POND SITING REPORT

Florida Department of Transportation

District Seven

Branch Forbes Road Project Development and Environment (PD&E) Study

Limits of Project: From South of US 92 to North of I-4

Hillsborough County, Florida

Work Program Item Segment Number: 447159-1

ETDM Number: 14470

Date: September 2024

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022, and executed by the Federal Highway Administration and FDOT.

Draft

Branch Forbes Road

Project Development & Environment (PD&E) Study
From south of US 92 to north of I-4

POND SITING REPORT

Work Program Item Segment No. 447159-1
ETDM Project No. 14470
Hillsborough County, Florida

Prepared for:

Florida Department of Transportation
District Seven

In Coordination with:

Hillsborough County Florida

Prepared by:
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September 2024

Draft

PROFESSIONAL ENGINEER CERTIFICATION

POND SITING REPORT

Project: Branch Forbes Road PD&E Study from south of US-92 (SR 600) to north of I-4

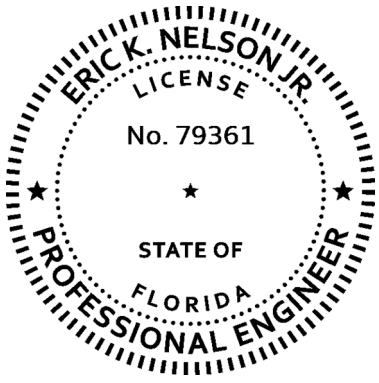
ETDM Number: 14470

Work Program Item Segment No.: 447159-1

Federal Aid Project Number: TBD

This pond siting report contains engineering information that fulfills the purpose and need for the Branch Forbes Road Project Development & Environment Study from south of US-92 (SR 600) to north of I-4 in Hillsborough County, Florida. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Consor Engineers, LLC, and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice for this project.



This item has been signed and sealed by Eric K. Nelson, Jr. on the date adjacent to the seal.

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

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Executive Summary

The Florida Department of Transportation (FDOT) District 7, in coordination with Hillsborough County, is conducting a Project Development and Environment (PD&E) study along Branch Forbes Road from south of U.S. Highway 92 (US 92) to north of Interstate 4 (I-4), in Hillsborough County. The study focuses on widening the existing two-lane undivided facility to a four-lane divided facility roadway and includes pedestrian and bicycle accommodations. The proposed improvements will include construction of stormwater management facility (SMF) and floodplain compensation (FPC) sites. The study evaluates issues related to traffic operations, safety, access management and freight movements. Operational improvements are also being evaluated for the I-4 interchange ramps.

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

The preferred alternatives result in the acquisition of right of way for three (3) SMFs and one FPC site, along with the relocation of two businesses and two residential properties, totaling 6.23 acres. Three SMF alternatives are provided for each of Basins 2, 3, and 7. SMF 2B, SMF 3C, SMF 7B, and FPC 1A are the preferred alternatives as they are the most cost-effective, hydraulically feasible, and least impactful. They require the acquisition of four parcels.

The SMF and FPC alternatives will be evaluated under a separate PD&E project for the widening of US-92. The improvements within Basins 4, 5, and 6 fall within the footprint of the I-4 ultimate design. Therefore, stormwater volume requirements are met within the existing facilities.

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Acronyms

AADT	Annual Average Daily Traffic
BFE	Base Flood Elevation
CBC	Concrete Box Culvert
CD	Cross Drain
C3C	Suburban Commercial (Context Classification)
ETDM	Efficient Transportation Decision Making
ETAT	Environmental Technical Advisory Team
ERP	Environmental Resource Permit
FDEM	Florida Division of Emergency Management
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FPC	Floodplain Compensation Site
FT	Foot (feet)
FY	Fiscal Year
HCSWMM	Hillsborough County Stormwater Management Model
I-4	Interstate 4
LA ROW	Limited Access Right-of-Way
LiDAR	Light Detection and Ranging
LOS	Level of Service
LRTP	Long Range Transportation Plan
MVMT	Million Vehicle Miles Traveled
NAVD88	North American Vertical Datum of 1988
NEPA	National Environmental Policy Act
NRCS	National Resource Conservation Service
NWI	National Wetlands Inventory
OEM	Office of Environmental Management
OFW	Outstanding Florida Waters
PD&E	Project Development and Environment
PID	Parcel Identification Number
ROW	Right-of-Way
SCS	Soil Conservation Service
SHGWTE	Seasonal High Ground Water Table Elevation

SIS	Strategic Intermodal System
SLD	Straight Line Diagram
SMF	Stormwater Management Facility
STIP	State Transportation Improvement Program
SWFWMD	Southwest Florida Water Management District
TBRPM	Tampa Bay Regional Planning Model
TIP	Transportation Improvement Program
TPO	Transportation Planning Organization
USDA	United States Department of Agriculture
US 92	U.S. Highway 92
WPI	Work Program Item

Section 1 Introduction

The objective of the PD&E study is to assist the FDOT's Office of Environmental Management (OEM) in reaching a decision on the type, location, and conceptual design of the proposed improvements for the widening of Branch Forbes Road and operational improvements at the I-4 interchange, including SMF and FPC sites. This PD&E study documents the need for the improvements as well as the procedures utilized to develop and evaluate various improvements, including elements such as proposed typical sections, preliminary horizontal alignments, intersection enhancement alternatives, and interchange operational improvements. The PD&E study satisfies all applicable requirements, including the National Environmental Policy Act (NEPA), to qualify for federal-aid funding of subsequent development phases [design, right of way (ROW) acquisition, and construction].

This project was screened through the FDOT's Efficient Transportation Decision Making (ETDM) process as ETDM Project No. 14470. The ETDM Programming Screen Summary Report was published on September 23, 2021, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. A Type 2 Categorical Exclusion is the class of action for this PD&E study.

1.1 Project Description

The project consists of reconstructing Branch Forbes Road to widen the roadway to accommodate future capacity needs from south of US Highway 92 (US 92) to north of Interstate 4 (I-4), in Hillsborough County, a distance of approximately 0.8 miles. A project location map is provided as **Figure 1-1**. Improvements will include widening the roadway to a four-lane divided facility and also include adding curb and gutter and a 10-foot (ft) wide shared use path on both sides to accommodate bicycles and pedestrians. The project also includes operational improvements at the I-4 interchange and construction of stormwater management facilities (SMF) and floodplain compensation (FPC) sites. Within the project limits, Branch Forbes Road, named Forbes Road south of US 92, is a two-lane undivided facility. Branch Forbes Road/Forbes Road is a Hillsborough County roadway and functionally classified as collector road with an existing posted speed limit of 35 miles per hour along most of the project limits.

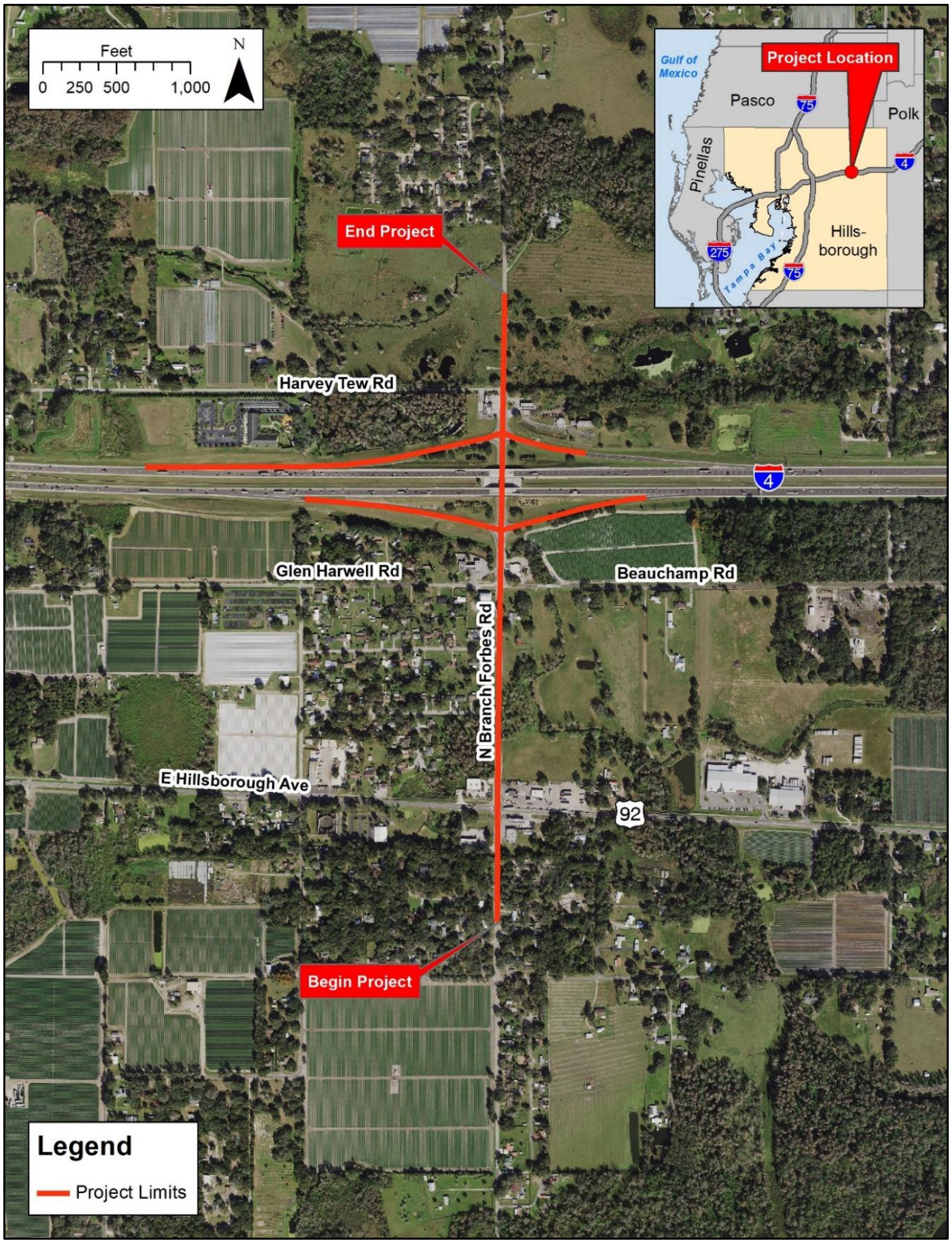
1.2 Existing Facility and Proposed Improvements

1.2.1 Existing Facility

Branch Forbes Road is owned and maintained by Hillsborough County, except for just south of the I-4 interchange ramps to just north of the ramps where the limited access is maintained by FDOT. Within the project area Branch Forbes Road is currently a two-lane undivided facility functionally classified as a County Collector and has a posted speed limit of 35 mph within the project and 45 mph at the south and north of the project limits.

The existing lanes vary in width from 10 to 11 ft along the corridor, and there are unpaved shoulders on both sides of the road that are approximately 2 to 5 ft wide. Existing Branch Forbes Road within the project limits has no bicycle lanes, sidewalks or other facilities for pedestrians and bicyclists, except for two small segments of sidewalk on the west side of Branch Forbes Road, one north of the US 92 intersection and the other south of I-4. North and south of the I-4 interchange area, the existing right of way (ROW) varies from 46.5 to 76 ft wide. The existing limited access ROW (LA ROW) ranges from 100 to 190 ft wide.

Figure 1-1 | Project Location Map



1.2.2 Proposed Improvements

The proposed typical section includes a four-lane divided curb and gutter facility with a 22-ft wide raised median. There will be two 11-ft travel lanes in each direction with a 10-ft wide shared use path on both sides of the road. The proposed ROW will vary along the corridor, with a minimum of 106 feet. The proposed typical section is provided as **Figure 1-2** and through the I-4 interchange are as **Figure 1-3**. Operational improvements are proposed along the I-4 interchange ramps, at the I-4 interchange ramp terminal intersections and at the US 92 intersection. The improvements include signalizing the ramp intersections, adding turn lanes, providing access management and providing other safety and operational enhancements. No improvements to the I-4 mainline are included as part of this study.

Figure 1-2 | Branch Forbes Road – Proposed Typical Section

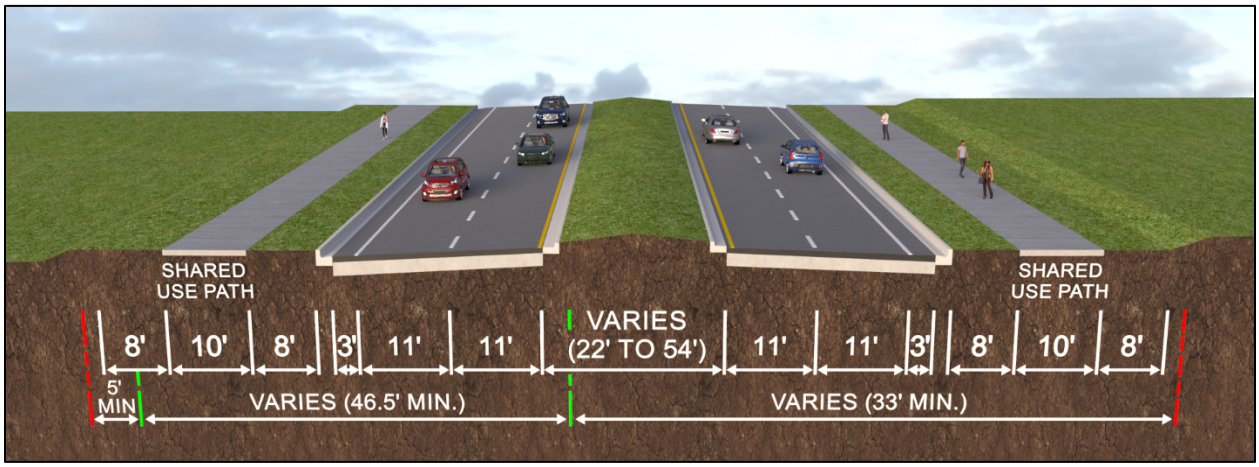
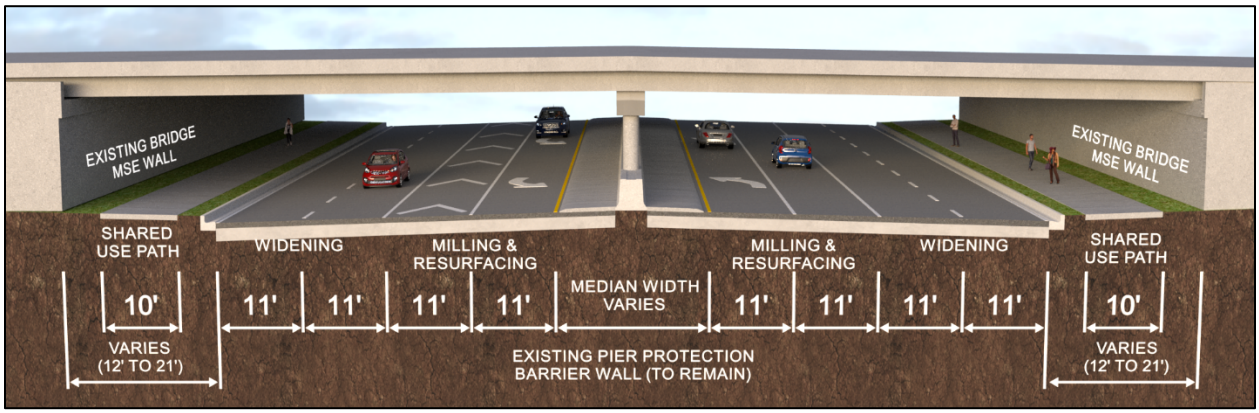


Figure 1-3 | Branch Forbes Road – Proposed Typical Section Under I-4



1.3 Report Purpose

The purpose of this Pond Siting Report is to identify SMF and FPC site alternatives and includes the analysis for selection of preferred sites. This study analyzed SMF site alternatives that are hydraulically feasible and environmentally permissible based on the best available information. These alternatives were then compared based on relocations and community impacts; environmental impacts including wetlands, upland habitat and protected species involvement; petroleum and hazardous materials contamination; and economic factors including right of way costs.

Section 2 Existing Conditions

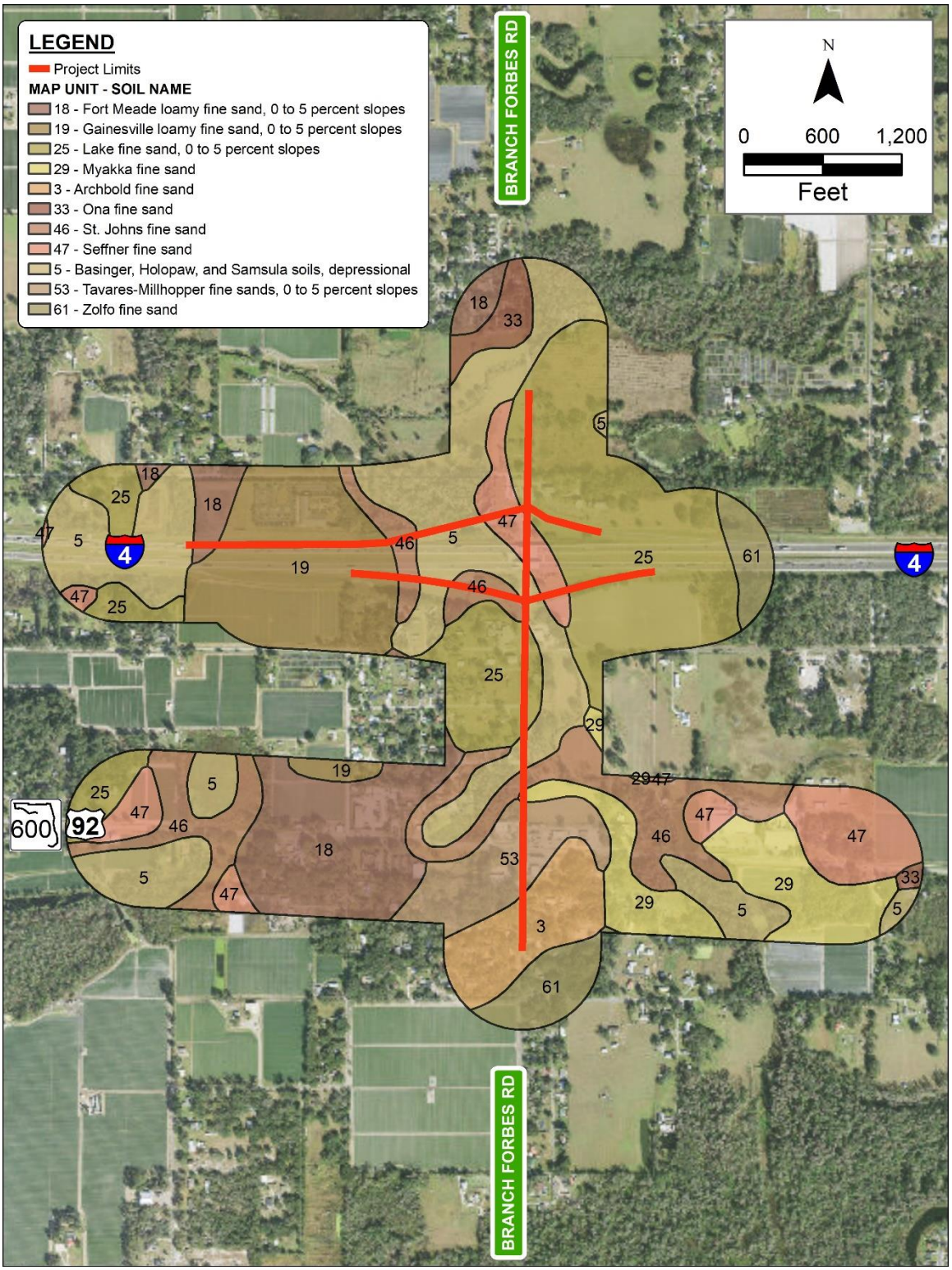
2.1 Soils

Per National Resource Conservation Service (NRCS) soils data, soils within the project limits are described by various Hillsborough County map units, as listed in **Table 2-1** below. See **Figure 2-1** for a map of the soils within the project area. Refer to **Appendix E** for the USDA Soil Resource Report.

Table 2-1 | USDA Soils

Map Unit	Soil Name	Hydrologic Group	Water Table Depth (in.)	Description
3	Archbold Fine Sand	A	42 – 72	Moderately well drained
5	Basinger, Holopaw, and Samsula Soils, depressional	D	0	Very poorly drained
18	Fort Meade loamy fine sand, 0-5% slopes	A	>80	Well drained
19	Gainesville loamy fine sand, 0-5% slopes	A	>80	Well drained
25	Lake fine sand, 0-5% slopes	A	>80	Excessively drained
29	Myakka fine sand, 0-2% slopes	A/D	6 – 18	Poorly drained
33	Ona fine sand, 0-2% slopes	B/D	6 – 18	Poorly drained
46	St. Johns fine sand	B/D	0 – 12	Poorly drained
47	Seffner fine sand, 0-2% slopes	A	18 – 42	Somewhat poorly drained
53	Tavares-Millhopper fine sand, 0-5% slopes	A	42 – 72	Moderately well drained
61	Zolfo fine sand, 0-2% slopes	A	18 – 42	Somewhat poorly drained

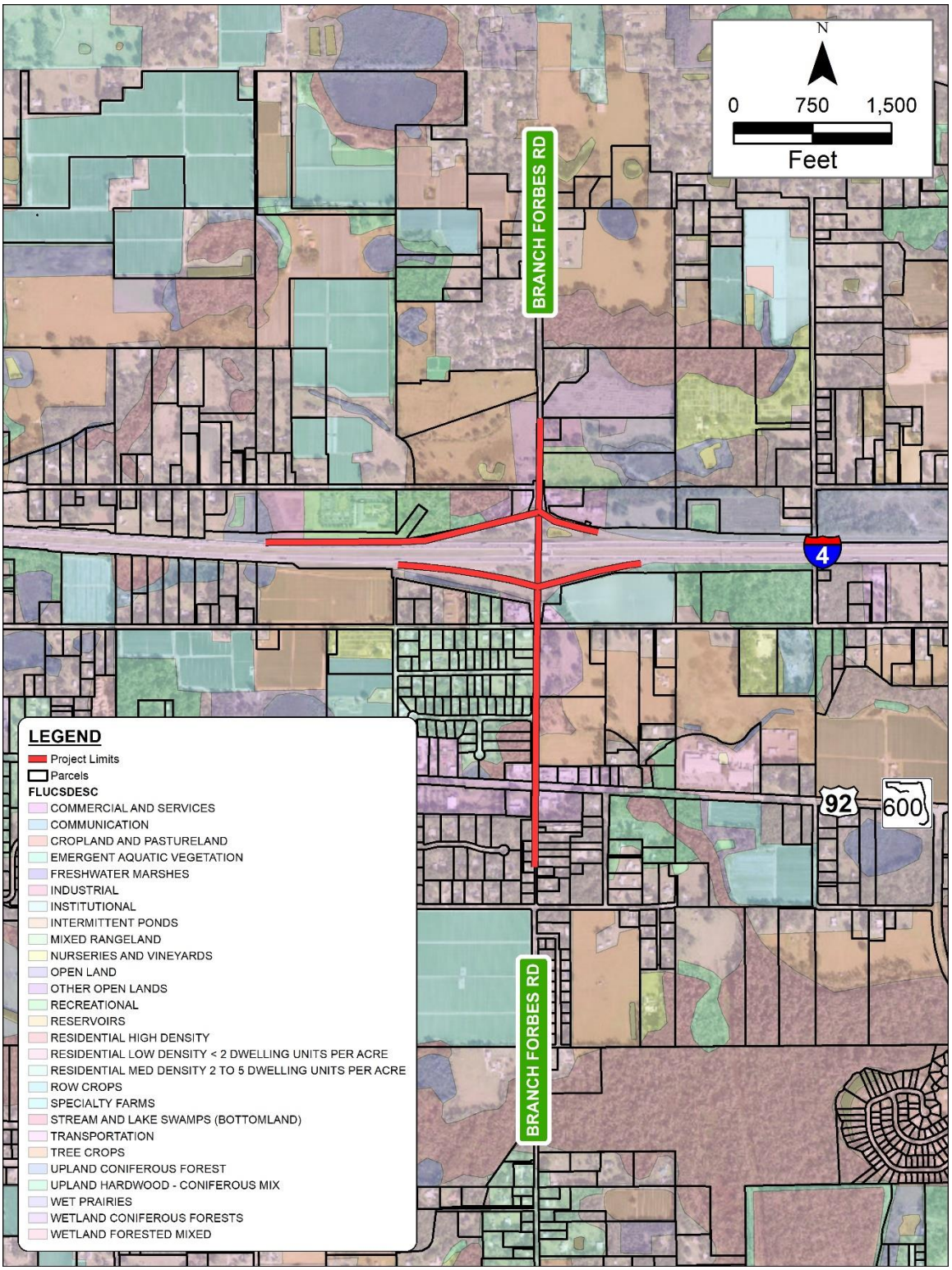
Figure 2-1 | USDA Soils Map



2.2 Land Use

The existing land use within the project vicinity is primarily agricultural, followed by single family / mobile home dwellings, vacant lots, and light commercial properties. Figure 2-2 displays the various land use types within the project area.

Figure 2-2 | SWFWMD Land Use Classifications Map



2.3 Cross Drains

There are three cross drains within the project limits, as described in **Table 2-2**. The cross drain locations are shown on the Drainage Maps in **Appendix A** and the Straight Line Diagrams (SLD) in **Appendix B**.

Table 2-2 | Cross Drains

Cross Drain ID	Roadway	Station (Alignment)	Description	Length (ft)	Flow Direction
CD-01	US-92	559+00 (BL_US92)	30" RCP	75	S - N
CD-02	Branch Forbes Road	1135+56 (CL_BFR)	18" RCP	50	W - E
CD-03	Branch Forbes Road	1156+42 (CL_BFR)	24" RCP	75	E - W

Note: CD-01 is included with WPI 447160-1.

2.4 Bridge Structures

There are two bridge structures within the project limits. Bridge No. 100111, built in 1959, is a triple span concrete box culvert located approximately 400-ft south of I-4 that conveys Spartman Branch under Branch Forbes Road. Bridge No. 100621, built in 2001, is a triple span concrete box culvert (CBC) located approximately 1000-ft west of Branch Forbes Road that conveys Spartman Branch north across I-4. Additional bridge information is provided in **Table 2-3** and in **Appendix B**.

Table 2-3 | Bridge Structures

Bridge No.	Roadway	Station (Alignment)	Description	Sufficiency Rating[1]	Health Index[1]
100111	Branch Forbes Road	1147+75 (CL_BFR)	3 – 8'x7' CBC	92.2	66.79
100621	I-4	1779+89 (BL_I4)	3 – 8'x7' CBC	82.8	64.63

Note:
1. Sufficiency Rating and Health Index data retrieved from 2024 Q2 Florida Bridge Inventory.

2.5 Floodplains and Floodways

FEMA Flood Insurance Rate Map panels 12057C0264H and 12057C0268H identify the flood zone information for the project area, and are provided in **Appendix A**.

The project area lies within Flood Zones X and AE. Branch Forbes Road is predominantly within Flood Zone AE with base flood elevations ranging from 88-ft to 95-ft. The I-4 interchange infields lie within Flood Zone AE with base flood elevations ranging from 90-ft to 93-ft. Bridge No. 100111 crosses a FEMA designated floodway associated with Spartman Branch. A No-Rise Certification will be required to demonstrate that improvements to this bridge will not increase the base flood elevation within this floodway. The build alternative will not substantially change the elevation of the existing roadway or bridges. Impacts to floodplain storage will require cup-for-cup compensation and will be incorporated into the effective Pemberton/Baker Canal watershed model to ensure there are no flood risks associated with the build alternative.

2.6 Existing Drainage Patterns

Overall, stormwater within the project area drains to wetlands that outfall to Spartman Branch via natural weirs and cross drains. Spartman Branch flows from southeast to northwest to its confluence with Pemberton Creek, which is a tributary of Baker Creek. Baker Creek flows to Lake Thonotosassa and subsequently to the Hillsborough River via Flint Creek, and ultimately outfalls to Hillsborough Bay.

The project area is comprised of seven basins. The basins associated with US-92 and Branch Forbes Road drain via open conveyance directly to Spartman Branch or associated wetlands. The I-4 basins discharge to permitted detention ponds.

Basin 1

Basin 1 includes the segment of US-92 from Bethlehem Road to Rogers Road / Tanner Road at Sta. 548+26. This basin is comprised primarily of agricultural, medium density residential, and commercial land use. Runoff from US-92 within this basin flows west via open conveyance to wetlands connected to Moore Lake. This basin will be further evaluated as part of the US-92 improvements project.

Basin 2

Basin 2 extends from the intersection of North Forbes Road and CP Keen Road / Ward Road at Sta. 1118+50 to the intersection of North Forbes Road / Branch Forbes Road and US-92 at Sta. 1130+00. This basin also includes US-92 from Sta. 548+26 to Sta. 588+52. Basin 2 is comprised primarily of low density residential and commercial land use. Runoff within this basin from North Forbes Road flows north primarily by sheet flow to the open drainage system associated with US-92. The US-92 open drainage system was permitted under ERP 4314028.02 and consists of roadside ditches, interconnected ditch bottom inlets, and side drains that convey runoff west to CD-01.

Basin 3

Basin 3 includes the segment of Branch Forbes Road from the intersection with US-92 (Sta. 1130+00) to the intersection with the eastbound I-4 ramps at Sta. 1149+00. Additionally, Basin 3 encompasses most of the I-4 eastbound entrance and exit ramps. Land use within Basin 3 is a mix of farmland, commercial properties, and medium density residential areas. South of Glen Howell Road, runoff from Branch Forbes Road is conveyed via open drainage to wetlands that outfall to Spartman Branch. CD-02 is located at Sta. 1135+56 and connects wetlands on the west side of Branch Forbes Road to Spartman Branch. North of Glen Howell Road, runoff from Branch Forbes Road discharges directly to Spartman Branch via ditches and side drains.

Basin 4

Basin 4 includes the I-4 travel lanes, median, and roadside ditches from approximately 3300-ft west of Branch Forbes Road (Sta. 1758+00) to the I-4 bridge abutment at Sta. 1791+41 and also includes the median area up to the I-4 bridge abutment at Sta. 1791+41. This basin is predominantly comprised of transportation land use. Runoff from I-4 is conveyed in the median and roadside ditches interconnected by ditch bottom inlets to a retention pond (Pond 11). This pond is permitted under ERP 4011896.01 and was sized to accommodate the I-4 10-lane ultimate design. The pond discharges to the roadside ditch adjacent to the I-4 westbound lanes and outfalls to Pemberton Creek via wetlands and natural weirs.

Basin 5

Basin 5 encompasses the I-4 interchange with Branch Forbes Road. This basin is predominantly transportation land use that includes the I-4 travel lanes, median, and infield areas from Sta. 1780+43 to Sta. 1799+55 and Branch Forbes Road from Sta. 1149+07 to Sta. 1155+20. Runoff is conveyed via shoulder gutter inlets to the four infield depressions, which discharge via culverts across the I-4 entry and exit ramps to roadside swales that outfall to Spartman Branch. The northeast infield area is permitted as a detention pond under ERP 4011896.02.

Basin 6

Basin 6 extends from the I-4 interchange at Branch Forbes Road (Sta. 1799+55) to approximately 2500-ft east of Branch Forbes Road (Sta. 1817+17) and is comprised of transportation land use that includes the I-4 travel lanes, median, roadside ditches, and partial area from the EB entry ramp and WB exit ramp. Runoff within this basin is conveyed via roadside and median ditches to a retention pond permitted under ERP 4011896.02. Discharge from this pond is routed west via closed conveyance to the ditch at CD-03 (Sta. 1156+42), which crosses Branch Forbes Road and ultimately outfalls to Spartman Branch.

Basin 7

Basin 7 includes the northern project limits along Branch Forbes Road from Sta. 1155+20 to Sta. 1166+06 and extends beyond the project area to approximately 200-ft south of Branch Haven Road. Land use within the basin boundary is a mix of primarily commercial, low-density residential, and farmland. South of the intersection with Harvey Tew Road, runoff from Branch Forbes Road is conveyed south to the ditches at CD-03 via swale and interconnected ditch bottom inlets. North of Harvey Tew Road, runoff flows north primarily via sheet flow directly to Mill Creek.

2.7 Existing Environmental Permits

The following paragraphs describe the existing Southwest Florida Water Management District (SWFWMD) environmental resource permits (ERP) that are relevant to the project. Excerpts from the ERPs can be found in Appendix E.

ERP No. 40011896

This permit is associated with the widening of I-4 from I-75 to the Polk County line. The project was divided into segments that were permitted under separate revisions of the base permit number. Revision 1 (ERP No. 4011896.01) permitted the I-4 improvements from east of McIntosh Road to west of Branch Forbes Road (Sta. 1791+42.56) and includes the design of Pond 11 and Bridge Culvert No. 100621. Revision 2 (ERP No. 4011896.02) includes the I-4 improvements from west of Branch Forbes Road to S.R. 39 and includes the design of Ponds 1 and 1A. The permitted ponds have been designed to accommodate the future ultimate 10-lane divided section of I-4.

ERP No. 43031172.000

This permit provided approval for the widening of US-92 from Eureka Springs Road to S.R. 566 and includes documentation describing CD-02 and the existing drainage infrastructure at the intersection with Branch Forbes Road.

2.8 Special Basin Criteria

This project lies within the Spartman Branch and Pemberton Creek watersheds, which are associated with WBID No. 1561 and WBID No. 1542, respectively. The former has been delisted from its previous impairment status, whereas the latter is currently listed as impaired for E. Coli contamination. The project area is not located within any Outstanding Florida Waters (OFW) and the associated basins discharge to non-OFW waterbodies, specifically Spartman Branch and Mill Creek. Therefore, no nutrient calculations are required.

Section 3 Proposed Conditions

3.1 Proposed Roadway

The preferred build alternative proposes widening Branch Forbes Road from a 2-lane, undivided, flush shoulder facility to a 4-lane, divided facility with curb and gutter as well as 10-ft shared use paths on each side of the road. The preferred alternative also includes operability and safety improvements to the interchange ramps at I-4, the ramp terminal intersections, and the intersection with US-92. The widened roadway will taper to match the existing roadway section at the southern and northern project limits. The typical section package for the preferred alternative is provided in Appendix B. Improvements to US-92 will be evaluated under a separate PD&E contract to tie into the intersection improvements associated with the preferred build alternative. The no-build condition is the only other alternative being considered.

3.2 Cross Drains

All three cross drains within the project limits will be extended or replaced as needed to accommodate the proposed roadway width. CD-01 will not be directly impacted by the preferred build alternative and will be modified as part of the US-92 (WPI No. 447160-1) widening project. Cross drain hydraulic analyses will be performed during the design phase of the project.

3.3 Bridge Structures

Of the two bridge structures within the project limits, only Bridge No. 100111 will require extension or replacement to accommodate the proposed roadway width. No impacts to Bridge No. 100621 are anticipated.

3.4 Floodplains and Floodways

Both the FEMA Flood Insurance Rate Maps and the effective Hillsborough County Stormwater management model (HCSWMM) for the Pemberton/Baker Canal watershed were reviewed to evaluate potential floodplain impacts. The effective SWMM was used to determine floodplain impact volumes.

The build alternative is associated with minimal longitudinal and transverse encroachments onto the floodplains adjacent to and crossing Branch Forbes Road. The transverse encroachment associated with the floodway at Bridge No. 100111 will not impact floodplain storage. A Bridge Hydraulics Report will be prepared during the design phase of the project to evaluate proposed alternatives for the bridge and certify that there will be No-Rise in existing flood elevations. The build alternative will require fill to be placed below the base flood elevations (BFE) of several Zone AE Floodplains adjacent to Branch Forbes Road ranging in elevation from 94.94 to 96.30 ft-NAVD88. Equivalent cup-for-cup excavation volumes will be provided in FPC sites to compensate for the anticipated fill volumes. The FPC sites will provide compensatory storage volume between the estimated seasonal high groundwater table elevation (SHGWTE) and the BFE. SHGWTE estimates are referenced from the Preliminary Seasonal High Groundwater Table Report for Branch Forbes Road and US 92, dated July 28, 2022. These reports are provided in Appendix E.

Section 4 Stormwater Management Alternatives

4.1 Stormwater Management Criteria

The following subsections describe water quality and quantity requirements for the project.

4.1.1 Water Quality

The SWFWMD ERP Applicant's Handbook Vol. II, Part IV – Stormwater Quality identifies water quality treatment criteria. The selected system for treating runoff associated with the build alternative varies by basin. Wet detention facilities require treatment of one inch of runoff from the contributing area, according to Part IV, Section 4.1.a.1. Dry retention facilities require treatment of one-half inch of runoff from the contributing area, as stated in Section 4.1.c.1.

4.1.2 Discharge Attenuation

The SWFWMD ERP Applicant's Handbook Vol. II, Part III – Stormwater Quantity/Flood Control identifies runoff attenuation and discharge criteria. In general, runoff associated with the build alternative must not cause adverse water quantity impacts to receiving waters or adjacent lands, must not cause adverse flooding to on-site or off-site properties, and must not adversely impact existing surface water storage and conveyance capabilities (Part III, Section 3.a-d).

The project is located within open drainage basins, thus the allowable discharge is equal to either the historical discharge or to amounts determined in previous District permit actions, as stated in Part III, Section 3.1.1-2.

Per Part III, Section 3.1.b, the post development peak discharge shall be no greater than pre-development peak discharge for the 25-year, 24-hour storm event, and computed using the SCS type II Florida Modified 24-hour rainfall distribution. The previous permits, as described in Section 2.7 of this report, followed the same stormwater quantity criteria.

4.2 Agency Coordination

A SWFWMD pre-application meeting was held on February 1, 2024, to discuss the project's environmental, water quality, and water quantity considerations. Project coordination meetings with FDOT and/or Hillsborough County staff were held on February 15, 2021, October 27, 2021, November 19, 2021, and November 13, 2023, to discuss project status and design alternatives. A pond siting longlist meeting with FDOT District 7 representatives was held on March 9, 2023, to discuss stormwater management facility and floodplain compensation site alternatives. A final pond selection meeting was held with FDOT District 7 representatives on July 19, 2024. Meeting minutes for the SWFWMD pre-application meeting and final pond selection meeting can be found in Appendix F.

4.3 Project Stormwater Management Alternatives

4.3.1 Stormwater Management Requirements

Table 4-1 summarizes the stormwater management requirements for the preferred alternative. Supporting calculations are provided in **Appendix C**.

Table 4-1 | Stormwater Management Requirements

Basin	Est. Req. Treatment Volume (ac-ft)	Est. Req. Attenuation Volume (ac-ft)	Est. Req. Stormwater Management Volume (ac-ft)
2	0.59	3.41	4.00
3	0.26	1.89	2.15
7	0.08	0.63	0.71

4.3.2 Proposed Land Use

Pre and post-conditions land use acreages were determined by computing impervious and pervious areas within each of the basins. **Table 4-2** compares the existing and proposed land uses.

Table 4-2 | Land Use Summary

Basin	Existing Impervious Area (ac)	Proposed Impervious Area (ac)
2	3.25	6.71
3	2.70	4.03
7	0.94	1.35

4.3.3 Basin Considerations

The following paragraphs describe the proposed roadway and drainage improvements within each basin associated with the preferred alternative. Existing flow patterns have been maintained; thus the basin divides and station limits are consistent between existing and proposed conditions. All proposed SMF sites will provide on-line treatment of runoff and are located directly adjacent to the proposed right-of-way associated with the preferred build alternative. Environmental considerations associated with the proposed improvements are discussed in **Section 5** of this report. Conceptual Drainage Maps depicting the basins, SMF, and FPC site alternatives are provided in **Appendix A**. Calculations for the SMF alternatives can be found in **Appendix C**.

Basin 1

Basin 1 begins outside the project limits along US-92 from Bethlehem Road to Rogers Road / Tanner Road (approximately Sta. 548+26). The proposed improvements within this basin include transitioning the existing roadway from two to four lanes with median islands in addition to adding sidewalks on both sides of the road and left turn lanes at Rogers Road / Tanner Road. SMF and FPC alternatives will be evaluated under a separate PD&E project for the widening of US-92.

Basin 2

Basin 2 extends from the intersection of North Forbes Road and CP Keen Road / Ward Road at Sta. 1118+50 to the intersection of North Forbes Road / Branch Forbes Road and US-92 at Sta. 1130+00. This basin also includes the eastbound lanes of US-92 from Sta. 548+26 to Sta. 588+52. The improvements proposed within this basin include widening US-92 from two to four lanes with median islands, new turn lanes at all four legs of the intersection of Branch Forbes Road and US-92, transitioning N Forbes Road from two lanes to four lanes, and sidewalks along US-92. Runoff within this basin will be routed to the proposed SMF and subsequently follow existing drainage patterns via discharge to a proposed closed conveyance system that connects to CD-01 and ultimately flows to the wetlands associated with Spartman Branch. The area of this basin east of Whitelaw Road will require compensatory treatment.

SMF 2A

Alternative SMF 2A is a proposed wet detention pond located at the southeast corner of the Tanner Road and US-92 intersection. The SHGWTE was estimated to be 88.5 ft-NAVD88 based upon soil borings. This alternative will require a 1.85-ac partial take of a business parcel (PID: U-27-28-21-ZZZ-000003-73990.0) that is anticipated to be impacted by the proposed widening of US-92. The location of this alternative is the most hydraulically feasible given its close proximity to the basin outfall (CD-01). Conveyance requirements can be minimized by combining this alternative with FPC-1A, which would require a full take of the aforementioned parcel and would provide direct hydraulic connectivity to CD-01. FPC-1A is discussed in Section 4.4.2.

SMF 2C

Alternative SMF 2C is a proposed wet detention pond on a currently undeveloped parcel located at the northeast corner of the Branch Forbes Road and US-92 intersection. The SHGWTE was estimated to be 88.5 ft-NAVD88 based upon soil borings. This alternative will require a 2.26-ac partial take of a vacant parcel (PID: U-26-28-21-ZZZ-000003-72300.0) that is anticipated to be impacted by the proposed widening of Branch Forbes Road. This alternative would divert runoff within Basin 2 away from CD-01 and involve construction of approximately 239-ft of pipe to route runoff to SMF 2C, which would then discharge to Spartman Branch. SMF 2C could be combined with FPC-1B, which is discussed in Section 4.4.2.

Basin 3

Basin 3 includes the segment of Branch Forbes Road from the intersection with US-92 (Sta. 1130+00) to the intersection with the eastbound I-4 ramps at Sta. 1149+00. Additionally, Basin 3 encompasses most of the I-4 eastbound entrance and exit ramps. The proposed improvements within this basin include widening Branch Forbes Road from two to four lanes with median islands and shared use paths on either side, new turn lanes along the north leg of the intersection with US-92, new turn lanes and merge lanes at the I-4 entrance and exit ramps, and a U-Turn lane and bulb-out at the intersection with Keene Drive. Runoff from this basin will be routed to the proposed SMF and subsequently follow existing drainage patterns via discharge to a proposed closed conveyance system that connects to CD-02 or discharges to Spartman Branch. The southern portion of this basin, between the intersections with US-92 and Cindy Kay Road, will require compensatory treatment.

SMF 3A

Alternative SMF 3A is a proposed dry retention pond located at the southeast corner of the Branch Forbes Road and Beauchamp Road intersection. The SHGWTE was estimated to be 88.5 ft-NAVD88 based upon

soil borings. This alternative will require a 1.75-ac partial take of a residential parcel (PID: U-26-28-21-ZZZ-000003-72290.0) that is anticipated to be impacted by the proposed Branch Forbes Road widening and U-turn bulb-out. SMF 3A is located on upland adjacent to Spartman Branch and is the most hydraulically feasible alternative within this basin. The proposed stormwater conveyance system will route runoff to SMF 3A, which would then discharge to Spartman Branch. SMF 3A could be combined with FPC-1D, which is discussed in Section 4.4.2.

SMF 3B

Alternative SMF 3B is a proposed wet detention pond located at the northwest corner of the Branch Forbes Road and Keene Road intersection. The SHGWTE was estimated to be 88.5 ft-NAVD88 based upon soil borings. This alternative will require a 1.84-ac full take of two business parcels and one residential parcel (PID: U-27-28-21-ZZZ-000003-73220.0, U-27-28-21-ZZZ-000003-73230.0 & U-27-28-21-ZZZ-000003-73240.0) that are anticipated to be impacted by the proposed Branch Forbes Road widening. Discharge from this alternative would be routed to Spartman Branch at Bridge No. 100111 via the stormwater conveyance system associated with the proposed roadway improvements.

SMF 2C/3D

Alternative SMF 2C/3D is a proposed wet detention pond on a currently undeveloped parcel located at the northeast corner of the Branch Forbes Road and US-92 intersection. The SHGWTE was estimated to be 88.5 ft-NAVD88 based on soil borings. This alternative will require a 3.36-acre partial take of a vacant parcel (PID: U-26-28-21-ZZZ-000003-72300.0) that is anticipated to be impacted by the proposed widening of Branch Forbes Road. SMF 2C/3D is an expanded version of SMF 2C that can accommodate the stormwater management requirements for both Basin 2 and Basin 3 within one site. It would involve the construction of approximately 250 feet of additional conveyance pipe. SMF 2C/3D would discharge directly to Spartman Branch. SMF 2C/3D can be combined with FPC-1B and FPC-1C to minimize pipe construction and provide hydraulic connectivity to Spartman Branch. However, FPC-1B would be reduced in this option, and the resulting compensation would not adequately address the total encroachment volume. Therefore, another FPC site, either a portion of FPC-1D or FPC-1A, would be required. FPC sites are discussed in Section 4.4.2.

Basin 4

Basin 4 includes the I-4 travel lanes, median, and roadside ditches from approximately 3300-ft west of Branch Forbes Road (Sta. 1758+00) to Sta. 1780+43 and also includes just the median area up to the I-4 bridge abutment at Sta. 1791+41. The proposed improvements within this basin include widening the I-4 WB entrance ramp to incorporate a new merge lane and paved shoulder as well as repurposing the gore area as an acceleration lane where the ramp converges with the I-4 WB travel lanes. Runoff within this basin associated with the preferred build alternative will be routed through the existing conveyance system to the existing SMF permitted under ERP 4011896.01. This SMF, known as Pond 11, is designed with a foot and a half of freeboard and has been sized to accommodate the I-4 10-lane ultimate design. The improvements within this basin fall within the footprint of the ultimate design and result in minimal stormwater volume requirements that can be met without the need for construction of proposed facilities. Therefore, pond siting is not require for this basin.

Basin 5

Basin 5 includes areas from the I-4 travel lanes, interchange ramps, median, and infield areas from Sta. 1780+43 to Sta. 1799+55 and Branch Forbes Road from Sta. 1149+07 to Sta. 1155+20. Improvements within this basin include widening the interchange ramps to add turn lanes and paved shoulders as well as

widening Branch Forbes Road from two to four lanes with median islands. Runoff associated with I-4 will be routed to an existing SMF, known as Pond 1A, permitted under ERP 4011896.02. Runoff associated with Branch Forbes Road will be routed to a proposed dry pond constructed in any one of the remaining three infield areas, and subsequently discharged to the ditches adjacent to the I-4 ramps. These options are all located within FDOT ROW and would not require any property acquisition. Therefore, pond siting is not require for this basin.

Basin 6

Basin 6 extends from the I-4 interchange at Branch Forbes Road (Sta. 1799+55) to approximately 2500-ft east of Branch Forbes Road (Sta. 1817+17). Improvements within this basin are anticipated to be minimal and will involve tapering the I-4 WB exit ramp and EB entrance ramp from widened to existing conditions. The existing conveyance system and permitted pond, denoted Pond 1 in ERP 4011896.02, will accommodate runoff associated with the preferred build alternative. Pond 1 has been sized to account for the I-4 ultimate 10-lane condition and was designed with two feet of freeboard. The stormwater volume requirements for this basin total 0.05 ac-ft and will have negligible impact on the existing pond. Therefore, pond siting is not require for this basin.

Basin 7

Basin 7 includes the northern project limits along Branch Forbes Road from Sta. 1155+20 to Sta. 1166+06 and extends beyond the project area to approximately 200-ft south of Branch Haven Road. The proposed improvements within this basin include additional turn lanes and signalization at the I-4 WB exit and entrance ramps, transitioning the widened four lane condition of Branch Forbes Road back to the existing two lane typical section, and construction of shared use paths on both sides of the road up to the intersection with Harvey Tew Road. Runoff within this basin associated with the preferred build alternative will be routed to a proposed SMF and subsequently discharged to wetlands associated with Mill Creek or to the existing ditches at CD-03.

SMF 7A

Alternative SMF 7A is a proposed wet detention pond located at the northwest corner of the Branch Forbes Road and Harvey Tew Road intersection. The SHGWTE was estimated to be 88.0 ft-NAVD88 based upon soil borings and wetland contours. This alternative will require a 2.25-ac partial take of vacant commercial property (PID: U-22-28-21-ZZZ-000003-67280.0) that is anticipated to be impacted by the proposed widening of Branch Forbes Road. Discharge from this alternative would be conveyed west via existing swales along Harvey Tew Road to Spartman Branch.

SMF 7B

Alternative SMF 7B is a proposed wet detention pond located at the northeast corner of the Branch Forbes Road and Harvey Tew Road intersection. The SHGWTE was estimated to be 88.0 ft-NAVD88 based upon soil borings and wetland contours. This alternative will require a 2.22-ac partial take of a vacant residential property (PID: U-23-28-21-ZZZ-000003-68230.1) that is anticipated to be impacted by the proposed widening of Branch Forbes Road. Discharge from this alternative would be routed south to CD-03 via the stormwater conveyance system associated with the proposed roadway improvements.

SMF 7C

Alternative SMF 7C is a proposed wet detention pond located at the northeast corner of the Branch Forbes Road and Harvey Tew Road intersection. The SHGWTE was estimated to be 88. ft-NAVD88 based upon soil borings. This alternative will require a 2.06-ac partial take of a vacant residential property (PID: U-23-28-21-ZZZ-000003-68230.0) that is anticipated to be impacted by the proposed widening of Branch Forbes Road. Discharge from this alternative would be routed south to CD-03 via the stormwater conveyance system associated with the proposed roadway improvements.

