.52	0.93	**0.41**
SWFWMD	100 yr / 24 hr	0.85	1.31	**0.47**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Requirement = 1.0 inch of runoff from New Impervious Area	0.08

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 12

Swale 12

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Swale Bottom	35.25	0.12	0.00
SHWT	36.25	0.21	0.16
Weir Crest Elevation	36.59	0.24	0.24
DHW 10	37.90	0.36	0.63
DHW 25	37.98	0.36	0.66
Top of Bank Elevation	39.00	0.46	1.08
Top of Berm	40.00	0.55	1.58

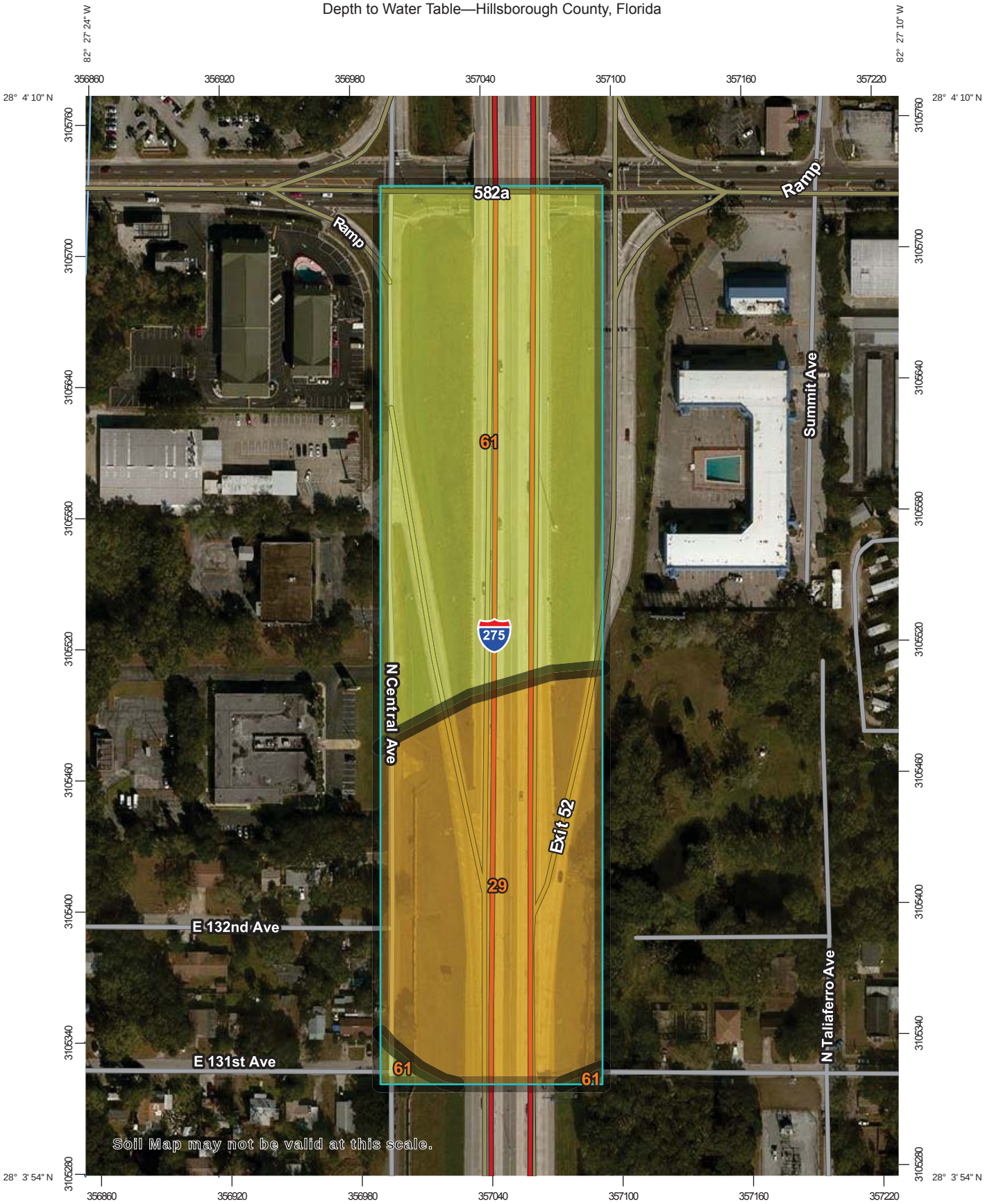
PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.08

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.39
DHW 25	Provided between Weir Crest and 25 Year Stage	0.42
DHW 100	Provided between Weir Crest and 100 Year Stage	0.76

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 12	**CHECKED BY:**	TDA

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***
Basin 12

Low Edge of Pavement in Basin =	40.0 Ft	Station/Location: Edge of southbound I-275 at Sta. 4068+00.
1.0' of Clearance =	39.0 Ft	
Distance from EOP to Pond =	30 Ft	
Hydraulic Grade Line (HGL) at EOP =	.02 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	38.98 Ft	
10 year Pond Stage =	37.9 Ft	**HGL Below EOP**



Map Scale: 1:2,410 if printed on A portrait (8.5" x 11") sheet.

N

0 35 70 140 210 Meters

0 100 200 400 600 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 13	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 13

COMPUTED BASIN AREA (Ac) 3.44

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	2.57	190.18
Sub-total for Pervious Land Uses			2.57	190.18
Pond				
Open Space, Fair Condition - Urban Land Soil Type	C	74	0.87	64.38
Sub-total for Pervious Land Uses			0.87	64.38
		TOTAL	3.44	254.56

COMPOSITE CN **74**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.51	4.04	1.16
25 yr / 24 hr	SWFWMD	8.00	3.51	4.93	1.41
100 yr / 24 hr	SWFWMD	11.00	3.51	7.68	2.20

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.51

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.68

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 2.20

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 13	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 13

COMPUTED BASIN AREA (Ac) 3.44

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	2.57	251.86
Sub-total for Impervious Land Uses			2.57	251.86
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	C	74	0.19	14.01
Sub-total for Impervious Land Uses			0.19	14.01
Pond				
Wet Area		100	0.68	68.07
Sub-total for Impervious Land Uses			0.68	68.07
		TOTAL	3.44	333.94

COMPOSITE CN **97**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.30	6.65	1.91
25 yr / 24 hr	SWFWMD	8.00	0.30	7.65	2.19
100 yr / 24 hr	SWFWMD	11.00	0.30	10.65	3.05

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.30

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 10.65

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 3.05

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 13	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2.75	39.0	36.25
	Permitted Facility: Exist. Pond No. 1	38.49
	Estimated SHWT	38.49

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Basin 13

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	3.44	AREA (AC):	3.44
CN:	74	CN:	97
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	2.57
PERVIOUS AREA (AC):	2.57	PERVIOUS AREA (AC):	0.19
		NEW IMPERVIOUS AREA (AC):	2.57

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.16	1.91	**0.75**
SWFWMD	25 yr / 24 hr	1.41	2.19	**0.78**
SWFWMD	100 yr / 24 hr	2.20	3.05	**0.86**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Requirement = 1.0 inch of runoff from New Impervious Area	0.21

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 13

SMF 13

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	34.49	0.65	0.00
SHWT	38.49	0.68	2.66
Weir Crest Elevation	38.80	0.68	2.87
DHW 10	39.90	0.69	3.62
DHW 25	39.94	0.69	3.65
Top of Bank Elevation	41.50	0.70	4.73
Top of Berm	42.50	0.87	5.52

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.21

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.75
DHW 25	Provided between Weir Crest and 25 Year Stage	0.78
DHW 100	Provided between Weir Crest and 100 Year Stage	1.86

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 13	**CHECKED BY:**	TDA

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***

Basin 13

Low Edge of Pavement in Basin =	45.0 Ft	Station/Location: Edge of southbound I-275 exist ramp at Sta. 4092+00.
1.0' of Clearance =	44.0 Ft	
Distance from EOP to Pond =	200 Ft	
Hydraulic Grade Line (HGL) at EOP =	.16 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	43.84 Ft	
10 year Pond Stage =	39.9 Ft	**HGL Below EOP**

Map Scale: 1:5,610 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 14

COMPUTED BASIN AREA (Ac) 4.49

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type (72%)	C	74	2.71	200.33
Open Space, Fair Condition - Urban Land Soil Type (28%)	B/D or D	80	1.05	84.22
Sub-total for Pervious Land Uses			3.76	284.56
Pond				
Open Space, Fair Condition	C	74	0.73	54.02
Sub-total for Pervious Land Uses			0.73	54.02
		TOTAL	4.49	338.58

COMPOSITE CN **75**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.26	4.19	1.57
25 yr / 24 hr	SWFWMD	8.00	3.26	5.09	1.90
100 yr / 24 hr	SWFWMD	11.00	3.26	7.87	2.94

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.26

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.87

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 2.94

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 14

COMPUTED BASIN AREA (Ac) 4.49

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	3.76	368.48
Sub-total for Impervious Land Uses			3.76	368.48
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	N/A		0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pond				
Wet Pond		100	0.44	44.00
Open Space, Fair Condition	C	74	0.29	
Sub-total for Impervious Land Uses			0.73	44.00
		TOTAL	4.49	412.48

COMPOSITE CN **92**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.89	6.04	2.26
25 yr / 24 hr	SWFWMD	8.00	0.89	7.03	2.63
100 yr / 24 hr	SWFWMD	11.00	0.89	10.00	3.74

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.89

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 10.00

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 3.74

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2 - 3.5	50.5	47.75
	Estimated SHWT	47.75

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Basin 14

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	4.49	AREA (AC):	4.49
CN:	75	CN:	92
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	3.76
PERVIOUS AREA (AC):	2.71	PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	3.76

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.57	2.26	**0.69**
SWFWMD	25 yr / 24 hr	1.90	2.63	**0.73**
SWFWMD	100 yr / 24 hr	2.94	3.74	**0.80**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Volume = 1.0 Inch of Runoff from New Impervious Area	0.31

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 14

SMF 14A

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	44.00	0.38	0.00
SHWT	47.75	0.44	1.54
Weir Crest Elevation	48.44	0.45	1.84
DHW 10	49.94	0.47	2.53
DHW 25	50.03	0.47	2.57
DHW 100	51.00	0.49	3.04
Top of Bank Elevation	52.00	0.50	3.53
Top of Berm	52.00	0.73	3.53

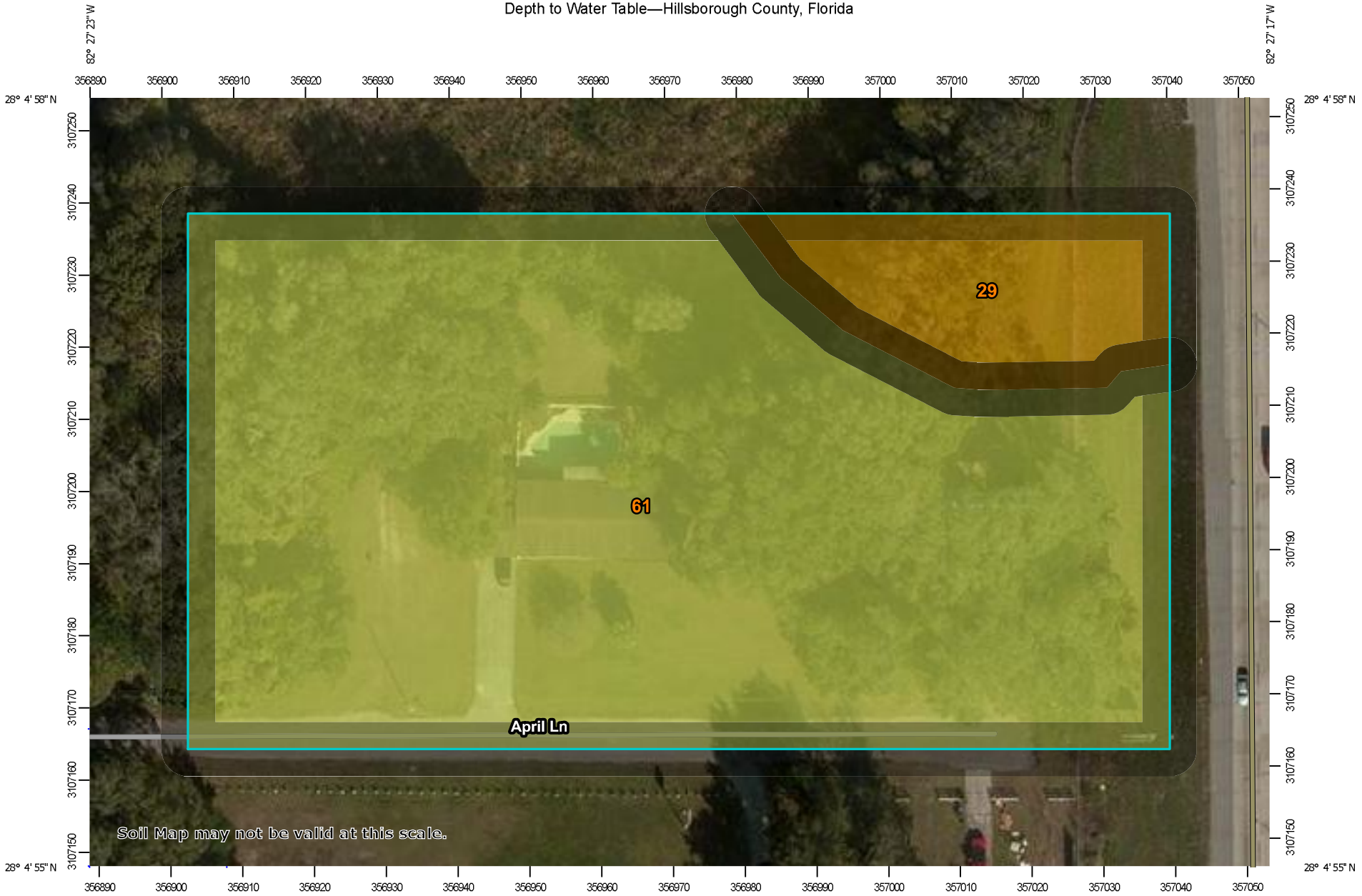
PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.31

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.69
DHW 25	Provided between Weir Crest and 25 Year Stage	0.73
DHW 100	Provided between Weir Crest and 100 Year Stage	1.19

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***
Basin 14

Low Edge of Pavement in Basin =	53.0 Ft	Station/Location: Edge of northbound Bearss Ave. exit ramp at Sta. 4137+00.
1.0' of Clearance =	52.0 Ft	
Distance from EOP to Pond =	730 Ft	
Hydraulic Grade Line (HGL) at EOP =	.58 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	51.42 Ft	
10 year Pond Stage =	49.94 Ft	**HGL Below EOP**



Map Scale: 1:752 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 10 20 40 60

Feet
0 35 70 140 210

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 14

COMPUTED BASIN AREA (Ac) 4.76

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type (72%)	C	74	2.71	200.33
Open Space, Fair Condition - Urban Land Soil Type (28%)	B/D or D	80	1.05	84.22
Sub-total for Pervious Land Uses			3.76	284.56
Pond				
Open Space, Fair Condition	C	74	1.00	74.00
Sub-total for Pervious Land Uses			1.00	74.00
		TOTAL	4.76	358.56

COMPOSITE CN **75**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.28	4.18	1.66
25 yr / 24 hr	SWFWMD	8.00	3.28	5.08	2.01
100 yr / 24 hr	SWFWMD	11.00	3.28	7.86	3.12

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.28

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.86

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 3.12

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 14

COMPUTED BASIN AREA (Ac) 4.76

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	3.76	368.48
Sub-total for Impervious Land Uses			3.76	368.48
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	N/A		0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pond				
Wet Pond		100	0.75	75.00
Open Space, Fair Condition	C	74	0.25	
Sub-total for Impervious Land Uses			1.00	75.00
		TOTAL	4.76	443.48

COMPOSITE CN **93**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.73	6.19	2.46
25 yr / 24 hr	SWFWMD	8.00	0.73	7.18	2.85
100 yr / 24 hr	SWFWMD	11.00	0.73	10.17	4.03

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.73

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 10.17

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 4.03

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
-	Permitted Facility: Exist. Pond No. 2	48.21
	Estimated SHWT	48.21

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Basin 14

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	4.76	AREA (AC):	4.76
CN:	75	CN:	93
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	3.76
PERVIOUS AREA (AC):	3.76	PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	3.76

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.66	2.46	**0.80**
SWFWMD	25 yr / 24 hr	2.01	2.85	**0.83**
SWFWMD	100 yr / 24 hr	3.12	4.03	**0.92**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Volume = 1.0 Inch of Runoff from New Impervious Area	0.31

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 14

SMF 14B

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	39.85	0.38	0.00
SHWT	48.21	0.75	4.72
Weir Crest Elevation	48.62	0.77	5.04
DHW 10	49.63	0.82	5.84
DHW 25	49.67	0.82	5.87
Top of Bank Elevation (DHW 100)	51.30	0.89	7.26
Top of Berm	52.30	1.00	8.21

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.31

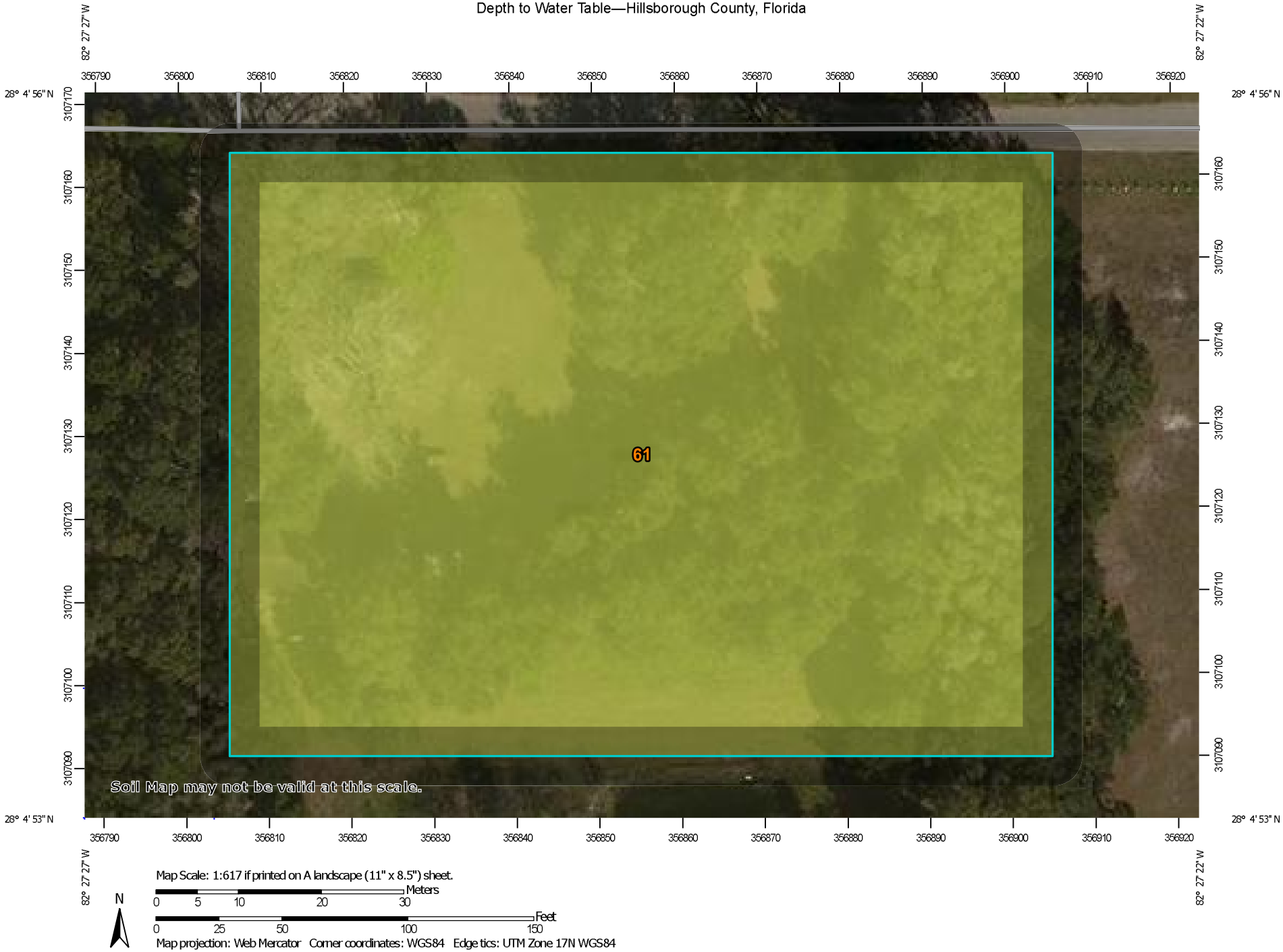
PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.80
DHW 25	Provided between Weir Crest and 25 Year Stage	0.83
DHW 100	Provided between Weir Crest and 100 Year Stage	2.23

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***
Basin 14

Low Edge of Pavement in Basin =	53.0 Ft	Station/Location: Edge of northbound Bearss Ave. exit ramp at Sta. 4137+00.
1.0' of Clearance =	52.0 Ft	
Distance from EOP to Pond =	730 Ft	
Hydraulic Grade Line (HGL) at EOP =	.58 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	51.42 Ft	
10 year Pond Stage =	49.63 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida



Map Scale: 1:617 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 5 10 20 30

Feet
0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 14

COMPUTED BASIN AREA (Ac) 3.76

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type (72%)	C	74	2.71	200.33
Open Space, Fair Condition - Urban Land Soil Type (28%)	B/D or D	80	1.05	84.22
Sub-total for Pervious Land Uses			3.76	284.56
Pond				
Open Space, Fair Condition	C	74	0.00	0.00
Sub-total for Pervious Land Uses			0.00	0.00
		TOTAL	3.76	284.56

COMPOSITE CN **76**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.21	4.22	1.32
25 yr / 24 hr	SWFWMD	8.00	3.21	5.12	1.60
100 yr / 24 hr	SWFWMD	11.00	3.21	7.90	2.48

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.21

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.90

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 2.48

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 14

COMPUTED BASIN AREA (Ac) 3.76

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	3.76	368.48
Sub-total for Impervious Land Uses			3.76	368.48
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	N/A		0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pond				
Wet Pond		100	0.00	0.00
Open Space, Fair Condition	C	74	0.00	
Sub-total for Impervious Land Uses			0.00	0.00
		TOTAL	3.76	368.48

COMPOSITE CN **98**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.20	6.76	2.12
25 yr / 24 hr	SWFWMD	8.00	0.20	7.76	2.43
100 yr / 24 hr	SWFWMD	11.00	0.20	10.76	3.37

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.20

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 10.76

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 3.37

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

III ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2 - 3.5	52.0	49.25
	Estimated SHWT	49.25

IV ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Basin 14

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	3.76	AREA (AC):	3.76
CN:	76	CN:	98
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	3.76
PERVIOUS AREA (AC):	3.76	PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	3.76

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.32	2.12	**0.80**
SWFWMD	25 yr / 24 hr	1.60	2.43	**0.83**
SWFWMD	100 yr / 24 hr	2.48	3.37	**0.89**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Volume = 1.0 Inch of Runoff from New Impervious Area	0.31

V ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 14

SMF 14C

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	47.00	0.51	0.00
SHWT	49.25	0.63	1.28
Weir Crest Elevation	49.73	0.66	1.59
DHW 10	50.88	0.73	2.39
DHW 25	50.92	0.73	2.41
DHW 100	51.00	0.73	2.47
Top of Bank Elevation	52.00	0.79	3.23
Top of Berm	52.00	1.04	3.23

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.31

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.80
DHW 25	Provided between Weir Crest and 25 Year Stage	0.83
DHW 100	Provided between Weir Crest and 100 Year Stage	0.89

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 14	**CHECKED BY:**	TDA

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***
Basin 14

Low Edge of Pavement in Basin =	53.0 Ft	Station/Location: Edge of northbound Bearss Ave. exit ramp at Sta. 4137+00.
1.0' of Clearance =	52.0 Ft	
Distance from EOP to Pond =	730 Ft	
Hydraulic Grade Line (HGL) at EOP =	.58 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	51.42 Ft	
10 year Pond Stage =	50.88 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida

Map Scale: 1:6,870 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 300 600 1200 1800

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 15

COMPUTED BASIN AREA (Ac) 3.35

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk (Reconstruction)		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type (90%)	C	74	2.06	152.51
Open Space, Fair Condition - Urban Land Soil Type (10%)	A/D	80	0.23	18.32
Sub-total for Pervious Land Uses			2.29	170.83
Pond				
Roadway, Shoulder and sidewalk	C	74	1.06	78.44
Sub-total for Pervious Land Uses			1.06	78.44
		TOTAL	3.35	249.27

COMPOSITE CN **74**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.44	4.09	1.14
25 yr / 24 hr	SWFWMD	8.00	3.44	4.97	1.39
100 yr / 24 hr	SWFWMD	11.00	3.44	7.73	2.16

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.44

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 4.97

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 1.39

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 15

COMPUTED BASIN AREA (Ac) 3.35

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	2.29	224.42
Sub-total for Impervious Land Uses			2.29	224.42
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	N/A		0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pond				
Wet Area		100	0.56	56.00
Open Space, Fair Condition	C	74	0.50	37.00
Sub-total for Impervious Land Uses			1.06	93.00
		TOTAL	3.35	317.42

COMPOSITE CN **95**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.55	6.38	1.78
25 yr / 24 hr	SWFWMD	8.00	0.55	7.37	2.06
100 yr / 24 hr	SWFWMD	11.00	0.55	10.36	2.89

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.55

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.37

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 2.06

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

III ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***
Basin 15

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	3.35	AREA (AC):	3.35
CN:	74	CN:	95
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	2.29
PERVIOUS AREA (AC):	2.29	PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	2.29

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.14	1.78	**0.64**
SWFWMD	25 yr / 24 hr	1.39	2.06	**0.67**
SWFWMD	100 yr / 24 hr	2.16	2.89	**0.73**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Requirement = 1.0 inch of runoff from New Impervious Area	0.19

IV ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Runoff Diverted from Basin 16

COMPUTED BASIN AREA (Ac) 1.09

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	**SOIL GROUP**	**CN**	**AREA**	**PRODUCT**
Impervious (New)				
Roadway, Shoulder (Widening Sta. 4166+00 to Sta. 4180+38)		98	1.09	106.82
Sub-total for Impervious Land Uses			1.09	106.82
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	A	74	0.00	0.00
Sub-total for Pervious Land Uses			0.00	0.00
Pond				
Sub-total for Pervious Land Uses				
		TOTAL	1.09	106.82

COMPOSITE CN	**98**

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
100 yr / 24 hr	SWFWMD	11.00	0.20	10.76	0.98

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	0.20

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	10.76

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.98

V ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Runoff Diverted from Basin 16

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		POST-DEVELOPED CONDITION	
AREA (AC):		AREA (AC):	1.09
CN:		CN:	98
IMPERVIOUS AREA (AC):		IMPERVIOUS AREA (AC):	1.09
PERVIOUS AREA (AC):		PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	1.09

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	100 yr / 24 hr		0.98	**0.98**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Volume = 1.0 inch of Runoff from New Impervious Area	0.09

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

VI ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2.75	56.5	53.75
	Estimated SHWT	53.75

VII ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 15

SMF 15A

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	50.25	0.37	0.00
SHWT	53.75	0.56	1.63
Weir Crest Elevation	54.24	0.59	1.91
DHW 10	55.42	0.66	2.65
DHW 25	55.68	0.67	2.82
DHW 100	57.00	0.74	3.75
Top of Bank Elevation	58.00	0.80	4.53
Top of Berm	58.00	1.06	4.53

REQUIRED TREATMENT VOLUME	AC-FT
Treatment Volume Required = Runoff from Basin 15 and Diverted Area from Basin 16	0.29

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.29

REQUIRED ATTENUATION VOLUME		AC-FT
*DHW 10	Provided between Weir Crest and 10 Year Stage	0.74
*DHW 25	Provided between Weir Crest and 25 Year Stage	0.91
*DHW 100	Provided between Weir Crest and 100 Year Stage	1.71

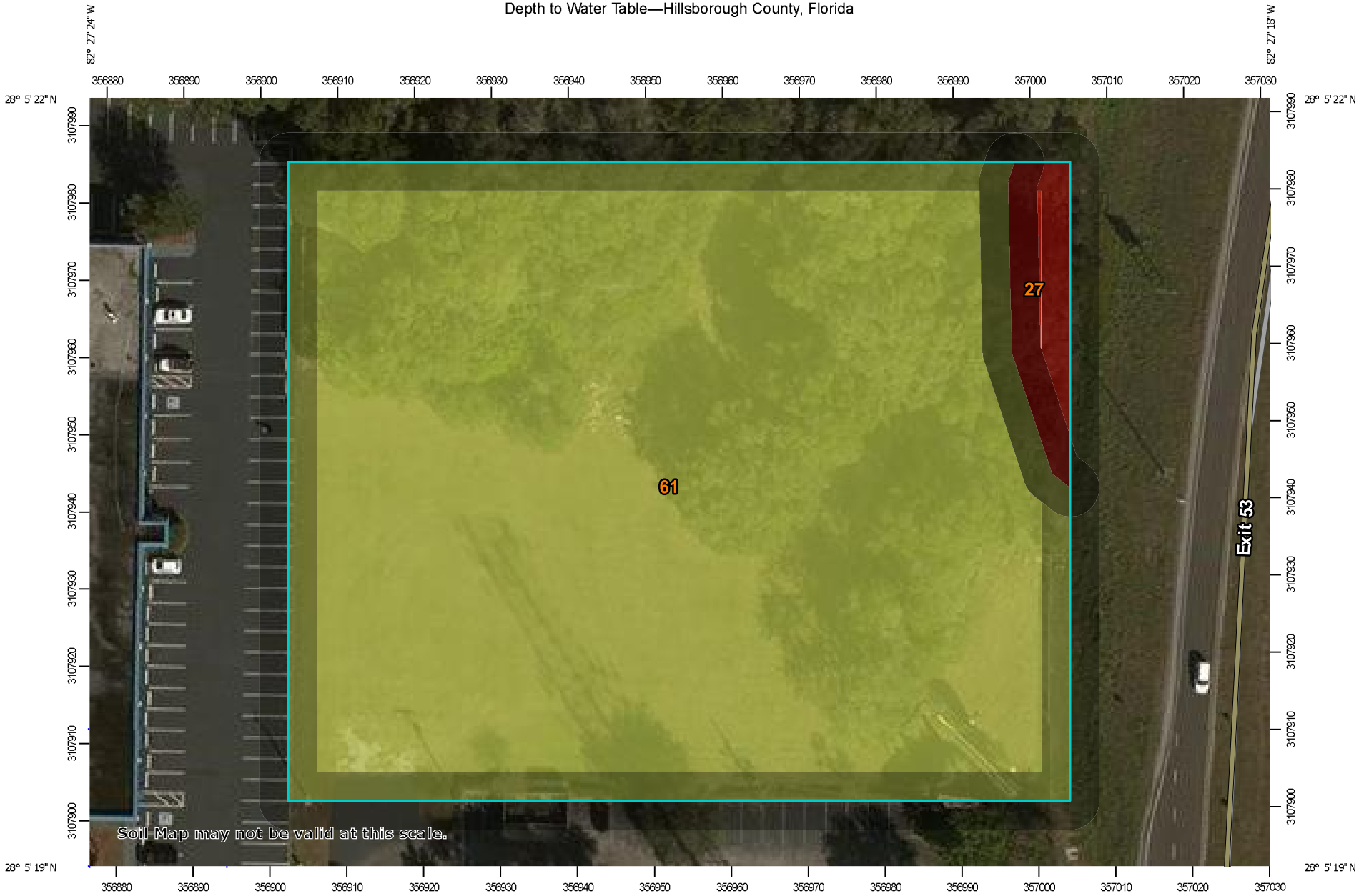
*Includes retention of the 100-Year runoff volume from the 1.09 acres diverted from Basin 16.