4.4 Floodplain Compensation Site Alternatives

4.4.1 Floodplain Compensation Requirements

The improvements associated with the preferred build alternative will require fill to be placed within floodplains associated with Spartman Branch in Basin 2. The concurrent improvements to US-92 will require fill to be placed within floodplains in Basins 1 and 2. There are no encroachments anticipated within any of the other basins. The floodplain encroachment (FPE) areas are shown on the Conceptual Drainage Maps in **Appendix A**. A summary of the estimated floodplain encroachment areas and volumes is provided in **Table 4-3.**

Table 4-3 | Floodplain Encroachment Summary

Floodplain ID	Floodplain Limits				BFE (ft-NAVD88)	Encroachment Area (ac)	Encroachment Volume* (ac-ft)
	Alignment	From Station	To Station	Offset Side			
FPE-01A	BL_US92	551+80	559+33	RT	96.30	1.51	4.19
FPE-01B	BL_US92	569+07	579+52	RT	96.62	1.48	2.26
FPE-01C	CL_BFR	1132+12	1138+58	RT & LT	94.94	1.64	3.96

*Volumes estimated using CAD software to model proposed roadway improvements.

4.4.2 Floodplain Considerations

The following paragraphs describe the FPC site alternatives for the preferred build alternative. Note that although all three floodplain encroachment areas affect the same floodplain, FPE-01C is the only encroachment associated with the improvements to Branch Forbes Road. Environmental considerations associated with the proposed improvements are discussed in **Section 5** of this report. Conceptual Drainage Maps depicting the FPC site alternatives are provided in **Appendix A**. Calculations for the FPC alternatives can be found in **Appendix C**.

FPC 1A

This alternative is located at the southeast corner of the Tanner Road and US-92 intersection and would require a 2.44-ac partial take of a business parcel (PID: U-27-28-21-ZZZ-000003-73990.0). This is the same parcel upon which SMF 2A has been sited, and FPC 1A is intended to be grouped with SMF 2A to improve basin hydraulics and minimize property acquisition. FPC 1A would be directly connected to the impacted floodplain via CD-01, which will be evaluated for upsizing during design to ensure that there are no adverse impacts to the floodplain elevation or inundation boundary. This alternative has been estimated to provide 11.12 ac-ft of compensatory storage volume assuming a BFE of 96.30 ft-NAVD88 derived from the effective HCSWMM and an estimated SHGWTE of 90.10 ft-NAVD88. This volume would provide compensation for

all three floodplain encroachments associated with the improvements to both Branch Forbes Road and US-92.

FPC 1B

FPC 1B is located on a vacant parcel (PID: U-26-28-21-ZZZ-000003-72300.0) adjacent to the northbound travel lanes of Branch Forbes Road, approximately 400-ft north of US-92. FPC 1B is directly north of SMF 2C within the same parcel and would require a 3.55-ac partial take. The remaining upland area within the impacted parcel would be isolated from Branch Forbes Road by Spartman Branch and therefore unsuitable for development. This alternative abuts the floodway boundary associated with Spartman Branch and is intended to be grouped with SMF 2C and FPC 1C, described in the next paragraph, to minimize the need for additional ROW and to improve hydraulic connectivity within the basin. FPC 1B provides an estimated 5.78 ac-ft of compensatory storage volume using a BFE of 94.94 ft-NAVD88 and an estimated SHGWTE of 88.50 ft-NAVD88. This volume compensates for FPE-01C, the floodplain encroachment associated with the Branch Forbes Road improvements. FPC-1B can be combined with FPC-1C to compensate for all floodplain encroachments.

FPC 1C

FPC 1C is located on the same parcel as FPC 1B (PID: U-26-28-21-ZZZ-000003-72300.0) and is situated in the northeast corner of this property, directly east of Spartman Branch. This alternative abuts the floodway boundary associated with Spartman Branch and would be directly connected to the impacted floodplain; however, it would serve as an offline storage area that functions independently of the proposed stormwater management system. FPC 1C would require a 2.81-ac partial take of the parcel, and the remaining upland area directly adjacent to Branch Forbes Road could be used for future development. This alternative provides an estimated 7.19 ac-ft of compensatory storage volume using the FEMA BFE of 94.00 ft-NAVD88 and an estimated SHGWTE of 88.50 ft-NAVD88. This volume compensates for FPE-01C, the floodplain encroachment associated with the Branch Forbes Road improvements. FPC 1C can be combined with FPC 1B for a full take of parcel U-26-28-21-ZZZ-000003-72300.0 and would provide compensation for all floodplain encroachments described in Table 4-3.

FPC 1D

FPC 1D is located on a partially developed residential parcel (PID: U-26-28-21-ZZZ-000003-72290.0) at the southeast corner of Branch Forbes Road and Beauchamp Road. This alternative consists of three separate excavation areas that border the Spartman Branch Floodway for a total partial take of 5.15-ac. The remaining parcel area would include the existing residential property or could be re-developed as SMF 3A. FPC 1D provides an estimated 3.48 ac-ft of storage volume, based upon a SHGWTE of 88.50 ft-NAVD88 and a FEMA BFE of 94.00 ft-NAVD88. In order to meet the required floodplain compensation, FPC 1D would have to be paired with FPC 1C.

Section 5 Environmental Considerations

The following sections identify and discuss environmental considerations. These considerations are summarized in the Preferred SMF and FPC Site Matrix provided in Section 6 of this report.

5.1 Wetlands and Surface Waters

The proposed Build Alternative would result in approximately 0.88 acre of wetland and 0.02 acre of other surface waters impacts based on the Preferred Alternative. Wetland mitigation options will be pursuant to 373.4137, F.S., and may include purchase of wetland mitigation credits through an approved mitigation bank, as well as creation, restoration, or enhancement of wetlands within the project watersheds.

5.2 Sociocultural Features

Social and economic effects are anticipated to be minimal. There are no planned changes to land use nor aesthetics. Economic conditions may be enhanced through enhanced mobility.

5.3 Historic Features

In April 2024, SEARCH completed a cultural resource desktop analysis in support of the proposed Branch Forbes Road PD&E Study. The purpose of the desktop analysis was to evaluate the proposed pond and FPC sites to identify cultural resource potential and previously recorded historic resources that are listed or may be eligible for listing in the National Register of Historic Places. SEARCH evaluated nine SMF pond and four FPC area alternatives proposed for the Forbes Road PD&E study. The results of the evaluation are documented in Table 6-1.

As documented in the Cultural Resources Assessment Survey (CRAS) for the mainline, potential resources were identified within the project area of potential effect, however there were no historic nor archaeological resources that meet the eligibility criteria for inclusion on the National Register of Historic Places, therefore no historic properties will be affected.

5.4 Parks and Recreation

There are no properties within the project area that are protected pursuant to Section 4(f) of the United State Department of Transportation (USDOT) Act of 1966. Both the Blackwater Creek Nature Preserve and the Lower Green Swamp Nature Preserve are located over 7 miles away.

There are no properties within the project areas that are protected pursuant to Section 6(f) of the Land and Water Conservation Fund of 1965, nor other recreational or protected lands.

5.5 Protected Species and Habitat

Literature reviews, agency database searches, and field reviews were conducted to assess federal and state- protected species presence, their habitat, and designated critical habitat occurring or potentially occurring within the project study area. Three non-listed, managed species, the bald eagle, Florida black bear, and gopher frog, are also discussed based on the potential for occurrence within the study area and their protection under other existing regulations. The Natural Resources Evaluation (NRE) documented all

potential involvement of species and wetlands within the project area. The project will not have significant impacts to natural resources.

5.6 Hazardous Materials and Contamination Impact

The Level I *Contamination Screening Evaluation Report* documented the presence of potential contamination sources along the study corridor. As part of the evaluation, sites of potential environmental concern were reviewed and awarded a risk ranking based on the potential for contaminant impacts to be present on each site. The contamination risk is rated from 'High' to 'No' risk as follows:

- High risk - Contamination may substantially impact construction activities, have implications for right-of-way (ROW) acquisition, or have other potential transfer of contamination related liability to FDOT.
- Medium risk – A potential contamination impact to the project has been identified or, if there is insufficient information, contamination is suspected (e.g., gasoline stations, sites with abandoned in place underground petroleum storage tanks).
- Low Risk – Former or current activities on the property have ongoing contamination issues, property has a hazardous waste generator identification (ID) number, or the property stores, handles or manufactures hazardous materials in some capacity. However, based on the review, it is not likely that there would be any contamination impact to the project.
- No Risk – No potential contamination impact to the project. However, it is possible that containments have been handled on the property, but contamination impacts are not expected.

EDR was contracted to research and summarize standard United States Environmental Protection Agency (EPA) and Florida Department of Environmental Protection (FDEP) environmental record databases to identify potential recognized environmental conditions in connection with properties within and adjacent to the construction corridor. Two hundred and twenty-four (224) sites identified in the EDR Report are located further than 500 feet from the study area and were assigned a 'No' risk since they do not pose a significant threat of environmental impact to the project, thirty-nine (39) were rated as 'Low' risk, five (5) sites were rated as 'Medium' risk, and one (1) site was rated as 'High' risk.

Section 6 Summary and Recommendations

Based on the proposed preferred alternative sites, three ROW acquisitions will be needed for the SMF sites and one will be required for the FPC site. Table 6-1 presents a matrix indicating the preferred SMF and FPC alternatives (highlighted in yellow). SMF 2C, 3B, and 7B as well as FPC 1A are the most cost effective, least impactful to sociocultural and environmental resources, and the most hydraulically feasible options, therefore these sites are the preferred alternatives.

Refer to Appendix D for the Engineer's Estimate for each alternative, and Appendix E/Table 6-1 for the ROW estimates for each SMF and FPC sites.

Table 6-1 | Preferred SMF and FPC Site Matrix

SMF/FPC No.	SMF/FPC Area (ac)[1]	Conveyance Easement	Est. Wetland Impacts (ac)	Species Occurrence Probability	Contamination Risk	Cultural Resource	Potential Relocations[2]	Est. Construction Cost	Est. Wetland Mitigation Cost	Est. ROW Cost	Est. Total Cost
Stormwater Management Facility Sites											
2A	1.85	N/A	None	Low	Low*	Med	None	$513,299	$0	$1,728,700	$2,241,999
2C	2.26	N/A	None	Low	Med*	Med	None	$458,638	$0	$1,510,100	$1,968,738
3A	1.75	N/A	None	Low	Med*	High	None	$292,979	$0	$3,935,600	$4,228,579
3B	1.84	N/A	None	Low	None	High	1R + 2B	$283,775	$0	$2,700,316	$2,984,091
2C/3D[3]	3.36	N/A	None	Low	Med*	Med	None	$622,074	$0	$5,916,200[4]	$6,538,274
7A	2.25	N/A	None	Low	Low*	Med	None	$149,999	$0	$757,800	$907,799
7B	2.22	N/A	None	Low	High*	Low	None	$280,878	$0	$399,300	$680,178
7C	2.06	N/A	None	Low	None	High	None	$245,085	$0	$388,900	$633,985
Floodplain Compensation Sites[5]											
1A	2.44	N/A	None	Low	Low*	Low	1B**	$855,332	$0	$5,340,900	$6,196,232
1B	3.55	N/A	None	Low	Med*	Med	None	$531,955	$0	$4,701,800	$5,233,755
1C	2.81	N/A	None	Low	None	Med	None	$510,388	$0	$1,877,400	$2,387,788
1D	5.15	N/A	None	Low	Med*	High	None	$467,315	$0	$4,438,100	$4,905,415
1B/1C	6.36	N/A	None	Low	Med*/None	Med/Med	None	$1,042,343	$0	$6,579,200	$7,621,543
1B/1D	8.70	N/A	None	Low	Med*/Med*	Med/High	None	$999,270	$0	$9,139,900	$10,139,170
1C/1D	7.96	N/A	None	Low	None/Med*	Med/High	None	$977,703	$0	$6,315,500	$7,293,203

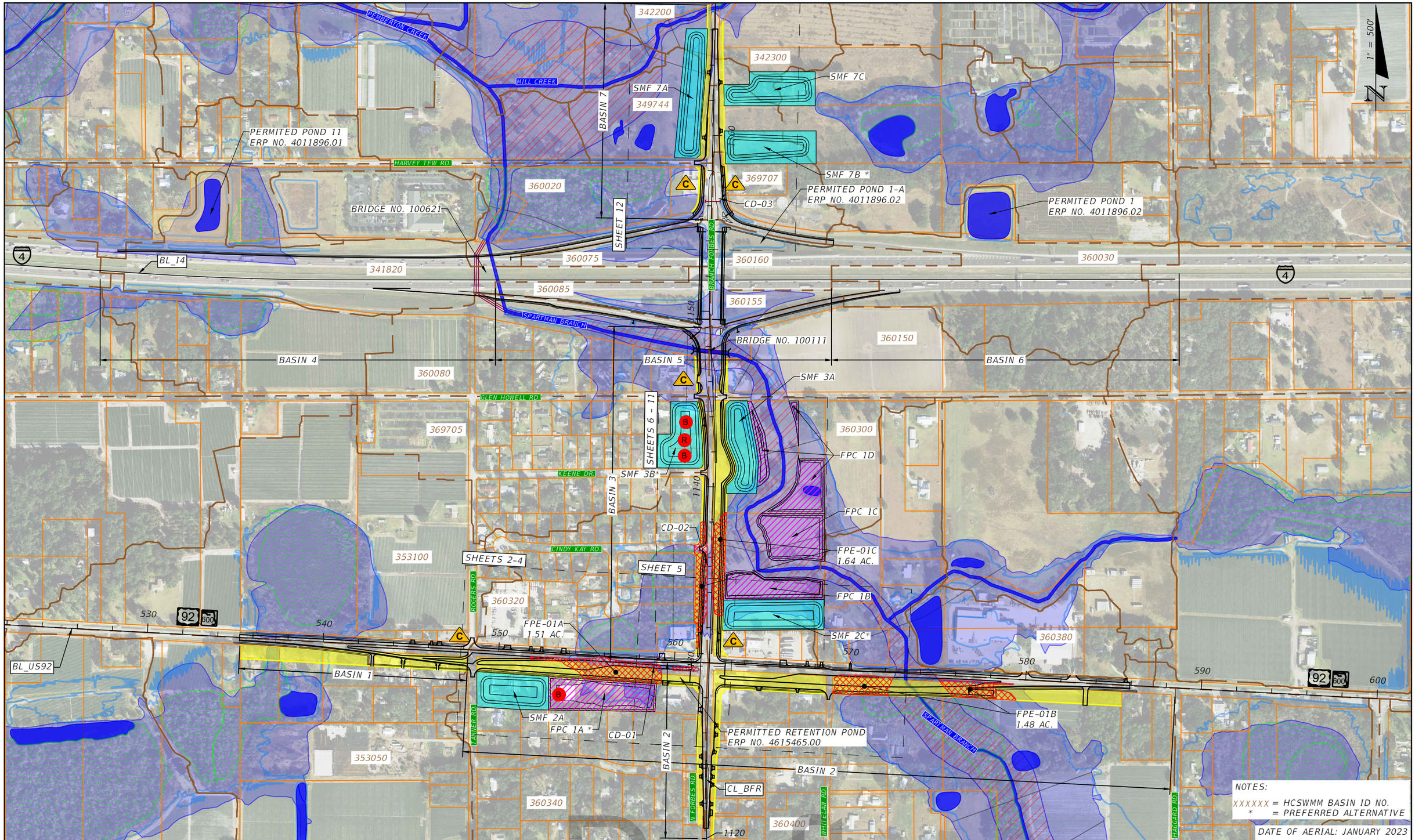
Notes:
[1]Areas represent required ROW take.
[2]R = Residential; B = Business
[3]SMF 2C/3D is an expanded version of SMF 2C that can accommodate the stormwater management requirements for both Basin 2 and Basin 3 within one site.
[4]Est. ROW cost groups SMF 2C/3D with FPC 1C for a full parcel take following the mainline take.
[5]Floodplain Compensation Site Alternatives 1B, 1C, and 1D must be combined in pairs (1B/1C, 1B/1D, or 1C/1D) to provide sufficient compensation volume.
*Risk derived from contamination site ≤ 200ft away from alternative.
**This relocation is also required for the roadway widening.
Preferred Alternative

Draft

APPENDICES

APPENDIX A CONCEPTUAL DRAINAGE MAPS & FEMA FIRM PANELS
APPENDIX B FIGURES
APPENDIX C DRAINAGE CALCULATIONS
APPENDIX D ENGINEER'S ESTIMATE OF CONSTRUCTION COST
APPENDIX E SUPPORTING DOCUMENTATION
APPENDIX F MEETING MINUTES

APPENDIX A CONCEPTUAL DRAINAGE MAPS & FEMA FIRM PANELS



NOTES:

XXXXXX = HCSWMM BASIN ID NO.

* = PREFERRED ALTERNATIVE

DATE OF AERIAL: JANUARY 2023

LEGEND

- WETLANDS
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- SMF ALTERNATIVE
- FPC ALTERNATIVE
- FLOODPLAIN IMPACT
- STATE-OWNED PARCEL
- ROW ACQUISITION (ROADWAY)
- ROW ACQUISITION (DRAINAGE)
- SURFACE WATERS
- EXIST. CROSS DRAIN
- PROPERTY LINE
- PROPOSED ROW
- HCSWMM FLOODPLAIN
- HCSWMM BASIN BOUNDARY
- C POTENTIALLY CONTAMINATED SITE
- B POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- X PARCEL REFERENCE NO.

Draft

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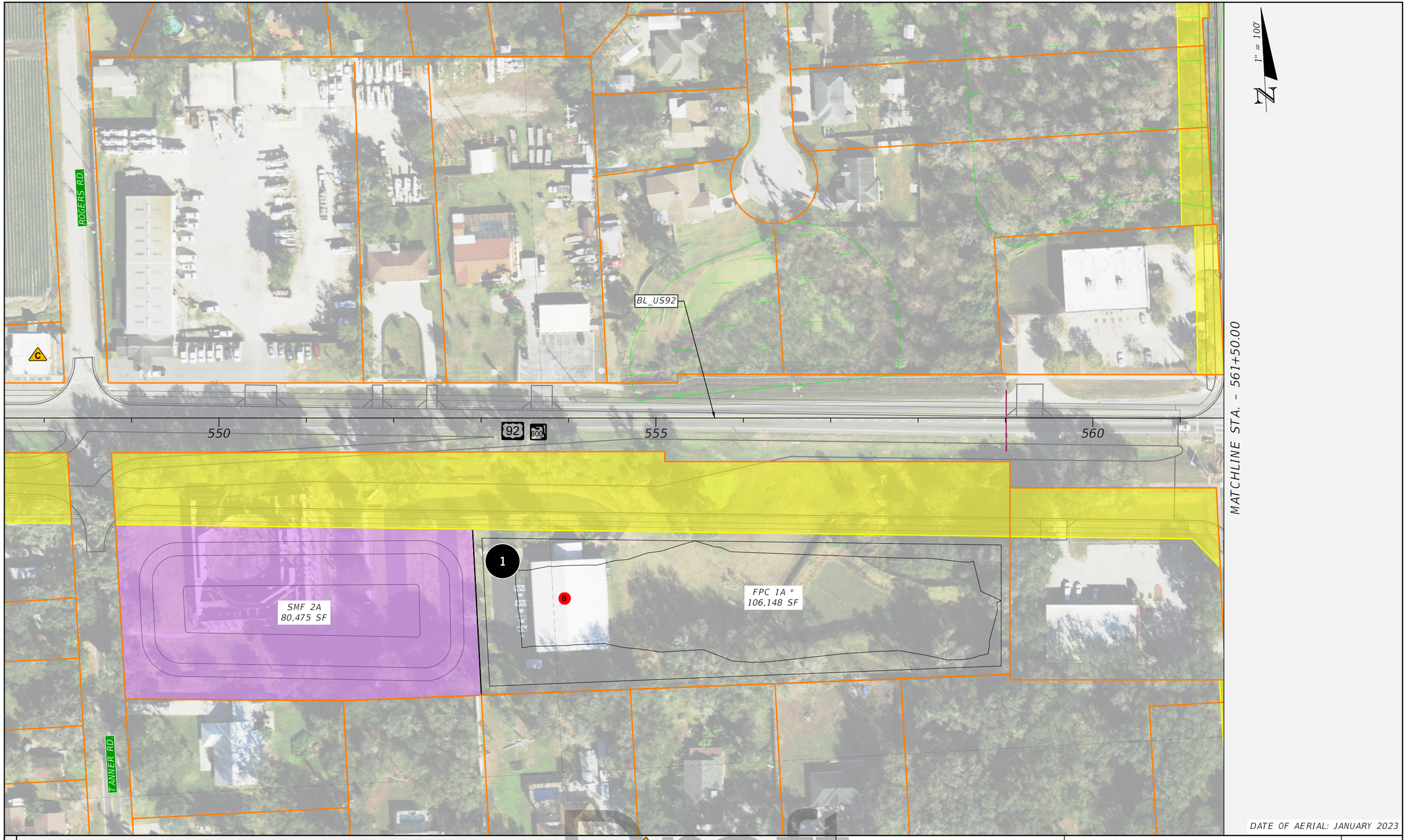
BRANCH FORBES ROAD PD&E STUDY FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE MAP (KEY)

FPID: 447159-1-32-01 & 447160-1-32-01

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LEGEND

- WETLANDS
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- SMF ALTERNATIVE
- FPC ALTERNATIVE
- FLOODPLAIN IMPACT
- STATE-OWNED PARCEL
- ROW ACQUISITION (ROADWAY)
- ROW ACQUISITION (DRAINAGE)
- SURFACE WATERS
- EXIST. CROSS DRAIN
- PROPERTY LINE
- PROPOSED ROW
- HCSWMM FLOODPLAIN
- HCSWMM BASIN BOUNDARY
- C — POTENTIALLY CONTAMINATED SITE
- B — POTENTIAL BUSINESS RELOCATION
- R — POTENTIAL RESIDENTIAL RELOCATION
- X — PARCEL REFERENCE NO.

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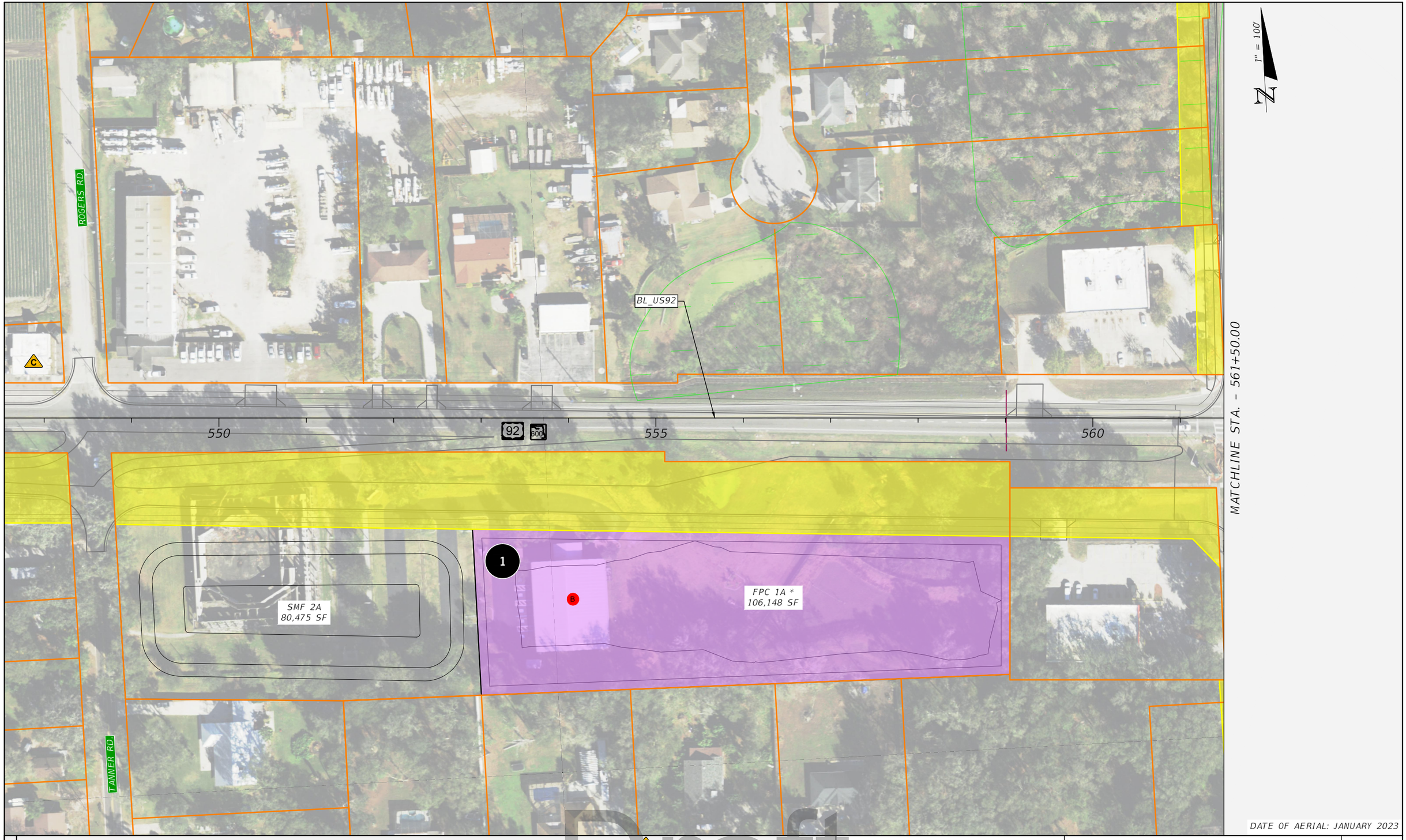
BRANCH FORBES ROAD PD&E STUDY
FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

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LEGEND

- WETLANDS
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- SMF ALTERNATIVE
- FPC ALTERNATIVE
- FLOODPLAIN IMPACT
- STATE-OWNED PARCEL
- ROW ACQUISITION (ROADWAY)
- ROW ACQUISITION (DRAINAGE)
- SURFACE WATERS
- EXIST. CROSS DRAIN
- PROPERTY LINE
- PROPOSED ROW
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- HCSWMM BASIN BOUNDARY
- C POTENTIALLY CONTAMINATED SITE
- B POTENTIAL BUSINESS RELOCATION
- R POTENTIAL RESIDENTIAL RELOCATION
- X PARCEL REFERENCE NO.

Draft

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Wesley Chapel, Florida 33544
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Engineering Business No. EB6876
Eric K. Nelson, P.E. No. 79361

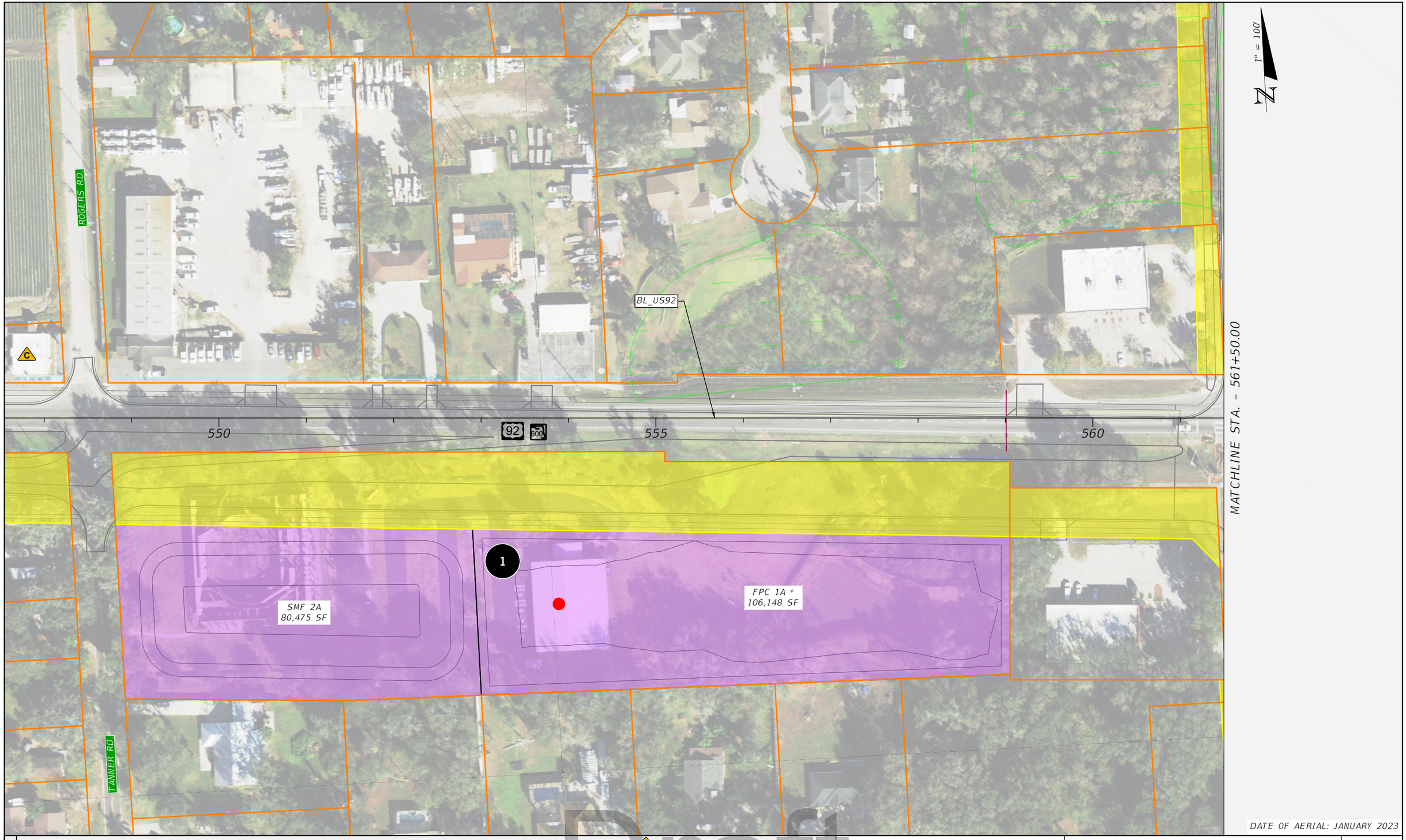
BRANCH FORBES ROAD PD&E STUDY FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO. 3 of 12

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LEGEND

- WETLANDS
- FEMA FLOODPLAIN
- FEMA FLOODWAY
- SMF ALTERNATIVE
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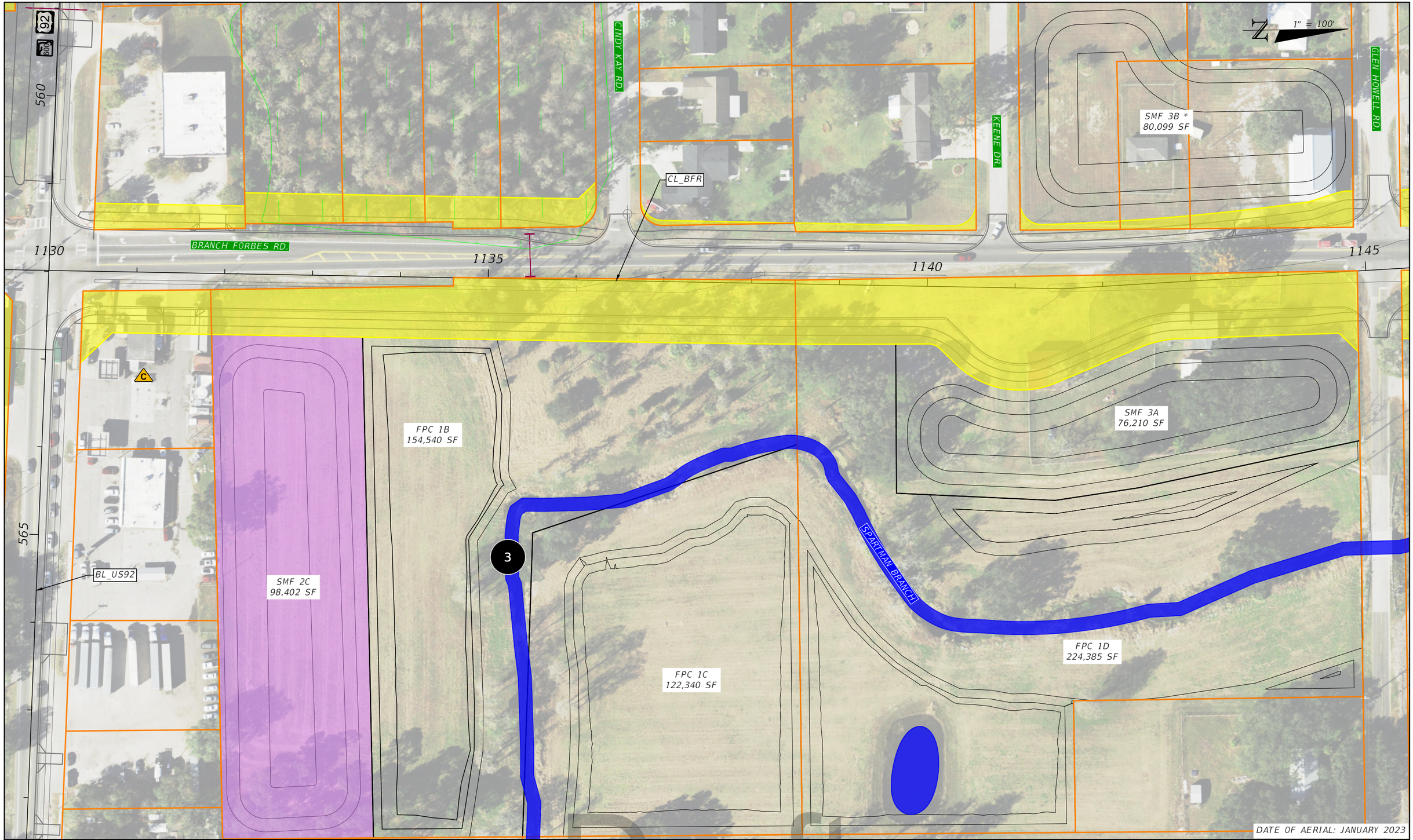
BRANCH FORBES ROAD PD&E STUDY FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO. 4 of 12

Sep 03, 2024 - 11:00pm C:\pw work\american-pw-01\d0905203\DRMPRD02.dwg



DATE OF AERIAL: JANUARY 2023

LEGEND

- WETLANDS
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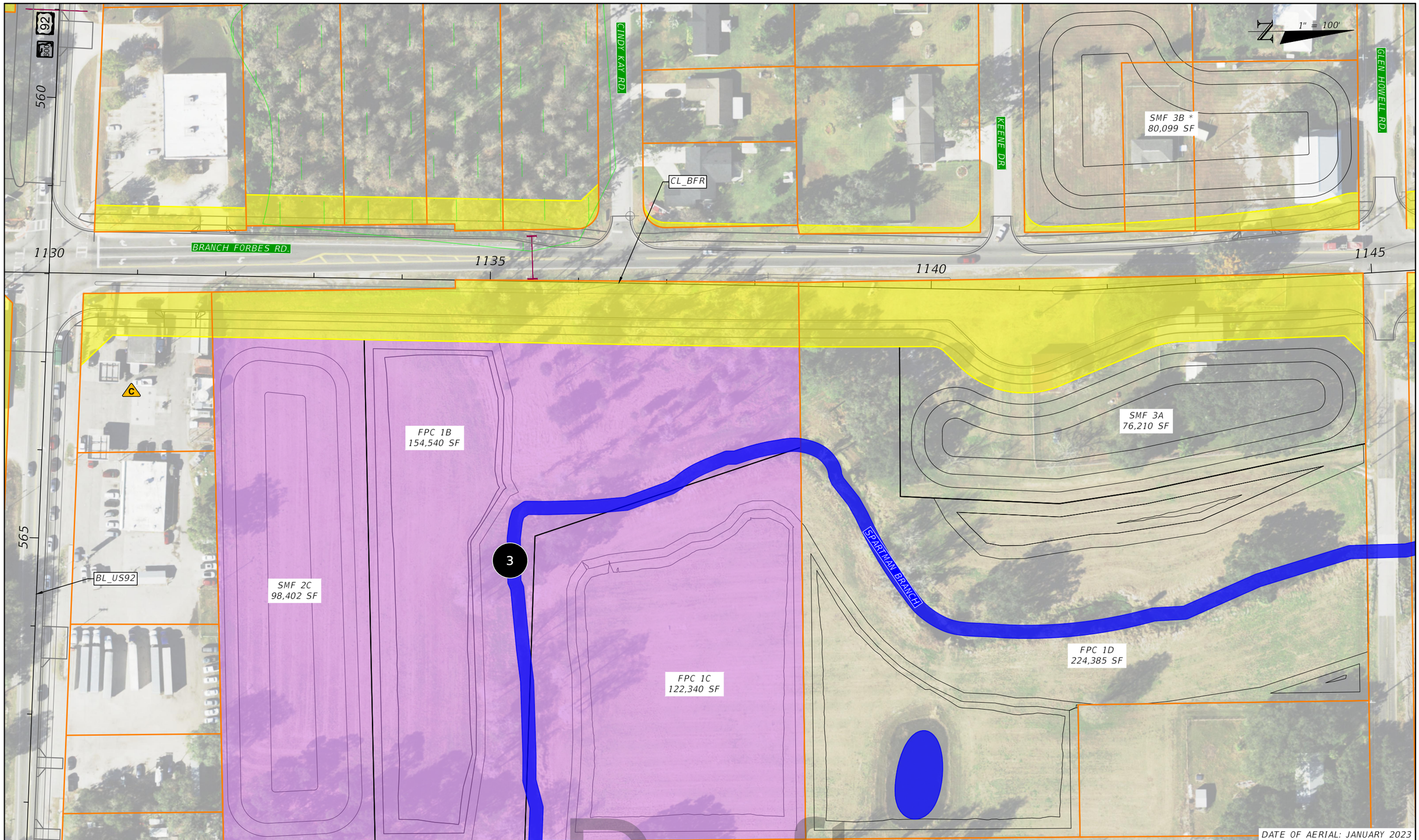
BRANCH FORBES ROAD PD&E STUDY
FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO. 5 of 12

Sep 03, 2024 - 11:00pm C:\pw work\american-pw-01\d0905203\DRMPRD02.dwg



LEGEND

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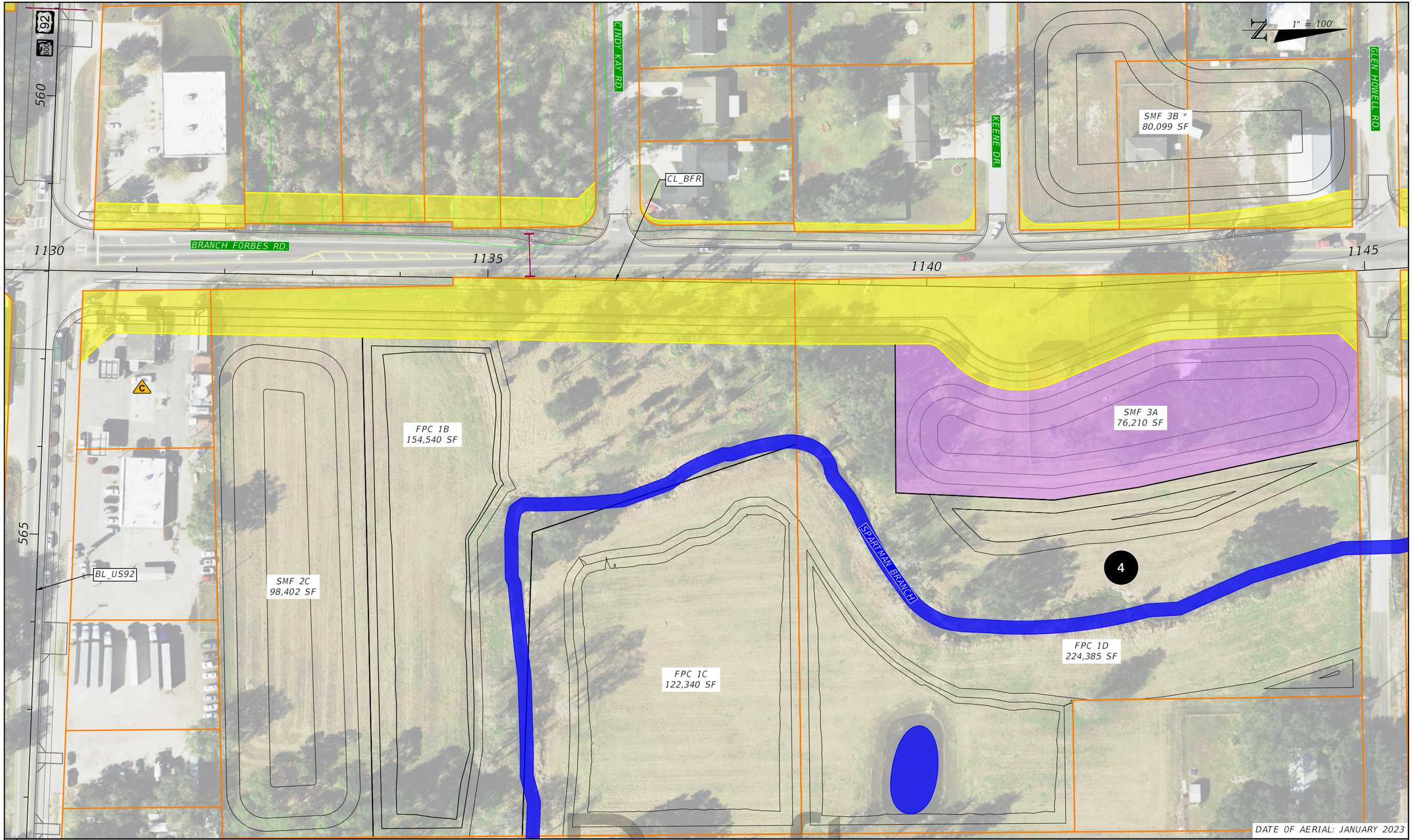
BRANCH FORBES ROAD PD&E STUDY FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

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SHEET NO. 6 of 12

Sep 03, 2024 - 11:00pm C:\pw work\american-pw-01\d0905203\DRMPRD02.dwg



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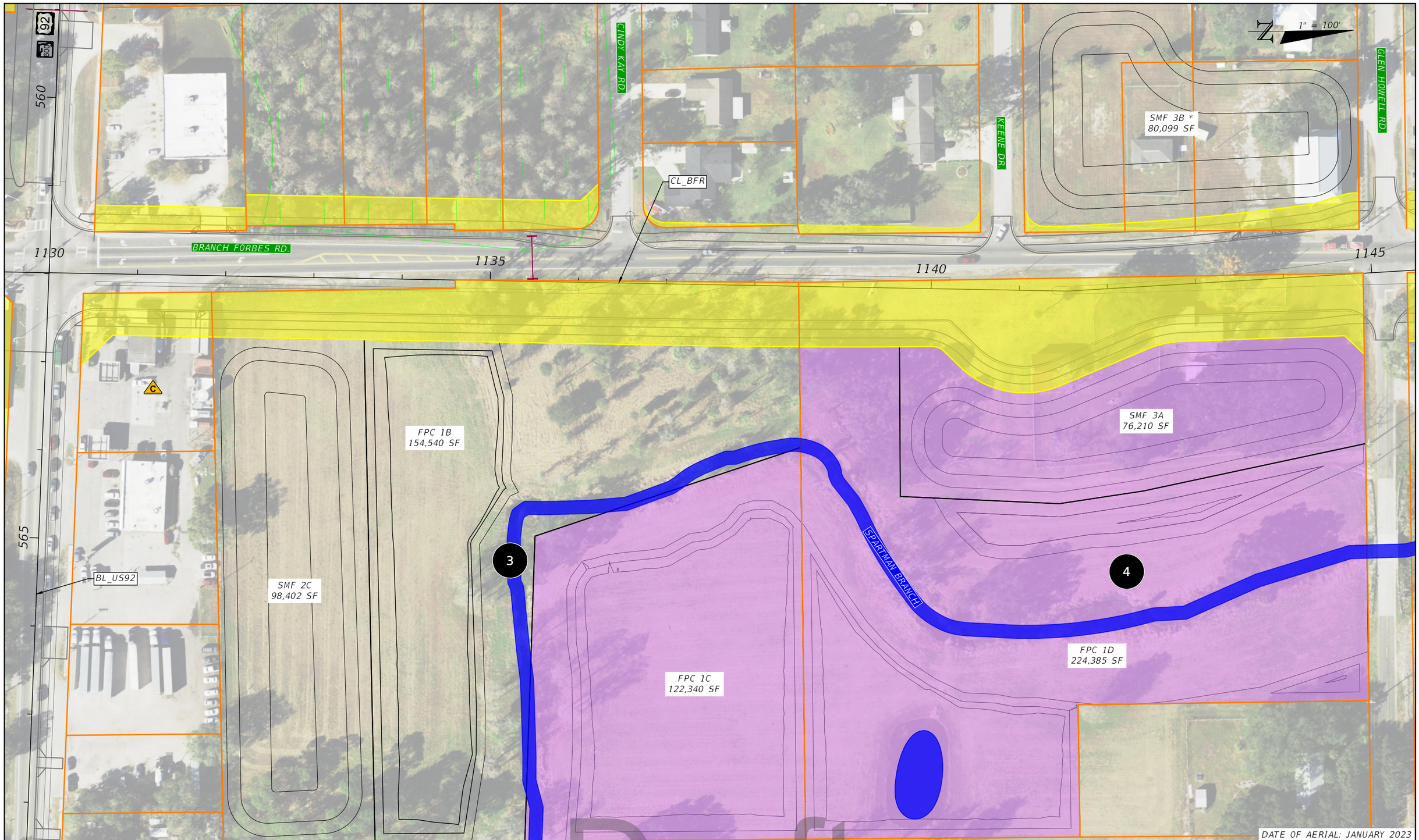
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CONCEPTUAL DRAINAGE ROW MAP

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SHEET NO. 7 of 12

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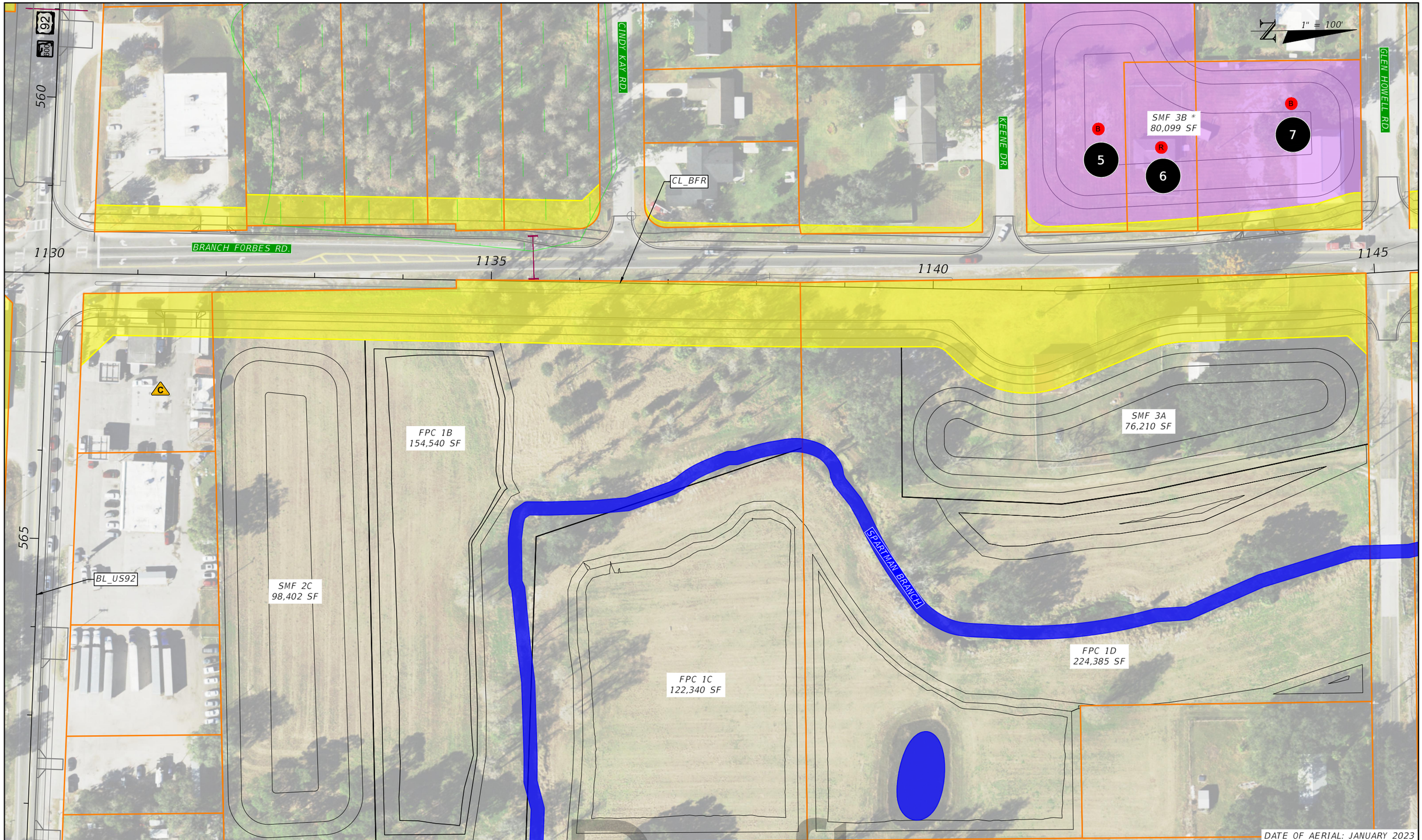
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CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO. 8 of 12

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BRANCH FORBES ROAD PD&E STUDY FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO. 9 of 12

Sep 03, 2024 - 11:01pm C:\pw work\american-pw-01\d0905203\DRMPRD02.dwg

HARVEY TEW RD.

MILL CREEK

1" = 100'

CL_BFR

1155

1160

1165

BRANCH FORBES RD.