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.74
DHW 25	Provided between Weir Crest and 25 Year Stage	0.91
DHW 100	Provided between Weir Crest and 100 Year Stage	1.84

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***

Basin 15

Low Edge of Pavement in Basin =	57.0 Ft	Station/Location: Edge of northbound Bearss Ave. exist ramp at Sta. 4153+00.
1.0' of Clearance =	56.0 Ft	
Distance from EOP to Pond =	100 Ft	
Hydraulic Grade Line (HGL) at EOP =	.08 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	55.92 Ft	
10 year Pond Stage =	55.42 Ft	**HGL Below EOP**



Map Scale: 1:702 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 10 20 40 60

Feet: 0 30 60 120 180

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 15

COMPUTED BASIN AREA (Ac) 3.94

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk (Reconstruction)		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type (90%)	C	74	2.06	152.51
Open Space, Fair Condition - Urban Land Soil Type (10%)	A/D	80	0.23	18.32
Sub-total for Pervious Land Uses			2.29	170.83
Pond				
Roadway, Shoulder and sidewalk	C	74	0.99	73.26
Roadway, Shoulder and sidewalk		80	0.66	52.80
Sub-total for Pervious Land Uses			1.65	126.06
		TOTAL	3.94	296.89

COMPOSITE CN **75**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.27	4.19	1.37
25 yr / 24 hr	SWFWMD	8.00	3.27	5.08	1.67
100 yr / 24 hr	SWFWMD	11.00	3.27	7.86	2.58

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.27

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 5.08

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 1.67

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 15

COMPUTED BASIN AREA (Ac) 3.94

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	2.29	224.42
Sub-total for Impervious Land Uses			2.29	224.42
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	N/A		0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pond				
Wet Area		100	0.72	72.00
Open Space, Fair Condition	C	74	0.93	68.82
Sub-total for Impervious Land Uses			1.65	140.82
		TOTAL	3.94	365.24

COMPOSITE CN **93**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.79	6.14	2.01
25 yr / 24 hr	SWFWMD	8.00	0.79	7.13	2.34
100 yr / 24 hr	SWFWMD	11.00	0.79	10.11	3.32

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.79

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.13

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 2.34

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

III ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***
Basin 15

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	3.94	AREA (AC):	3.94
CN:	75	CN:	93
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	2.29
PERVIOUS AREA (AC):	2.29	PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	2.29

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.37	2.01	**0.64**
SWFWMD	25 yr / 24 hr	1.67	2.34	**0.67**
SWFWMD	100 yr / 24 hr	2.58	3.32	**0.74**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Requirement = 1.0 inch of runoff from New Impervious Area	0.19

IV ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Runoff Diverted from Basin 16

COMPUTED BASIN AREA (Ac) 1.09

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	**SOIL GROUP**	**CN**	**AREA**	**PRODUCT**
Impervious (New)				
Roadway, Shoulder (Widening Sta. 4166+00 to Sta. 4180+38)		98	1.09	106.82
Sub-total for Impervious Land Uses			1.09	106.82
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	A	74	0.00	0.00
Sub-total for Pervious Land Uses			0.00	0.00
Pond				
Sub-total for Pervious Land Uses				
		TOTAL	1.09	106.82

COMPOSITE CN	**98**

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
100 yr / 24 hr	SWFWMD	11.00	0.20	10.76	0.98

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	0.20

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	10.76

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.98

V ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Runoff Diverted from Basin 16

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		POST-DEVELOPED CONDITION	
AREA (AC):		AREA (AC):	1.09
CN:		CN:	98
IMPERVIOUS AREA (AC):		IMPERVIOUS AREA (AC):	1.09
PERVIOUS AREA (AC):		PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	1.09

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	100 yr / 24 hr		0.98	**0.98**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Volume = 1.0 inch of Runoff from New Impervious Area	0.09

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

VI ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
2.75	51.0	48.25
	Estimated SHWT	48.25

VII ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 15

SMF 15B

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	42.20	0.22	0.00
SHWT	48.25	0.72	2.84
Weir Crest Elevation	48.63	0.80	3.13
DHW 10	49.51	0.88	3.88
DHW 25	49.71	0.90	4.05
DHW 100	51.00	1.02	5.29
Top of Bank Elevation	52.00	1.11	6.36
Top of Berm	52.00	1.65	6.36

REQUIRED TREATMENT VOLUME	AC-FT
Treatment Volume Required = Runoff from Basin 15 and Diverted Area from Basin 16	0.29

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.29

REQUIRED ATTENUATION VOLUME		AC-FT
*DHW 10	Provided between Weir Crest and 10 Year Stage	0.74
*DHW 25	Provided between Weir Crest and 25 Year Stage	0.92
*DHW 100	Provided between Weir Crest and 100 Year Stage	1.72

*Includes retention of the 100-Year runoff volume from the 1.09 acres diverted from Basin 16.

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.74
DHW 25	Provided between Weir Crest and 25 Year Stage	0.92
DHW 100	Provided between Weir Crest and 100 Year Stage	2.16

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***

Basin 15

Low Edge of Pavement in Basin =	57.0 Ft	Station/Location: Edge of northbound Bearss Ave. exist ramp at Sta. 4153+00.
1.0' of Clearance =	56.0 Ft	
Distance from EOP to Pond =	1500 Ft	
Hydraulic Grade Line (HGL) at EOP =	1.2 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	54.8 Ft	
10 year Pond Stage =	49.51 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida

Map Scale: 1:1,130 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

I ***PRE DEVELOPMENT***

RUNOFF CURVE NUMBER (CN) CALCULATIONS

Basin 15

COMPUTED BASIN AREA (Ac) 3.76

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious				
Roadway, Shoulder and sidewalk (Reconstruction)		98	0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pervious				
Open Space, Fair Condition - Urban Land Soil Type (90%)	C	74	2.06	152.51
Open Space, Fair Condition - Urban Land Soil Type (10%)	A/D	80	0.23	18.32
Sub-total for Pervious Land Uses			2.29	170.83
Pond				
Roadway, Shoulder and sidewalk	A/D	74	0.88	65.27
Roadway, Shoulder and sidewalk	A/D	80	0.59	47.04
Sub-total for Pervious Land Uses			1.47	112.31
		TOTAL	3.76	283.14

COMPOSITE CN **75**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	3.28	4.18	1.31
25 yr / 24 hr	SWFWMD	8.00	3.28	5.08	1.59
100 yr / 24 hr	SWFWMD	11.00	3.28	7.85	2.46

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 3.28

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 5.08

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 1.59

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

II ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Basin 15

COMPUTED BASIN AREA (Ac) 3.76

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	SOIL GROUP	CN	AREA	PRODUCT
Impervious (New)				
Roadway, Shoulder and sidewalk		98	2.29	224.42
Sub-total for Impervious Land Uses			2.29	224.42
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	N/A		0.00	0.00
Sub-total for Impervious Land Uses			0.00	0.00
Pond				
Wet Area		100	0.93	93.00
Open Space, Fair Condition	A/D	74	0.54	39.96
Sub-total for Impervious Land Uses			1.47	132.96
		TOTAL	3.76	357.38

COMPOSITE CN **95**

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
10 yr / 24 hr	SWFWMD	7.00	0.52	6.41	2.01
25 yr / 24 hr	SWFWMD	8.00	0.52	7.41	2.32
100 yr / 24 hr	SWFWMD	11.00	0.52	10.40	3.26

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10 — SOIL STORAGE (inches) S 0.52

2) DETERMINE RUNOFF - R

P = 8.00

R = (P - 0.2*S)^2 / (P + 0.8*S) — RUNOFF (inches) R 7.41

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA — RUNOFF (ac-ft) V[R] 2.32

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

III ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***
Basin 15

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		**POST-DEVELOPED CONDITION**	
AREA (AC):	3.76	AREA (AC):	3.76
CN:	75	CN:	95
IMPERVIOUS AREA (AC):	0.00	IMPERVIOUS AREA (AC):	2.29
PERVIOUS AREA (AC):	2.29	PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	2.29

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	10 yr / 24 hr	1.31	2.01	**0.70**
SWFWMD	25 yr / 24 hr	1.59	2.32	**0.73**
SWFWMD	100 yr / 24 hr	2.46	3.26	**0.80**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Requirement = 1.0 inch of runoff from New Impervious Area	0.19

IV ***POST DEVELOPMENT***
RUNOFF CURVE NUMBER (CN) CALCULATIONS
Runoff Diverted from Basin 16

COMPUTED BASIN AREA (Ac) 1.09

DETERMINE BASIN RUNOFF CURVE-NUMBER-CN

LAND-USE DESCRIPTION	**SOIL GROUP**	**CN**	**AREA**	**PRODUCT**
Impervious (New)				
Roadway, Shoulder (Widening Sta. 4166+00 to Sta. 4180+38)		98	1.09	106.82
Sub-total for Impervious Land Uses			1.09	106.82
Pervious				
Open Space, Fair Condition - Urban Land Soil Type	A	74	0.00	0.00
Sub-total for Pervious Land Uses			0.00	0.00
Pond				
Sub-total for Pervious Land Uses				
		TOTAL	1.09	106.82

COMPOSITE CN **98**

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

ESTIMATED RUNOFF VOLUME

SUMMARY TABLE:

DESIGN STORM	Agency	P [in]	S [in]	R [in]	V[R] [ac-ft]
100 yr / 24 hr	SWFWMD	11.00	0.20	10.76	0.98

SAMPLE CALCULATION:

1) DETERMINE SOIL STORAGE - S

S= (1000/CN) - 10

SOIL STORAGE (inches)	S	0.20

2) DETERMINE RUNOFF - R

P = 11.00

R = (P - 0.2*S)^2 / (P + 0.8*S)

RUNOFF (inches)	R	10.76

3) DETERMINE RUNOFF VOLUME - V[R]

V[R] = R / 12 * AREA

RUNOFF (ac-ft)	V[R]	0.98

V ***SUMMARY OF REQUIRED ATTENUTION AND TREATMENT VOLUME***

Runoff Diverted from Basin 16

REQUIRED ATTENUTATION CACULATION

PRE-DEVELOPED CONDITION		POST-DEVELOPED CONDITION	
AREA (AC):		AREA (AC):	1.09
CN:		CN:	98
IMPERVIOUS AREA (AC):		IMPERVIOUS AREA (AC):	1.09
PERVIOUS AREA (AC):		PERVIOUS AREA (AC):	0.00
		NEW IMPERVIOUS AREA (AC):	1.09

SUMMARY OF WATER MANAGEMENT DISTRICT ATTENUATION ESTIMATES

AGENCY	DESIGN STORM	RUNOFF VOLUME V[R] PRE [AC-FT]	POST [AC-FT]	TOTAL RETENTION [AC-FT]
SWFWMD	100 yr / 24 hr		0.98	**0.98**

REQUIRED TREATMENT VOLUME CALCULATION	AC-FT
Wet Detention Treatment Volume = 1.0 inch of Runoff from New Impervious Area	0.09

PROJECT TITLE:	SR 93 from MLK Jr. Blvd. (SR 574) to North of Bearss Ave.	**DATE:**	Nov-18
PROJECT NUMBER:	431821-1	**MADE BY:**	JLL
BASIN DESIGNATION:	Basin 15	**CHECKED BY:**	TDA

VI ***GEOTECHNICAL INFORMATION***

NRCS SOIL SURVEY		
Approximate Depth to SHWT (Ft)	**Adjacent Ground Elevation (Ft)**	**Estimated NRCS SHWT (Ft)**
3.5	54.0	50.50
	Estimated SHWT	50.50

VII ***PROVIDED TREATMENT & ATTENUATION VOLUME CALCULATIONS***

Basin 15

SMF 15C

POND STAGE, AREA & STORAGE			
DESCRIPTION	**STAGE (FT)**	**AREA (AC)**	**CUMMULATIVE STORAGE (AC-FT)**
Pond Bottom	48.00	0.75	0.00
SHWT	50.50	0.93	2.10
Weir Crest Elevation	50.80	0.95	2.38
DHW 10	51.62	1.00	3.18
DHW 25	51.79	1.02	3.35
DHW 100	53.00	1.10	4.63
Top of Bank Elevation	54.00	1.17	5.77
Top of Berm	54.00	1.47	5.77

REQUIRED TREATMENT VOLUME	AC-FT
Treatment Volume Required = Runoff from Basin 15 and Diverted Area from Basin 16	0.29

PROVIDED TREATMENT VOLUME	AC-FT
Treatment Volume Provided = Volume between Seasonal High and Weir Crest Elevation	0.29

REQUIRED ATTENUATION VOLUME		AC-FT
*DHW 10	Provided between Weir Crest and 10 Year Stage	0.80
*DHW 25	Provided between Weir Crest and 25 Year Stage	0.97
*DHW 100	Provided between Weir Crest and 100 Year Stage	1.77

*Includes retention of the 100-Year runoff volume from the 1.09 acres diverted from Basin 16.

PROVIDED ATTENUATION VOLUME		AC-FT
DHW 10	Provided between Weir Crest and 10 Year Stage	0.80
DHW 25	Provided between Weir Crest and 25 Year Stage	0.97
DHW 100	Provided between Weir Crest and 100 Year Stage	2.25

VI ***BASIN HYDRAULICS - VERIFY POND DOES NOT ADVERSELY IMPACT BASIN INLETS***

Basin 15

Low Edge of Pavement in Basin =	57.0 Ft	Station/Location: Edge of northbound Bearss Ave. exist ramp at Sta. 4153+00.
1.0' of Clearance =	56.0 Ft	
Distance from EOP to Pond =	1500 Ft	
Hydraulic Grade Line (HGL) at EOP =	1.2 Ft	(Assume Slope = 0.0008 ft/ft)
10 year HGL =	54.8 Ft	
10 year Pond Stage =	51.62 Ft	**HGL Below EOP**

Depth to Water Table—Hillsborough County, Florida

Map Scale: 1:3,430 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

Depth to Water Table—Hillsborough County, Florida

Map Scale: 1:2,960 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

United States Department of Agriculture

Soil Conservation Service

In cooperation with University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations and Soil Science Department, and Florida Department of Agriculture and Consumer Services

Soil Survey of Hillsborough County, Florida

TABLE 15.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Map symbol and soil name	Hydrologic group	Flooding			High water table			Bedrock		Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Initial	Total	Uncoated steel	Concrete
					Ft			In		In	In		
2---------- Adamsville	C	None---------	---	---	2.0-3.5	Apparent	Jun-Nov	>60	---	---	---	Low-------	Moderate.
3---------- Archbold	A	None---------	---	---	3.5-6.0	Apparent	Jun-Nov	>60	---	---	---	Low-------	Moderate.
4. Arents													
5:													
Basinger----------	D	None---------	---	---	+2-1.0	Apparent	Jun-Feb	>60	---	---	---	High------	Moderate.
Holopaw----------	D	None---------	---	---	+2-1.0	Apparent	Jun-Apr	>60	---	---	---	High------	Moderate.
Samsula----------	D	None---------	---	---	+2-1.0	Apparent	Jan-Dec	>60	---	16-20	30-34	High------	High.
6:													
Broward----------	C	None---------	---	---	1.5-2.5	Apparent	Jun-Nov	20-40	Soft	---	---	Low-------	Low.
Urban land.													
7, 8---------- Candler	A	None---------	---	---	>6.0	---	---	>60	---	---	---	Low-------	High.
9:													
Candler----------	A	None---------	---	---	>6.0	---	---	>60	---	---	---	Low-------	High.
Urban land.													
10---------- Chobee	B/D	None---------	---	---	0-1.0	Apparent	Jun-Feb	>60	---	---	---	Moderate	Low.
11---------- Chobee	D	None---------	---	---	+2-1.0	Apparent	Jun-Dec	>60	---	---	---	High------	High.
12---------- Chobee	B/D	Frequent-----	Brief to very long.	Jun-Feb	0-1.0	Apparent	Jun-Feb	>60	---	---	---	Moderate	Low.
13---------- Eaton	D	None---------	---	---	0-1.0	Apparent	Jul-Oct	>60	---	---	---	High------	High.
14---------- Eaton	D	None---------	---	---	+2-1.0	Apparent	Jun-Feb	>60	---	---	---	High------	High.

TABLE 15.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table			Bedrock		Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Initial	Total	Uncoated steel	Concrete
					Ft			In		In	In		
15---------- Felda	B/D	None--------	---	---	0-1.0	Apparent	Jul-Mar	>60	---	---	---	High-----	Moderate.
16---------- Felda	B/D	Occasional	Brief-----	Jul-Feb	0-1.0	Apparent	Jul-Mar	>60	---	---	---	High-----	Moderate.
17---------- Floridana	B/D	None--------	---	---	0-1.0	Apparent	Jun-Feb	>60	---	---	---	Moderate	Low.
18---------- Fort Meade	A	None--------	---	---	>6.0	---	---	>60	---	---	---	Low------	High.
19---------- Gainesville	A	None--------	---	---	>6.0	---	---	>60	---	---	---	Low------	High.
20. Gypsum land													
21---------- Immokalee	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	High.
22: Immokalee--------	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	High.
Urban land.													
23---------- Kendrick	A	None--------	---	---	>6.0	---	---	>60	---	---	---	Moderate	High.
24---------- Kesson	D	Frequent----	Very long	Jan-Dec	0-0.5	Apparent	Jan-Dec	>60	---	---	---	High-----	Low.
25---------- Lake	A	None--------	---	---	>6.0	---	---	>60	---	---	---	Low------	High.
26: Lochloosa--------	C	None--------	---	---	2.5-5.0	Apparent	Jul-Oct	>60	---	---	---	High-----	High.
Micanopy---------	C	None--------	---	---	1.5-2.5	Perched	Jul-Nov	>60	---	---	---	High-----	High.
27---------- Malabar	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	Low.
28: Millhopper-------	A	None--------	---	---	3.5-6.0	Perched	Aug-Feb	>60	---	---	---	Low------	Moderate.
Urban land.													
29---------- Myakka	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	High.

TABLE 15.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table			Bedrock		Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Initial	Total	Uncoated steel	Concrete
					Ft			In		In	In		
30---------- Myakka	D	Frequent----	Very long	Jan-Dec	0-1.0	Apparent	Jan-Dec	>60	---	---	---	High-----	Low.
32: Myakka---------- Urban land.	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	High.
33---------- Ona	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	High.
34: Ona---------- Urban land.	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	High.
35---------- Orlando	A	None--------	---	---	>6.0	---	---	>60	---	---	---	Low------	High.
36---------- Orsino	A	None--------	---	---	3.5-5.0	Apparent	Jun-Dec	>60	---	---	---	Low------	Moderate.
37---------- Paisley	D	None--------	---	---	+2-1.0	Apparent	Jun-Feb	>60	---	---	---	High-----	Moderate.
38---------- Pinellas	B/D	None--------	---	---	0-1.0	Apparent	Jun-Nov	>60	---	---	---	High-----	Low.
39: Arents.													
41---------- Pomello	C	None--------	---	---	2.0-3.5	Apparent	Jul-Nov	>60	---	---	---	Low------	High.
42: Pomello---------- Urban land.	C	None--------	---	---	2.0-3.5	Apparent	Jul-Nov	>60	---	---	---	Low------	High.
43. Quartzipsamments													
44---------- St. Augustine	C	Rare--------	---	---	1.5-3.0	Apparent	Jul-Oct	>60	---	---	---	High-----	High.
45: St. Augustine---- Urban land.	C	Rare--------	---	---	1.5-3.0	Apparent	Jul-Oct	>60	---	---	---	High-----	High.

TABLE 15.--SOIL AND WATER FEATURES--Continued

Map symbol and soil name	Hydrologic group	Flooding			High water table			Bedrock		Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Depth	Hardness	Initial	Total	Uncoated steel	Concrete
					Ft			In		In	In		
46---------- St. Johns	B/D	None--------	---	---	0-1.0	Apparent	Jun-Apr	>60	---	---	---	High-----	High.
47---------- Seffner	C	None--------	---	---	1.5-3.5	Apparent	Jun-Nov	>60	---	---	---	Low------	Moderate.
50. Slickens													
51. Haplaquents													
52---------- Smyrna	B/D	None--------	---	---	0-1.0	Apparent	Jul-Oct	>60	---	---	---	High-----	High.
53, 54:													
Tavares----------	A	None--------	---	---	3.5-6.0	Apparent	Jun-Dec	>60	---	---	---	Low------	High.
Millhopper-------	A	None--------	---	---	3.5-6.0	Perched	Aug-Feb	>60	---	---	---	Low------	Moderate.
55:													
Tavares----------	A	None--------	---	---	3.5-6.0	Apparent	Jun-Dec	>60	---	---	---	Low------	High.
Urban land.													
56. Urban land													
57---------- Wabasso	B/D	None--------	---	---	0-1.0	Apparent	Jun-Oct	>60	---	---	---	Moderate	High.
58:													
Wabasso----------	B/D	None--------	---	---	0-1.0	Apparent	Jun-Oct	>60	---	---	---	Moderate	High.
Urban land.													
59---------- Winder	B/D	None--------	---	---	0-1.0	Apparent	Jun-Dec	>60	---	---	---	High-----	Low.
60---------- Winder	B/D	Frequent----	Long------	Jul-Oct	0-1.0	Apparent	Jun-Dec	>60	---	---	---	High-----	Low.
61---------- Zolfo	C	None--------	---	---	2.0-3.5	Apparent	Jun-Nov	>60	---	---	---	Low------	Moderate.

100-Year Floodplain Calculations

Project:	SR 93 from MLK Blvd. (SR 574) to North of Bearss Ave.	**Designed By:**	JLL	**Date:**	30-Nov-18
Subject:	100 Year Floodplain Imapcts & Mitigation	**Checked By :**	TDA	**Date:**	30-Nov-18

100 Year Floodplain Encroachment

Basin	LOCATION			100 Year Flodplain Elevation	Area	Depth (Estimated)	Total Volume Impact
	Station	Station	Rt / Lt	Ft	Ac	Ac-Ft	Ac-Ft
14	4120+50	4139+46	Rt	50.1	0.30	1.0	0.30
	4119+93	4140+22	Lt	50.1	0.70	1.0	0.70
						Total Floodplain Encroachment:	1.00

100 Year Floodplain Mitigation

Basin	LOCATION			100 Year Flodplain Elevation	Area	Depth (Estimated)	Total Volume Impact
	Station	Station	Rt / Lt	Ft	Ac	Ac-Ft	Ac-Ft
14	4110+00	4120+33	Lt	50.1	1.00	1.0	1.00
						Total Floodplain Mitigation:	1.00

Note: Migitation provided in FPC 14

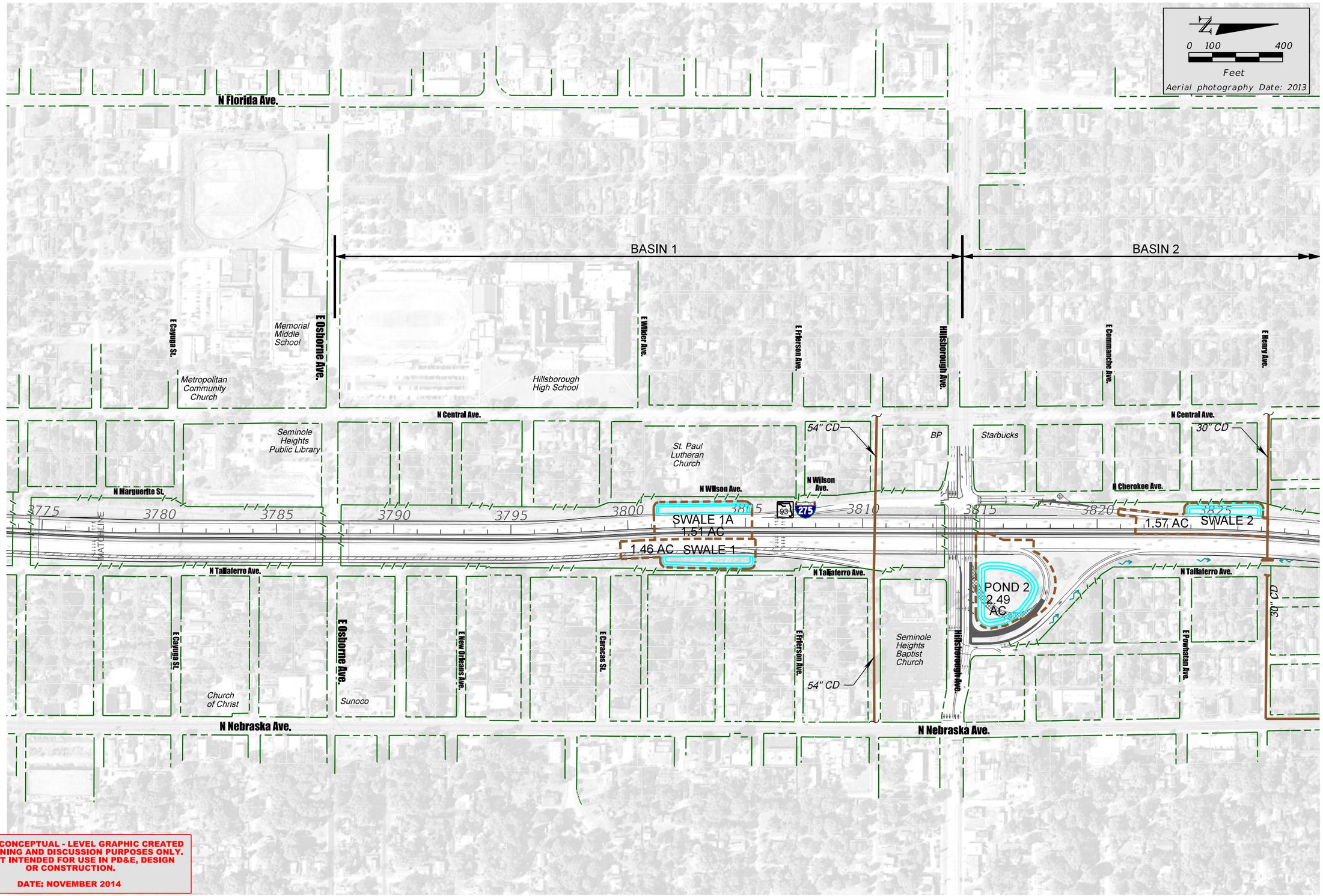
Bridge Cost Estimate

Project:	SR 93 from MLK Blvd. (SR 574) to North of Bearss Ave.	**Designed By:**	JLL	**Date:**	25-Nov-18
Subject:	Estimate for Bridge Extension over Bearss Ave.	**Checked By :**	TDA	**Date:**	25-Nov-18

Cost Estimate for Extending the Bridge over Bearss Ave.

LOCATION		Stormwater Facility	Bridge Width	Bridge Length	Bridge Area	Bridge Cost
Station	**Station**	**Name**	**Ft**	**Ft**	**Sq-Ft**	**$125 / Sq-Ft**
4146+32	4148+25	SMF 14C	162	193	31,266	$3,908,250
4150+60	4153+15	SMF 15C	162	255	41,310	$5,163,750
					Total Cost for Bridge Extension:	$9,072,000

Appendix G:
Drainage Maps



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DATE: NOVEMBER 2014

LEGEND

- Proposed Stormwater Management Facility
- Proposed Flodplain Compensation Area
- Flow Arrow
- National Wetland Inventory
- FEMA Flood Map
- Cross Drain
- Property/ROW Line
- LA Right-of-Way
- Proposed LA Right-of-Way
- Existing Pond

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (1)

SHEET NO. 1

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1" = 400'
0 100 400
Feet

N Florida Ave.

Sligh Ave.

BASIN 2

BASIN 3

BASIN 4

E Idlewild Ave.

E Horth St.

E Knollwood St.

E Hiawatha St.

E Flora St.

E Hamilton Ave.

Dixon Ave.

Greater Faith Outreach Center

Huracan Supermarket

N Central Ave.

All God's Kids Academy

Seminole Heights United Methodist Church

E Hanna Ave.

Seminole Heights Elementary School

E Fern St.

E North St.

E Lambright St.

E Pocahontas Ave.

21" CD

E Elm St.

Texaco Xpress Lube

3885

3880

3875

3870

3865

3860

3855

3850

3845

3840

3835

3830

SWALE 4/5

1.84 AC

1.46 AC

SWALE 3B

SWALE 3A

1.67 AC

93

275

N Tallaferro Ave.

N King St.

N Harer St.

Grover Cleveland Elementary School

E Norfolk St.

E Crenshaw St.

Sulfur Springs US Post Office

Adams & Jennings Funeral Home

30" CD

N Nebraska Ave.

Bay to Bay Auto Mall

Alamo Motel

Tampa Fire Station #7

Publix

Swan Motel

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DATE: NOVEMBER 2014

LEGEND

- Proposed Stormwater Management Facility
- Proposed Flodplain Compensation Area
- Flow Arrow
- National Wetland Inventory
- FEMA Flood Map
- Cross Drain
- Property/ROW Line
- LA Right-of-Way
- Proposed LA Right-of-Way
- Existing Pond

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (2)

SHEET NO. 2

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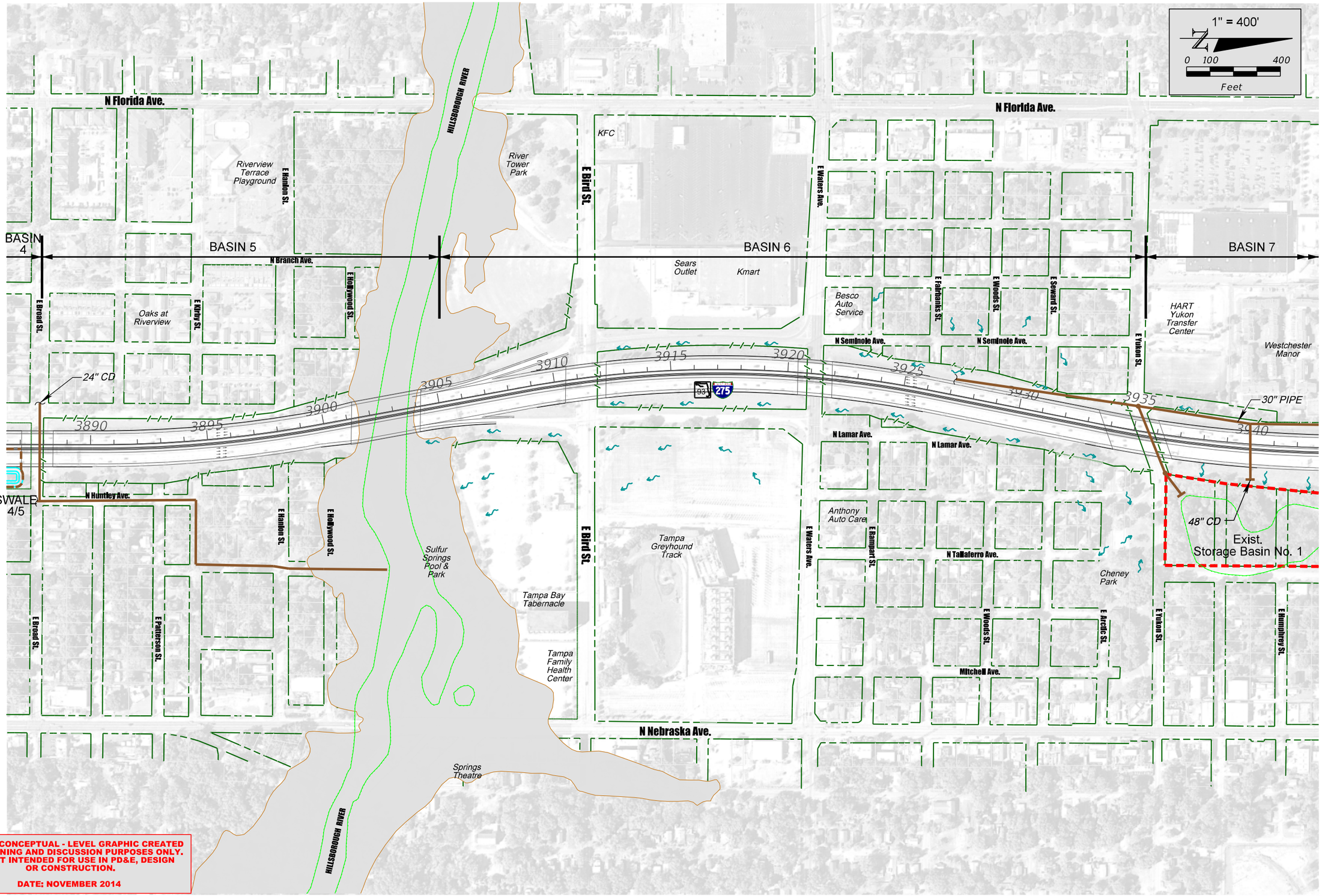

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DATE: NOVEMBER 2014

LEGEND

- Proposed Stormwater Management Facility
- Proposed Flodplain Compensation Area
- Flow Arrow
- National Wetland Inventory
- FEMA Flood Map
- Cross Drain
- Property/ROW Line
- LA Right-of-Way
- Proposed LA Right-of-Way
- Existing Pond

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (3)

SHEET NO. 3

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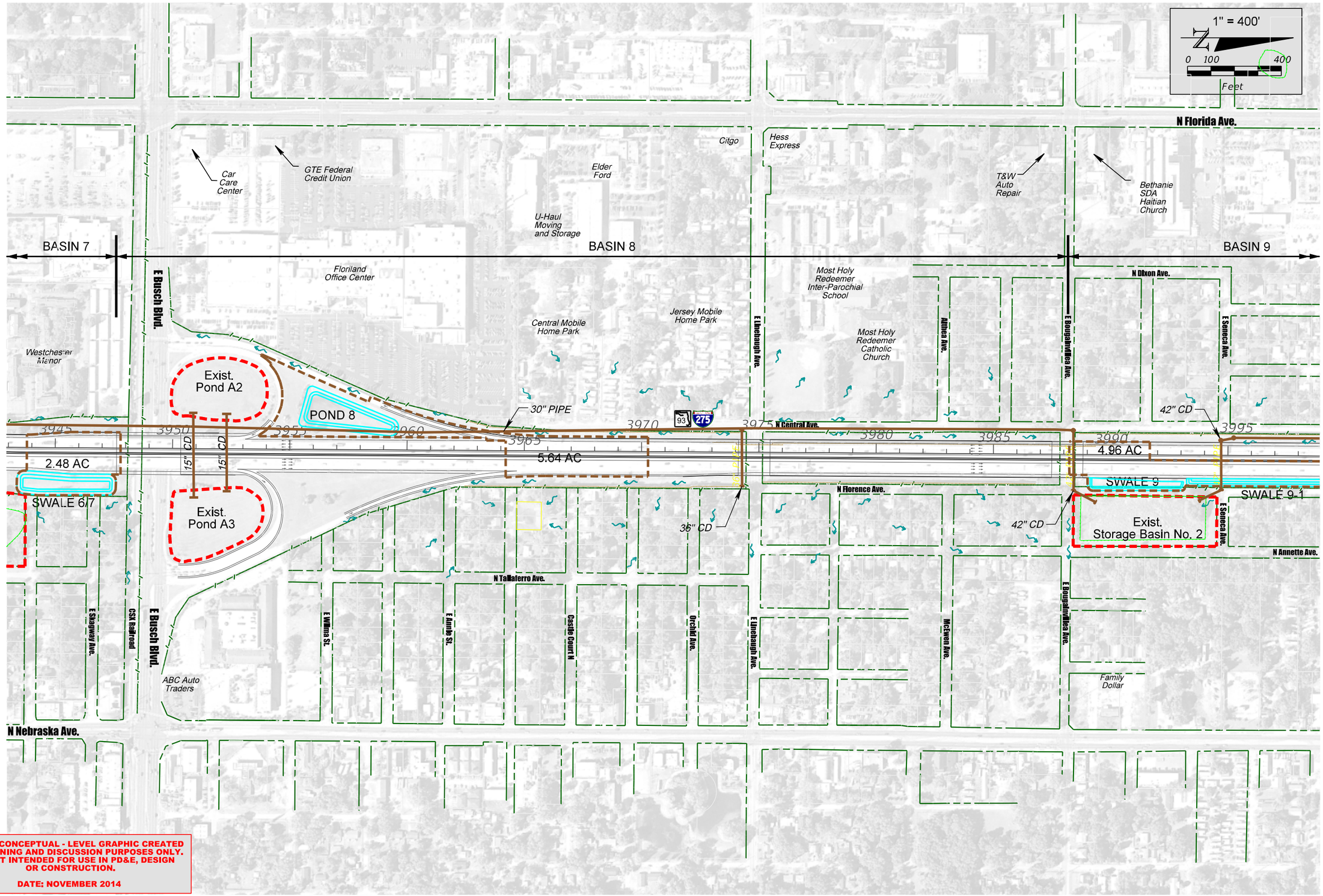

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DATE: NOVEMBER 2014

LEGEND

- Proposed Stormwater Management Facility
- Proposed Flodplain Compensation Area
- Flow Arrow
- National Wetland Inventory
- FEMA Flood Map
- Cross Drain
- Property/ROW Line
- LA Right-of-Way
- Proposed LA Right-of-Way
- Existing Pond

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (4)

SHEET NO. 4

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1" = 400'
0 100 400
Feet

N Florida Ave.

Reeves Porsche

Ferman Acura

Rennaissance Condominiums

BASIN 9

BASIN 10

Exist. Storage Basin No. 3

Reeves BMW

Unincorporated Hillsborough County

E Fowler Ave.

N Dixon Ave.

E 109th Ave.

E 120th Ave.

E 122nd Ave.

E 124th Ave.

E 127th Ave.

Frank D. Miles Elementary School

Step Ahead Academy

Royal Sun Park Assisted Living Facility

Brooks DeBartolo Collegiate High School

City Life Church

Allstate

Best Economy Inn

Motel 6

60" PIPE

30" PIPE

48" PIPE

N Central Ave.

93 275

4000 4005 4010 4015 4020 4025 4030 4035 4040 4045 4050

SWALE 10

3.06 AC

SWALE 9-1

N Florence Ave.

42" CD

36" CD

24" CD

Exist. Pond No. 1 East

Tampa Flea Market

Advance Auto Parts

Howard Johnson

Exist. 0.59 acre pond site

Public Storage

Citgo

N Taliaferro Ave.

E 109th Ave.

E 112th Ave.

E 119th Ave.

E 128th Ave.

A&J German Car Repair

Happy Auto

N Nebraska Ave.

A & ML Auto Center

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DATE: NOVEMBER 2014

LEGEND

- Proposed Stormwater Management Facility
- Proposed Flodplain Compensation Area
- Flow Arrow
- National Wetland Inventory
- FEMA Flood Map
- Cross Drain
- Property/ROW Line
- LA Right-of-Way
- Proposed LA Right-of-Way
- Existing Pond

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (5)

SHEET NO. 5

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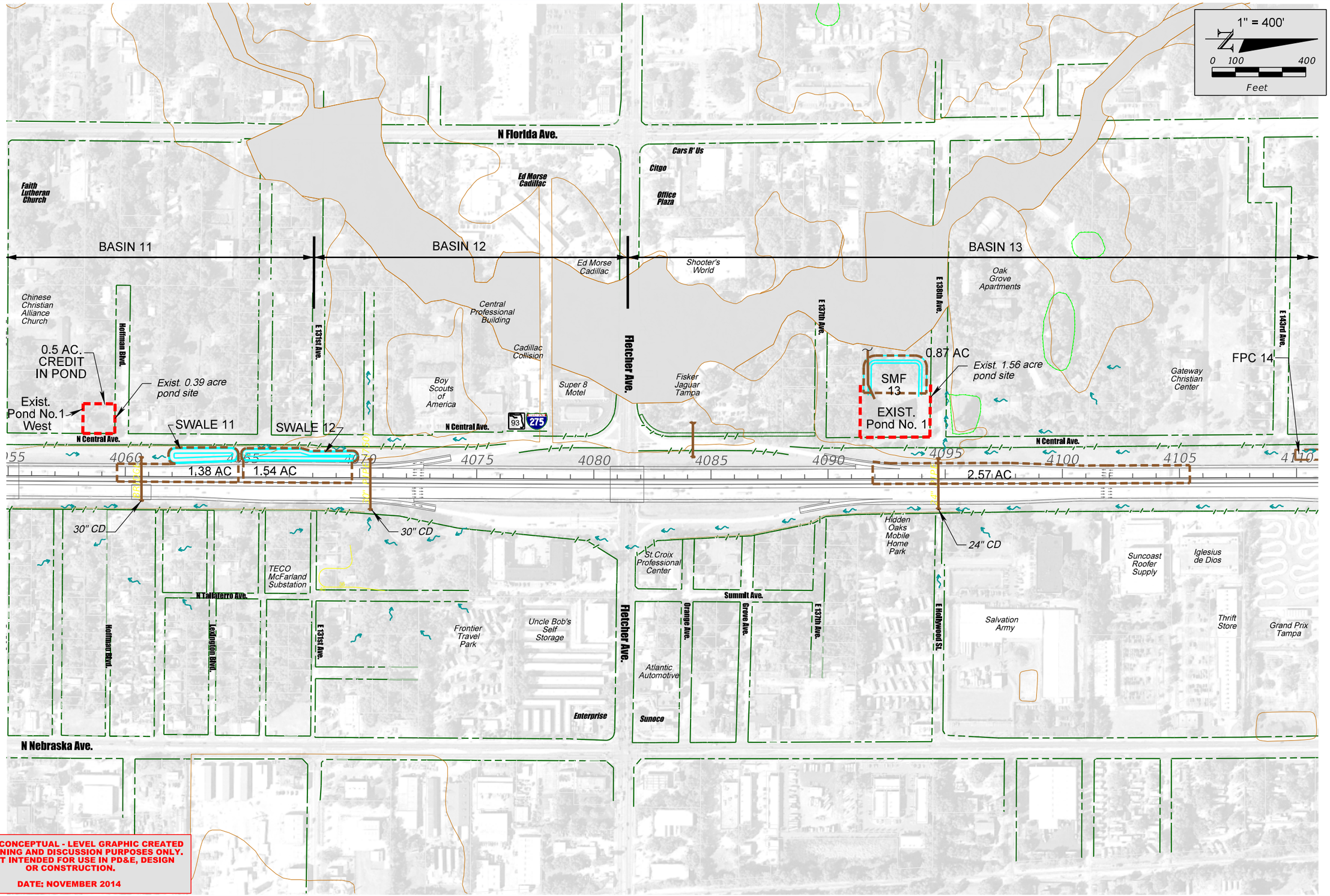

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FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (6)

SHEET NO. 6

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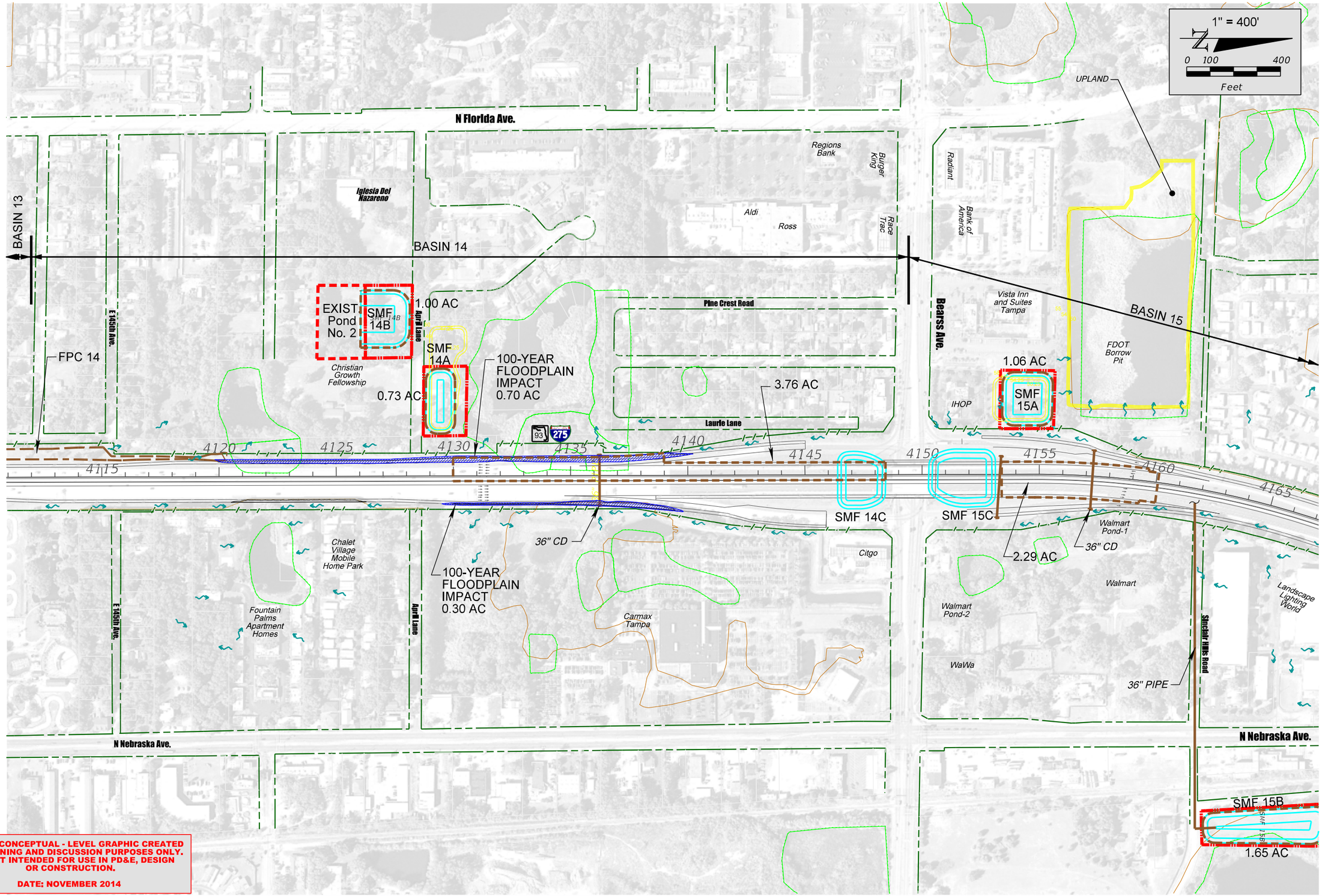

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DATE: NOVEMBER 2014

LEGEND

- Proposed Stormwater Management Facility
- Proposed Flodplain Compensation Area
- Flow Arrow
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- LA Right-of-Way
- Proposed LA Right-of-Way
- Existing Pond

FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (7)

SHEET NO. 7

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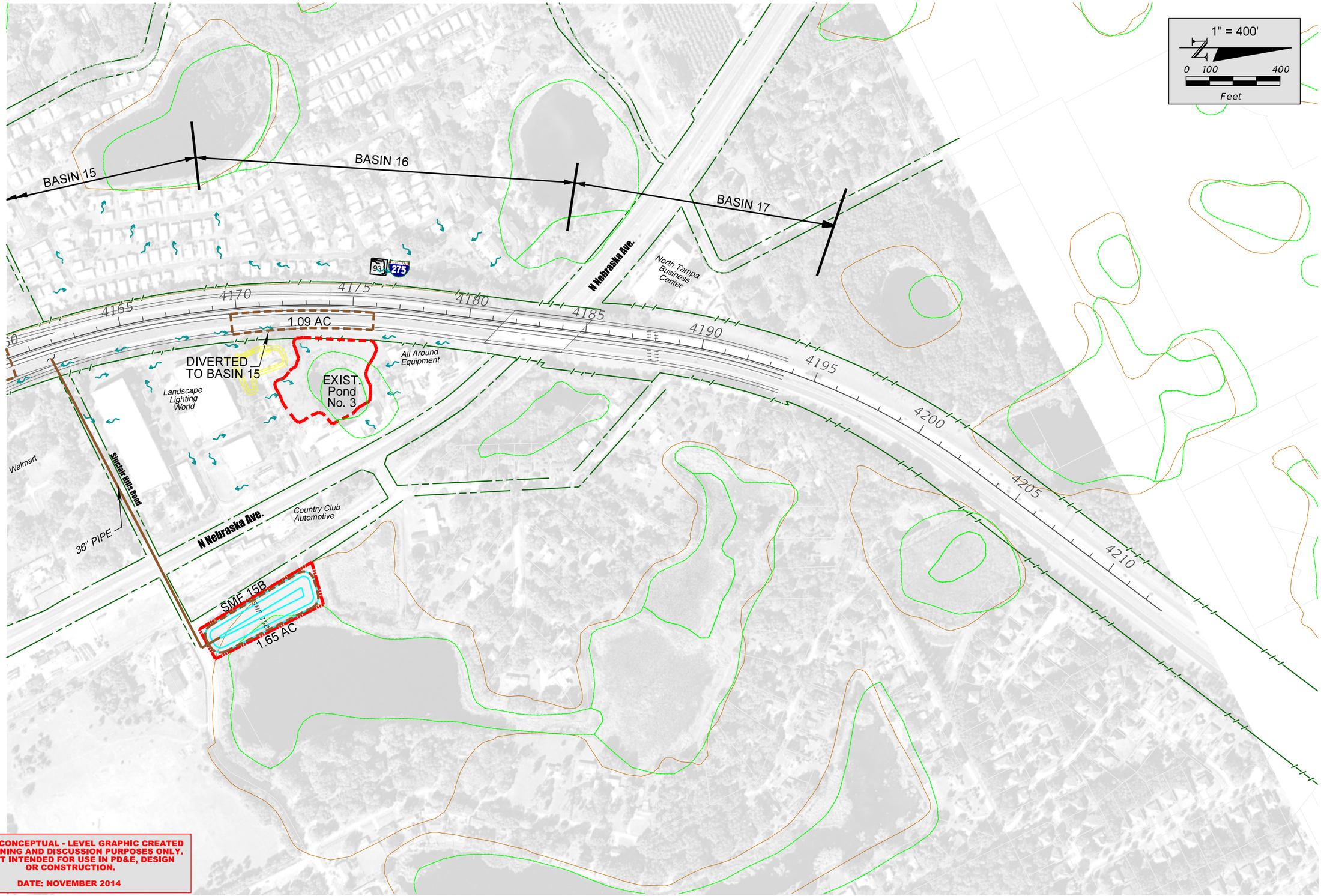

THIS IS A CONCEPTUAL - LEVEL GRAPHIC CREATED FOR PLANNING AND DISCUSSION PURPOSES ONLY. IT IS NOT INTENDED FOR USE IN PD&E, DESIGN OR CONSTRUCTION.

DATE: NOVEMBER 2014

LEGEND

- Proposed Stormwater Management Facility
- Proposed Flodplain Compensation Area
- Flow Arrow
- National Wetland Inventory
- FEMA Flood Map
- Cross Drain
- Property/ROW Line
- LA Right-of-Way
- Proposed LA Right-of-Way
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FDOT

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR-93	HILLSBOROUGH	431821 1 22 01

I 275 PD&E

DRAINAGE MAP (8)

SHEET NO. 8

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Appendix H:
Environmental Assessments

Threatened Endangered Species and Wetland Assessment

ADDENDUM

THREATENED AND ENDANGERED SPECIES (T&E) AND WETLANDS ASSESSMENT FOR POND SITING

I-275 (State Road 93)

From north of Dr. Martin Luther King, Jr. Boulevard (SR 574) to north of Bearss Avenue (SR 678/CR 582)

Hillsborough County, Florida

Florida Department of Transportation
District Seven
Tampa, Florida

.

November 2018

ADDENDUM

THREATENED AND ENDANGERED SPECIES (T&E) AND WETLANDS ASSESSMENT FOR POND SITING

I-275 (State Road 93)

From north of Dr. Martin Luther King, Jr. Boulevard (SR 574) to north of Bearss Avenue (SR 678/CR 582)

Hillsborough County, Florida

Florida Department of Transportation
District Seven
Tampa, Florida

Prepared by:
ESA Scheda
Tampa, Florida

INTRODUCTION

This addendum to the *Threatened and Endangered Species (T&E) and Wetlands Assessment for Pond Siting* (January 2015) is provided to summarize the project changes and update the impacts associated with the updated Build Alternative. In 2015 Environmental Science Associates, Inc. (ESA) (formerly Scheda Ecological Associates, Inc.) completed a review of eighteen (18) stormwater management facility (SMF) sites and two floodplain compensation (FPC) areas for the above referenced project. This updated Build Alternative replaces FPC 14, SMF 14, and SMF 15 with SMF 14A; SMF 14B; SMF 15A; and SMF 15B. This addendum uses the same methodology as the 2015 effort but addresses the four new SMF sites that are part of the updated Build Alternative. **Figure 1** depicts the project location and all pond site locations.

PROJECT UPDATE

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate the need for capacity and operational improvements along 7.64 miles of State Road 93 (SR 93)/Interstate 275 (I-275) from north of Dr. Martin Luther King, Jr. Boulevard/SR 574 (MLK Boulevard) to north of Bearss Avenue/SR 678/County Road (CR) 582 in Hillsborough County, Florida.

Planning for the Tampa Bay area interstates began in the late 1980s with the Tampa Interstate Study (TIS) Master Plan being approved in late 1980s with improvements outlined to relieve congestion and improve mobility. The TIS Master Plan included additional travel lanes on the Tampa Bay area interstates and included a transit envelope for the east-west movement but not along this segment of I-275. In 2013, building upon the original TIS Master Plan, the Tampa Bay Express (TBX) program was developed to provide guidance for improvements to the Tampa Bay interstate system and identified freeway segments (including this segment of I-275) for the addition of tolled express lanes. In 2017, FDOT District Seven reset TBX to Tampa Bay Next (TBNext) to demonstrate its commitment to comprehensive, integrated transportation planning and development. As part of TBNext, FDOT District Seven made a policy decision to remove the express lanes from this segment of I-275 and allow the I-75 corridor to provide the north/south express lanes movement. Providing express lanes on I-75 is more regionally focused.

The updated Build Alternative includes one additional travel lane in each direction of I-275. The proposed typical section contains four 12-foot general purpose lanes in each direction and accommodates transit on the inside shoulders. The improvements would be constructed on the existing alignment with the same existing horizontal and vertical geometries. All the proposed improvements within the I-275 project corridor would be accomplished within the existing right of way. Minimal right of way may be required at the Bearss Avenue interchange for stormwater ponds.

The improvements proposed for this segment of I-275, from north of MLK Boulevard to north of Bearss Avenue, will include one additional general purpose lane in each direction and improvements to the inside shoulder that will allow for the integration of infrastructure for transit.

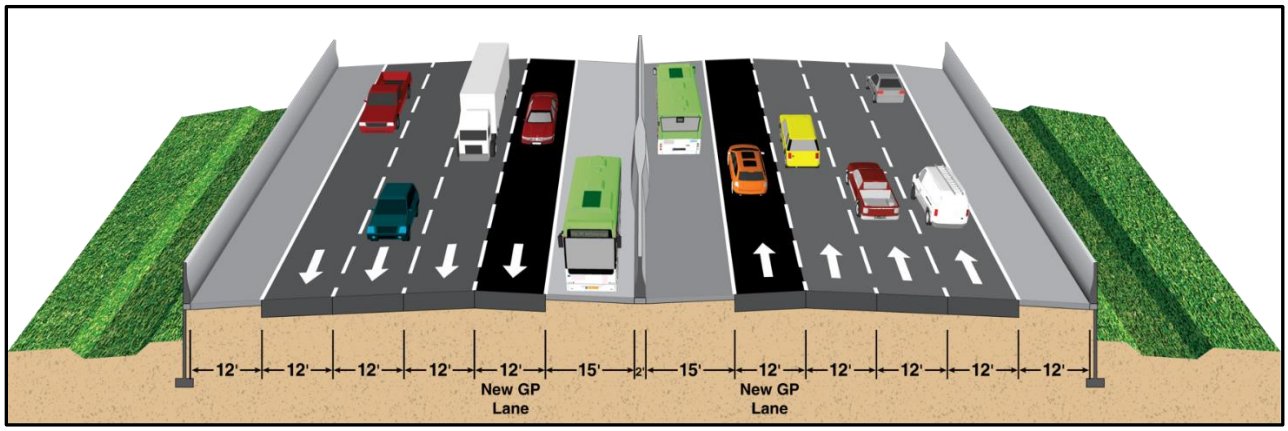
Build Alternative

Mainline I-275

The updated Build Alternative includes widening I-275 from an existing six-lane divided interstate to an eight-lane divided interstate, plus accommodating transit on the inside shoulder. The Bearss Avenue interchange will be reconfigured and operational improvements will be implemented at Hillsborough Avenue; no other interchange configurations will change with the improvements.

The proposed typical section has been updated and includes eight 12-foot wide general purpose lanes (four in each direction), two 15-foot wide inside shoulders which accommodate transit, 12-foot wide outside shoulders, and a 2-foot wide concrete barrier separating the two directions of travel. The proposed I-275 mainline typical section is shown below.

I-275 Proposed Typical Section - Updated



The existing horizontal and vertical alignment will be maintained in the Build Alternative to avoid right of way impacts. The proposed improvements for mainline I-275 will take place within the existing right of way. Minimal right of way may be required at the Bearss Avenue interchange for stormwater ponds.

Interchanges

The interchanges along the corridor will be improved to accommodate the mainline widening of I-275, but the interchange configurations will not change, except for the Bearss Avenue interchange. Operational improvements will be included at the Hillsborough Avenue interchange.

The vertical and horizontal constraints at the existing bridges at the Bearss Avenue interchange cannot accommodate the proposed improvements; thus, the Bearss Avenue

interchange will be reconstructed as a single point urban interchange (SPUI). The design includes reconstructing the I-275 bridge over Bearss Avenue and reconstructing the on- and off-ramps from the I-275 gores to approximately halfway to the Bearss Avenue intersection. The bridge design will accommodate potential future widening of Bearss Avenue. The bridge reconstruction will create the configuration for a SPUI interchange to be implemented in the future.

The future configuration would have one traffic signal underneath the I-275 bridge to control through traffic on Bearss Avenue and left-turning traffic entering or exiting I-275 at the intersection.

The tight urban diamond interchange (TUDI) configuration has been eliminated from further consideration.

RESULTS

The following is an updated discussion of protected species that occur within close proximity to the project corridor based on database and literature research, U.S. Fish and Wildlife Service (USFWS) Consultation Areas (CA) that overlap the project boundary, and/or have the potential to occur based upon existing habitat in the project area. Although not in the CA, West Indian manatees (*Trichechus manatus*) (Federally-designated Endangered) have been documented in the Hillsborough River adjacent to the project area. Standard in-water conditions for the manatee may be required during construction of the bridge over the Hillsborough River. Additionally, special manatee grates may be necessary if culverts that outfall to the river are replaced or added.

All SMF sites fall within the USFWS CA for the Florida scrub-jay (*Aphelocoma coerulescens*). However, there is no appropriate habitat within the project limits or SMF sites for the Florida scrub-jay. The project also falls within 11 wood stork (*Mycteria americana*) core foraging areas. One wading bird rookery, Atlas Number 611168, is located approximately 0.3 miles east of the project limits; however, this rookery was last documented active in 1970.

Federally listed faunal species potentially occurring within the SMF sites include:

- wood stork (FE) and
- eastern indigo snake (*Drymarchon corais couperi*) (FT).

Potential state listed faunal species (not listed above) in the project area include:

- gopher tortoise (*Gopherus polyphemus*) (ST**);
- Florida pine snake (*Pituophis melanoleucus mugitus*) (ST);
- Sherman's fox squirrel (*Sciurus niger shermani*) (SSC);
- Florida sandhill crane (*Antigone canadensis pratensis*) (ST);
- roseate spoonbill (*Platalea ajaia*) (ST);
- southeastern American kestrel (*Falco sparverius paulus*) (ST);
- little blue heron (*Egretta caerulea*) (ST); and
- tricolored heron (*Egretta tricolor*) (ST).

**Species being considered for Federal listing
FE= Federally-designated Endangered FT= Federally-designated Threatened
SSC=State Species of Special Concern ST=State-designated Threatened

Potential state and federally listed floral species in the project area include:

- Florida lady's nightcap (*Bonamia grandiflora*);
- Robin's bellflower (*Campanula robinsiae*);
- pigmy fringetree (*Chionanthus pygmaeus*);
- Florida goldenaster (*Chrysopsis floridana*); and
- Britton's beargrass (*Nolina brittoniana*).

Additionally, the bald eagle (*Haliaeetus leucocephalus*) is no longer listed by the USFWS or Florida Fish and Wildlife Conservation Commission (FWC) but remains protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668d), as amended, and the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712). No bald eagle nests were previously documented within 660 feet of the SMF sites. In addition, no bald eagle nests were observed in the project area during any field review. The closest bald eagle nest is HL046 and is located approximately 1.4 miles east of the project limits. According to the FWC Eagle Nest Locator online database (https://public.myfwc.com/FWRI/EagleNests/nestlocator.aspx), this nest was last surveyed and documented inactive in 2013. However, there is a possibility that bald eagles may establish new nests within appropriate habitat within 660 feet of the proposed project limits; none were observed during 2018 field reviews conducted on September 26, 27, and October 18.

In January 2017, FWC updated state designations for several species, changes from the 2015 pond siting effort include the roseate spoonbill, little blue heron, and tri-colored heron were listed as species of special concern but as of January 2017 were re-classified as threatened. The limpkin (*Aramus guarana*), white ibis (*Eudocimus albus*), and snowy egret (*Egretta thula*) were listed as species of special concern in the 2015 pond siting report, but as of January 2017, they were removed as listed species.

Land use/land cover was classified using the Florida Land Use, Cover and Forms Classification System (FLUCFCS) (FDOT, 1999), and field-verified land use within each SMF site is depicted in **Figure 2**. The approximate locations of protected species observations and known occurrence data located in the vicinity of the proposed pond sites are provided in **Figure 3**. The land use data for each site, faunal protected species that could potentially utilize each alternative and outfall easement, and ranking of each site for potential impacts to protected species and wetlands is located in **Table 1**.

SMF Descriptions

SMF 14A (1.25 acres; 5% wetland) is composed of Fixed Single Family Units, Low Density Residential (FLUCFCS 111) and Freshwater Marsh (FLUCFCS 641). This site has minimal wildlife habitat value, but has the potential to be utilized by gopher tortoise, southeastern American kestrel, Florida sandhill crane, eastern indigo snake, wood stork, and other wetland dependent wading birds. Therefore, it was given the species rating of "Low". No listed species were observed during field surveys. A small wetland area is present in the northern portion of the site; therefore, the site was given a wetland score of "Low".

SMF 14B (1.41 acres; 0% wetland) is composed of Fixed Single Family Units, Low Density Residential (FLUCFCS 111). This site has minimal wildlife habitat value, but has the potential to be utilized by gopher tortoise, Florida sandhill crane, southeastern American kestrel, and eastern indigo snake; therefore, it was given the species rating of "Low". No listed species were observed during field surveys. No wetlands or surface waters are present; therefore, the site was given a wetland score of "None".

SMF 15A (1.32 acres; 0% wetland) is composed of Undeveloped Land Within Urban Areas (FLUCFCS 191). This site has minimal wildlife habitat value, but has the potential to be utilized by gopher tortoise, Florida sandhill crane, southeastern American kestrel, and eastern indigo snake; therefore, it was given the species rating of "Low". No listed species were observed during field surveys. No wetlands or surface waters are present; therefore, the site was given a wetland score of "None".

SMF 15B (2.00 acres; 0% wetland) is composed of Undeveloped Land Within Urban Areas (FLUCFCS 191). This site has minimal wildlife habitat value, but has the potential to be utilized by gopher tortoise, Florida sandhill crane, southeastern American kestrel, and eastern indigo snake; therefore, it was given the species rating of "Low". No listed species were observed during field surveys. No wetlands or surface waters are present; therefore, the site was given a wetland score of "None".