8

SMF 7A
98,118 SF

C

SMF 7B *
96,898 SF

9

10

SMF 7C
89,810 SF

DATE OF AERIAL: JANUARY 2023

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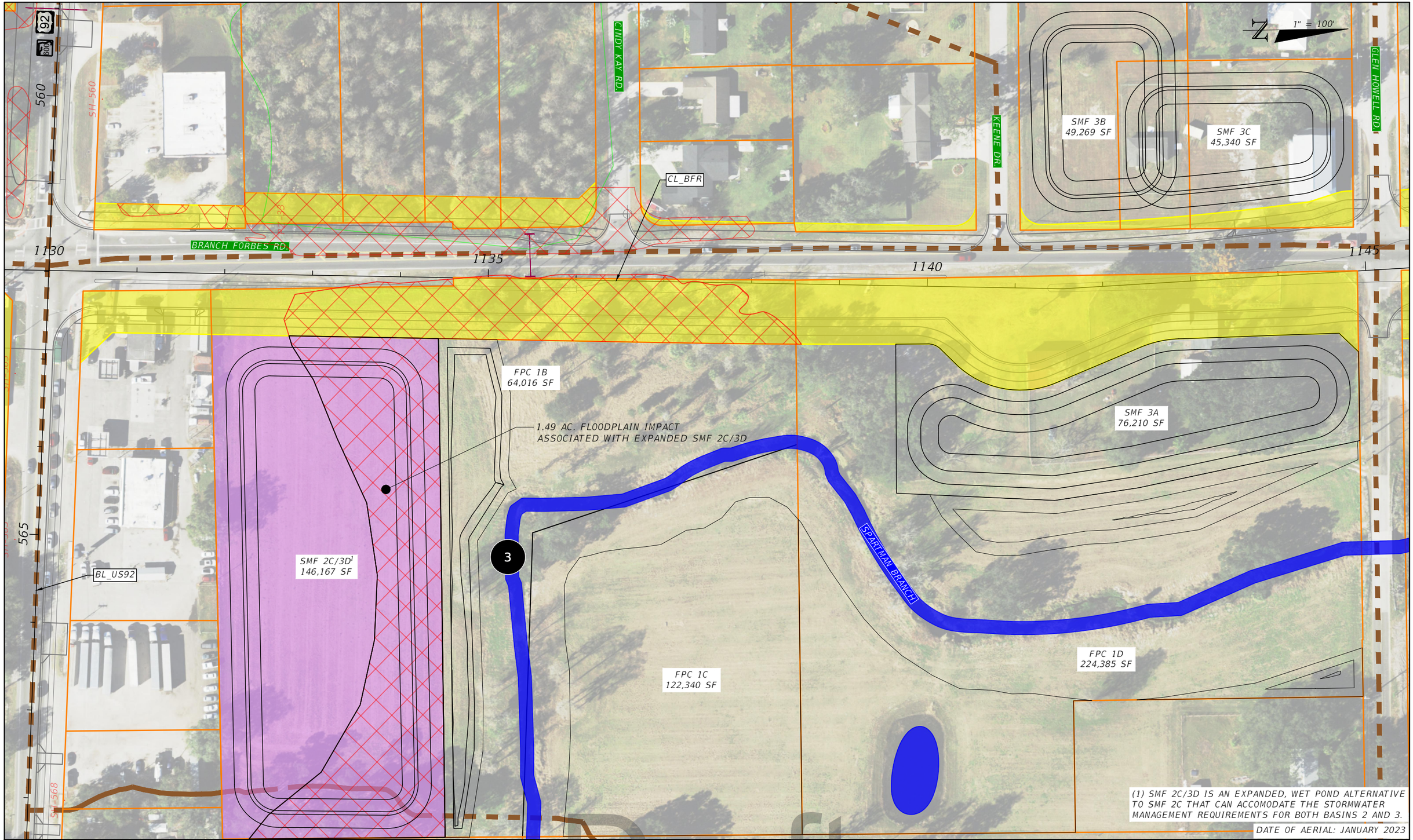
CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO.

10 of 12

Sep 03, 2024 - 11:01pm C:\pw work\american-pw-01\d0905203\DRMPRD02.dwg



(1) SMF 2C/3D IS AN EXPANDED, WET POND ALTERNATIVE TO SMF 2C THAT CAN ACCOMODATE THE STORMWATER MANAGEMENT REQUIREMENTS FOR BOTH BASINS 2 AND 3.

DATE OF AERIAL: JANUARY 2023

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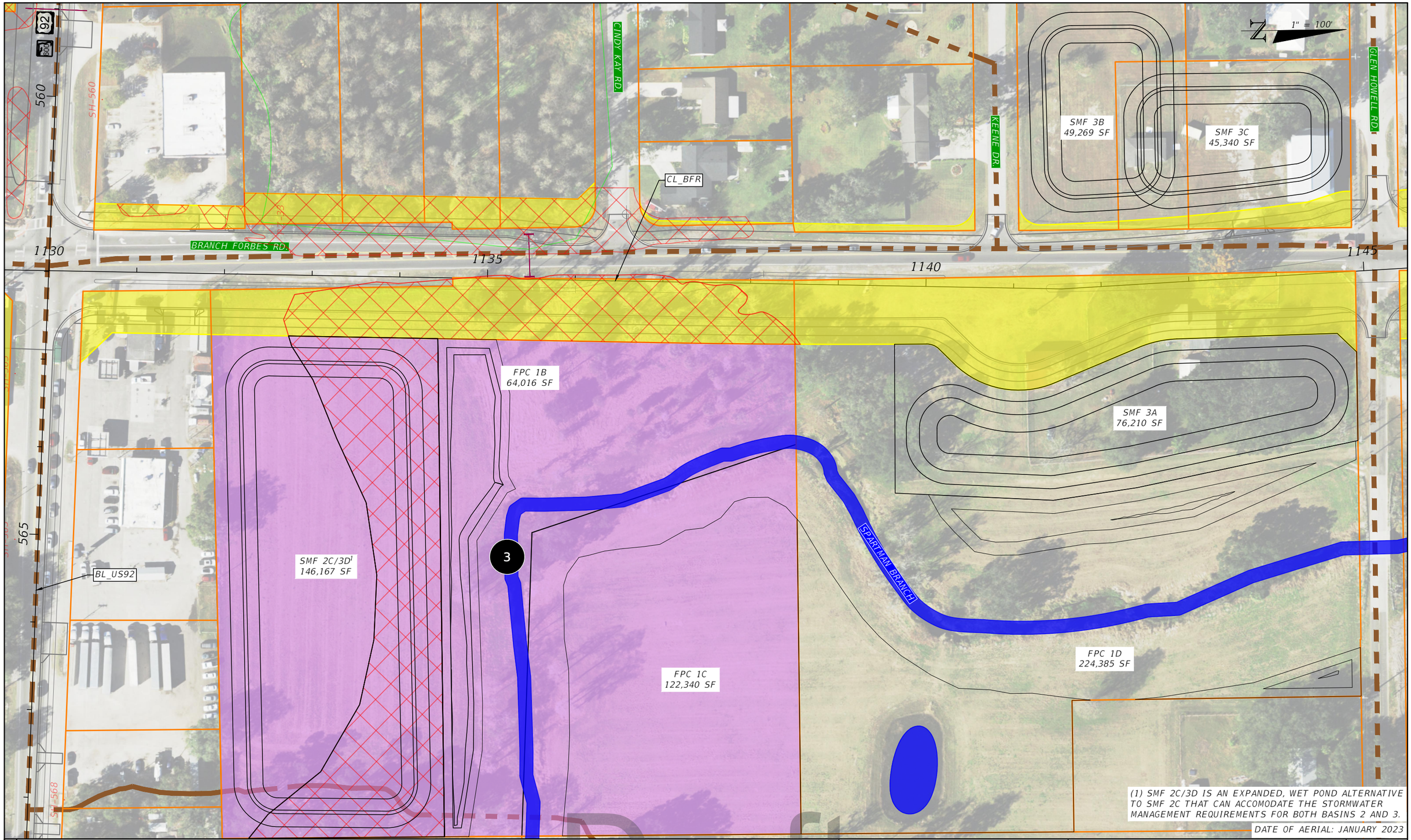
BRANCH FORBES ROAD PD&E STUDY FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO. 11 of 12

Sep 03, 2024 - 11:01pm C:\pw work\american-pw-01\d0905203\DRMPRD03.dwg



(1) SMF 2C/3D IS AN EXPANDED, WET POND ALTERNATIVE TO SMF 2C THAT CAN ACCOMODATE THE STORMWATER MANAGEMENT REQUIREMENTS FOR BOTH BASINS 2 AND 3.

DATE OF AERIAL: JANUARY 2023

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BRANCH FORBES ROAD PD&E STUDY FROM S. OF US 92 TO N. OF I-4

CONCEPTUAL DRAINAGE ROW MAP

FPID: 447159-1-32-01 & 447160-1-32-01

SHEET NO. 12 of 12

Sep 03, 2024 - 11:01pm C:\pw work\american-pw-01\d0905203\DRMPRD03.dwg

NOTES TO USERS

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

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

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

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

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

The **projection** used in the preparation of this map was Florida State Plane west zone (FIPSZONE 0902). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov. Information on elevation reference marks is readily available through a variety of sources: the NGS website, www.ngs.noaa.gov/cgi-bin/datasheet.prl, the Land Boundary Information System (LABINS) maintained by the Florida Department of Environmental Protection www.labins.org, and the Hillsborough County Survey Division www.hillsboroughcounty.org/realestate/surveying/.

Base map information shown on this FIRM was derived from multiple sources. Road centerlines were provided by the City of Tampa Geographic Information System (GIS) group. These data were aligned to aerial imagery at 6-inch pixel resolution dated 2004. Surface water features were provided by the Hillsborough County Information Technology & Services GIS Section. These data were digitized from aerial imagery at 1-foot and 6-inch pixel resolution dated February 2000 and April 2004. Political boundaries were provided by the Hillsborough County Real Estate Department, Survey Division, GIS Section. These data were compiled in 2003. Public Land Survey System (range, township, and sections) were provided by the Florida Geographic Data Library. These data were produced at a scale of 1:24,000.

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

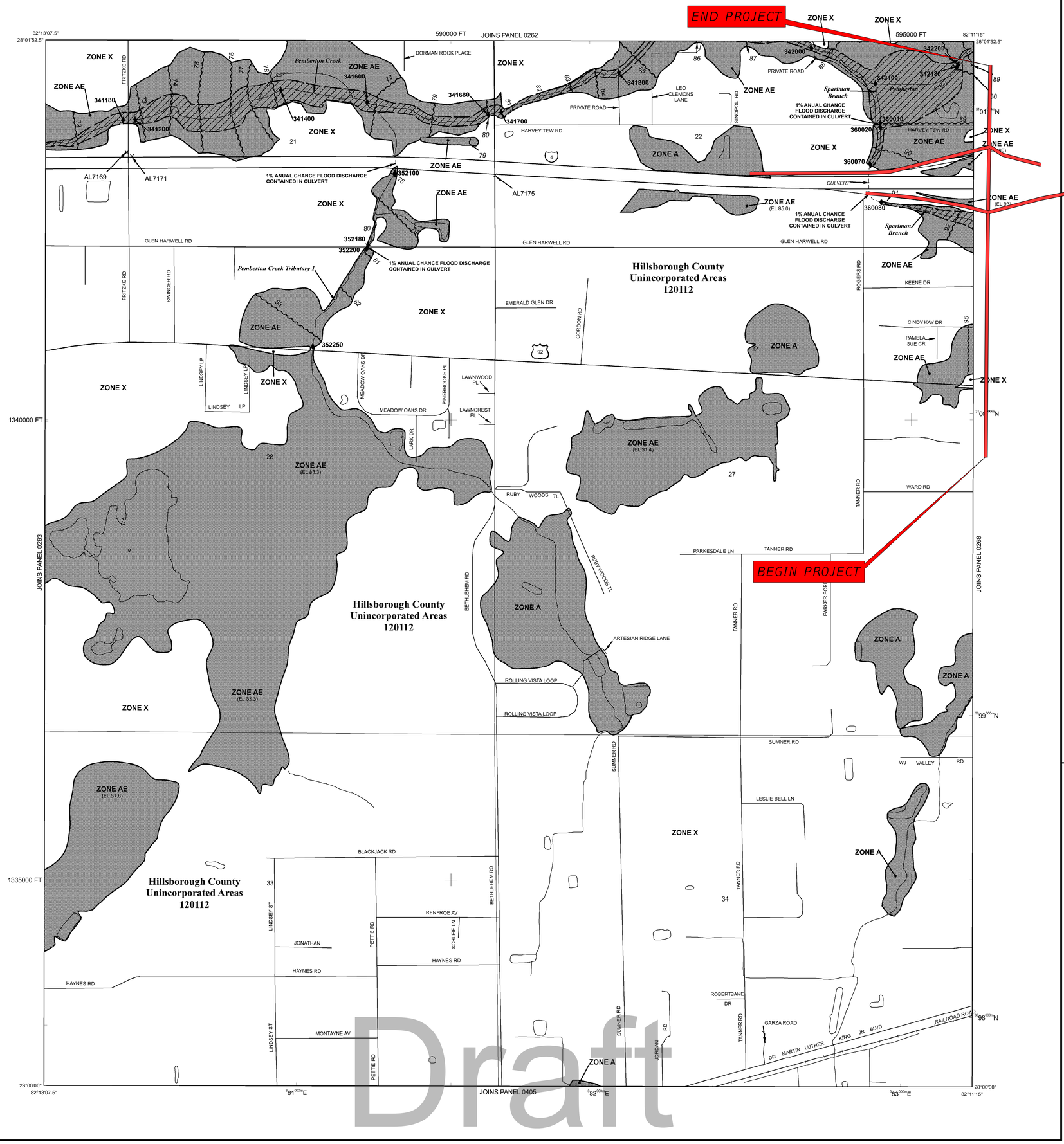
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which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

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

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

Hillsborough County

In cooperation with the Federal Emergency Management Agency (FEMA), Hillsborough County developed this Flood Insurance Rate Map in a digital countywide format to assist communities in their efforts to minimize the loss of property and life through effectively management development in floodprone areas. Hillsborough County has implemented a long term approach to floodplain management to reduce the impacts of flooding. This is demonstrated by the County's commitment to map floodplain areas at the local level. As part of this effort, Hillsborough County is working closely with FEMA as a Cooperating Technical Partner to produce and maintain this digital FIRM.



LEGEND

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

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

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

FLOODWAY AREAS IN ZONE AE

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

OTHER FLOOD AREAS

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

OTHER AREAS

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

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A-A — Cross section Line
- 23-23 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3776000mN — 1000-meter Universal Transverse Mercator grid values, zone NAD 83 UTM Zone 17
- 600000 FT — 5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 0902), Transverse Mercator projection
- DX5510 x — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile
- 410285 — Junction

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

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

Project Limits

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

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

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0264H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 264 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0264	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
12057C0264H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

NOTES TO USERS

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

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

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

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

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

The **projection** used in the preparation of this map was Florida State Plane west zone (FIPSZONE 0902). The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

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

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov. Information on elevation reference marks is readily available through a variety of sources: the NGS website, www.ngs.noaa.gov/cgi-bin/datasheet.prl, the Land Boundary Information System (LABINS) maintained by the Florida Department of Environmental Protection www.labins.org, and the Hillsborough County Survey Division www.hillsboroughcounty.org/realestate/surveying/.

Base map information shown on this FIRM was derived from multiple sources. Road centerlines were provided by the City of Tampa Geographic Information System (GIS) group. These data were aligned to aerial imagery at 6-inch pixel resolution dated 2004. Surface water features were provided by the Hillsborough County Information Technology & Services GIS Section. These data were digitized from aerial imagery at 1-foot and 6-inch pixel resolution dated February 2000 and April 2004. Political boundaries were provided by the Hillsborough County Real Estate Department, Survey Division, GIS Section. These data were compiled in 2003. Public Land Survey System (range, township, and sections) were provided by the Florida Geographic Data Library. These data were produced at a scale of 1:24,000.

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

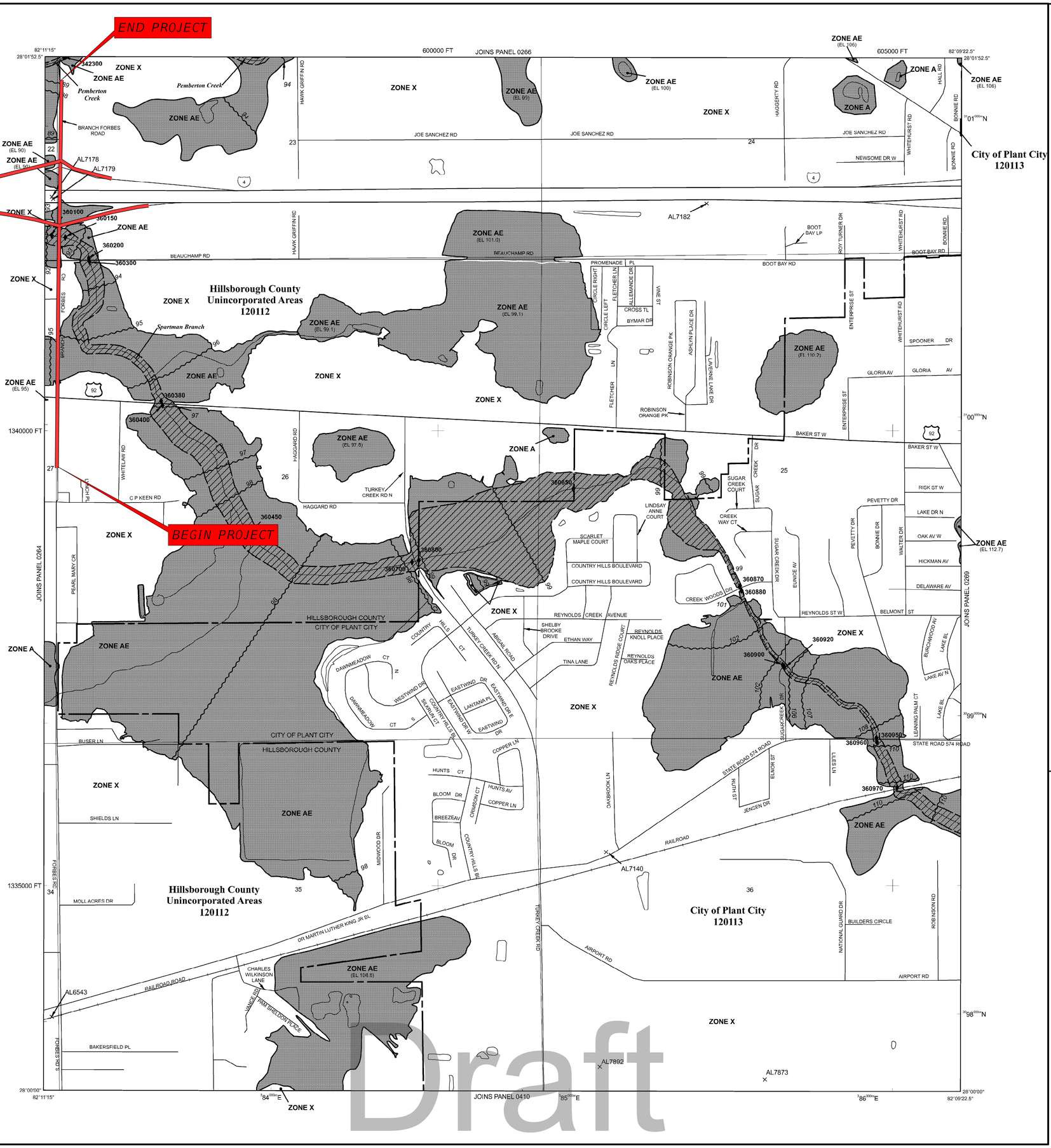
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which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

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

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

Hillsborough County

In cooperation with the Federal Emergency Management Agency (FEMA), Hillsborough County developed this Flood Insurance Rate Map in a digital countywide format to assist communities in their efforts to minimize the loss of property and life through effectively management development in floodprone areas. Hillsborough County has implemented a long term approach to floodplain management to reduce the impacts of flooding. This is demonstrated by the County's commitment to map floodplain areas at the local level. As part of this effort, Hillsborough County is working closely with FEMA as a Cooperating Technical Partner to produce and maintain this digital FIRM.



LEGEND

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

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

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

FLOODWAY AREAS IN ZONE AE

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

OTHER FLOOD AREAS

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

OTHER AREAS

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

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- Floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

- A — A — Cross section Line
- 23 — 23 — Transect line
- 87°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3°76'000"N — 1000-meter Universal Transverse Mercator grid values, zone NAD 83 UTM Zone 17
- 600000 FT — 5000-foot grid ticks: Florida State Plane coordinate system, West zone (FIPSZONE 0902), Transverse Mercator projection
- DX5510 × — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- ●M1.5 — River Mile
- ♦410285 — Junction

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 28, 2008

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

Project Limits

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

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

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0268H

FIRM

FLOOD INSURANCE RATE MAP

HILLSBOROUGH COUNTY, FLORIDA
AND INCORPORATED AREAS

PANEL 268 OF 801

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
HILLSBOROUGH COUNTY	120112	0200	H
PLANT CITY, CITY OF	120113	0268	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
12057C0268H

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

APPENDIX F MEETING MINUTES

APPENDIX B FIGURES

Draft

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

TYPICAL SECTION PACKAGE

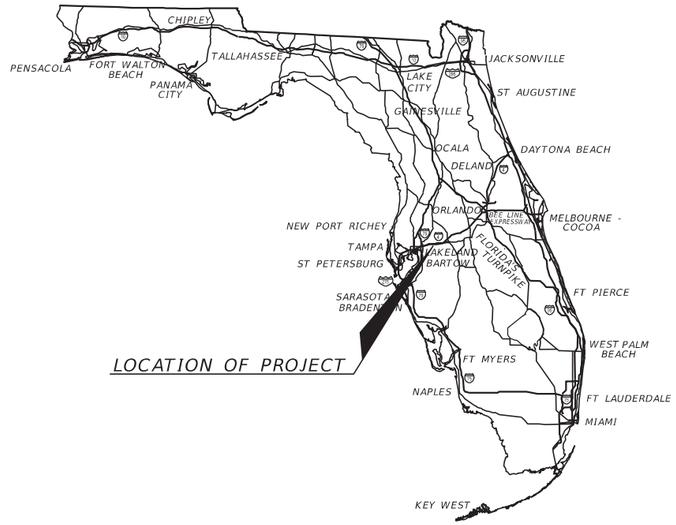
FINANCIAL PROJECT ID 447159-1-52-01

HILLSBOROUGH COUNTY (10000621)

BRANCH FORBES ROAD

FROM SOUTH OF US 92 TO NORTH OF I-4

PROJECT LOCATION URL:	https://tinyurl.com/mt829782
PROJECT LIMITS:	BEGIN MP 0.000 – END MP 0.861
EXCEPTIONS:	NONE
BRIDGE LIMITS:	NONE
RAILROAD CROSSING:	NONE



FDOT DISTRICT DESIGN ENGINEER	FDOT DISTRICT TRAFFIC OPERATIONS ENGINEER
CONCURRING WITH: TYPICAL SECTION ELEMENTS TARGET SPEED DESIGN & POSTED SPEEDS	CONCURRING WITH: TARGET SPEED DESIGN & POSTED SPEEDS
FDOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER	FDOT DISTRICT STRUCTURES DESIGN ENGINEER
CONCURRING WITH: CONTEXT CLASSIFICATION TARGET SPEED	CONCURRING WITH: TYPICAL SECTION ELEMENTS
FHWA TRANSPORTATION ENGINEER	HILLSBOROUGH COUNTY ENGINEER
CONCURRING WITH: TYPICAL SECTION ELEMENTS	CONCURRING WITH: TYPICAL SECTION ELEMENTS
HILLSBOROUGH COUNTY TECHNICAL SERVICES DIVISION DIRECTOR	NOT USED
CONCURRING WITH:	CONCURRING WITH:

APPROVED BY:

JEFFREY S. NOVOTNY LICENSE No 51083 STATE OF FLORIDA PROFESSIONAL ENGINEER

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

Jeffrey S Novotny 2024.04.18 17:25:49 -04'00'

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Consor Engineers, LLC
2818 Cypress Ridge Blvd., Suite 200
Wesley Chapel, Florida 33544
Phone: (813) 435-2600 Fax: (813) 435-2601
Jeffrey S. Novotny, P.E. No. 51083

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

INDEX OF SHEETS

SHEET NO	SHEET DESCRIPTION
1	COVER SHEET
2	TYPICAL SECTION No.1 BRANCH FORBES ROAD (BEGIN OF PROJECT TO SOUTH OF US 92)
3	TYPICAL SECTION No.2 BRANCH FORBES ROAD (US 92 TO SOUTH OF I-4 RAMPS)
4	TYPICAL SECTION No.3 BRANCH FORBES ROAD (SOUTH OF I-4 RAMPS TO NORTH OF I-4 RAMPS)
5	TYPICAL SECTION No.4 BRANCH FORBES ROAD (NORTH OF I-4 RAMPS TO END OF PROJECT)
6	TYPICAL SECTION No.5 I-4 RAMP A
7	TYPICAL SECTION No.6 I-4 RAMP B
8	TYPICAL SECTION No.7 I-4 RAMP C
9	TYPICAL SECTION No.8 I-4 RAMP D

Draft

SHEET NO. 1

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PROJECT CONTROLS

HILLSBOROUGH COUNTY CONTEXT CLASSIFICATION

( ) C1 & C2 : RURAL

( ) C3R : SUBURBAN RESIDENTIAL

(X) C3C : SUBURBAN COMMERCIAL

( ) C4 : URBAN GENERAL

( ) LOCAL ROAD

HILLSBOROUGH COUNTY FUNCTIONAL CLASSIFICATION

(X) ARTERIAL ( ) RESIDENTIAL LOCAL ROAD

( ) COLLECTOR ( ) COMMERCIAL LOCAL ROAD

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM

( ) STRATEGIC INTERMODAL SYSTEM

( ) STATE HIGHWAY SYSTEM

(X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY

( ) 2 - RESTRICTIVE w/Service Roads

( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing

( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing

(X) 5 - RESTRICTIVE w/440 ft. Connection Spacing

( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing

( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION

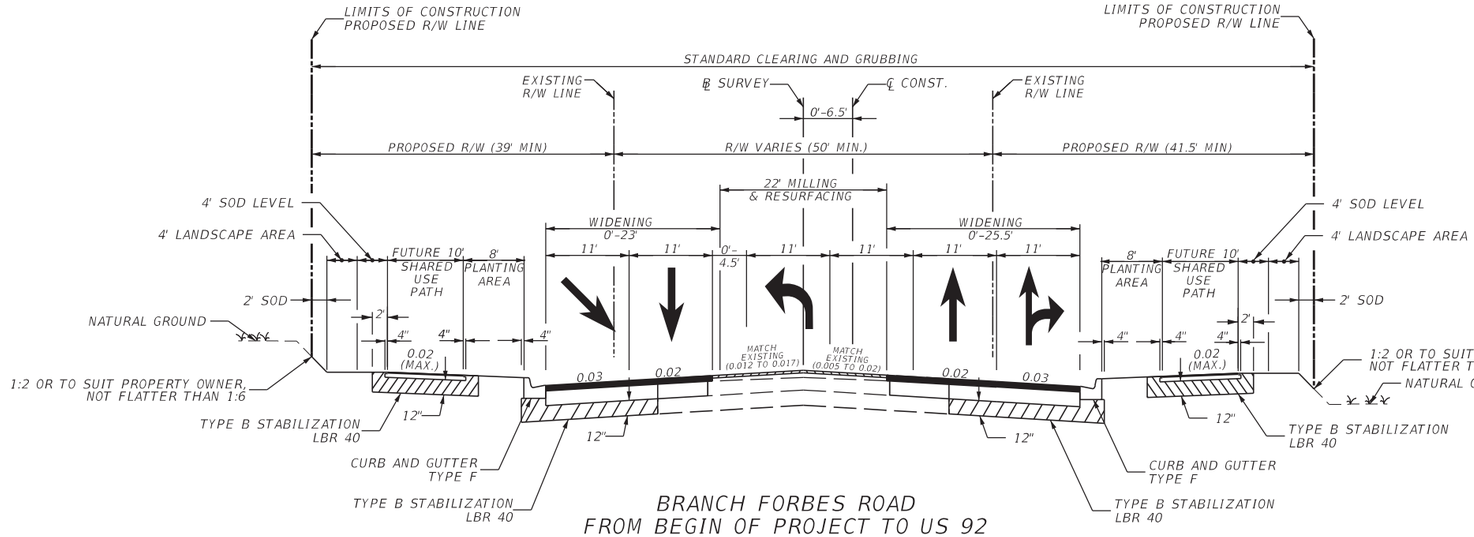
( ) RESURFACING (LA FACILITIES)

( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

CROSS SLOPE

TYPICAL SECTION No. 1



BRANCH FORBES ROAD
FROM BEGIN OF PROJECT TO US 92
STA 1120+57.95 TO STA. 1128+27.14

TRAFFIC DATA

CURRENT YEAR = 2020 AADT = 22,000
ESTIMATED OPENING YEAR = 2025 AADT = 25,000
ESTIMATED DESIGN YEAR = 2045 AADT = 41,000
K = 9 % D = 56% T = 10% (24 HOUR)
DESIGN HOUR T = 5 %
TARGET SPEED = 40 MPH
DESIGN SPEED = 40 MPH
POSTED SPEED = 40 MPH

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FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	2

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PROJECT CONTROLS

HILLSBOROUGH COUNTY CONTEXT CLASSIFICATION

( ) C1 & C2 : RURAL

( ) C3R : SUBURBAN RESIDENTIAL

(X) C3C : SUBURBAN COMMERCIAL

( ) C4 : URBAN GENERAL

( ) LOCAL ROAD

HILLSBOROUGH COUNTY FUNCTIONAL CLASSIFICATION

(X) ARTERIAL

( ) COLLECTOR

( ) RESIDENTIAL LOCAL ROAD

( ) COMMERCIAL LOCAL ROAD

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM

( ) STRATEGIC INTERMODAL SYSTEM

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(X) OFF-STATE HIGHWAY SYSTEM

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(X) 5 - RESTRICTIVE w/440 ft. Connection Spacing

( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing

( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION

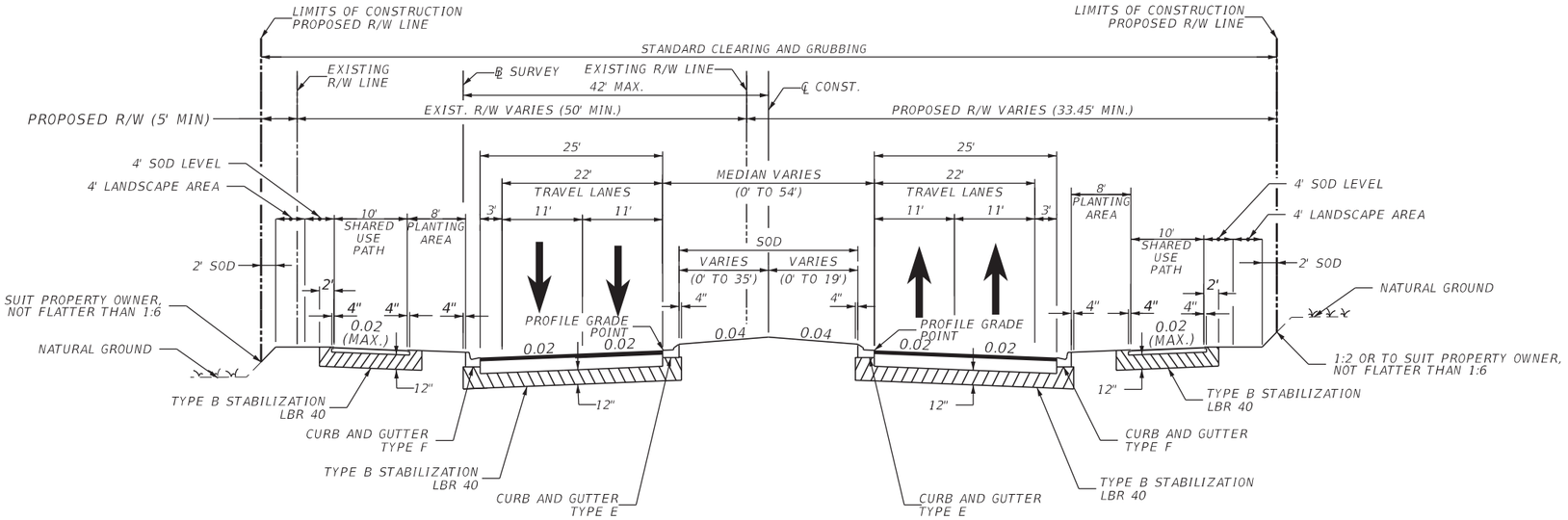
( ) RESURFACING (LA FACILITIES)

( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

NONE

TYPICAL SECTION No. 2



BRANCH FORBES ROAD
FROM US 92 TO SOUTH OF I-4 RAMPS
STA. 1128+27.14 TO STA. 1144+14.20

Draft

FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	3

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PROJECT CONTROLS

HILLSBOROUGH COUNTY CONTEXT CLASSIFICATION

( ) C1 & C2 : RURAL

( ) C3R : SUBURBAN RESIDENTIAL

(X) C3C : SUBURBAN COMMERCIAL

( ) C4 : URBAN GENERAL

( ) LOCAL ROAD

HILLSBOROUGH COUNTY FUNCTIONAL CLASSIFICATION

(X) ARTERIAL

( ) COLLECTOR

( ) RESIDENTIAL LOCAL ROAD

( ) COMMERCIAL LOCAL ROAD

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM

( ) STRATEGIC INTERMODAL SYSTEM

( ) STATE HIGHWAY SYSTEM

(X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

( ) 1 - FREEWAY

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( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing

( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION

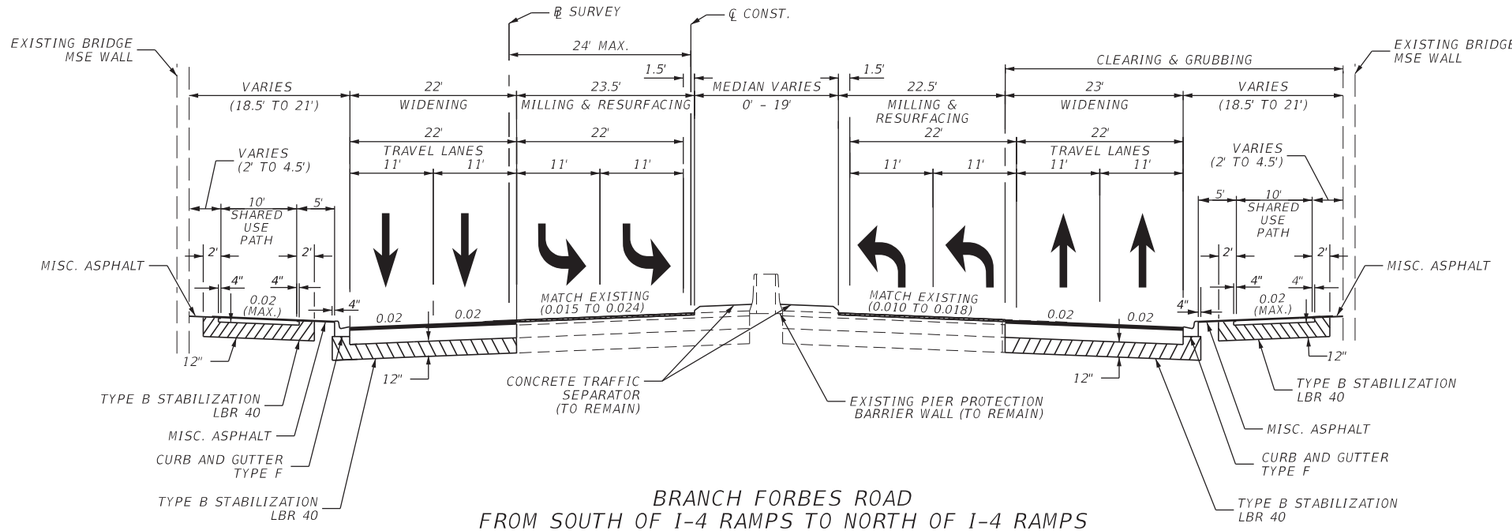
( ) RESURFACING (LA FACILITIES)

( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

CROSS SLOPE

TYPICAL SECTION No. 3



BRANCH FORBES ROAD
FROM SOUTH OF I-4 RAMPS TO NORTH OF I-4 RAMPS
STA. 1144+14.20 TO STA. 1155+07.26

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FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	4

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PROJECT CONTROLS

HILLSBOROUGH COUNTY CONTEXT CLASSIFICATION

( ) C1 & C2 : RURAL

( ) C3R : SUBURBAN RESIDENTIAL

(X) C3C : SUBURBAN COMMERCIAL

( ) C4 : URBAN GENERAL

( ) LOCAL ROAD

HILLSBOROUGH COUNTY FUNCTIONAL CLASSIFICATION

(X) ARTERIAL

( ) COLLECTOR

( ) RESIDENTIAL LOCAL ROAD

( ) COMMERCIAL LOCAL ROAD

HIGHWAY SYSTEM

( ) NATIONAL HIGHWAY SYSTEM

( ) STRATEGIC INTERMODAL SYSTEM

( ) STATE HIGHWAY SYSTEM

(X) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

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(X) 5 - RESTRICTIVE w/440 ft. Connection Spacing

( ) 6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing

( ) 7 - BOTH MEDIAN TYPES

CRITERIA

(X) NEW CONSTRUCTION / RECONSTRUCTION

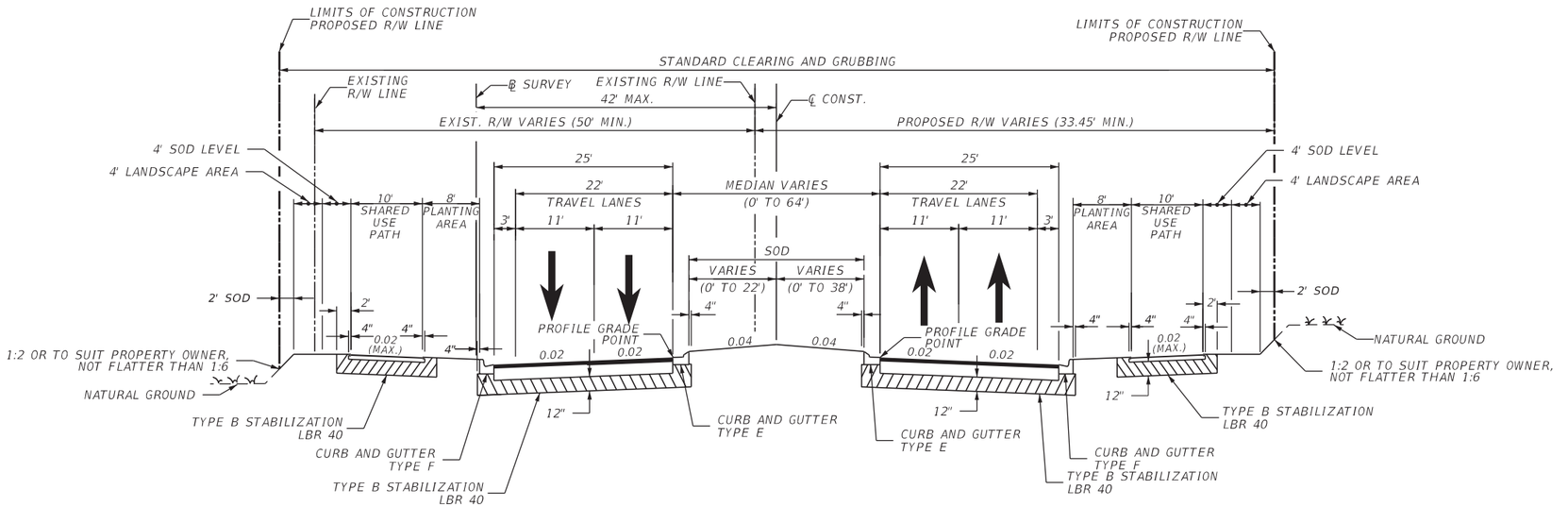
( ) RESURFACING (LA FACILITIES)

( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

NONE

TYPICAL SECTION No. 4



BRANCH FORBES ROAD
FROM NORTH OF I-4 RAMPS TO END OF PROJECT
STA. 1155+07.26 TO STA. 1166+05.71

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FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	5

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
(X)	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

(X)	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
( )	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

- (X) NATIONAL HIGHWAY SYSTEM
- ( ) STRATEGIC INTERMODAL SYSTEM
- ( ) STATE HIGHWAY SYSTEM
- ( ) OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

- (X) 1 - FREEWAY
- ( ) 2 - RESTRICTIVE w/Service Roads
- ( ) 3 - RESTRICTIVE w/660 ft. Connection Spacing
- ( ) 4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
- ( ) 5 - RESTRICTIVE w/440 ft. Connection Spacing
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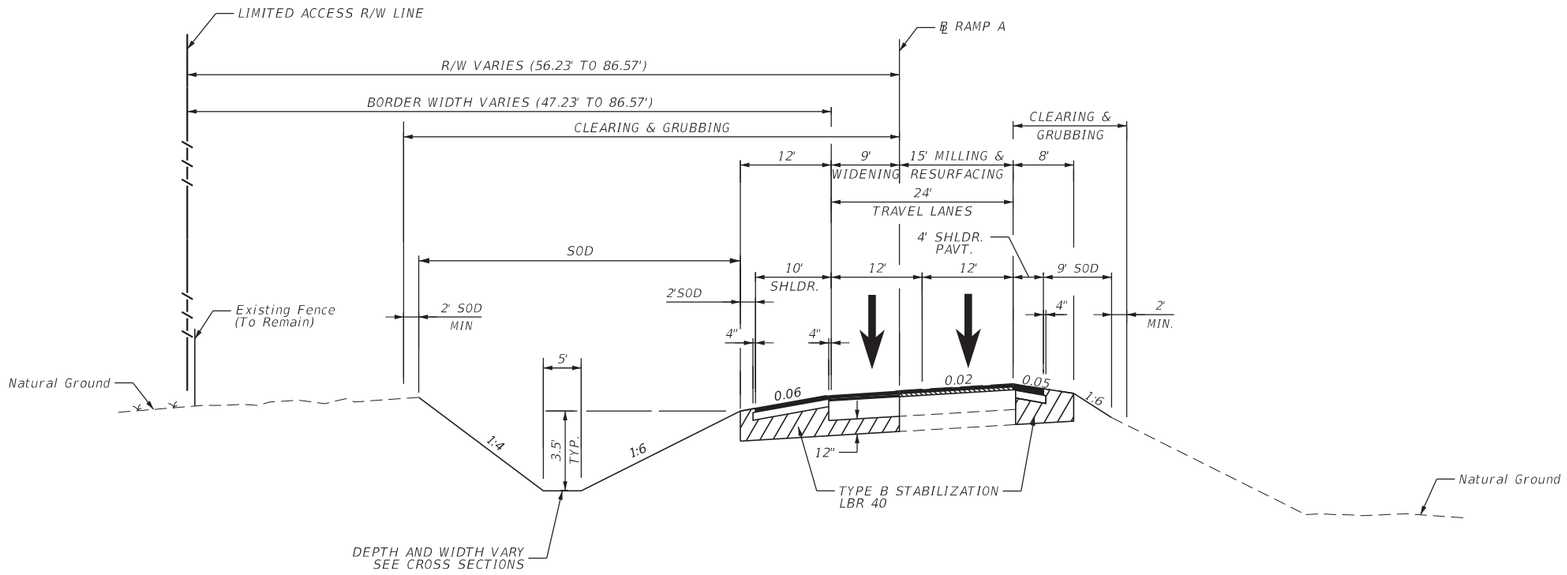
CRITERIA

- (X) NEW CONSTRUCTION / RECONSTRUCTION
- ( ) RESURFACING (LA FACILITIES)
- ( ) RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

NONE

TYPICAL SECTION No. 5



RAMP A
WB ON RAMP (#10190112)
I-4/SR 400
STA. 108+28.48 TO STA. 121+55.93

Draft

FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	6

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
(X)	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

(X)	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
( )	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

(X)	NATIONAL HIGHWAY SYSTEM
( )	STRATEGIC INTERMODAL SYSTEM
( )	STATE HIGHWAY SYSTEM
( )	OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X)	1 - FREEWAY
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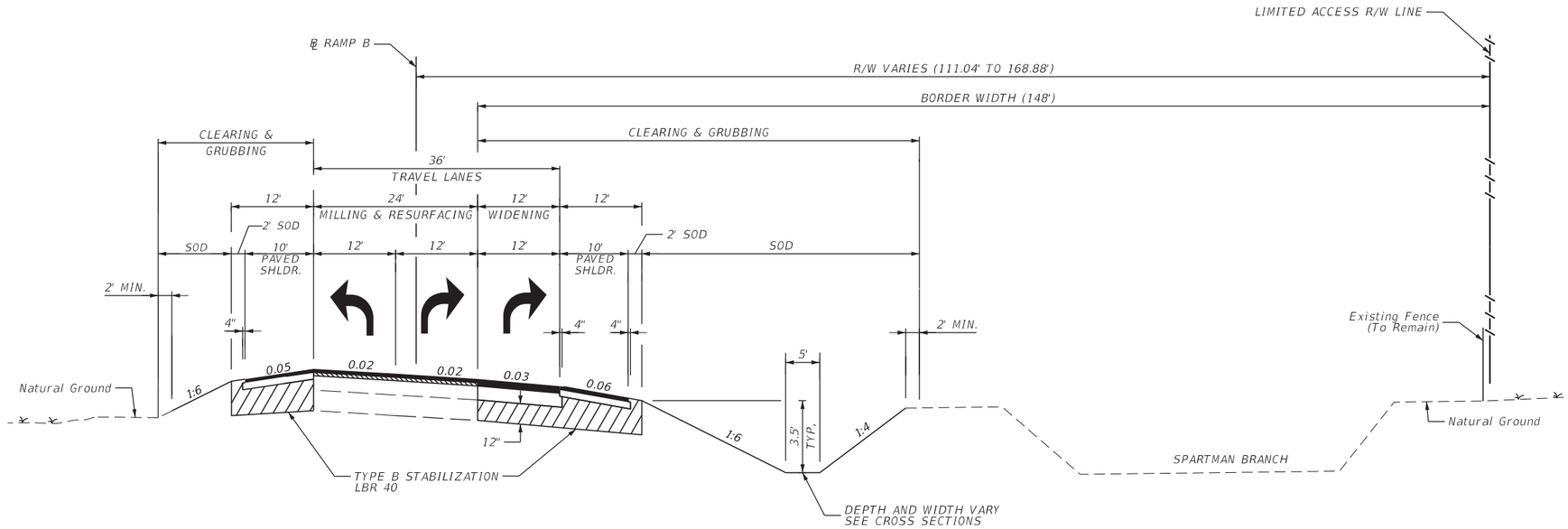
CRITERIA

(X)	NEW CONSTRUCTION / RECONSTRUCTION
( )	RESURFACING (LA FACILITIES)
( )	RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

NONE

TYPICAL SECTION No. 6



RAMP B
EB OFF RAMP (#10190113)
I-4/SR 400
STA. 202+86.66 TO STA. 216+78.46

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FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	7

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
(X)	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

(X)	INTERSTATE	( )	MAJOR COLLECTOR
( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
( )	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

(X)	NATIONAL HIGHWAY SYSTEM
( )	STRATEGIC INTERMODAL SYSTEM
( )	STATE HIGHWAY SYSTEM
( )	OFF-STATE HIGHWAY SYSTEM

ACCESS CLASSIFICATION

(X)	1 - FREEWAY
( )	2 - RESTRICTIVE w/Service Roads
( )	3 - RESTRICTIVE w/660 ft. Connection Spacing
( )	4 - NON-RESTRICTIVE w/2640 ft. Signal Spacing
( )	5 - RESTRICTIVE w/440 ft. Connection Spacing
( )	6 - NON-RESTRICTIVE w/1320 ft. Signal Spacing
( )	7 - BOTH MEDIAN TYPES

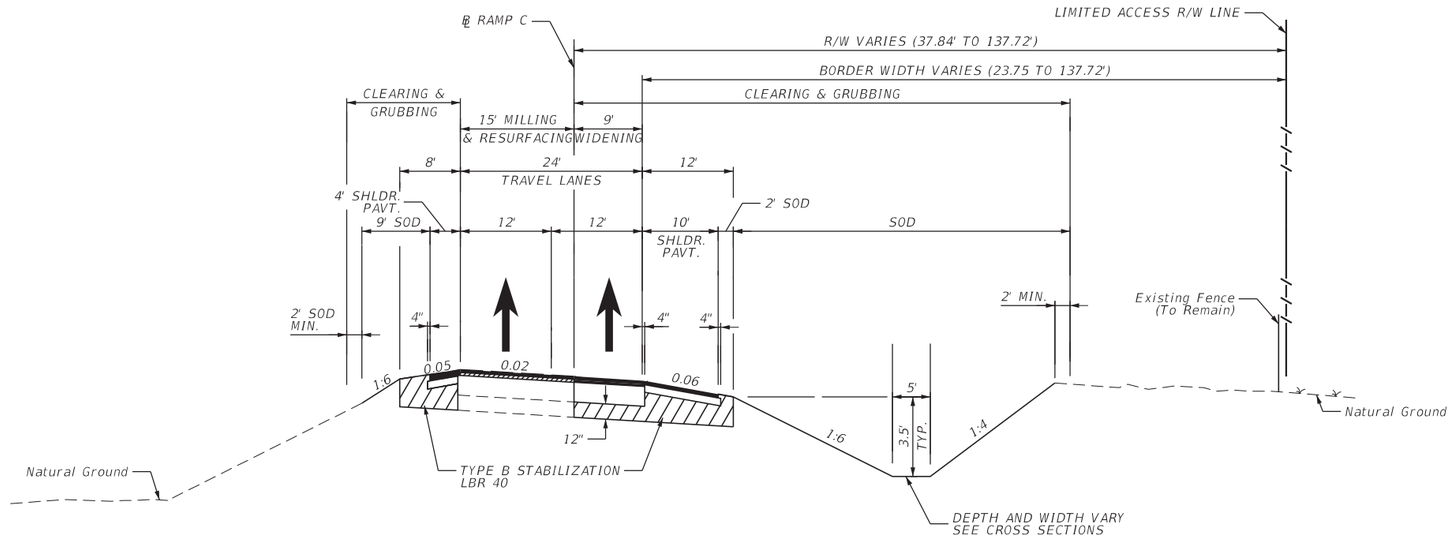
CRITERIA

(X)	NEW CONSTRUCTION / RECONSTRUCTION
( )	RESURFACING (LA FACILITIES)
( )	RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