CONCLUSIONS AND RECOMMENDATIONS

Listed Species

The four updated SMF sites were documented as having "Low" protected species involvement (potential, but unlikely presence of protected species). No gopher tortoises or other protected species were observed within any of the SMF sites. If gopher tortoise burrows do exist within a selected site, any proposed construction that occurs within 25 feet of a potentially occupied gopher tortoise burrow will require a FWC gopher tortoise relocation permit. Wood stork compensation is required if the project impacts more than 0.5 acre of suitable foraging habitat which consists of most wetlands and surface waters. It is anticipated that wood stork foraging habitat compensation would be completely mitigated through the purchase of wetland mitigation credits and no additional wetland credits would be needed to offset wood stork impacts. The project falls within the CA of the scrub-jay; however, there is no habitat for this species within the project limits and none were observed during field surveys. One wading bird rookery, Atlas Number 611168, is located approximately 0.3 miles east of the project limits; however, this rookery was last documented active in 1970. The nearest bald eagle nest is greater than 660 feet from the project area; therefore, no additional involvement is anticipated. It should be noted that although the project is not in the CA for the West Indian manatee many have been documented in the Hillsborough River adjacent to the project. Designed manatee grates and the implementation of Standard Manatee Conditions for In-Water Work during construction may be required.

Wetlands

One (1) of the SMF sites (SMF 14A) contained wetlands and was documented as having a potential wetland impact of "Low". The wetland impact area associated with SMF 14A is a

decrease of 0.44 acres from the previous Build Alternative. Measures to avoid or minimize wetland and water quality impacts will be implemented during final pond site design.

RESOURCES

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Figures & Tables

(In Order of Reference Within the Text)

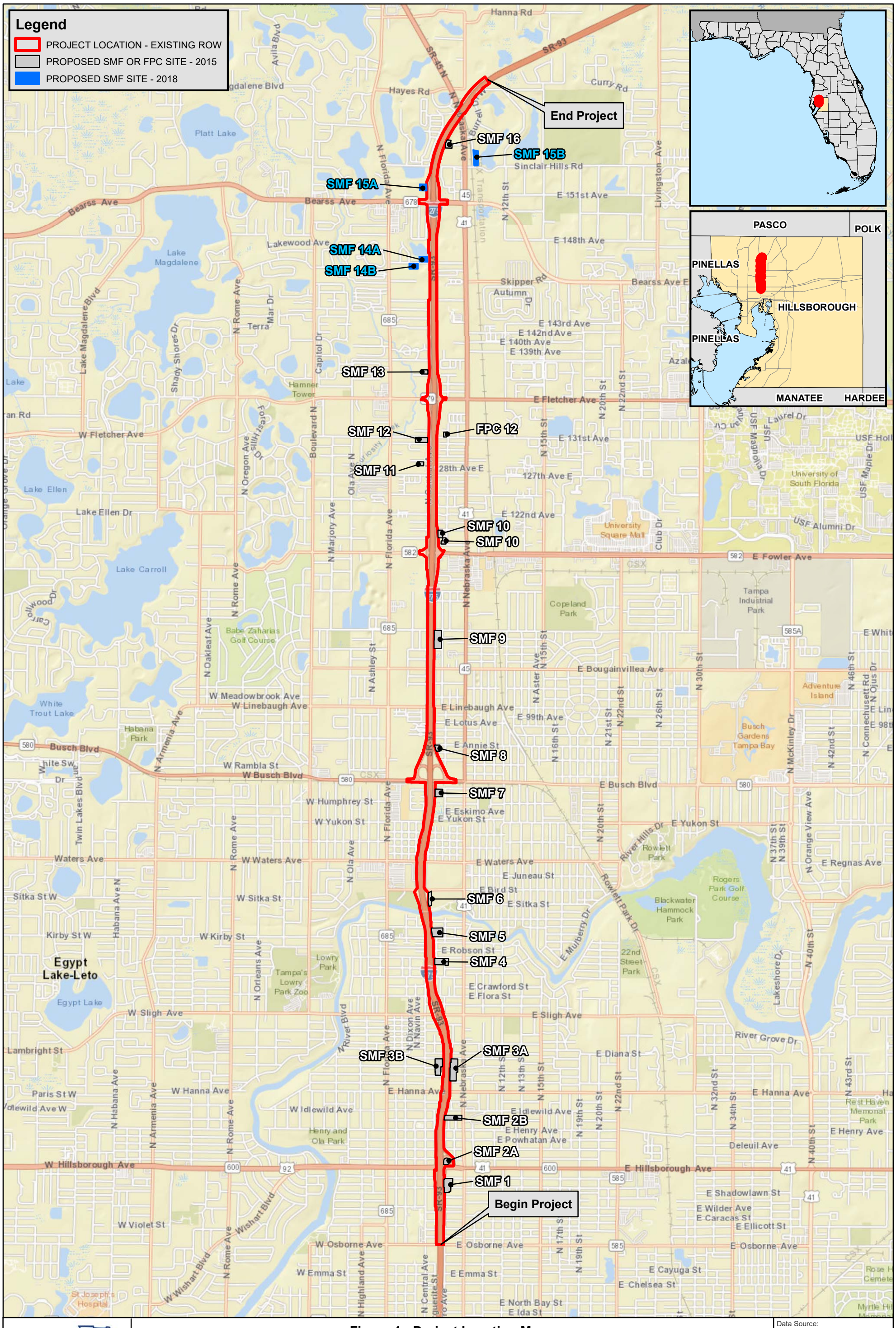


Figure 1 - Project Location Map

FPID #: 431821-1
I-275 (SR 93) from North of Martin Luher King Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/CR 582)
Hillsborough County, Florida

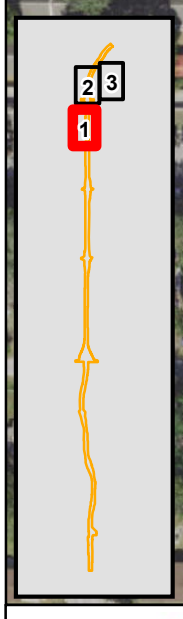
Date: 11/15/18 Rev. Date: xx/xx/xx PM: BG GIS Analyst: TMS Map Document: 2416_10_01_loc_tms_20181115.mxd Project Number: 002416.10.01 PDF Document: 2416_10_01_loc_tms_20181115.pdf Plot Size: 11 x 17

Legend

- PROJECT LOCATION - EXISTING ROW
- PROPOSED SMF OR FPC SITE - 2015
- PROPOSED SMF SITE - 2018
- FIELD-VERIFEID FLUCFCS LAND USE

111 - Fixed Single Family Units, Low Density
121 - Fixed Single Family Units, Medium Density
131 - Fixed Single Family Units, High Density
191 - Undeveloped Land within Urban Areas
641 - Freshwater Marshes
814 - Roads and Highways
818 - Auto Parking Facilities

SMF 14A 111
641
SMF 14B 111
Fisher
Laurie Ln
Sr-93
275
53
April Ln
Briar Way
Millstream Way
E Garland Ct
Walker Dr
Oaks
Acorn Ct
Colonial D
E 145th Ave
145th Ave E
14898
14906
14910
106
128
131
198
801
865
800
804
838
841
840
858
14908



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FDOT

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Figure 2 - Field-Verified FLUCFCS Land Use / Land Cover Map

Page 1 of 3

FPID #: 431821-1

I-275 (SR 93) from North of Martin Luher King Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/CR 582)
Hillsborough County, Florida

0 200 400 600 Feet

Data Source:
- ESA
- WSP USA
- SWFWMD

Imagery Source:
- ESRI Aerial Imagery

Coordinate System:
NAD 1983 Florida
State Plane West

N

Legend

- PROJECT LOCATION - EXISTING ROW
- PROPOSED SMF OR FPC SITE - 2015
- PROPOSED SMF SITE - 2018
- FIELD-VERIFEID FLUCFCS LAND USE
  - 111 - Fixed Single Family Units, Low Density
  - 121 - Fixed Single Family Units, Medium Density
  - 131 - Fixed Single Family Units, High Density
  - 191 - Undeveloped Land within Urban Areas
  - 641 - Freshwater Marshes
  - 814 - Roads and Highways
  - 818 - Auto Parking Facilities

131
SMF 16

SMF 15A
191

Lakeshore Villa Ln
Lakeshore Villa Pl
Lakeshore Villa Blvd
Lakeshore Villa Dr
Lakeshore Villa St
Lakeshore Villa Ct
Manning Dr
Sinclair Hills Rd
Clear Ln
Dunwood St
Mitchell St
E 153rd Ave
N Tallaferro Ave
Bearss Ave
Sr-93
275
53
678

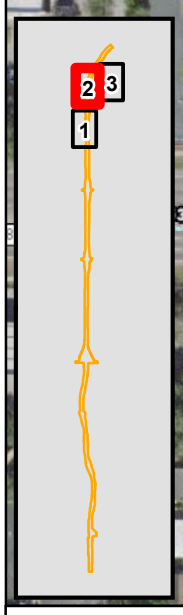

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Figure 2 - Field-Verified FLUCFCS Land Use / Land Cover Map

Page 2 of 3

FPID #: 431821-1

I-275 (SR 93) from North of Martin Luher King Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/CR 582)
Hillsborough County, Florida

0 200 400 600 Feet

Data Source:
- ESA
- WSP USA
- SWFWMD

Imagery Source:
- ESRI Aerial Imagery

Coordinate System:
NAD 1983 Florida
State Plane West

N

Legend

- PROJECT LOCATION - EXISTING ROW
- PROPOSED SMF OR FPC SITE - 2015
- PROPOSED SMF SITE - 2018
- FIELD-VERIFEID FLUCFCS LAND USE
  - 111 - Fixed Single Family Units, Low Density
  - 121 - Fixed Single Family Units, Medium Density
  - 131 - Fixed Single Family Units, High Density
  - 191 - Undeveloped Land within Urban Areas
  - 641 - Freshwater Marshes
  - 814 - Roads and Highways
  - 818 - Auto Parking Facilities

SMF 15B
191

Central Lake Dr
Burrell Dr W
Lake Burrell
Burrell Dr E
Sinclair Hills Rd
N Nebraska Ave
N 12th St
Bearss Ave E
E 151st Av

Figure 2 - Field-Verified FLUCFCS Land Use / Land Cover Map

Page 3 of 3

FPID #: 431821-1

I-275 (SR 93) from North of Martin Luher King Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/CR 582)
Hillsborough County, Florida

Feet
0 200 400 600

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Data Source:
- ESA
- WSP USA
- SWFWMD

Imagery Source:
- ESRI Aerial Imagery

Coordinate System:
NAD 1983 Florida
State Plane West

N

Date: 11/15/18 Rev. Date: xx/xx/xx PM: BG GIS Analyst: TMS Map Document: 2416_10_01_fv_lulc_tms_20181115.mxd Project Number: 002416.10 0 1 PDF Document: 2416_10_01_fv_lulc_tms_20181115.pdf Plot Size: 11 x 17

Legend

- PROJECT LOCATION - EXISTING ROW
- PROJECT LOCATION - EXISTING ROW - HALF MILE BUFFER
- PROPOSED SMF OR FPC SITE - 2015
- PROPOSED SMF SITE - 2018
- BALD EAGLE NEST (FWC 1998-2016)
- BALD EAGLE NEST 660 FT BUFFER
- FLORIDA BLACK BEAR NUISANCE LOCATION
- FLORIDA BLACK BEAR CAPTURE LOCATIONS
- FLORIDA BLACK BEAR RELEASE LOCATIONS
- MANATEE MORTALITY
- MANATEE TELEMETRY 1991
- WADING BIRD ROOKERIES
- FNAI WILDLIFE OBSERVATION
- FWC WILDLIFE OBSERVATION

End Project

SMF 16

SMF 15B

SMF 15A

SMF 14A

SMF 14B

SMF 13

SMF 12

FPC 12

SMF 11

SMF 10

SMF 10

SMF 9

SMF 8

SMF 7

SMF 6

SMF 5

SMF 4

SMF 3B

SMF 3A

SMF 2B

SMF 2A

SMF 1

Begin Project

Note:

The Project Location falls partially within the following USFWS Consultation Areas:
- Florida Scrub-jay

The Project Location falls entirely within the following USFWS Wood Stork Core Foraging Areas:
- Alligator Lake (14.96 mi. W)
- Cross Creek (6.62 mi. NE)
- Cypress Creek I-75 (5.38 mi. NE)
- East Lake - Bellows Lake (4.5 mi. E)
- Ferman Corporation (7.47 mi. SE)
- Heron Point - Land 'O' Lakes - 8.02 mi. N)
- Lake Forest (2.01 mi. E)
- Northlakes - Sagebrush (2.69 mi. W)
- Saddelbrook Resort (11.43 mi. NE)
- Seven Springs (14.61 mi. NW)
- Sheldon Rd - Citrus Park (7.76 mi. W)

Figure 3 - Listed Species and Wildlife Observations Map

FPID #: 431821-1
I-275 (SR 93) from North of Martin Luher King Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/CR 582)
Hillsborough County, Florida

0 3,250 6,500 9,750 Feet

Data Source:
- ESA
- WSP USA
- USFWS
- FWC

Imagery Source:
- ESRI Streets

Coordinate System:
NAD 1983 Florida State Plane West

N

Date: 11/15/18 Rev. Date: xx/xx/xx PM: BG GIS Analyst: TMS Map Document: 2416_10_01_l&e_tms_20181115.mxd Project Number: 002416.10.01 PDF Document: 2416_10_01_l&e_tms_20181115.pdf Plot Size: 11 x 17

Table 1. Summary of Wetland Involvement, Potential Protected Species Involvement, and Land Use Characteristics for SMF and FPC Sites
I-275 from North of Martin Luther King Boulevard (SR 574) to North of Bearss Avenue
FPID No. 431821-1

Pond	Land Use / FLUCFCS Code		Wetlands / Surface Waters			Potential Protected Species that would Utilize Habitat	Species Score	Wetland Score
	Type	Code	Wetland Impacts (acres)	% Coverage of site	Wetland Mitigation Cost ^			
SMF 1 2.92 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 2A 0.94 ac	Roads and Highways	814	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 2B 2.32 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 3A 4.19 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 3B 2.87 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 4 2.36c	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 5 2.65 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 6 1.23ac	Auto Parking Facilities	818	0.00	0%	$0	no potential listed species would utilize this habitat	None	None
SMF 7 1.56 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 8 0.78 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 9 3.55 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 10 1.62 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 11 0.66 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 12 1.64 ac	Fixed Single Family Units, Medium Density Residential	121	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 13 0.75 ac	Fixed Single Family Units, Medium Density Residential	121	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None

Table 1. Summary of Wetland Involvement, Potential Protected Species Involvement, and Land Use Characteristics for SMF and FPC Sites
I-275 from North of Martin Luther King Boulevard (SR 574) to North of Bearss Avenue
FPID No. 431821-1

Pond	Land Use / FLUCFCS Code		Wetlands / Surface Waters			Potential Protected Species that would Utilize Habitat	Species Score	Wetland Score
	Type	Code	Wetland Impacts (acres)	% Coverage of site	Wetland Mitigation Cost ^			
SMF 14A 1.25 ac	Fixed Single Family Units, Low Density Residential	111	0.06	5%	$6,810	gopher tortoise, southeastern American kestrel, Florida sandhill crane, eastern indigo snake, wood stork, and other wetland dependant wading birds	Low	Low
	Freshwater Marshes	641						
SMF 14B 1.41 ac	Fixed Single Family Units, Low Density Residential	111	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 15A 1.32 ac	Undeveloped Land Within Urban Areas	191	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 15B 2.00 ac	Undeveloped Land Within Urban Areas	191	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
SMF 16 1.22 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
FPC 12 0.40 ac	Fixed Single Family Units, High Density Residential	131	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None
FPC 14 0.38 ac	Roads and Highways	814	0.00	0%	$0	gopher tortoise, southeastern American kestrel, Florida sandhill crane, and eastern indigo snake	Low	None

^ = Based on the 2013/2014 fiscal year, $113,494 was used to calculate estimated mitigation cost provided via Senate Bill.

NOTES:

None=No wetland impacts; no protected species anticipated to occur based on habitat quality, no observations or records	Low=Wetlands comprise 1% to 24% of pond footprint; potential but unlikely presence of protected species	Medium=Wetlands comprise 25% to 49% of pond footprint; indication of species where mitigation is reasonable and possible	High=Wetlands comprise 50% or more of pond footprint; indication of species where mitigation is difficult, costly, or not possible

Contamination Report

1.0 PROPOSED POND SITES

1.1 INTRODUCTION/METHODOLOGY

A contamination screening desktop analysis was performed in October 2018 for the four proposed pond sites associated with the Proposed Action. This analysis included historical aerial photography and regulatory documents review within ¼-mile (or 1-mile for superfund sites, brownfields, and landfills) of the proposed pond sites using the Florida Department of Environmental Protection (FDEP) Map Direct data layers. Additionally, a site visit to the pond sites was completed in October 2018. The site visit included observations from the right of way, and did not include a detailed reconnaissance of the properties. The Environmental Data Report (EDR), dated November 25, 2014, prepared by Environmental Data Management, Inc. (EDM), was used as supplemental information for these pond site reviews. However, one pond site (Proposed Pond Site No. 15-B) was completely outside of the 1/8-mile 2014 EDR study area and Proposed Pond Site No. 14-B was partially outside of the 1/8-mile 2014 EDR study area.

A second evaluation was conducted using an updated EDR dated December 21, 2018 and a revisit to the sites in December 2018. Presented below is an evaluation for the proposed pond sites which summarizes the findings and conclusions based on the October 2018 preliminary screening, the 2014 and 2018 EDRs, and the October 2018 and December 2018 site visits. Potential contamination sites near the proposed pond locations are discussed in the Draft Contamination Screening Evaluation Report for the Proposed Action, dated January 2019.

1.1.1 Risk Rankings

A hazardous materials ranking system that expresses the degree of concern for potential contamination problems was used to rank the pond sites. The rankings are NO, LOW, MEDIUM, and HIGH and are generally defined as follows:

No – A review of available information on the property and a review of the conceptual or design plans indicates there is no potential contamination impact to the project. It is possible that contaminants had been handled on the property. However, findings from the contamination screening evaluation or sampling and testing results indicate that contamination impacts are not expected.

Low – A review of available information indicates that former or current activities on the property have an ongoing contamination issue, has a hazardous waste generator identification (ID) number, or handles hazardous materials in some capacity. However, based on the review of conceptual or design plans and/or findings from the contamination screening evaluation or sampling and testing results, it is not likely that there would be any contamination impacts to the project.

Medium – After a review of conceptual or design plans and findings from a contamination screening evaluation or sampling and testing results, a potential contamination impact to the project has been identified. If there is insufficient information (such as regulatory records or site historical documents) to make a determination as to the potential for contamination impact, and there is reasonable suspicion that contamination may exist, the property should be rated at least as a “Medium”. Properties used historically as gasoline stations and which have not been evaluated or assessed by regulatory agencies, sites with abandoned in place underground petroleum storage tanks or currently operating gasoline stations should receive this rating.

High – After a review of all available information and conceptual or design plans, there is appropriate analytical data that shows contamination will substantially impact construction activities, have implications to right of way acquisition or have other potential transfer of contamination related liability to the FDOT.

1.2 Potential Contaminated Site Impacts

One of four contamination risk ranking categories were assigned to each of the pond sites evaluated for potential contamination impacts (No, Low, Medium or High).

Proposed Pond Site No. 15-B is located outside of the previous contamination screening boundary conducted in 2014 but within the December 2018 EDR. Pond 15-B is an undeveloped private property, located in the northeast corner of Sinclair Hills Road and W Lake Burrell Drive. Pond 15-B is located east of I-275, and is bordered to the east by Burrell Lake, with undeveloped land located to the north. Residential properties are located further to the north. Railroad tracks border Pond 15-B to the west, with BCPeabody Construction Services located further to the west. Properties located to the south of Pond 15-B include a car wash facility, and a warehouse with boat storage. Based on a review of aerial photography, Pond 15-B was previously undeveloped land where trucks would park. The property located to the south of the proposed pond site (at the southeast corner of Sinclair Hills Road and N Nebraska Avenue) was formerly Patriot Petroleum Truck Stop, which has been developed into Tire Kingdom. The Truck Stop experienced three discharges (1987, 1990 and 1992) and these three incidents were granted a cleanup completion status (No Further Action) in 2004. During the site visit, the site was fenced off with a "P*rivate Property"* sign on the front, with an advertisement for fireworks for sale. An abandoned boat was located within the fenced property. The location of Pond Site No. 15-B is depicted on **Figure 1**.

Proposed Pond Site No. 15-A is located within the previous contamination screening boundary for the EDR prepared in 2014 and was included in the boundary for the 2018 EDR update. Pond 15-A is undeveloped land, and is located north of W Bearss Avenue and west of I-275. Pond 15-A is bordered to the north by undeveloped land, to the west by Vista Inn and Suites, and to the south by IHOP. Based on the review on the 2014 and 2018 EDRs, two sites located south of Bearss Avenue and two sites east of I-275 were indicated as LUST sites. These sites are reported in Table 2 and in Section 6.1 as contamination sites 19 through 22. No obvious signs of environmental concern were noted for Pond 15-A during the site visit. The location of Pond Site No. 15-A is depicted on **Figure 2.**

Proposed Pond Site No. 14-A is located within the previous contamination screening boundary for the EDR prepared in 2014 and the 2018 EDR update. Pond 14-A is developed land containing a residential property within the parcel, and is located west of I-275 and north of April Lane. The proposed pond site is bordered to the north by an existing retention pond. Residential properties are located to the west and to the east, and undeveloped land is located to the south. Residential properties are located further south. **Proposed Pond Site No. 14-B** is located directly southeast of proposed Pond Site No. 14-A. A portion of the proposed pond location was included in the previous contamination screening boundary for the EDR prepared in 2014 but was entirely included within the boundary for the updated EDR in 2018. Pond 14-B is developed land, containing a residential property within the parcel. Residential properties are located to the south and to the north of the proposed pond site. Undeveloped land borders the proposed pond site to the east, with commercial/retail facilities located to the west. **Proposed Ponds 14-A and 14-B share the same issues and risks, and are discussed together.** A shopping strip mall is located west of these two proposed pond sites that contained a former dry cleaners, which currently operates as Shelly's Cafe. Groundwater contamination at this site (dry cleaning solvents) occurred in 1989, according to a Florida Department of Environmental Regulation letter dated

1992. No contamination concerns were noted near Pond 14-A or Pond 14-B, based on the contamination screening for the corridor right of way. No obvious signs of environmental concern were noted at Pond Site No. 14-A or Pond Site 14-B during the site visit. The location of Pond Sites No. 14-A and 14-B are depicted on **Figure 3**.

Figure 1: Proposed Pond Site No. 15-B

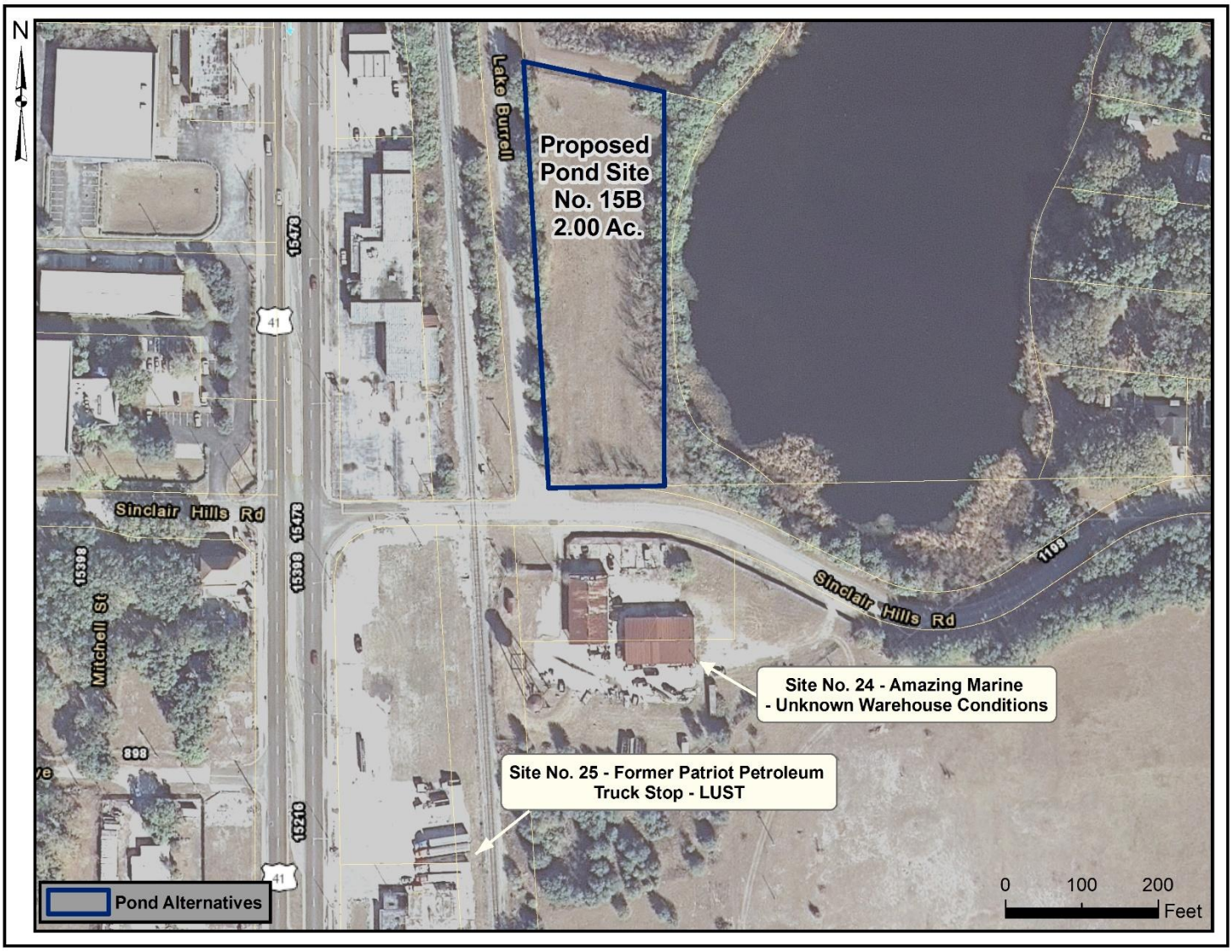

Figure 2: Proposed Pond Site No. 15-A

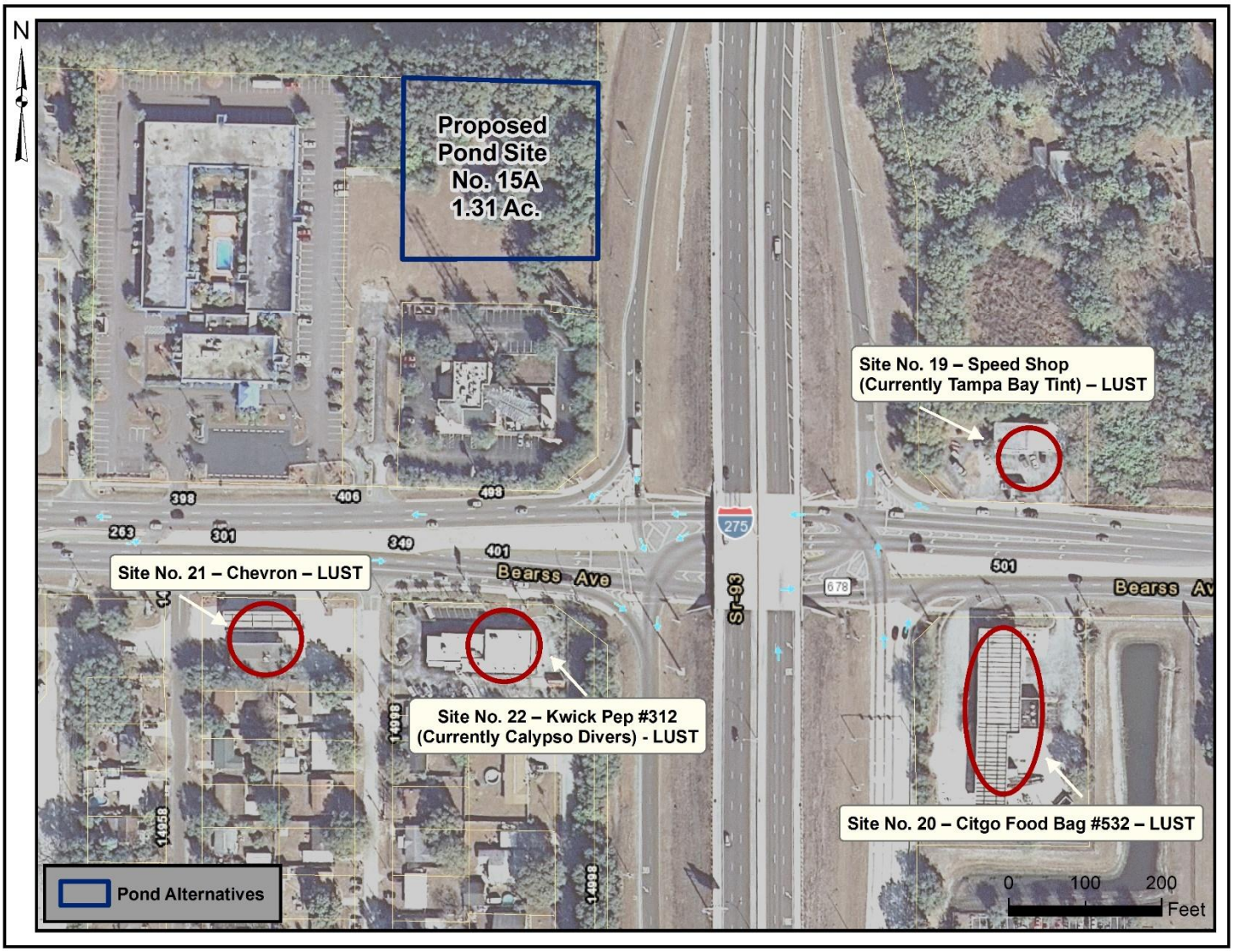

Figure 3: Proposed Pond Sites Nos. 14-A and 14-B

2.0 RESULTS

The following summarizes the findings and states the risk rankings for potential contamination concerns near the proposed pond sites.

Pond Site No. 15-B is assigned a risk ranking of **MEDIUM**. The MEDIUM risk ranking is based on historic operations of a petroleum truck stop near the site as well as a boat repair shop with its current operations being unknown. An Impact to Construction Assessment is recommended, complying with requirements of Level II Assessment (FDOT Part 2, Chapter 20) to assess the type and extent of potential contamination impacts to construction activities on the project or right of way acquisition.

Pond Site No. 15-A is assigned a risk ranking of **MEDIUM**. The MEDIUM risk ranking is based on the location of several active gas stations located within 0.1 miles of the site (~500 feet), with the threat of release from onsite USTs. An Impact to Construction Assessment is recommended, complying with requirements of Level II Assessment (FDOT Part 2, Chapter 20) to assess the type and extent of potential contamination impacts to construction activities on the project or right of way acquisition.

Pond Site No. 14-A and Pond Site No. 14-B are assigned a risk ranking of **HIGH**, based on the close proximity of a previous dry cleaners, with reports of groundwater contamination. An Impact to Construction Assessment is recommended, complying with requirements of Level II Assessment (FDOT Part 2, Chapter 20) to assess the type and extent of potential contamination impacts to construction activities on the project or right of way acquisition.

Archeological and Cultural Resources

CULTURAL RESOURCE ASSESSMENT SURVEY UPDATE TECHNICAL MEMORANDUM

I-275 (SR 93) from North of Dr. Martin Luther King, Jr. (MLK) Boulevard (SR 574) to North of Bearss Avenue (SR 678/ CR 582) Project Development and Environment (PD&E) Study Hillsborough County

Proposed Stormwater Management Facility (SMF) Sites SMF 14B and 15B

Work Program Item Segment No.: 431821-1
Federal Aid Project No.: TBD

Prepared for:

Florida Department of Transportation
District Seven
11201 McKinley Dr
Tampa, FL 33612

The environmental review, consultation, and other actions required by the 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 the FHWA and FDOT.