NONE

TYPICAL SECTION No. 7



RAMP C
EB ON RAMP (#10190115)
I-4/SR 400
STA. 300+60.00 TO STA. 311+00.00

Draft

FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	8

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PROJECT CONTROLS

CONTEXT CLASSIFICATION

( )	C1 : NATURAL	( )	C3C : SUBURBAN COMM.
( )	C2 : RURAL	( )	C4 : URBAN GENERAL
( )	C2T : RURAL TOWN	( )	C5 : URBAN CENTER
( )	C3R : SUBURBAN RES.	( )	C6 : URBAN CORE
(X)	N/A : L.A. FACILITY		

FUNCTIONAL CLASSIFICATION

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( )	FREEWAY/EXPWY.	( )	MINOR COLLECTOR
( )	PRINCIPAL ARTERIAL	( )	LOCAL
( )	MINOR ARTERIAL		

HIGHWAY SYSTEM

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( )	STRATEGIC INTERMODAL SYSTEM
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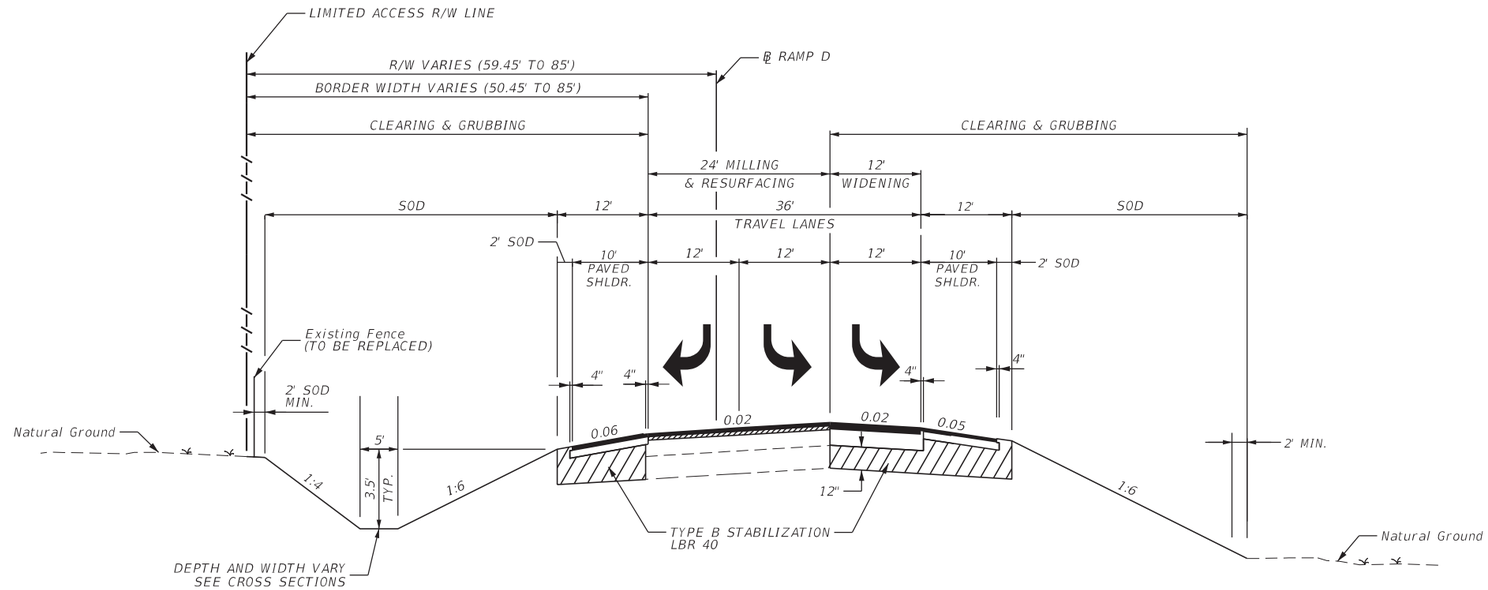
CRITERIA

(X)	NEW CONSTRUCTION / RECONSTRUCTION
( )	RESURFACING (LA FACILITIES)
( )	RRR (ARTERIALS & COLLECTORS)

POTENTIAL EXCEPTIONS AND VARIATIONS RELATED TO TYPICAL SECTION:

NONE

TYPICAL SECTION No. 8



RAMP D
WB OFF RAMP (#10190114)
I-4/SR 400
STA. 401+56.74 TO STA. 406+95.89

Draft

FINANCIAL PROJECT ID	SHEET NO.
447159-1-52-01	9

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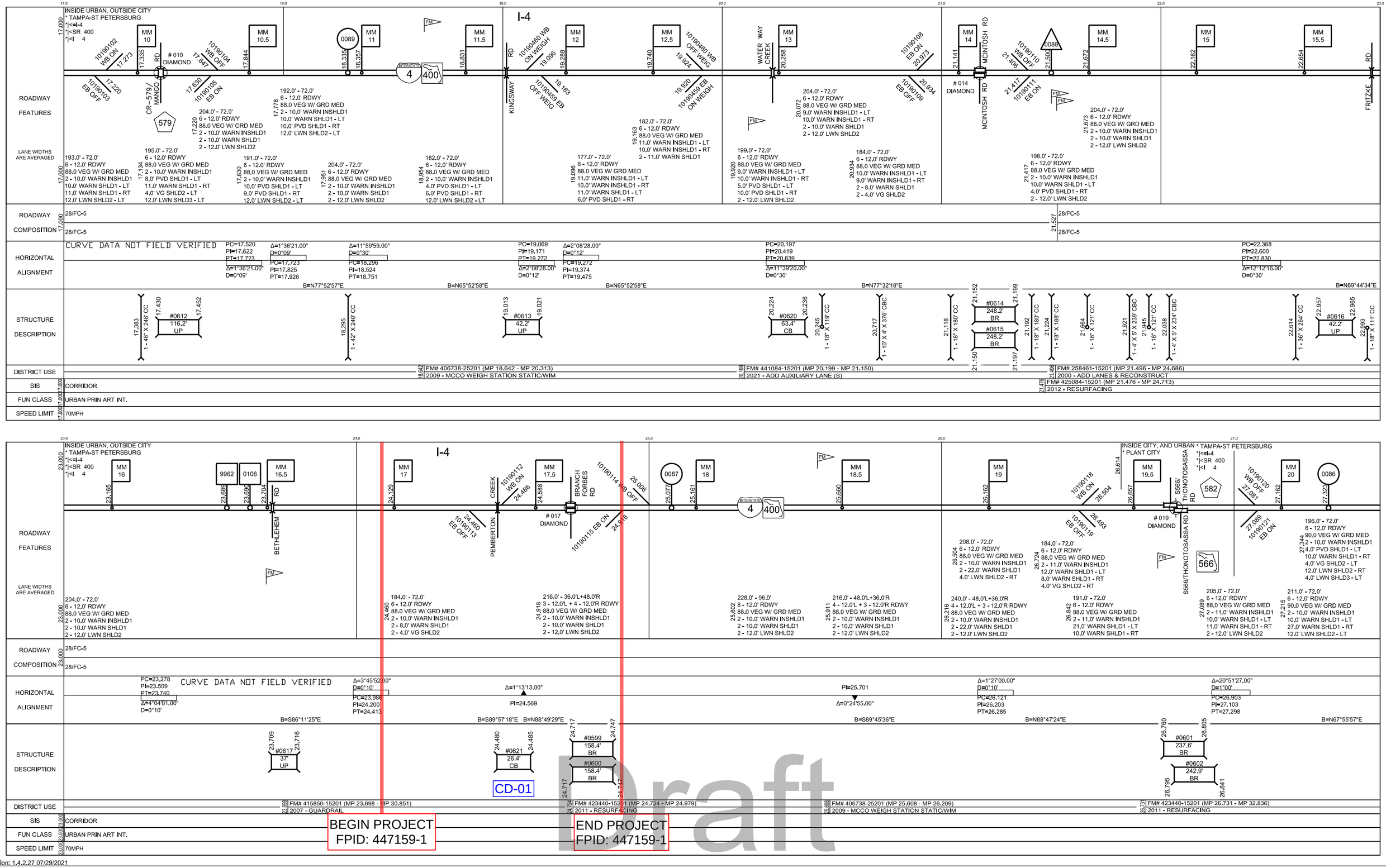
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	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	03/21/2017	05/31/2017	020,199	021,150	06/02/2021 CTS	07/29/2021 CTS
			000,408	003,081	02/16/2021 FTE/MorandeK,Anders	03/24/2021 FTE/K,Anders
BY	FTE/J.Rodriquez/L.Morandie	FTE/K.Anders	010,578	021,527	11/17/2020 FTE/K,Anders/LMorandie	12/16/2020 FTE/K,Anders

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:
12	I 275/I 4	SR 93/SR 400	HILLSBOROUGH	07	10190000	4 OF 6



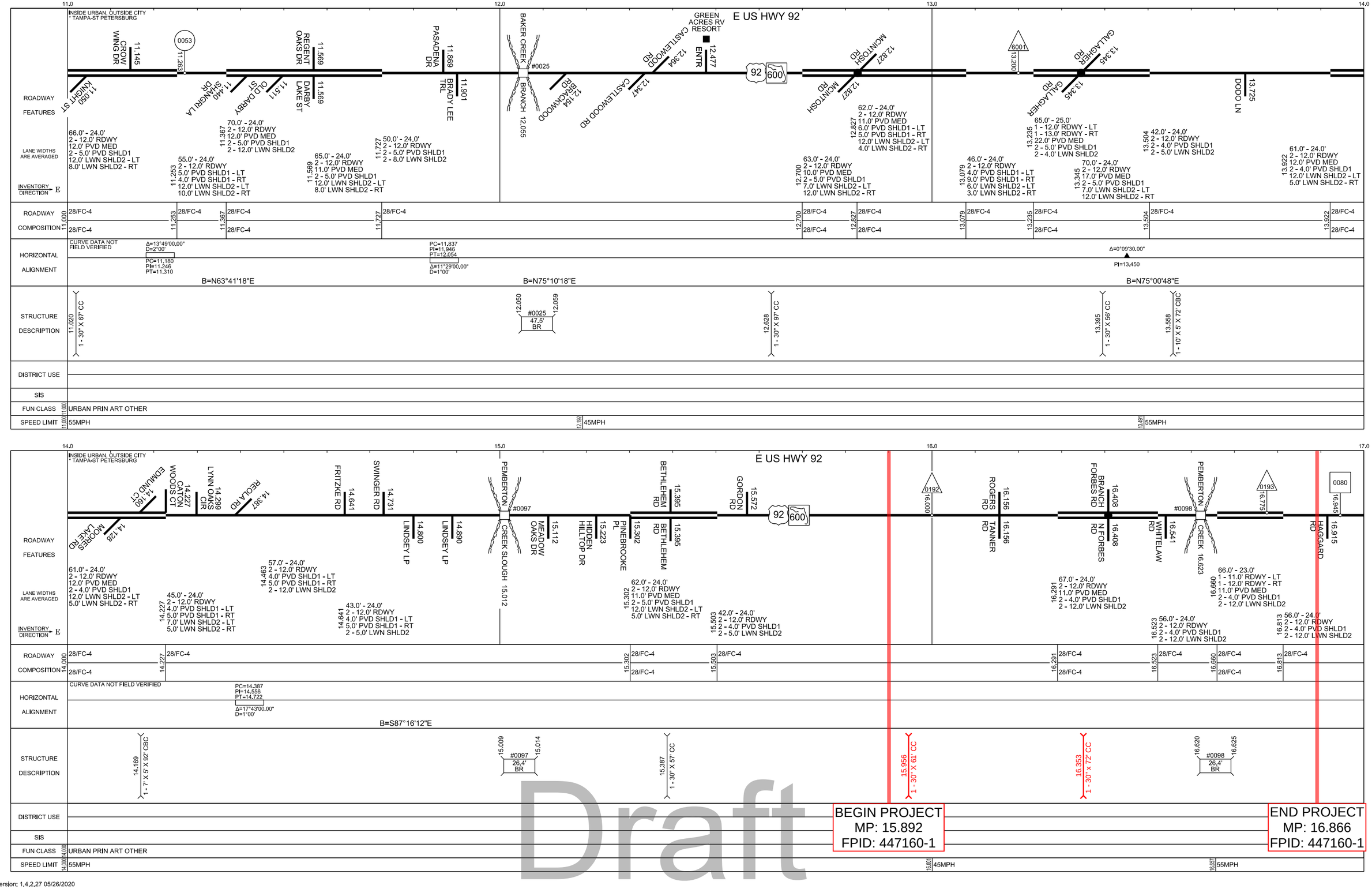
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	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	03/11/2020	05/29/2020	000,000	000,025	10/05/2021 CTS	10/15/2021 CTS
BY	FTE / IM-JD	FTE / KA	001,750	001,775	10/05/2021 CTS	10/15/2021 CTS
			021,523	021,523		02/10/2021 FTE/K.Anders

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:
12	US 92/US 41	SR 600	HILLSBOROUGH	07	10 030 000	3 OF 5



Draft

Version: 1.4.2.27 05/26/2020

DISTRICT	COUNTY	OWNER	BRIDGE	STRUCTURE NAME	ROADWAY	ADT	FACILITY CROSSED	YEAR BUILT	RECONSTRUCTED	LAST INSPECTION	SUFFICIENCY RATING	HEALTH INDEX	NBI RATING
West Central Florida	Hillsborough	State Highway Agency	100008	US-301 OVER BIG BULLFROG CREEK	US 301 (SR 43)	14,200	BIG BULLFROG CREEK	2020		1/16/2024	73.5	99.47	FO
West Central Florida	Hillsborough	State Highway Agency	100009	LITTLE BULLFROG CREEK BRIDGE	US-301 (SR-43)	15,500	Little Bullfrog Creek	2010		3/2/2023	91	97.27	
West Central Florida	Hillsborough	State Highway Agency	100011	US-301 SB OVER CR-574 & CSX R/R	US-301 SB (SR-43)	19,500	CR-574 & CSX R/R	1931	1971	3/30/2023	97.1	98.02	
West Central Florida	Hillsborough	State Highway Agency	100012	US-301 SB / TAMPA BYPASS CANAL	US-301 SB (SR-43)	19,000	TAMPA BYPASS CANAL	1972		3/28/2023	99.1	88.11	
West Central Florida	Hillsborough	State Highway Agency	100014	SR-580-HILLSBOROUGH AVE	SR580 (DALE MABRY)	64,000	US-92 (HILLSBOROUGH AVE)	1963		3/29/2023	81	96.07	FO
West Central Florida	Hillsborough	State Highway Agency	100021	HILLSBOROUGH AVE OVER RR	SR-600 US-92	47,000	CSX RR	1936	1954	6/1/2023	69.4	88.08	FO
West Central Florida	Hillsborough	State Highway Agency	100024	US-92 - SR-600 OVER KENNEDY HILL	US-92 - SR-600	17,600	KENNEDY HILL CREEK	1930	1943	6/1/2023	89.9	90.76	
West Central Florida	Hillsborough	State Highway Agency	100025	US-92 SR-600 OVER BAKER CANAL	US-92 - SR-600	11,300	BAKER CANAL	1930	1943	6/1/2023	94.2	93.42	
West Central Florida	Hillsborough	County Highway Agency	100026	MORRIS BRIDGE RD/HILLS. RVR	MORRIS BRIDGE RD.	3,747	HILLSBOROUGH RIVER	1963		1/29/2024	81.2	85.41	
West Central Florida	Hillsborough	County Highway Agency	100029	CR574 / TAMPA BYPASS CANAL	CR-574/BROADWAY	11,100	TAMPA BYPASS CANAL	1971		1/29/2024	97.3	90.28	
West Central Florida	Hillsborough	County Highway Agency	100030	SHELDON RD NB/BRUSHY CREEK	SHELDON ROAD NB	12,088	BRUSHY CREEK	1967	1994	10/26/2023	86.4	92.31	
West Central Florida	Hillsborough	County Highway Agency	100031	CR640 OVER BLACK BULL DRAINAGE	LITHIA PINECRESTRD	10,300	BLACK BULL DRAINAGE	1965		4/5/2022	90.5	41.50	
West Central Florida	Hillsborough	County Highway Agency	100032	TURKEY CRK RD/HAGGARD CRK	TURKEY CK.RD/574-B	7,900	HAGGARD CREEK	1965		11/2/2023	98.2	35.61	
West Central Florida	Hillsborough	State Highway Agency	100033	SR-574 OVER BAKER CANAL	SR-574	17,900	BAKER CANAL	1915		6/1/2022	72.7	94.74	FO
West Central Florida	Hillsborough	County Highway Agency	100035	CR582/ITCHEPACKESASSA CRK	KNIGHTS GRIFFIN RD	3,200	ITCHEPACKESASSA CREEK	1973		12/6/2023	96.6	68.27	
West Central Florida	Hillsborough	State Highway Agency	100038	SR-39 OVER HERON BRANCH	SR-39	8,600	HERON BRANCH	1941	1987	7/28/2022	86.9	67.57	
West Central Florida	Hillsborough	State Highway Agency	100039	US-41 SB-LITTLE MANATEE RIVER	US-41 SB (SR-45)	20,500	LITTLE MANATEE RIVER	1971		3/27/2023	98	95.09	
West Central Florida	Hillsborough	State Highway Agency	100044	US-41 SB / BULLFROG CREEK	US-41 SB (SR-45)	40,500	BULLFROG CREEK	1960	1986	3/29/2023	76.6	76.56	FO
West Central Florida	Hillsborough	State Highway Agency	100045	DOYLE E. CARLTON BRIDGE	US-41 SB (SR-45)	40,500	ALAFIA RIVER	1959		3/28/2023	65.8	74.73	FO
West Central Florida	Hillsborough	State Highway Agency	100046	US-41 OVER ARCHIE CREEK	US-41 (SR-45)	32,500	ARCHIE CREEK	1943	1959	3/23/2023	85	62.21	
West Central Florida	Hillsborough	State Highway Agency	100047	US-41 / ARCHIE CREEK NORTH	US-41 (SR 45)	32,500	ARCHIE CREEK	1943	1959	3/30/2023	85	65.12	
West Central Florida	Hillsborough	State Highway Agency	100048	US-41 OVER DELANEY CREEK	US-41 (SR-45)	37,125	DELANEY CREEK	1959		3/30/2023	68.7	35.16	
West Central Florida	Hillsborough	State Highway Agency	100049	US-41 OVER PALM RIVER	US-41 (SR-45)	39,000	PALM RIVER	1958	2015	3/29/2023	68	92.48	
West Central Florida	Hillsborough	State Highway Agency	100052	US-301- FLINT CREEK RELIEF	US-301 (SR-41)	15,400	FLINT CREEK RELIEF	1972		3/31/2023	90.1	97.48	
West Central Florida	Hillsborough	State Highway Agency	100053	US-301 - HOLLOMANS BRANCH	US-301 (SR-41)	15,400	HOLLOMANS BRANCH	1972		3/21/2023	90.1	97.32	
West Central Florida	Hillsborough	State Highway Agency	100058	SR-60 OVER TURKEY CREEK	SR-60	34,000	TURKEY CREEK	1946	1962	6/1/2023	72.5	66.79	
West Central Florida	Hillsborough	State Highway Agency	100059	SR-60 OVER LITTLE ALAFIA RVR	SR-60	25,000	LITTLE ALAFIA RIVER	1946	1962	6/13/2023	67.5	74.89	
West Central Florida	Hillsborough	State Highway Agency	100060	I-275 OVER CYPRESS CREEK SLOUGH	I-275	66,500	CYPRESS CREEK SLOUGH	1964	1986	5/25/2022	70	38.10	
West Central Florida	Hillsborough	State Highway Agency	100064	SR-60 OVR ROCKY POINT CK	SR-60	70,000	ROCKY POINT CREEK	1952	1982	6/26/2023	69.6	95.10	
West Central Florida	Hillsborough	State Highway Agency	100069	JAMES N. HOLMES BRIDGE	FLORIDA(US-41 BUS)	19,300	HILLSBOROUGH RIVER	1926		3/30/2023	64.4	92.18	FO
West Central Florida	Hillsborough	State Highway Agency	100074	JEFFERSON ST RAMP SB/7TH AV	JEFFERSON ST RAMP	12,000	7TH AVENUE	1963	2003	8/3/2022	75.3	94.69	FO
West Central Florida	Hillsborough	State Highway Agency	100080	SR-60 WB Over Tampa Bypass Canal	SR-60 WB	15,162	TAMPA BYPASS CANAL	1970		6/12/2023	96.4	91.46	
West Central Florida	Hillsborough	State Highway Agency	100081	SR-60 EB OVR TPA BYPASS CANAL	SR-60 EB	15,162	TAMPA BYPASS CANAL	1970		6/12/2023	96.4	90.79	
West Central Florida	Hillsborough	State Highway Agency	100082	I-275 SB (SR-93) TO CENTRAL AVE RAMP	I-275 SB TO DWNTWN	12,000	CENTRAL AVE.	1963	2006	7/6/2023	74.4	97.46	FO
West Central Florida	Hillsborough	State Highway Agency	100085	SR-597 SB OVER SR580&CSX	SR-597 DALE MABRY	32,500	SR-580 AND CSX RR	1965	1988	6/6/2023	94.5	93.04	FO
West Central Florida	Hillsborough	City or Municipal Highway Agency	100086	ROWLETT PARK DR/HILLSBOROUGH RIVER	ROWLETT PARK DR.	13,400	HILLSBOROUGH RIVER	1957		2/23/2023	75.4	89.30	FO
West Central Florida	Hillsborough	State Highway Agency	100087	KENNEDY RAMP OVER I-275	SR-60 LEG A	3,700	I-275/SR-93	1958	1976	6/7/2023	88	87.34	FO
West Central Florida	Hillsborough	State Highway Agency	100089	US-41 OVER DRAINAGE DITCH	US-41 (SR-45)	36,500	DRAINAGE DITCH	1965		3/29/2023	78.3	97.41	
West Central Florida	Hillsborough	State Highway Agency	100091	US-41 OVER WILDCAT CREEK	US-41 (SR-45)	39,500	WILDCAT CREEK	1962		3/2/2023	67	76.91	
West Central Florida	Hillsborough	State Highway Agency	100092	US-41 OVER NEWMANS BRANCH	US-41 (SR-45)	34,500	NEWMANS BRANCH	1962		3/23/2023	70	68.35	
West Central Florida	Hillsborough	State Highway Agency	100093	US-92 OVER EASTSIDE CANAL	US-92 WB	7,900	EASTSIDE CANAL	1970		6/1/2022	98.5	69.27	
West Central Florida	Hillsborough	State Highway Agency	100097	US-92 - SR-600 OVER PEMBERTON CREEK	US-92 - SR-600	9,200	PEMBERTON CREEK	1930	1943	6/1/2023	94.8	96.50	
West Central Florida	Hillsborough	State Highway Agency	100098	US-92 - SR-600 OVER SPARTMAN BRANCH	US-92 - SR-600	12,500	SPARTMAN BRANCH	1930	1943	6/1/2023	94.5	94.51	
West Central Florida	Hillsborough	State Highway Agency	100099	US 41 OVER GOAT CREEK	US 41 (SR 45)	23,500	GOAT CREEK	1960		3/28/2023	70	68.82	
West Central Florida	Hillsborough	State Highway Agency	100100	KENNEDY DRAW OVER HILLBOROUGH RIVE	SR 60 KENNEDY BLVD	30,500	HILLSBOROUGH RIVER	1913	1995	4/29/2023	65.7	90.62	FO
West Central Florida	Hillsborough	State Highway Agency	100101	US-301 NB OVER CSX RR	US-301 NB (SR-43)	19,500	CSX RR	1970		3/30/2023	95	97.98	FO
West Central Florida	Hillsborough	State Highway Agency	100102	US-301 NB OVER CR-574 & CSX RR	US-301 (SR-43 NB)	19,500	CR-574	1970		3/30/2023	97.2	96.56	
West Central Florida	Hillsborough	State Highway Agency	100103	US-301 NB - TAMPA BYPASS CANAL	US-301 NB (SR-43)	19,000	TAMPA BYPASS CANAL	1972		3/28/2023	99.1	89.64	
West Central Florida	Hillsborough	State Highway Agency	100104	US-41 NB - LITTLE MANATEE RIVER	US-41 (SR-45)	20,500	LITTLE MANATEE RIVER	1964		3/27/2023	86.9	89.71	
West Central Florida	Hillsborough	State Highway Agency	100105	US 41 NB OVER CSX RR	US 41 NB (SR 45)	20,500	CSX RR	1964		3/1/2023	78.7	92.56	FO
West Central Florida	Hillsborough	State Highway Agency	100106	US-41 NB / BULLFROG CREEK	US-41 (SR-45)	40,500	BULLFROG CREEK	1945		3/27/2023	71.5	97.60	FO
West Central Florida	Hillsborough	State Highway Agency	100107	DOYLE E. CARLTON BRIDGE	US-41 NB (SR-45)	40,500	ALAFIA RIVER	1952		3/28/2023	77.6	79.58	FO
West Central Florida	Hillsborough	State Highway Agency	100110	I-275 NB / BUSINESS US-41	I-275 NB (SR-93)	114,000	BUS 41 (SR-685)	1964	2006	7/12/2022	92.7	96.42	
West Central Florida	Hillsborough	State Highway Agency	100111	BRANCH FORBES RD/SPARTMAN BRANCH	BRANCH FORBES RD	6,400	SPARTMAN BRANCH	1959	1999	10/13/2022	92.2	66.79	
West Central Florida	Hillsborough	State Highway Agency	100112	SR-597 NB OVER SR580&CSX	SR-597 DALE MABRY	32,500	SR-580 AND CSX RR	1956	1987	6/6/2023	94.5	97.57	FO
West Central Florida	Hillsborough	State Highway Agency	100115	I-275 (SR-93) OVER MEMORIAL BLVD	I-275 (SR-93)	193,000	SR-60 (MEMORIAL BLVD)	1962	2020	8/2/2022	85.5	96.62	FO

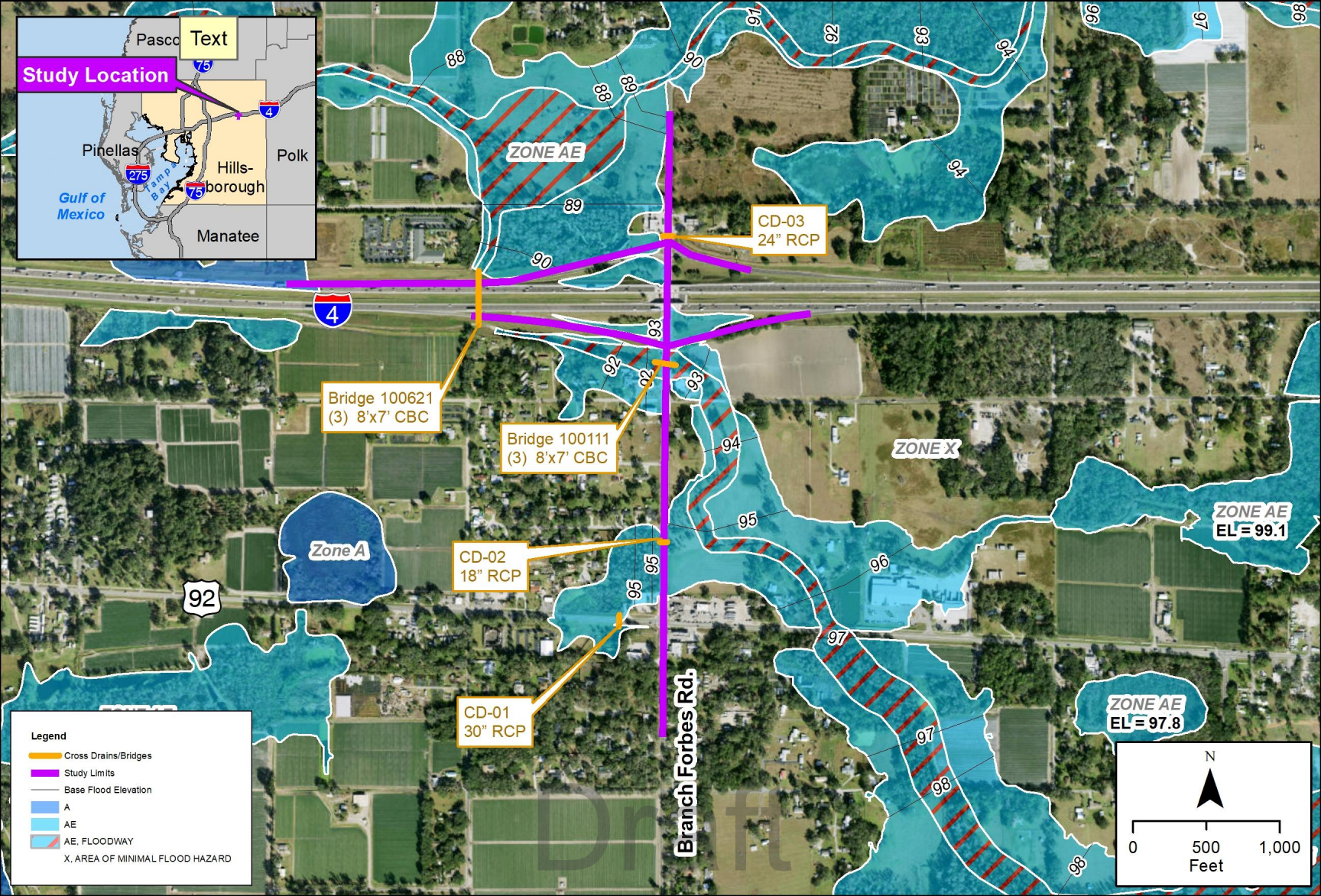
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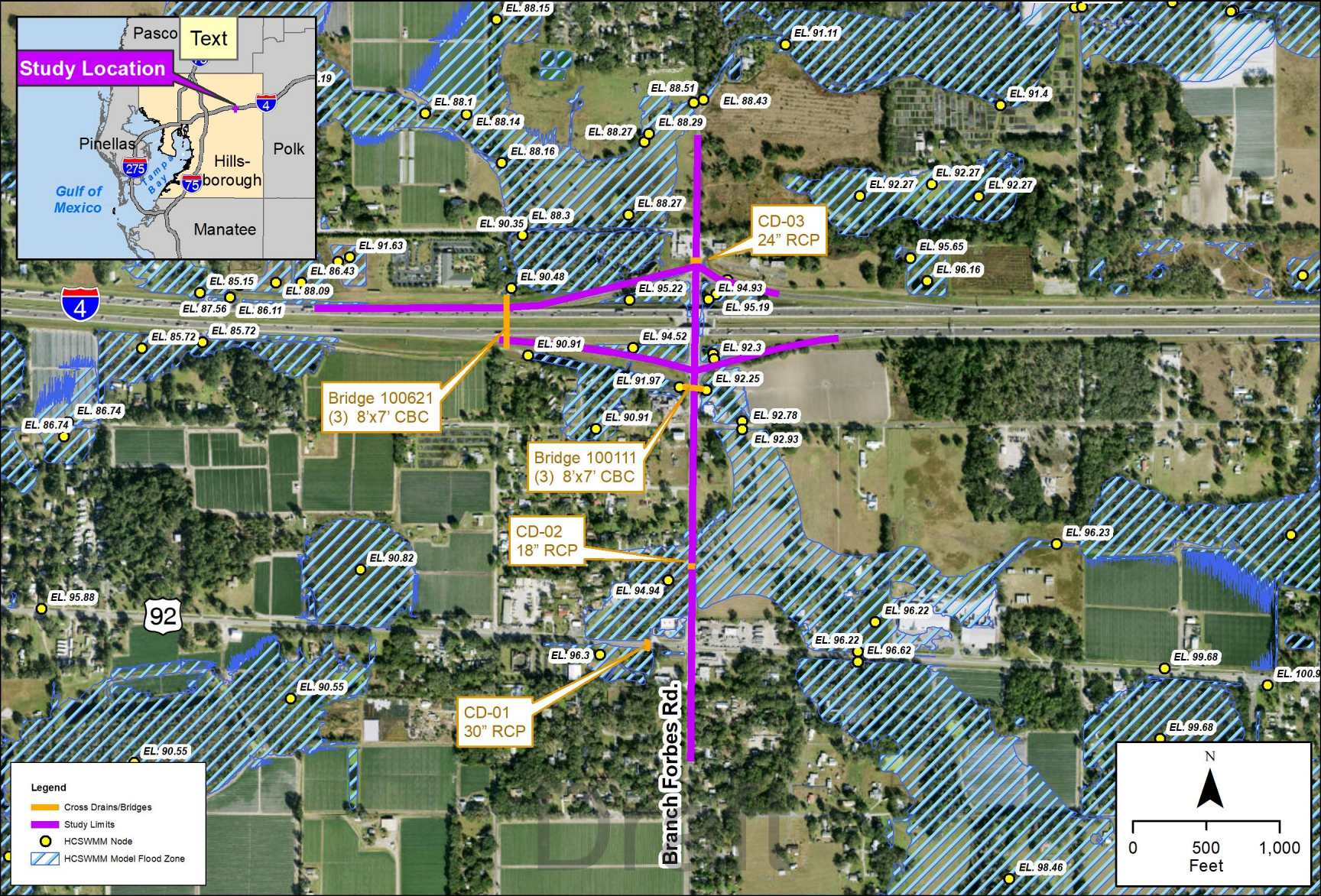
NBI=National Bridge Inventory
ADT=Average Daily Traffic
SD=Structurally Deficient
FO=Functionally Obsolete

DISTRICT	COUNTY	OWNER	BRIDGE	STRUCTURE NAME	ROADWAY	ADT	FACILITY CROSSED	YEAR BUILT	RECONSTRUCTED	LAST INSPECTION	SUFFICIENCY RATING	HEALTH INDEX	NBI RATING
West Central Florida	Hillsborough	State Highway Agency	100610	I-4 EB/CHARLIE TAYLOR RD	I-4 (SR-400) EB	69,500	CHARLIE TAYLOR RD	1999		10/11/2022	94.8	98.87	
West Central Florida	Hillsborough	State Highway Agency	100611	I-275 NB RAMP B TO ASHLEY ST.	I-275 NB	12,500	Slope	2009		3/29/2023	96	99.95	
West Central Florida	Hillsborough	State Highway Agency	100612	CR-579 OVER I-4	CR579 THONOTOSASSA	11,100	I-4 (SR-400)	1998		3/6/2023	93.8	86.26	
West Central Florida	Hillsborough	State Highway Agency	100613	KINGSWAY RD OVER I-4	KINGSWAY ROAD	3,900	I-4 (SR-400)	1997		3/15/2023	98.1	86.58	
West Central Florida	Hillsborough	State Highway Agency	100614	I-4 WB OVER MCINTOSH RD	I-4 WB	69,500	MCINTOSH ROAD	1998		3/6/2023	94.7	99.71	
West Central Florida	Hillsborough	State Highway Agency	100615	I-4 EB OVER MCINTOSH RD	I-4 EB	69,500	MCINTOSH ROAD	1998		3/15/2023	94.7	99.69	
West Central Florida	Hillsborough	State Highway Agency	100616	FRITZKE RD OVER I-4	FRITZKE ROAD	2,500	I-4 (SR-400)	1999		3/6/2023	94.3	85.10	
West Central Florida	Hillsborough	State Highway Agency	100617	BETHLEHEM RD OVER I-4	BETHLEHEM ROAD	3,000	I-4 (SR-400)	1997		3/6/2023	93.5	86.02	
West Central Florida	Hillsborough	State Highway Agency	100618	US-92 WB/HILLSBOROUGH RIVER	US-92 (SR-600) WB	27,250	HILLSBOROUGH RIVER	1999		4/29/2023	87.5	97.94	
West Central Florida	Hillsborough	State Highway Agency	100619	I-4 OVER FAITH CITY CREEK	I-4 (SR-400)	152,000	FAITH CITY CREEK	1999		3/30/2023	70	67.07	
West Central Florida	Hillsborough	State Highway Agency	100620	I-4 OVER BAKER CANAL	I-4 (SR-400)	139,000	BAKER CANAL	1998		3/15/2023	70	34.38	
West Central Florida	Hillsborough	State Highway Agency	100621	I-4 / SPORTSMAN BRANCH	I-4 (SR-400)	13,500	SPORTSMAN BRANCH	2001		10/11/2022	82.8	64.63	
West Central Florida	Hillsborough	State Highway Agency	100646	SR-39 OVER BLACKWATER CK	SR-39	8,600	BLACKWATER CREEK	2002		7/28/2022	89	95.82	
West Central Florida	Hillsborough	State Highway Agency	100647	SR-39 OVER BLACKWATER CREEK RELIEF	SR-39	8,600	BLACKWATER CREEK RELIEF	2002		7/28/2022	90.1	89.73	
West Central Florida	Hillsborough	State Highway Agency	100648	I-4 WB RAMP E-W2 over I-275	I-4WB TO DNTWN RMP	6,200	I-275 (SR-93)	2006		7/26/2022	95	99.78	
West Central Florida	Hillsborough	State Highway Agency	100649	I-4 WB (I-275 SB) over Palm Ave.	I-4 WB/I-275 SB	6,200	PALM AVENUE	2004		6/21/2022	99	99.89	
West Central Florida	Hillsborough	State Highway Agency	100650	I-4 WB RAMP E OVER NEBRASKA AVE	I-4WBRAMPE/I-275NB	21,000	NEBRASKA AVENUE	2005		6/1/2022	91	99.12	
West Central Florida	Hillsborough	State Highway Agency	100651	I-275 VIADUCT RAMP B	RAMP I275SB TO DWN	4,000	FLORIDA AVE.	2005		6/21/2022	90.2	99.63	FO
West Central Florida	Hillsborough	State Highway Agency	100652	I-4 TO I-275 NB RAMP/COLUMBUS DR	I-4 TO I-275 NB	21,000	COLUMBUS DR.	2005		6/22/2022	97.3	99.46	
West Central Florida	Hillsborough	State Highway Agency	100653	I-4 WB TO DWNTWN over I-275 RMP	I-4WB TO DWNTN RMP	6,200	I275 SB TO DOWNTOWN RAMP	2005		7/26/2022	95.7	99.61	
West Central Florida	Hillsborough	State Highway Agency	100654	I-275 SB TO I-4 EB	I-275SB I-4EB RAMP	24,500	I-4 WB I-275 US-41	2004		7/10/2023	84.5	87.05	
West Central Florida	Hillsborough	State Highway Agency	100655	I-4 RAMP E-W OVER I-275	I-4WB I-275SB RAMP	57,000	I-275 (SR-93)	2005		7/26/2022	79.6	99.60	
West Central Florida	Hillsborough	State Highway Agency	100656	I-4 EB OVER 14TH STREET	I-4 EB	86,000	14TH STREET	2006		6/16/2022	94	99.97	
West Central Florida	Hillsborough	State Highway Agency	100657	I-4 EB OVER 15TH STREET	I-4 EB (SR 400)	86,000	15TH STREET	2006		6/2/2022	90.9	99.96	
West Central Florida	Hillsborough	State Highway Agency	100658	I-4 WB / 21ST & 22ND STREETS	I-4 WB	86,000	SR-585 21ST & 22ND ST	2005		6/23/2022	98	99.90	
West Central Florida	Hillsborough	State Highway Agency	100659	I-4 EB OVER 21ST & 22ND ST	I-4 EB	86,000	SR-585 21ST & 22ND ST	2006		6/16/2022	98	99.93	
West Central Florida	Hillsborough	State Highway Agency	100660	I-4 WB OVER 26TH STREET	I-4 WB	83,250	26TH STREET	2005		6/23/2022	94.2	99.73	
West Central Florida	Hillsborough	State Highway Agency	100661	I-4 EB OVER 26TH STREET	I-4 EB	83,250	26TH STREET	2006		6/23/2022	94.3	99.68	
West Central Florida	Hillsborough	State Highway Agency	100662	I-4 WB OVR CSX RR	I-4 WB	83,250	CSX RR	2005		6/23/2022	94.2	99.76	
West Central Florida	Hillsborough	State Highway Agency	100663	I-4 EB OVER XTOWN CONN. & CSX RR	I-4 EB	83,250	XTOWN CONN. RAMP & RR	2005		6/23/2022	94.3	99.60	
West Central Florida	Hillsborough	State Highway Agency	100664	I-4 WB OVER 34TH STREET	I-4 WB	83,250	34TH STREET	2006		6/8/2022	96.9	99.70	
West Central Florida	Hillsborough	State Highway Agency	100665	I-4 EB OVER 34TH STREET	I-4 EB (SR-400)	83,250	34TH STREET	2005		6/16/2022	90.4	99.59	
West Central Florida	Hillsborough	State Highway Agency	100666	I-4 WB OVER 36TH ST & CSX RR	I-4 WB (SR 400)	83,250	36TH ST & CSX RR	2006		6/2/2022	89.5	99.79	
West Central Florida	Hillsborough	State Highway Agency	100667	I-4 EB OVER 36TH ST & CSX RR	I-4 EB (SR-400)	83,250	36TH STREET & CSX RR	2006		6/2/2022	94.6	99.18	
West Central Florida	Hillsborough	State Highway Agency	100668	I-4 WB OVER 40TH ST (SR-569)	I-4 WB	83,250	40TH ST (SR-569)	2006		6/8/2022	96.8	99.96	
West Central Florida	Hillsborough	State Highway Agency	100669	I-4 EB OVER 40TH ST (SR-569)	I-4 EB	83,250	40TH ST (SR-569)	2006		6/8/2022	93.1	99.65	
West Central Florida	Hillsborough	State Highway Agency	100670	I-4 WB / COLUMBUS DRIVE	I-4 WB (SR 400)	83,250	COLUMBUS DRIVE	2007		6/1/2022	96.9	82.86	
West Central Florida	Hillsborough	State Highway Agency	100671	I-4 EB OVER COLUMBUS DRIVE	I-4 EB SR-400	83,250	COLUMBUS DRIVE	2005		6/1/2022	94.6	83.02	
West Central Florida	Hillsborough	State Highway Agency	100672	I-4 WB OVER 50TH ST (US-41)	I-4 WB (SR-400)	74,000	US-41 (50TH ST)	2007		6/1/2022	98	83.41	
West Central Florida	Hillsborough	State Highway Agency	100673	I-4 EB OVER 50TH ST (US-41)	I-4 EB (SR-400)	74,000	US-41 (50TH ST)	2005		6/8/2022	98	99.77	
West Central Florida	Hillsborough	State Highway Agency	100674	GEORGE B. PKWY RMP OVER SR-60	GEORGE B. PKWY SB	6,800	SR-60/SR-616 (SPRUCE ST)	2008		7/11/2022	99.8	99.63	
West Central Florida	Hillsborough	State Highway Agency	100675	George Bean Pkwy over SR-60	AIRPORT ACCESS RD	12,000	SR 60 / MEMORIAL HWY	2008		9/26/2022	93	82.50	
West Central Florida	Hillsborough	State Highway Agency	100676	GEORGE B. PKWY RMP OVER SR-60	SR-589 SB TO TIA	9,000	SR-60/CANAL	2008		7/12/2022	98.8	99.53	
West Central Florida	Hillsborough	State Highway Agency	100677	SPRUCE STREET EB OVER SR-60	SR-616 EB	18,000	SR-60 / GEORGE B. PKWY	2008		7/12/2022	96.8	99.96	
West Central Florida	Hillsborough	State Highway Agency	100678	SR-582 (FOWLER AVE) WB OVER HILLSBOR	SR-582 WB	31,500	HILLSBOROUGH RIVER	2014		9/27/2022	98.8	97.13	
West Central Florida	Hillsborough	State Highway Agency	100679	SPRUCE ST. WB OVR SR60WB RAMP & GJ B	SR616WB-SR60WB	13,000	SR-60 WB & GEORGE B PKWY	2009		2/26/2024	98	99.99	
West Central Florida	Hillsborough	State Highway Agency	100680	GEORGE J. BEAN PKWY SB OVER SR-60 WB	G.J B. SB-SR 60 WB	2,400	SR-60 WB RAMP	2009		2/26/2024	99.9	99.70	
West Central Florida	Hillsborough	State Highway Agency	100681	GEORGE J BEAN PKWY NB OVER TIA DRAIN	SR60WB GJB PKWY NB	16,000	TIA DRAINAGE CANAL	2009		2/26/2024	80	99.97	
West Central Florida	Hillsborough	State Highway Agency	100682	RAMP A3 OVER TIA DRAINAGE CANAL	RAMP A3	7,400	TIA DRAINAGE CANAL	2007		9/22/2022	99.6	100.00	
West Central Florida	Hillsborough	State Highway Agency	100683	George Bean Pkwy SB/Canal	RAMP A2	2,400	DRAINAGE CANAL	2009		7/12/2022	100	100.00	
West Central Florida	Hillsborough	State Highway Agency	100684	George Bean Pkwy over TIA Canal	RAMP D1	5,200	TIA CANAL	2008		9/22/2022	99.9	99.78	
West Central Florida	Hillsborough	State Highway Agency	100687	US-301 OVER HARNEY CANAL	US-301	28,500	HARNEY CANAL	2007		9/13/2023	98.3	94.12	
West Central Florida	Hillsborough	State Highway Agency	100688	SR-589 SB OVER RAMPS A2, A3, A4, AND A5	SR-589 VETS EX SB	8,750	SR-60 EB/WB RAMPS	2009		11/30/2023	94.6	98.74	FO
West Central Florida	Hillsborough	State Highway Agency	100689	RAMP A5 OVER RAMP A4	SR-60 EB Ramp	9,600	SR-60 WB	2008		11/14/2023	96.5	96.41	
West Central Florida	Hillsborough	State Highway Agency	100691	SR-589 NB OVER SR-60 RAMPS	SR 589 NB VETS EXP	8,750	SR 60 RAMPS A3, A4 & A5	2008		9/22/2022	99	99.93	
West Central Florida	Hillsborough	State Highway Agency	100692	SR-60 over Bayport Drive	SR 60 WB	35,000	FRONTAGE RD CONNECTOR	2007		9/22/2022	98.4	99.87	

Draft

NBI=National Bridge Inventory
ADT=Average Daily Traffic
SD=Structurally Deficient
FO=Functionally Obsolete


Text
Study Location
Pasco
Pinellas
Hills-
borough
Polk
Manatee
Gulf of
Mexico
Tampa
Bay
75
275
4
CD-03
24" RCP
CD-02
18" RCP
CD-01
30" RCP
Bridge 100621
(3) 8'x7' CBC
Bridge 100111
(3) 8'x7' CBC
ZONE AE
ZONE X
Zone A
ZONE AE
EL = 99.1
ZONE AE
EL = 97.8
92
Branch Forbes Rd.
Legend
Cross Drains/Bridges
Study Limits
Base Flood Elevation
A
AE
AE, FLOODWAY
X, AREA OF MINIMAL FLOOD HAZARD
N
0
500
1,000
Feet
Draft


Pasco
Text
Study Location
Pinellas
Hills-
borough
Polk
Gulf of
Mexico
Tampa
Bay
Manatee
275
75
4
CD-03
24" RCP
Bridge 100621
(3) 8'x7' CBC
Bridge 100111
(3) 8'x7' CBC
CD-02
18" RCP
CD-01
30" RCP
Branch Forbes Rd.
92
EL. 88.15
EL. 91.11
EL. 88.51
EL. 88.43
EL. 91.4
EL. 88.1
EL. 88.14
EL. 88.27
EL. 88.29
EL. 88.16
EL. 92.27
EL. 92.27
EL. 92.27
EL. 88.27
EL. 90.35
EL. 88.3
EL. 91.63
EL. 95.65
EL. 96.16
EL. 86.43
EL. 90.48
EL. 95.22
EL. 94.93
EL. 95.19
EL. 85.15
EL. 88.09
EL. 87.56
EL. 86.11
EL. 85.72
EL. 85.72
EL. 90.91
EL. 94.52
EL. 92.3
EL. 91.97
EL. 92.25
EL. 86.74
EL. 86.74
EL. 90.91
EL. 92.78
EL. 92.93
EL. 96.23
EL. 90.82
EL. 95.88
EL. 94.94
EL. 96.22
EL. 96.22
EL. 96.62
EL. 96.3
EL. 99.68
EL. 90.55
EL. 90.55
EL. 99.68
EL. 98.46
Legend
Cross Drains/Bridges
Study Limits
HCSWMM Node
HCSWMM Model Flood Zone
N
0
500
1,000
Feet

APPENDIX C DRAINAGE CALCULATIONS

Basin	Combined Basins	Ponds	Road	New Thru Lanes (ft)	New Turnlanes (ft)	New Bike Lanes/ Shoulder (ft)	New Sidewalks (ft)	Length (ft)	Total New Pavement (acres)	Required Treatment[1] (ac-ft)	Required Attenuation[2] ac-ft	Total Required Pond Volume (ac-ft)
353050	Basin 1		US92	24	0	5	6	1,300	1.04	0.07	0.49	0.56
353100	Basin 1		US92	24	0	5	0	1300	0.87	0.07	0.40	0.48
								Basin 1 Subtotal	*1.91*	*0.14*	*0.89*	*1.04*
360320	Basin 2		US92	24	0	5	0	1,370	0.91	0.08	0.43	0.50
360340	Basin 2		Branch Forbes	0	4.3[4]	3	0	770	0.13	0.01	0.06	0.07
360340	Basin 2		US92	24	12	5	6	1,370	1.48	0.11	0.69	0.80
Advanced Auto Parts Pond	Basin 2		US92							0.07	0.27	0.34
360380	Basin 2		US92	24	12	5	0	1,780	1.68	0.14	0.78	0.92
360300	Basin 2		US92	24	12	5	0	620	0.58	0.05	0.27	0.32
360400	Basin 2		US92	24	0	5	6	2400	1.93	0.13	0.90	1.04
								Basin 2 Subtotal	*6.71*	*0.59*	*3.41*	*3.99*
360300	Basin 3		Branch Forbes	11	11	7.4[4]	10	1,520	1.38	0.09	0.64	0.73
360320	Basin 3		Branch Forbes	11	11	3.0[4]	10	1,080	0.87	0.05	0.41	0.46
360400	Basin 3		Branch Forbes	0	15.0[4]	3	0	770	0.32	0.03	0.15	0.18
360080	Basin 3		Branch Forbes	11	11	0	10	400	0.29	0.02	0.14	0.15
360080	Basin 3		I-4 EB Off Ramp	12	0	0	0	1,290	0.36	0.03	0.17	0.20
360150	Basin 3		Branch Forbes	11	11	0	10	390	0.29	0.02	0.13	0.15
360150	Basin 3		I-4 EB On Ramp	12	0	0	0	680	0.19	0.02	0.09	0.10
369705	Basin 3		Branch Forbes	11	11	3	10	430	0.35	0.02	0.16	0.18
								Basin 3 Subtotal	*4.03*	*0.26*	*1.89*	*2.15*
341820	Basin 4	Permitted Pond 11	I-4 WB On Ramp	12	0	3	0	2000	0.69	0.06	0.32	0.38
								Basin 4 Subtotal	*0.69*	*0.06*	*0.32*	*0.38*
360155	Basin 5		Branch Forbes	12	0	3	10	220	0.13	0.01	0.06	0.07
360160	Basin 5	Permitted Pond 1-A	Branch Forbes	11	11	0	10	400	0.29	0.02	0.14	0.15
360075	Basin 5		Branch Forbes	11	11	0	10	270	0.20	0.01	0.09	0.10
360085	Basin 5		Branch Forbes	12	0	3	10	350	0.20	0.01	0.09	0.10
								Basin 5 Subtotal	***0.82***	***0.04***	***0.38***	***0.43***
360030	Basin 6	Permitted Pond 1	I-4 EB On Ramp	12	0	0	0	330	0.09	0.01	0.04	0.05
								Basin 6 Subtotal	***0.09***	***0.01***	***0.04***	***0.05***
349744	Basin 7		Branch Forbes	22	0	3	20	450	0.46	0.02	0.22	0.24
360020	Basin 7		Branch Forbes	11	0	3	10	320	0.18	0.01	0.08	0.09
360020	Basin 7		I-4 WB On Ramp	12	0	0	0	1,300	0.36	0.03	0.17	0.20
369707	Basin 7		Branch Forbes	11	0	3	10	400	0.22	0.01	0.10	0.11
369707	Basin 7		I-4 WB Off Ramp	12	0	0	0	470	0.13	0.01	0.06	0.07
								Basin 7 Subtotal	***1.35***	***0.08***	***0.63***	***0.71***

1. Required Treatment assumes Wet Retention and that new sidewalk is exempt from treatment.
2. Required Attenuation caused by increased CN. Assumes CN = 49 for existing conditions and CN = 98 for proposed conditions.
3. Pond area includes 15' berm and tie-downs, and 10% additional.
4. Calculated based upon a percentage of length.