February 2019

CULTURAL RESOURCE ASSESSMENT SURVEY UPDATE TECHNICAL MEMORANDUM

I-275 (SR 93) from North of Dr. Martin Luther King, Jr. (MLK) Boulevard (SR 574) to North of Bearss Avenue (SR 678/ CR 582) Project Development and Environment (PD&E) Study Hillsborough County

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Prepared for:

Florida Department of Transportation
District Seven
11201 McKinley Dr
Tampa, FL 33612

Prepared by:

Rebecca Spain Schwarz, AIA, Senior Architectural Historian
Frank Keel, Senior Archaeologist
Sarah Guagnini, Architectural Historian
Rin Gaubatz, Archaeological Technician II

Atkins
4030 W Boy Scout Blvd
Tampa, FL 33613

February 2019

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Appendices

Introduction

On behalf of the Florida Department of Transportation (FDOT), District Seven, Atkins has prepared a Cultural Resource Assessment Survey (CRAS) Update Technical Memorandum for two proposed pond / stormwater management facility (SMF) sites (SMF 14B and 15B). This project will be eligible for federal funds. This CRAS Update serves as an update to the *Cultural Resources Assessment Survey for Interstate 275 (I-275)(State Road 93 [SR 93]) from North of Dr. Martin Luther King, Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/County Road [CR] 582)* prepared by Janus Research in 2015 for the Project Development and Environment (PD&E) Study. The purpose of this CRAS Update is to locate and identify any cultural resources associated with the two proposed SMF sites (SMF 14B and 15B).

The cultural resource analysis was designed in compliance with Section 106 of the *National Historic Preservation Act (NHPA) of 1966* (Public Law 89-665, as amended), as implemented by 36 CFR 800 (*Protection of Historic Properties*, effective August 2004), as well as Chapter 267, *Florida Statutes (F.S.)* and Chapter 1A-46, *Florida Administrative Code (F.A.C.)*. All work was performed in accordance with the standards outlined in the *Cultural Resources Management Standards & Operational Manual* (Florida Division of Historical Resources [FDHR] 2003) and the *PD&E Manual* (FDOT 2019). The purpose of this analysis was to identify the presence of resources listed in or considered eligible for listing in the *National Register of Historic Places* (NRHP) per the criteria set forth in 36 CFR Section 60.4. The review was conducted by staff who meet the *Secretary of the Interior's Professional Qualification Standards (48 FR 44716)*.

Project Description

The FDOT, District Seven, is conducting a PD&E Study to evaluate the need for capacity and operational improvements along 7.70 miles of I-275 (**Figure 1**). The objective of the PD&E Study is to assist FDOT in reaching a decision on the type, location, and conceptual design of the proposed I-275 improvements to safely and efficiently accommodate future travel demand. As part of the PD&E Study, potential SMF sites were identified and evaluated. A Draft Pond Siting Report (January 2019) was prepared by WSP and describes the results. There are 17 proposed SMF (swale treatment facilities and/or ponds) for this project. Except for SMF 14B and SMF 15B, all SMF are located within the existing right of way (ROW). The required ROW for SMF 14B and SMF 15B is 1.40 acres and 2.00 acres respectively. **Figure 1** shows the proposed SMF alternatives for 2015 and 2018; however, the 2015 SMF locations are no longer proposed.

This CRAS Update focuses on proposed SMF 14B and SMF 15B (**Figure 2**). Proposed SMF 14 B is located at 131 April Lane, Tampa, which is located west of I-275, south of Bearss Avenue and east of North Florida Avenue. Proposed SMF 15B is located at 1007

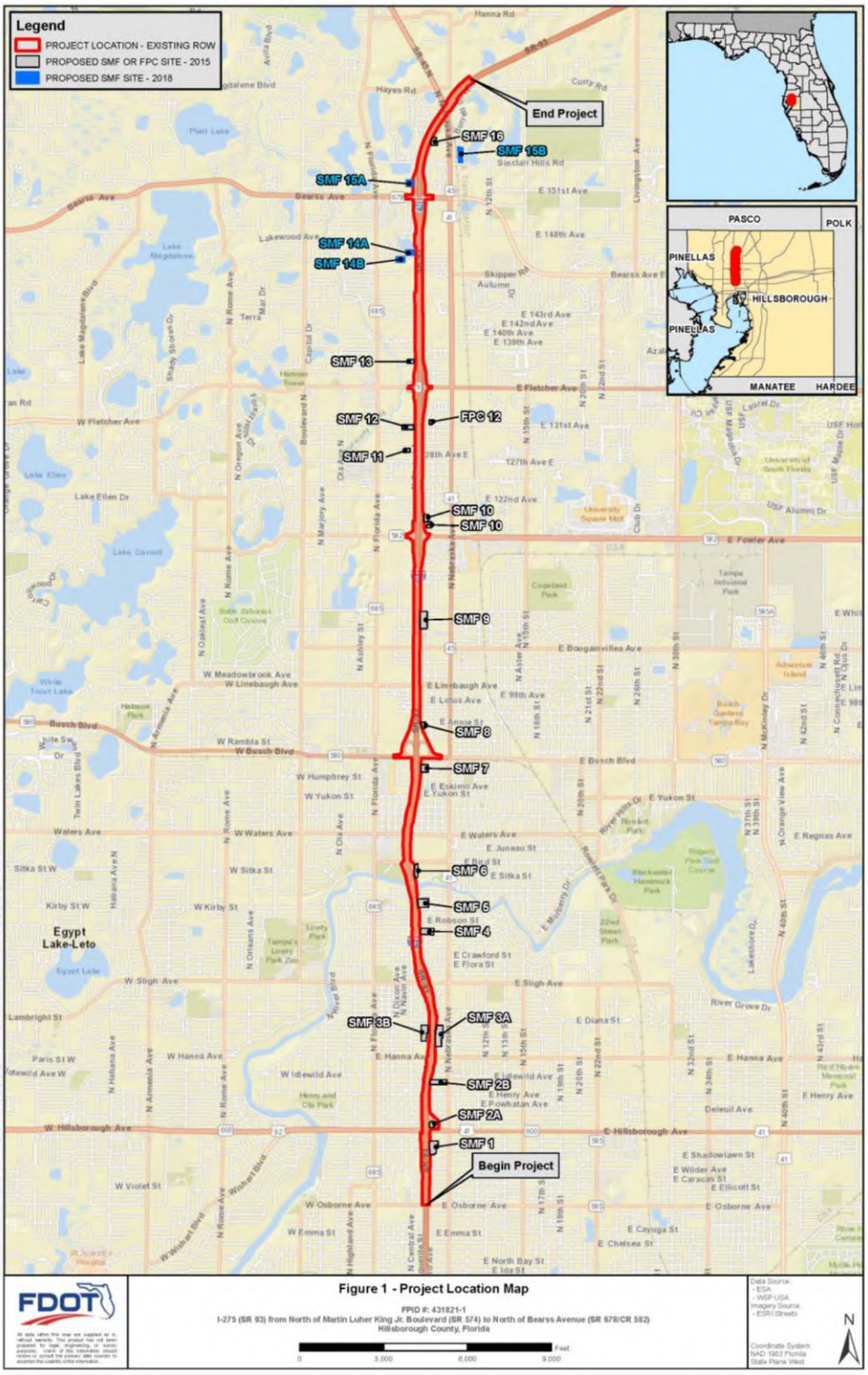


Figure 1: Overall PD&E Study Project Location Map

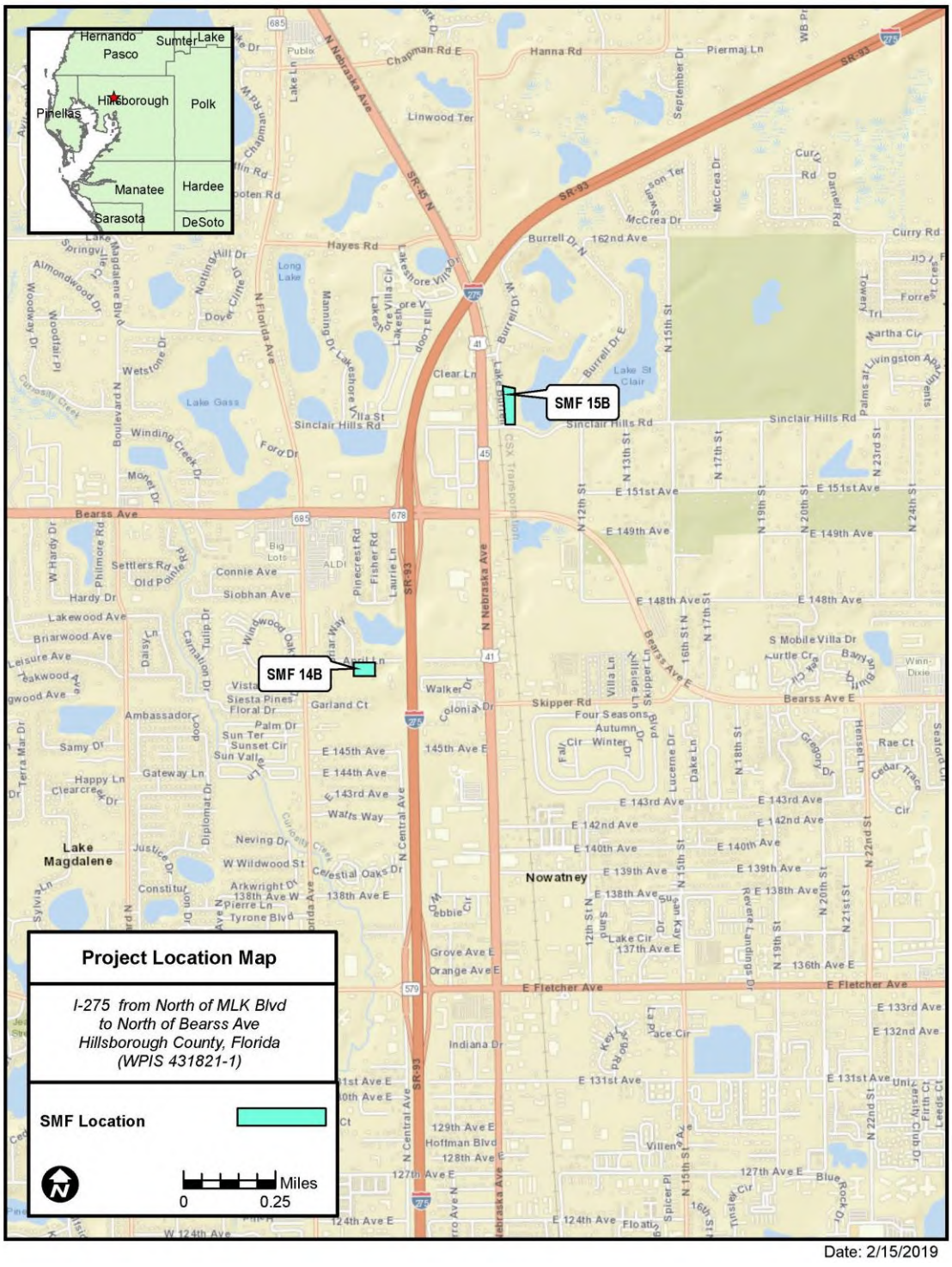


Figure 2: SMF 14B and SMF 15B Project Location Map

Sinclair Hills Road, Lutz, which is located east of I-275, north of Bearss Avenue and east of North Nebraska Avenue. The proposed SMF sites are not currently in FDOT ROW.

Area of Potential Effect (APE)

As defined in 36 CFR Part § 800.16(d), the APE is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." Based on the scale and nature of the activities, the archaeological APE is limited to the footprint of the proposed SMF sites. The historic resources APE is the proposed SMF sites and adjacent parcels that are not blocked from views by existing vegetation (or up to 250 feet where potential visual effects would be possible). See **Figure 3** for the historic resources APE for SMF 14B. The historic resources APE for SMF 15B was just the proposed SMF parcel which is bound by roads on the south and west, and by existing ponds on the east and north (**Figures 3 and 7**).

Environmental Overview

Proposed SMF 14B is located in Township 28S Range 18E, Section 01 on the Sulphur Springs United States Geological Survey (USGS) quadrangle map (1956, photorevised 1987) (**Figure 4**). This is an urban area, and the proposed SMF site is within 500 feet (ft) of I-275 The soils in the SMF 14B site include Zolfo fine sand. The natural vegetation of Zolfo fine sand consists of live oak, turkey oak, longleaf pine, and slash pine. The understory includes broomsedge; bluestem, lopsided indean grass, saw palmetto, and pineleaf threeawn. Zolfo fine sand is described as somewhat poorly drained, with high runoff potential (USDA 1989). Proposed SMF 14B is located in an urban area, on manicured lawn with large live oak trees. (**Figures 5 and 6**).

Proposed SMF 15B is located Township 27S, Range 19E, Section 31 on the Sulphur Springs USGS quadrangle map (**Figure 4**). The soils in the 15B pond site include Zolfo fine sand and Bassinger, Holopaw, and Samsula soils. There is a seasonable high-water table, ranging from 24 to 40 inches below surface in rainier months, and dropping to 60 inches in prolonged dry periods. Zolfo fine sand is described above. The natural vegetation of Bassinger, Holopaw and Samsula soils consists of cypress, with an understory of bluestem, maidencane, pancum, Jamaican sawgrass, and cutgrass (USDA 1989). Proposed SMF 15B is within a semi-urban area, on property used for storage and cutting of firewood, and is adjacent to a large natural pond. (**Figures 7 and 8**).

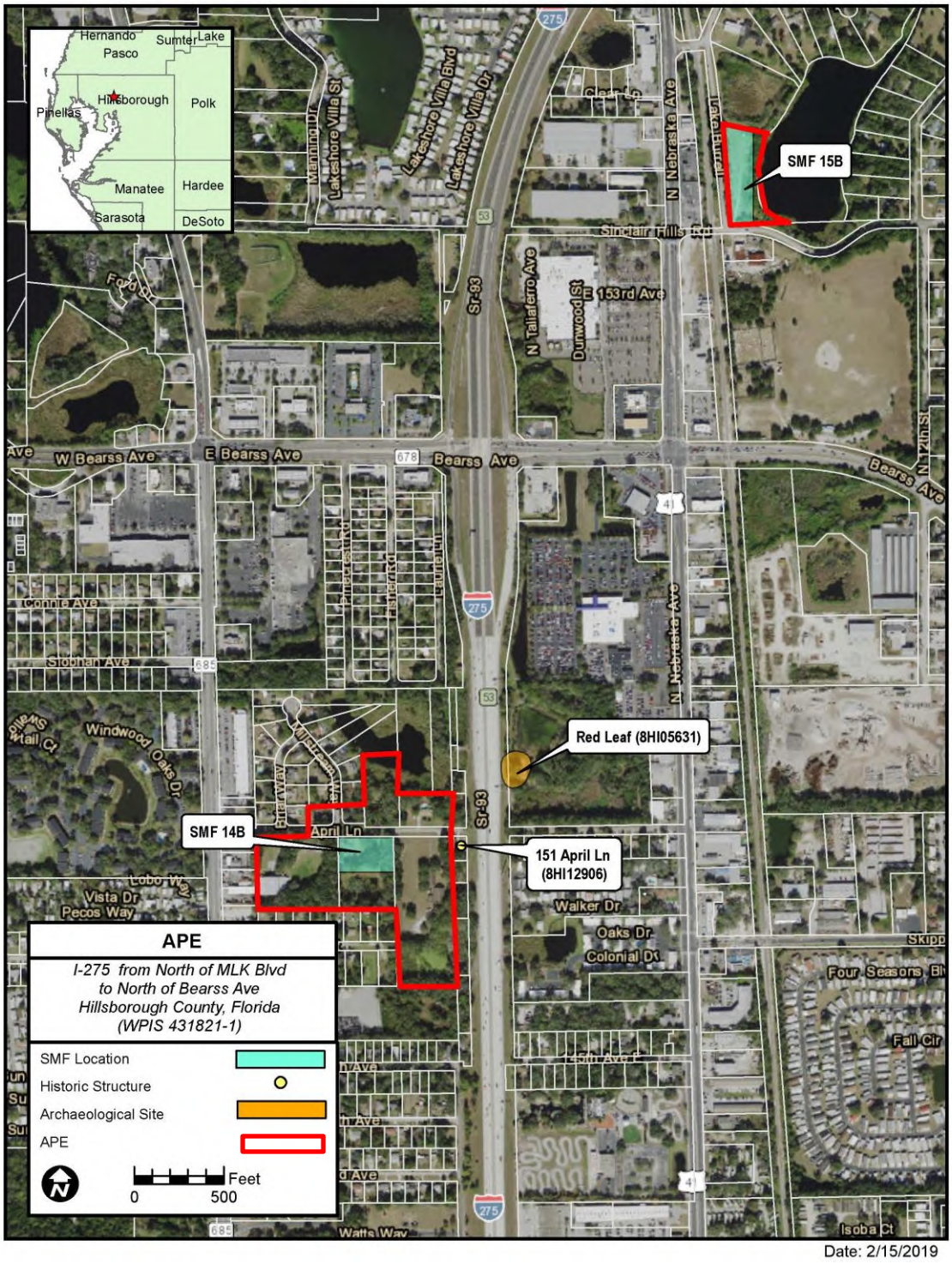


Figure 3: Area of Potential Effect and Previously Recorded Resources

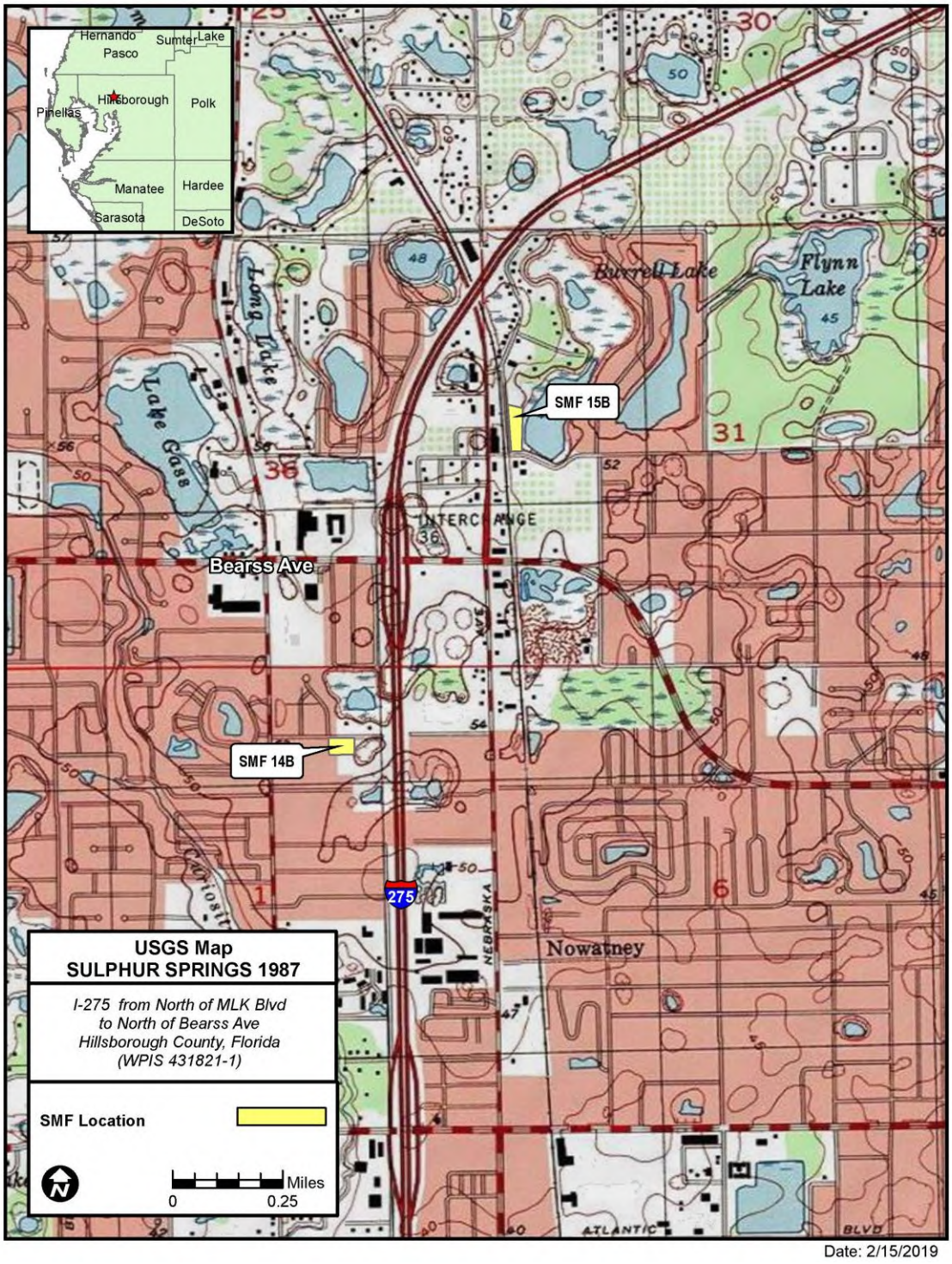


Figure 4: Sulphur Springs USGS quadrangle map (1956, photorevised 1987)

Figure 5: Project Setting for Proposed SMF 14B, Looking North Toward April Lane from Center of Parcel

Figure 6: Project Setting for Proposed SMF 14B, Looking South within the Fenced Area at the East Side of the Parcel (Note: This area was not accessible)

Figure 7: Project Setting for Proposed SMF 15B, Looking Northeast Toward Parcel from Sinclair Hills Road (Note: Heavy vegetation surrounding the parcel)

Figure 8: Project Setting for Proposed SMF 15B, Looking North from the South Entrance to the Parcel (Note: Heavy vegetation surrounding the parcel)

Background Research and Archaeological/Historical Considerations

This section represents an overview of previous archaeological and historical investigations conducted in the general vicinity of the project area. The information presented is designed to supplement the information in previous sections as well as to provide a comparative base from which to interpret the data obtained during the present assessment of the project. Specifically, this section discusses previously recorded archaeological and historical properties located within the general vicinity of the project limits. Information on previously recorded historic sites and surveys was obtained by examination of the Florida Master Site Files (FMSF) website data. Prior to the field survey, a review of the FMSF records, as well as an examination of the pertinent literature of the surrounding area, was conducted for the purpose of identifying any previously recorded archaeological or historical sites and/or surveys within the project APE or the immediate project vicinity.

A review of the information in the FMSF indicates that the *Technical Memorandum: Cultural Resource Assessment Survey, State Road 45 (US 41) Proposed Pond Sites, Hillsborough County* (Survey No. 13831) prepared by ACI in 1993 is the nearest CRAS to SMF 15B. The *Cultural Resources Assessment Survey of I-275/ State Road 93 (SR 93) from North of Dr. Martin Luther King, Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/County Road 582) PD&E* (Survey No. 22589) prepared by Janus Research in 2015 is the most recent nearby survey for SMF 14B. Neither one of the SMF sites has been surveyed for cultural resources.

Based on a review of the FMSF data, there is only one previously recorded archaeological site within one-quarter mile of each proposed SMF site. The archaeological site (8HI05631; Red Leaf) is low-density Pre-Columbian lithic artifact scatter site that is described in the previous I-275 CRAS. It is located east of I-275 and east of Proposed SMF 14B (**Figure 3**). There is no previously recorded archaeological site within or adjacent to either proposed SMF site. There is one previously recorded historic structure east of SMF 14B on April Lane, but outside of the historic resources survey APE (**Figure 3**). This masonry vernacular residence (8HI12906) at 151 April Lane was recorded during the previous I-275 CRAS and was determined not eligible for NRHP listing by the SHPO in 2016.

Cultural Overview

Since this is an update of a recently prepared previous CRAS, a full cultural overview (prehistoric and historic) is available in the *Cultural Resources Assessment Survey of I-275 (SR 93) from North of Dr. Martin Luther King, Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/County Road 582)* (FMSF Survey No. 22589) prepared by Janus Research in 2015, and will not be repeated here.

A review of historic aerials shows the project area in 1957, before I-275 was constructed (**Figure 9**). There was limited development surrounding both proposed SMF sites.

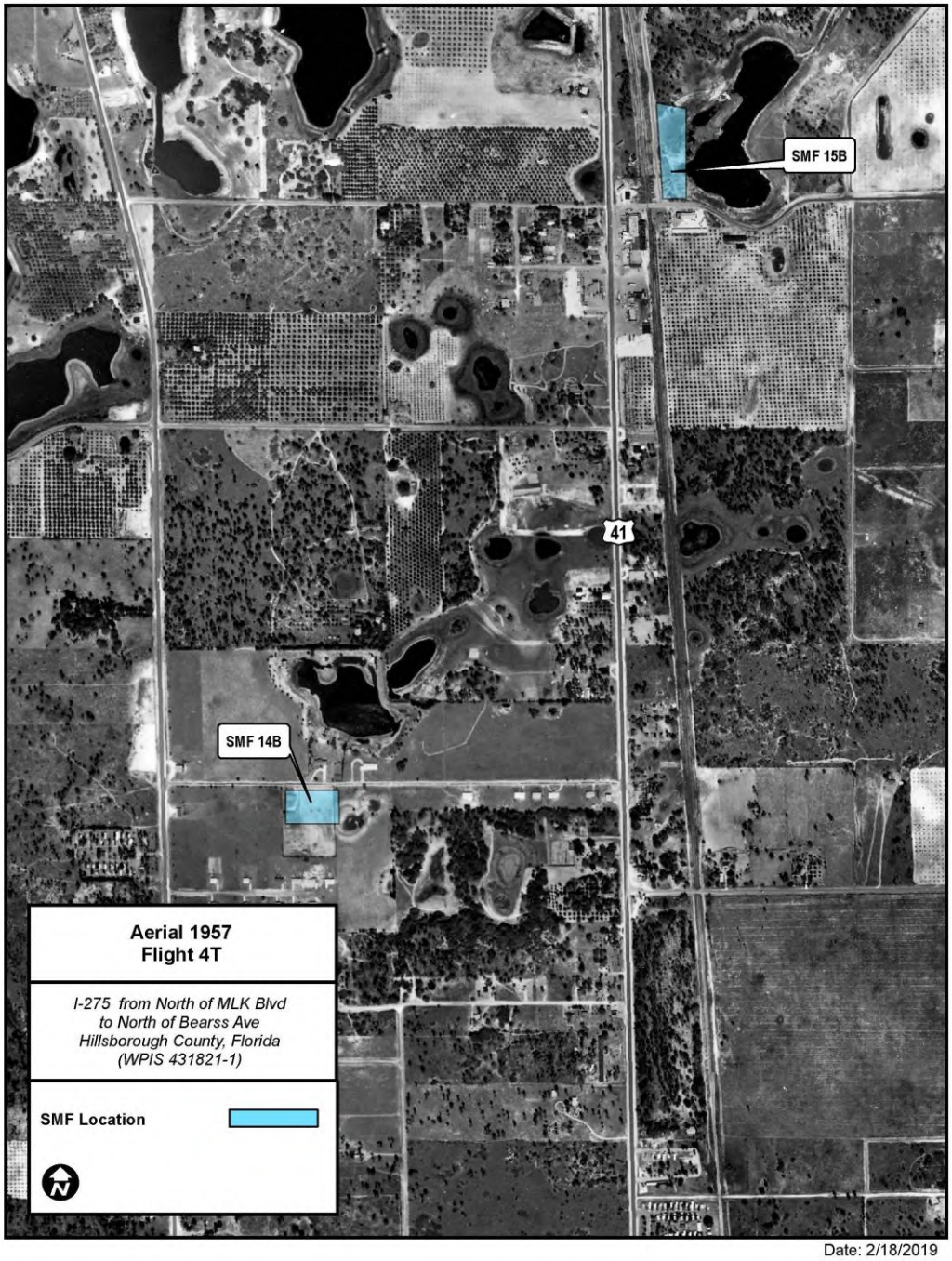


Figure 9: 1957 Aerial of the Project Area (courtesy of the University of Florida George A. Smathers Libraries)

Survey and Laboratory Methods

Archaeological: This assessment survey was designed to evaluate the presence of cultural resources within the APE. The archaeological field survey consisted of a thorough visual inspection of surface exposures, photographic documentation of the survey areas and the excavation of shovel tests. The subsurface testing methodology employed the excavation of judgmentally and systematically placed shovel tests. Each shovel test was 50 cm in diameter and excavated to a depth of one meter unless subsurface obstructions were encountered. All units were backfilled immediately upon completion. All excavated soil was screened through 0.25-inch mesh hardware cloth. Test locations were marked on 1" = 200' field maps and notes on soil conditions and stratigraphy were recorded for each subsurface test location. Field assessment activities were documented in accordance with accepted professional standards.

Based on cultural and environmental data, preliminary areas of archaeological probability were developed for the APE prior to initiating field work. These data suggested that the APE possessed a low archaeological site probability for proposed SMF 14B and a low to high probability for proposed SMF 15B. After examining the APE in the field, the probability areas were refined to account for variables not observable from quads or aerials.

Laboratory and Curation: No artifacts were recovered; therefore, no laboratory or curation methods were utilized.

Historic resources: A historic resources field survey was conducted to verify the locations of any previously recorded historic resources, assess the potential for unrecorded historic resources, and to review the location of the proposed improvements in relation to these cultural resources. As part of the survey methodology, historic resources were identified/evaluated that are 50 years of age or older. Therefore, historic resources were included in the survey that were built in or prior to 1970.

Inadvertent / Unanticipated Discovery of Cultural Remains

Although rare, archaeological deposits, subsurface features, or unmarked human remains can be encountered during project development, despite the project having received a thorough professional cultural resource assessment. In the event that human remains are encountered during the course of project development, the procedures outlined in Chapter 872, F.S. will be followed. All activities in the immediate vicinity of the discovery will be suspended, and the FDOT District Seven Environmental Administrator will be contacted. A professional archaeologist will also be contacted to evaluate the importance of the discovery. The area will be examined by the archaeologist, who, in consultation with staff of the FDOT and the SHPO will determine if the discovery is significant or potentially significant. In the event the discovery is found not to be significant, the work may immediately resume. If the discovery is found to be significant or potentially significant, then project development activities in the immediate vicinity of the discovery will continue

to be suspended until such time as a mitigation plan, acceptable to the SHPO, is developed and implemented, after which project development activities may then resume.

Survey Results

Archaeological

In January 2019, Atkins staff and Crystal Geiger, FDOT District Seven Cultural Resource Coordinator, conducted a cultural resources field assessment for the two proposed SMF sites (SMF 14B and SMF 15B). A total of nine shovel tests were excavated in the APE; 5 for SMF 14B and 4 for SMF 15B (**Appendix A**). All the shovel tests were negative, and no intact deposits were encountered. **Table 1** includes the results and stratigraphy of shovel tests in each SMF site.

The southwestern shovel test at SMF 14B is just outside the proposed pond footprint due to existing fill located just south of the structure that is within the southwest corner of the proposed SMF footprint. The eastern portion of the proposed SMF 14B parcel was inaccessible due to a locked fence. The area appeared to be an access road to the existing pond located south of the proposed SMF 14B.

Concentrations of compacted shell and rock fill were observed in three of the four shovel tests excavated at SMF 15B. The shovel tests were terminated several centimeters into the compact fill. The person leasing the parcel had previously noted the heavily compacted fill and mentioned having to use a pickaxe in an attempt to put in post holes. The fourth shovel test in the northwestern corner of the parcel did not display the compact fill and the shovel test was terminated at water.

Table 1: Shovel Test Results

Location	Conditions	Soil Stratigraphy	Results
SMF 14B ST 1 NE quad	Manicured lawn, live oak trees	0-16 cm very dark grey sandy 16-38 cm light grey sandy 38- 88cm light yellowish brown Terminated at water table	Negative
SMF 14B ST 2 SE quad	Manicured lawn, live oak, ferns	0-14 cm very dark grey organic 14-25 cm light grey sandy 25-92 cm light brownish grey Terminated at water table	Negative
SMF 14B ST 3 Center	Manicured lawn, open area, modern burn pile within 7m	0-60 cm very dark grey organic 60-80 cm light grey Terminated at water table	Negative (modern trash from previous burn pile)
SMF 14B ST 4 NW quad	Manicured lawn, 10m west of home site, live oak, palms	0-32 cm dark grey mottled with shell fill throughout 32-44 cm light grey 44-87 light greyish brown Terminated at water table	Negative
SMF 14B ST 5 SW quad	Leaf litter, live oak, lots of roots	0-60 cm dark grey 60-70 cm light grey soil Terminated at water table	Negative
SMF 15B ST 1 SE quad	Tall grasses, wood piles nearby, modern trash	0-15 cm dark grey (fill) 15-32 cm light grey (fill) Terminated at compact fill	Negative
SMF 15B ST 2 SW quad	Wood pile, sparse tall scrub grass	0-10 cm dark grey organic 10-20 cm shell fill, compact Terminated at compact fill	Negative
SMF 15B ST 3 NE quad	Grasses, open area with heavy vegetation nearby	0-9 cm dark grey 9-18 cm grayish brown 18-21 cm white (fill) Terminated at compact fill	Negative
SMF 15B ST 4 NW quad	Grasses, open area	0-18 cm dark grey 18-23 cm orange grey 23-70 cm light grey Terminated at water table	Negative

Historic Resources

As a result of field survey, eight newly identified historic resources were recorded and evaluated. These include seven historic buildings and one resource group (consisting of three newly recorded historic buildings). See **Table 2 and Figure 10**. Two are located within proposed SMF 14B and the rest are adjacent to proposed SMF 14B but within the historic resources visual APE. No historic resources were identified or recorded within or immediately adjacent to proposed SMF 15B.

These include two masonry vernacular buildings located at 131 April Lane within proposed SMF 14B that are related to the non-historic church to the west **(Figure 11**). Two masonry vernacular residences are located across the street on the north side of April Lane (**Figures 12 and 13**). The parcel to the east of the proposed SMF 14B contains the Christian Growth Fellowship complex (resource group) consisting of three separate masonry vernacular church related buildings (**Figure 14**). None of these historic resources meet the criteria for listing in the NRHP. FMSF forms are included in **Appendix B.**

Table 2: Historic Resources Recorded Within the APE (all are related to proposed SMF 14B)

FMSF No.	Site Name / Address	Resource Type / Style	Date	National Register Evaluation
8HI14557	131 April Lane (Building A)	Masonry Vernacular	ca. 1950	Not eligible for listing in the NRHP
8HI14558	131 April Lane (Building B)	Masonry Vernacular	ca. 1950	Not eligible for listing in the NRHP
8HI14559	140 April Lane	Masonry Vernacular	ca. 1951	Not eligible for listing in the NRHP
8HI14560	148 April Lane	Masonry Vernacular	ca. 1954	Not eligible for listing in the NRHP
8HI14561	Christian Growth Fellowship Building A/149 April Lane	Masonry Vernacular	ca. 1964	Not eligible for listing in the NRHP
8HI14562	Christian Growth Fellowship Building B/149 April Lane	Masonry Vernacular	ca. 1964	Not eligible for listing in the NRHP
8HI14563	Christian Growth Fellowship Building C/149 April Lane	Masonry Vernacular	ca. 1964	Not eligible for listing in the NRHP
8HI14564	Christian Growth Fellowship Complex	Resource Group	ca. 1964	Not eligible for listing in the NRHP

I-275 (SR 93) from north of MLK Boulevard (SR 574) to north of Bearss Avenue (SR 678/CR 582)
Proposed SMF 14B and 15B
Hillsborough County
WPI Segment No.: 431821-1

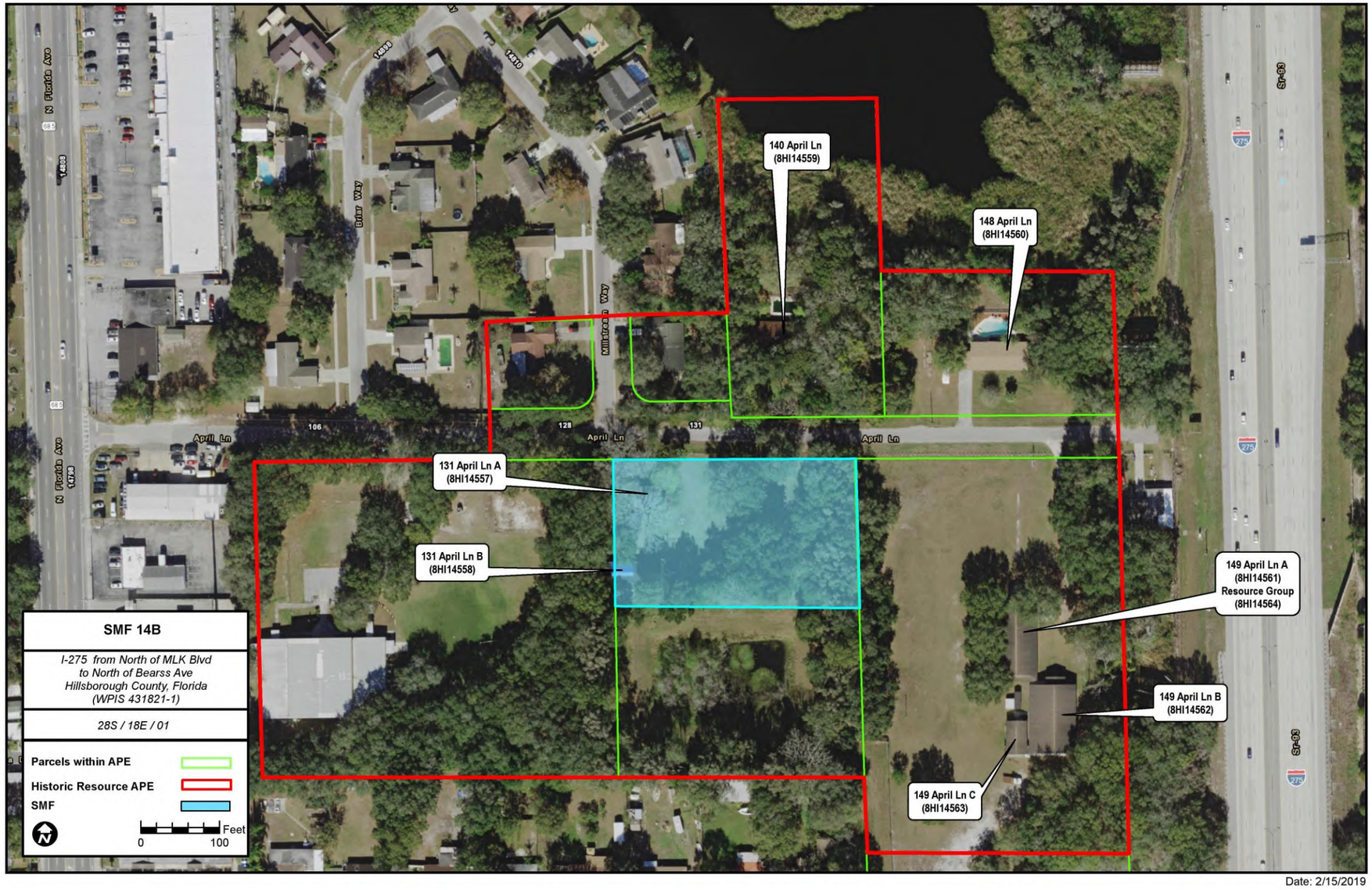


Figure 10: Recorded Historic Resources

Figure 11: 131 April Lane, Looking Southwest

Figure 12: 140 April Lane, Looking North

Figure 13: **148 April Lane, Looking Northwest**

Figure 14: 149 April Lane, Looking South

Conclusion

The archaeological field survey included visual pedestrian survey and subsurface testing of the project APE. No archaeological sites or artifacts were recorded. No further archaeological survey is recommended.

The historic resources field survey included visual pedestrian survey. As a result of field survey, eight newly identified historic resources were recorded and evaluated. These include seven historic buildings and one resource group (consisting of three newly recorded historic buildings). Two are within proposed SMF 14B and the rest are adjacent to proposed SMF 14B but within the historic resource visual APE. No historic resources were recorded within or immediately adjacent to proposed SMF 15B. None of these historic resources meet the criteria for listing in the NRHP.

Based on the results of the background research and field survey, there are no archaeological sites or historic resources located within the project APE that are listed, determined eligible, or considered potentially eligible for listing in the NRHP. Therefore, FDOT is proposing a finding of **no historic properties** affected for the two SMF sites.

A Survey Log is included in **Appendix C.**

References Cited

Archaeological Consultants, Inc.
1993 *Technical Memorandum: Cultural Resource Assessment Survey, State Road 45 (US 41) Proposed Pond Sites, Hillsborough County.* FMSF Survey No. 13831. Manuscript on file at Florida Division of Historical Resource, Tallahassee.

Janus Research
2015 *Cultural Resources Assessment Survey for Interstate 275 (I-275) (State Road 93 [SR 93]) from North of Dr. Martin Luther King, Jr. Boulevard (SR 574) to North of Bearss Avenue (SR 678/County Road [CR] 582) Project Development and Environment (PD&E) Study, Hillsborough County.* FMSF Survey No. 22589. Manuscript on file at Florida Division of Historical Resource, Tallahassee.

United States Department of Agriculture (USDA)
1989 *Soil Survey of Hillsborough County, Florida*. United States Department of Agriculture, Soil Conservation Service, Washington, D.C.

United States Geological Survey (USGS)
1956 *Sulphur Springs,* photorevised 1987.

University of Florida Digital Collection

1957 *Aerial Photography: Florida Collection.* University of Florida, George A Smathers Libraries, Gainesville, FL

APPENDICES

APPENDIX A: **SHOVEL TEST MAPS**

APPENDIX B: **FMSF FORMS**

APPENDIX C: **SURVEY LOG**

APPENDIX A: SHOVEL TEST MAPS

SMF 14B
Shovel Test Map

I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)

28S / 18E / 01

SMF

Negative Shovel Tests

Existing fence

0 50 Feet

Date: 2/15/2019

Date: 2/15/2019

APPENDIX B: FMSF FORMS

Page 1

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14557
Field Date 1-29-2019
Form Date 2-14-2019
Recorder # 8

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 131 April Lane (Building A) Multiple Listing (DHR only) _____
Survey Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	131		April	Lane	

Cross Streets (nearest / between) South side April Ln b/w N Florida Ave and I-275
USGS 7.5 Map Name SULPHUR SPRINGS USGS Date 1987 Plat or Other Map _____
City / Town (within 3 miles) Tampa In City Limits? ☐yes ☒no ☐unknown County Hillsborough
Township 28S Range 18E Section 1 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 017395-0000 Landgrant _____
Subdivision Name Unplatted Block _____ Lot _____
UTM Coordinates: Zone ☐16 ☒17 Easting 356821 Northing 3107144
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1950 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Club or Lodge building From (year): c1950 To (year): c2015
Current Use Abandoned/Vacant From (year): c2015 To (year): 2019
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: c. 1980s Nature Carport enclosure at east
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): Unknown Builder (last name first): Unknown
Ownership History (especially original owner, dates, profession, etc.) _____

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan Rectangular Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. Wood siding 3. _____
Roof Type(s) 1. Gable 2. Hip 3. _____
Roof Material(s) 1. Composition shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.) Replacement metal 1/1 single-hung sash; metal six-light casement

Distinguishing Architectural Features (exterior or interior ornaments) Concrete sills beneath windows

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) Second Masonry Vernacular building to the south of the current one that is on same parcel (131 April Lane Building 2).

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 HI14557

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. _____ 2. _____
Structural System(s): 1. Concrete block 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Poured Concrete Footing 2. _____
Main Entrance (stylistic details) Located within north porch extension; replacement wood door

Porch Descriptions (types, locations, roof types, etc.) North shed roof entrance porch with four wood post supports and concrete floor

Condition (overall resource condition): ☐excellent ☐good ☒fair ☐deteriorated ☐ruinous
Narrative Description of Resource This church meeting house is a typical post-World War II Masonry Vernacular building that has been altered.

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Aerial photographs
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) _____

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) This building is a common Masonry Vernacular style building that does not possess sufficient historical significance to be considered individually eligible for the NRHP. The building is not in an area that could comprise a potential historic district.
Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location — Maintaining organization ATKINS Global
Document description Mapping, photographs, survey notes — File or accession #'s _____

2) Document type _____ — Maintaining organization _____
Document description _____ — File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini — Affiliation ATKINS Global
Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634
(address / phone / fax / e-mail)

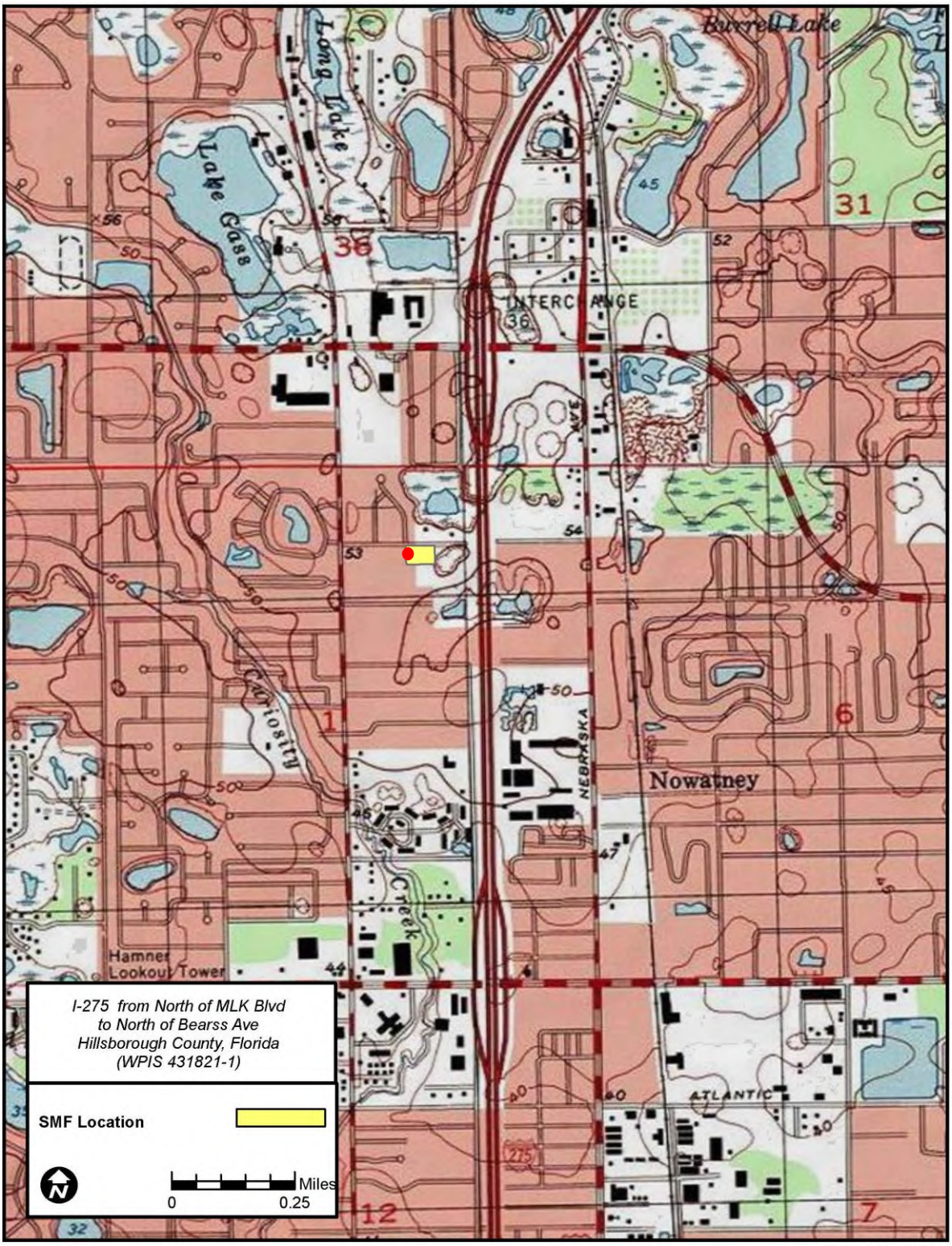
Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED
❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)
❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE
If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable).
Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

Photograph

Structure Location

USGS Topo


Burrell Lake
Long Lake
Lake Cass
36
31
INTERCHANGE
36
NEBRASKA AVE
Nowatney
Hamner
Lookout Tower
ATLANTIC
I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)
SMF Location
Miles
0
0.25
Date: 2/18/2019

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14558
Field Date 1-29-2019
Form Date 2-14-2019
Recorder # 9

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 131 April Lane (Building B) Multiple Listing (DHR only) _____
Survey Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	131		April	Lane	

Cross Streets (nearest / between) South side April Ln b/w N Florida Ave and I-275
USGS 7.5 Map Name SULPHUR SPRINGS USGS Date 1987 Plat or Other Map _____
City / Town (within 3 miles) Tampa In City Limits? ☐yes ☒no ☐unknown County Hillsborough
Township 28S Range 18E Section 1 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 017395-0000 Landgrant _____
Subdivision Name Unplatted Block _____ Lot _____
UTM Coordinates: Zone ☐16 ☒17 Easting 356811 Northing 3107155
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1950 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Club or Lodge building From (year): c1950 To (year): c2015
Current Use Abandoned/Vacant From (year): c2015 To (year): 2019
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☒yes ☐no ☐unknown Date: c. 1980s Nature Carport enclosure at east
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): Unknown Builder (last name first): Unknown
Ownership History (especially original owner, dates, profession, etc.) _____

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan Rectangular Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. Vertical plank 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Composition shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.) Metal 1/1 single-hung sash

Distinguishing Architectural Features (exterior or interior ornaments) _____

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) Second Masonry Vernacular building to the north of the current one that is on same parcel (131 April Lane Building 1).

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 HI14558

DESCRIPTION (continued)

Chimney: No.____ Chimney Material(s): 1. _____ 2. _____
Structural System(s): 1. Concrete block 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Poured Concrete Footing 2. _____
Main Entrance (stylistic details) Replacement door at north facade

Porch Descriptions (types, locations, roof types, etc.) At west within gable roof extension; incorporates wood post porch supports and plastic lattice railing

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous
Narrative Description of Resource This church meeting house is a typical post-World War II Masonry Vernacular building that has been altered. The building originally had a 2 or 3 bay carport at the east; however, this has been enclosed and has one large sliding garage door.
Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Aerial photographs
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) _____

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) This building is a common Masonry Vernacular style building that does not possess sufficient historical significance to be considered individually eligible for the NRHP. The building is not in an area that could comprise a potential historic district.
Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1._____ 3._____ 5._____
2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location — Maintaining organization ATKINS Global
Document description Mapping, photographs, survey notes — File or accession #'s _____

2) Document type _____ — Maintaining organization _____
Document description _____ — File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini — Affiliation ATKINS Global
Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634
(address / phone / fax / e-mail)

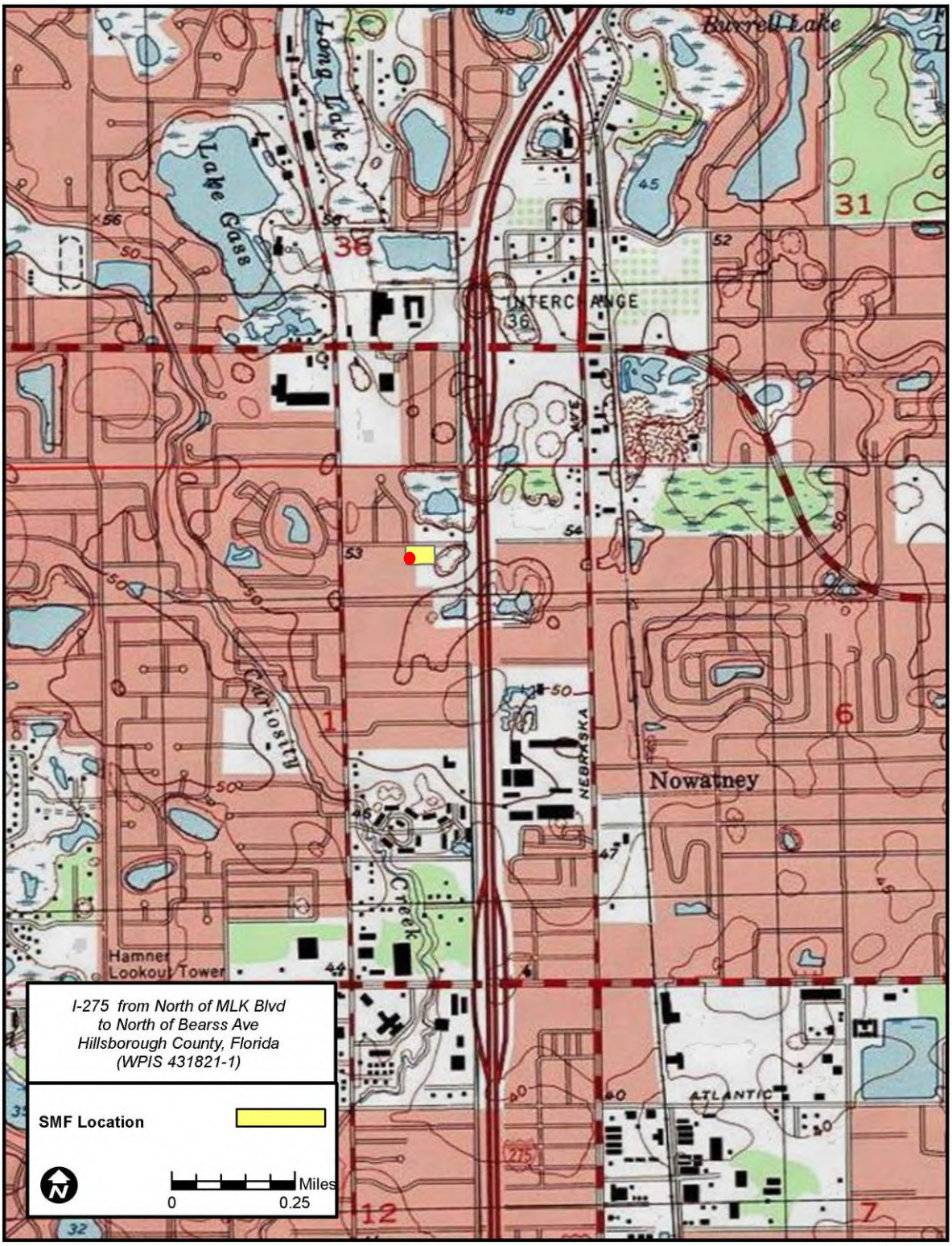
Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED
❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)
❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE
If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable).
Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

Photograph

Structure Location

USGS Topo


Burrell Lake
Long Lake
Lake Cass
31
36
INTERCHANGE
36
NEBRASKA AVE
Nowatney
Hamner
Lookout Tower
ATLANTIC
I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)
SMF Location
Miles
0
0.25
Date: 2/18/2019

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14559
Field Date 1-29-2019
Form Date 2-14-2019
Recorder # 6

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 140 April Lane — Multiple Listing (DHR only) _____
Survey Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	140		April	Lane	

Cross Streets (nearest / between) North side April Ln b/w Millstream Way and I-275
USGS 7.5 Map Name SULPHUR SPRINGS — USGS Date 1987 — Plat or Other Map _____
City / Town (within 3 miles) Tampa — In City Limits? ☐yes ☒no ☐unknown — County Hillsborough
Township 28S — Range 18E — Section 1 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 017397-0000 — Landgrant _____
Subdivision Name Unplatted — Block _____ — Lot _____
UTM Coordinates: Zone ☐16 ☒17 — Easting 356871 — Northing 3107207
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1951 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Cabin) — From (year): c1951 — To (year): _____
Current Use Private Residence (House/Cottage/Cabin) — From (year): _____ — To (year): 2019
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ — Original address _____
Alterations: ☐yes ☐no ☒unknown Date: _____ — Nature _____
Additions: ☐yes ☒no ☐unknown Date: _____ — Nature _____
Architect (last name first): Unknown — Builder (last name first): Unknown
Ownership History (especially original owner, dates, profession, etc.) _____

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular — Exterior Plan Irregular — Number of Stories 1
Exterior Fabric(s) 1. Brick 2. Wood siding 3. Board and batten
Roof Type(s) 1. Hip 2. _____ 3. _____
Roof Material(s) 1. Barrel tile 2. _____ 3. concrete
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.) Metal casement

Distinguishing Architectural Features (exterior or interior ornaments) Brick window sills

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) Detached double-wide carport with concrete posts & wood frame shed roof SE of house; pool at N; non-historic metal shed at SE corner of the property

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 HI14559

DESCRIPTION (continued)

Chimney: No. 1 Chimney Material(s): 1. Brick 2. _____

Structural System(s): 1. Concrete block 2. Wood frame 3. _____

Foundation Type(s): 1. Unknown 2. _____

Foundation Material(s): 1. _ 2. _____

Main Entrance (stylistic details) Located at south side but not visible from the right-of-way

Porch Descriptions (types, locations, roof types, etc.) None visible from the right-of-way

Condition (overall resource condition): ☐ excellent ☒ good ☐ fair ☐ deteriorated ☐ ruinous

Narrative Description of Resource This residence exhibits good integrity but is a typical post-World War II Masonry Vernacular building.

Archaeological Remains _____ ☐ Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒ FMSF record search (sites/surveys)	☐ library research	☐ building permits	☐ Sanborn maps
☐ FL State Archives/photo collection	☐ city directory	☐ occupant/owner interview	☐ plat maps
☒ property appraiser / tax records	☐ newspaper files	☐ neighbor interview	☐ Public Lands Survey (DEP)
☒ cultural resource survey (CRAS)	☐ historic photos	☐ interior inspection	☐ HABS/HAER record search

☒ other methods (describe) Aerial photographs

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) _____

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐ yes ☒ no ☐ insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐ yes ☒ no ☐ insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) This building is a common Masonry Vernacular style residence that does not possess sufficient historical significance to be considered individually eligible for the NRHP. The building is not in an area that could comprise a potential historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization ATKINS Global

Document description Mapping, photographs, survey notes File or accession #'s _____

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini Affiliation ATKINS Global

Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634

(address / phone / fax / e-mail)

Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED

❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)

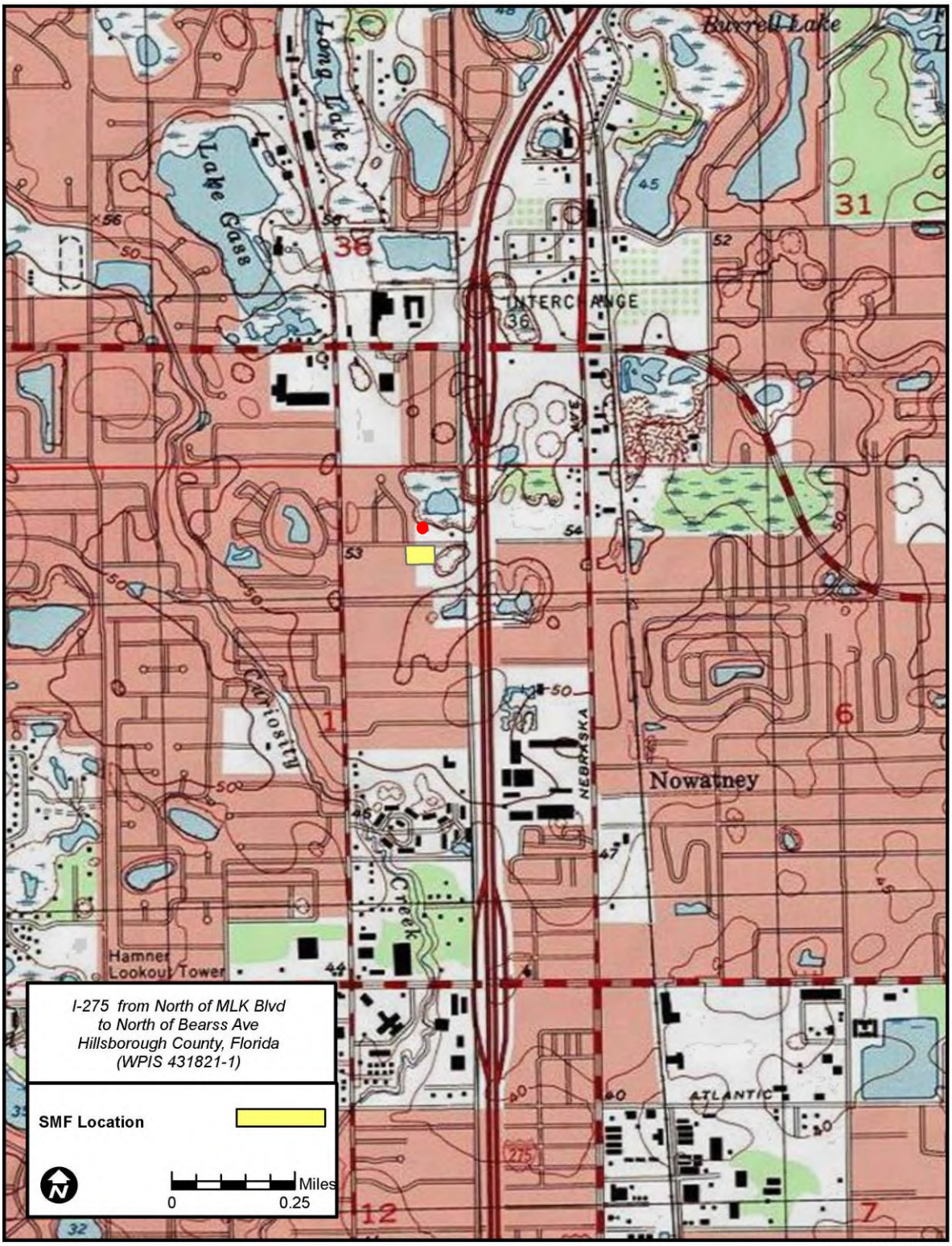
❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE

If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

Photograph

Structure Location

USGS Topo


Burrell Lake
Long Lake
Lake Cass
31
36
INTERCHANGE
36
NEBRASKA AVE
Nowatney
Hamner
Lookout Tower
ATLANTIC
I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)
SMF Location
Miles
0
0.25
Date: 2/18/2019

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14560
Field Date 1-29-2019
Form Date 1-26-2019
Recorder # 5

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) 148 April Lane — Multiple Listing (DHR only) _____
Survey Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave — Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☒private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	148		April	Lane	

Cross Streets (nearest / between) North side April Ln b/w Millstream Way and I-275
USGS 7.5 Map Name SULPHUR SPRINGS — USGS Date 1987 — Plat or Other Map _____
City / Town (within 3 miles) Tampa — In City Limits? ☐yes ☒no ☐unknown — County Hillsborough
Township 28S — Range 18E — Section 1 — ¼ section: ☐NW ☐SW ☐SE ☐NE — Irregular-name: _____
Tax Parcel # 017394-0010 — Landgrant _____
Subdivision Name Unplatted — Block _____ — Lot _____
UTM Coordinates: Zone ☐16 ☒17 — Easting 356959 — Northing 3107195
Other Coordinates: X: _____ Y: _____ — Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1954 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Private Residence (House/Cottage/Cabin) — From (year): c1954 — To (year): _____
Current Use Private Residence (House/Cottage/Cabin) — From (year): _____ — To (year): 2019
Other Use _____ — From (year): _____ — To (year): _____
Moves: ☐yes ☒no ☐unknown — Date: _____ — Original address _____
Alterations: ☒yes ☐no ☐unknown — Date: B/w 2015-19 — Nature South facade stucco treatment
Additions: ☐yes ☒no ☐unknown — Date: _____ — Nature _____
Architect (last name first): Unknown — Builder (last name first): Unknown
Ownership History (especially original owner, dates, profession, etc.) _____

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown — Describe _____

DESCRIPTION

Style Masonry Vernacular — Exterior Plan Irregular — Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. _____ 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Composition shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.) Replacement metal 6/6 single-hung sash

Distinguishing Architectural Features (exterior or interior ornaments) Non-historic stucco window surrounds

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) Non-historic wood frame storage building with a gable roof to the west of the main residence; metal fence at S; vinyl fence at E, N, & W; pool at N

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 HI14560

DESCRIPTION (continued)

Chimney: No.____ Chimney Material(s): 1. _____ 2. _____
Structural System(s): 1. Concrete block 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Poured Concrete Footing 2. _____
Main Entrance (stylistic details) New door with leaded glass insert within the south entrance porch