Draft

Stormwater Management Facility Alternatives

SMF 2A

Project: Branch Forbes Road PD&E Study — By: EKN — Date:
FPID NO: 44715915201 & 44716015201 — Checked: WLA — Date:

Water Quality
Required Treatment Volume (1" over net impervious): **0.59** **Wet Detention**; *0.29* *Dry Retention*

Water Quantity
Required Attenuation: **3.41**

Total Required Pond Volume (Estimate 20% additional): **4.79** **Wet Detention**; *4.44* *Dry Retention*

Treatment Type: **Wet Detention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
85.50		-	0.00	0.00	Pond Bottom	
88.50	22,035	0.51	**0.00**	0.00	SHWT	SH-558
89.60	24,628	0.57	**0.59**	0.59	**Control**	
95.00	43,635	1.00	4.23	4.82	**DHW**	LEOP = 96
96.00	47,446	1.09			Top of Bank	

Parcel Area: 80,475 *ft²*; **1.85** **acres**

Draft

Stormwater Management Facility Alternatives

SMF 2C

Project: Branch Forbes Road PD&E Study — By: EKN — Date:
FPID NO: 44715915201 & 44716015201 — Checked: WLA — Date:

Water Quality
Required Treatment Volume (1" over net impervious): **0.59** **Wet Detention**; *0.29* *Dry Retention*

Water Quantity
Required Attenuation: **3.41**

Total Required Pond Volume (Estimate 20% additional): **4.79** **Wet Detention**; *4.44* *Dry Retention*

Treatment Type: **Wet Detention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
85.50		-	0.00	0.00	Pond Bottom	
88.50	31,481	0.72	**0.00**	0.00	SHWT	SH-1794R
89.28	34,126	0.78	**0.59**	0.59	**Control**	
94.00	56,444	1.30	4.91	5.49	**DHW**	LEOP = 95
95.00	61,309	1.41			Top of Bank	

Parcel Area: 98,402 *ft²*; **2.26** **acres**

Draft

Stormwater Management Facility Alternatives

SMF 2C-3D

Project: Branch Forbes Road PD&E Study | By: EKN | Date:
FPID NO: 44715915201 & 44716015201 | Checked: WLA | Date:

Water Quality

Required Treatment Volume (1" over net impervious): **0.85** **Wet Detention**; *0.43* *Dry Retention*

Water Quantity

Required Attenuation: **5.29**

Total Required Pond Volume (Estimate 20% additional): **7.37** **Wet Detention**; *6.86* *Dry Retention*

Treatment Type: **Wet Detention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
85.50		-	0.00	0.00	Pond Bottom	
88.50	63,349	1.45	**0.00**	0.00	SHWT	
89.07	65,773	1.51	**0.85**	0.85	**Control**	
94.00	91,132	2.09	8.87	9.72	**DHW**	LEOP = 95
95.00	96,510	2.22			Top of Bank	

Parcel Area: 146,167 *ft²*; **3.36** **acres**

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Stormwater Management Facility Alternatives

SMF 3A

Project: Branch Forbes Road PD&E Study — By: EKN — Date:
FPID NO: 44715915201 & 44716015201 — Checked: WLA — Date:

Water Quality

Required Treatment Volume (0.5" over net impervious)

0.26	*Wet Detention*
0.13	**Dry Retention**

Water Quantity

Required Attenuation: **1.89**

Total Required Pond Volume (Estimate 20% additional)

2.58	*Wet Detention*
2.42	**Dry Retention**

Treatment Type: **Dry Retention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
88.50		-	0.00	0.00	SHGWT	SH-1794R
89.50	19,936	0.46	**0.00**	0.00	Pond Bottom	
89.78	20,784	0.48	**0.13**	0.13	**Control**	
93.50	36,740	0.84	2.46	2.59	**DHW**	LEOP = 94.5
94.50	41,325	0.95			Top of Bank	

Parcel Area

76,246	*ft²*
1.75	**acres**

Draft

Stormwater Management Facility Alternatives

SMF 3B

Project: Branch Forbes Road PD&E Study — By: EKN — Date:
FPID NO: 44715915201 & 44716015201 — Checked: WLA — Date:

Water Quality
Required Treatment Volume (1" over net impervious): **0.26** **Wet Detention**; *0.13* *Dry Retention*

Water Quantity
Required Attenuation: **1.89**

Total Required Pond Volume (Estimate 20% additional): **2.58** **Wet Detention**; *2.42* *Dry Retention*

Treatment Type: **Wet Detention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
85.50		-	0.00	0.00	Pond Bottom	
88.50	25,742	0.59	**0.00**	0.00	SHWT	SH-1794R
88.94	26,862	0.62	**0.26**	0.26	**Control**	
93.50	42,428	0.97	3.63	3.89	**DHW**	LEOP = 94.5
94.50	46,067	1.06			Top of Bank	

Parcel Area: 80,099 *ft²*; **1.84** **acres**

Draft

Stormwater Management Facility Alternatives

SMF 7A

Project: Branch Forbes Road PD&E Study — By: EKN — Date:
FPID NO: 44715915201 & 44716015201 — Checked: WLA — Date:

Water Quality
Required Treatment Volume (1" over net impervious)

0.08	**Wet Detention**
0.04	*Dry Retention*

Water Quantity
Required Attenuation: **0.63**

Total Required Pond Volume (Estimate 20% additional)

0.86	**Wet Detention**
0.81	*Dry Retention*

Treatment Type: **Wet Detention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
85.00		-	0.00	0.00	Pond Bottom	
88.00	40,652	0.93	**0.00**	0.00	SHWT	PZ-69; Wetland Contours
88.09	41,114	0.94	**0.08**	0.08	**Control**	
89.00	46,312	1.06	0.92	1.00	**DHW**	LEOP = 90
90.00	52,072	1.20			Top of Bank	

Parcel Area: 98,118 *ft²* / **2.25** **acres**

Draft

Stormwater Management Facility Alternatives

SMF 7B

Project: Branch Forbes Road PD&E Study — By: EKN — Date:
FPID NO: 44715915201 & 44716015201 — Checked: WLA — Date:

Water Quality
Required Treatment Volume (1" over net impervious)

0.08	**Wet Detention**
0.04	*Dry Retention*

Water Quantity
Required Attenuation: **0.63**

Total Required Pond Volume (Estimate 20% additional)

0.86	**Wet Detention**
0.81	*Dry Retention*

Treatment Type: **Wet Detention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
85.00		-	0.00	0.00	Pond Bottom	
88.00	35,434	0.81	**0.00**	0.00	SHWT	PZ-69; Wetland Contours
88.10	35,806	0.82	**0.08**	0.08	**Control**	
89.00	39,357	0.90	0.78	0.86	**DHW**	LEOP = 90
90.00	43,380	1.00			Top of Bank	

Parcel Area

96,898	*ft²*
2.22	**acres**

Draft

Stormwater Management Facility Alternatives

SMF 7C

Project: Branch Forbes Road PD&E Study — By: EKN — Date:
FPID NO: 44715915201 & 44716015201 — Checked: WLA — Date:

Water Quality
Required Treatment Volume
(1" over net impervious)

0.08	**Wet Detention**
0.04	*Dry Retention*

Water Quantity
Required Attenuation: **0.63**

Total Required Pond Volume (Estimate 20% additional)

0.86	**Wet Detention**
0.81	*Dry Retention*

Treatment Type: **Wet Detention**

Stage Areas

Stage *ft-NAVD*	Area *ft²*	Area *acres*	Inc. Volume *ac-ft*	Total Volume *ac-ft*	Description	Remarks
85.00		-	0.00	0.00	Pond Bottom	
88.00	35,263	0.81	**0.00**	0.00	SHWT	PZ-69; Wetland Contours
88.10	35,650	0.82	**0.08**	0.08	**Control**	
89.00	39,331	0.90	0.77	0.86	**DHW**	LEOP = 90
90.00	43,499	1.00			Top of Bank	

Parcel Area

89,810	*ft²*
2.06	**acres**

Draft

FLOODPLAIN ENCROACHMENT
VOLUME CALCULATIONS

Floodplain Encroachment ID	Roadway	Waterbody	FEMA Flood Zone	Base Flood Elevation (ft-NAVD88)	From Station	To Station	Average Existing Grade (ft-NAVD88)	Cross Sectional Fill Area* (ac)	Estimated Volume (ac-ft)
FPE-01A	US-92	Spartman Branch	AE	96.30	551+80	559+33	91.97	0.006	4.19
FPE-01B	US-92	Spartman Branch	AE	96.62	569+07	579+52	94.50	0.003	2.26
FPE-01C	Branch Forbes Road	Spartman Branch	AE	94.94	1132+12	1138+58	91.70	0.006	3.96
								Required Flood Plain Compensation:	**10.41 ac-ft**

** Cross-Sectional Fill Areas estimated by selecting a representative cross section from 3D roadway model within each of the floodplain impact areas.*

Draft

FLOODPLAIN COMPENSATION
VOLUME CALCULATIONS

Floodplain Compensation ID	FPC Site Area (ac)	SHGWTE (ft-NAVD88)	Boring Reference	BFE (ft-NAVD88)	Existing Floodplain Storage (CY)	Proposed Floodplain Storage (CY)	Floodplain Compensation Provided (ac-ft)
FPC-1A	2.44	90.10	SH-558	96.30	5527.00	23468.00	11.12
FPC-1B	3.55	88.50	SH-560	94.94	6719.00	16036.00	5.78
FPC-1C	2.81	88.50	SH-1794R	94.00	5112.00	16715.00	7.19
FPC-1D	5.15	88.50	SH-1794R	94.00	9624.00	15237.00	3.48

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APPENDIX D ENGINEER'S ESTIMATE OF CONSTRUCTION COST

447159-1 Branch Forbes Road from US 92 to N of I-4 **SMF/FPC Construction Cost Estimate**

Site Name	Site Area	Clearing & Grubbing Cost	Excavation Volume*	Excavation Cost	Embankment Volume*	Embankment Cost	Online or Offline	Conveyance	Conveyance Cost	Total Construction Cost
Units	*AC*	*U.S Dollars*	*CY*	*U.S Dollars*	*CY*		*-*	*LF*	*U.S Dollars*	*U.S Dollars*
Unit Costs [1]	-	$ 61,151.63	-	$ 22.26	-	$ 25.45	-	-	$170.42/ $298.12	-
SMF 2A	1.85	$ 112,974.69	17984	$ 400,323.84	0	$ -	Online	0	$ -	$ 513,299
SMF 2C	2.26	$ 138,141.48	9274	$ 206,439.24	1682	$ 42,806.90	Online	239	$ 71,250.68	$ 458,638
SMF 3A	1.75	$ 106,987.28	6509	$ 144,890.34	1615	$ 41,101.75	Online	0	$ -	$ 292,979
SMF 3B	1.84	$ 112,519.00	9641	$ 214,608.66	0	$ -	Online	0	$ -	$ 327,128
SMF 2C/3D	3.36	$ 205,241.21	11984	$ 266,763.84	3097	$ 78,818.65	Online	239	$ 71,250.68	$ 622,074
SMF 7A	2.25	$ 137,591.17	1415	$ 31,497.90	2188	$ 55,684.60	Online	0	$ -	$ 224,774
SMF 7B	2.22	$ 135,756.62	9640	$ 214,586.40	0	$ -	Online	0	$ -	$ 350,343
SMF 7C	2.06	$ 125,972.36	8211	$ 182,776.86	13	$ 330.85	Online	0	$ -	$ 309,080
FPC 1A	2.44	$ 149,015.68	31728	$ 706,265.28	2	$ 50.90	Online	0	$ -	$ 855,332
FPC 1B	3.55	$ 216,950.71	14150	$ 314,979.00	1	$ 25.45	Online	0	$ -	$ 531,955
FPC 1C	2.81	$ 171,746.80	15213	$ 338,641.38	0	$ -	Online	0	$ -	$ 510,388
FPC 1D	5.15	$ 315,002.49	6520	$ 145,135.20	282	$ 7,176.90	Online	0	$ -	$ 467,315

* *Volumes estimated using CAD software to model proposed SMF and FPC Sites.*

1 Unit costs derived from FDOT Statewide Item Average Unit Costs dated 2024/01/01 to 2024/06/30.

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APPENDIX E SUPPORTING DOCUMENTATION

USDA SOIL RESOURCE REPORT

United States Department of Agriculture

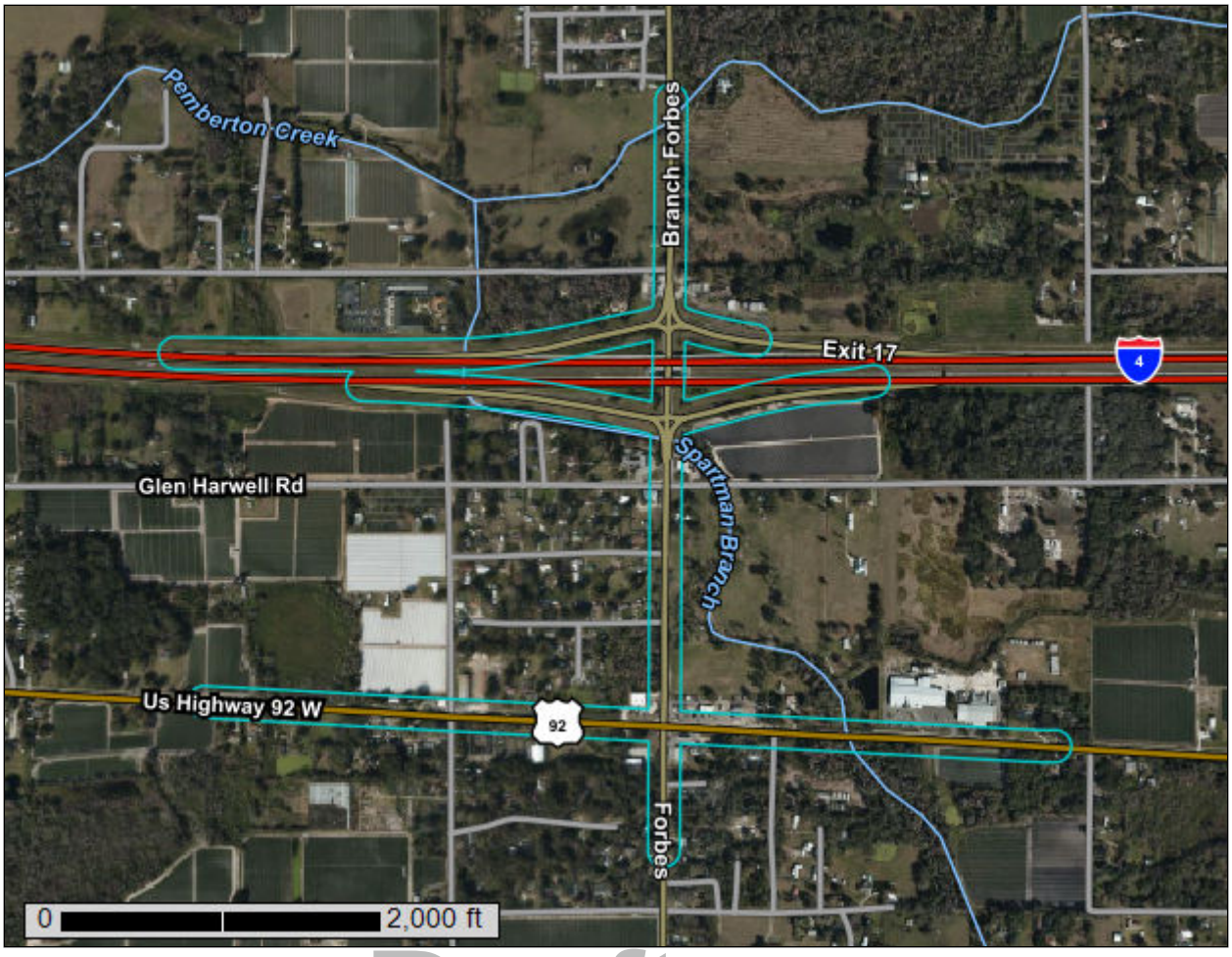
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Hillsborough County, Florida

Forbes Road Pond Siting



Draft

December 2, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

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scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

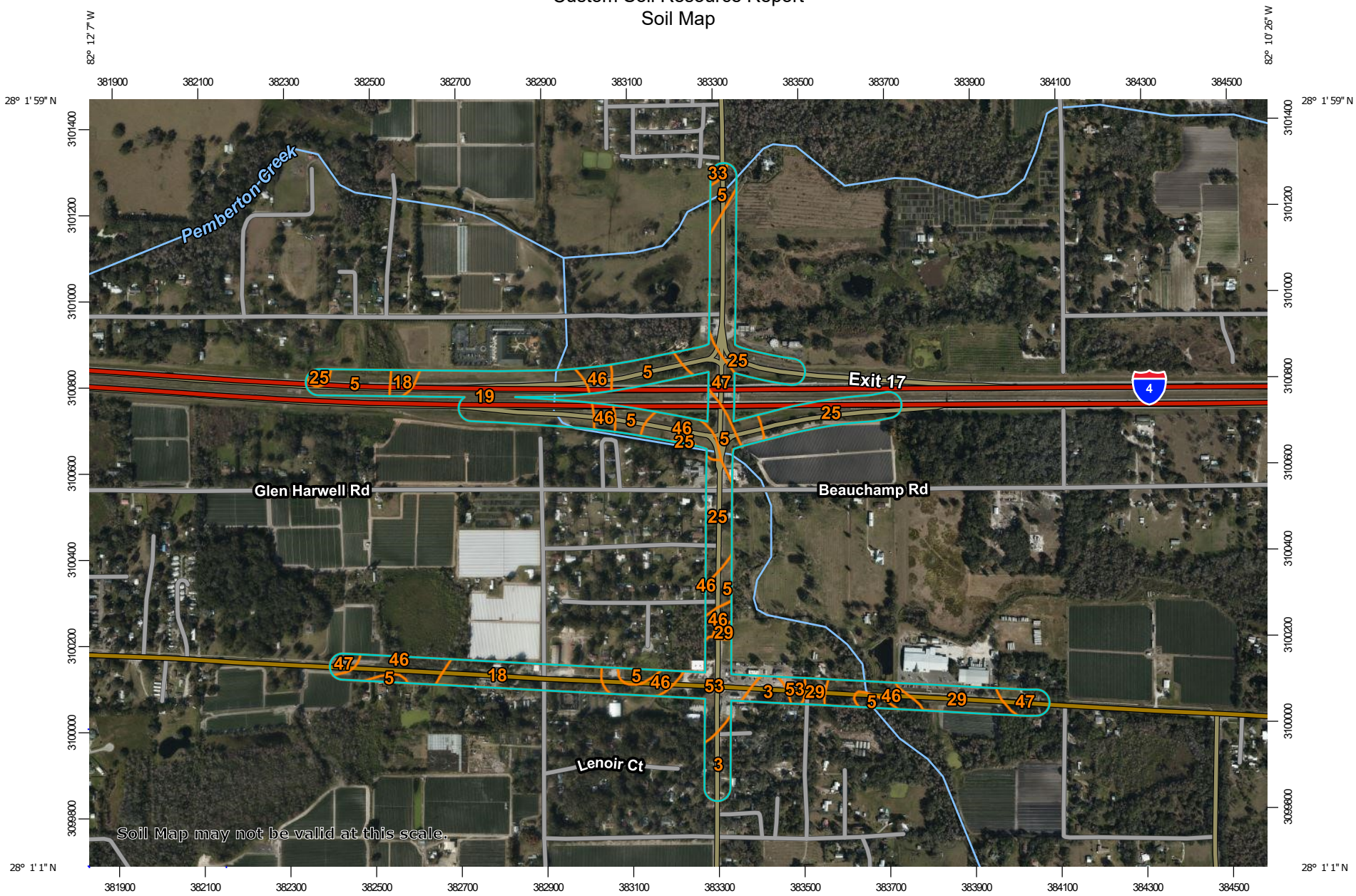
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Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

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Custom Soil Resource Report
Soil Map



Map Scale: 1:12,600 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

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

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MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Hillsborough County, Florida
Survey Area Data: Version 21, Aug 27, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 31, 2019—Feb 16, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

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Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3	Archbold fine sand	3.6	4.6%
5	Basinger, Holopaw, and Samsula soils, depressional	12.0	15.5%
18	Fort Meade loamy fine sand, 0 to 5 percent slopes	6.5	8.3%
19	Gainesville loamy fine sand, 0 to 5 percent slopes	10.6	13.6%
25	Lake fine sand, 0 to 5 percent slopes	16.6	21.4%
29	Myakka fine sand, 0 to 2 percent slopes	4.4	5.7%
33	Ona fine sand, 0 to 2 percent slopes	0.3	0.4%
46	St. Johns fine sand	12.1	15.6%
47	Seffner fine sand, 0 to 2 percent slopes	5.8	7.5%
53	Tavares-Millhopper fine sands, 0 to 5 percent slopes	5.7	7.3%
Totals for Area of Interest		**77.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They

Draft

generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

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Hillsborough County, Florida

3—Archbold fine sand

Map Unit Setting

National map unit symbol: 1j72g
Elevation: 0 to 160 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 324 to 354 days
Farmland classification: Not prime farmland

Map Unit Composition

Archbold and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Archbold

Setting

Landform: Flats on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Eolian or sandy marine deposits

Typical profile

A - 0 to 2 inches: fine sand
C - 2 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very high (19.98 to 50.02 in/hr)
Depth to water table: About 42 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

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Minor Components

Candler

Percent of map unit: 4 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R155XY002FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Pomello

Percent of map unit: 3 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Lake

Percent of map unit: 3 percent
Landform: Hills, marine terraces, ridges
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Upland Hardwood Hammock (R155XY008FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

5—Basinger, Holopaw, and Samsula soils, depressional

Map Unit Setting

National map unit symbol: 1j731
Elevation: 0 to 230 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 324 to 354 days
Farmland classification: Not prime farmland

Map Unit Composition

Basinger and similar soils: 35 percent
Holopaw and similar soils: 31 percent
Samsula and similar soils: 18 percent
Minor components: 16 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

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Description of Basinger

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy marine deposits

Typical profile

A - 0 to 7 inches: fine sand
E - 7 to 28 inches: fine sand
B/E - 28 to 42 inches: fine sand
C - 42 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Description of Holopaw

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 52 inches: fine sand
Btg - 52 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches

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Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Description of Samsula

Setting

Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Herbaceous organic material over sandy marine deposits

Typical profile

Oa - 0 to 34 inches: muck
C - 34 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Forage suitability group: Organic soils in depressions and on flood plains (G155XB645FL)
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Organic soils in depressions and on flood plains (G155XB645FL)

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Hydric soil rating: Yes

Minor Components

Eaton, depressional

Percent of map unit: 6 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Interfluve, dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: Loamy and clayey soils on stream terraces, flood plains, or in depressions (G155XB345FL)
Hydric soil rating: Yes

Felda

Percent of map unit: 5 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Slough (R155XY011FL), Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

Ona

Percent of map unit: 5 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

18—Fort Meade loamy fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1j721
Elevation: 20 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 324 to 354 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Fort meade and similar soils: 93 percent
Minor components: 7 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Draft

Description of Fort Meade

Setting

Landform: Ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 26 inches: loamy fine sand
C - 26 to 80 inches: loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Other vegetative classification: Upland Hardwood Hammock (R155XY008FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Minor Components

Millhopper

Percent of map unit: 7 percent
Landform: Flats on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

Draft

19—Gainesville loamy fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1j722
Elevation: 40 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 324 to 354 days
Farmland classification: Not prime farmland

Map Unit Composition

Gainesville and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gainesville

Setting

Landform: Ridges on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 9 inches: loamy fine sand
C - 9 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Other vegetative classification: Upland Hardwood Hammock (R155XY008FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)

Draft

Hydric soil rating: No

Minor Components

Millhopper

Percent of map unit: 5 percent
Landform: Flats on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

25—Lake fine sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2v17f
Elevation: 10 to 200 feet
Mean annual precipitation: 44 to 56 inches
Mean annual air temperature: 68 to 75 degrees F
Frost-free period: 300 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Lake and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lake

Setting

Landform: Hills on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Eolian deposits or sandy marine deposits

Typical profile

A - 0 to 9 inches: fine sand
C - 9 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 50.02 in/hr)
Depth to water table: More than 80 inches

Draft

Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on ridges and dunes of xeric uplands (G154XB111FL)
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R154XY002FL), Sandy soils on ridges and dunes of xeric uplands (G154XB111FL)
Hydric soil rating: No

Minor Components

Arredondo

Percent of map unit: 8 percent
Landform: Hills on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, interfluve
Down-slope shape: Linear, convex
Across-slope shape: Convex
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R154XY002FL), Sandy soils on ridges and dunes of xeric uplands (G154XB111FL)
Hydric soil rating: No

Tavares

Percent of map unit: 5 percent
Landform: Flats on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

Jonesville

Percent of map unit: 2 percent
Landform: Rises on marine terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Shallow or moderately deep, sandy or loamy soils on rises and ridges of mesic uplands (G154XB521FL)
Hydric soil rating: No

Draft

29—Myakka fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2s3lg
Elevation: 0 to 130 feet
Mean annual precipitation: 42 to 56 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Myakka and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Myakka

Setting

Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 20 inches: fine sand
Bh - 20 to 36 inches: fine sand
C - 36 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 5.95 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Draft

Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Minor Components

Basinger
Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Wabasso
Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Cassia
Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Immokalee
Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Satellite
Percent of map unit: 1 percent
Landform: Flatwoods on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Linear, convex
Across-slope shape: Linear
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Draft

33—Ona fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2w4gy
Elevation: 10 to 130 feet
Mean annual precipitation: 44 to 63 inches
Mean annual air temperature: 68 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Ona and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ona

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 4 inches: fine sand
Bh - 4 to 22 inches: fine sand
C - 22 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Draft

Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Minor Components

Basinger
Percent of map unit: 5 percent
Landform: Drainageways on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave, convex
Across-slope shape: Concave, linear
Other vegetative classification: Slough (R155XY011FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Immokalee
Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Myakka
Percent of map unit: 3 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Pomello
Percent of map unit: 2 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Eaugallie
Percent of map unit: 2 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Draft

46—St. Johns fine sand

Map Unit Setting

National map unit symbol: 1j72z
Elevation: 10 to 150 feet
Mean annual precipitation: 48 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 324 to 354 days
Farmland classification: Farmland of unique importance

Map Unit Composition

St. johns and similar soils: 87 percent
Minor components: 13 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of St. Johns

Setting

Landform: Flats on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 12 inches: fine sand
E - 12 to 29 inches: fine sand
Bh - 29 to 46 inches: fine sand
C - 46 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: B/D
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)

Draft

Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Minor Components

Basinger
Percent of map unit: 7 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy soils on stream terraces, flood plains, or in depressions (G155XB145FL)
Hydric soil rating: Yes

Floridana
Percent of map unit: 6 percent
Landform: Drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G155XB241FL)
Hydric soil rating: Yes

47—Seffner fine sand, 0 to 2 percent slopes

Map Unit Setting
National map unit symbol: 2v17t
Elevation: 30 to 160 feet
Mean annual precipitation: 45 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition
Seffner and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Seffner

Setting
Landform: Flats on marine terraces, rises on marine terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Convex
Across-slope shape: Linear

Draft

Parent material: Sandy marine deposits

Typical profile

Ap - 0 to 9 inches: fine sand
A - 9 to 13 inches: fine sand
C - 13 to 35 inches: fine sand
Cg - 35 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 18 to 42 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on rises and knolls of mesic uplands (G154XB131FL)
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G154XB131FL), Upland Hardwood Hammock (R154XY008FL)
Hydric soil rating: No

Minor Components

Ona

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Smyrna

Percent of map unit: 3 percent
Landform: — error in exists on —
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear, convex
Across-slope shape: Linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Pompano

Percent of map unit: 3 percent
Landform: Drainageways on marine terraces, flats on marine terraces

Draft

Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Concave, linear
Other vegetative classification: Slough (R155XY011FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Adamsville

Percent of map unit: 2 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Upland Hardwood Hammock (R155XY008FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Florahome

Percent of map unit: 2 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (three-dimensional): Interfluve, tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on rises, knolls, and ridges of mesic uplands (G154XB121FL), Upland Hardwood Hammock (R154XY008FL)
Hydric soil rating: No

Sparr

Percent of map unit: 1 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Interfluve, tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Upland Hardwood Hammock (R154XY008FL), Sandy soils on rises and knolls of mesic uplands (G154XB131FL)
Hydric soil rating: No

53—Tavares-Millhopper fine sands, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2w4gz
Elevation: 20 to 150 feet
Mean annual precipitation: 45 to 56 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Tavares and similar soils: 58 percent

Draft

Millhopper and similar soils: 32 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tavares

Setting

Landform: Flats on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Interfluve, rise
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits and/or eolian deposits

Typical profile

A - 0 to 6 inches: fine sand
C - 6 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: About 42 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R155XY002FL), Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

Description of Millhopper

Setting

Landform: Knolls on marine terraces, rises on marine terraces
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve, riser
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 6 inches: fine sand
E - 6 to 64 inches: fine sand
Bt - 64 to 76 inches: fine sandy loam
Btg - 76 to 80 inches: sandy clay loam

Draft

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 42 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Forage suitability group: Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R155XY002FL), Sandy soils on rises, knolls, and ridges of mesic uplands (G155XB121FL)
Hydric soil rating: No

Minor Components

Candler

Percent of map unit: 3 percent
Landform: Hills on marine terraces, knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Longleaf Pine-Turkey Oak Hills (R154XY002FL), Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Myakka

Percent of map unit: 2 percent
Landform: Drainageways on flatwoods on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear
Other vegetative classification: South Florida Flatwoods (R155XY003FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: No

Felda

Percent of map unit: 2 percent
Landform: Depressions on marine terraces, flats on marine terraces
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Linear
Across-slope shape: Concave, linear

Draft

Other vegetative classification: Freshwater Marshes and Ponds (R155XY010FL), Sandy over loamy soils on stream terraces, flood plains, or in depressions (G155XB245FL)
Hydric soil rating: Yes

Astatula

Percent of map unit: 2 percent
Landform: Hills on marine terraces, knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Sandy soils on ridges and dunes of xeric uplands (G155XB111FL)
Hydric soil rating: No

Pomello

Percent of map unit: 1 percent
Landform: Knolls on marine terraces, ridges on marine terraces
Landform position (two-dimensional): Summit, backslope
Landform position (three-dimensional): Interfluve, side slope, riser
Down-slope shape: Convex, linear
Across-slope shape: Linear
Other vegetative classification: Sand Pine Scrub (R155XY001FL), Sandy soils on rises and knolls of mesic uplands (G155XB131FL)
Hydric soil rating: No

Draft

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Draft

GEOTECHNICAL REPORTS

Summary of Seasonal High Groundwater Table Estimates

Branch Forbes Road From S. of US 92 to N. of I-4

Hillsborough County, Florida

FPID No. 447159-1-32-01

Tierra Project No. 6511-21-053-001

Boring Name	Boring Location[1]				Survey Ground Elevation[1] (feet, NAVD 88)	Boring Depth[2] (feet)	Measured Groundwater Table			USDA Soil Survey		Estimated SHGWT[4]	
	State Plane West		Station (feet)	Offset (feet)			Date Recorded	Depth[2] (feet)	Elevation (feet, NAVD 88)	Map Symbol	Estimated SHGWT[3] Depth (feet)	Depth[2] (feet)	Elevation (feet, NAVD 88)
	Easting	Northing											
I-4 at Branch Forbes													
SH - 1775L	594076	1342705	1775 + 08	179 LT.	93.0	5.0	11/24/21	GNE	<88.0	19	>6.0	4.5	88.5
SH - 1775R	594062	1342427	1774 + 94	100 RT.	98.2	6.0	11/24/21	5.6	92.6	19	>6.0	5.0	93.2
SH - 1777L	594313	1342709	1777 + 45	183 LT.	97.4	1.0	11/24/21	GNE	<96.4	19	>6.0	>1.0	<96.4
SH - 1777R	594311	1342417	1777 + 44	109 RT.	99.1	5.5	11/23/21	GNE	<93.6	19	>6.0	>5.5	<93.6
SH - 1780L	594560	1342712	1779 + 93	186 LT.	100.1	6.0	11/24/21	GNE	<94.1	19	>6.0	>6.0	<94.1
SH - 1780R	594555	1342407	1779 + 88	119 RT.	96.1	6.0	11/24/21	GNE	<90.1	19	>6.0	4.5	91.6
SH - 1782L	594814	1342728	1782 + 46	202 LT.	100.0	5.0	11/24/21	GNE	<95.0	19/46	>6.0 / 0.0-1.0	>5.0	<95.0
SH - 1782R	594799	1342381	1782 + 32	144 RT.	96.1	5.0	11/24/21	GNE	<91.1	19	>6.0	>5.0	<91.1
SH - 1785L	595068	1342766	1785 + 00	240 LT.	96.2	6.0	11/24/21	GNE	<90.2	5/46	+2.0-0.0 / 0.0-1.0	>6.0	<90.2
SH - 1785R	595063	1342342	1784 + 96	183 RT.	93.3	6.0	11/23/21	GNE	<87.3	5/46	+2.0-0.0 / 0.0-1.0	4.5	88.8
SH - 1787L	595311	1342814	1787 + 43	288 LT.	90.8	6.0	11/23/21	GNE	<84.8	5	+2.0-0.0	3.5	87.3
SH - 1787R	595354	1342280	1787 + 87	246 RT.	91.4	6.0	11/23/21	GNE	<85.4	46	0.0-1.0	3.0	88.4
SH - 1790L	595514	1342759	1789 + 46	233 LT.	91.6	5.0	11/24/21	GNE	<86.6	5	+2.0-0.0	3.5	88.1
SH - 1790R	595548	1342339	1789 + 81	186 RT.	94.0	6.0	11/23/21	GNE	<88.0	46	0.0-1.0	5.0	89.0
SH - 1792L	595687	1342893	1791 + 19	368 LT.	90.1	5.0	11/24/21	GNE	<85.1	47	1.5-3.5	1.5	88.6
SH - 1792R	595692	1342226	1791 + 26	299 RT.	91.5	3.5	11/23/21	GNE	<88.0	46	0.0-1.0	2.5	89.0
SH - 1794L	595964	1342810	1793 + 97	285 LT.	92.2	6.0	11/24/21	GNE	<86.2	25/47	>6.0	3.5	88.7
SH - 1794R	595976	1342260	1794 + 08	265 RT.	89.5	4.0	11/23/21	3.4	86.1	5/47	+2.0-0.0 / 1.5-3.5	1.0	88.5
SH - 1796L	596215	1342830	1796 + 49	304 LT.	95.6	6.0	11/24/21	GNE	<89.6	25	>6.0	>6.0	<89.6
SH - 1796R	596197	1342319	1796 + 29	206 RT.	94.4	6.0	11/23/21	GNE	<88.4	25/47	>6.0 / 1.5-3.5	5.0	89.4
SH - 1799L	596462	1342787	1798 + 96	261 LT.	99.1	5.0	11/24/21	GNE	<94.1	25	>6.0	>5.0	<94.1
SH - 1799R	596471	1342365	1799 + 03	161 RT.	102.8	5.0	11/23/21	GNE	<97.8	25	>6.0	>5.0	<97.8
SH - 1801L	596716	1342772	1801 + 50	245 LT.	99.8	6.0	11/24/21	GNE	<93.8	25	>6.0	>6.0	<93.8
SH - 1801R	596684	1342423	1801 + 16	104 RT.	103.2	5.0	11/23/21	GNE	<98.2	25	>6.0	>5.0	<98.2
SH - 1804L	596943	1342760	1803 + 77	233 LT.	99.9	5.0	11/24/21	GNE	<94.9	25	>6.0	>5.0	<94.9
SH - 1804R	596915	1342443	1803 + 48	84 RT.	102.7	5.0	11/24/21	GNE	<97.7	25	>6.0	>6.0	<97.7
SH - 1806L	597216	1342738	1806 + 49	210 LT.	102.6	6.5	11/24/21	GNE	<96.1	25	>6.0	>6.5	<96.1
SH - 1806R	597192	1342453	1806 + 25	75 RT.	104.7	5.5	11/24/21	GNE	<99.2	25	>6.0	>5.5	<99.2
SH - 1809L	597460	1342726	1808 + 93	198 LT.	103.2	5.5	11/24/21	GNE	<97.7	61	1.5-3.5	>5.5	<97.7
SH - 1811L	597722	1342718	1811 + 55	190 LT.	104.7	6.5	11/24/21	GNE	<98.2	61	1.5-3.5	>6.5	<98.2

(1) Boring locations and elevations were provided by Element Engineering Group, LLC.

(2) Depth below existing grades at time of augering.

(3) Seasonal high groundwater table depth estimated based on the Hillsborough County, Florida USDA Soil Survey information.

(4) Seasonal high groundwater table depth estimated based on soil stratigraphy, measured groundwater levels from the borings, and review of the Hillsborough County, Florida USDA Soil Survey.

P SHGWT anticipated to "perch" above silty to clayey soils encountered within test borings at indicated depths.

GNE: Groundwater Not Encountered within boring depth.

ABG: At or above the existing ground surface.

Draft

Summary of Seasonal High Groundwater Table Estimates

US 92/SR 600 From W. of Forbes Road to E. of Forbes Road

Hillsborough County, Florida

FPID No. 447160-1-32-01

Tierra Project No. 6511-21-053-002

Boring Name	Boring Location[1]				Survey Ground Elevation[1] (feet, NAVD 88)	Boring Depth[2] (feet)	Measured Groundwater Table			USDA Soil Survey		Estimated SHGWT[4]	
	State Plane West		Station (feet)	Offset (feet)			Date Recorded	Depth[2] (feet)	Elevation (feet, NAVD 88)	Map Symbol	Estimated SHGWT[3] Depth (feet)	Depth[2] (feet)	Elevation (feet, NAVD 88)
	Easting	Northing											
SH - 538	593431	1340512	537 + 99	21 LT.	91.5	5.0	09/20/21	2.8	88.7	46	0.0-1.0	2.5	89.0
SH - 540	593640	1340445	540 + 11	35 RT.	90.5	6.0	09/20/21	2.4	88.1	46	0.0-1.0	1.5	89.0
SH - 543	593927	1340492	542 + 95	28 LT.	92.0	7.0	09/20/21	3.5	88.5	18	>6.0	3.0	89.0
SH - 545	594125	1340419	544 + 97	35 RT.	96.9	7.0	09/20/21	GNE	< 89.9	18	>6.0	5.5[P]	91.4[P]
SH - 548	594429	1340400	548 + 02	37 RT.	98.3	7.0	09/20/21	GNE	< 91.3	18	>6.0	>7.0	<91.3
SH - 550	594625	1340394	549 + 98	33 RT.	96.4	10.0	09/20/21	GNE	< 86.4	18	>6.0	5.0[P]	91.4[P]
SH - 553	594930	1340439	553 + 00	29 LT.	94.9	7.5	09/20/21	6.2	88.7	18/46	>6.0 / 0.0-1.0	3.0[P]	91.9[P]
SH - 555	595126	1340440	554 + 96	40 LT.	89.5	5.0	09/20/21	0.5	89.0	5	+2.0-0.0	ABG	>89.5
SH - 558	595427	1340344	558 + 01	40 RT.	92.1	14.0	09/20/21	3.0	89.1	46/53	0.0-1.0 / 3.5-6.0	2.0	90.1
SH - 560	595632	1340426	560 + 02	53 LT.	95.9	7.0	09/20/21	6.2	89.7	53	3.5-6.0	5.0	90.9
SH - 563	595943	1340322	563 + 18	34 RT.	98.2	6.0	09/20/21	6.0	92.2	53	3.5-6.0	5.0	93.2
SH - 565	596132	1340319	565 + 07	27 RT.	98.5	7.0	09/20/21	5.4	93.1	3	3.5-6.0	4.5	94.0
SH - 568	596430	1340371	568 + 01	41 LT.	99.5	7.0	09/20/21	6.0	93.5	53	3.5-6.0	5.0	94.5
SH - 570	596618	1340299	569 + 93	20 RT.	98.8	9.0	09/20/21	6.6	92.2	29/46	0.5-1.5 / 0.0-1.0	6.0	92.8
SH - 572	596839	1340272	572 + 15	35 RT.	94.9	4.5	09/20/21	2.9	92.0	5/46	+2.0-0.0 / 0.0-1.0	2.5	92.4
SH - 574	597028	1340326	574 + 00	29 LT.	95.7	4.5	09/20/21	3.6	92.1	46	0.0-1.0	3.0	92.7
SH - 577	597315	1340243	576 + 92	39 RT.	96.0	5.0	09/20/21	2.7	93.3	29/46	0.5-1.5 / 0.0-1.0	1.5	94.5
SH - 579	597539	1340300	579 + 13	30 LT.	99.0	7.0	09/20/21	5.3	93.7	29	0.5-1.5	4.5	94.5
SH - 581	597736	1340219	581 + 14	40 RT.	97.6	5.0	09/20/21	2.7	94.9	29	0.5-1.5	1.0	96.6
SH - 583	597953	1340288	583 + 27	41 LT.	100.1	5.0	09/20/21	3.0	97.1	29/47	0.5-1.5 / 1.5-3.5	2.0	98.1

(1) Boring locations and elevations were provided by Element Engineering Group, LLC.

(2) Depth below existing grades at time of augering.

(3) Seasonal high groundwater table depth estimated based on the Hillsborough County, Florida USDA Soil Survey information.

(4) Seasonal high groundwater table depth estimated based on soil stratigraphy, measured groundwater levels from the borings, and review of the Hillsborough County, Florida USDA Soil Survey.

P SHGWT anticipated to "perch" above silty to clayey soils encountered within test borings at indicated depths.

GNE: Groundwater Not Encountered within boring depth.

ABG: At or above the existing ground surface.

Draft

EXCERPTS FROM ERP 40011896.01

THIS CONTRACT PLAN SET INCLUDES:

SUMMARY OF PAY ITEMS (SHEETS)
BOX CULVERT DATA SHEETS
ROADWAY PLANS
SIGNING AND PAVEMENT MARKINGS
ROADWAY LIGHTING PLANS
LANDSCAPE PLANS
STRUCTURE PLANS

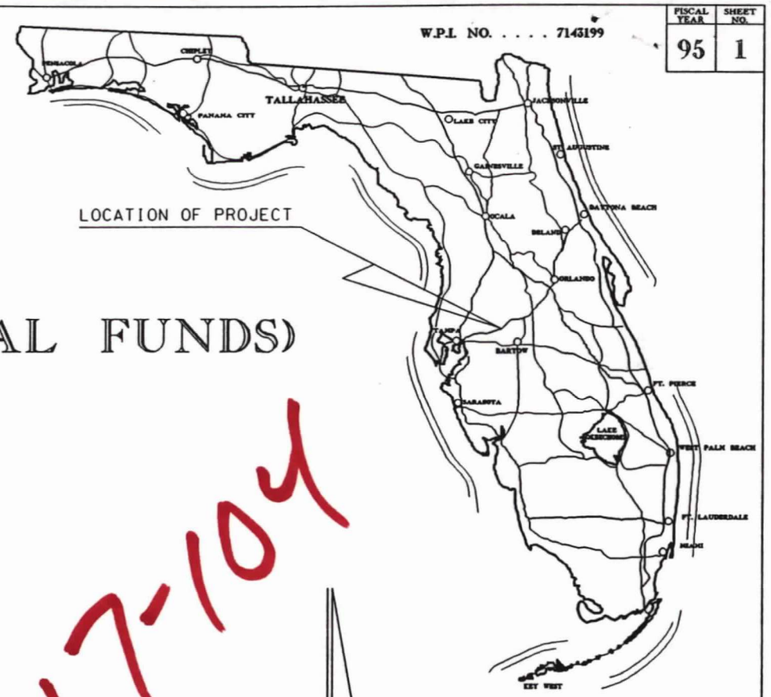
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY

STATE PROJECT NO. 10190-3430 (FEDERAL FUNDS)
HILLSBOROUGH COUNTY
STATE ROAD NO. 400 (I-4)
SEGMENT NO. 3
(EAST OF McINTOSH ROAD TO BRANCH FORBES ROAD)

FISCAL YEAR	SHEET NO.
95	1

W.P.I. NO. 7143199



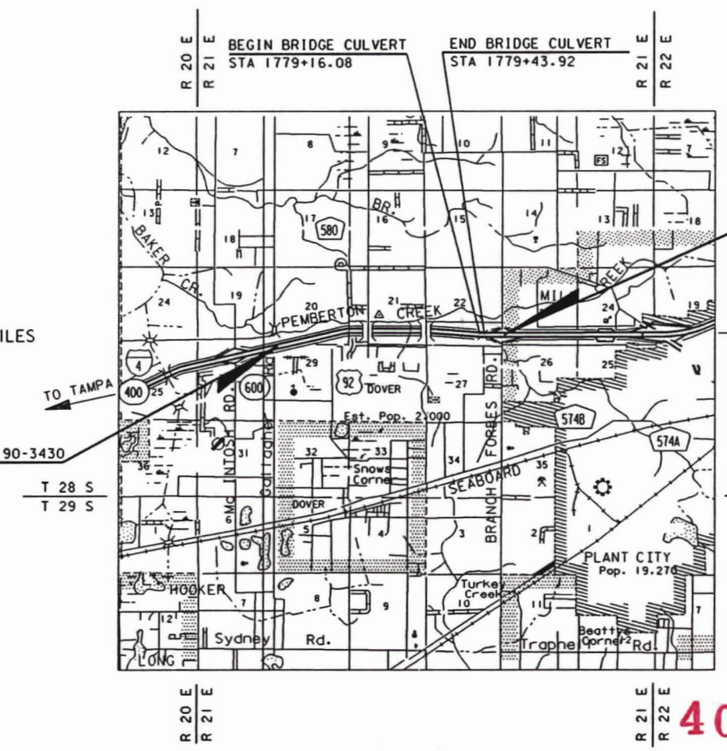
17-104

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH GROUP OF PLANS

INDEX OF ROADWAY PLANS

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	INTERCHANGE DRAINAGE MAP
3-6	TYPICAL SECTIONS
7-9	* SUMMARY OF QUANTITIES
10-17	* SUMMARY OF DRAINAGE STRUCTURES
18	PROJECT LAYOUT SHEET
19	HORIZONTAL ALIGNMENT PLAN
20-21	REFERENCE POINTS
22	BENCH MARK DATA
23-41	PLAN PROFILES & SPECIAL PROFILES
42	INTERCHANGE LAYOUTS
43-44	RAMP PLAN & PROFILES
45-49	POND DETAILS
50-79	DRAINAGE STRUCTURES
80	SPECIAL DETAILS
81	CROSS SECTION PATTERN SHEET
82-84	ROADWAY SOIL SURVEY
85-188	CROSS SECTIONS, SIDE ROAD DRIVEWAY PROFILES
	* TRAFFIC CONTROL SHEETS
189-190	* UTILITY ADJUSTMENTS
	STORMWATER POLLUTION PREVENTION PLAN

* NOT INCLUDED IN PERMITTING PLAN SETS.



N

2 MILES

Southwest Florida Water Management District
SEP 30 1994
PROCESSING & RECORDS
Brooksville, Florida

PHASE II SUBMITTAL

ENGINEER OF RECORD:
PETER C. KELLIHER, P.E.

PLANS PREPARED BY:
POST. BUCKLEY. SCHUH & JERNIGAN
5300 WEST CYPRESS STREET.. SUITE 300
TAMPA. FL 33607

GREENHORNE & O'MARA. INC.
1511 N WESTSHORE BLVD.. SUITE 250
TAMPA. FL 33607

FALLER. DAVIS & ASSOCIATES. INC.
550 NORTH REO STREET.. SUITE 200
TAMPA. FL 33609

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS
SEP 26 1994

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH AND ARE GOVERNED BY THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC DESIGN STANDARDS. (BOOKLET DATED JANUARY, 1992)

FILE OF RECORD
PERMIT NO. 4011896.01

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

GOVERNING SPECIFICATIONS: STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS, DATED 1991 AND SUPPLEMENTS THERETO IF NOTED IN THE SPECIAL PROVISIONS FOR THIS PROJECT.

Southwest Florida Water Management District
Received
FEB 24 1994
PRO - TAMPA

ROADWAY PLANS APPROVED BY: _____

P.E. NUMBER: _____

DATE: _____

LENGTH OF PROJECT

	LINEAR FT.	MILES
ROADWAY		
BRIDGES		
NET LENGTH OF PROJ.		
EXCEPTIONS		
GROSS LENGTH OF PROJ.		

REVISIONS		
DATE	BY	DESCRIPTION

Draft

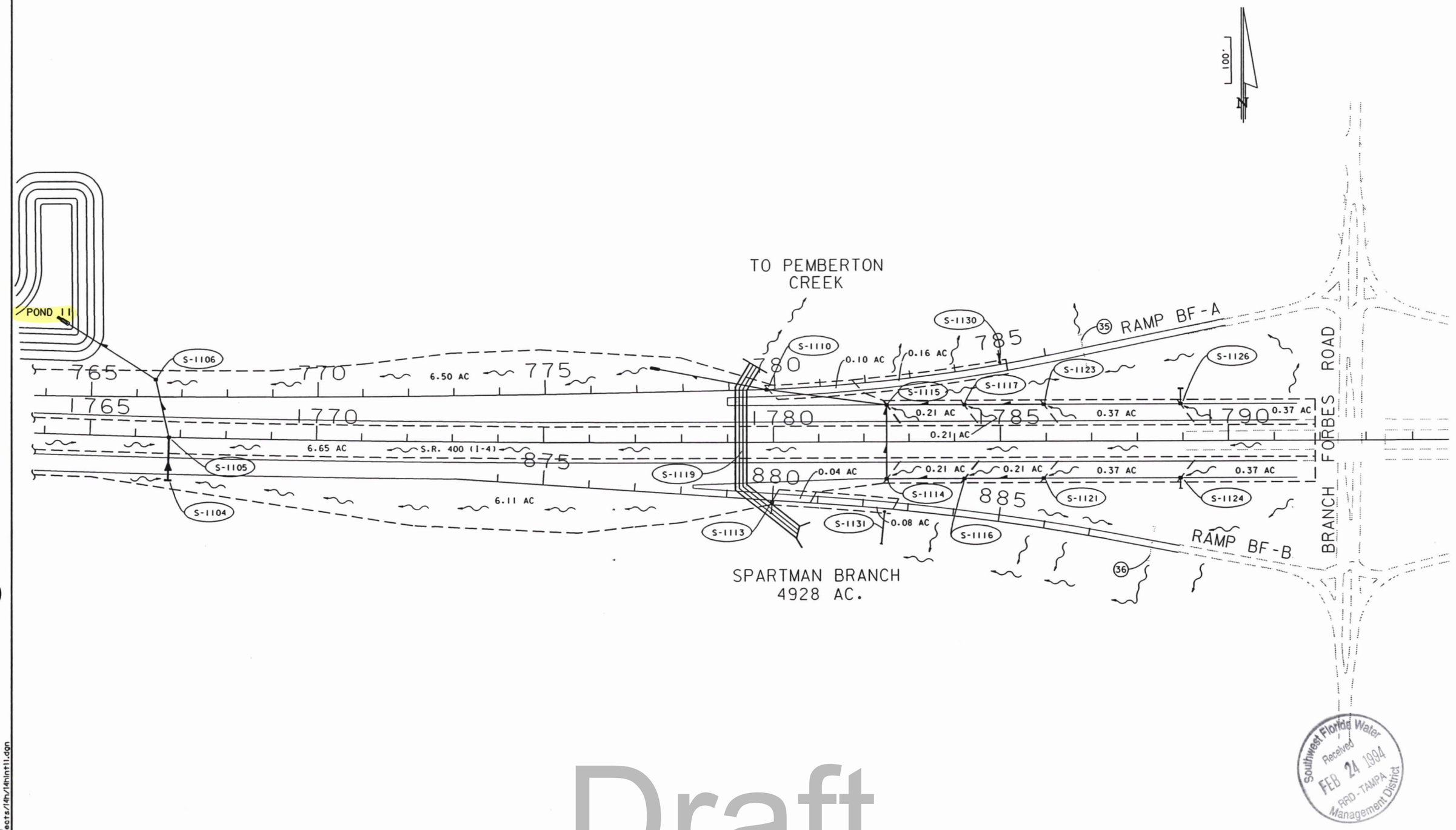
D.O.T. PROJECT MANAGER : DAVID O. THEUNG. P.E.

2/24/94 Mailing 2/10
179 sheets

THIS DOES NOT CONTAIN EXEMPT INFO

18-FEB-1994
/usr2/projects/14hr/swfwm

STATE PROJECT NO.	SHEET NO.
10190-3430	2



Draft

Southwest Florida Water Management District
Received
FEB 24 1994
RRD - TAMPA

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ POST, BUCKLEY, SCHUH & JERNIGAN ENGINEERING - PLANNING - ARCHITECTURE

	NAME	DATE		NAME	DATE
DESIGNED BY	S.C.M.	8/93	CADD BY	M.R.K.	8/93
CHECKED BY	J.G.C.	8/93	CHECKED BY	M.A.J.	8/93

SUPERVISED BY: PETER C. KELLIHER, P.E.

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

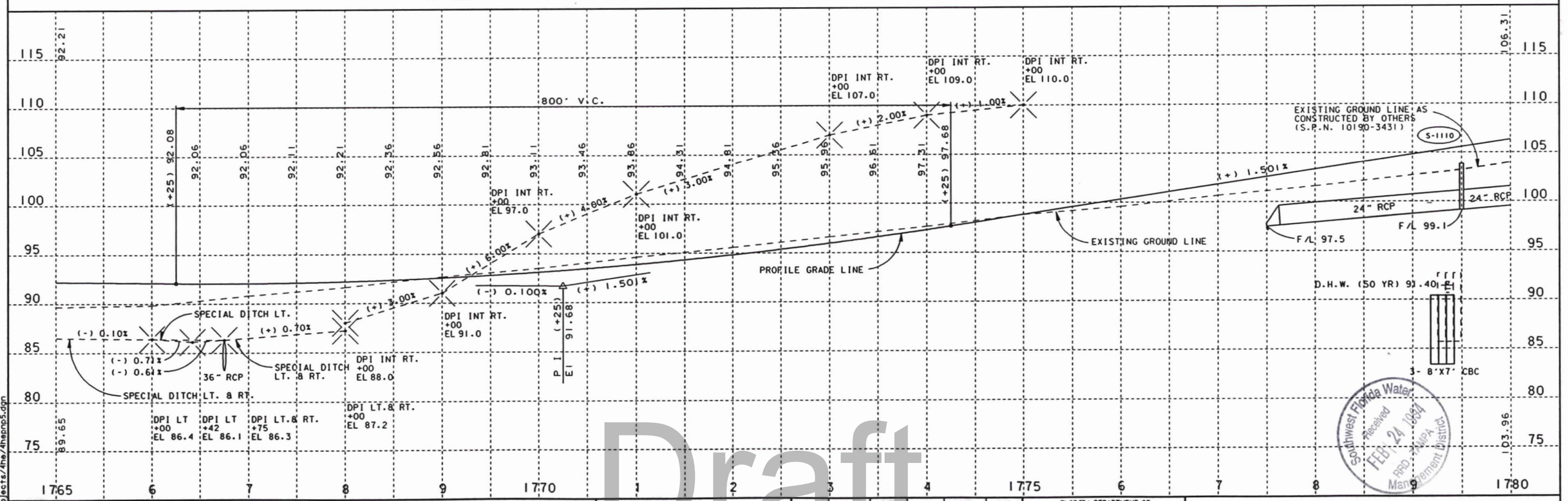
BRANCH FORBES ROAD INTERCHANGE DRAINAGE MAP

18-FEB-1994
/usr2/projects/14h/14hint11.dgn

(227)

STATE PROJECT NO.	SHEET NO.
10190-3430	33

TO POND II
6"
CONST. TYPE 'A' FENCE
160.00' (LT)
PROPOSED R/W
JURISDICTIONAL WETLAND BOUNDARY
54" RCP
S-1106
36" RCP
S-1105
2e (24" RCP)
S-1104
200.00' (LT)
CURVE BF-A2
PI Sta 770+00.46
Δ = 2° 20' 29" (LT)
D = 0° 10' 02"
L = 1,400.72'
T = 700.46'
R = 34,277.22'
PC Sta 763+00.00
PT Sta 777+00.72
R=17018.73'
Δ=97.94'
T=48.97'
SHLDR PAVT.
EXISTING R/W
PROPOSED LA R/W
LIMITS OF CONSTRUCTION
℄ RAMP BF-A
S 89°57'18" E
T48.54'
PT Sta 777+00.172
PT Sta 777+04.28
28.08'
200.00' (LT)
RUBBLE RIPRAP
PC Sta 779+28.67
24" RCP
160.00' (LT)
N 88° 53' 57" E
+00.00
80.00'LT
17'
S-1110
6'
36"
3e 8'X7' CBC
N 89° 57' 18" E
BEGIN BRIDGE CULVERT
STA 1779+16.08
END BRIDGE CULVERT
STA 1779+43.92
+25.00
92.00'RT
S-1119
44'
36" CMP
7'
6'
S-1113
SHLDR PAVT.
SHLDR LINE
℄ CONSTRUCTION
STATE ROAD NO. 400 (I-4)
℄ SURVEY
S 89° 57' 18" E
S 85° 57' 18" E
BEGIN ℄ RAMP BF-B
STA 873+06.73 =
1773+06.73 (80.00' RT.) ℄ CONST.
℄ RAMP BF-B
S 89°57'18" E
T41.06'
R=17303.73'
Δ=200.25'
T=100.13'
Δ=0°39'47"
CURVE CL70
PI Sta 1765+75.33
Δ = 3° 45' 52" (LT)
D = 0° 10' 00"
L = 2,258.71'
T = 1,129.76'
R = 34,377.47'
PC Sta 1754+45.57
PT Sta 1777+04.28
e = N.C.
170.00' (RT)
+70.00
BEGIN DITCH PAV'T.
JURISDICTIONAL WETLAND BOUNDARY
9'
230.00' (RT)
+00.00
END DITCH PAV'T.
100'
+79.41
230.00' (RT)
1765
1770
1775
1780
770
775
780
785
875
880



Draft

Southwest Florida Water Management District
Received
FEB 24 1994
RRD TAMPA

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ POST, BUCKLEY, SCHUH & JERNIGAN ENGINEERING - PLANNING - ARCHITECTURE

	NAME	DATE		NAME	DATE
DESIGNED BY	S.C.M.	8/93	CADD BY	M.R.K.	8/93
CHECKED BY	J.G.C.	8/93	CHECKED BY	M.A.J.	8/93

SUPERVISED BY: PETER C. KELLIHER, P.E.

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

PLAN & PROFILE
STA. 1765+00 TO STA. 1780+00

22-FEB-1994
/usr/projects/4he/4heanp5.dgn

L4X21

STATE PROJECT NO.	SHEET NO.
10190-3430	34

JURISDICTIONAL WETLAND BOUNDARY

160.00' (LT) PROPOSED LA R/W

+72.45

160.00' (LT) EXIST. R/W

CONST. TYPE 'A' FENCE

6"

EXISTING R/W

CONST. SHLDR. GUTTER

LIMITS OF CONSTRUCTION

10" DIP

S-1130

PT Sta 786+08.92

N 78°29'55" E

SEE RAMP BF-A SHT

℄ RAMP BF-A

EXISTING STRUCTURE TO REMAIN

CURVE BF-A1
PI Sta 782+69.70
Δ = 10° 12' 14" (LT)
D = 1° 30' 00"
L = 680.25'
T = 341.03'
R = 3,819.72'
PC Sta 779+28.67
PT Sta 786+08.92
e = .03

END PROJECT
STA 1791+42.56
STA 791+50.00
(S.P.N. 10190-3431)

780

24" RCP

S-1115

18" RCP 2'

S-1117

18" RCP

S-1123

CONST. SHLDR. GUTTER

SHLDR LINE

10" DIP

S-1126

SHLDR PAVT.

P.I. Sta 1786+21.34
Δ = 0°13'13"RT
NO CURVE

10'
10'
2'

℄ CONSTRUCTION

SHLDR PAVT.

1780

1785

1790

1795

S 89° 57' 18" E

STATE ROAD NO. 400 (I-4)

SHLDR LINE

N 89° 49' 29" E

36'
44'
36'

18" RCP

2'
2'

SHLDR PAVT.

10'
10'

+85.00
80.00'RT

SHLDR PAVT.

880

18" RCP 2'

18" RCP

S-1114

S-1116

S-1121

CONST. SHLDR. GUTTER

10" DIP

SHLDR LINE

S-1124

STATE PROJECT NO. 10190-3431
BY OTHERS

BRANCH FORBES ROAD

S-1113

885

CONST. SHLDR. GUTTER

S-1131

℄ RAMP BF-B

SEE RAMP BF-B SHT

CURVE BF-B1
PI Sta 884+24.45
Δ = 6° 20' 58" (RT)
D = 1° 00' 00.00"
L = 634.93'
T = 317.79'
R = 5,729.58'
PC Sta 881+06.65
PT Sta 887+41.59
e = .03

TRIPLE 8'X7' RCP

PC Sta 881+06.65

JURISDICTIONAL WETLAND BOUNDARY

10" DIP

LIMITS OF CONSTRUCTION

(+50)
24.96

P I
EI

(+) 1.501%

(-) 1.730%

EQUATION:
BK 1791+42.56
AH 791+50.00

END PROJECT
STA: 1791+42.56
MATCH EXIST. PAV'T.
EL 119.31

PROFILE GRADE LINE

S-1115

S-1117

S-1123

(+) 1.501%

24" RCP

18" RCP

18" RCP

F/L 101.6

F/L 105.3

F/L 107.8

* STATE PROJECT NO. 10190-3431
(BY OTHERS)

(+42.56) 114.45
114.57
115.28
115.93
116.53
117.07
117.55
117.98
118.34
118.65
118.91
119.10
119.24
119.31
119.33
119.31
119.22
119.08
118.87
118.62

1400' V.C.

119.87*

106.31

103.96

118.30

125
120
115
110
105
100
95
90
85

1780 1 2 3 4 1785 6 7 8 9 1790 1 2 3

Draft

Southwest Florida Water Management District
Received FEB 24 1994
TBD - TAMPA

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ POST, BUCKLEY, SCHUH & JERNIGAN
ENGINEERING - PLANNING - ARCHITECTURE

	NAME	DATE		NAME	DATE
DESIGNED BY	S.C.M.	8/93	CADD BY	M.R.K.	8/93
CHECKED BY	J.G.C.	8/93	CHECKED BY	M.A.J.	8/93

SUPERVISED BY: PETER C. KELLIHER, P.E.

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

PLAN & PROFILE
STA. 1780+00 TO STA. 1791+50

18-FEB-1994
/rf/projects/4he/4hepn05.dgn

8R21

STATE PROJECT NO.	SHEET NO.
10190-3430	69

℄ CONSTRUCTION

105
100
95
90
85
80
75
70

S-1106
STA 1766+42 (125' LT.)
CONST. TYPE D DBI W/U BOTTOM (5'x8')
W/2 TRAV SLOTS
INDEX 201, 232
F/L = 79.7 (NW)
F/L = 81.2 (S)
GRATE EL. 86.1

PROPOSED R/W
90.0
86.1
EXISTING R/W
92.06
89.4
92.06
37'
10'
EXISTING R/W
86.3
90.0
PROPOSED R/W

CONST. 225 LF OF 36" RCP
CONST. 228 LF (2 @ 114 LF) OF 24" RCP
CONST. RUBBLE RIPRAP (10'X6')

S-1105
STA 1766+75 (0' LT.)
CONST. TYPE D DBI
W/2 TRAV SLOTS
INDEX NO. 232
F/L = 84.4 (S)
F/L = 83.2 (N)
GRATE EL. 89.4

S-1104
STA 1766+75 (117' RT.)
CONST. CONC ENDWALL
2 @ 24" RCP
INDEX 250
F/L = 86.3

FOR S-1107 THRU S-1109
NOT USED

STA 1764+45 (239' LT)
CONST U-TYPE CONC ENDWALL
W/ ENERGY DISSIPATOR
INDEX 264
F/L = 79.0

POND 11

CONST. 208 LF OF 54" RCP

FOR SUMP DETAILS
SEE SHT 48

S-1106
S-1105
S-1104
1766+75.00

SCALE : 20' H
5' V

300 250 200 150 100 50 0 50 100 150 200 250

℄ CONSTRUCTION

Draft

22-FEB-1994
/usr2/projects/4hd/4hdstruc.dgn

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ POST, BUCKLEY, SCHUH & JERNIGAN
ENGINEERING - PLANNING - ARCHITECTURE

	NAME	DATE		NAME	DATE
DESIGNED BY	S.C.M.	8/93	CADD BY	M.R.K.	8/93
CHECKED BY	J.G.C.	8/93	CHECKED BY	M.A.J.	8/93

SUPERVISED BY: PETER C. KELLIHER, P.E.

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

DRAINAGE STRUCTURES

STATE PROJECT NO.	SHEET NO.
10190-3430	73

℄ CONSTRUCTION

SEE BOX CULVERT GRADING PLAN SHEET NO. 79

CONST. 3 @ 8'x7'

STA 1779+59.9 (166' LT)
CONST. HEADWALL PERPENDICULAR TO CULVERT
INDEX 290
F/L EL. = 83.0

60.00 | 80.00

℄ SURVEY LT. | ℄ SURVEY RT.

103.45 | 105.22 | 105.22 | 103.15

2:1 | 4:1

CONST. 452 LF OF 3 @ 8'x7' CBC

CONST. 8 LF OF 10" DIP

CONNECT DIP THRU TOP SLAB OF CBC

STA 1779+30 (116' LT)
CONST. BEND (31°)
F/L EL. = 83.1

STA 1779+30 (98' RT)
CONST. BEND (52°)
F/L EL. = 83.6

S-1113

STA. 1779+85 (RT)
CONST. SHOULDER INLET
INDEX NO. 220
GRATE EL. 103.0
F/L EL. 99.0

S-1119

STA 1780+55 (196' RT)
CONST. HEADWALL PERPENDICULAR TO CULVERT
INDEX 290
F/L EL. = 84.0

SEE BOX CULVERT GRADING PLAN SHEET NO. 79

CONST. 3 @ 8'x7'

S-1113

1779+85.00

NOTE: S-1120 NOT USED

S-1119

1779+30.00

SCALE : 20' H / 5' V

125 120 115 110 105 100 95 90 85 80 75

90 85 80

300 250 200 150 100 50 0 50 100 150 200 250

℄ CONSTRUCTION

Draft

22-FEB-1994
/usr2/projects/4hd/4hdstruc.dgn

USE!

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ POST, BUCKLEY, SCHUH & JERNIGAN
ENGINEERING - PLANNING - ARCHITECTURE

	NAME	DATE		NAME	DATE
DESIGNED BY	S.C.M.	8/93	CADD BY	M.R.K.	8/93
CHECKED BY	J.G.C.	8/93	CHECKED BY	M.A.J.	8/93

SUPERVISED BY: PETER C. KELLIHER, P.E.

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

DRAINAGE STRUCTURES

STATE PROJECT NO.	SHEET NO.
10190-3430	79

STA. 1780+36 (290' LT.)
STA. 1779+84 (261' LT.)
STA. 1780+16 (304' LT.)
STA 1780+00 (246' LT.)
STA. 1779+81 (261' LT.)
END CHANNEL EXCAVATION
STA. 1780+49 (305' LT.)
STA. 1780+37 (289' LT.)
STA. 1780+37 (289' LT.)
NOTE:
TRANSITION CHANNEL
SIDESLOPES FROM 1.5:1
TO 2:1 IN 50'
STA. 1779+81 (200' LT.)
STA. 1779+55 (216' LT.)
STA. 1779+71 (206' LT.)
ARTICULATING BLOCK
RIP-RAP
TYPE D2 FILTER FABRIC
STA. 1780+06 (241' LT.)
STA. 1780+23 (227' LT.)
STA. 1780+14 (236' LT.)
STA. 1779+90 (193' LR.)
STA. 1780+00 (190' LT.)
STA. 1779+60 (166' LT.)
F/L 83.0
STA. 1779+32 (185' LT.)
STA. 1779+00 (158' LT.)
SEE CROSS SECTIONS
STA. 1779+00 (144' LT.)
STA. 1779+16 (
STA. 1779+00 (118' LT.)
STA. 1779+23 (139' LT.)
STA. 1780+06 (124' LT.)
STA. 1781+00 (126' LT.)
STA. 1782+00 (134' LT.)
SEE CROSS SECTIONS
I-880
S-1119
STA. 1779+00 (126' RT.)
STA. 1780+00 (133' RT.)
STA. 1781+00 (139' RT.)
STA. 1780+00 (172' RT.)
SEE CROSS SECTIONS
STA. 1779+00 (145' RT.)
STA. 1779+00 (174' RT.)
STA. 1779+35 (169' RT.)
STA. 1780+55 (196' RT.)
F/L 84.0
STA. 1780+78 (198' RT.)
STA. 1780+98 (188' RT.)
BEGIN CHANNEL EXCAVATION
STA. 1780+95 (204' RT.)
STA. 1780+90.5 (216' RT.)
STA. 1780+90 (226' RT.)
ARTICULATING BLOCK
RIP-RAP
TYPE D2 FILTER FABRIC

Draft

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ POST, BUCKLEY, SCHUH & JERNIGAN
ENGINEERING - PLANNING - ARCHITECTURE

	NAME	DATE		NAME	DATE
DESIGNED BY		12/93	CADD BY	T.O'B	12/93
CHECKED BY		12/93	CHECKED BY		12/93

SUPERVISED BY:

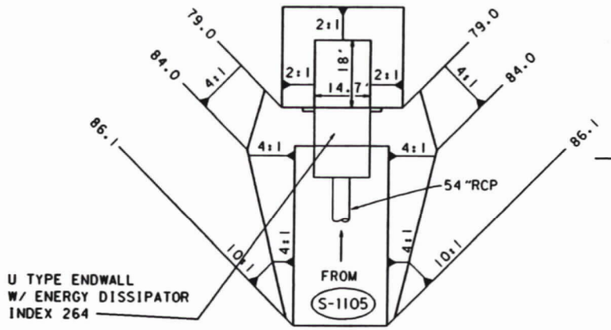
FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

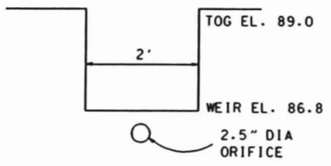
SPARTMAN BRANCH
BOX CULVERT GRADING PLAN

22-FEB-1994
/usr2/projects/14h/culvgrad.dgn

1293

STATE PROJECT NO.	SHEET NO.
10190-3430	



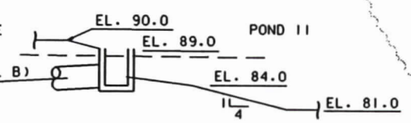


DETAIL B

N.T.S.

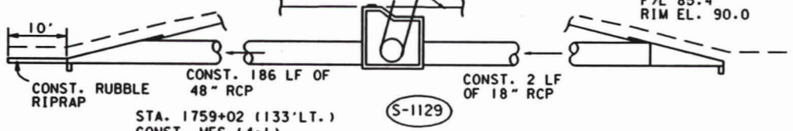
S-1128

STA. 1761+49 (224'LT)
CONST. TYPE H DBI (MOD) NO GRATE
INDEX 232
F/L 84.0
WEIR EL 86.8 (SEE ORIFICE DETAIL B)
ORIFICE EL. 86.1
SEE ALSO DETAIL A1
FOR WEIR AND ORIFICE
DIMENSIONS



S-1132

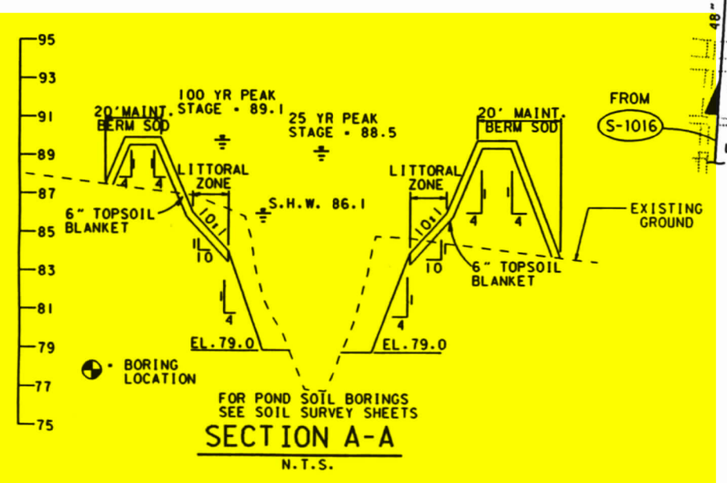
STA. 1761+06 (134'RT.)
CONST. MES (4:1)
INDEX 272
F/L 85.4
RIM EL. 90.0



S-1129

STA. 1759+02 (133'LT.)
CONST. MES (4:1)
INDEX 272
F/L 82.9

STA. 1760+91 (133'LT.)
CONST. J7-T M.H. (8' DIA)
INDEX 200.201
F/L 83.6
RIM EL. 90.0



SECTION A-A

N.T.S.

CONST. 30' CANTILEVER SLIDE
GATE TYPE "B" FENCE
INDEX 453

EXIST.
18" CMP

PROPERTY LINE

S-1127

STA. 1760+61
567' LT

STA. 1764+10
END TYPE "B" FENCE

DPI
EL = 86.4

STA 1764+79 (608' LT.)

STA. 1764+40
CONST. TYPE "B" FENCE

ATTACH MES
INDEX 272
TO EXIST. 18" CMP

℄ DITCH

DPI
EL = 86.0

REMOVE 58' OF 18" CMP

REMOVE ENDWALL

PA-1 S = 0.34%

TYPE "B"
FENCE

42"R

10:1

4:1

STA 1763+63
505' LT

20' MAINTENANCE BERM

POND 11

PA-2

TYPE "B"
FENCE

RP
STA. 1762+68
350' LT

STA. 1762+88
354' LT

STA. 1762+64
328' LT

STA. 1760+75
318' LT

PROPERTY
LINE

TYPE "B" FENCE

STA. 1761+63
241' LT

S-1128

135'

LITTORAL SHELF

81.0

TYPE "B"
FENCE

30'

STA. 1761+65
222' LT

86.1

90.0

20' MAINTENANCE BERM
90.0

SEE DETAIL A
FOR THIS AREA

PROPERTY LINE
STA. 1765+82 (+169' LT.)

154" RCP

DENSE TREES

RUBBLE
RIPRAP

S-1017

48" RCP

S-1129

S-1132

BILLBOARD

18" RCP

SIGN

S-1106

765

760

765

S.R. 400 (I-4)

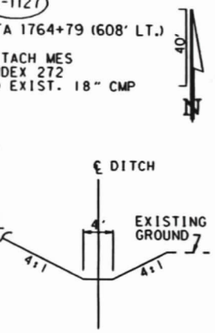
℄ CONST.

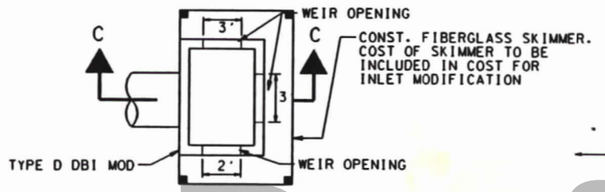
36" RCP

S-1105

2 @ 24" RCP
FROM
S-1104

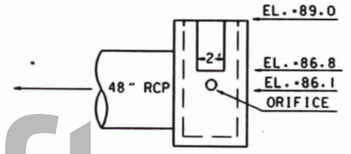
EL. 79.0



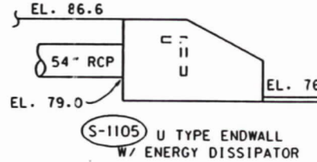


S-1128 DETAIL A1

N.T.S.



SECTION C-C



DETAIL A

Draft

RECEIVED
APR 20 1994
TAMPA

REVISIONS								
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

PBSJ POST, BUCKLEY, SCHUH & JERNIGAN
ENGINEERING - PLANNING - ARCHITECTURE

	NAME	DATE		NAME	DATE
DESIGNED BY	A.S.D.	9-93	CADD BY		9-93
CHECKED BY	D.D.K.	9-93	CHECKED BY	A.S.D.	9-93

SUPERVISED BY: PETER C. KELLIHER, P.E.

FLORIDA DEPARTMENT OF TRANSPORTATION
APPROVED BY:
DATE:

POND 11

EXCERPTS FROM ERP 40011896.02



APP ID# 40011896.002

DOC TYPE 1 of 4 AP pkgs

PAGE 1 THRU 295 OF 1104

Draft

SWFWMD ENGINEERING WORKSHEET

TABLE B

		BASIN # - POND #	100 - 1	100 - 1A	200 - 2	300 - 3	400 - 4A
		LOCATION	Sta 808+00 Lt	Ramp D	Sta 850+00 Rt &	Sta 900+00 Rt	Ramps F, G & H
P		POND BOTTOM EL. (FT)	86.0	93.0	95.0	102.0	110.5
O		SEASONAL HIGH WATER EL. (FT)	92.0	91.0	100.6	108.0	109.5
N		CONTROL DEVICE EL. (FT)	93.0	93.0	100.6	108.0	110.5
D		DESIGN LOW WATER EL. (FT)	93.8	93.0	101.1	109.00	110.5
		WEIR INVERT EL. (FT)	94.2	93.7	101.4	109.50	110.9
D		DESIGN HIGH WATER EL. (FT)	96.00	95.03	102.94	112.02	112.41
A		TOP OF BANK EL. (FT)	98.0	96.0	104.0	113.5	114.0
T		AREA AT TOP OF BANK (AC)	1.97	0.59	8.35	2.66	2.797
A		VOLUME AT DHW (AC-FT)	3.16	0.98	12.26	6.66	2.03
		VOLUME AT TOB (AC-FT)	6.77	1.87	20.66	10.46	5.99
Q							
U	25YR/24HR	WEIR WIDTH (FT.)	1.00	2.00	8.00	2.50	1.00
A	DISCHARGE	PRE-DEVELOPED (CFS)	11.51	12.29	40.02	53.71	7.25
N	RATES	POST-DEVELOPED (CFS)	8.96	9.86	36.75	39.65	4.54
T	100YR/24HR	PROVIDED (AC.-FT.)	0	0	0	0	0
I	RETENTION	REQUIRED (AC.-FT.)	0	0	0	0	0
T	VOLUMES						
Y							
Q	TREATMENT AREA (AC.)		16.38	6.39	55.78	27.74	14.46
U	TREATMENT VOLUME REQUIRED (AC-FT)		1.37	0.266	4.65	2.31	0.602
A	TREATMENT VOLUME PROVIDED (AC-FT)		1.62	0.284	4.87	3.02	0.613
L	METHOD OF TREATMENT		Wet Detention	Dry Detention	Wet Detention	Wet Detention	Dry Detention
I	CONTROL DEVICE TYPE		Orifice	Percolation	Orifice	Orifice	Percolation
T	CONTROL DEVICE DIMENSIONS		2.5 in.	-	4.9 in	3.3 in	-
Y	RECOVERY TIME (HRS)		205	36	205.5	205	36
100 YEAR		ENCROACHMENT (AC-FT)	0	0	0	0	0
FLOODPLAIN		COMPENSATION (AC-FT)	0	0	0	0	0

Draft

B-1
590

SUMMARY
POND 1

POND NUMBER	1
LOCATION	I-4, STATION 808+00 LT
TYPE OF TREATMENT	WET, BIOLOGICAL
EXISTING GROUND EL. (MSL)	94 - 102
SEASONAL HIGH WATER TABLE (SHWT) EL.(FT)	92
POND BOTTOM EL. (FT)	86
WEIR CREST EL. (FT)	94.2
DESIGN HIGH WATER (DHW25) EL. (FT)	96.0
BERM ELEVATION (FT)	98.0
POND TOTAL DRAINAGE AREA (AC)	26.57
IMPERVIOUS AREA (AC)	7.95
POND AREA -WATER BODY (AC)	1.20
PERVIOUS (GREEN) AREA (AC)	17.42
TREATMENT VOLUME REQUIRED (AC-FT) (1.0" OF ENTIRE R/W AREA)	1.37
TREATMENT VOLUME PROVIDED (AC-FT)	1.62
STORM FREQUENCIES - 24 HOUR	25-YEAR
RAINFALL TYPE	SCS TYPE II MOD. (SWFWMD)
UNIT HYDROGRAPH SHAPE FACTOR	256
WEIR LENGTH (FT)	1.0
PRE-DEVELOPMENT DISCHARGE (CFS)	11.51
POST-DEVELOPMENT DISCHARGE (CFS)	8.96
LITTORAL ZONE REQUIRED (AC)	0.46
LITTORAL ZONE PROVIDED (AC)	0.50
ORIFICE ELEVATION	93.0
ORIFICE DIAMETER REQUIRED (IN)	2.5
ORIFICE DIAMETER PROVIDED (IN)	2.5

Draft

POND 1 CALCULATIONS

- **TYPE OF TREATMENT:** Wet Detention/ On-line system

- **DRAINAGE AREA:**

Onsite Area:

Impervious surfaces (excluding water body):		7.95* ac
Pervious surfaces (green areas):		5.73 ac
Total pond area:		2.70 ac
Pervious area:	1.50	
Water body:	1.20	

Offsite Area:

Total offsite area:		10.19 ac
Pervious area:	10.19 ac	
Impervious area:	0.00	

Total drainage area (water quantity):	26.57 ac
Total right of way area (water quality):	16.38 ac

* All ponds are designed to accommodate the ultimate expansion of the I-4. The proposed grassed medians are assumed to be completely impervious for the future widening of the Interstate 4.

- **POND STAGE AND AREA:**

	Stage (ft)	Area (ac)
Pond Bottom Elevation	86.0	0.68
	90.0	0.80
SHWT Elevation	92.0	1.20
Orifice Elevation	93.0	1.30
Weir Elevation	94.2	1.40
	95.5	1.50
Berm Elevation	98.0	1.97

Draft



APP ID# 40011896.002

DOC TYPE 2 of 4 AP pkgs

PAGE 1 THRU 584 OF 1104

Draft

SUMMARY
POND 1A

POND NUMBER	1A
LOCATION	I-4, RAMP D
TYPE OF TREATMENT	Dry detention
EXISTING GROUND EL. (FT)	94 - 96
SEASONAL HIGH WATER TABLE (SHWT) EL. (FT)	91.0
POND BOTTOM (NWL) EL. (FT)	93.0
WEIR CREST EL. (FT)	93.7
DESIGN HIGH WATER (DHW25) EL. (FT)	95.03
BERM ELEVATION (FT)	96.0
POND TOTAL DRAINAGE AREA (AC)	6.39
IMPERVIOUS AREA (AC)	4.00
PERVIOUS (GREEN) AREA (AC)	2.39
TREATMENT VOLUME REQUIRED (AC-FT)	0.266
TREATMENT VOLUME PROVIDED (AC-FT)	0.284
STORM FREQUENCIES - 24-HOUR	25-YEAR
RAINFALL TYPE	SCS TYPE II MODIFIED (SWFWMD)
UNIT HYDROGRAPH SHAPE FACTOR	256
WEIR LENGTH (FT)	2.0
PRE-DEVELOPMENT DISCHARGE (CFS)	12.29
POST-DEVELOPMENT DISCHARGE (CFS)	9.86

Draft

POND 1-A CALCULATIONS
(IN-FIELD AREA, RAMP "D")

- **TYPE OF TREATMENT:** Dry Detention/ On-line system

- **DRAINAGE AREA:**

Onsite Area:

Impervious surfaces (excluding water body):		4.00 ac
Pervious surfaces (green areas):		2.39 ac
Total pond area:		*
Pervious area:	*	
Water body:	0.0	

Offsite Area:

Total offsite area:		0.00 ac
Pervious area:	0.00 ac	
Impervious area:	0.00 ac	

Total drainage area (water quantity):	6.39 ac
Total right of way area (water quality):	6.39 ac

* **Included in the "Pervious surfaces (green areas)"**

Note: All ponds are designed to accommodate the ultimate expansion of the I-4. The proposed grassed medians are assumed to be completely impervious for the future widening of the Interstate 4.

- POND STAGE AND AREA:

	Stage (ft)	Area (ac)
SHWT Elevation	91.0	-
Pond Bottom Elevation	93.0	0.38
Weir Elevation	93.7	0.43
Berm Elevation	96.0	0.59

Draft

EXCERPTS FROM ERP 43031172.00

COMPONENTS OF CONTRACT PLANS SET

ROADWAY PLANS
~~SIGNING AND PAVEMENT MARKING PLANS~~
~~SIGNALIZATION PLANS~~
~~STRUCTURE PLANS~~

A DETAILED INDEX APPEARS ON THE KEY SHEET OF EACH COMPONENT

INDEX OF ROADWAY PLANS
(LINED-OUT SHEETS NOT INCLUDED)

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2-4	TYPICAL SECTIONS
5-11	SUMMARY OF DRAINAGE STRUCTURES
12-24	REFERENCE POINTS
25	OPTIONAL MATERIALS TABULATION
26-146	PLAN
147-194	PROFILE
195-218	BACK OF SIDEWALK PROFILE
219-221	INTERSECTION LAYOUT DETAILS
222-249	DRAINAGE STRUCTURES
250	SPECIAL DRAINAGE DETAILS
251-252	ROADWAY SOIL SURVEY
253-261	MUCK DELINEATION
262-488	CROSS SECTIONS
489-615	STORMWATER POLLUTION PREVENTION PLAN
616-621	TRAFFIC CONTROL PLANS

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN STANDARDS DATED 2006, AND STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2007, AS AMENDED BY CONTRACT DOCUMENTS.

APPLICABLE DESIGN STANDARDS MODIFICATIONS: JULY 1, 2006

For Design Standards Modifications click on "Design Standards" at the following web site:
http://www.dot.state.fl.us/rddesign/

REVISIONS

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

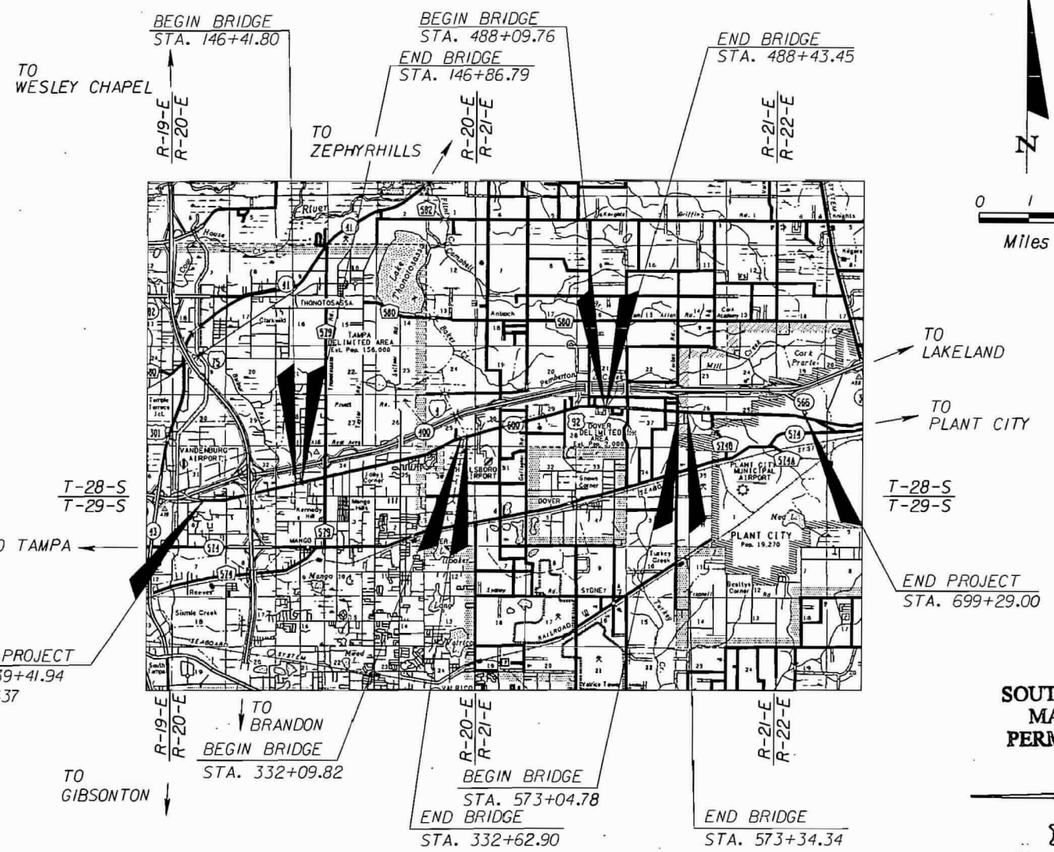
CONTRACT PLANS

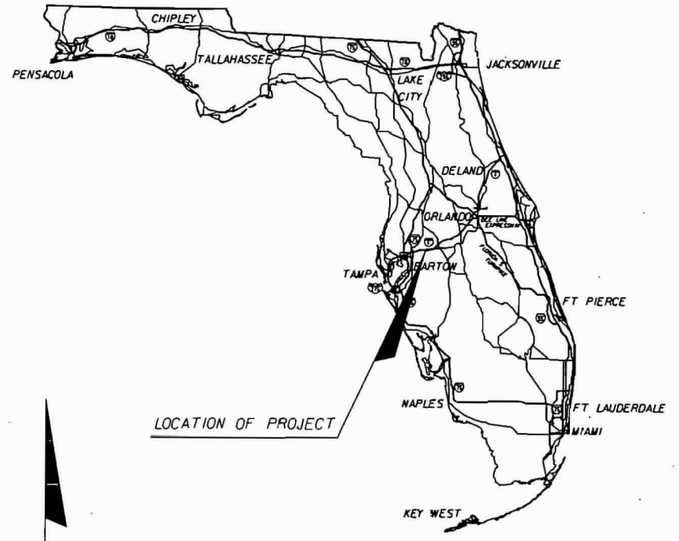
FINANCIAL PROJECT ID 411337-1-52-01

HILLSBOROUGH COUNTY (10030)

STATE ROAD NO. 600 (U.S. 92)

FROM EUREKA SPRINGS ROAD TO S.R. 566 (THONOTOSASSA ROAD)





LENGTH OF PROJECT		
	LINEAR FEET	MILES
ROADWAY	65,824.04	12.467
BRIDGES	163.02	0.031
NET LENGTH OF PROJECT	65,987.06	12.498
EXCEPTIONS	0.00	0.000
GROSS LENGTH OF PROJECT	65,987.06	12.498

FDOT PROJECT MANAGER: LYNDA CRESCENTINI

Draft

KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT RECEIVED NOV 1 RRD-TAMPA MANAGEMENT DISTRICT

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:

Robert J. Harrigan Jr., P.E.
PE NO. 45236
Volkert & Associates, Inc.
3409 West Lemon Street
Tampa, Florida 33609
TELEPHONE NO. (813) 875-1365
FAX: (813) 874-7656

PLANS PREPARED BY:
Volkert & Assaciates, Inc.
3409 West Lemon Street
Tampa, Florida 33609
Vendor No. 63-0247014
Contract No. C-8D33
Certificate of Authorization
No. 0000464l

NOTE: THE SCALE OF THESE PLANS MAY HAVE CHANGED DUE TO REPRODUCTION.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT PERMITTED CONSTRUCTION DRAWINGS 430311720000

FILE OF RECORD

ROBERT J. HARRIGAN STATE OF FLORIDA PROFESSIONAL ENGINEER

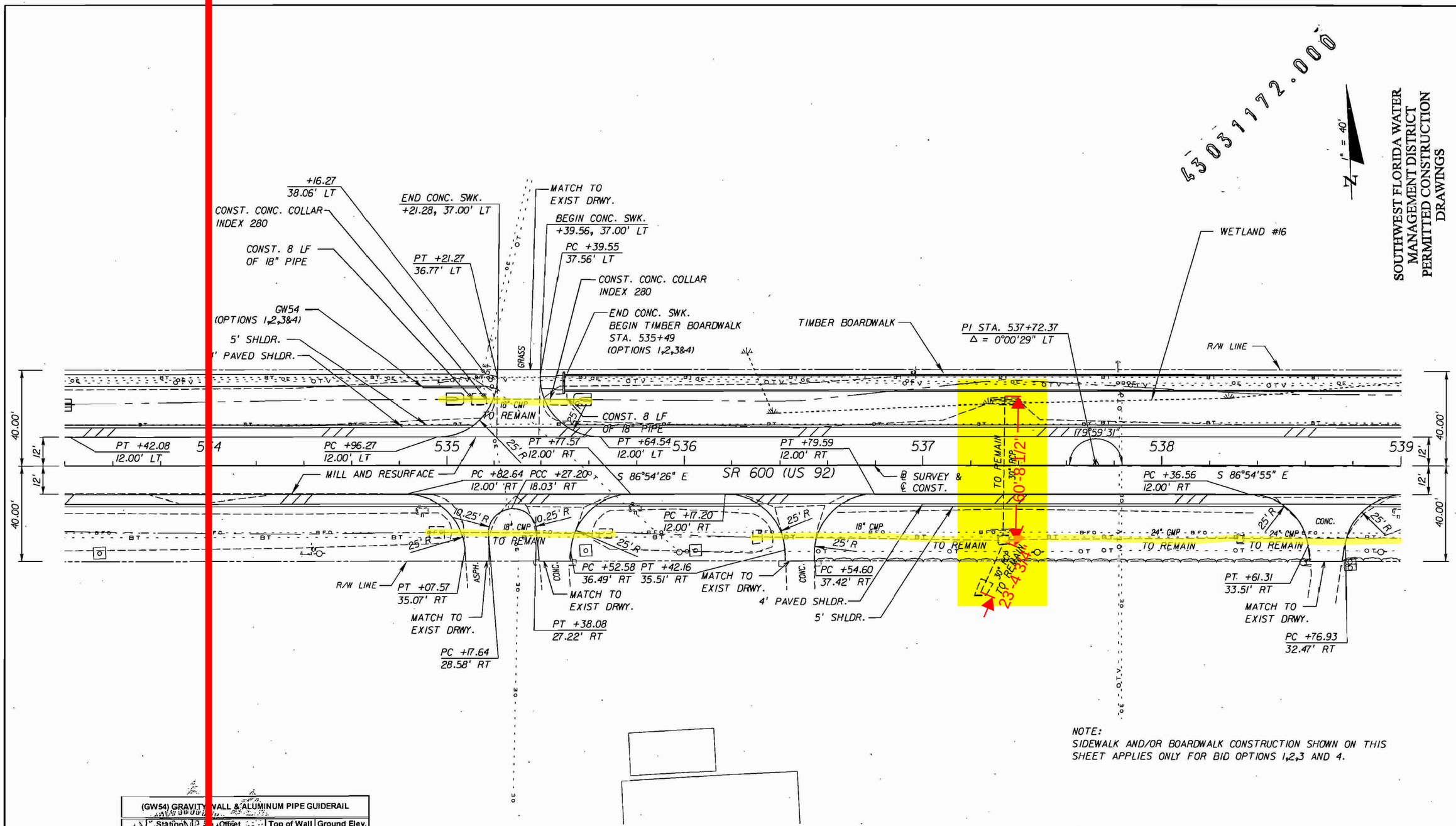
Robert J. Harrigan Jr.
10/31/06

ROADWAY PLANS ENGINEER OF RECORD: ROBERT J. HARRIGAN Jr., P.E.
P.E. NO. 45236

YEAR	SHEET NO.
07	1

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10/31/2006 8:43:18 AM \\V3-trans-serv\Transl\V8\E\PROJECTS\411337152O1\permits\keypermit.dgn



NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

(GW54) GRAVITY WALL & ALUMINUM PIPE GUIDERAIL				
	Station	Offset	Top of Wall	Ground Elev.
		Left (Feet)	(Feet)	(Feet)
Begin	534+90.00	32.40'	92.35	90.37
	535+00.00	32.40'	92.30	90.30
End	535+14.00	32.39'	92.36	90.29

STATE OF FLORIDA No. 45236
Robert J. Harrigan Jr.
10-20-06
REGISTERED ENGINEER

Draft

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

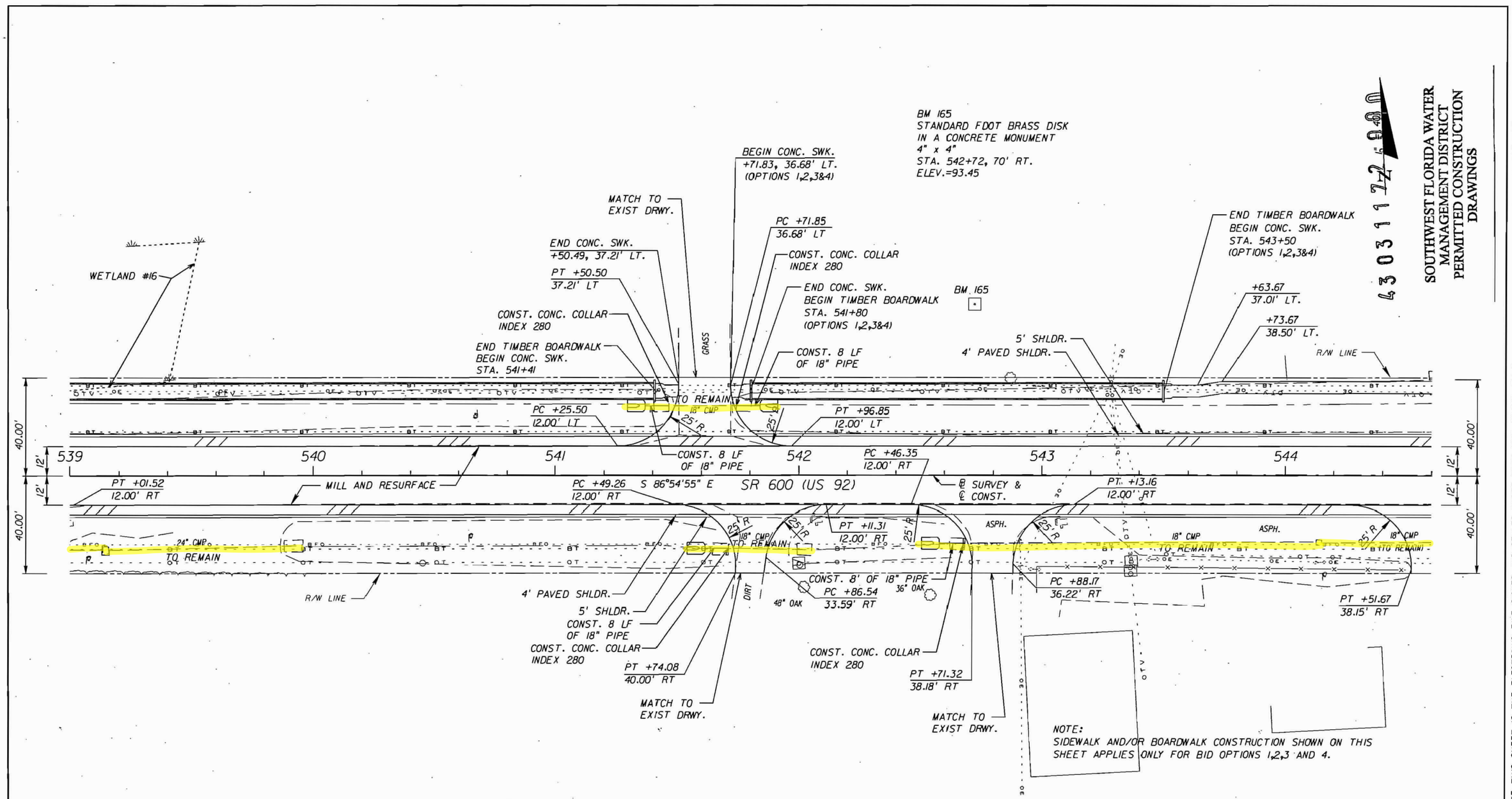
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT RECEIVED

PLAN (90)

SHEET NO. 115

$USER$ $DATE$ $TIME$ $FILE$

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4303117 2 9400

SOUTHWEST FLORIDA WATER
MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION
DRAWINGS

FILE OF RECORD

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ROBERT J. HARRIGAN JR.
LICENSE
No. 45236
STATE OF FLORIDA
PROFESSIONAL ENGINEER
10/30/06

Robert J. Harrigan

Draft

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

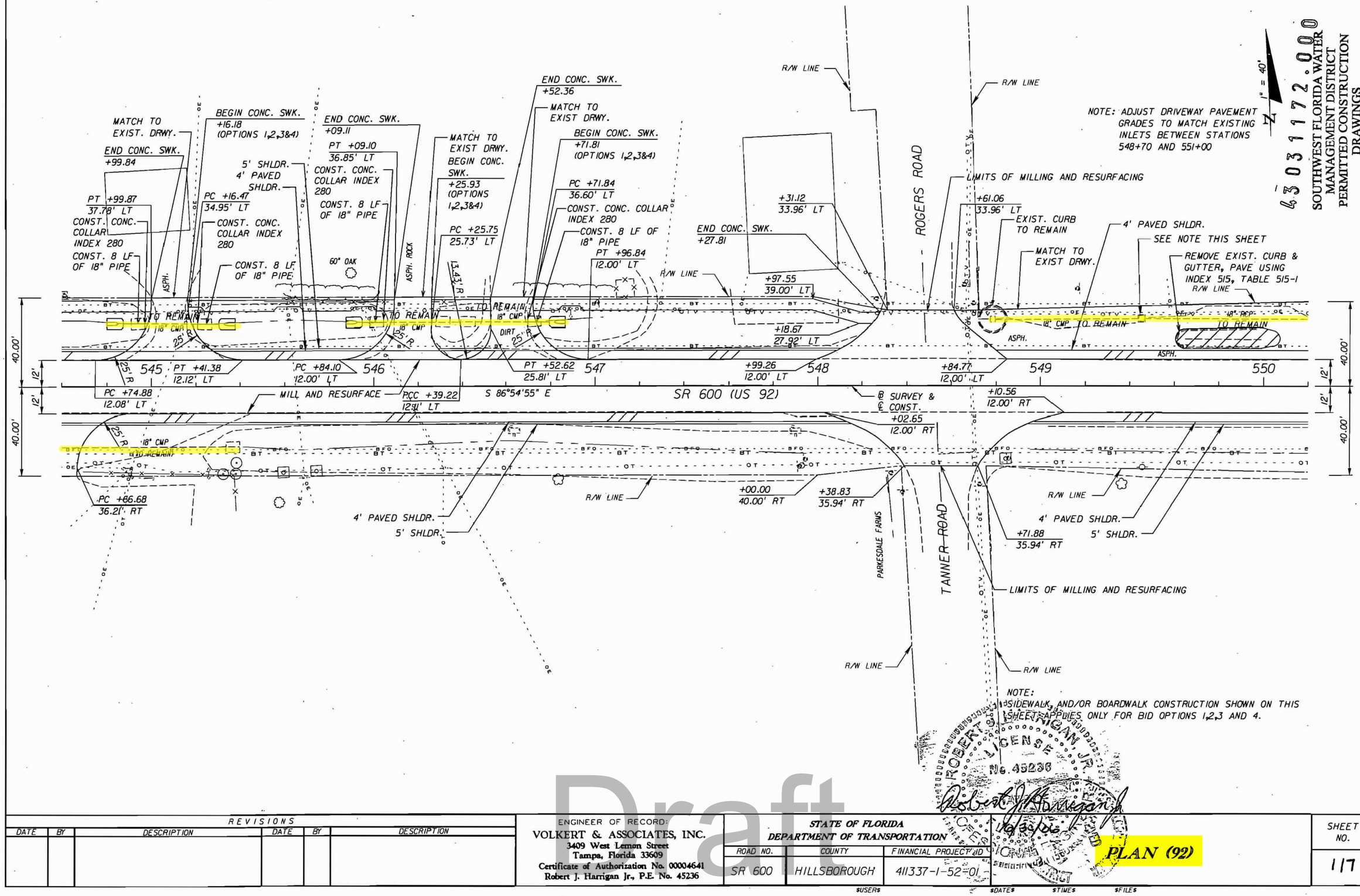
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

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RRD-TAMPA

PLAN (91)

SHEET NO. 116

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

SHEET NO. 117

$USER$ $DATE$ $TIME$ $FILE$

NOTE: ADJUST DRIVEWAY PAVEMENT GRADES TO MATCH EXISTING INLETS BETWEEN STATIONS 548+70.00 AND 551+00.00

SEE NOTE. THIS SHEET

MATCH TO EXIST DRWY.

BEGIN CONC. SWK. +02.37

PC +02.47 40.00' LT

END CONC. SWK. +74.95

PT +74.84 40.00' LT

12' WIDE

5' SHLDR.

4' PAVED SHLDR.

BEGIN CONC. SWK. +87.20 (OPTIONS 1,2,3&4)

PC +87.70 34.24' LT

BM 168
STANDARD FDOT BRASS DISK IN A CONCRETE MONUMENT
4" x 4"
STA. 552+51, 63' LT.
ELEV.=98.11

MATCH TO EXIST DRWY.

END CONC. SWK. +37.79

PT +37.74 39.27' LT

BEGIN CONC. SWK. +50.13 (OPTIONS 1,2,3&4)

PC +51.48 31.98' LT

R/W LINE

END CONC. SWK. +55.75

PT +55.35 34.43' LT

MATCH TO EXIST DRWY.

PC +94.48 40.00' LT

END CONC. SWK +46.30

BEGIN CONC. SWK. +94.32 (OPTIONS 1,2,3&4)

PT +46.31 37.37' LT

MATCH TO EXIST DRWY.

BEGIN CONC. SWK. +58.50, 39.00' LT.

PC +58.54 36.43' LT

CONST. CONC. COLLAR

CONST. 8 LF OF 18" PIPE

END CONC. SWK. BEGIN TIMBER BOARDWALK STA. 554+65 (OPTIONS 1,2,3&4)

WETLAND #17 NORTH

+25.43 40.00' LT

+25.43 50.00' LT

+40.43 48.00' LT

+25.43 38.00' LT

DIRT

LWRK. / GRASS

18" CMP TO REMAIN

25' R

PT +27.29 12.00' LT

PT +75.97 12.00' LT

PT +19.30 12.00' LT

551 PC +50.02 12.00' LT

552 PC +12.84 12.00' LT

553 PC +30.48 12.00' LT

554 PC +21.31 12.00' LT

PT +84.15 12.10' LT

555

MILL AND RESURFACE

PT +12.55 12.00' LT

S 86°54'55" E

SR 600 (US 92)

℄ SURVEY & ℄ CONST.

PC +39.65 12.00' RT

PT +01.75 12.00' RT

40.00'

12'

50.00'

31.1'

PC +15.74 12.00' RT

18" RCP TO REMAIN

PT +40.74 37.01' RT

MATCH TO EXIST DRWY.

PT +85.74 12.00' RT

PC +60.74 36.46' RT

R/W LINE

DB-7

4' PAVED SHLDR.

5' SHLDR.

CONST. 40 LF OF 18" PIPE

PT +64.23 32.43' RT

18" CMP

PC +76.74 36.68' RT

MATCH TO EXIST DRWY.

+25.43 40.00' RT

+25.43 50.00' RT

WETLAND #17 SOUTH

NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

ROBERT J. HARRIGAN, JR. LICENSE No. 45236 STATE OF FLORIDA PROFESSIONAL ENGINEER

Robert J. Harrigan, Jr.

10/30/06

Draft

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

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PLAN (93)

SHEET NO. 118

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SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS

43031172.000

1" = 40'

FILE OF RECORD

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

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS

FILE OF RECORD

43031172.000

1" = 40'

NOTE: ADJUST GRADING TO MATCH EXISTING INLETS AT STA. 561+15.00

BM 171
STANDARD FDOT BRASS DISK IN A CONCRETE MONUMENT
4" x 4"
STA. 560+69, 68' LT.
ELEV.=97.37

SEE NOTE THIS SHEET
BM 171

CONST. 40 LF OF 18" PIPE
MATCH TO EXIST DRWY.
END CONC. SWK. +52.04, 46.62' LT.
PT +51.82
41.62' LT
END TIMBER BOARDWALK
BEGIN CONC. SWK. STA. 559+43 (OPTIONS 1,2,3&4)

PC +67.14
42.21' LT
BEGIN CONC. SWK. +67.00, 46.62' LT. (OPTIONS 1,2,3&4)
+71.94
48.44' LT

WETLAND #17 NORTH
TIMBER BOARDWALK
5' SHLDR.
4' PAVED SHLDR.
R/W LINE
EDGE OF WATER
LWRK. / GRASS

18" RCP TO REMAIN
15' R
25' R

50.00'
13.1'
12'
50.00'

556 | 557 | 558 | 559 | 560 | 561

+10.25
14.23' LT
+15.14
12.31' RT
MILL AND RESURFACE

+60.00
18.00' LT
+60.00
18.00' RT
PC +22.59
18.00' RT
PC +26.85
18.00' LT
PT +92.13
18.00' LT
PT +97.29
18.00' RT

18" RCP TO REMAIN
17.1'

S 86°54'55" E
℄ SURVEY & ℄ CONST.
SR 600 (US 92)

18'
18'
50.00'
80.00'

WETLAND #17 SOUTH
R/W LINE
4' PAVED SHLDR.
5' SHLDR.
WETLAND #17 SOUTH

+90.59
50.00' RT
+92.04
80.00' RT
PT +47.58
42.67' RT

24" RCP TO REMAIN
CONC.
PC +72.29
42.63' RT
CONC. SW TO REMAIN
ADJUST EXIST. 6" PVC TO THE NEW DITCH GRADE
PVC

NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

MATCH TO EXIST DRWY.

NOTE: SEE ALSO INTERSECTION DETAIL (3) SHEET

ROBERT J. HARRIGAN JR. LICENSE NO. 45236 STATE OF FLORIDA

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SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

9/30/20

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

PLAN (94)

SHEET NO. 119

$USER$ $DATE$ $TIME$ $FILE$

FILE OF RECORD

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS

43031172.000

1" = 40'

LIMITS OF MILLING AND RESURFACING

END CONC. SWK +44.26

PT +45.07 40.00' LT

MATCH TO EXIST DRWY.

PC +70.63 40.00' LT

BEGIN CONC. SWK. +71.47 (OPTIONS 1,2,3&4)

PT +55.92 40.00' LT

SAW CUT AT R/W LINE AND REMOVE

END CONC. SWK. +54.99

R/W LINE

MATCH TO EXIST DRWY.

PC +91.25 40.00' LT

END CONC. SWK. +61.72

PT +61.93 40.00' LT

BEGIN CONC. SWK. +92.21 (OPTIONS 1,2,3&4)

MATCH TO EXIST DRWY.

PC +86.14 40.00' LT

5' SHLDR.

4' PAVED SHLDR.

BEGIN CONC. SWK. +86.27 (OPTIONS 1,2,3&4)

S 00°15'19" W

BRANCH FORBES ROAD

31

ASPH.

18" RCP TO REMAIN

CR 21

CR 22

F-11149

F-11144

60' R

75' R

25' R

50' R

35' R

20' R

45' R

562 563 564 565 566 567

PC +03.65 18.00' LT

PT +12.05 18.00' LT

PC +14.49 18.00' LT

S 86°54'55" E

PT +31.74 17.97' LT

PC +36.62 17.87' LT

PT +10.62 16.46' LT

50.00'

18'

80.00'

40.00'

14.4'

+03.97 18.00' RT

℄ SURVEY & ℄ CONST.

SR 600 (US 92)

MILL AND RESURFACE

PT +50.92 18.00' RT

+30.00 18.00' RT

24" RCP TO REMAIN

PC +08.88 18.00' RT

ASPH.

PT +50.31 40.00' RT

PC +09.49 40.00' RT

4' PAVED SHLDR.

5' SHLDR.

R/W LINE

15" PALM

TRIPLE 24", 20, & 10" OAK

MATCH TO EXIST DRWY.

℄ CONST. SR 600 (US 92) STA 561+87.75=
℄ SURVEY N. FORBES RD STA. 30+00.00

29

N. FORBES ROAD

CONC. SW TO REMAIN

LIMITS OF MILLING AND RESURFACING

NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

NOTE: SEE ALSO INTERSECTION DETAILS (3) SHEET

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

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ROBERT J. HARRIGAN LICENSE NUMBER 45236 STATE OF FLORIDA

Robert J. Harrigan Jr. 8/16/16

REVISIONS

DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

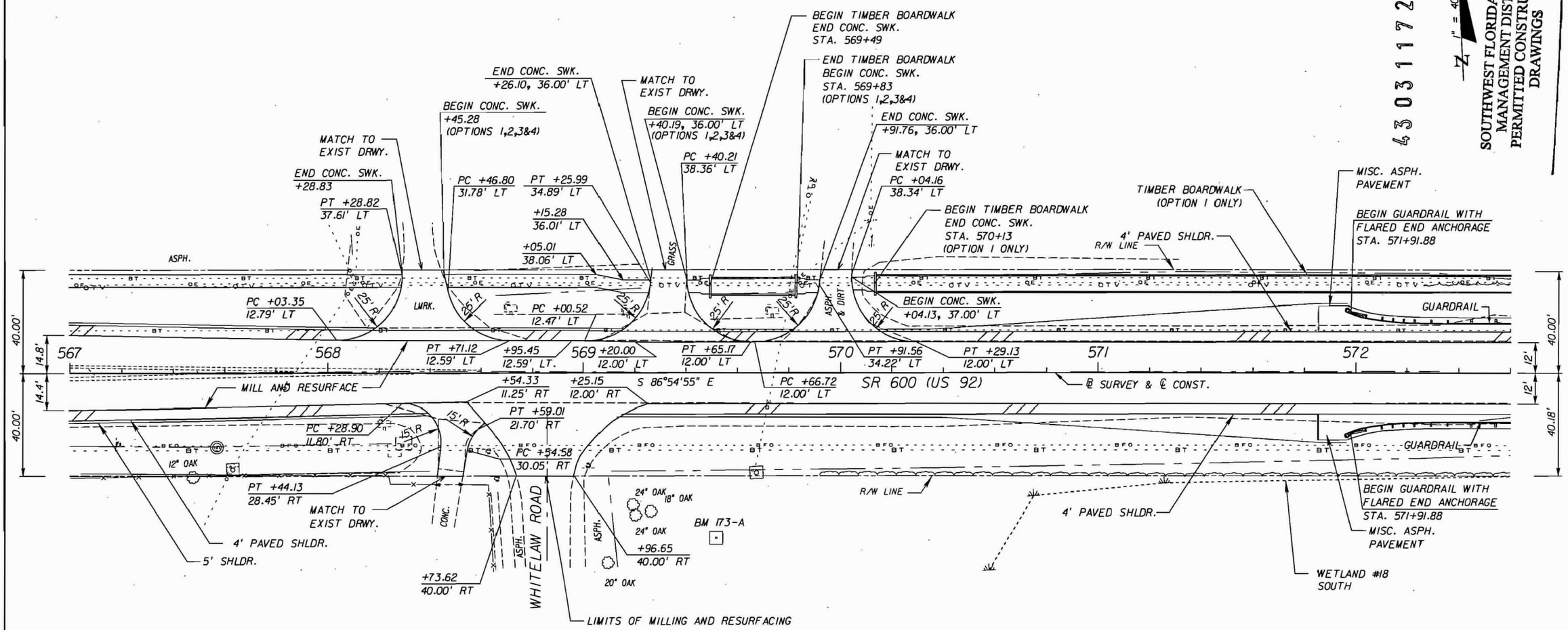
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 600	HILLSBOROUGH	411337-1-52-01

PLAN (95)

SHEET NO. 120

$USER$ $DATE$ $TIME$ $FILE$



BM 173-A
STANDARD FDOT BRASS DISK
IN A CONCRETE MONUMENT
4" x 4"
STA. 569+52, 64' RT.
ELEV.=96.93

NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

4303117 2.000

1" = 40'

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS

FILE OF RECORD

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REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
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3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

ROBERT J. HARRIGAN, JR. LICENSE No. 45236 STATE OF FLORIDA

Robert J. Harrigan Jr. 09/29/06

$USER$ $DATE$ $TIME$ $FILE$

PLAN (96)

SHEET NO. 121

END TIMBER BOARDWALK
BEGIN PEDESTRIAN BRIDGE
STA. 572+95.00
(OPTION 1 ONLY)

CONST. RUBBLE RIPRAP @ DITCH OUTFALL INDEX No. 281

END MILLING & RESURFACING
BEGIN BRIDGE
STA. 573+04.78

WETLAND #18 NORTH

+06.02
40.00' LT

+91.02
40.00' LT

2" MISC. ASPH. PAVT.

GUARDRAIL

END GUARDRAIL
BEGIN BRIDGE RAILING RETROFIT
STA. 573+04.38

PEDESTRIAN BRIDGE

REMOVE EXISTING GUARDRAIL

WETLAND #18 NORTH

+38.52
40.00' LT

BEGIN GUARDRAIL
END BRIDGE RAILING RETROFIT
STA. 573+34.51

CONST. RUBBLE RIPRAP @ DITCH OUTFALL INDEX No. 281

BEGIN TIMBER BOARDWALK
END PEDESTRIAN BRIDGE
STA. 573+48.00
(OPTION 1 ONLY)

+53.01, 40.00' LT
END BRIDGE
BEGIN MILLING & RESURFACING
STA. 573+34.34

END GUARDRAIL WITH FLARED END ANCHORAGE
STA. 574+47.01

TWIN 10" OAK

TIMBER BOARDWALK

4' PAVED SHLDR.

R/W LINE

24" OAK

NOTE: THIS IS NOT A DRIVEWAY

2" MISC. ASPH. PAVEMENT

40.00'

12'

573 574 575 576 577 578

BRIDGE #100097

BRIDGE# 100097

MILL AND RESURFACE

S 86°54'55" E

SR 600 (US 92)

℄ SURVEY & ℄ CONST.

40.18'

78" STEEL PIPE

PEMBERTON CREEK

CENTER LINE OF CREEK

12" CHERRY

R/W LINE

4' PAVED SHLDR.

5' SHLDR.

GUARDRAIL

2" MISC. ASPH. PAVT.

2" MISC. ASPH. PAVEMENT
END GUARDRAIL WITH FLARED END ANCHORAGE
STA. 574+47.01

WETLAND #18 SOUTH

EXIST. GUARDRAIL TO BE REPLACED

BEGIN GUARDRAIL
END BRIDGE RAILING RETROFIT
STA. 573+34.51

REMOVE EXISTING GUARDRAIL

WETLAND #18 SOUTH

END GUARDRAIL
BEGIN BRIDGE RAILING RETROFIT
STA. 573+04.38

NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

43031172.0000

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS

1" = 40'

FILE OF RECORD

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

ROBERT J. HARRIGAN JR.
STATE OF FLORIDA
No. 45236
10/3/24

Draft

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

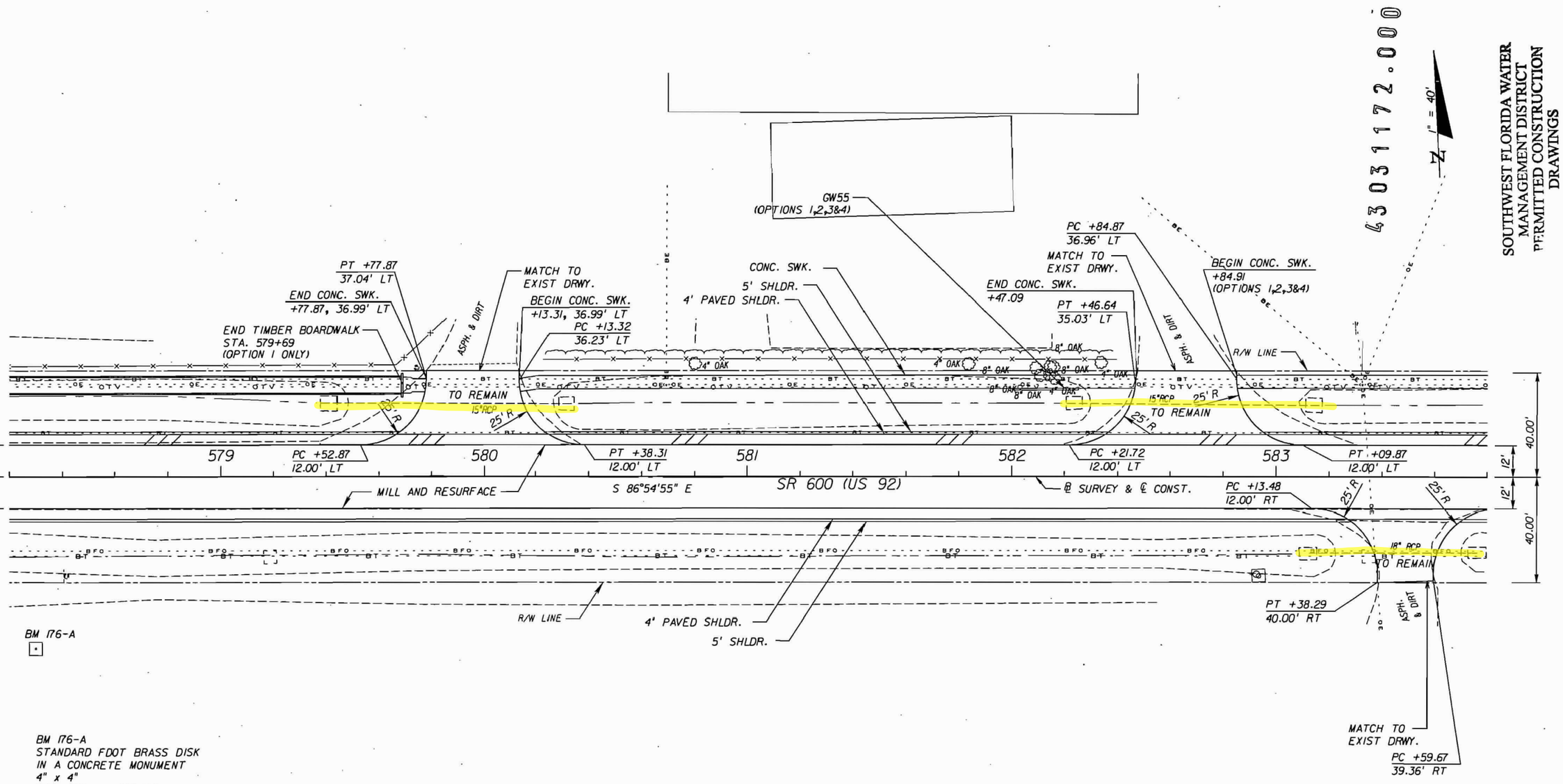
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

PLAN (97)

SHEET NO. 122

$USER$ $DATE$ $TIME$ $FILE$



BM 176-A
STANDARD FDOT BRASS DISK
IN A CONCRETE MONUMENT
4" x 4"
STA. 578+30, 65' RT.
ELEV.=97.46

NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

(GW55) GRAVITY WALL & ALUMINUM PIPE GUIDERAIL				
	Station	Offset	Top of Wall	Ground Elev.
		Right / Left	(Feet)	(Feet)
Begin	582+00.00'	32.60'	99.75	98.20
End	582+25.00'	32.62'	100.33	98.23

No. 45236
Robert J. Harrigan Jr.
10/31/01
STATE OF FLORIDA PROFESSIONAL ENGINEER

Draft

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 600	HILLSBOROUGH	411337-1-52-01

PLAN (98)

SHEET NO. 123

$USER$ $DATE$ $TIME$ $FILE$

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

FILE OF RECORD

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
PERMITTED CONSTRUCTION DRAWINGS

4303117 2.000

1" = 40'

BM 179
STANDARD FDOT BRASS DISK
IN A CONCRETE MONUMENT
4" x 4"
STA. 588+51, 66' LT.
ELEV.=102.40

BEGIN CONC. SWK. +78.37 (OPTIONS 1,2,3&4)
MATCH TO EXIST DRWY.
PC +78.38 36.96' LT
END CONC. SWK. +62.39
PT +62.40 37.04' LT
ASPH. & DIRT
S-2101A
END CONC. SWK. +30.33
PT +30.30 36.99' LT
CONST. 48 LF OF 18" PIPE
18" CMP
MATCH TO EXIST DRWY.
BEGIN CONC. SWK. +42.35 (OPTIONS 1,2,3&4)
PC +42.36 36.88' LT
S-2101B
R/W LINE
CONC.
END CONC. SWK. +19.28
PT +19.31 38.02' LT
CONST. 48 LF OF 18" PIPE
PT +67.36 12.00' LT
MATCH TO EXIST DRWY.
CONC. SWK.
5' SHLDR.
4' PAVED SHLDR.
BEGIN CONC. SWK. +33.14 (OPTIONS 1,2,3&4)
TRIPLE 24" OAKS
30" OAK
32" OAK
PC +33.10 37.97' LT
BM 179
PI STA. 589+07.43
Δ = 0°00'36" RT

584 585 586 587 588 589

40.00' 12' 12' 40.00'

PT +84.56 12.00' RT
MILL AND RESURFACE
PT +35.22 12.00' RT
PC +37.40 12.00' LT
PT +03.38 12.00' LT
PC +05.31 12.00' LT
S 86°54'55" E
SR 600 (US 92)
PC +94.33 12.00' LT
PCC +57.51 12.00' RT
PT +58.08 12.00' LT
℄ SURVEY & ℄ CONST.
+96.54 12.00' RT
S 86°54'19" E

PT +78.67 12.00' RT
ASPH. & DIRT
6" SABLE
R/W LINE
PC +54.91 37.21' RT
PC +10.24 35.97' RT
PT +40.06 33.05' RT
PC +68.78 39.18' RT
PT +93.69 12.00' RT
CONC.
PC +04.27 12.00' RT
PT +29.15 34.47' RT
ASPH. ROCK
12' WIDE
PT +74.02 28.18' RT
PC +41.04 28.51' RT
13' WIDE
PC +86.77 37.04' RT
LIMITS OF MILLING AND RESURFACING
+15.60 12.00' RT
PT +11.77 12.00' RT
12" SABLE
+78.67 37.95' RT
HAGGARD RD
ASPH.
+78.67 37.94' RT
R/W LINE
4' PAVED SHLDR.
5' SHLDR.

MATCH TO EXIST DRWY.
4' PAVED SHLDR.
5' SHLDR.
R/W LINE
R/W LINE

NOTE:
SIDEWALK AND/OR BOARDWALK CONSTRUCTION SHOWN ON THIS SHEET APPLIES ONLY FOR BID OPTIONS 1,2,3 AND 4.

ROBERT J. HARRIGAN, JR. LICENSE No. 45236 STATE OF FLORIDA PROFESSIONAL ENGINEER
Robert J. Harrigan Jr.
10/30/2006

Draft

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

ENGINEER OF RECORD:
VOLKERT & ASSOCIATES, INC.
3409 West Lemon Street
Tampa, Florida 33609
Certificate of Authorization No. 00004641
Robert J. Harrigan Jr., P.E. No. 45236

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 600	HILLSBOROUGH	411337-1-52-01

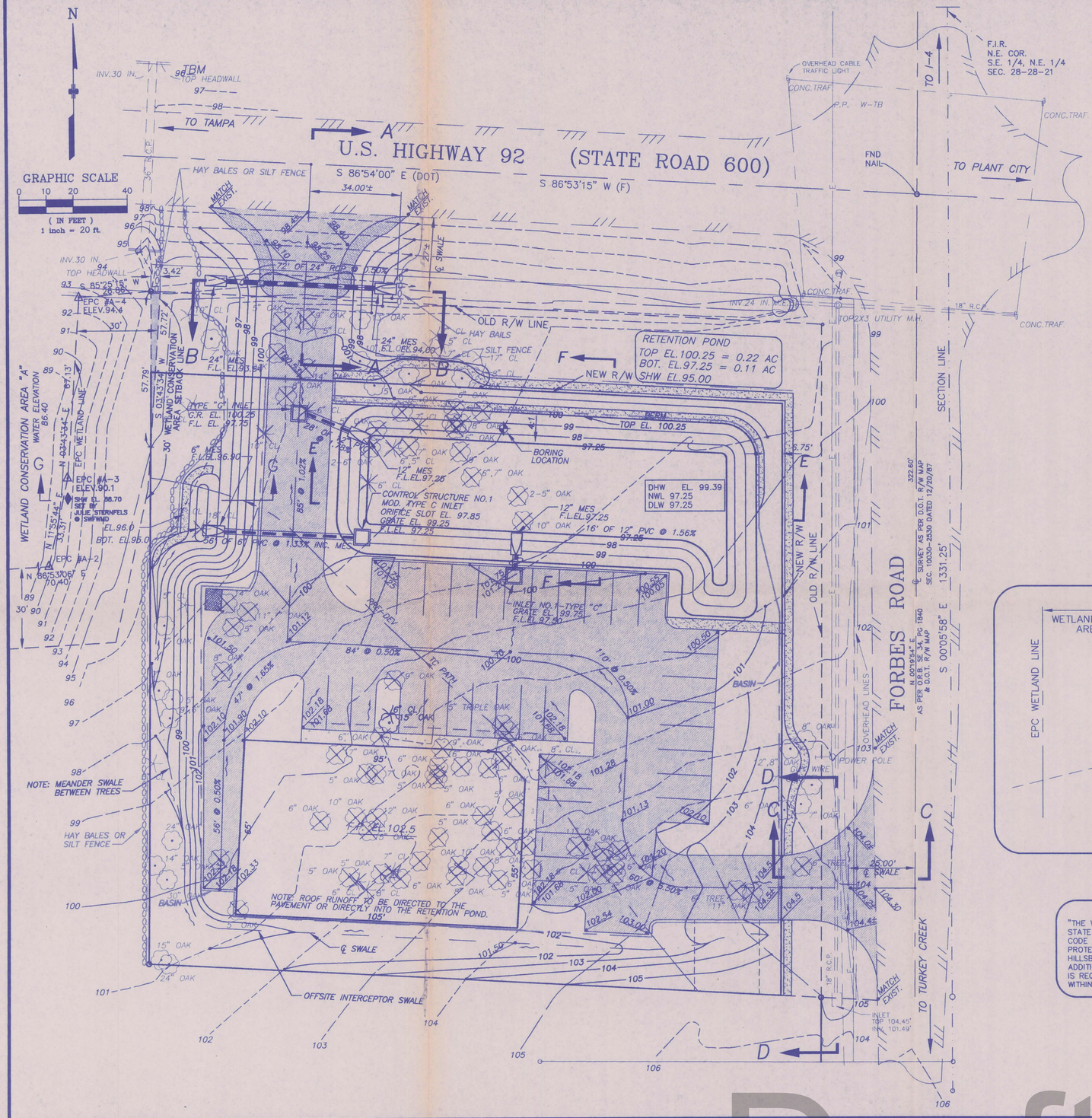
PLAN (99)

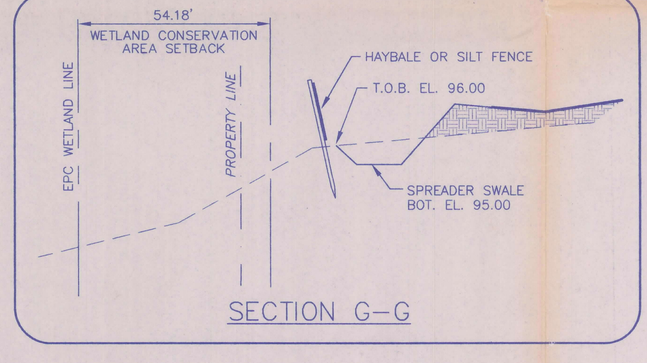
SHEET NO. 124

smindykowski 10/30/2006 10:29:49 AM \\V3-trans-serv\Transl\V8\E\PROJECTS\411337152O1\roadway\plan rd99.dgn

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

EXCERPTS FROM ERP 4615465.00





DRAINAGE NOTES

1. All stormwater runoff from this site shall be visually monitored during construction by the contractor to assure water quality and quantity are generally maintained to the pre-development levels. The following shall be used to accomplish mitigation of adverse quantity and quality impacts to offsite properties during construction:
   - A. Drainage swales and retention should be rough constructed first to avoid any increase in runoff due to the construction.
   - B. Temporary erosion and sediment control structures shall be installed to protect existing drainage systems and water quality during construction.
   - C. Where work is performed in a water course or water body, silk curtains and silt screens shall be used to control siltation and turbidity.
   - D. Disturbed areas as a minimum requirement shall be seeded and mulched.
   - E. If special conditions exist requiring unanticipated measures to control stormwater runoff, these measures shall be implemented as soon as possible.
   - F. The system is to be inspected on a weekly basis and after any rainfall event of one-half inch or greater.
   - G. The operation and maintenance instructions during construction must be performed in accordance with regulatory agency permit requirements.
2. The grading of the last six (6) inches of the retention areas shall be the last construction activity.
3. Pipe lengths are approximate and may require minor adjustments in the field.
4. The contractor is to verify locations and elevations of all outfalls before construction, and if found to be inadequate, shall notify the engineer.
5. The contractor shall construct all drainage structures in accordance with F.D.O.T. standard specifications for road and bridge design.
6. All reinforced concrete pipe shall be Class III with rubber gasket joints.
7. **All erosion control measures are to be in place prior to land alteration and shall be maintained during construction and shall remain until soil stabilization is acheived.**
8. Operation and maintenance instructions:
   - A. The stormwater management system shall be periodically inspected during storms to determine that it is operating properly. Inspections should also be made when the system is dry.
   - B. Any broken pipes or damaged inlets must be repaired or replaced. Any debris clogging same shall be removed as necessary.
   - C. The retention area shall be periodically cleaned of debris or siltation as necessary.
   - D. Swales and ditches shall be cleaned as required to maintain flows and resodded when necessary.
   - E. The owner is responsible for maintenance of the vegetation in retention areas, swales, and ditches.

WETLAND CONSERVATION AREA NOTE:

"THE WETLAND CONSERVATION AREA SHALL BE RETAINED IN A NATURAL STATE PURSUANT TO HILLSBOROUGH COUNTY, FL. LAND DEVELOPMENT CODE (LDC) AS AMENDED; THE HILLSBOROUGH COUNTY ENVIRONMENTAL PROTECTION ACT, CHAPTER 84-446; AND CHAPTER 1-11, RULES OF THE HILLSBOROUGH COUNTY ENVIRONMENTAL PROTECTION COMMISSION. IN ADDITION, A 30 FOOT SETBACK FROM THE WETLAND CONSERVATION AREA IS REQUIRED AND SHALL CONFORM TO THE PROVISIONS STIPULATED WITHIN THE LAND DEVELOPMENT CODE.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT PERMITTED CONSTRUCTION DRAWINGS
9/19/96
FILE OF RECORD
PERMIT NO. 43015465.00

PUBLIC INSPECTION COPY
SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
AUG 23 1996
RECEIVED

DRAWN	DATE	REVISION'S
M M	5-17-96	MM 7-31-96 ADDED EPC WETLAND LINE
CHECKED	DATE	
CAD DRAWING NAME	CAD SCALE	
95222SP2	1"=20'	

PAVING, GRADING AND DRAINAGE PLAN

DISCOUNT AUTO PARTS
DOVER STORE #586

Draft

TOWSON-ROGERS ENGINEERING, INC.
5514 7th STREET ZEPHYRHILLS, FLORIDA 33540 813-788-0400

95222

SHEET 5 OF 7

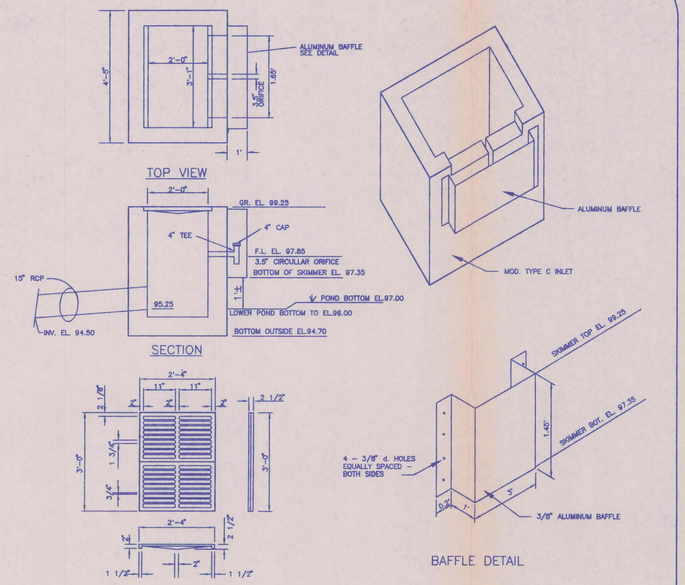
STATE OF FLORIDA MARK M. ROGERS LICENSED PROFESSIONAL ENGINEER NO. 42718
8/23/96

Imaged As Is

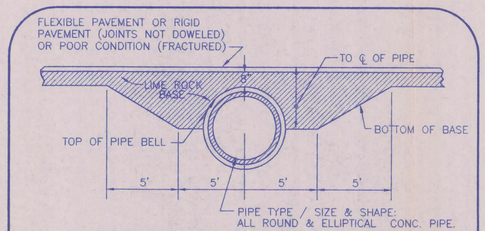
INVESTIGATE BEFORE YOU EXCAVATE

"CALL SUNSHINE"
1-800-282-8881
TOLL FREE

FL. STATUE 553 351(1979) REQUIRES MIN. OF 2 DAYS AND MAX. OF 5 DAYS NOTICE BEFORE YOU EXCAVATE.



MODIFIED "C" INLET

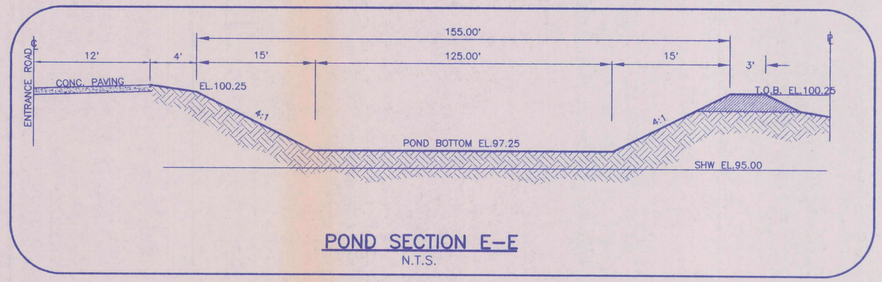


MINIMUM COVER FOR CONCRETE PIPE

COVER HEIGHT

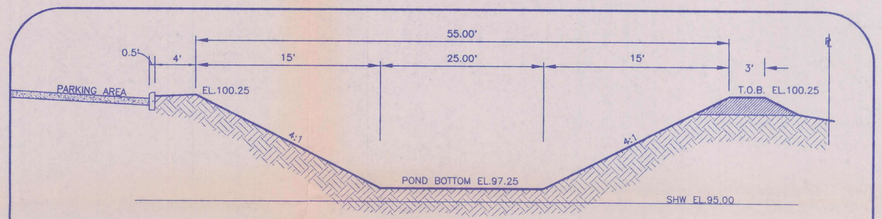
GENERAL NOTES: N.T.S.

1. THE RECOMMENDED 8" MINIMUM DIMENSION IS TO WITHSTAND ANTICIPATED TRAFFIC LOADS. ADDITIONAL COVER MAY BE REQUIRED TO SUPPORT CONSTRUCTION EQUIPMENT LOADS OR HIGHWAY TRAFFIC LOADS BEFORE PAVEMENT IS COMPLETED. SOME SIZE THICKNESS COMBINATIONS MAY REQUIRE MINIMUM COVER GREATER THAN THE ONE LISTED ABOVE.
2. 8" MIN. COVER SHOWN IS STANDARD INSTALLATION. THE COUNTY ENGINEER MAY REQUIRE MORE COVER AND/OR BASE DEPENDING ON SITE CONDITIONS. (THESE FEATURES MAY INCLUDE BUT ARE NOT LIMITED TO EXTRA STRENGTH PIPE, SELECT BEDDING, SELECT BACKFILL AND ENCASEMENT).



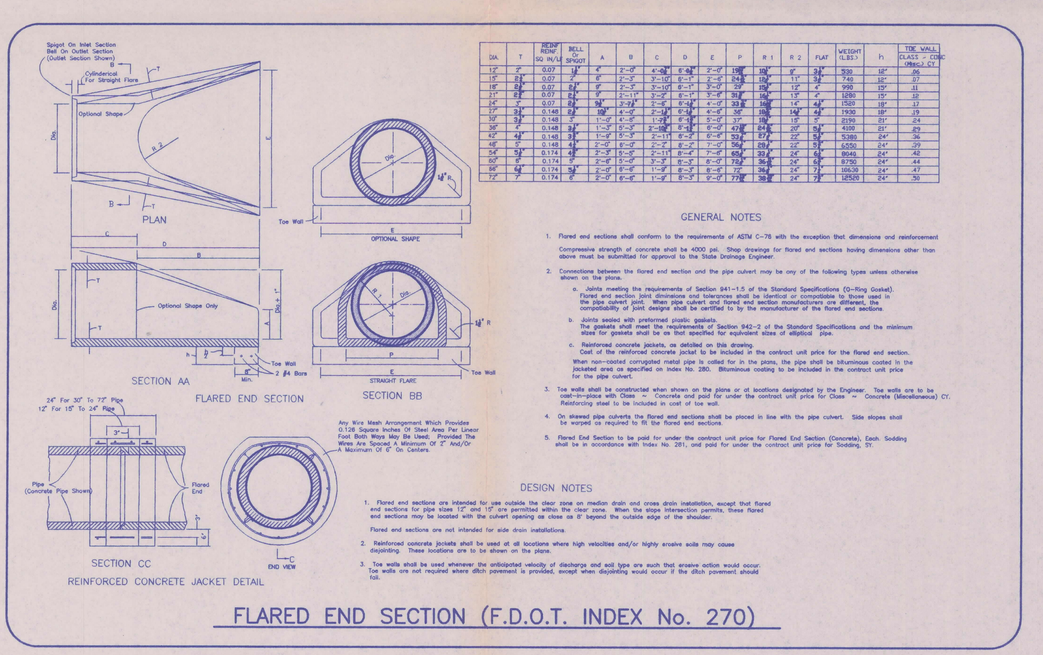
POND SECTION E-E

N.T.S.



POND SECTION F-F

N.T.S.



DIA	T	REINF. AREA SQ IN/LF	BELL Or SPIGOT	A	B	C	D	E	P	R 1	R 2	FLAT	WEIGHT (LBS.)	h	TOE WALL CLASS "C" CONC (Misc.) CY
12"	2"	0.07	11"	4"	2'-0"	4'-0"	6'-4"	2'-0"	19"	10"	8"	34°	530	18"	.06
15"	2½"	0.07	6"	6"	2'-3"	3'-10"	6'-1"	2'-0"	24"	12"	11"	34°	740	22"	.07
18"	2½"	0.07	8½"	8"	2'-3"	3'-10"	6'-1"	2'-0"	29"	15"	12"	4°	990	25"	.11
21"	2½"	0.07	8½"	0"	2'-11"	3'-2"	6'-1"	3'-0"	31"	16"	13"	4°	1280	25"	.12
24"	2"	0.07	8½"	90°	3'-7"	2'-6"	6'-4"	4'-0"	33"	16"	14"	44°	1520	28"	.17
27"	3½"	0.148	8½"	90°	4'-0"	2'-1"	6'-4"	4'-0"	36"	18"	14"	44°	1930	28"	.19
30"	3½"	0.148	5"	0°	1'-0"	4'-0"	1'-2"	6'-4"	5'-0"	37"	18"	13°	2190	21"	.24
36"	4"	0.148	8½"	0°	1'-3"	5'-3"	2'-10"	6'-4"	6'-0"	47"	24"	20°	4100	23"	.29
42"	4½"	0.148	8½"	0°	1'-6"	5'-3"	2'-11"	6'-2"	6'-6"	53"	27"	22°	5380	24"	.36
48"	5"	0.148	4½"	0°	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	56"	28"	22°	6550	24"	.39
54"	5½"	0.174	4½"	0°	2'-3"	5'-6"	2'-11"	8'-4"	7'-6"	63"	32"	24°	8040	24"	.42
60"	6"	0.174	5"	0°	2'-6"	5'-6"	3'-3"	8'-4"	8'-0"	71"	36"	24°	9750	24"	.44
66"	6½"	0.174	5½"	0°	2'-0"	6'-6"	1'-9"	8'-3"	8'-6"	77"	36"	24°	10630	24"	.47
72"	7"	0.174	6"	0°	2'-0"	6'-6"	1'-9"	8'-3"	9'-0"	77"	38"	24°	12520	24"	.50

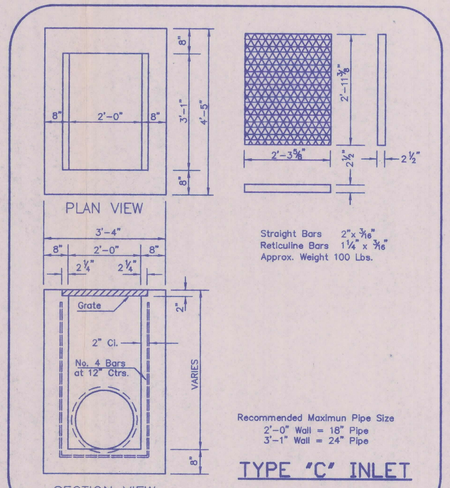
GENERAL NOTES

1. Flared end sections shall conform to the requirements of ASTM C-76 with the exception that dimensions and reinforcement Compressive strength of concrete shall be 4000 psi. Shop drawings for flared end sections having dimensions other than above must be submitted for approval to the State Drainage Engineer.
2. Connections between the flared end section and the pipe culvert may be any of the following types unless otherwise shown on the plans.
   a. Joints meeting the requirements of Section 941-1.5 of the Standard Specifications (O-Ring Gasket). Flared end section joint dimensions and tolerances shall be identical or compatible to those used in the pipe culvert joint. When pipe culvert and flared end section manufacturers are different, the compatibility of joint designs shall be certified to by the manufacturer of the flared end sections.
   b. Joints sealed with preformed plastic gaskets. The gaskets shall meet the requirements of Section 942-2 of the Standard Specifications and the minimum sizes for gaskets shall be as that specified for equivalent sizes of elliptical pipe.
   c. Reinforced concrete jackets, as detailed on this drawing. Cost of the reinforced concrete jacket to be included in the contract unit price for the flared end section. When non-coated corrugated metal pipe is called for in the plans, the pipe shall be bituminous coated in the jacketed area as specified on Index No. 280. Bituminous coating to be included in the contract unit price for the pipe culvert.
3. Toe walls shall be constructed when shown on the plans or at locations designated by the Engineer. Toe walls are to be cast-in-place with Class ~ Concrete and paid for under the contract unit price for Class ~ Concrete (Miscellaneous) CY. Reinforcing steel to be included in cost of toe wall.
4. On skewed pipe culverts the flared end sections shall be placed in line with the pipe culvert. Side slopes shall be warped as required to fit the flared end sections.
5. Flared End Section to be paid for under the contract unit price for Flared End Section (Concrete), Each. Sodding shall be in accordance with Index No. 281, and paid for under the contract unit price for Sodding, SY.

DESIGN NOTES

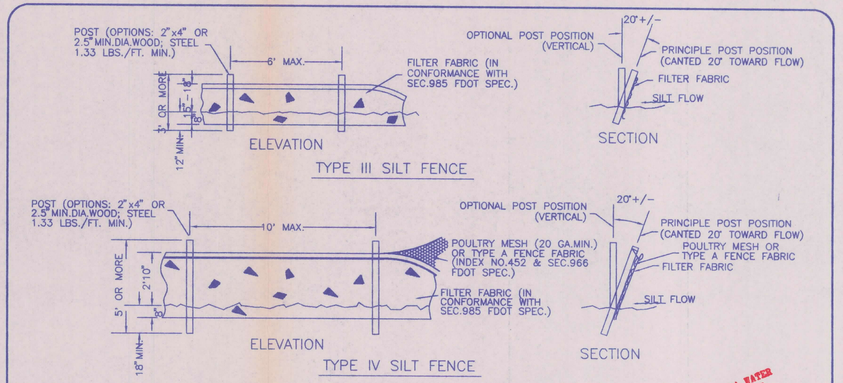
1. Flared end sections are intended for use outside the clear zone on median drain and cross drain installation, except that flared end sections for pipe sizes 12" and 15" are permitted within the clear zone. When the slope intersection permits, these flared end sections may be located with the culvert opening as close as 8' beyond the outside edge of the shoulder.
   Flared end sections are not intended for side drain installations.
2. Reinforced concrete jackets shall be used at all locations where high velocities and/or highly erosive soils may cause daylighting. These locations are to be shown on the plans.
3. Toe walls shall be used whenever the anticipated velocity of discharge and soil type are such that erosive action would occur. Toe walls are not required where ditch pavement is provided, except when daylighting would occur if the ditch pavement should fail.

FLARED END SECTION (F.D.O.T. INDEX No. 270)



TYPE "C" INLET

N.T.S.



DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANANT BODIES OF WATER.

SILT FENCE

F.D.O.T. INDEX #102 & 103

N.T.S.

NOTES:
- For additional information and details, see F.D.O.T. Index No. 102.
- Unless specified, hay barriers may be used in lieu of silt fences.
- Additional posts and rails may be necessary to secure and support fences.
- Additonal fence lengths may be required by the County Engineer or by regulatory agencies.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT PERMITTED CONSTRUCTION DRAWINGS
Reviewed by [illegible] 9/19/96.
FILE OF RECORD
PERMIT NO. 4615465.00

DRAWN	DATE	REVISION'S
M M	5-17-96	C.E.T. 8-22-96 PER SWFWMD COMMENTS
CHECKED	DATE	
CAD DRAWING NAME	CAD SCALE	
95222DT2	1"=100'	

DRAINAGE DETAILS

DISCOUNT AUTO PARTS
DOVER STORE #586

Draft

TOWSON-ROGERS ENGINEERING, INC.
5514 7th STREET ZEPHYRHILLS, FLORIDA 33540 813-788-0400

95222

SHEET 7 OF 7

CERTIFICATE OF AUTHORIZATION NO. 4273

Imaged As Is

FDOT DISTRICT 7 RIGHT OF WAY COST ESTIMATES

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	FPC 1A	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	1	1
Residential	0	0
Unimproved	0	0
Total Parcels	1	1

Estimated Relocatees:	
Business	1
Residential	0
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 35,000 =	35,000	
5. Business Damage CPA Fees Through Trial					0	Claims	x 25,000 =	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	3,500 =	3,500	
9. Demolition, Asb. Abate., Survey, etc.					1	Imprvmet	x 20,000 =	20,000	
10. Miscellaneous Contracts					0	Per Project	x 15,000 =	0	
11. Appraisal Fee Review					0	Parcels	x 5,000 =	0	
12.							TOTAL PHASE 4B		$89,000

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. (1 Ponds)		2,674,184	x	120% (0 Parcels w/o R/W Acq)		3,209,000		
15. SUBTOTAL (106,148)				(Lines 13 &14)			3,209,000	
16. Admin. Settlements	(Factor	20%	x	0% of Line 15)	=	0		
17. Litigation Awards	(Factor	45%	x	100% of Line 15)	=	1,444,100		
18. Business Damages	(Claims	0	x	0)	=	0		
19. Bus. Damages Incrs.	(Factor	25%	x	$ -)	=	0		
20. Owner Appr. Fees	(Parcels	1	x	$30,000)	=	30,000		
21. Owner CPA Fees	(Claims	0	x	$25,000)	=	0		
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	1,444,100	x	33%)	=	476,600		
23. Owner Expert Witness	(Comm.+Unimp.)	1	+	0) x 18,000	=	18,000		
24. Other Condemn. Costs		1	x	$1,000	=	1,000		
25. SUBTOTAL				(Lines 16 thru 24)	=		1,969,700	
26.						TOTAL PHASE 43		$5,178,700

* *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		$41,200	x	0	=	0		
29. Tenant		$25,000	x	0	=	0		
	Move Costs							
30. Residential		$3,000	x	0	=	0		
31. Business/Farm		$53,200	x	1	=	53,200		
32. Personal Property		$3,000	x	0	=	0		
33. (Lines 28 thru 32)							TOTAL PHASE 45	$53,200
34. Relocation Services Cost				$5,320	(Not in Phase Total)			

35.			
36.			
37.		(All Phases)	TOTAL ESTIMATE $5,340,900

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24

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%.

Estimate of FPC-1A assumes significant impacts as part of the mainline takes along US 92 (not part of this project)

It is assumed that while the mainline acquisition will require damaging out the exiting improvements due to proximity and access impacts the timing of that project is unknown so improvement damages are included.

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	FPC 1C	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)			0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)			0
3.							TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

							Amount
4. Appraisal Fees Through Trial				0	Parcels	x 35,000 =	0
5. Business Damage CPA Fees Through Trial				0	Claims	x 25,000 =	0
6. Court Reporter & Process Servers	50%	x 0	=	0	Parcels	x 500 =	0
7. Expert Witness	75%	x 0	=	0	Parcels	x 30,000 =	0
8. Mediators	75%	x 0	=	0	Parcels	x 3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.				0	Imprvmet	x 20,000 =	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	$0

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. (1 Ponds)		978,720	x 120%	(0 Parcels w/o R/W Acq)		1,174,500	
15. SUBTOTAL (122,340)				(Lines 13 &14)			1,174,500
16. Admin. Settlements	(Factor	20%	x 0%	of Line 15)	=	0	
17. Litigation Awards	(Factor	45%	x 100%	of Line 15)	=	528,500	
18. Business Damages	(Claims	0	x 0	)	=	0	
19. Bus. Damages Incrs.	(Factor	25%	x $ -	)	=	0	
20. Owner Appr. Fees	(Parcels	0	x $30,000	)	=	0	
21. Owner CPA Fees	(Claims	0	x $25,000	)	=	0	
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	528,500	x 33%	)	=	174,400	
23. Owner Expert Witness	(Comm.+Unimp.)	0	+ 0	) x 18,000	=	0	
24. Other Condemn. Costs		0	x $1,000		=	0	
25. SUBTOTAL				(Lines 16 thru 24)	=		702,900
26.						TOTAL PHASE 43	$1,877,400

* *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		$41,200	x	0	=	0
29. Tenant		$25,000	x	0	=	0
	Move Costs					
30. Residential		$3,000	x	0	=	0
31. Business/Farm		$53,200	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 $1,877,400

Real Estate:	Roger D. Patton	Signed:	[signature]	Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:	[signature]	Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24

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%.

Estimate of FPC 1C (ML 19)

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	FPC 1B	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)			0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)			0
3.							TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

							Amount
4. Appraisal Fees Through Trial			0	Parcels	x	35,000 =	0
5. Business Damage CPA Fees Through Trial			0	Claims	x	25,000 =	0
6. Court Reporter & Process Servers	50%	x 0 =	0	Parcels	x	500 =	0
7. Expert Witness	75%	x 0 =	0	Parcels	x	30,000 =	0
8. Mediators	75%	x 0 =	0	Parcels	x	3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.			0	Imprvmet	x	20,000 =	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	$0

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. (1 Ponds)		2,451,205	x 120% (0 Parcels w/o R/W Acq)		=	2,941,400	
15. SUBTOTAL (154,540)			(Lines 13 &14)				2,941,400
16. Admin. Settlements	(Factor	20%	x 0% of Line 15)		=	0	
17. Litigation Awards	(Factor	45%	x 100% of Line 15)		=	1,323,600	
18. Business Damages	(Claims	0	x 0)		=	0	
19. Bus. Damages Incrs.	(Factor	25%	x $ -)		=	0	
20. Owner Appr. Fees	(Parcels	0	x $30,000)		=	0	
21. Owner CPA Fees	(Claims	0	x $25,000)		=	0	
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	1,323,600	x 33%)		=	436,800	
23. Owner Expert Witness	(Comm.+Unimp.)	0	+ 0) x	18,000	=	0	
24. Other Condemn. Costs		0	x $1,000		=	0	
25. SUBTOTAL			(Lines 16 thru 24)		=		1,760,400
26.						TOTAL PHASE 43	$4,701,800

* *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	$41,200	x	0	=	0
29. Tenant	$25,000	x	0	=	0
	Move Costs				
30. Residential	$3,000	x	0	=	0
31. Business/Farm	$53,200	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 $4,701,800

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24

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%.

Estimate of FPC 1B (ML 19)

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	FPC 1D	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)			0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)			0
3.							TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

							Amount
4. Appraisal Fees Through Trial			0	Parcels	x	35,000 =	0
5. Business Damage CPA Fees Through Trial			0	Claims	x	25,000 =	0
6. Court Reporter & Process Servers	50%	x 0 =	0	Parcels	x	500 =	0
7. Expert Witness	75%	x 0 =	0	Parcels	x	30,000 =	0
8. Mediators	75%	x 0 =	0	Parcels	x	3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.			0	Imprvmet	x	20,000 =	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	$0

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. (1 Ponds)	2,313,679	x 120%	(0 Parcels w/o R/W Acq)		2,776,400	
15. SUBTOTAL (224,385)			(Lines 13 &14)			2,776,400
16. Admin. Settlements (Factor	20%	x 0%	of Line 15)	=	0	
17. Litigation Awards (Factor	45%	x 100%	of Line 15)	=	1,249,400	
18. Business Damages (Claims	0	x 0	)	=	0	
19. Bus. Damages Incrs. (Factor	25%	x $ -	)	=	0	
20. Owner Appr. Fees (Parcels	0	x $30,000	)	=	0	
21. Owner CPA Fees (Claims	0	x $25,000	)	=	0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19)	1,249,400	x 33%	)	=	412,300	
23. Owner Expert Witness (Comm.+Unimp.)	0	+ 0	) x 18,000	=	0	
24. Other Condemn. Costs	0	x $1,000		=	0	
25. SUBTOTAL			(Lines 16 thru 24)	=		1,661,700
26.					TOTAL PHASE 43	$4,438,100

* *Design contingency for design plan stage:*
(1) PD&E plans - 120% (2) 30% plans - 115% (3) 60% plans - 110% (4) 90% plans -105% (5) 268 Date -100%

R/W ACQUISITION CONSULTANT (PHASE 42)

27. Acquisition Consultant-50% of parcels	$20,000	x 0	TOTAL PHASE 42	$0

RELOCATION COSTS (PHASE 45)

	Replacement Housing		Number		Amount
28. Owner	$41,200	x	0	=	0
29. Tenant	$25,000	x	0	=	0
	Move Costs				
30. Residential	$3,000	x	0	=	0
31. Business/Farm	$53,200	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 $4,438,100

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24

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%.

Estimate of FPC 1D site improvements were damaged out as part of the mainline acquisition (ML 25)

The site unit value has been adjusted for damages after the mainline acquisition.

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 2A	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	1	1
Residential	0	0
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 35,000 =	35,000
5. Business Damage CPA Fees Through Trial					0	Claims	x 25,000 =	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	3,500 =	3,500
9. Demolition, Asb. Abate., Survey, etc.					1	Imprvmet	x 20,000 =	20,000
10. Miscellaneous Contracts					0	Per Project	x 15,000 =	0
11. Appraisal Fee Review					0	Parcels	x 5,000 =	0
12.							TOTAL PHASE 4B	$89,000

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. (1 Ponds)	818,800	x	120%	(0 Parcels w/o R/W Acq)		982,600	
15. SUBTOTAL (80,475)				(Lines 13 &14)			982,600
16. Admin. Settlements (Factor	20%	x	0%	of Line 15)	=	0	
17. Litigation Awards (Factor	45%	x	100%	of Line 15)	=	442,200	
18. Business Damages (Claims	0	x	0	)	=	0	
19. Bus. Damages Incrs. (Factor	25%	x	$ -	)	=	0	
20. Owner Appr. Fees (Parcels	1	x	$30,000	)	=	30,000	
21. Owner CPA Fees (Claims	0	x	$25,000	)	=	0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19)	442,200	x	33%	)	=	145,900	
23. Owner Expert Witness (Comm.+Unimp.)	1	+	0	) x 18,000	=	18,000	
24. Other Condemn. Costs	1	x	$1,000		=	1,000	
25. SUBTOTAL				(Lines 16 thru 24)	=		637,100
26.						TOTAL PHASE 43	$1,619,700

* *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	$41,200	x	0	=	0
29. Tenant	$25,000	x	0	=	0
	Move Costs				
30. Residential	$3,000	x	0	=	0
31. Business/Farm	$53,200	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 $1,728,700

Real Estate:	Roger D. Patton	Signed:	[signature]	Date:	06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date:	06/10/24
Relocation:	Roger D. Patton	Signed:	[signature]	Date:	06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date:	06/10/24

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%.

Estimate of SMF-2A assumes significant impacts as part of the mainline takes along US 92 (not part of this project)

It is assumed that the while the mainline acquisition will require damaging out the exiting improvements due to proximity and access impacts. the timing of that project is unknown and the existing improvement damages are inlcuded .

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 2B	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	1	1
Residential	0	0
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 35,000 =	35,000	
5. Business Damage CPA Fees Through Trial					-2	Claims	x 25,000 =	-50,000	
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 3,500 =	3,500	
9. Demolition, Asb. Abate., Survey, etc.					0	Imprvmet	x 20,000 =	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	$19,000

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. (1 Ponds)		907,638	x	120%	(0 Parcels w/o R/W Acq)		1,089,200		
15. SUBTOTAL (72,611)					(Lines 13 &14)			1,089,200	
16. Admin. Settlements	(Factor	20%	x	0%	of Line 15)	=	0		
17. Litigation Awards	(Factor	45%	x	100%	of Line 15)	=	490,100		
18. Business Damages	(Claims	0	x	0	)	=	-700,000		
19. Bus. Damages Incrs.	(Factor	25%	x	$ -	)	=	0		
20. Owner Appr. Fees	(Parcels	1	x	$30,000	)	=	30,000		
21. Owner CPA Fees	(Claims	0	x	$25,000	)	=	0		
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	490,100	x	33%	)	=	161,700		
23. Owner Expert Witness	(Comm.+Unimp.)	1	+	0	) x 18,000	=	18,000		
24. Other Condemn. Costs		1	x	$1,000		=	1,000		
25. SUBTOTAL					(Lines 16 thru 24)	=		800	
26.							TOTAL PHASE 43		$1,090,000

* *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)

					Number		Amount	
	Replacement Housing							
28. Owner		$41,200	x	0	=	0		
29. Tenant		$25,000	x	0	=	0		
	Move Costs							
30. Residential		$3,000	x	0	=	0		
31. Business/Farm		$53,200	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	$1,129,000

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 2B site improvements were damaged out as part of the mainline acquisition. (ML 15)

NOTE: Selection of SMF 2B will eliminate the $700,000 business damage claim for Parcel 15

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 2C, FPC 1B and 1C	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)		0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)		0
3.						TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)								Amount
4. Appraisal Fees Through Trial				0	Parcels	x	35,000 =	0
5. Business Damage CPA Fees Through Trial				0	Claims	x	25,000 =	0
6. Court Reporter & Process Servers	50%	x	0 =	0	Parcels	x	500 =	0
7. Expert Witness	75%	x	0 =	0	Parcels	x	30,000 =	0
8. Mediators	75%	x	0 =	0	Parcels	x	3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.				0	Imprvmet	x	20,000 =	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	$0

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. (1 Ponds)	3,084,288	x	120% (0 Parcels w/o R/W Acq)				3,701,100	
15. SUBTOTAL (375,282 SF)			(Lines 13 &14)					3,701,100
16. Admin. Settlements (Factor	20%	x	0% of Line 15)			=	0	
17. Litigation Awards (Factor	45%	x	100% of Line 15)			=	1,665,500	
18. Business Damages (Claims	0	x	0)			=	0	
19. Bus. Damages Incrs. (Factor	25%	x	$ -)			=	0	
20. Owner Appr. Fees (Parcels	0	x	$30,000)			=	0	
21. Owner CPA Fees (Claims	0	x	$25,000)			=	0	
22. Defend.Atty Fees (Sum of Lines 16, 17 & 19)	1,665,500	x	33%)			=	549,600	
23. Owner Expert Witness (Comm.+Unimp.)	0	+	0) x	18,000		=	0	
24. Other Condemn. Costs	0	x	$1,000			=	0	
25. SUBTOTAL			(Lines 16 thru 24)			=		2,215,100
26.							TOTAL PHASE 43	$5,916,200

* *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	$41,200	x	0	=	0		
29. Tenant	$25,000	x	0	=	0		
	Move Costs						
30. Residential	$3,000	x	0	=	0		
31. Business/Farm	$53,200	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	$5,916,200

Real Estate:	Roger D. Patton	Signed:	[signature]	Date:	07/23/24
Bus. Dam. :	Alfred J. Thompson	Signed:		Date:	07/23/24
Relocation:	Roger D. Patton	Signed:		Date:	07/23/24
Overall Review:	Alfred J. Thompson	Signed:		Date:	07/23/24

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%.

Estimate of combined SMF 2C, FPC 1b and FPC 1C (ML 19)

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 2C	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)		0	
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)		0	
3.							TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

							Amount	
4. Appraisal Fees Through Trial				0	Parcels	x 35,000 =	0	
5. Business Damage CPA Fees Through Trial				0	Claims	x 25,000 =	0	
6. Court Reporter & Process Servers	50%	x	0 =	0	Parcels	x 500 =	0	
7. Expert Witness	75%	x	0 =	0	Parcels	x 30,000 =	0	
8. Mediators	75%	x	0 =	0	Parcels	x 3,500 =	0	
9. Demolition, Asb. Abate., Survey, etc.				0	Imprvmet	x 20,000 =	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	$0

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. (1 Ponds)		787,216	x	120% (0 Parcels w/o R/W Acq)		944,700		
15. SUBTOTAL (98,402)				(Lines 13 &14)			944,700	
16. Admin. Settlements	(Factor	20%	x	0% of Line 15)	=	0		
17. Litigation Awards	(Factor	45%	x	100% of Line 15)	=	425,100		
18. Business Damages	(Claims	0	x	0)	=	0		
19. Bus. Damages Incrs.	(Factor	25%	x	$ -)	=	0		
20. Owner Appr. Fees	(Parcels	0	x	$30,000)	=	0		
21. Owner CPA Fees	(Claims	0	x	$25,000)	=	0		
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	425,100	x	33%)	=	140,300		
23. Owner Expert Witness	(Comm.+Unimp.)	0	+	0) x 18,000	=	0		
24. Other Condemn. Costs		0	x	$1,000	=	0		
25. SUBTOTAL				(Lines 16 thru 24)	=		565,400	
26.						TOTAL PHASE 43		$1,510,100

* *Design contingency for design plan stage:*
(1) PD&E plans - 120% (2) 30% plans - 115% (3) 60% plans - 110% (4) 90% plans -105% (5) 268 Date -100%

R/W ACQUISITION CONSULTANT (PHASE 42)

27. Acquisition Consultant-50% of parcels	$20,000	x	0	TOTAL PHASE 42		$0

RELOCATION COSTS (PHASE 45)

	Replacement Housing			Number		Amount		
28. Owner		$41,200	x	0	=	0		
29. Tenant		$25,000	x	0	=	0		
	Move Costs							
30. Residential		$3,000	x	0	=	0		
31. Business/Farm		$53,200	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	$1,510,100

Real Estate:	Roger D. Patton	Signed:	Roger D. Patton	Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:	Roger D. Patton	Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 2C (ML 19)

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 3A	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)		0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)		0
3.						TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

								Amount
4. Appraisal Fees Through Trial					0	Parcels	x 35,000 =	0
5. Business Damage CPA Fees Through Trial					0	Claims	x 25,000 =	0
6. Court Reporter & Process Servers	50%	x	0	=	0	Parcels	x 500 =	0
7. Expert Witness	75%	x	0	=	0	Parcels	x 30,000 =	0
8. Mediators	75%	x	0	=	0	Parcels	x 3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.					0	Imprvmet	x 20,000 =	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	$0

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. (1 Ponds)		2,051,729	x	120% (0 Parcels w/o R/W Acq)		2,462,100	
15. SUBTOTAL (76,210)				(Lines 13 &14)			2,462,100
16. Admin. Settlements	(Factor	20%	x	0% of Line 15)	=	0	
17. Litigation Awards	(Factor	45%	x	100% of Line 15)	=	1,107,900	
18. Business Damages	(Claims	0	x	0)	=	0	
19. Bus. Damages Incrs.	(Factor	25%	x	$ -)	=	0	
20. Owner Appr. Fees	(Parcels	0	x	$30,000)	=	0	
21. Owner CPA Fees	(Claims	0	x	$25,000)	=	0	
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	1,107,900	x	33%)	=	365,600	
23. Owner Expert Witness	(Comm.+Unimp.)	0	+	0) x 18,000	=	0	
24. Other Condemn. Costs		0	x	$1,000	=	0	
25. SUBTOTAL				(Lines 16 thru 24)	=		1,473,500
26.						TOTAL PHASE 43	$3,935,600

* *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)

	Replacement Housing			Number		Amount
28. Owner	$41,200	x	0	=	0	
29. Tenant	$25,000	x	0	=	0	
	Move Costs					
30. Residential	$3,000	x	0	=	0	
31. Business/Farm	$53,200	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	$3,935,600

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 3A. Site improvements were damaged out as part of the mainline acquisition (ML 25)

The site unit price has been adjusted for damages after the mainline acquisition.

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 3B	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

Estimated Relocatees:	
Business	1
Residential	1
Signs	0
Special	0
Total Relocatees	2

R/W SUPPORT COSTS (PHASE 41)

							Amount
1. Direct Labor Cost	(Parcels	0	x	20,000 =	Rate)		0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)		0
3.						TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

								Amount
4. Appraisal Fees Through Trial					0	Parcels	x 35,000 =	0
5. Business Damage CPA Fees Through Trial					0	Claims	x 25,000 =	0
6. Court Reporter & Process Servers	50%	x	0	=	0	Parcels	x 500 =	0
7. Expert Witness	75%	x	0	=	0	Parcels	x 30,000 =	0
8. Mediators	75%	x	0	=	0	Parcels	x 3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.					1	Imprvmet	x 20,000 =	20,000
10. Miscellaneous Contracts					0	Per Project	x 15,000 =	0
11. Appraisal Fee Review					0	Parcels	x 5,000 =	0
12.							TOTAL PHASE 4B	$20,000

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. (1 Ponds)		756,088	x	120% (0 Parcels w/o R/W Acq)		907,300	
15. SUBTOTAL (48,174)				(Lines 13 &14)			907,300
16. Admin. Settlements	(Factor	20%	x	0% of Line 15)	=	0	
17. Litigation Awards	(Factor	45%	x	100% of Line 15)	=	408,300	
18. Business Damages	(Claims	0	x	0)	=	0	
19. Bus. Damages Incrs.	(Factor	25%	x	$ -)	=	0	
20. Owner Appr. Fees	(Parcels	0	x	$30,000)	=	0	
21. Owner CPA Fees	(Claims	0	x	$25,000)	=	0	
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	408,300	x	33%)	=	134,700	
23. Owner Expert Witness	(Comm.+Unimp.)	0	+	0) x 18,000	=	0	
24. Other Condemn. Costs		0	x	$1,000	=	0	
25. SUBTOTAL				(Lines 16 thru 24)	=		543,000
26.						TOTAL PHASE 43	$1,450,300

* *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)

	Replacement Housing			Number		Amount
28. Owner	$41,200	x	0	=	0	
29. Tenant	$25,000	x	1	=	25,000	
Move Costs						
30. Residential	$3,000	x	1	=	3,000	
31. Business/Farm	$53,200	x	1	=	53,200	
32. Personal Property	$3,000	x	0	=	0	
33. (Lines 28 thru 32)					TOTAL PHASE 45	$81,200
34. Relocation Services Cost			$8,120	(Not in Phase Total)		

35.			
36.			
37.	(All Phases)	TOTAL ESTIMATE	$1,551,500

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 3B.

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 3C	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

Estimated Relocatees:	
Business	1
Residential	1
Signs	0
Special	0
Total Relocatees	2

R/W SUPPORT COSTS (PHASE 41)

								Amount
1. Direct Labor Cost	(Parcels	0	x	20,000 =	Rate)			0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)			0
3.							TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

							Amount
4. Appraisal Fees Through Trial			0	Parcels	x	35,000 =	0
5. Business Damage CPA Fees Through Trial			0	Claims	x	25,000 =	0
6. Court Reporter & Process Servers	50%	x 0 =	0	Parcels	x	500 =	0
7. Expert Witness	75%	x 0 =	0	Parcels	x	30,000 =	0
8. Mediators	75%	x 0 =	0	Parcels	x	3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.			1	Imprvmet	x	20,000 =	20,000
10. Miscellaneous Contracts			0	Per Project	x	15,000 =	0
11. Appraisal Fee Review			0	Parcels	x	5,000 =	0
12.						TOTAL PHASE 4B	$20,000

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. (1 Ponds)		778,440	x 120%	(0 Parcels w/o R/W Acq)		934,100	
15. SUBTOTAL (46,387)				(Lines 13 &14)			934,100
16. Admin. Settlements	(Factor	20%	x 0%	of Line 15)	=	0	
17. Litigation Awards	(Factor	45%	x 100%	of Line 15)	=	420,300	
18. Business Damages	(Claims	0	x 0	)	=	0	
19. Bus. Damages Incrs.	(Factor	25%	x $ -	)	=	0	
20. Owner Appr. Fees	(Parcels	0	x $30,000	)	=	0	
21. Owner CPA Fees	(Claims	0	x $25,000	)	=	0	
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	420,300	x 33%	)	=	138,700	
23. Owner Expert Witness	(Comm.+Unimp.)	0	+ 0	) x 18,000	=	0	
24. Other Condemn. Costs		0	x $1,000		=	0	
25. SUBTOTAL				(Lines 16 thru 24)	=		559,000
26.						TOTAL PHASE 43	$1,493,100

* *Design contingency for design plan stage:*
(1) PD&E plans - 120% (2) 30% plans - 115% (3) 60% plans - 110% (4) 90% plans -105% (5) 268 Date -100%

R/W ACQUISITION CONSULTANT (PHASE 42)

27. Acquisition Consultant-50% of parcels	$20,000	x	0	TOTAL PHASE 42	$0

RELOCATION COSTS (PHASE 45)

	Replacement Housing			Number		Amount
28. Owner		$41,200	x	0	=	0
29. Tenant		$25,000	x	1	=	25,000
	Move Costs					
30. Residential		$3,000	x	1	=	3,000
31. Business/Farm		$53,200	x	1	=	53,200
32. Personal Property		$3,000	x	0	=	0
33. (Lines 28 thru 32)						TOTAL PHASE 45 $81,200
34. Relocation Services Cost				$8,120	(Not in Phase Total)	
35.						
36.						
37.					(All Phases)	TOTAL ESTIMATE $1,594,300

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 3C.

Land unit price of Parcel 7 reflects the remainder value after damages and TCE for ML 29 acquisitions

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 7A	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)		0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)		0
3.						TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

								Amount
4. Appraisal Fees Through Trial					0	Parcels	x 35,000 =	0
5. Business Damage CPA Fees Through Trial					0	Claims	x 25,000 =	0
6. Court Reporter & Process Servers	50%	x	0	=	0	Parcels	x 500 =	0
7. Expert Witness	75%	x	0	=	0	Parcels	x 30,000 =	0
8. Mediators	75%	x	0	=	0	Parcels	x 3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.					1	Imprvmet	x 20,000 =	20,000
10. Miscellaneous Contracts					0	Per Project	x 15,000 =	0
11. Appraisal Fee Review					0	Parcels	x 5,000 =	0
12.							TOTAL PHASE 4B	$20,000

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. (1 Ponds)		384,689	x	120% (0 Parcels w/o R/W Acq)		461,600	
15. SUBTOTAL (44,746)				(Lines 13 &14)			461,600
16. Admin. Settlements	(Factor	20%	x	0% of Line 15)	=	0	
17. Litigation Awards	(Factor	45%	x	100% of Line 15)	=	207,700	
18. Business Damages	(Claims	0	x	0)	=	0	
19. Bus. Damages Incrs.	(Factor	25%	x	$ -)	=	0	
20. Owner Appr. Fees	(Parcels	0	x	$30,000)	=	0	
21. Owner CPA Fees	(Claims	0	x	$25,000)	=	0	
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	207,700	x	33%)	=	68,500	
23. Owner Expert Witness	(Comm.+Unimp.)	0	+	0) x 18,000	=	0	
24. Other Condemn. Costs		0	x	$1,000	=	0	
25. SUBTOTAL				(Lines 16 thru 24)	=		276,200
26.						TOTAL PHASE 43	$737,800

* *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	$41,200	x	0	=	0
29. Tenant	$25,000	x	0	=	0
	Move Costs				
30. Residential	$3,000	x	0	=	0
31. Business/Farm	$53,200	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	$757,800

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 7A.

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 7B	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)		0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)		0
3.						TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

								Amount
4. Appraisal Fees Through Trial					0	Parcels	x 35,000 =	0
5. Business Damage CPA Fees Through Trial					0	Claims	x 25,000 =	0
6. Court Reporter & Process Servers	50%	x	0	= 0	Parcels		x 500 =	0
7. Expert Witness	75%	x	0	= 0	Parcels		x 30,000 =	0
8. Mediators	75%	x	0	= 0	Parcels		x 3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.					0	Imprvmet	x 20,000 =	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	$0

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. (1 Ponds)		208,127	x	120% (0 Parcels w/o R/W Acq)		249,800		
15. SUBTOTAL (47,221)				(Lines 13 &14)			249,800	
16. Admin. Settlements	(Factor	20%	x	0% of Line 15)	=	0		
17. Litigation Awards	(Factor	45%	x	100% of Line 15)	=	112,400		
18. Business Damages	(Claims	0	x	0)	=	0		
19. Bus. Damages Incrs.	(Factor	25%	x	$ -)	=	0		
20. Owner Appr. Fees	(Parcels	0	x	$30,000)	=	0		
21. Owner CPA Fees	(Claims	0	x	$25,000)	=	0		
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	112,400	x	33%)	=	37,100		
23. Owner Expert Witness	(Comm.+Unimp.)	0	+	0) x 18,000	=	0		
24. Other Condemn. Costs		0	x	$1,000	=	0		
25. SUBTOTAL				(Lines 16 thru 24)	=		149,500	
26.						TOTAL PHASE 43		$399,300

* *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)

	Replacement Housing			Number		Amount		
28. Owner		$41,200	x	0	=	0		
29. Tenant		$25,000	x	0	=	0		
	Move Costs							
30. Residential		$3,000	x	0	=	0		
31. Business/Farm		$53,200	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	$399,300

Real Estate:	Roger D. Patton	Signed:	RDPatton	Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:	RDPatton	Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A.J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 7B.

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:

Draft

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT SEVEN RIGHT OF WAY COST ESTIMATE

HDR#: 10375841-3.20

FM#:	447159-1	Alternate:	SMF 7C	District:	Seven
County:	Hillsborough	Segment:	N/A	Date:	29-May-24
State Rd.:	0	FAP#:	N/A	C.E. Sequence	N/A
Project Des.	Branch Forbes Road S. of US 92 to N of I-4				

Parcels	Gross	Net
Commercial	0	0
Residential	0	0
Unimproved	0	0
Total Parcels	0	0

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	0	x	20,000 =	Rate)			0
2. Indirect Overhead	(Parcels	0	x	0 =	Rate)			0
3.							TOTAL PHASE 41	$0

R/W OPS (PHASE 4B)

							Amount
4. Appraisal Fees Through Trial			0	Parcels	x	35,000 =	0
5. Business Damage CPA Fees Through Trial			0	Claims	x	25,000 =	0
6. Court Reporter & Process Servers	50%	x 0 =	0	Parcels	x	500 =	0
7. Expert Witness	75%	x 0 =	0	Parcels	x	30,000 =	0
8. Mediators	75%	x 0 =	0	Parcels	x	3,500 =	0
9. Demolition, Asb. Abate., Survey, etc.			0	Imprvmet	x	20,000 =	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	$0

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. (1 Ponds)		202,777	x 120%	(0 Parcels w/o R/W Acq)		243,300	
15. SUBTOTAL (44,148)				(Lines 13 &14)			243,300
16. Admin. Settlements	(Factor	20%	x 0%	of Line 15)	=	0	
17. Litigation Awards	(Factor	45%	x 100%	of Line 15)	=	109,500	
18. Business Damages	(Claims	0	x 0	)	=	0	
19. Bus. Damages Incrs.	(Factor	25%	x $ -	)	=	0	
20. Owner Appr. Fees	(Parcels	0	x $30,000	)	=	0	
21. Owner CPA Fees	(Claims	0	x $25,000	)	=	0	
22. Defend.Atty Fees	(Sum of Lines 16, 17 & 19)	109,500	x 33%	)	=	36,100	
23. Owner Expert Witness	(Comm.+Unimp.)	0	+ 0	) x 18,000	=	0	
24. Other Condemn. Costs		0	x $1,000		=	0	
25. SUBTOTAL				(Lines 16 thru 24)	=		145,600
26.						TOTAL PHASE 43	$388,900

* *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		$41,200	x	0	=	0
29. Tenant		$25,000	x	0	=	0
	Move Costs					
30. Residential		$3,000	x	0	=	0
31. Business/Farm		$53,200	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 $388,900

Real Estate:	Roger D. Patton	Signed:		Date: 06/10/24
Bus. Dam. :	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24
Relocation:	Roger D. Patton	Signed:		Date: 06/10/24
Overall Review:	Alfred J. Thompson	Signed:	A. J. Thompson	Date: 06/10/24

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%.

Estimate of SMF 7C.

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:

Draft

APPENDIX F 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 411125

Date:	02/01/2024		
Time:	11:00am		
Project Name:	Branch Forbes Road from South of US 92 to North of I-4		
District Engineer:	Beth Geurink		
District ES:	Cliff Ondercin		
Attendees:	Eric Nelson, Kadar Pryce, Greg White (Consor Engineers, LLC)		
County:	Hillsborough County	**Sec/Twp/Rge:**	22,23,26,27/28S/18E
Total Land Acreage:		**Project Acreage:**	Acres

Prior On-Site/Off-Site Permit Activity:

- US 92 31172.000 and 14028.000 MSSW; 15465.000 Auto Parts

Project Overview:

- FDOT D7 proposes the widening of US92 by approximately one mile to the east and west of Branch Forbes Rd, the widening of Branch Forbes Rd from its intersection with US92 to the I-4 interchange, and ramp improvements at the I-4 interchange. Possible addition of 2 Stormwater Management Facilities and 2 Floodplain Compensation sites, as well as modifications to the infield ponds at the interchanges.
- Possible SSL for creek crossings that might need updated or new public easements.

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.)

- Wetlands will need to be delineated as part of the review. If any impacts proposed, please follow the below information and comments.
- Provide the limits of jurisdictional wetlands and surface waters. Roadside ditches or other water conveyances, including permitted and constructed water conveyance features, can be claimed as surface waters per Chapter 62-340 F.A.C. if they do not meet the definition of a swale as stated under Rule 403.803 (14) F.S.
- Demonstrate elimination and reduction of wetland and surface water impacts. The elimination and reduction criteria can be found in subsection 10.2.1 of Applicant's Handbook Volume 1. Be advised that the use of subsection 10.2.1.2 (a) of the handbook may put the project in conflict with the state's 404 program. Coordination with the DEP, the during application review process, is recommended if the applicant wishes to use subsection 10.2.1.2 (a).
- Maintain minimum 15 foot, average 25 foot wetland and surface water area conservation area setback or address secondary impacts.
- Provide appropriate mitigation using UMAM for impacts, if applicable.
- For an interactive map of permitted mitigation banks and their service areas, use this LINK. Be advised that use of a bank with a modified service area (i.e. a service area that is larger than the basin the bank is located in), may require the submittal of a cumulative impact analysis pursuant to subsection 10.2.8 of Applicant's Handbook volume 1.
- If the wetland mitigation is appropriate and the applicant is proposing to utilize mitigation bank credit as wetland mitigation, provide a letter of reservation of credits from the wetland mitigation bank. The wetland mitigation bank current credit ledgers can be found out the following link: https://www.swfwmd.state.fl.us/business/epermitting/environmental-resource-permit, Go to "ERP Mitigation Bank Wetland Credit Ledgers"
- Please demonstrate that adverse impacts to the wetland hydro-periods will not occur by providing hydrographs of the 2.33 year mean annual storm. The graph should start and end at the pop-off elevation with Existing Condition and Proposed Condition hydrographs superimposed for comparison. Please provide a supporting narrative for the hydrographs explaining any variations that are shown. The invert of the agricultural ditches may be the existing 'pop-off' elevation, or SHWL of the wetland and may need to be considered when designing the storm water management system.

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- Determine SHWL's at pond locations, wetlands, and OSWs.
- Determine normal pool elevations of wetlands.
- Determine 'pop-off' locations and elevations of wetlands.
- Please note, the Florida Department of Environmental Protection (FDEP) has assumed the Federal dredge and fill permitting program under section 404 of the Federal Clean Water Act within certain waters. State 404 Program streamlining intentions direct Agency staff to coordinate joint site visits for overall consistency between the two State programs. As such, District staff and the FDEP will need to conduct a joint site visit for evaluation of the wetland/surface water systems proposed for impact. District staff will coordinate with FDEP staff on determining dates/times of joint Agency availability. Upon determination of joint availability, staff will provide the applicant's representative with site visit scheduling options. A site visit will not be scheduled until the appropriate signatures on the application and the fee is submitted.

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)

- Existing roadway/intersections – US 92 and Forbes Road
- Plant City Watershed Model will be considered best available information
- WBIDs need to be independently verified by the consultant - 3 WBIDs 1565 – Moores Lake Drain [NAS for dissolved oxygen], 1561-Spartman Branch [DO] , 1542-Pemberton Creek – Nutrient (macrophytes)
- Possibly discharging to impaired waters per Water Quality Assessments, TMDLs, and BMAPs and Assessment Lists
- Floodplain checked using Floodplain Mapping Application
- Provide documentation to support tailwater conditions for quality and quantity design
- Contamination issues may need to be resolved with the FDEP. Possible contamination points within/adjacent to the project area per FDEP MapDirect Link
  - FDEP PCTS Site ID Nos. **9806398, 8732462, 8625492, 8733390 and 8625090** located within or adjacent to site (approx. 100-ft radius). Please verify with FDEP if any have current contamination issues.
  For known contamination within the site or within 100' beyond the proposed stormwater management system:
  - after the application is submitted, please contact FDEP staff listed below and provide them with the ERP Application ID # along with a mounding analysis (groundwater elevation versus distance) of the proposed stormwater management system that shows the proposed groundwater mound will not adversely impact the contaminated area. FDEP will review the plans submitted to the District and mounding analysis to determine any adverse impacts. Provide documentation from FDEP that the proposed construction will not result in adverse impacts. This is required prior to the ERP Application being deemed complete.
  FDEP Contacts:
  - For projects located within Citrus, Hernando, Pasco, Hillsborough, Pinellas, Manatee, Polk and Hardee Counties: Phil Wilkerson; Philip.wilkerson@floridadep.gov
- Stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be constructed within 100 feet of an existing public water supply well and shall not be constructed within 75 feet of an existing private drinking water well. Subsection 4.2, A.H.V.II.
- Any wells on site should be identified and their future use/abandonment must be designated.
- District data collection site may be impacted by proposed construction. SID 18698 Surface Water Monitoring (Sparkman Branch ab Mill Creek) with status listed as inactive at this time. Contact data.maps@watermatters.org to coordinate relocation of District data collection site if needed.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)

- Demonstrate that post development peak discharges from proposed project area will not cause an adverse impact for a 25-year, 24-hour storm event.
- For projects or portions of projects that discharge to a closed basin, limit the post-development 100-year discharge volume to the pre-development 100-year, 24-hour volume.
- Demonstrate that site will not impede the conveyance of contributing off-site flows.
- Demonstrate that the project will not increase flood stages up- or down-stream of the project area(s).
- Watershed Model information may be available for download using the following link: https://watermatters.sharefile.com/d-s8c9019e00fd243908654e733a6b2016c
- Provide equivalent compensating storage for all 100-year, 24-hour riverine floodplain impacts if applicable. Providing cup-for-cup storage in dedicated areas of excavation is the preferred method of compensation if no impacts to flood conveyance are proposed and storage impacts and compensation occur within the same

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basin. In this case, tabulations should be provided at 0.5-foot increments to demonstrate encroachment and compensation occur at the same levels. Otherwise, storage modeling will be required to demonstrate no increase in flood stages will occur on off-site properties, using the mean annual, 10-year, 25-year, and 100-year storm events for the pre- and post-development conditions.

- Anticipating that hydraulic modeling (multi-frequency as above) will be utilized to assess floodplain compensation measures and major stream crossings.
- Please be aware that if there is credible historical evidence of past flooding or the physical capacity of the downstream conveyance or receiving waters indicates that the conditions for issuance will not be met without consideration of storm events of different frequency or duration, applicants shall be required to provide additional analyses using storm events of different duration or frequency than the 25-year 24-hour storm event, or to adjust the volume, rate or timing of discharges. [Section 3.0 Applicant's Handbook Volume II]

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

- Provide water quality treatment for entire project area and all contributing off-site flows.
- In addition, if the project discharges to an impaired water body, must provide a net environmental improvement.
- Applicant must demonstrate a net improvement for the parameters of concern by performing a pre/post pollutant loading analysis based on existing land use and the proposed land use.
- Also, replace treatment function of existing ditches to be filled.
- Presumptive Water Quality Treatment for Alterations to Existing Public Roadway Projects:
  -Refer to Section 4.5 A.H.V.II for Alterations to Existing Public Roadway Projects.
  -Refer to Sections 4.8, 4.8.1 and 4.8.2 A.H.V.II for Compensating Stormwater Treatment, Overtreatment, and Offsite Compensation.
  -All co-mingled existing & new impervious that is proposed to be connected to a treatment pond will require treatment for an area equal to the co-mingled existing & new impervious (times ½" for dry treatment or 1" for wet treatment). This applies whether or not equivalent treatment concepts are used.
  -However, if equivalent treatment concepts are used it is possible to strategically locate the pond(s) so that the minimum treatment requirement may be for an area equivalent to the new impervious area only. That is, co-mingled existing & new impervious that is not connected to a treatment pond may bypass treatment (as per Section 4.5(2), A.H.V.II); if the 'total impervious area' that is connected to the treatment pond(s) is at least equivalent to the area of new impervious only. The 'total impervious area' that is connected to the pond(s) may be composed of co-mingled existing & new impervious.
  -Offsite impervious not required to be treated; but may be useful to be treated when using equivalent treatment concepts.
  -Existing treatment capacity displaced by any road project will require additional compensating volume. Refer to Subsection 4.5(c), A.H.V.II.
- Will acknowledge compensatory treatment to offset pollutant loads associated with portions of the project area that cannot be physically treated.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)

- The project may be located within state owned sovereign submerged lands (SSSL). Be advised that a title determination will be required from FDEP to verify the presence and/or location of SSSL.
- Coordination with the Tampa Port Authority for projects located in Hillsborough County is recommended.

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- The permit must be issued to entity that owns or controls the property.
- If using/impacting offsite lands/permits (15465.000) provide evidence of authorization, concurrence, coordination unless taking full property.

Application Type and Fee Required:

- SWERP – Sections A, C, and E of the ERP Application.
- Consult the fee schedule for different thresholds of project area and wetland/OSW impact.
- For 'Redevelopment' Exemption Determination request:
  Provide exemption determination request in writing along with $100.00 fee. Provide supporting plans and computations adequate to demonstrate that:
  - Any existing onsite treatment capacity must not be reduced.
  - Type and/or concentrations of pollutants must not increase.

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- Please quantify total existing versus total proposed impervious areas with exemption request.
- Please also quantify existing versus proposed impervious areas that are subject to vehicles.
- Credit for existing impervious only if in existence prior to 1984.
- If existing impervious was demolished/removed within past 2 years, then the demolished/removed impervious can be credited. No credit if existing impervious was demolished/removed more than 2 years ago.
- Must be no wetland/OSW impacts.
- Existing drainage patterns must not be altered.
- Must be no adverse flood impacts to offsite properties.
- During review, other unforeseen considerations may necessitate obtaining a permit.

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

- An application for an individual permit to construct or alter a dam, impoundment, reservoir, or appurtenant work, requires that a notice of receipt of the application must be published in a newspaper within the affected area. Provide documentation that such noticing has been accomplished. Note that the published notices of receipt for an ERP can be in accordance with the language provided in Rule 40D-1.603(10), F.A.C.

- Provide a copy of the legal description (of all applicable parcels within the project area) in one of the following forms:
  a. Deed with complete Legal Description attachment.
  b. Plat.
  c. Boundary survey of the property(ies) with a sketch.

- The plans and drainage report submitted electronically must include the appropriate information required under Rules 61G15-23.005 and 61G15-23.004 (Digital), F.A.C. The following text is required by the Florida Board of Professional Engineers (FBPE) to meet this requirement when a digitally created seal is not used and must appear where the signature would normally appear:

  ELECTRONIC (Manifest): *[NAME] State of Florida, Professional Engineer, License No. [NUMBER] This item has been electronically signed and sealed by [NAME] on the date indicated here using a SHA authentication code. Printed copies of this document are not considered signed and sealed and the SHA authentication code must be verified on any electronic copies*

  DIGITAL: *[NAME] State of Florida, Professional Engineer, License No. [NUMBER]; This item has been digitally signed and sealed by [NAME] on the date indicated here; Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.*
- Provide soil erosion and sediment control measures for use during construction. Refer to ERP Applicant's Handbook Vol. 1 Part IV Erosion and Sediment Control.
- Demonstrate that excavation of any stormwater ponds does not breach an aquitard (see Subsection 2.1.1, A.H.V.II) such that it would allow for lesser quality water to pass, either way, between the two systems. In those geographical areas of the District where there is not an aquitard present, the depth of the pond(s) shall not be excavated to within two (2) feet of the underlying limestone which is part of a drinking water aquifer. [Refer to Subsection 5.4.1(b), A.H.V.II]
- On December 17, 2020, the Environmental Protection Agency (EPA) formally transferred permitting authority under CWA Section 404 from the U.S. Army Corps of Engineers (Corps) to the State of Florida for a broad range of water resources within the State. The primary State 404 Program rules are adopted by the Florida Department of Environmental Protection (FDEP) as Chapter 62-331 of the Florida Administrative Code (F.A.C.). While the State 404 Program is a separate permitting program from the Environmental Resource Permitting program (ERP) under Chapter 62-330, F.A.C., and agency action for State 404 Program verifications, notices, or permits shall be taken independently from ERP agency action, the FDEP and the Southwest Florida Water Management District (SWFWMD) will be participating in a Joint application Process. Upon submittal of an ERP application that proposes dredge/fill activities in wetlands or surface waters within state assumed waters, the SWFWMD will forward a copy of your application to the FDEP for activities under State 404 jurisdiction. The applicant may choose to have the State 404 Program and ERP agency actions issued concurrently to help ensure consistency and reduce the need for project modifications that may occur when the agency actions are issued at different times. Additional information on the FDEP's

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404 delegation can be found at: https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/state-404-program

Additionally, for those projects located in areas where the Corps retains jurisdiction, the applicant is advised that the District will not send a copy of an application that does not qualify for a State Programmatic General Permit (SPGP) to the U.S. Army Corps of Engineers. If a project does not qualify for a SPGP, you will need to apply separately to the Corps using the appropriate federal application form for activities under federal jurisdiction. Please see the Corps' Jacksonville District Regulatory Division Sourcebook for more information about federal permitting. Please call your local Corps office if you have questions about federal permitting. Link: http://www.saj.usace.army.mil/Missions/Regulatory/Source-Book/

Disclaimer: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

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DRAFT MEETING MINUTES

Date: July, 19 2024
Location: D7-HQ, Executive (D7 Headquarters Quad B, Tampa, FL 33612); Microsoft Teams
Project: **Branch Forbes Road PD&E Study from South of US 92 to North of I-4, WPI Segment No. 447159-1 – Hillsborough County**
Attendees: Eric Nelson (Consor), Colin Cook (Consor), Jeffrey Novotny (Consor), Craig Fox (FDOT), Bill McTeer (FDOT)

RE: Final Pond Selection Meeting

The purpose of the meeting was to discuss the selection of the final SMF and FPC sites needed for the future expansion of Branch Forbes Road based upon right-of-way costs as well as sociocultural, environmental, cultural, and hydraulic factors Mr. Nelson shared the SMF and FPC site matrix and accompanying conceptual drainage maps. Mr. Nelson proceeded to discuss each of the project basins and the preferred SMF and FPC alternatives with District 7 staff, as shown below. FDOT concurred with all preferred alternatives.

SMF 2B - Selected as preferred site based upon lower total cost and similar impacts compared to alternatives. Craig Fox and Bill McTeer suggested expanding SMF 2C to accommodate stormwater management requirements for both Basins 2 and 3, to which Mr. Nelson agreed that this may be possible and would be looked into.

FPC-1A - Selected as preferred floodplain compensation site based upon hydraulic considerations, minimal cultural impact, and total cost.

SMF 3C – Selected as preferred pond for Basin 3 based upon total cost, all else being equivalent between alternatives.

SMF 7B – Selected as preferred pond for Basin 7 despite higher total cost due to lower potential for cultural resource impacts. Discussed findings of CRAS and nearby contamination sites.

Action items:

1. Consor - Send PDF map of expanded SMF 2C alternative to Bill McTeer for new R/W cost estimate.
2. Consor/FDOT – Schedule follow-up meeting with Melissa Mulvaney and Abdul Warris

Date Prepared: July 19, 2024

By: Eric Nelson

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