Porch Descriptions (types, locations, roof types, etc.) South main entrance recessed entrance porch with concrete slab floor; no other visible porch from right-of-way

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous
Narrative Description of Resource This is a typical post-World War II constructed residence that includes an integral 2-bay carport at the west end. The building has recently been updated with a smooth stucco treatment.
Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Aerial photographs
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) _____

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) This building is a common Masonry Vernacular style residence that does not possess sufficient historical significance to be considered individually eligible for the NRHP. The building is not in an area that could comprise a potential historic district.
Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1._____ 3._____ 5._____
2._____ 4._____ 6._____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location — Maintaining organization ATKINS Global
Document description Mapping, photographs, survey notes — File or accession #'s _____

2) Document type _____ — Maintaining organization _____
Document description _____ — File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini — Affiliation ATKINS Global
Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634
(address / phone / fax / e-mail)

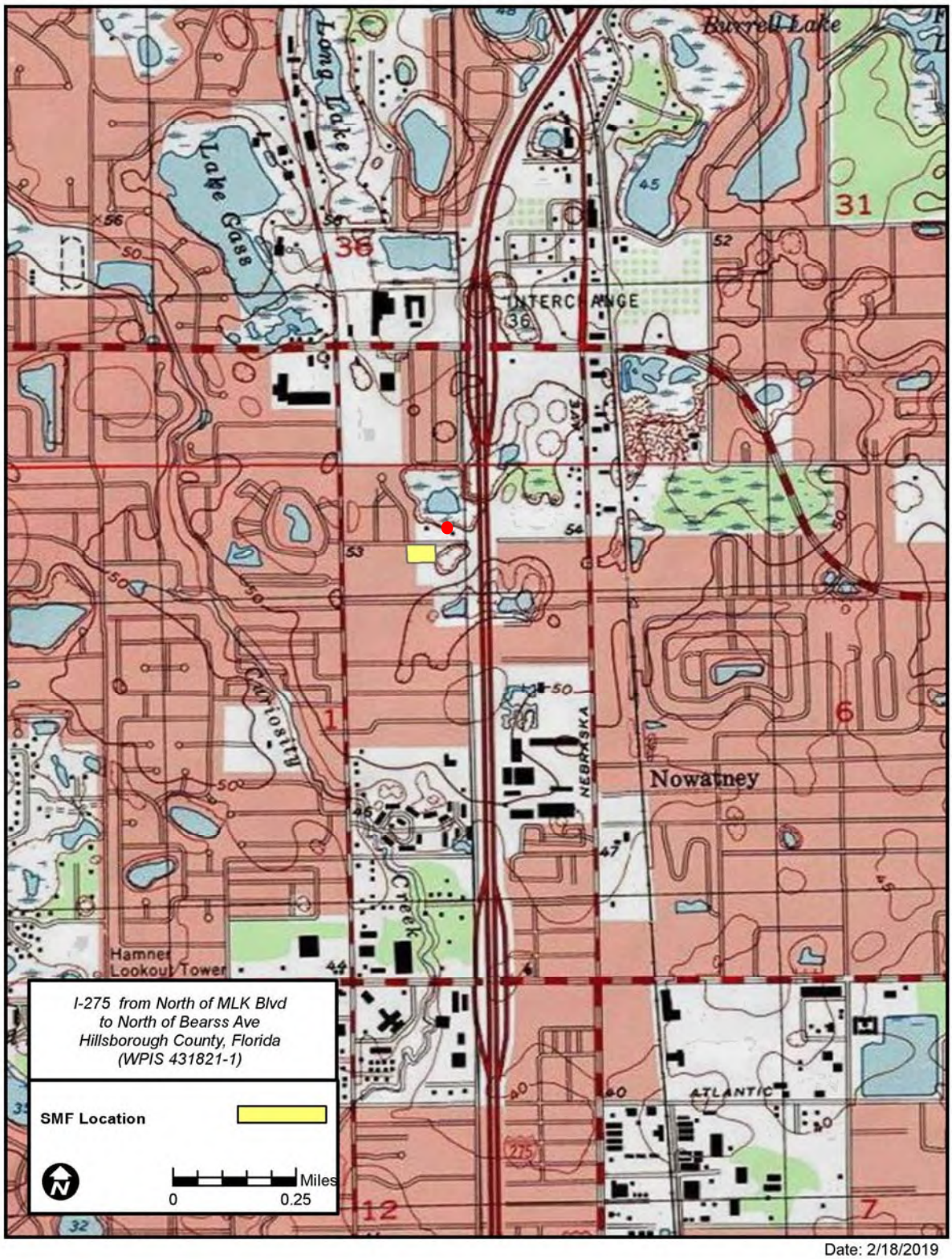
Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED
❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)
❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE
If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable).
Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

Photograph

Structure Location

USGS Topo


Burrell Lake
Long Lake
Lake Cass
36
31
INTERCHANGE
36
NEBRASKA AVE
Nowatney
Hamner
Lookout Tower
ATLANTIC
I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)
SMF Location
Miles
0
0.25
Date: 2/18/2019

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14561
Field Date 1-29-2019
Form Date 2-14-2019
Recorder # 2

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) Christian Growth Fellowship (Building A) Multiple Listing (DHR only) _____
Survey Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☐private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☒county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Street Number	Direction	Street Name	Street Type	Suffix Direction
149		April	Lane	

Address:
Cross Streets (nearest / between) South side April Ln b/w N Florida Ave and I-275
USGS 7.5 Map Name SULPHUR SPRINGS USGS Date 1987 Plat or Other Map _____
City / Town (within 3 miles) Tampa In City Limits? ☐yes ☒no ☐unknown County Hillsborough
Township 28S Range 18E Section 1 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 017392-0000 Landgrant _____
Subdivision Name Unplatted Block _____ Lot _____
UTM Coordinates: Zone ☐16 ☒17 Easting 356964 Northing 3107082
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1964 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Church/Temple/Synagogue From (year): c1964 To (year): _____
Current Use Church/Temple/Synagogue From (year): _____ To (year): 2019
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☐no ☒unknown Date: _____ Nature _____
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): Unknown Builder (last name first): Unknown
Ownership History (especially original owner, dates, profession, etc.) Currently owned by Christian Growth Fellowship, Inc.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan Rectangular Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. _____ 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Composition shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.) Glass block with cross sign pattern at front north facade; glass block windows at east and west
Distinguishing Architectural Features (exterior or interior ornaments) Building is streamlined with very little ornamentation

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) There are two other Masonry Vernacular buildings on the same parcel. Buildings are set back. There is a covered walkway that connects Building A and B

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 HI14561

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. _____ 2. _____

Structural System(s): 1. Concrete block 2. _____ 3. _____

Foundation Type(s): 1. Slab 2. _____

Foundation Material(s): 1. Poured Concrete Footing 2. _____

Main Entrance (stylistic details) Simple wood double-doors with no glass set flush within the north wall

Porch Descriptions (types, locations, roof types, etc.) North central main entrance porch beneath front gable extension with thin metal pole supports; full-length walkways at east and west elevations beneath roof extensions which also include thin metal pole supports.

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous

Narrative Description of Resource This building appears to be the sanctuary. This building is a typical post-World War II constructed church and is one of three buildings included in the Christian Growth Fellowship Complex (8HI14564).

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Aerial photographs

Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) _____

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information

Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information

Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) This building is a common 1960s Masonry Vernacular church that does not possess sufficient historical significance to be considered individually eligible for the NRHP. The building is not in an area that could comprise a potential historic district.

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization ATKINS Global

Document description Mapping, photographs, survey notes File or accession #'s _____

2) Document type _____ Maintaining organization _____

Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini Affiliation ATKINS Global

Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634

(address / phone / fax / e-mail)

Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED

❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)

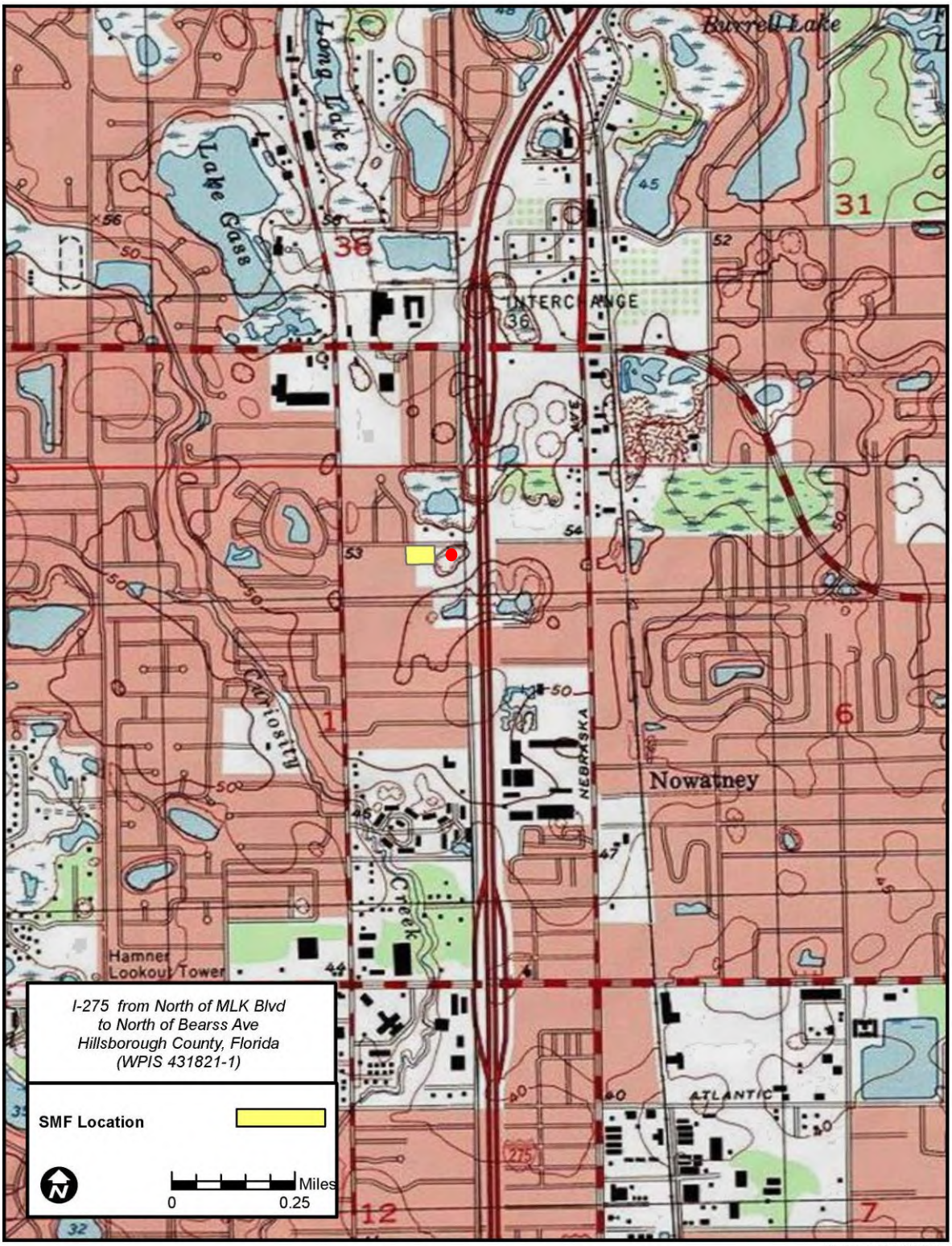
❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE

If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable). Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

Photograph

Structure Location

USGS Topo


Burrell Lake
Long Lake
Lake Cass
31
36
INTERCHANGE
36
NEBRASKA AVE
Nowatney
Hamner
Lookout Tower
ATLANTIC
I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)
SMF Location
Miles
0
0.25
Date: 2/18/2019

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14562
Field Date 1-29-2019
Form Date 2-14-2019
Recorder # 1

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) Christian Growth Fellowship (Building B) Multiple Listing (DHR only) _____
Survey Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☒private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	149		April	Lane	

Cross Streets (nearest / between) South side April Ln b/w N Florida Ave and I-275
USGS 7.5 Map Name SULPHUR SPRINGS USGS Date 1987 Plat or Other Map _____
City / Town (within 3 miles) Tampa In City Limits? ☐yes ☒no ☐unknown County Hillsborough
Township 28S Range 18E Section 1 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 017392-0000 Landgrant _____
Subdivision Name Unplatted Block _____ Lot _____
UTM Coordinates: Zone ☐16 ☒17 Easting 356975 Northing 3107056
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1964 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Church/Temple/Synagogue From (year): c1964 To (year): _____
Current Use Church/Temple/Synagogue From (year): _____ To (year): 2019
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☐no ☒unknown Date: _____ Nature _____
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): Unknown Builder (last name first): Unknown
Ownership History (especially original owner, dates, profession, etc.) Currently owned by Christian Growth Fellowship, Inc.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan Rectangular Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. _____ 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Composition shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.) Glass block; metal 1/1 single-hung sash; windows at the east and west are not visible from the right-of-way
Distinguishing Architectural Features (exterior or interior ornaments) Concrete window sills

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) There are two other Masonry Vernacular buildings on the same parcel. Buildings are set back. There is a covered walkway that connects Building A and B

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 HI14562

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. _____ 2. _____
Structural System(s): 1. Concrete block 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Poured Concrete Footing 2. _____
Main Entrance (stylistic details) Double glass entrance doors at north within porch

Porch Descriptions (types, locations, roof types, etc.) There is a north entrance porch within a front gable roof extension that incorporates stuccoed masonry porch supports.

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous
Narrative Description of Resource This building is a typical post-World War II constructed church building and is one of three buildings included in the Christian Growth Fellowship Complex (8HI14564).

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Aerial photographs
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) _____

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) This building is a common 1960s Masonry Vernacular church that does not possess sufficient historical significance to be considered individually eligible for the NRHP. The building is not in an area that could comprise a potential historic district.
Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location — Maintaining organization ATKINS Global
Document description Mapping, photographs, survey notes — File or accession #'s _____

2) Document type _____ — Maintaining organization _____
Document description _____ — File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini — Affiliation ATKINS Global
Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634
(address / phone / fax / e-mail)

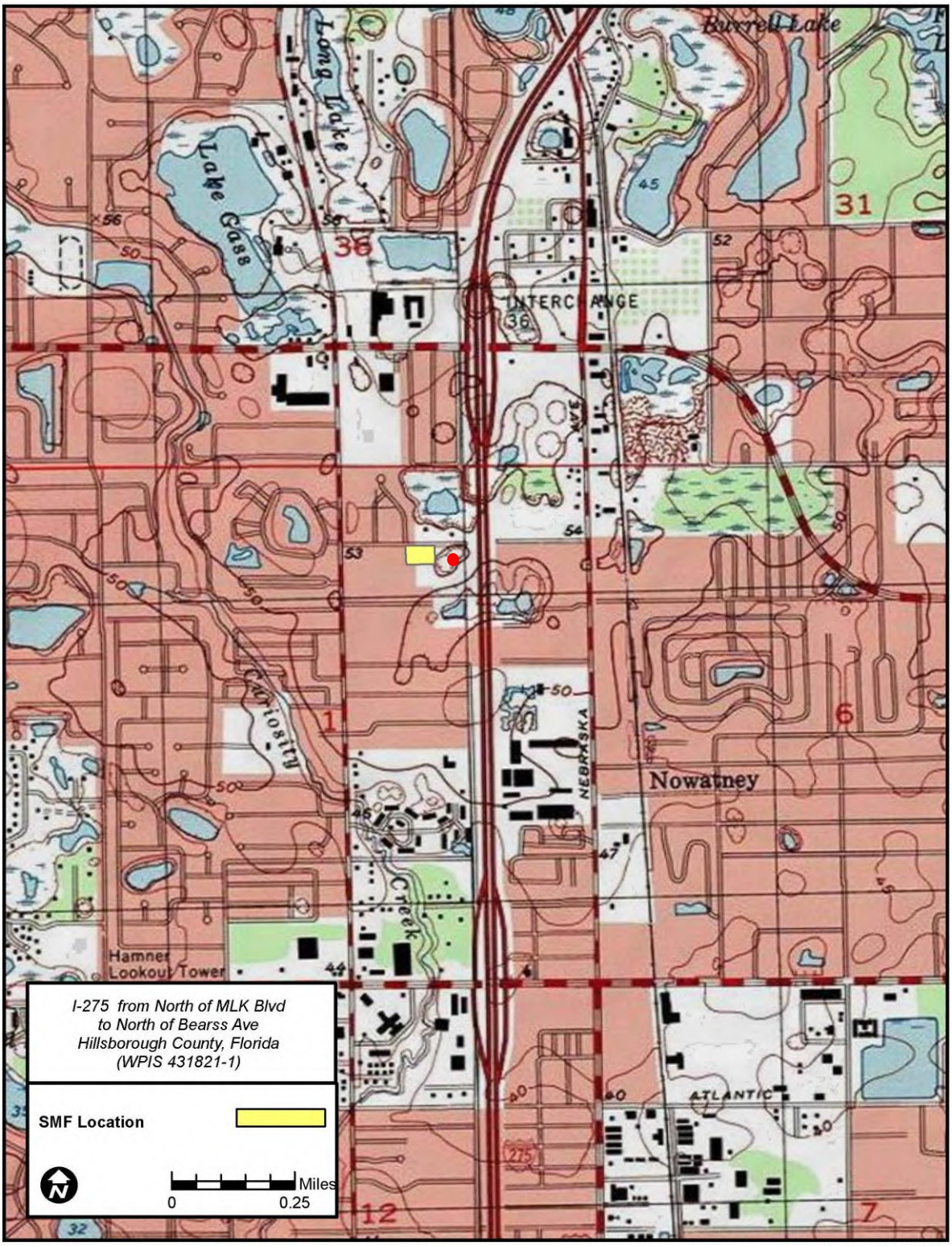
Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED
❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)
❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE
If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable).
Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

Photograph

Structure Location

USGS Topo



Date: 2/18/2019

☒ Original
☐ Update

HISTORICAL STRUCTURE FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14563
Field Date 1-29-2019
Form Date 2-14-2019
Recorder # 3

Shaded Fields represent the minimum acceptable level of documentation.
Consult the *Guide to Historical Structure Forms* for detailed instructions.

Site Name(s) (address if none) Christian Growth Fellowship (Building C) Multiple Listing (DHR only) _____
Survey Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave Survey # (DHR only) _____
National Register Category (please check one) ☒building ☐structure ☐district ☐site ☐object
Ownership: ☐private-profit ☒private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	149		April	Lane	

Cross Streets (nearest / between) South side April Ln b/w N Florida Ave and I-275
USGS 7.5 Map Name SULPHUR SPRINGS USGS Date 1987 Plat or Other Map _____
City / Town (within 3 miles) Tampa In City Limits? ☐yes ☒no ☐unknown County Hillsborough
Township 28S Range 18E Section 1 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
Tax Parcel # 017392-0000 Landgrant _____
Subdivision Name Unplatted Block _____ Lot _____
UTM Coordinates: Zone ☐16 ☒17 Easting 356961 Northing 3107047
Other Coordinates: X: _____ Y: _____ Coordinate System & Datum _____
Name of Public Tract (e.g., park) _____

HISTORY

Construction Year: 1964 ☒approximately ☐year listed or earlier ☐year listed or later
Original Use Church/Temple/Synagogue From (year): c1964 To (year): _____
Current Use Church/Temple/Synagogue From (year): _____ To (year): 2019
Other Use _____ From (year): _____ To (year): _____
Moves: ☐yes ☒no ☐unknown Date: _____ Original address _____
Alterations: ☐yes ☐no ☐unknown Date: _____ Nature _____
Additions: ☐yes ☒no ☐unknown Date: _____ Nature _____
Architect (last name first): Unknown Builder (last name first): Unknown
Ownership History (especially original owner, dates, profession, etc.) Currently owned by Christian Growth Fellowship, Inc.

Is the Resource Affected by a Local Preservation Ordinance? ☐yes ☐no ☒unknown Describe _____

DESCRIPTION

Style Masonry Vernacular Exterior Plan Rectangular Number of Stories 1
Exterior Fabric(s) 1. Stucco 2. _____ 3. _____
Roof Type(s) 1. Gable 2. _____ 3. _____
Roof Material(s) 1. Composition shingles 2. _____ 3. _____
Roof secondary strucs. (dormers etc.) 1. _____ 2. _____
Windows (types, materials, etc.) Metal 1/1 single-hung sash

Distinguishing Architectural Features (exterior or interior ornaments) This building is obscured by another building and architectural features were not easily identifiable from the right-of-way

Ancillary Features / Outbuildings (record outbuildings, major landscape features; use continuation sheet if needed.) There are two other Masonry Vernacular buildings on the same parcel. Buildings are set back. There is a non-historic storage shed W of this building.

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

HISTORICAL STRUCTURE FORM

Site # 8 HI14563

DESCRIPTION (continued)

Chimney: No. 0 Chimney Material(s): 1. _____ 2. _____
Structural System(s): 1. Concrete block 2. _____ 3. _____
Foundation Type(s): 1. Slab 2. _____
Foundation Material(s): 1. Poured Concrete Footing 2. _____
Main Entrance (stylistic details) The main entrance was not visible

Porch Descriptions (types, locations, roof types, etc.) There are no visible porches

Condition (overall resource condition): ☐excellent ☒good ☐fair ☐deteriorated ☐ruinous
Narrative Description of Resource This building is a typical post-World War II constructed church building and is one of three buildings included in the Christian Growth Fellowship Complex (8HI14564).

Archaeological Remains _____ ☐Check if Archaeological Form Completed

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey (CRAS)	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (describe) Aerial photographs
Bibliographic References (give FMSF manuscript # if relevant, use continuation sheet if needed) _____

OPINION OF RESOURCE SIGNIFICANCE

Appears to meet the criteria for National Register listing individually? ☐yes ☒no ☐insufficient information
Appears to meet the criteria for National Register listing as part of a district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (**required**, whether significant or not; use separate sheet if needed) This building is a common 1960s Masonry Vernacular church that does not possess sufficient historical significance to be considered individually eligible for the NRHP. The building is not in an area that could comprise a potential historic district.
Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location — Maintaining organization ATKINS Global
Document description Mapping, photographs, survey notes — File or accession #'s _____

2) Document type _____ — Maintaining organization _____
Document description _____ — File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini — Affiliation ATKINS Global
Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634
(address / phone / fax / e-mail)

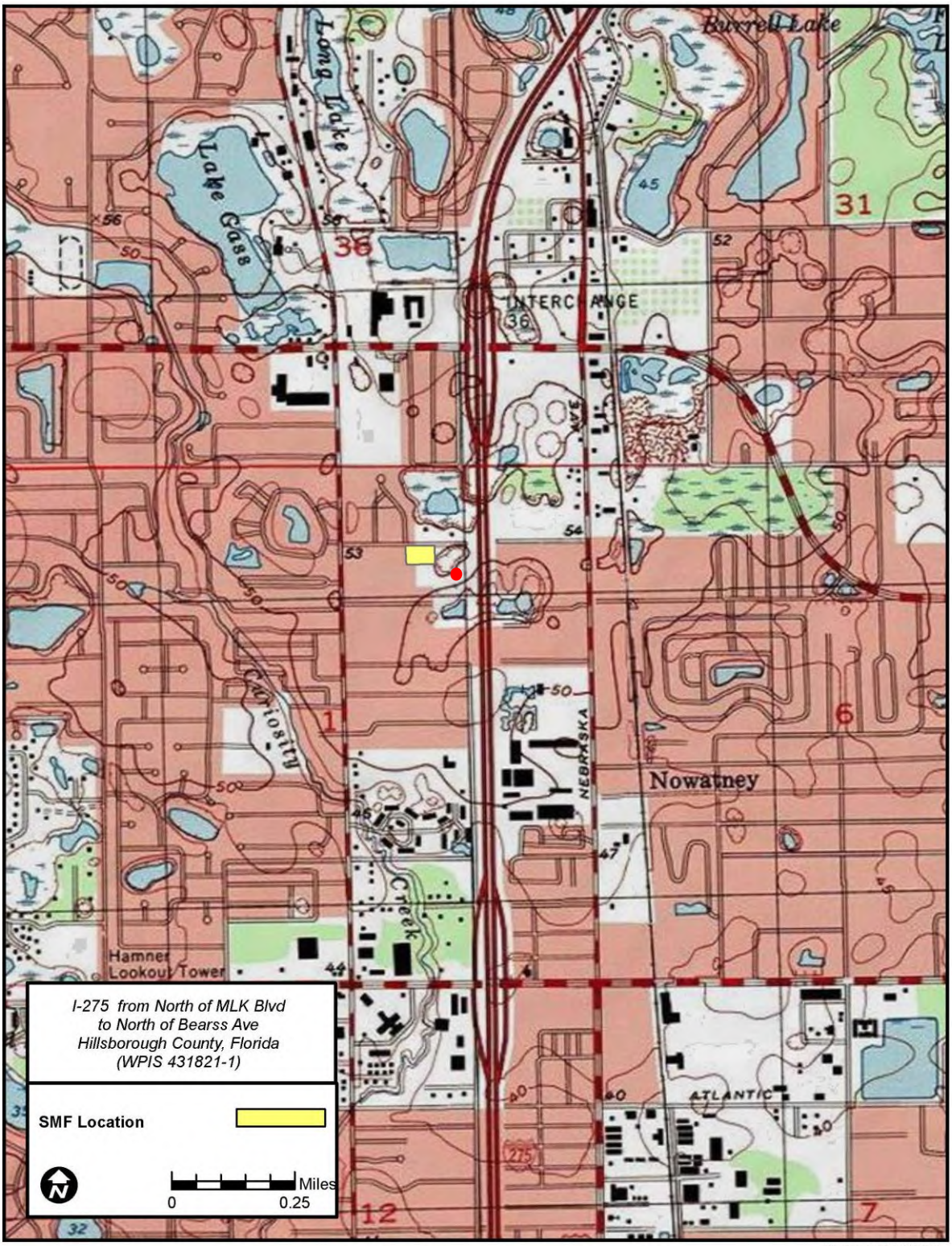
Required Attachments

❶ USGS 7.5' MAP WITH STRUCTURE LOCATION PINPOINTED IN RED
❷ LARGE SCALE STREET, PLAT OR PARCEL MAP (available from most property appraiser web sites)
❸ PHOTO OF MAIN FACADE, ARCHIVAL B&W PRINT OR DIGITAL IMAGE FILE
If submitting an image file, it must be included on disk or CD AND in hard copy format (plain paper is acceptable).
Digital image must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

Photograph

Structure Location

USGS Topo


Burrell Lake
Long Lake
Lake Cass
31
36
INTERCHANGE
36
NEBRASKA AVE
Nowatney
Hamner
Lookout Tower
ATLANTIC
I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)
SMF Location
Miles
0
0.25
Date: 2/18/2019

☒ Original
☐ Update

RESOURCE GROUP FORM
FLORIDA MASTER SITE FILE
Version 4.0 1/07

Site #8 HI14564
Field Date 1-29-2019
Form Date 2-14-2019
Recorder# 4

NOTE: Use this form to document districts, landscapes, building complexes and linear resources as described in the box below. Cultural resources contributing to the Resource Group should also be documented individually at the Site File. **Do not use this form for National Register multiple property submissions** (MPSs). National Register MPSs are treated as Site File manuscripts and are associated to the individual resources included under the MPS cover using the Site File manuscript number.

Check ONE box that best describes the Resource Group:

- ☐ **Historic district** (NR category "district"): buildings and NR structures only: NO archaeological sites
- ☐ **Archaeological district** (NR category "district"): archaeological sites only: NO buildings or NR structures
- ☐ **Mixed district** (NR category "district"): includes more than one type of cultural resource (example: archaeological sites and buildings)
- ☒ **Building complex** (NR category usually "building(s)"): multiple buildings in close spatial and functional association
- ☐ **Designed historic landscape** (NR category usually "district" or "site"): can include multiple resources (see *National Register Bulletin #18*, page 2 for more detailed definition and examples: e.g. parks, golf courses, campuses, resorts, etc.)
- ☐ **Rural historic landscape** (NR category usually "district" or "site"): can include multiple resources and resources not formally designed (see *National Register Bulletin #30, Guidelines for Evaluating and Documenting Rural Historic Landscapes* for more detailed definition and examples: e.g. farmsteads, fish camps, lumber camps, traditional ceremonial sites, etc.)
- ☐ **Linear resource** (NR category usually "structure"): Linear resources are a special type of rural historic landscape and can include canals, railways, roads, etc.

Resource Group Name Christian Growth Fellowship Complex Multiple Listing [DHR only] _____
Project Name I-275 fr N of Dr MLK Jr. Blvd to N of Bearrs Ave FMSF Survey # _____
National Register Category (please check one): ☒building(s) ☐structure ☐district ☐site ☐object
Linear Resource Type (if applicable): ☐canal ☐railway ☐road ☐other (describe): _____
Ownership: ☐private-profit ☒private-nonprofit ☐private-individual ☐private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

	Street Number	Direction	Street Name	Street Type	Suffix Direction
Address:	149		April	Lane	

City/Town (within 3 miles) Tampa In Current City Limits? ☐yes ☒no ☐unknown
County or Counties (do not abbreviate) Hillsborough
Name of Public Tract (e.g., park) _____

1) Township 28S Range 18E Section 1 ¼ section: ☐NW ☐SW ☐SE ☐NE Irregular-name: _____
2) Township _____ Range _____ Section _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
3) Township _____ Range _____ Section _____ ¼ section: ☐NW ☐SW ☐SE ☐NE
4) Township _____ Range _____ Section _____ ¼ section: ☐NW ☐SW ☐SE ☐NE

USGS 7.5' Map(s) 1) Name SULPHUR SPRINGS USGS Date 1987
2) Name _____ USGS Date _____
Plat, Aerial, or Other Map (map's name, originating office with location) _____
Landgrant _____
Verbal Description of Boundaries (description does not replace required map) The Christian Growth Fellowship Complex includes the entire parcel located at 149 April Lane (017392-0000) and is located at the south side of April Lane between N Florida Avenue and I-275.

DHR USE ONLY	OFFICIAL EVALUATION	DHR USE ONLY
NR List Date _____ ☐Owner Objection	SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info Date _____ Init._____ KEEPER – Determined eligible: ☐yes ☐no Date _____ NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)	

RESOURCE GROUP FORM

Site #8 HI14564

HISTORY & DESCRIPTION

Construction Year: 1964 ☒approximately ☐year listed or earlier ☐year listed or later
Architect/Designer(last name first): Unknown Builder(last name first): Unknown
Total number of individual resources included in this Resource Group: # of contributing 3 # of non-contributing _____
Time period(s) of significance (choose a period from the list or type in date range(s), e.g. *1895-1925*)
1. Modern (Post 1950) 3. _____
2. Twentieth C American 4. _____
Narrative Description (*National Register Bulletin 16A* pp. 33-34; fit a summary into 3 lines or attach supplementary sheets if needed) See continuation sheet

RESEARCH METHODS (check all that apply)

☒FMSF record search (sites/surveys)	☐library research	☐building permits	☐Sanborn maps
☐FL State Archives/photo collection	☐city directory	☐occupant/owner interview	☐plat maps
☒property appraiser / tax records	☐newspaper files	☐neighbor interview	☐Public Lands Survey (DEP)
☒cultural resource survey	☐historic photos	☐interior inspection	☐HABS/HAER record search

☒other methods (specify) Aerial photographs
Bibliographic References (give FMSF Manuscript # if relevant) _____

OPINION OF RESOURCE SIGNIFICANCE

Potentially eligible individually for National Register of Historic Places? ☐yes ☒no ☐insufficient information
Potentially eligible as contributor to a National Register district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (required, see *National Register Bulletin 16A* p. 48-49. Attach longer statement, if needed, on separate sheet.) See continuation sheet

Area(s) of Historical Significance (see *National Register Bulletin 15*, p. 8 for categories: e.g. "architecture", "ethnic heritage", "community planning & development", etc.)
1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

DOCUMENTATION

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type All materials at one location Maintaining organization ATKINS Global
Document description Mapping, photographs, survey notes File or accession #'s _____

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER INFORMATION

Recorder Name Sarah K. Guagnini Affiliation ATKINS Global
Recorder Contact Information 4030 Boy Scout Blvd. Tampa, FL, 33607 / +1 (813) 282-7275 / Fax: +1 (813) 281-3634
(address / phone / fax / e-mail)

Required Attachments

❶ PHOTOCOPY OF USGS 7.5' MAP WITH DISTRICT BOUNDARY CLEARLY MARKED
❷ LARGE SCALE STREET, PLAT OR PARCEL MAP WITH RESOURCES MAPPED & LABELED
❸ TABULATION OF ALL INCLUDED RESOURCES (name, FMSF #, contributing? Y/N, resource category, street address or township-range-section if no address)
❹ PHOTOS OF GENERAL STREETSCAPE OR VIEWS (Optional: aerial photos, views of typical resources)
Photos may be archival B&W prints OR digital image files. If submitting digital image files, they must be included on disk or CD AND in hard copy format (plain paper is acceptable). Digital images must be at least 1600 x 1200 pixels, 24-bit color, jpeg or tiff.

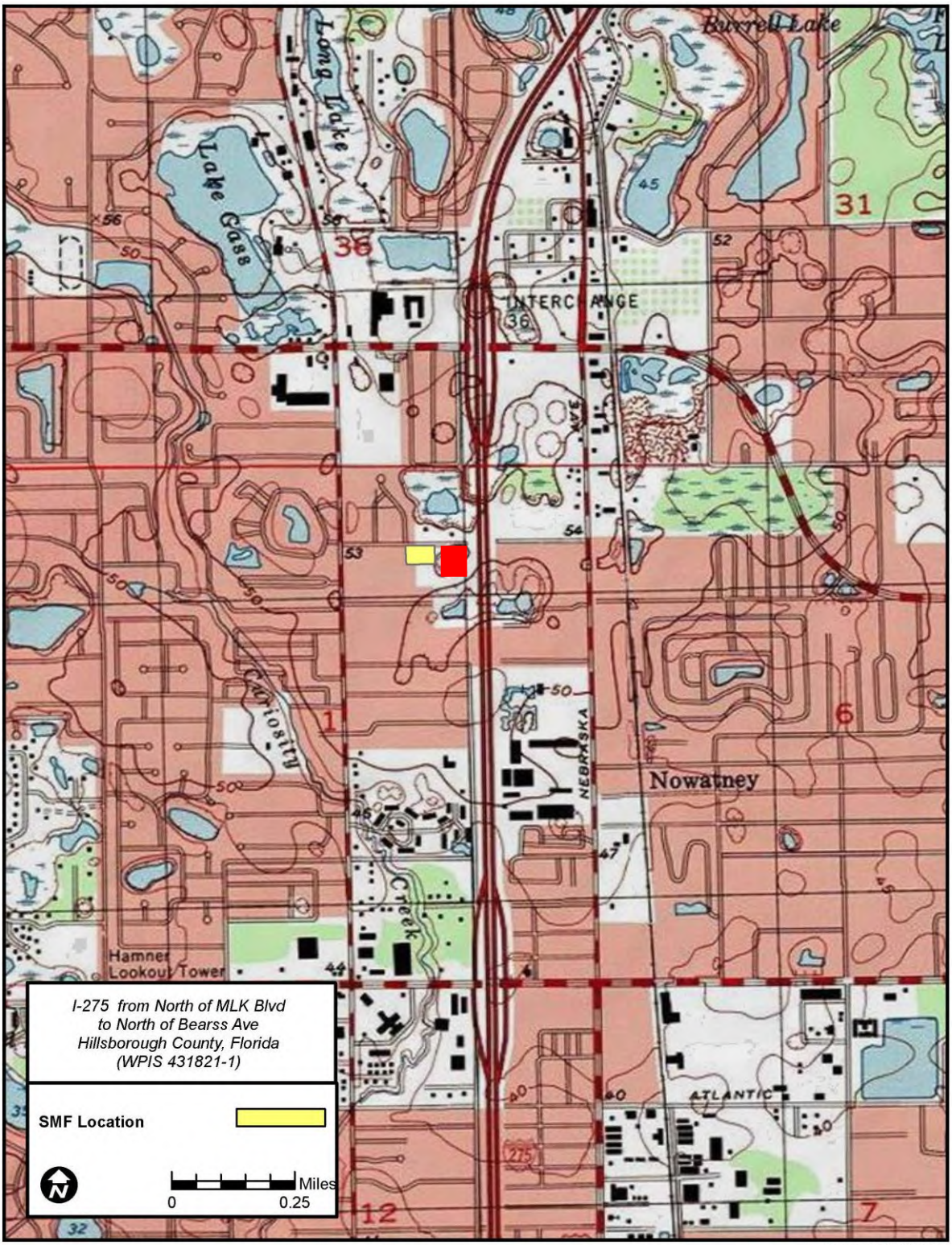
The Christian Growth Fellowship Complex Resource Group (8HI14564) includes the entire parcel that is located at 149 April Lane in Hillsborough County, Florida. This parcel is situated at the south side of April Lane between I-275 (SR 93) at the east and N Florida Avenue at the west. The resource group is comprised of three individual church buildings constructed ca. 1964 that are also recorded individually: Building A (8HI14561), Building B (8HI14562), and Building C (8HI14563). All three buildings are simple Masonry Vernacular structures and Building A appears to be the sanctuary. The structures are set far back on the parcel; the closest building, Building A, is approximately 225 feet from the edge of April Lane. The complex is accessed by a gravel driveway that is set between wood ballards. There is a pond surrounded by trees to the south of the three buildings.

As part of the current survey, the Christian Growth Fellowship Complex Resource Group is considered ineligible for listing in the National Register of Historic Places (NRHP). According to National Register Bulletin 15 under Criteria Consideration A, a religious property deriving primary significance from architectural or artistic distinction or historical importance may be eligible for listing in the NRHP (National Park Service 1997:26). The current buildings associated with the grouping are typical 1960s Masonry Vernacular buildings that would not meet Criteria Consideration A for listing. In addition, the church is not associated with an important historical event.

Photograph

Resource Location

USGS Topo


Burrell Lake
Long Lake
Lake Cass
36
31
INTERCHANGE
36
NEBRASKA AVE
Nowatney
Hamner
Lookout Tower
ATLANTIC
I-275 from North of MLK Blvd
to North of Bearss Ave
Hillsborough County, Florida
(WPIS 431821-1)
SMF Location
Miles
0
0.25
Date: 2/18/2019

APPENDIX C: SURVEY LOG

Ent D (FMSF only)_____

Survey Log Sheet

Florida Master Site File
Version 4.1 1/07

Survey # (FMSF only) _____

Consult *Guide to the Survey Log Sheet* for detailed instructions.

Identification and Bibliographic Information

Survey Project (name and project phase) I-275 from N of Dr. MLK Jr. Boulevard (SR 574) to N of Bearss Avenue (SR 678/CR 582) Proposed SMF Sites 14B and 15B

Report Title (exactly as on title page) Cultural Resource Assessment Survey Update Technical Memorandum, I-275 (SR 93) from N of Dr. MLK Jr. Boulevard (SR 574) to N of Bearss Avenue (SR 678/CR 582) PD&E Study, Hillsborough County, Proposed SMF Sites 14B and 15B (WPIS No. 431821-1)

Report Authors (as on title page, last names first)
1. Spain Schwarz, Rebecca
2. Guagnini, Sarah K.
3. Keel, Frank
4. Gaubatz, Rin

Publication Date (year) 2019 **Total Number of Pages in Report** (count text, figures, tables, not site forms) 18

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.)
Atkins, 4030 Boy Scout Boulevard, Suite 700, Tampa FL 33607

Supervisors of Fieldwork (even if same as author) Names Rebecca Spain Schwarz

Affiliation of Fieldworkers: Organization ATKINS Global City Tampa

Key Words/Phrases (Don't use county name, or common words like *archaeology*, *structure*, *survey, architecture, etc.*)
1. April Lane
2. Sinclair Hills Road
3. SMF
4. _____
5. _____
6. _____
7. _____
8. _____

Survey Sponsors (corporation, government unit, organization or person directly funding fieldwork)
Name FDOT District 7 Organization Florida Dept of Transportation - District 7
Address/Phone/E-mail 11201 North McKinley Drive, Tampa, Florida 33612

Recorder of Log Sheet Rebecca Spain Schwarz **Date Log Sheet Completed** 2-15-2019

Is this survey or project a continuation of a previous project? ☐ No ☒ Yes: **Previous survey #s (FMSF only)** 22589

Mapping

Counties (List each one in which field survey was done; attach additional sheet if necessary)
1. Hillsborough
2. _____
3. _____
4. _____
5. _____
6. _____

USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)
1. Name SULPHUR SPRINGS Year 1987
2. Name _____ Year _____
3. Name _____ Year _____
4. Name _____ Year _____
5. Name _____ Year _____
6. Name _____ Year _____

Description of Survey Area

Dates for Fieldwork: Start 1-29-2019 End 1-29-2019 **Total Area Surveyed** (fill in one) _____ hectares 3.4 acres
Number of Distinct Tracts or Areas Surveyed 2
If Corridor (fill in one for each) **Width:** _____ meters _____ feet **Length:** _____ kilometers _____ miles

Survey Log Sheet

Survey #_____

Research and Field Methods

Types of Survey (check all that apply): ☒archaeological ☒architectural ☐historical/archival ☐underwater
☐damage assessment ☐monitoring report ☐other(describe): _____

Scope/Intensity/Procedures Archaeological field survey included a visual inspection of surface, photographic documentation, and excavation of shovel tests (50 cm in diameter and excavated until terminating in water table or impassible fill); Historic survey was conducted of APE.

Preliminary Methods (check as many as apply to the project as a whole)

☐Florida Archives (Gray Building)	☐library research- *local public*	☒local property or tax records	☒other historic maps
☐Florida Photo Archives (Gray Building)	☐library-special collection - *nonlocal*	☐newspaper files	☒soils maps or data
☒Site File property search	☐Public Lands Survey (maps at DEP)	☒literature search	☐windshield survey
☒Site File survey search	☐local informant(s)	☐Sanborn Insurance maps	☒aerial photography

☐other (describe): _____

Archaeological Methods (check as many as apply to the project as a whole)

☐Check here if **NO** archaeological methods were used.

☐surface collection, controlled	☐shovel test-other screen size	☐block excavation (at least 2x2 m)
☐surface collection, **un**controlled	☐water screen	☐soil resistivity
☒shovel test-1/4"screen	☐posthole tests	☐magnetometer
☐shovel test-1/8" screen	☐auger tests	☐side scan sonar
☐shovel test 1/16"screen	☐coring	☐pedestrian survey
☐shovel test-unscreened	☐test excavation (at least 1x2 m)	☐unknown

☐other (describe): _____

Historical/Architectural Methods (check as many as apply to the project as a whole)

☐Check here if **NO** historical/architectural methods were used.

☐building permits	☐demolition permits	☐neighbor interview	☐subdivision maps
☐commercial permits	☒exposed ground inspected	☐occupant interview	☐tax records
☐interior documentation	☒local property records	☐occupation permits	☐unknown

☒other (describe): Aerial photographs; Google Earth

Survey Results (cultural resources recorded)

Site Significance Evaluated? ☒Yes ☐No

Count of Previously Recorded Sites 0 **Count of Newly Recorded Sites** 8

Previously Recorded Site #'s with Site File Update Forms (List site #'s without "8". Attach additional pages if necessary.) _____

Newly Recorded Site #'s (Are all originals and not updates? List site #'s without "8". Attach additional pages if necessary.) HI14557 - HI14564

Site Forms Used: ☐Site File Paper Form ☒Site File Electronic Recording Form

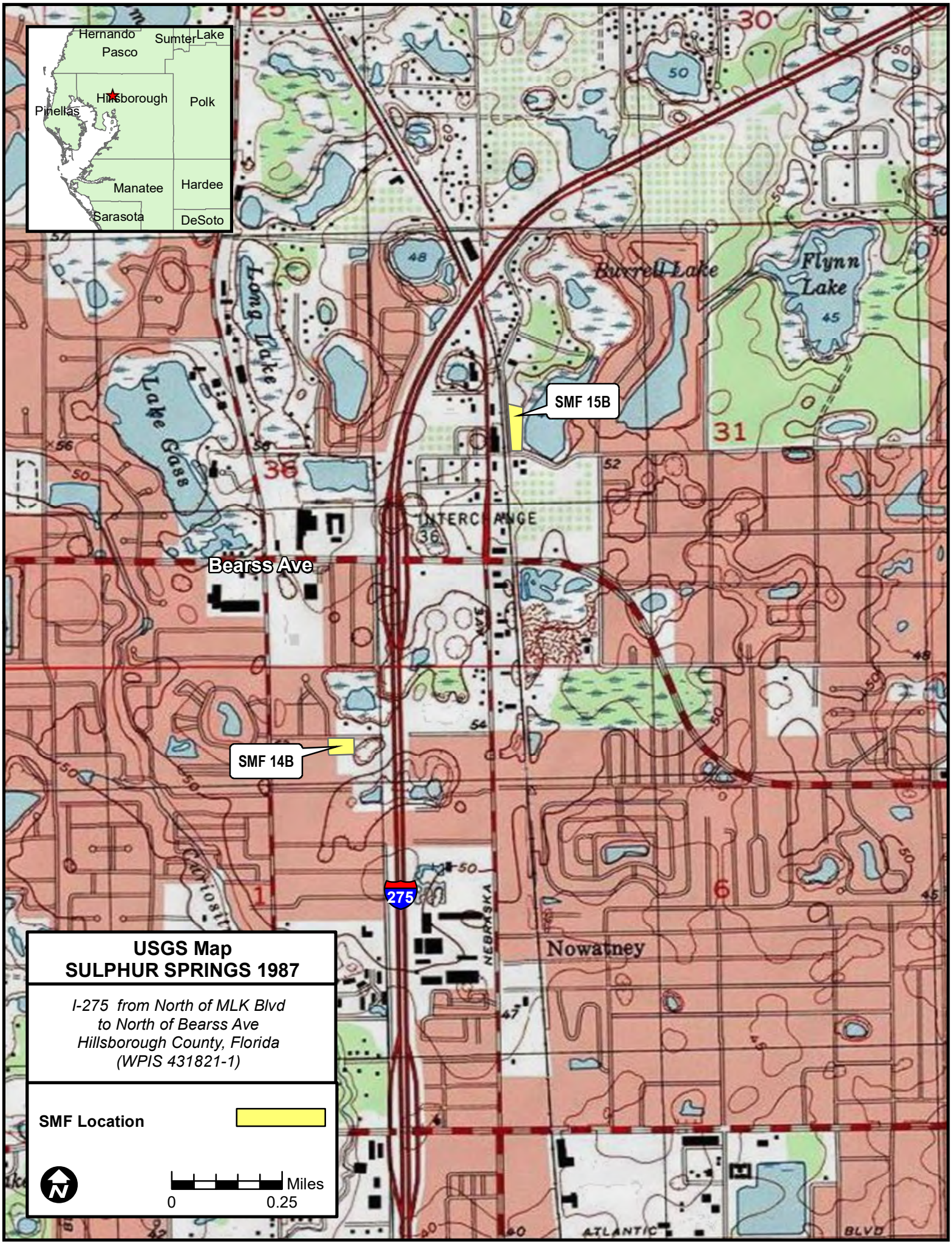
*****REQUIRED: ATTACH PLOT OF SURVEY AREA ON PHOTOCOPY OF USGS 1:24,000 MAP(S)*****

SHPO USE ONLY	SHPO USE ONLY	SHPO USE ONLY

Origin of Report: ☐872 ☐CARL ☐UW ☐1A32 # _____ ☐Academic ☐Contract ☐Avocational
☐Grant Project # _____ ☐Compliance Review: CRAT # _____

Type of Document: ☐Archaeological Survey ☐Historical/Architectural Survey ☐Marine Survey ☐Cell Tower CRAS ☐Monitoring Report
☐Overview ☐Excavation Report ☐Multi-Site Excavation Report ☐Structure Detailed Report ☐Library, Hist. or Archival Doc
☐MPS ☐MRA ☐TG ☐Other: _____

Document Destination: _____ **Plotability:** _____



Date: 2/15/2019

Appendix I:
Right of Way Cost Estimates

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 100626981-10.15

FM#:	431821-1	Alternate:	SMF 14 A	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	16-Oct-18
State Rd.:	SR 93	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	I-275 SR 93 from North of MLK to N. of Bearss Avenue (Ponds)				

Parcels	Gross	Net
Commercial	0	0
Residential	1	1
Unimproved	0	0
Total Parcels	1	1

Estimated Relocatees:	
Business	0
Residential	1
Signs	0
Special	0
Total Relocatees	1

R/W SUPPORT COSTS (PHASE 41)

							Amount
1. Direct Labor Cost	(Parcels	1	x	20,000 =	Rate)		20,000
2. Indirect Overhead	(Parcels	1	x	0 =	Rate)		0
3.						TOTAL PHASE 41	$20,000

R/W OPS (PHASE 4B)

								Amount
4. Appraisal Fees Through Trial					1	Parcels	x 30,000 =	30,000
5. Business Damage CPA Fees Through Trial					0	Claims	x 19,000 =	0
6. Court Reporter & Process Servers	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, etc.					2	Imprvmet	x 15,000 =	30,000
10. Miscellaneous Contracts					0	Per Project	x 15,000 =	0
11. Appraisal Fee Review					0	Parcels	x 5,000 =	0
12.							TOTAL PHASE 4B	$92,900

R/W LAND COSTS (PHASE 43)

						Amount	Subtotal
13. Land, Improvements & Severance Damages and Cost to Cure Amount	0	x	120%	* *Design plan stage*	=	0	
14. Water Retention & Mit. (0 Ponds)	281,816	x	120%	(0 Parcels w/o R/W Acq)		338,200	
15. SUBTOTAL (52,272 SF)				(Lines 13 &14)			338,200
16. Admin. Settlements (Factor	20%	x	0%	of Line 15)	=	0	
17. Litigation Awards (Factor	45%	x	100%	of Line 15)	=	152,200	
18. Business Damages (Claims	0	x	0	)	=	0	
19. Bus. Damages Incr (Factor	25%	x	$ -	)	=	0	
20. Owner Appr. Fees (Parcels	1	x	$15,000	)	=	15,000	
21. Owner CPA Fees (Claims	0	x	$16,000	)	=	0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19)	152,200	x	33%	)	=	50,200	
23. Owner Expert Witn (Comm.+Unimp.)	0	+	0	) x 18,000	=	0	
24. Other Condemn. Costs	1	x	$1,000		=	1,000	
25. SUBTOTAL				(Lines 16 thru 24)	=		218,400
26.						TOTAL PHASE 43	$556,600

* *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

RELOCATION COSTS (PHASE 45)

					Number		Amount
	Replacement Housing						
28. Owner	$30,000	x		1	=		30,000
29. Tenant	$25,000	x		0	=		0
	Move Costs						
30. Residential	$5,000	x		1	=		5,000
31. Business/Farm	$40,000	x		0	=		0
32. Personal Property	$3,000	x		0	=		0
33. (Lines 28 thru 32)						TOTAL PHASE 45	$35,000
34. Relocation Services Cost			$3,500	(Not in Phase Total)			
35.							
36.							
37.				(All Phases)		TOTAL ESTIMATE	$704,500

Real Estate:	Roger D. Patton	Signed:		Date: 10/19/18
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 10/19/18
Relocation:	Roger D. Patton	Signed:		Date: 10/19/18
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 10/19/18

Cost Estimate Sequence #: Dated: In the Amount of $ Data Input Completion Date:

REMARKS: Administrative Settlement and Litigation Awards have been adjusted to reflect one ownership. Administrative settlement is considered to be zero, while litigation is factored at 45%.

The subject property is improved with a single family residence that is undergoing significant remodeling as of the inspection date. Depending on the quality of the remodeling the price for the improvements could increase.

The following indicates the estimator's confidence in the above estimate:

	Type A - indicates the most confidence
	Type B - indicates above average confidence
X	Type C - indicates below average confidence
	Type D - indicates the least or no confidence

The following indicates the Department's purpose for this estimate:
Work Program Update: Gaming 1: Special Purpose: X Docs to RW:
Comments:

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 100626981-10.15

FM#:	431821-1	Alternate:	SMF 14 B	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	16-Oct-18
State Rd.:	SR 93	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	I-275 SR 93 from North of MLK to N. of Bearss Avenue (Ponds)				

Parcels	Gross	Net
Commercial	0	0
Residential	1	1
Unimproved	0	0
Total Parcels	1	1

Estimated Relocatees:	
Business	0
Residential	0
Signs	0
Special	0
Total Relocatees	0

R/W SUPPORT COSTS (PHASE 41)

							Amount
1. Direct Labor Cost	(Parcels	1	x	20,000 =	Rate)		20,000
2. Indirect Overhead	(Parcels	1	x	0 =	Rate)		0
3.						TOTAL PHASE 41	$20,000

R/W OPS (PHASE 4B)

								Amount
4. Appraisal Fees Through Trial					1	Parcels	x 30,000 =	30,000
5. Business Damage CPA Fees Through Trial					0	Claims	x 19,000 =	0
6. Court Reporter & Process Servers	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, etc.					2	Imprvmet	x 15,000 =	30,000
10. Miscellaneous Contracts					0	Per Project	x 15,000 =	0
11. Appraisal Fee Review					0	Parcels	x 5,000 =	0
12.							TOTAL PHASE 4B	$92,900

R/W LAND COSTS (PHASE 43)

						Amount	Subtotal
13. Land, Improvements & Severance Damages and Cost to Cure Amount	0	x	120%	* Design plan stage	=	0	
14. Water Retention & Mit. (0 Ponds)	264,847	x	120%	(0 Parcels w/o R/W Acq)		317,800	
15. SUBTOTAL (44,949 SF)				(Lines 13 &14)			317,800
16. Admin. Settlements (Factor	20%	x	0%	of Line 15)	=	0	
17. Litigation Awards (Factor	45%	x	100%	of Line 15)	=	143,000	
18. Business Damages (Claims	0	x	0	)	=	0	
19. Bus. Damages Incr (Factor	25%	x	$ -	)	=	0	
20. Owner Appr. Fees (Parcels	1	x	$15,000	)	=	15,000	
21. Owner CPA Fees (Claims	0	x	$16,000	)	=	0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19)	143,000	x	33%	)	=	47,200	
23. Owner Expert Witn (Comm.+Unimp.)	0	+	0	) x 18,000	=	0	
24. Other Condemn. Costs	1	x	$1,000		=	1,000	
25. SUBTOTAL				(Lines 16 thru 24)	=		206,200
26.						TOTAL PHASE 43	$524,000

* *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

RELOCATION COSTS (PHASE 45)

	Replacement Housing		Number		Amount
28. Owner	$30,000	x	0	=	0
29. Tenant	$25,000	x	0	=	0
Move Costs					
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 $0
34. Relocation Services Cost			$0	(Not in Phase Total)	
35.					
36.					
37.				(All Phases)	TOTAL ESTIMATE $636,900

Real Estate:	Roger D. Patton	Signed:	Date:	10/19/18
Bus. Dam. :	Alfred J. Thompson	Signed:	Date:	10/19/18
Relocation:	Roger D. Patton	Signed:	Date:	10/19/18
Overall Review:	Alfred J. Thompson	Signed:	Date:	10/19/18

Cost Estimate Sequence #: Dated: In the Amount of $ Data Input Completion Date:

REMARKS: Administrative Settlement and Litigation Awards have been adjusted to reflect one ownership. Administrative settlement is considered to be zero, while litigation is factored at 45%.

The subject property is improved with a single family residence and average quality agriculture type building. The Hillsborough County assessor doesn't recognize the existing FDOT pond to the south of this proposed pond.

The take area has been adjusted by the estimator to reflect the existing FDOT pond to the south based upon the latest warranty deed for the parent tract and the order of taking dated June 3, 1999, BK 9762 PG 1633.

The following indicates the estimator's confidence in the above estimate:

	Type A - indicates the most confidence
	Type B - indicates above average confidence
X	Type C - indicates below average confidence
	Type D - indicates the least or no confidence

The following indicates the Department's purpose for this estimate:

Work Program Update: Gaming 1: Special Purpose: X Docs to RW:

Comments:

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 100626981-10.15

FM#:	431821-1	Alternate:	SMF 15 A	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	16-Oct-18
State Rd.:	SR 93	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	I-275 SR 93 from North of MLK to N. of Bearss Avenue (Ponds)				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	1	1
Total Parcels	1	1

Estimated Relocatees:	
Business	0
Residential	0
Signs	0
Special	0
Total Relocatees	0

R/W SUPPORT COSTS (PHASE 41)

							Amount
1. Direct Labor Cost	(Parcels	1	x	20,000	=	Rate)	20,000
2. Indirect Overhead	(Parcels	1	x	0	=	Rate)	0
3.							
						TOTAL PHASE 41	$20,000

R/W OPS (PHASE 4B)

									Amount
4. Appraisal Fees Through Trial					1	Parcels	x	30,000 =	30,000
5. Business Damage CPA Fees Through Trial					0	Claims	x	19,000 =	0
6. Court Reporter & Process Servers	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, etc.					0	Imprvmet	x	15,000 =	0
10. Miscellaneous Contracts					0	Per Project	x	15,000 =	0
11. Appraisal Fee Review					0	Parcels	x	5,000 =	0
12.								TOTAL PHASE 4B	$62,900

R/W LAND COSTS (PHASE 43)

						Amount	Subtotal
13. Land, Improvements & Severance Damages and Cost to Cure Amount	0	x	120%	* *Design plan stage*	=	0	
14. Water Retention & Mit. (0 Ponds)	1,805,840	x	120%	(0 Parcels w/o R/W Acq)	=	2,167,000	
15. SUBTOTAL (57,064 SF)				(Lines 13 &14)			2,167,000
16. Admin. Settlements (Factor	20%	x	0%	of Line 15)	=	0	
17. Litigation Awards (Factor	45%	x	100%	of Line 15)	=	975,200	
18. Business Damages (Claims	0	x	0	)	=	0	
19. Bus. Damages Incr (Factor	25%	x	$ -	)	=	0	
20. Owner Appr. Fees (Parcels	1	x	$15,000	)	=	15,000	
21. Owner CPA Fees (Claims	0	x	$16,000	)	=	0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19)	975,200	x	33%	)	=	321,800	
23. Owner Expert Witn (Comm.+Unimp.)	0	+	1	) x 18,000	=	18,000	
24. Other Condemn. Costs	1	x	$1,000		=	1,000	
25. SUBTOTAL				(Lines 16 thru 24)	=		1,331,000
26.						TOTAL PHASE 43	$3,498,000

* *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

RELOCATION COSTS (PHASE 45)

	Replacement Housing			Number		Amount
28. Owner	$30,000	x	0	=		0
29. Tenant	$25,000	x	0	=		0
	Move Costs					
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)						
34. Relocation Services Cost			$0	(Not in Phase Total)		TOTAL PHASE 45 $0
35.						
36.						
37.					(All Phases)	TOTAL ESTIMATE $3,580,900

Real Estate:	Roger D. Patton	Signed:		Date: 10/19/18
Bus. Dam. :	Alfred J. Thompson	Signed:	a.j. Thompson	Date: 10/19/18
Relocation:	Roger D. Patton	Signed:		Date: 10/19/18
Overall Review:	Alfred J. Thompson	Signed:	a.j. Thompson	Date: 10/19/18

Cost Estimate Sequence #: Dated: In the Amount of $ Data Input Completion Date:

REMARKS: Administrative Settlement and Litigation Awards have been adjusted to reflect one ownership. Administrative settlement is considered to be zero, while litigation is factored at 45%.

The subject property is improved with an ODA, that is not within the take area. The prior cost estimate dated April 20, 2015 was for a larger take area and included the ODA and damages to an adjoing commercial property due to loss of access.

The remnant land allows access to the ODA but damages to the remainder are warranted.

The following indicates the estimator's confidence in the above estimate:

	Type A - indicates the most confidence
	Type B - indicates above average confidence
X	Type C - indicates below average confidence
	Type D - indicates the least or no confidence

The following indicates the Department's purpose for this estimate:

Work Program Update: Gaming 1: Special Purpose: X Docs to RW:

Comments:

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 100626981-10.15

FM#:	431821-1	Alternate:	SMF 15 B	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	16-Oct-18
State Rd.:	SR 93	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	I-275 SR 93 from North of MLK to N. of Bearss Avenue (Ponds)				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	1	1
Total Parcels	1	1

Estimated Relocatees:	
Business	0
Residential	0
Signs	0
Special	1
Total Relocatees	1

R/W SUPPORT COSTS (PHASE 41)

							Amount
1. Direct Labor Cost	(Parcels	1	x	20,000	=	Rate)	20,000
2. Indirect Overhead	(Parcels	1	x	0	=	Rate)	0
3.							
						TOTAL PHASE 41	$20,000

R/W OPS (PHASE 4B)

									Amount
4. Appraisal Fees Through Trial					1	Parcels	x	30,000 =	30,000
5. Business Damage CPA Fees Through Trial					0	Claims	x	19,000 =	0
6. Court Reporter & Process Servers	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, etc.					0	Imprvmet	x	15,000 =	0
10. Miscellaneous Contracts					0	Per Project	x	15,000 =	0
11. Appraisal Fee Review					0	Parcels	x	5,000 =	0
12.								TOTAL PHASE 4B	$62,900

R/W LAND COSTS (PHASE 43)

						Amount	Subtotal
13. Land, Improvements & Severance Damages and Cost to Cure Amount	0	x	120%	* *Design plan stage*	=	0	
14. Water Retention & Mit. (0 Ponds)	796,720	x	120%	(0 Parcels w/o R/W Acq)		956,100	
15. SUBTOTAL (87,120 SF)				(Lines 13 &14)			956,100
16. Admin. Settlements (Factor	20%	x	0%	of Line 15)	=	0	
17. Litigation Awards (Factor	45%	x	100%	of Line 15)	=	430,200	
18. Business Damages (Claims	0	x	0	)	=	0	
19. Bus. Damages Incr (Factor	25%	x	$ -	)	=	0	
20. Owner Appr. Fees (Parcels	1	x	$15,000	)	=	15,000	
21. Owner CPA Fees (Claims	0	x	$16,000	)	=	0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19)	430,200	x	33%	)	=	142,000	
23. Owner Expert Witn (Comm.+Unimp.)	0	+	1	) x 18,000	=	18,000	
24. Other Condemn. Costs	1	x	$1,000		=	1,000	
25. SUBTOTAL				(Lines 16 thru 24)	=		606,200
26.						TOTAL PHASE 43	$1,562,300

* *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

RELOCATION COSTS (PHASE 45)

					Number		Amount
	Replacement Housing						
28. Owner	$30,000	x	0	=	0		
29. Tenant	$25,000	x	0	=	0		
	Move Costs						
30. Residential	$5,000	x	0	=	0		
31. Business/Farm	$40,000	x	0	=	0		
32. Personal Property	$3,000	x	1	=	3,000		
33. (Lines 28 thru 32)						TOTAL PHASE 45	$3,000
34. Relocation Services Cost				$300	(Not in Phase Total)		
35.							
36.							
37.					(All Phases)	TOTAL ESTIMATE	$1,648,200

Real Estate:	Roger D. Patton	Signed:		Date: 10/19/18
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 10/19/18
Relocation:	Roger D. Patton	Signed:		Date: 10/19/18
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 10/19/18

Cost Estimate Sequence #: Dated: In the Amount of $ Data Input Completion Date:

REMARKS: Administrative Settlement and Litigation Awards have been adjusted to reflect one ownership. Administrative settlement is considered to be zero, while litigation is factored at 45%.

The subject property is currently fenced and used for open storage.

The pond takes the most valuable portion of the property, with the remnant being of little value in the after.

The estimate assumes existing inflow system for the FDOT pond to the north will be utilized for this pond and no other easements will be required from the railroad.

The following indicates the estimator's confidence in the above estimate:

	Type A - indicates the most confidence
	Type B - indicates above average confidence
X	Type C - indicates below average confidence
	Type D - indicates the least or no confidence

The following indicates the Department's purpose for this estimate:

Work Program Update: Gaming 1: Special Purpose: X Docs to RW:

Comments: